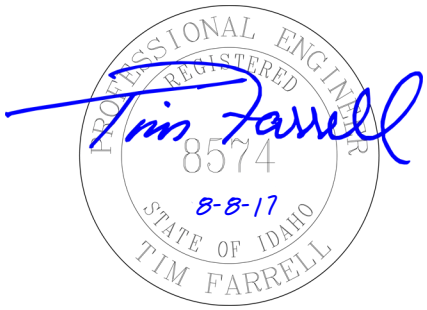
Water Facility Plan

City of New Meadows, Idaho

Public Water System No. ID3020012

May 2017



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1.0 INTRODUCTION

1.1 Purpose

The purpose of this Water System Facility Plan is to document and analyze the existing water system, identify deficiencies, and provide recommendations to meet current and future water supply and facility needs for the New Meadows Public Water System (PWS ID3020012). The facility plan will be utilized as a 20-year planning document that evaluates existing facility condition and proposes current and future capital improvement projects, ensuring compliance with Idaho Department of Environmental Quality (IDEQ) public drinking water system rules and regulations (IDAPA 58.01.08, "Idaho Rules for Public Drinking Water Systems").

1.2 Water System Needs

The City of New Meadows' water system has historically complied with IDEQ facility design and operational standards to date. Over the past several water system sanitary surveys, the public water system has had no documented significant deficiencies. Doug Buys, the water system responsible charge operator, has operated and maintained the facilities to the highest level. However, the City's current budget is insufficient to fully fund system depreciation. In order to continue to pass IDEQ assessments and supply safe, high-quality water to the community, reinvestment in the City's public water system facilities and corrective maintenance is required. The following is a summary of issues the system faces that, unattended, will compromise IDEQ compliance in coming years.

<u>Source of Supply</u>

City water is supplied by two primary wells, Well No. 3 and Well No. 4. These wells operate alternately a few days a week, with the non-operating well acting as a backup or redundant supply. Over the past several years, Well No. 4 has continued to experience excessive drawdown when pumped continuously or over extended time periods. The pumping water level reaches the submersible pump setting and the well pump begins to pump air, suggesting that the submersible well pump is pumping at a greater rate than the sustainable well capacity. If Well No. 4 were to decline in capacity, or if the submersible pump were to fail, the City would be limited to one source of supply and thus no longer meet redundancy criteria as required by IDAPA 58.01.08 Subsection 501.17, "Ground Water Source Redundancy."

<u>Storage Facility</u>

The City has a single aging 250,000-gallon water reservoir, with interior pitting and degradation in many places. The water reservoir is in need of improvements or replacement to maintain reliable and safe water storage. The water storage reservoir does not have sufficient fire flow storage to meet International Fire Code standards for commercial and school occupancy. In addition, there are significant design issues relative to inlet and outlet piping. The existing storage

reservoir size and configuration is insufficient in meeting the requirements of IDAPA 58.01.08 Section 544, “General Design of Finished Water Storage.”

Pumping Facility

The main booster pumping facilities were installed as part of a 1994 water system improvement project and have reached the end of their useful life. This pumping station is the heart of the public water system and maintains constant system pressures while providing peak storage and fire protection capacity to all distribution system hydrants. The booster pumps and mechanical piping should be upgraded to provide an efficient reliable pumping facility. Upgraded electrical controls and a modern emergency power generator are recommended to ensure uninterruptable facility operation.

Transmission and Distribution

Major transmission and distribution system upgrades were constructed as part of the 1994 water system improvement project. The majority of the distribution system is in acceptable shape with only minor upgrades required during the planning period. Due to the insufficient isolation valves, several sections of the water system are not able to be effectively isolated for repair or maintenance without shutting off the supply to large areas of the City. Additional valves should be installed to allow for isolation of localized areas of the water system, minimizing the impact on customers in the area and eliminating the potential for contamination to enter the water system during repairs.

Approximately 60% of the existing service lines in the water system are galvanized iron pipe (GIP). These GIP service lines are prone to corrosion and can cause significant issues in a water system including significantly decreased flow and leaking. Many of the fire hydrants around town are also reported to be in poor condition and can be difficult to operate, raising concerns about efficient operation during a fire event.

1.3 Scope and Organization

The scope of this report includes investigation of the existing conditions of the water system, identification of current or forecasted deficiencies, and alternatives for each proposed water facility improvement.

The following list details the content and layout of the City of New Meadows – Water Facility Plan:

- Chapter 1: Introduction
- Chapter 2: Customer Demand Forecasting
- Chapter 3: Existing Water Facilities
- Chapter 4: Capital Improvement Plan
- Chapter 5: Capital Improvement Plan – 20 Year
- Chapter 6: Selected Capital Improvements)
- Chapter 7: Funding Approach
- Chapter 8: Environmental Conditions
- Chapter 9: References

1.4 Water System Location

The City of New Meadows, Idaho is located in central Idaho and within Adams County at the junction of State Highway 55 and U.S. Route 95, approximately 12 miles northwest of McCall, Idaho. A vicinity map is shown in Figure 1. Highway 55 and Route 95 are critical transportation routes connecting northern and southern Idaho, with New Meadows serving as a major tourist and traffic stop. The topography is relatively flat, with an elevation of approximately 3,868 feet above sea level. New Meadows is positioned at the southern end of Meadows Valley, near the Little Salmon River, and is surrounded on all sides by mountains.

1.5 Authority

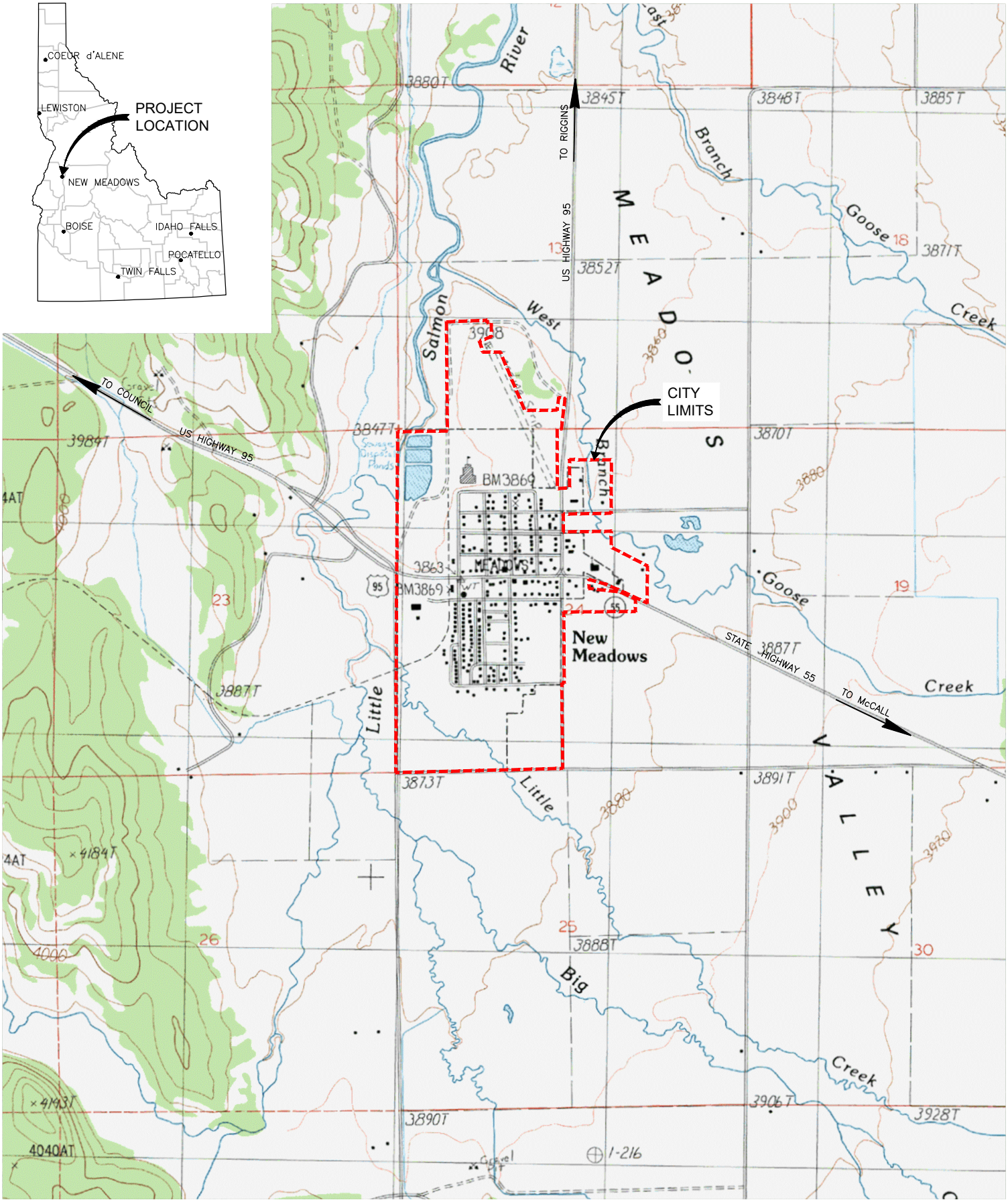
The City of New Meadows is a municipal entity in the State of Idaho. Idaho Statute Titles 50-301 and 50-323 for municipal corporations give the City of New Meadows the power to self-govern, maintain, and operate their public water system. The Idaho Statutes Title 50 Municipal Corporations can be found on the Idaho Legislature website, detailing the legal capacity of the City of New Meadows.

The City operates its water utility under a unique enterprise fund that establishes a separate accounting and financial reporting mechanism for municipal services for which a fee is charged in exchange for goods or services. Under enterprise accounting, the water utility revenue and expenses are separated into separate funds, and the utility has its own financial statements, independent of the revenues and expenses of all other government activities. The City has separate enterprise funds for all public utilities including water, sewer, and trash collection.

1.6 Management, Water System Classification and Operation

The City's water system is managed by the Mayor, City Clerk and the responsible charge water operator. All fiscal, regulatory and employee decisions must be approved by the City Council. The water system's IDEQ Public Water System (PWS) No. is ID3020012 and is classified as a Drinking Water Distribution Class 1 (DWD1) – Public Water System. Therefore, the water system must be operated by a responsible charge operator holding a Drinking Water Distribution - Class 1 license from the State of Idaho, Bureau of Occupational Licensing (IBOL).

The licensed responsible charge water operator is Douglas R. Buys holding a DWD1 license – 15651. He has one other unlicensed operator that assists him in his daily system duties. Mr. Buys is also responsible for operation of the wastewater treatment facilities.



NORTH
SCALE: 1" = 2000'

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CITY OF NEW MEADOWS
VICINITY MAP

PROJECT	15024	DRAWN	BEJ
DATE	JANUARY, 2017		

FIGURE 1

1.7 Resolutions, Ordinances, and Bylaws

The City of New Meadows passed Resolution No. 220-2015 on September 14, 2015, which set the current water and sewer rates for services provided by the City. Resolution No. 220-2015 can be found in Appendix B.

1.8 Water Rates

Table 1 provides the water utility rates pertaining to the water system. Resolution No. 220-2015 set the water utility rate at $ 0.01 for each gallon used. The uniform per gallon commodity charge is unique in the water industry and differs from a standard base rate and commodity charge per 1,000 gallons. At $ 0.01 per gallon with no base demand, this equates to a usage charge of $10.00 per 1,000 gallons consumed.

Table 1: Water Rates

Service	Fee/Rate
Water Per Gallon	$0.01
Water Will Serve & Idle Connections	$6.50
Water Delinquency	$3.50
Water Service Call*	$15.00
Water Service Call - After Hours*	$40.00
Water Admin Fee	$2.50
Water Bulk up to 2,499 gallons	$30.00
Water Bulk over 2,500 gallons	$60.00
Water Connection - Residential EDU	$2,900
Water Depreciation	$0.85

1.9 Financial Condition

1.9.1 Revenue verses Operation and Maintenance Expense

The City of New Meadows developed and initiated a new rate structure in 2015. The City is currently charging $0.01 per gallon for all water used. This equates to $10.00 per 1,000 gallons used. This rate structure will translate into approximately a $90.00 per month water bill at an average customer usage of 9,000 gallons per month or 300 gallons per day. A rate structure that is weighted 100% on consumptive usage will normally result in water conservation by metered customers. When evaluating revenue verses expense from 2014 to 2016, customer revenue averaged approximately $165,0000 annually with general operational expenses averaging approximately $121,000. Therefore, revenue exceeded expenses by approximately $44,000. Audited depreciation expense averaged approximately $66,000 over the same period. This

shows that revenue collected from metered customers funded approximately 66% of depreciation over the time period. With the new rate structure, the City is forecasting that revenue could exceed $200,000 in 2017 with minimal increases to the City's general O&M budget. The revenue collected under the new rate structure is anticipated to fully fund depreciation.

A new cost of service and rate study will be recommended as part of the next construction project. At a minimum, the City should develop a rate structure that fully funds water facility assets that have a useful life of 20-years or less. This would include water infrastructure such as water meters, pumping equipment, electrical controls and communication equipment.

1.10 Service Area

The service area consists of relatively flat terrain, with minimal elevation changes throughout the area. The high ground service elevation within the public water system is 3,880 feet, with a low elevation of 3,866 feet. This represents a differential system pressure of approximately 6.0 psi across the system. A booster pump station located adjacent to the water storage reservoir delivers water from the reservoir into the distribution system, creating a single pressure zone maintained by either the booster pump station or Well No. 4, depending on which system is operating. The storage reservoir and booster station facilities are located at an elevation of 3,873 feet at ground level. The static hydraulic grade line of 4,035 feet throughout the distribution system is set by a booster station discharge pressure that is currently established by a set point pressure of 70 psi.

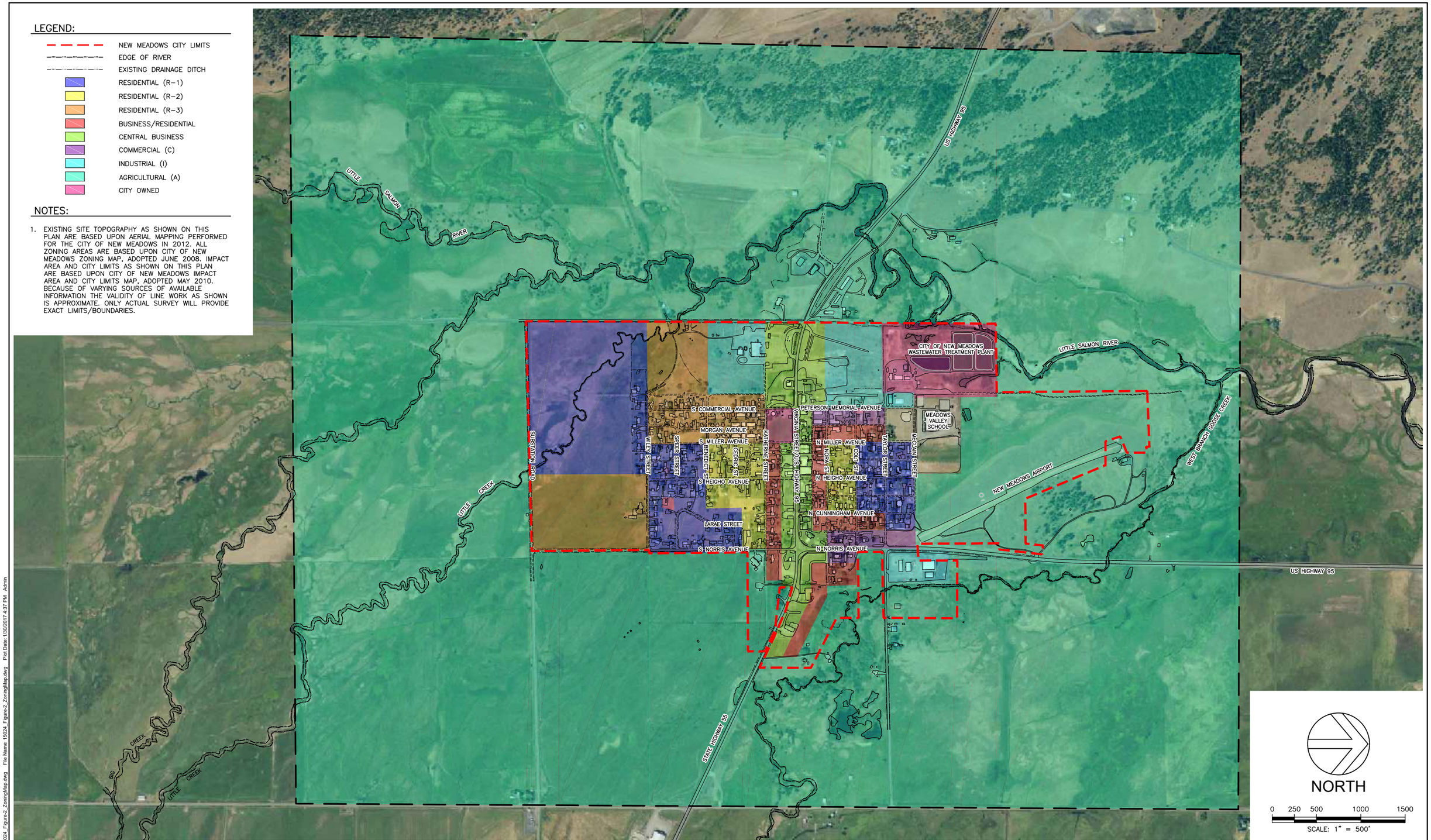
The water service boundary is generally contained within the City limits as shown in the zoning map (Figure 2).

LEGEND:

- NEW MEADOWS CITY LIMITS
- EDGE OF RIVER
- EXISTING DRAINAGE DITCH
- RESIDENTIAL (R-1)
- RESIDENTIAL (R-2)
- RESIDENTIAL (R-3)
- BUSINESS/RESIDENTIAL
- CENTRAL BUSINESS
- COMMERCIAL (C)
- INDUSTRIAL (I)
- AGRICULTURAL (A)
- CITY OWNED

NOTES:

1. EXISTING SITE TOPOGRAPHY AS SHOWN ON THIS PLAN ARE BASED UPON AERIAL MAPPING PERFORMED FOR THE CITY OF NEW MEADOWS IN 2012. ALL ZONING AREAS ARE BASED UPON CITY OF NEW MEADOWS ZONING MAP, ADOPTED JUNE 2008. IMPACT AREA AND CITY LIMITS AS SHOWN ON THIS PLAN ARE BASED UPON CITY OF NEW MEADOWS IMPACT AREA AND CITY LIMITS MAP, ADOPTED MAY 2010. BECAUSE OF VARYING SOURCES OF AVAILABLE INFORMATION THE VALIDITY OF LINE WORK AS SHOWN IS APPROXIMATE. ONLY ACTUAL SURVEY WILL PROVIDE EXACT LIMITS/BOUNDARIES.



NO.	REVISION	BY	DATE
1.	CITY OF NEW MEADOWS DRAFT SUBMITTAL	BEJ	1/30/2017

DESIGN BEJ
DRAWN BEJ
CHECKED
APPROVED

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MOUNTAIN WATERWORKS

CITY OF NEW MEADOWS
NEW MEADOWS, IDAHO

WATER SYSTEM FACILITY PLAN
ZONING MAP

VERIFY SCALE
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PROJECT 15024
DATE JANUARY, 2017

FIGURE 2

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1.11 Hydrogeological Setting

New Meadows is located in a small valley, surrounded on all sides by mountains. As reported on the City's primary well logs, the geology and underlying aquifer consist of productive water bearing zones from 150 - 600 feet below ground level. The water bearing zones are reported as fractured red, black, and brown rock, or hard basalt with clay lenses. Static water levels of 10 - 14 feet were observed during drilling. Although the City's well pumping capacity has been reported as 400 gpm for Well No. 3 and 300 gpm for Well No. 4, the actual sustainable capacity of these wells appears to be less than the documented pumping capacity. Both wells are rotated on a weekly basis to allow aquifer recovery after short periods of pumping. Continuous pumping of Well No. 4 has caused pumping water levels to match pump setting depth. To minimize excessive water level drawdown, system operators have rotated use and production from both wells, resulting in shorter periods of pumping followed by similar periods of recovery. Pumping to storage allows less dependence on continuous pumping of Well No. 3 to meet system diurnal demands.

The sustainable aquifer yield of both wells has not been measured or estimated for continuous long-term pumping. Specific capacities of both active wells were measured during test pumping and estimated at 1.0 - 1.25 gpm per foot drawdown. Both well logs present data that suggest significant drawdown over time in excess of acceptable long-term continuous pumping water levels. Historical production and operational records for Well No. 4 provide evidence of low aquifer productivity as compared with the 300 gpm submersible pump capacity. Extended pumping at 300 gpm has dropped the pumping water level to the pump intake at approximately 260 feet. This data supports the conclusion that aquifer recharge is less than the pumping capacity of 300 gpm. It is estimated that the sustainable aquifer capacity of this well may be less than 200 gpm. Additional test pumping and analysis is required to determine the ultimate capacity of this critical groundwater source.

Due to the hydrogeological setting and capacity of the wells, additional water supply will be required to meet future water system demands. Low capacity wells in the range of 100-300 gpm should be assumed for future water supply planning.

2.0 CUSTOMER DEMAND FORECASTING

2.1 Water Production and Usage

The City maintains and records water production data and water usage data on a monthly basis. A production meter is installed at each well and at the booster pump station. Daily water production volumes from each well and the booster pump station are totaled and recorded to determine monthly total system production. Customer usage data is collected following the monthly meter readings to determine total monthly usage for billing purposes. Water production data and customer usage data was collected and compared to forecast existing and future system demands.

2.2 Unaccounted-for Water

The City has very minimal unaccounted-for water. A comparison of the water production data versus the customer use data for 2015 indicates that only 7% of the water produced is not accounted for. The City has been very proactive in maintaining the distribution system, addressing issues as they arise and implementing programs to replace aging infrastructure. Additionally, approximately one-third of the distribution system was replaced with PVC water mains as part of a 1995 water improvement project. It is assumed that most of the unaccounted for water is lost due to leaking galvanized water service lines or from unrecorded public use water.

2.3 Customer Demands

The City of New Meadows meters all customer water usage and collects this data within their Black Mountain billing software. IDAPA 58.01.08 Section 003.156 defines the type of water demand of a public drinking water system and further categorizes these demands into average day demand, maximum day demand, and peak hour demand. The average day demand for the maximum month is also analyzed to better understand the typical demands of the water system during peak irrigation season.

2.3.1 Average Daily Demand

The Average Daily Demand (ADD) is the average water use for the entire system in a single day, this is typically reported as gallons per day (gpd) and averages historical data over a 12-month period. The ADD is based on the system production data for 2015, and is shown in Table 2. This data includes unaccounted-for-water.

Table 2: Average Daily Demand

ADD	Demand	Unit
System Total	59,600	gpd
System Rate	41.4	gpm
Per Customer	216	gpd
Rate	0.15	gpm
Note: Based on 276 active customers		

2.3.2 Average Day Demand – Maximum Month

The Average Day Demand for the Maximum Month (MMD) is the average daily water use for the entire system during the highest usage month on record. This is typically during July or August when irrigation demands are at their highest. The City experienced the highest usage in 2015 during the month of August with a total monthly production of approximately 3.8 million gallons. The MMD is shown in Table 3.

Table 3: Average Day Demand for the Maximum Month

MMD	Demand	Unit
System Total	123,200	gpd
System Rate	85.6	gpm
Per Customer	446	gpd
Rate	0.31	gpm
Note: Based on 276 active customers		

2.3.3 Maximum Day Demand

The Maximum Day Demand (MDD) is the maximum water use during a one-day period throughout a full year. The MDD is typically found by multiplying the ADD by a peaking factor of 2.0 to 4.0. This is done because, even though daily flow meter data may be available, it is generally not possible to determine the fluctuation in equalization storage in the water reservoir during these periods of high water use with the available equipment. The equalization storage will flatten out the peaks in a water production graph and show that demand is spread over a longer period of time than actually occurred. The MDD was determined by multiplying MMD by a peaking factor of 1.5 as shown in Table 4.

Table 4: Maximum Day Demand

MDD	Demand	Unit
System Total	184,800	gpd
System Rate	128.3	gpm
Per Customer	670	gpd
Rate	0.47	gpm
Note: Based on 276 active customers		

2.3.4 Peak Hour Demand

The Peak Hour Demand (PHD) is the highest water use during a one hour period. Often the ADD is multiplied by a peaking factor due to the lack of hourly flow data. For a small community like New Meadows with little unaccounted for water and small irrigation demand, a peaking factor of 2 is assumed over the MDD to determine the PHD. The PHD is shown in Table 5.

Table 5: Peak Hour Demand

PHD	Demand	Unit
System Total	369,700	gpd
System Rate	256.7	gpm
Per Customer	1,339	gpd
Rate	0.93	gpm
Note: Based on 276 active customers		

2.4 Water System Design – Demand Summary

For the purposes of this document and for planning purposes, the design water demands in Table 6 are used.

Table 6: Current Water System Demands

	Water System Design Demands			
Demand	**gpd/system**	**gpm/system**	**gpd/customer**	**gpm/customer**
ADD	59,600	41.4	216	0.15
MMD	123,200	85.6	446	0.31
MDD	184,800	129.7	669	0.47
PHD	369,700	256.7	1,339	0.93

2.4.1 Demand Forecast over 20-year Planning Period

The current design demands as calculated above are translated across the 20-year planning period as shown in Table No. 7. The design demand estimates used to develop future water supply requirements based on Maximum Day Demands and booster pumping requirements based on Peak Hour Demands. The design demands must be reevaluated on an annual basis as current water user consumption and the volume and rate of unaccounted for water may change over time.

Table 7: 20-year Water Demand Forecast

Year	Customers	Avg. Day Demand (gpm/system)	Max Day Demand (gpm system)	Peak Hour Demand (gpm system)
2016	276	41	130	257
2021	290	44	136	270
2026	305	46	143	284
2031	320	48	150	298
2036	337	51	158	313

2.5 Comparable System Demands

Water demands for the City of New Meadows have been compared against the City of Donnelly, Idaho. Donnelly is a similar rural community located 25 miles south along Highway 55. Data was available from Donnelly to provide an adequate comparison. New Meadows and Donnelly's shared characteristics include the following:

- Location in the same region of the State
- Similar industrial/agricultural based economics
- Predominately rural surrounding areas
- Low irrigation demands
- Low fixture units per household
- Similar commercial customer base

Table 7 details the gallons per day per connection and gallons per minute per connection, during average day and maximum day demands, for the City of Donnelly and the City of New Meadows.

Table 7: Comparable System Demands

Demand per Customer		Water System	
		City of New Meadows	City of Donnelly
ADD	gpd	216	240
	gpm	0.15	0.17
MDD	gpd	670	830
	gpm	0.47	0.58

As can be seen in Table 7, the ADD per customer for the City of New Meadows is very similar to that of the City of Donnelly. The difference in MDD can be attributed to the City of New Meadow's relatively low demand for irrigation during summer months.

2.6 Growth Projections

The City of New Meadows' 2008 Water Master Plan projected a population increase from approximately 500 people to an estimated 2,600 people. This estimate was based on a thriving economy and the fact that the City had the land area available to accommodate growth, with developers prepared to break ground on a large subdivision. Due to the close proximity to McCall, a major tourist town, it was considered reasonable that the City could grow at this increased rate, with the expectation that several new subdivisions would be developed in the area and connected to the public water system. Since then the economy has slowed, and the City instead saw a small decrease in population to approximately 496 people in 2010.

Although no large growth is currently anticipated, a conservative growth rate should be utilized to ensure that New Meadows will have the basic water infrastructure in place to provide for the full

population at the end of the planning period. A customer growth rate of 1% will be used to forecast future water system demands. The City currently has 276 active customers, and a growth rate of 1% will increase this to 337 customers by the year 2036. At a growth rate of 1% per year, the water system will add approximately two to three new customers per year.

3.0 EXISTING WATER FACILITIES

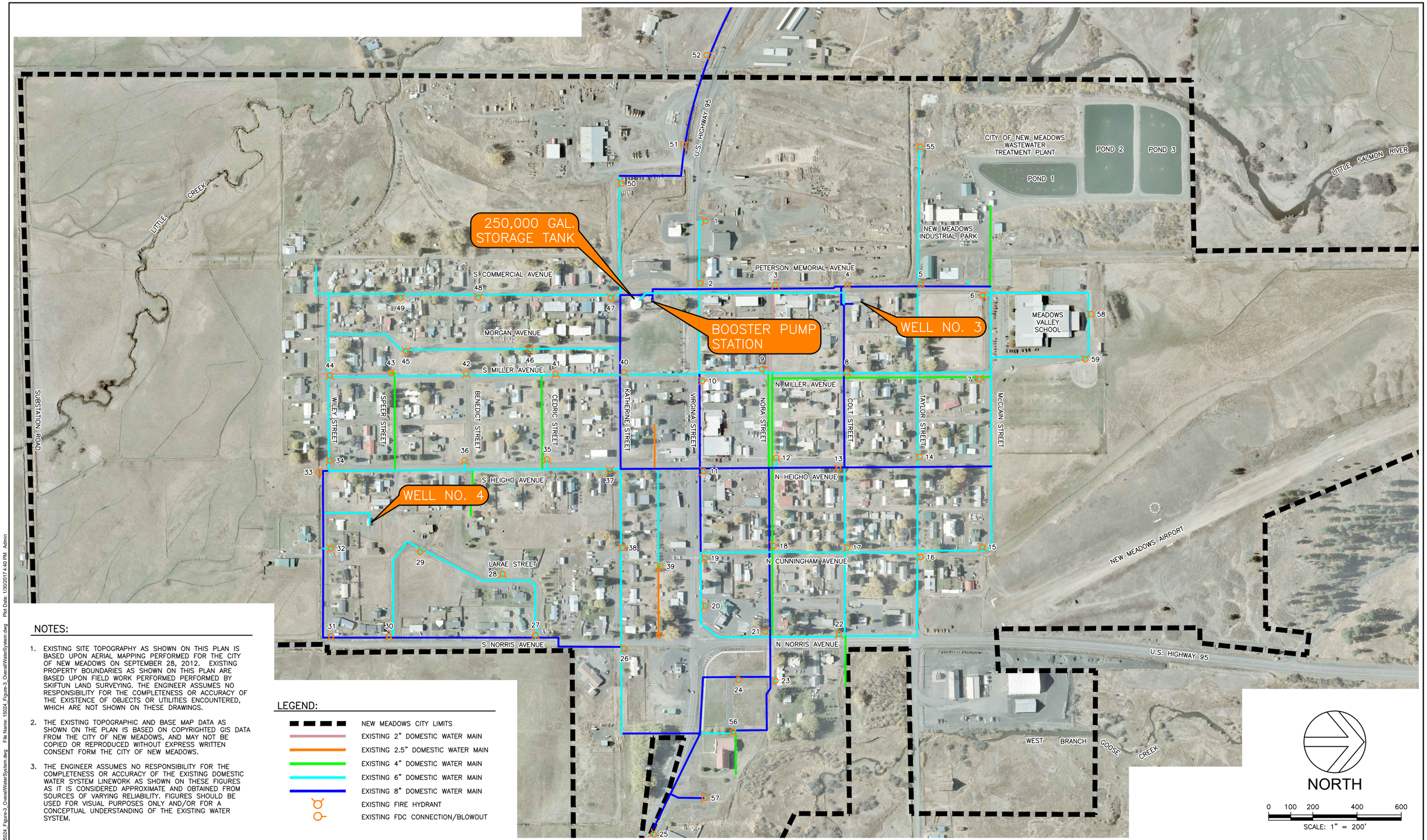
3.1 General System Operations

The New Meadows water system generally consists of the following facilities:

- 2 active municipal wells
  - Well No. 3 = 400 gpm
  - Well No. 4 = 300 gpm
- 1 ground level water storage tank
  - 250,000 gallon capacity
- 1 booster pump station
  - 1 main booster pump = 400 gpm
  - 1 jockey pump = 100 gpm
  - 1 fire pump = 1,000 gpm
- 41,000 feet of water main
- 59 Fire hydrants
- 276 Active service connections

The New Meadows water system operates on a single pressure zone which is alternately maintained by two municipal wells, Wells No. 3 and 4. Wells No. 1 and 2 have been abandoned. A single 250,000-gallon steel water storage reservoir is filled directly from Well No. 3 and provides water supply to the main booster facility. The reservoir is located at the same elevation as the booster station and is the main supply to the distribution system for meeting customer demands and providing fire flow storage. A 1,000 gpm diesel-powered fire pump is located in the booster station to maintain system pressure in the case of a fire flow event. Approximately 70 psi or 162 feet of head pressure is generated at the booster facility and is maintained by variable speed pumping from the boosters and Well No. 4, which pumps directly into the distribution system. A static hydraulic grade line of 4,035 feet develops system pressures of 67 psi to 73 psi across the water system.

Figure 3 shows the overall system map for the New Meadows water system.



NOTES:

1. EXISTING SITE TOPOGRAPHY AS SHOWN ON THIS PLAN IS BASED UPON AERIAL MAPPING PERFORMED FOR THE CITY OF NEW MEADOWS ON SEPTEMBER 28, 2012. EXISTING PROPERTY BOUNDARIES AS SHOWN ON THIS PLAN ARE BASED UPON FIELD WORK PERFORMED PERFORMED BY SKIFTUN LAND SURVEYING. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE COMPLETENESS OR ACCURACY OF THE EXISTENCE OF OBJECTS OR UTILITIES ENCOUNTERED, WHICH ARE NOT SHOWN ON THESE DRAWINGS.
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3. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE COMPLETENESS OR ACCURACY OF THE EXISTING DOMESTIC WATER SYSTEM LINEWORK AS SHOWN ON THESE FIGURES AS IT IS CONSIDERED APPROXIMATE AND OBTAINED FROM SOURCES OF VARYING RELIABILITY. FIGURES SHOULD BE USED FOR VISUAL PURPOSES ONLY AND/OR FOR A CONCEPTUAL UNDERSTANDING OF THE EXISTING WATER SYSTEM.

LEGEND:

- NEW MEADOWS CITY LIMITS
- EXISTING 2" DOMESTIC WATER MAIN
- EXISTING 2.5" DOMESTIC WATER MAIN
- EXISTING 4" DOMESTIC WATER MAIN
- EXISTING 6" DOMESTIC WATER MAIN
- EXISTING 8" DOMESTIC WATER MAIN
- EXISTING FIRE HYDRANT
- EXISTING FDC CONNECTION/BLOWOUT

NO.	REVISION	BY	DATE
1.	CITY OF NEW MEADOWS DRAFT SUBMITTAL	BEJ	1/30/2017

DESIGN: BEJ/GTT
DRAWN: BEJ
CHECKED:
APPROVED:

CRESTLINE ENGINEERS
323 DEINHARD LANE, SUITE C · PO BOX 2330
McCALL, IDAHO 83638
208.634.4140 · 208.634.4146 FAX

MOUNTAIN WATERWORKS

CITY OF NEW MEADOWS
NEW MEADOWS, IDAHO

WATER SYSTEM FACILITY PLAN
OVERALL WATER SYSTEM MAP

VERIFY SCALE
BAR IS ONE INCH ON FULL SIZE DRAWING
0 1"

PROJECT 15024
DATE JANUARY, 2017

FIGURE 3

Path: M:\Projects\15024\Civil\Dwg\DD\15024_Figure-3_OverallWaterSystem.dwg File Name: 15024_Figure-3_OverallWaterSystem.dwg Plot Date: 1/30/2017 4:40 PM Admin

3.2 Sanitary Survey

DEQ conducted an enhanced sanitary survey of the New Meadows public water system on June 20, 2011 and found no significant deficiencies. In an inspection conducted in May 2008 it was observed that the vent screen located on the roof of the storage tank was in fair condition. The vent screen was not specifically inspected in 2011 but it was recommended that the City regularly inspect this screen and repair or replace as necessary. The 2011 Sanitary Survey is included in Appendix C.

3.3 Water Rights

The City of New Meadows currently holds two domestic water right licenses. Well No. 3 operates under water right license number 78-7012, authorizing the municipal use of 1.3 cubic feet per second (cfs) which equates to 583 gallons per minute (gpm). The Idaho Department of Water Resources (IDWR) lists water right license number 78-7012 with a priority date of September 27, 1969. Well No. 4 operates under water right license number 78-2053 and authorizes the municipal use of 1 cfs (449 gpm) of water. IDWR lists water right license number 78-2053 with a priority date of July 20, 1948.

Table 8 shows both water rights and the maximum diversion rate for each source of supply. It is recommended that a future transfer application be completed adding both points of diversion to each water right. Water right reports for both water right licenses are included in Appendix D.

Table 8: New Meadows Water Rights

Water Right No.	Priority Date	Use	Type	Source	Active Diversion	Maximum Diversion Rate (gpm)
78-7012	1969	Municipal	License	Groundwater	Well No. 3	583
78-2053	1948	Municipal	License	Groundwater	Well No. 4	449

3.4 Water Quality

Groundwater quality associated with the public water system owned by the City of New Meadows meets all EPA National Primary Drinking Water Standards, legally enforceable regulations that apply to public water systems. Primary standards protect public health by limiting the levels of contaminants in drinking water. Each regulated water quality parameter is given a maximum contaminant level (MCL). Currently the public water system is in full compliance with all primary MCLs. The City compiles a water quality report on an annual basis which is posted on the City website for ease of access by the public.

The City does not have residual chlorine requirements because its water is sourced from groundwater wells and no source water contamination issues have been reported. Well No. 4 is equipped with a tablet chlorinator, but this treatment system is not used at this time.

Aesthetic water quality is excellent with no taste or odor issues. No system chlorination has been needed to improve water quality or to provide a chlorine residual in the distribution system. Bacteria sampling for total coliform have not shown a presence of bacteria in the distribution system. In the future, the City of New Meadows may consider chlorination of the source water to maintain a small (0.2-0.5 mg/l) chlorine residual in the distribution system to inhibit bacterial growth.

3.4.1 Violations

In August 2014, the City received a monitoring violation for not gathering an adequate number of samples that month. This violation is referenced in the 2014 Annual Drinking Water Quality Report found in Appendix E.

3.5 Cross Connection Control

The City maintains an active Cross Connection Control policy. The current CCC policy is contained with New Meadows City Ordinance No. 170. The current CCC Ordinance is included in Appendix F of this report. In addition, the 2014 Annual Drinking Water Quality Report (Appendix E) is a cross connection control survey urging members of the community to contact City officials if they have devices that may not be protected by an approved cross connection control device. These include such items as boilers, water troughs, underground lawn sprinklers, decorative ponds, and any private sources of water which could be connected to the public water system.

3.5.1 Codes and Regulations

IDAPA 58.01.08 Section 552.06 – Cross Connection Control Program – Community Water Systems

The water purveyor is responsible through its cross-connection control(CCC) program to take reasonable and prudent measures to protect the water system against contamination and pollution from cross connections through premises isolation, internal or in-plant isolation, fixture protection, or some combination of premises isolation, internal isolation, and fixture protection. Pursuant to Section 543, all suppliers of water for community water systems shall implement a cross connection control program to prevent the entrance to the system of materials known to be toxic or hazardous. The water purveyor is responsible to enforce the system's cross connection control program. The program will at a minimum include:

a. An inspection program to locate cross connections and determine required suitable protection. For new connections, suitable protection must be installed prior to providing water service. (5-8-09)
b. Required installation and operation of adequate backflow prevention assemblies. Appropriate and adequate backflow prevention assembly types for various facilities, fixtures, equipment, and uses of water should be selected from the AWWA Pacific Northwest Section Cross Connection Control Manual, the Uniform Plumbing Code, the AWWA Recommended Practice for Backflow Prevention and Cross Connection Control (M14), the USC Foundation Manual of Cross Connection Control, or other sources

deemed acceptable by the Department. The assemblies must meet the requirements of Section 543 and comply with local ordinances. (4-4-13)

c. Annual inspections and testing of all installed backflow prevention assemblies by a tester licensed by a licensing authority recognized by the Department. Testing shall be done in accordance with the test procedures published by the University of Southern California Foundation for Cross-Connection Control and Hydraulic Research. See the USC Foundation Manual of Cross-Connection Control referenced in Subsection 002.02. (4-7-11)
d. Discontinuance of service to any structure, facility, or premises where suitable backflow protection has not been provided for a cross connection. (4-7-11)
e. Assemblies that cannot pass annual tests or those found to be defective shall be repaired, replaced, or isolated within ten (10) business days. If the failed assembly cannot be repaired, replaced, or isolated within ten (10) business days, water service to the failed assembly shall be discontinued. (4-4-13)

3.6 Source of Supply

3.6.1 Well No. 3

Well No. 3 was drilled in 1969 to a depth of 610 feet, with a static water level of 14 feet below the ground surface. The well was installed with 20 feet of 20-inch casing for the surface seal. The well was then constructed with 16-inch casing to a depth of 118 feet and then 12-inch casing was installed to a depth of 563 feet. The 12-inch casing was slotted from 157 - 557 feet with 1/8-inch by 3-inch factory slots. After well construction, the well was pumped for 8 hours at a rate of 429 gpm resulting in a drawdown of 500 feet.

Well No. 3 is located on the Northeast corner of Colt Street and Commercial Avenue and delivers water directly into the storage reservoir through a dedicated 6-inch line that runs along Commercial Avenue. The well is not currently configured to be able to pump directly into the distribution system, but could provide limited pressure to the distribution system in the case of an extreme emergency. The pump is set at approximately 300 feet below the top of the casing and produces 400 gpm of supply to the storage reservoir. The well log for Well No. 3 is included in Appendix G.

3.6.2 Well No. 4

Well No. 4 was drilled in 1996 to a depth of 460 feet, with a static water level approximately 10 feet below the ground surface. The well was constructed with a 20-inch bore hole and surface seal to a depth of 54 feet. Telescoping casing was installed with 16-inch to a depth of 41 feet, 12-inch to a depth of 160 feet and 10-inch casing to a depth of 280 feet. The 12-inch casing was installed with torch cut 3/8 by 6-inch slots from 180 - 280 feet. The 12-inch borehole was left open from 280 feet to the bottom of the bore hole.

The lithologic log lists various layers of rock and clay above the aquifer. Water was first encountered at 187 feet below the ground surface in black/brown rock, continuing to a depth of approximately 284 feet. The driller continued through layers of red and brown clay and water was

again encountered at 308 feet in black and brown rock. Water continued to be present until the driller stopped at 460 feet. The well was then test pumped at 200 gpm for 13 hours, resulting in a drawdown of 248 feet.

Well No. 4 is pumped directly into the distribution system, equipped with a VFD motor that maintains a pressure of approximately 70 psi in the water system. The well is reportedly pumped into the system at a rate of 300 gpm, but pumps air during extended periods of pumping. The continuous drawdown at this pumping rate drops the water level below the pump, which is set at 250 feet below the top of the casing. This causes cavitation and requires operation staff to manually shut off the pump. The well typically takes five days to recover and is only used two days out of the week. For the purpose of this evaluation, we have assumed the maximum sustainable well production is 200 gpm. The well log for Well No. 4 is included in Appendix F.

3.6.3 Supply versus Demand

Idaho Code states that under normal operating conditions, with the largest source out of service, the remaining sources shall be capable of meeting maximum day system demands (IDAPA 58.01.08 Subsection 501.17). The current rated supply capacity of Well No. 3 is 400 gpm and Well No. 4 is 300 gpm. However, Well No.4 has a history of pumping air during periods of extended pumping.

Well No. 4 was test pumped after well construction at a rate of 200 gpm over 13 hours. The static water level at the time of the test was recorded at 10 feet below ground level. The pump test resulted in a drawdown of approximately 238 feet or a pumping water level of 248 feet. The pump test showed a specific capacity of 0.84 gpm/ft. Therefore, it was obvious that the sustainable long-term well capacity was significantly less than the current pumping capacity of 300 gpm. Source of supply capacity used for redundancy must take into account both aquifer capacity and pumping capacity. A sustainable well capacity of 150 gpm would equate to approximately 126 feet of drawdown or a pumping water level of 136 feet below ground level.

The sustainable groundwater supply capacity for New Meadows water system, when considering the largest well out of service is estimated at approximately 150 gpm. This redundant capacity should be reevaluated through long term-pumping testing, during non-peak water demand periods. Table No. 9, shows a declining balance summary of the water supply resulting from anticipated demand as growth occurs throughout the planning period. The water supply declining balance shows an immediate need for additional groundwater supply to ensure additional water supply surplus in the event of a well outage.

Table 9: Water Supply Declining Balance

Year	Customers	Max Day Demand (gpm)	Redundant Supply[1] Capacity (gpm)	Surplus/ (Deficiency) (gpm)
2016	276	130	150	20
2021	290	136	150	14
2026	305	143	150	7
2031	320	150	150	0
2036	337	158	150	(8)

Note:
1) Redundant supply is defined as total supply minus largest well capacity out of service.

3.6.4 Surrounding Wells

A survey of well logs for wells adjacent to the City indicated that well depths range from 45 feet to 325 feet. Typical water production from these wells range between 30 gpm to 100 gpm. Well driller logs for all surrounding adjacent wells are included as Appendix H. A summary of construction characteristics for these wells can be found in Table 10.

Table 10: Surrounding Wells

Owner	Year Drilled	Total Depth (feet)	Casing Diameter (inches)	Reported Well Capacity (gal/min)	Drawdown (feet)	Pumping Time (hours)
School District	2015	325	8	100	286	2
Schlachter	2013	80	6	30	80	1
Carpenter	1995	48	6	20	N/A	0.5

3.6.5 Well House and Mechanical Piping

<u>Well No. 3</u>

The well house for Well No. 3, shown in Figure 4, is a wood-framed building located on the Northeast corner of Colt Street and Commercial Avenue. The mechanical piping is composed of 6-inch steel piping, check valve and isolation valving. As part of a 1993 water system improvement project, Well No. 3 was equipped with a new pump, a new flow meter, and new controls. The flow meter is equipped with a Sensus gauge and an analog totalizer, shown in Figure 5. The well site is fenced off and gated to prevent unauthorized entry. Figure 6 shows the mechanical piping inside the Well No. 3 well house.

Figure 4: Well No. 3 Well House

Figure 5: Well No. 3 Flow Meter

Figure 6: 90 Degree Mechanical Piping

Well No. 4

The well house and mechanical piping for Well No. 4 was designed as part of the 1995 water system upgrade. Construction took place after the well was drilled in April/May of 1996. The well house is just over 31 feet long by 12 feet wide and was constructed of concrete masonry units. It is located on Speer Street, one block north of Wiley Street. An Ultra Mag electromagnet flow meter within the building measures instantaneous and totalizing flows. The building also contains a Hammonds model 3150-HL tablet chlorinator; however, because the New Meadows water system does not have water quality issues and groundwater is not required to be treated, the chlorination system is not used. Well No. 4 is equipped with a Cummins powered diesel backup generator to be used in the event of a power failure. The generator is trailer-mounted but directly wired to the breaker panel. The well site is fenced off and gated to prevent unauthorized entry.

Figure 7: Well No. 4 Well House

Figure 8: Diesel Generator at Well No. 4

3.6.6 Codes and Regulations

IDAPA 58.01.08 Section 501.17 – Ground Water Redundancy

> New community water systems served by ground water shall have a minimum of two (2) sources if they are intended to serve more than twenty-five (25) connections or equivalent dwelling units (EDUs). Under normal operating conditions, with any source out of service, the remaining source(s) shall be capable of providing either the peak hour demand of the system or a minimum of the maximum day demand plus equalization storage. (5-8-09)

The continuous cavitation at Well No. 4 indicates the sustainable well capacity is less than 300 gpm the capacity of the current well pump. Significant drawdown over periods of extended pumping provides evidence that aquifer recharge is less than 300 gpm. In the event that this well is over-pumped during periods of peak system demands causing cavitation, the City would limit available production to Well No. 3 with no redundancy or backup power. The City should determine the sustainable long-term capacity of Well No. 4 and provide monitoring and controls to allow this well and submersible pump to produce water at or below the sustainable capacity.

3.7 Storage Facilities

3.7.1 Description of Existing Facilities

The City currently has one 250,000-gallon storage reservoir that supplies the main booster station. The reservoir is exclusively supplied by Well No. 3, but could be supplied from system pressure in the event of an emergency. The reservoir is an above-ground, bolted steel tank located in the southwest corner of the City Park near the center of town. The diameter of the reservoir is 50 feet and the tank height is approximately 18 feet. An access manhole is provided near the bottom of the tank to allow City staff to enter the reservoir for maintenance or repair when the tank is drained. A roof vent, approximately 10 inches in diameter, is provided in the center of the roof. This vent is protected from insects and birds with hardware cloth and a brass screen.

An 8-inch overflow line prevents the reservoir from overfilling and drains to a concrete manhole connected to the storm drain system. A 10-inch above ground, insulated supply line connects the reservoir to the booster pump station. The water reservoir and booster pump station are contained on the same site. The site is fenced by a 6-foot tall chain link fence with two double gates, both sets of gates are locked to prevent unauthorized access.

As part of the 1995 water system improvement project, the water reservoir was upgraded to extend its useful life. A caged ladder with a lockable hinged gate and a safety rail were added to allow City staff to safely access the roof hatch. The interior and exterior of the reservoir also received new coatings to protect the steel tank from oxidation damage. These coatings have reached the end of their useful life and are in serious need of maintenance or reservoir replacement.

In 2008 a robotic camera was placed in the water reservoir which recorded the interior condition of the walls. The video shows that the walls are in generally poor condition, with pitting occurring in several places. The interior epoxy lining has been peeling away in many places, allowing the

pitting to continue. Figure 9 shows the exterior of the reservoir. Figure 10 is a screenshot taken from the video recording showing the interior condition of the reservoir. The reservoir inspection report is included as Appendix I, and additional screenshots of the reservoir's interior can be found in Appendix J. Table 11 lists the characteristics of the existing reservoir.

Table 11: Reservoir Characteristics

Reservoir Characteristics					
Material	**Shape**	**Invert Elevation (ft ASL)**	**Overflow Elevation (ft ASL)**	**Usable Volume (gal)**	**Volume/foot of Depth (gal)**
Bolted steel	Round	3,873	3,892	250,000	14,700

Figure 9: Reservoir Exterior

Figure 10: Reservoir Interior, Peeling Epoxy

3.7.2 Storage Volume Components

The 2012 Recommended Standards for Waterworks (Ten States Standards) recommends that finished water storage reservoirs must be designed for stability, durability, and protection of the quality of the stored water. The storage analysis for this report follows the requirements set forth in IDAPA code, “Idaho Rules for Public Drinking Water Systems,” and the required components of storage to be considered are as follows:

1. Operational Storage (OS)
2. Equalizing Storage (ES)
3. Standby Storage (SS)
4. Fire Suppression Storage (FSS)
5. Dead Storage (DS)

3.7.2.1 Operational Storage

Operational storage (OS) is defined as the volume of the reservoir dedicated to supplying the water system under normal operating conditions. This portion of storage is the volume that leaves the reservoir while the supply pumps are not operating. The design operating volume should be adequate to provide for the varying sensitivity of level measurements and automated control systems, and large enough to prevent excessive supply pump cycling. Currently, the operating volume consists of 3.0 feet of water depth in the 50-foot diameter reservoir.

Existing OS = 44,000 gal

3.7.2.2 Equalizing Storage

Equalizing storage (ES) is the volume component that provides for operational conditions under which sources of supply cannot keep up with system demand. This storage fraction is designed to supply the system during the peak periods of diurnal demand and replenish during the off-peak hours. A conservative method to estimate the equalization storage requirement is to use 20-25% of the maximum day demand. The IDEQ Guidance for Determining Equalization Water Storage was used to determine the required peaking storage for New Meadows and was calculated at 22.5% of MDD using this method.

ES = (5.4) * MDD(gal) / 24

ES = 22.5% * 187,200 gal. = 42,120 gal

Where:

ES	=	Equalizing Storage (gal)
MDD	=	Max Day Demand (gal)
Existing ES	**=**	**42,120 gal**

3.7.2.3 Standby Storage

Standby Storage (SS) is defined as the component of storage that provides a measure of reliability or safety factor should sources fail or unusually high demands occur. In the event of a power outage, standby storage should be capable of supplying the water system with flow equaling the average daily demand for 8 continuous hours. Standby storage is often employed as a substitute for standby power on sources of supply. Well No. 4 is equipped with a dedicated generator to provide backup power at a long-term sustainable rate of approximately 150 gpm. The average day demand for the water system is estimated at 41 gpm, therefore there are no standby storage requirements.

3.7.2.4 Fire Suppression Storage

Fire Suppression Storage (FSS) is required in all public water systems where the source of supply cannot meet fire flow requirements as set forth by the local Fire Marshal. The volume required for FSS is the product of the maximum flow rate and the duration established by the Fire Marshal. The minimum FSS is calculated as follows:

$$FSS = FF\ (gpm) * t_m$$

$$FSS = 1{,}500\ gpm * 120\ min. = 180{,}000\ gal$$

Where:

FF	=	Fire Flow (1,500 gpm)
t_m	=	Required Duration of Fire Flow (120 min.)
Existing FSS	**=**	**180,000 gal**

It should be noted that although 1,500 gpm was used to analyze the required FSS, the fire pump is only capable of providing 1,000 gpm. It is anticipated that if the fire pump is replaced during a future project, the replacement will be capable of providing 1,500 gpm. Please refer to Appendix K for a letter from the Meadows Valley Fire District on the required fire flow capacity.

3.7.2.5 Dead Storage

Dead Storage (DS) is only considered if it is shown to exist in a water system. DS is defined as the volume of stored water not available to all customers in a gravity tank where minimum pressure cannot be provided. DS can be a necessary component of storage in the case that it is required to maintain adequate system pressures. The New Meadows water reservoir is not gravity fed into the distribution system, therefore the booster pumps maintain the water system pressure and all the volume available to the booster pump is available to all customers. The water reservoir has approximately 24 inches of DS due to the transmission main configuration supplying the booster station. The unique transmission main, located 24 inches above ground, creates dead storage in the bottom of the reservoir, equating to approximately 27,000 gallons of unusable storage.

Existing DS = 27,000 gal

3.7.2.6 Water Storage Summary

According to IDEQ storage sizing requirements, storage reservoir sizing must accommodate volumes for OS, ES, FSS, and DS. The existing 250,000 gallon storage reservoir does not meet future IDEQ water storage volume requirements of 293,100 gallons. However, the Meadows Valley Fire District is requiring an upgrade from the existing 1,000 gpm required to 1,500 gpm in the event that the existing water storage tank is replaced. With a new 1,500 gpm requirement for a 2-hour duration, fire flow volumes will be increased from 120,000 gallons to 180,000 gallons. This will result in a required storage deficiency of approximately 43,100 gallons currently, or 52,900 gallons over the planning period.

Table 12 summarizes the current volume of each storage component for the New Meadows reservoir.

Table 12: Current Water Storage Requirements

Current Water Storage Requirements	
Storage Breakdown	**Required Volume (gal)**
Operational	44,000
Equalization	42,100
Standby	0
Fire Suppression	180,000
Dead	27,000
Total Required	293,100
Total Available	250,000
Surplus/(Deficit)	**(43,100)**

3.7.2.7 Future Conditions

The New Meadows water system currently contains 250,000 gallons of useable ground level water storage. The current water storage balance shows that the current minimum required storage volume is 293,100 gallons, or 43,100 gallons less than is currently available. There is not sufficient water storage capacity available to the water system for existing users, and no excess water storage to provide for growth throughout the planning period. At a 1.0 % growth rate, the calculated required water storage would be approximately 302,900 gallons over the 20-year planning period. Table 13 shows the declining balance of available water storage verses required storage over the 20-year planning period. As the population of New Meadows increases, the requirement for peaking or equalization storage increases at approximately 160 gallons per new customer connection while the other storage requirements remain constant. To meet current and future water storage requirements, additional water storage should be considered to meet existing and future requirements.

Table 13: Water Storage Declining Balance

Water Storage Declining Balance				
Year	**Customers[1]**	**Current Volume (gal)**	**Required Volume[2] (gal)**	**Surplus/(Deficit) (gal)**
2016	276	250,000	293,100	(43,100)
2021	290	250,000	295,300	(45,300)
2026	305	250,000	297,700	(47,700)
2031	320	250,000	300,100	(50,100)
2036	337	250,000	302,900	(52,900)
Notes: *1. Assuming growth at 1% per year* *2. Peaking storage requirement of 160 gallons per new user*				

3.7.3 Codes and Regulations

IDAPA 58.01.08 Section 544.01.a – Sizing and Isolation Requirements

Storage facilities shall have sufficient capacity, as determined from engineering studies that consider peak flows, fire flow capacity, and analysis of the need for various components of finished storage as defined under the term "Components of Finished Water Storage" in Section 003. The requirement for storage may be reduced when the source and treatment facilities have sufficient capacity with standby power to supply peak demands of the system. (3-30-07)

The existing water storage reservoir is insufficient to satisfy the storage requirements of current system demands. This deficiency becomes magnified as the population increases and new customers are added to the system. The primary areas that should be addressed are additional water storage for fire protection, additional equalization or peaking storage for new growth, and minimizing or removing existing dead storage.

3.8 Booster Pumping Facilities

As part of the 1995 water system improvement project, the booster pump station was renovated, the mechanical piping was reconfigured, and the booster pumps were replaced. The fire pump was proposed to be replaced with a larger pump due to its age and limited capacity, but it was ultimately retained and remains in service.

3.8.1 Booster Pump Station

Two primary domestic booster pumps deliver water from the storage reservoir into the distribution system: a 15 HP main pump (400 gpm) and a 10 HP jockey pump (100 gpm). Fire flow capacity is delivered from a dedicated diesel-powered fire pump (1,000 - 1,500 gpm). The booster pump station is connected to the storage reservoir by a 10-inch line. Due to the relatively flat nature of the terrain in the service area, the booster pump station maintains pressure in the entire water system at approximately 70 psi, plus or minus 5 psi.

The 15 HP pump is equipped with a VFD and serves as the primary pump, maintaining the water system pressure at 70 psi with a capacity of approximately 400 gpm. The storage reservoir is unable to provide equalization storage to the water system without the use of the booster pump because the reservoir is not directly connected to the system. This means that the main booster pump will constantly run to maintain the system pressure and provide access to the equalization storage in the reservoir during operational conditions, under which the wells cannot keep up with system demand.

The 10 HP pump serves as a jockey or support to the primary pump, turning on when the system pressure falls below 60 psi. The jockey pump is equipped with a constant speed motor and has a capacity of approximately 100 gpm. If the system pressure drops below 40 psi, the fire pump will turn on and run until the system pressure reaches 50 psi.

The fire flow pump is a Worthington diesel pump from the 1960s. This pump automatically turns on when the water system pressure falls below 40 psi and turns off again when the pressure reaches 50 psi. The fire pump is capable of providing approximately 1,000 gpm, which is less than the 1,500 gpm minimum fire flow requirement specified by the International Fire Code adopted by the local Fire Chief. In order to reliably provide 1,500 gpm during fire flow conditions, new pumps will be installed to meet the 1,500 gpm fire flow requirement with the largest pump out of service. No dedicated fire pump will be installed in the new booster pumping facility. The new pumping facility will be able to meet peak hour demands plus fire flow capacity with the largest pump out of service. The new pumping facility will be equipped with standby power capabilities.

3.9 Transmission and Distribution

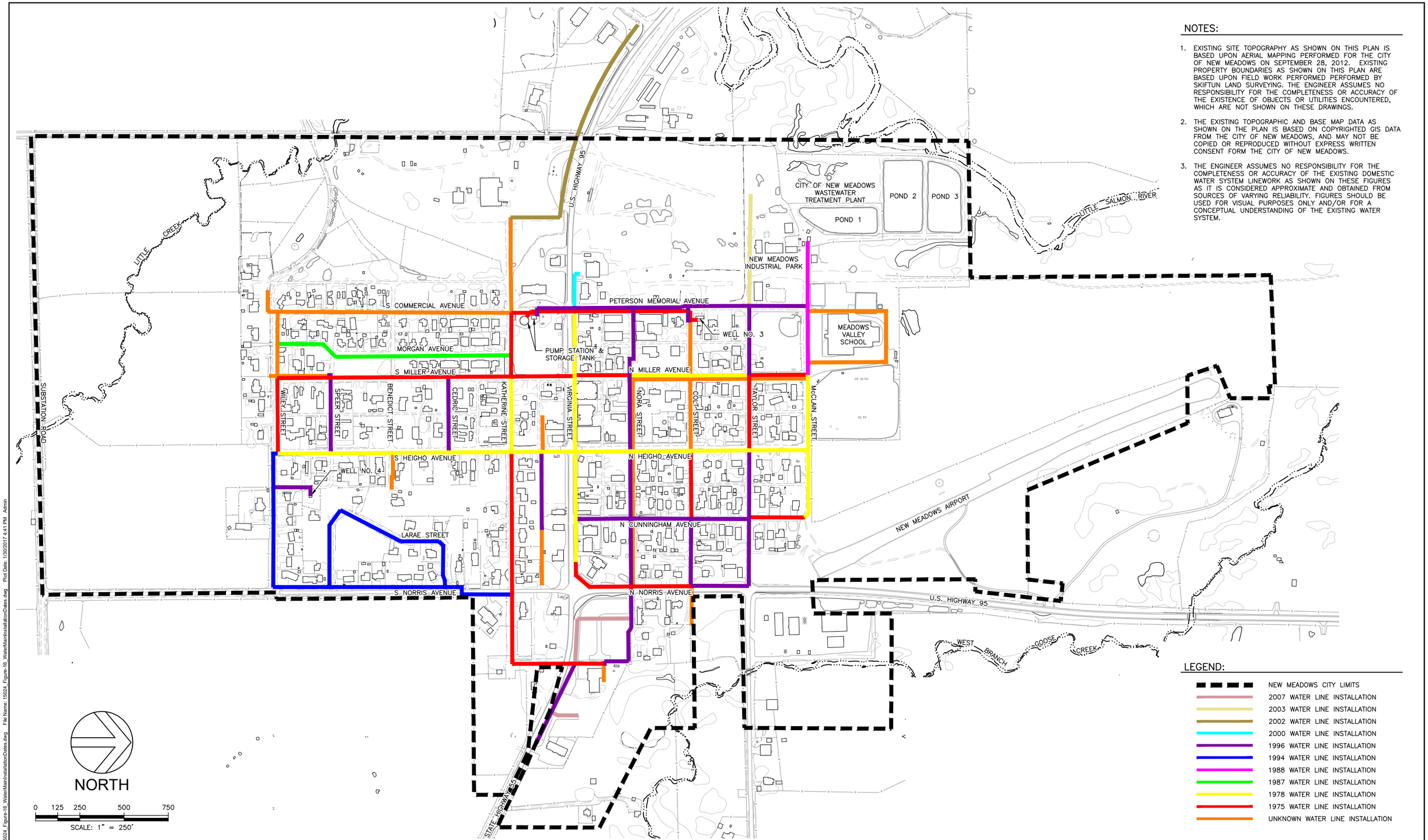
3.9.1 General

The transmission and distribution system consists of a combination of PVC, ductile iron, and galvanized pipe. Many of the distribution mains were replaced with PVC as part of the 1995 water system improvement project, leaving the majority of the distribution system in good condition, although some ductile iron and galvanized service lines still remain. The estimated water line lengths, broken down by pipe size, are listed in Table 14.

Table 14: Water Line Lengths

Water Line Lengths	
Diameter (inches)	**Length (feet)**
2	775
2.5	525
4	4,500
6	22,500
8	12,425

The distribution system operates on a single pressure zone and relies on the booster pump station and Well No. 4 to maintain adequate system pressure. Figure 12 shows the known installation dates of the water lines. Figure 13 shows the existing water system layout, and Figures 14-17 show the existing water system, magnified to present more detail.



NOTES:

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MOUNTAIN WATERWORKS

CITY OF NEW MEADOWS
NEW MEADOWS, IDAHO

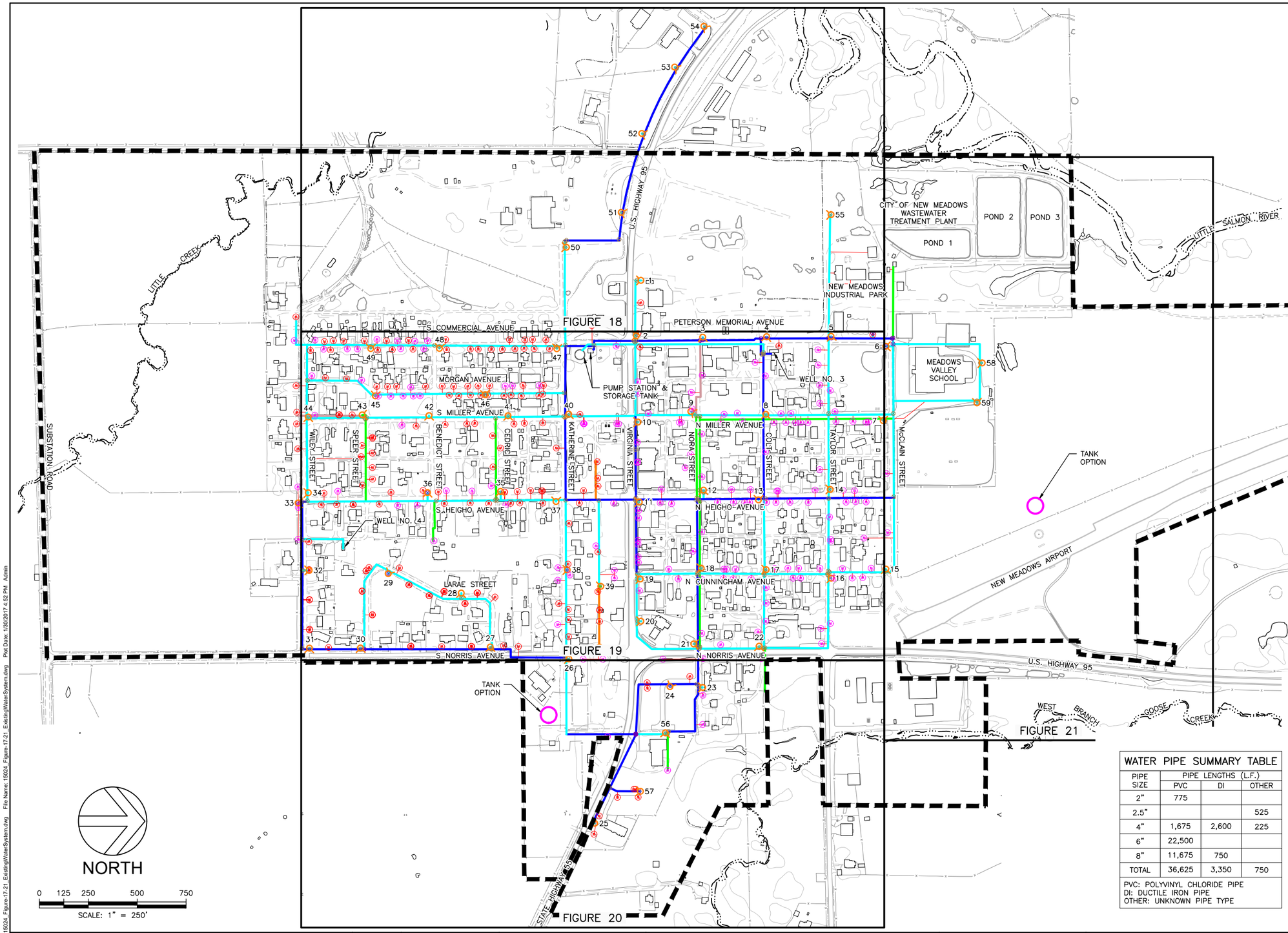
WATER SYSTEM FACILITY PLAN
WATER MAIN INSTALLATION DATES

VERIFY SCALE
BAR IS ONE INCH ON FULL SIZE DRAWING
0 1"

PROJECT 15024
DATE JANUARY, 2017

FIGURE 11

Path: M:\Projects\15\024\Civil\Dwg\DD\15024_Figure-16_WaterMainInstallationDates.dwg File Name: 15024_Figure-16_WaterMainInstallationDates.dwg Plot Date: 1/30/2017 4:41 PM Admin



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WATER PIPE SUMMARY TABLE

PIPE SIZE	PIPE LENGTHS (L.F.)		
	PVC	DI	OTHER
2"	775		
2.5"			525
4"	1,675	2,600	225
6"	22,500		
8"	11,675	750	
TOTAL	36,625	3,350	750

PVC: POLYVINYL CHLORIDE PIPE
DI: DUCTILE IRON PIPE
OTHER: UNKNOWN PIPE TYPE

LEGEND:

- NEW MEADOWS CITY LIMITS
- EXISTING 2" DOMESTIC WATER MAIN
- EXISTING 2.5" DOMESTIC WATER MAIN
- EXISTING 4" DOMESTIC WATER MAIN
- EXISTING 6" DOMESTIC WATER MAIN
- EXISTING 8" DOMESTIC WATER MAIN
- EXISTING FIRE HYDRANT
- EXISTING FDC CONNECTION/BLOWOUT
- EXISTING WATER METER AND SERVICE PIPE
- APPROX. LOCATION EXISTING WATER METER AND SERVICE PIPE
- EXISTING WATER VALVE
- APPROX. LOCATION EXISTING WATER VALVE

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MOUNTAIN WATERWORKS

CITY OF NEW MEADOWS
NEW MEADOWS, IDAHO

WATER SYSTEM FACILITY PLAN
EXISTING WATER SYSTEM

VERIFY SCALE
BAR IS ONE INCH ON FULL SIZE DRAWING
0 1"

PROJECT 15024
DATE JANUARY, 2017

FIGURE 12

Path: M:\Projects\15\0241\Civil\Dwg\DD\15024_Figure-17-21_ExistingWaterSystem.dwg File Name: 15024_Figure-17-21_ExistingWaterSystem.dwg Plot Date: 1/30/2017 4:52 PM Admin

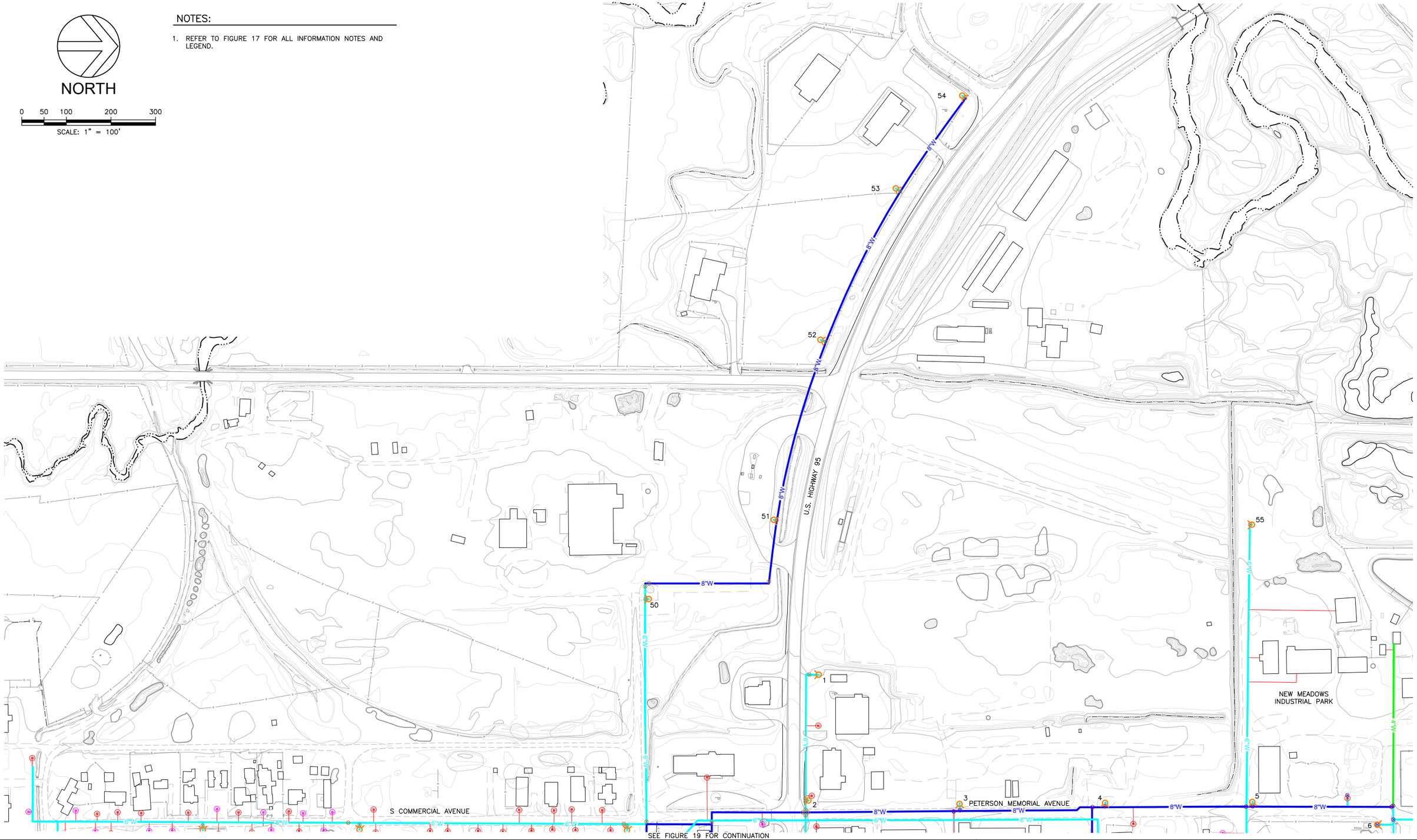
NORTH

0 50 100 200 300

SCALE: 1" = 100'

NOTES:

1. REFER TO FIGURE 17 FOR ALL INFORMATION NOTES AND LEGEND.



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MOUNTAIN WATERWORKS

CITY OF NEW MEADOWS
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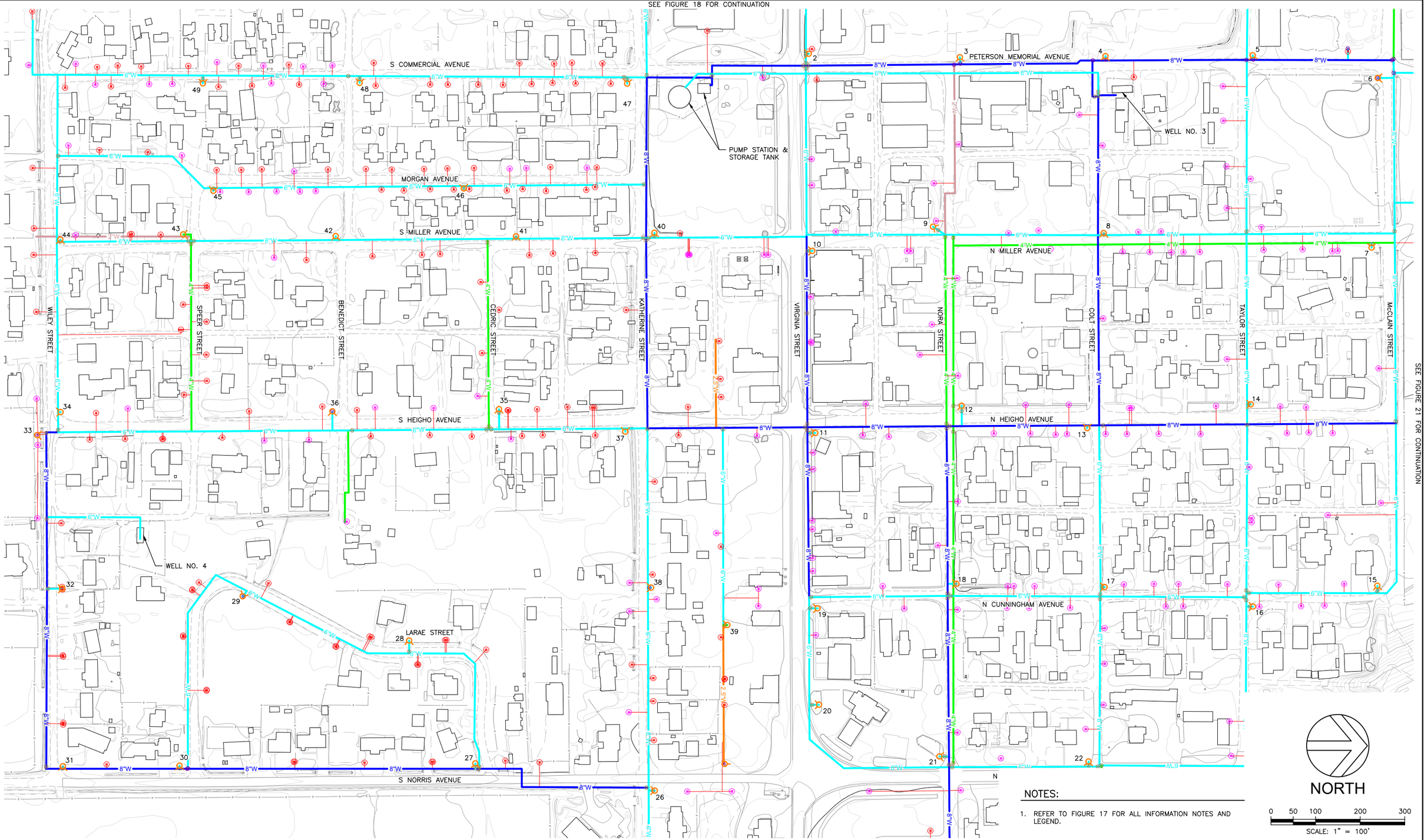
WATER SYSTEM FACILITY PLAN
EXISTING WATER SYSTEM - WEST

VERIFY SCALE
BAR IS ONE INCH ON FULL SIZE DRAWING
0 1"

PROJECT 15024
DATE JANUARY, 2017

FIGURE 13

Path: M:\Projects\15\024\Civil\Dwg\DD\15024_Figure-17-21_ExistingWaterSystem.dwg File Name: 15024_Figure-17-21_ExistingWaterSystem.dwg Plot Date: 1/30/2017 4:52 PM Admin



NOTES:

1. REFER TO FIGURE 17 FOR ALL INFORMATION NOTES AND LEGEND.

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MOUNTAIN WATERWORKS

CITY OF NEW MEADOWS
NEW MEADOWS, IDAHO

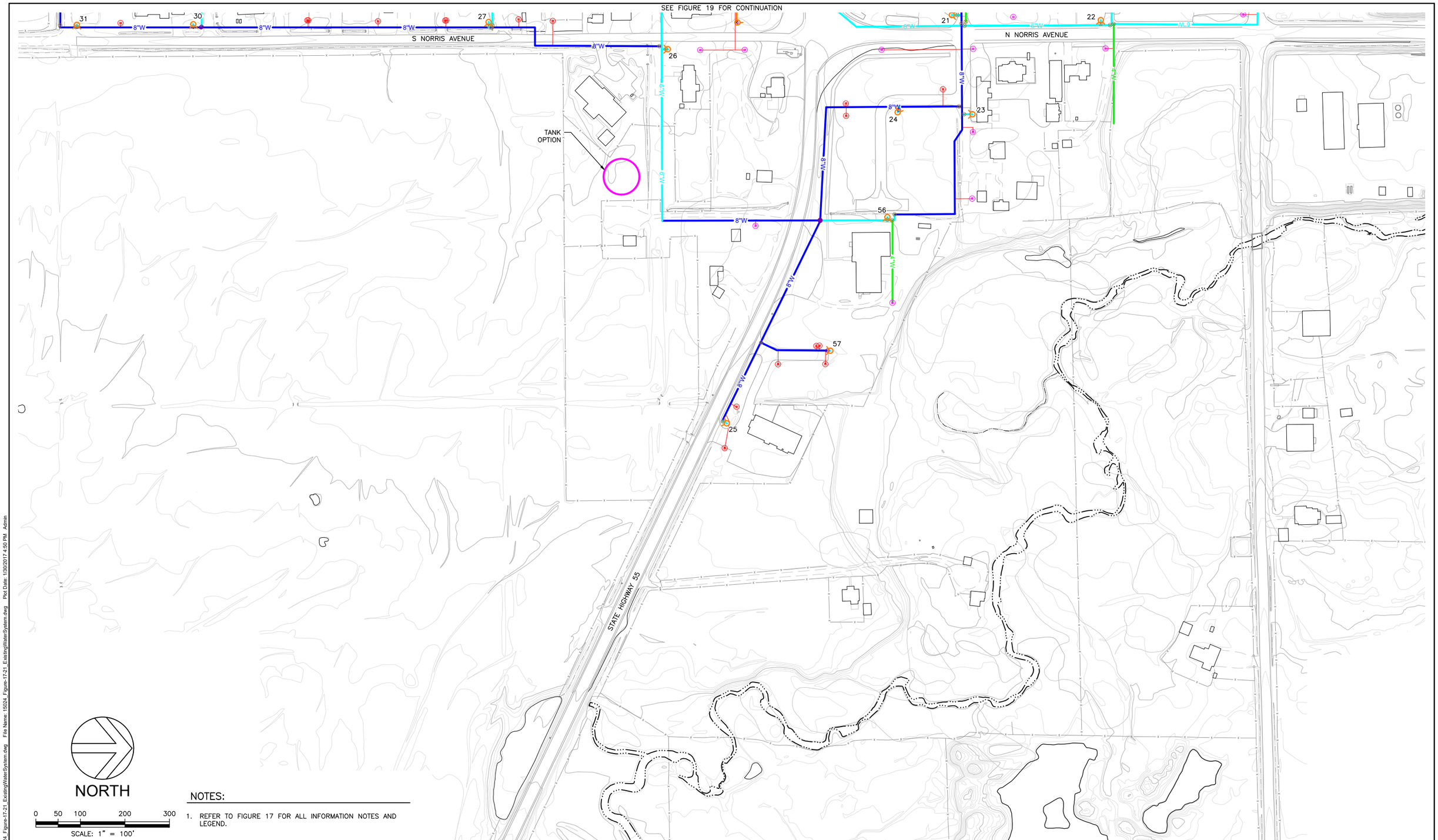
WATER SYSTEM FACILITY PLAN
EXISTING WATER SYSTEM - CENTER

VERIFY SCALE
BAR IS ONE INCH ON FULL SIZE DRAWING
0 1"

PROJECT 15024
DATE JANUARY, 2017

FIGURE 14

Path: M:\Projects\15024\Civil\Dwg\DD\15024_Figure-17-21_ExistingWaterSystem.dwg File Name: 15024_Figure-17-21_ExistingWaterSystem.dwg Plot Date: 1/30/2017 4:51 PM Admin



NOTES:

1. REFER TO FIGURE 17 FOR ALL INFORMATION NOTES AND LEGEND.

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MOUNTAIN WATERWORKS

CITY OF NEW MEADOWS
NEW MEADOWS, IDAHO

WATER SYSTEM FACILITY PLAN
EXISTING WATER SYSTEM - EAST

VERIFY SCALE
BAR IS ONE INCH ON FULL SIZE DRAWING
0 1"

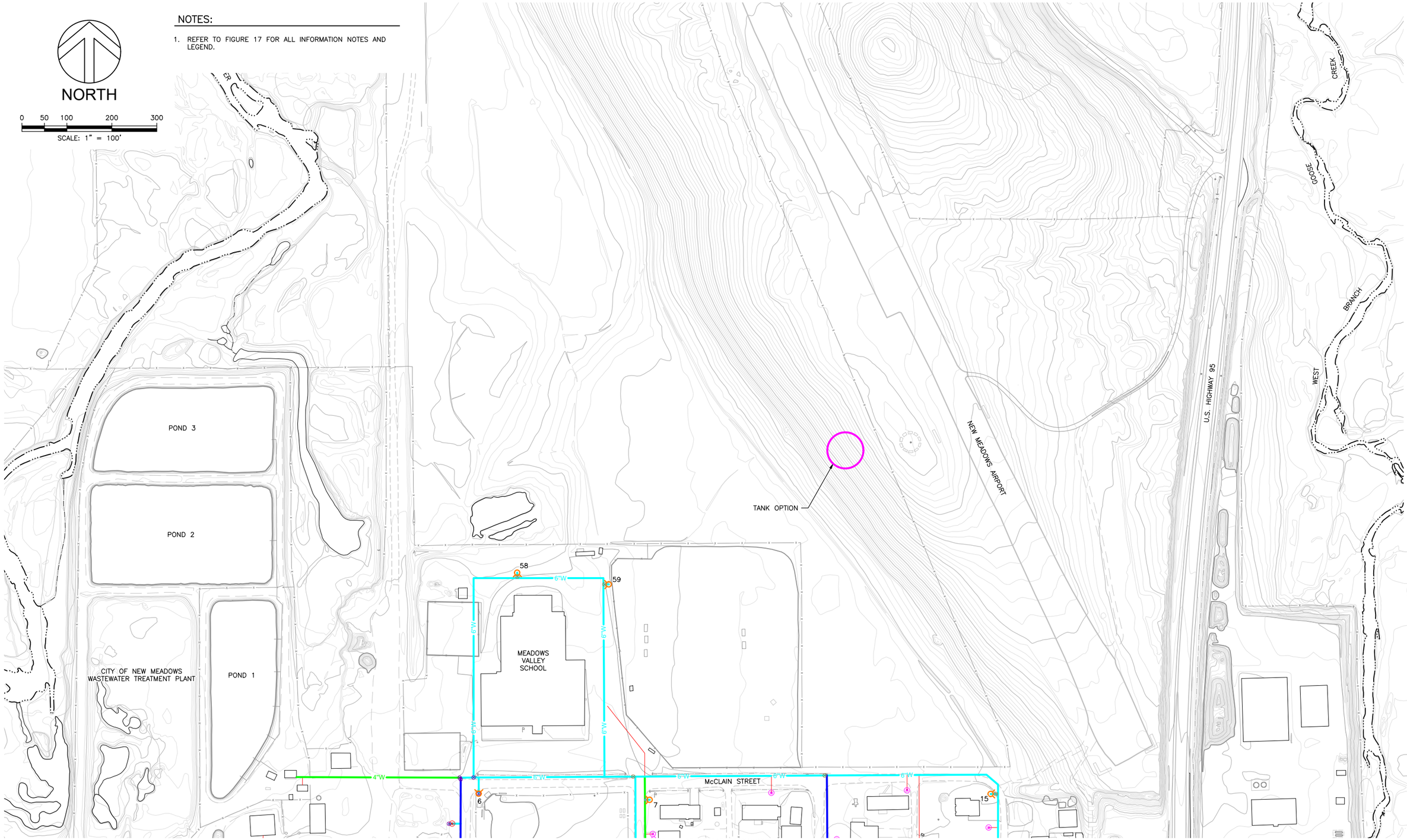
PROJECT 15024
DATE JANUARY, 2017

FIGURE 15

Path: M:\Projects\15\024\Civil\Dwg\DD\15024_Figure-17-21_ExistingWaterSystem.dwg File Name: 15024_Figure-17-21_ExistingWaterSystem.dwg Plot Date: 1/30/2017 4:50 PM Admin

NOTES:

1. REFER TO FIGURE 17 FOR ALL INFORMATION NOTES AND LEGEND.



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MOUNTAIN WATERWORKS

CITY OF NEW MEADOWS
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WATER SYSTEM FACILITY PLAN
EXISTING WATER SYSTEM - NORTH

VERIFY SCALE
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0 1"

PROJECT	15024
DATE	JANUARY, 2017

FIGURE 16

Path: M:\Projects\15\024\Civil\Dwg\DD\15024_Figure-17-21_ExistingWaterSystem.dwg File Name: 15024_Figure-17-21_ExistingWaterSystem.dwg Plot Date: 1/30/2017 4:50 PM Admin

3.9.2 Transmission Mains

A 6-inch transmission main, approximately 1,000 feet in length, connects Well No. 3 to the storage reservoir. This line was installed in the 1960s and runs parallel along Commercial Avenue. The condition of this critical water main is unknown to date. Well No. 4 is connected directly to the distribution system with a 6-inch transmission main, approximately 250 feet in length that runs parallel to Speer Street.

3.9.3 Distribution Mains

The City water system consists of 8-inch, 6-inch, 4-inch, and 2-inch diameter water pipes. The main water lines throughout the distribution system consist of 8-inch or 6-inch diameter pipe, the majority of these being AWWA C-900 PVC. Much of the distribution system has been replaced with PVC, although some cast iron mains and galvanized service lines still remain. Many of the distribution mains were replaced as part of the 1995 water improvement project, including the mains on Nora Street, Cunningham Street, Colt Street, Taylor Street, Cedric Street, Speer Street, Miller Street, and Commercial Street. The majority of the distribution mains are assumed to be in good condition due to the minimal amount of unaccounted-for water in the water system.

3.9.4 Valves

The water system lacks the sufficient number of working valves required to isolate sections of the water system during maintenance or repair without temporarily disrupting service to large areas. In addition, most of the existing valve boxes around town are buried under approximately 6 - 8 inches of gravel to prevent damage during the winter when the streets are plowed. Additional valves are necessary to allow effective isolation of the system.

3.9.5 Fire Hydrants

The City has 59 fire hydrants, one of which is a 2.5-inch standpipe. The majority of these hydrants are reportedly in poor condition. The City adopted a program to replace two hydrants each year, and this program has been in place for five years. The fire hydrant brands consist of Waterous, Clow, and Mueller. The City has adopted Mueller hydrants as their standard for all future fire hydrants that are replaced or added. A comprehensive list of the fire hydrants, including age, condition, and location is included in Appendix L.

The Meadows Valley Fire Department Fire Chief has adopted the International Fire Code in accordance with Idaho Code (IDAPA 58.01.08 Section 003.52). The maximum fire flow available at the farthest fire hydrant in the water system is 1,185 gpm, less than the required 1,500 gpm that the fire chief would like to see at every fire hydrant.

On June 3, 2016 Crestline Engineers and Mountain Waterworks performed hydrant testing at five hydrants at various locations throughout the water system. For each hydrant tested, water pressures were recorded with the hydrant both closed for static pressure and fully open for pitot pressure. A hydrant was also pressure tested at an adjacent location to determine the residual system pressure during fire flow conditions. The static and pitot pressures were used to calculate the available fire flow at a residual system pressure of 20 psi, which is the minimum allowable

water pressure in the system during fire flow conditions. It should be noted that the existing fire pump in the booster station turns on when the system pressure falls below 40 psi. Table 15 shows the calculated flow available at each hydrant at a system pressure of 20 psi. Fire hydrant test locations can be seen in Appendix L.

Table 15: Fire Hydrant Flow Data

Fire Hydrant Flow Data								
Test No.	**Test Location**	**Adjacent Location**	**Diameter (in)**	**Static (psi)**	**Pitot (psi)**	**Adj. Static (psi)**	**Adj. Residual (psi)**	**Flow Available at 20 psi (gpm)**
1	Hydrant No. 54	Hydrant No. 53	4.5	74	8	76	14	1185
2	Hydrant No. 59	Hydrant No. 7	4.5	76	7	74	26	1297
3	Hydrant No. 56	Hydrant No. 57	4.5	68	8	70	22	1276
4	Hydrant No. 31	Hydrant No. 29	4.5	69	13	70	19	1592
5	Hydrant No. 19	Hydrant No. 18	4.5	70	8	71	25	1335

Only one hydrant tested had a flow rate at or above 1,500 gpm at 20 psi. This indicates that Well No. 4 and the fire pump running in unison are not capable of providing sufficient fire protection.

3.9.6 Service Connections

Approximately 60% of the existing service lines are galvanized. During the various water system improvement projects when distribution mains were replaced, the galvanized service lines were not replaced. Instead the galvanized service lines were reconnected to the new PVC distribution mains with saddles and copper pipe. The City has adopted a program to replace six to eight service lines each year with polyethylene in an effort to remove galvanized lines from the water system.

3.9.7 Customer Meters

There are 328 connections to the City water system, 276 of which are currently active. Customer meters have all been upgraded to Neptune T-10 meters which are equipped with radio transmitters, allowing the operator to read them using a handheld meter reader. The City intends to upgrade the radio transmitters further by sending a radio signal to a central tower. This would

give the City a current usage reading for any customer at any time, and allow customers to log in and view their individual water usage.

The majority of the customer meters in the system are 5/8-inch by 3/4-inch, although there are some 1-inch, 1.5-inch, 2-inch and 3-inch meters. The larger meters are for the large commercial users, such as the School. Table 16 shows the number of customer meters, broken down by size. A full list of customer meters is included as Appendix M.

Table 16: Customer Meters

Customer Meters	
Meter Size	**Total**
5/8" x 3/4"	308
3"	1
2"	5
1.5"	7
1"	4
Unknown	3
Total	**328**

3.9.8 Pressure Maintenance

Pressure in the water system is independently maintained at 70 psi by either the booster pump station or Well No. 4, depending on which pumping system is operating. If the pressure falls below 60 psi when Well No. 3 is operating, the jockey pump in the booster pump station will kick on to support the main pump. The fire pump will kick on if the pressure falls below 40 psi regardless of which source of supply is currently feeding the water system.

3.9.9 Codes and Regulations

IDAPA 58.01.08 - 542.14 – Isolation Valves

A sufficient number of valves shall be provided on water mains to minimize inconvenience and sanitary hazards during repairs.

The distribution system currently does not have a sufficient number of working valves necessary to isolate sections of the system during maintenance or repair without temporarily disrupting service to large areas.

3.10 Communications and Controls

3.10.1 Description of Existing Facilities

The communication system is a radio telemetry system installed by Advanced Control Systems (ACS). The radio communication has been effective, with the exception of the radio transmitter located at the wastewater treatment facility. This radio has been replaced several times in the past. The water reservoir is equipped with a pressure transducer which controls the function of the pump at Well No. 3. The transducer sends a 4-20 mA signal to the pump controls, equating to a depth range from approximately 0-17 feet. The pressure transducer is relatively new, replacing an outdated ultrasonic sensor. The main communication and control hub is at the wastewater treatment facility.

A new communication control system will be evaluated as part of the preliminary design phase or the selected projects. A Supervisory Control and Data Acquisition (SCADA) system will be evaluated and compared against local control of each facility.

4.0 CAPITAL IMPROVEMENT PLAN

The recommended capital improvement plan (CIP) addresses the immediate facility improvements to meet both regulatory and operational requirements for the City. The purpose of this plan is to address both the short-term (5-year) and long term (20-year) needs required to bring the system into compliance, improve operational reliability, and ensure public health and safety throughout the planning period. The proposed projects addressed in the 5-year plan will be considered as critical system improvements and once approved by the City Council will be proposed during the next funding cycle.

The long-term (20-year) planning horizon will address scheduled annual infrastructure replacement, capital projects funded by rates, and projected growth planning. Estimates of costs for projects included in the 20-year plan should be considered budgetary only, while estimates of costs in the 5-year plan include a 25 percent omission and contingency factor. The 5-year project cost estimate total will be used to obtain funding from the appropriate funding agencies. This report focuses on the 5-year CIP and addresses immediate concerns for each of the following water system functional groups. Figure 18 shows the recommended capital improvements for the water system.

1. **Source of Supply**: All equipment and appurtenances that serve to introduce water supply into the system. No surface water sources were considered in this report.
2. **Water Storage**: Reservoirs and associated equipment designed to store finished water for system peaking supply, fire flow capacity, and emergency storage.
3. **Pumping Plants**: Booster pumps and equipment designed to convey water from one point in the water system to another. This does not include well pumps.
4. **Transmission and Distribution**: Any infrastructure designed specifically for the conveyance of water within the system. This includes components such as water mains, valves, meters, and service lines.
5. **Communication and Controls**: Electronic equipment associated with operational control and monitoring of system parameters
6. **Land and Easement Acquisition:** Additional land and rights-of-way required to accommodate the proposed facilities.

4.1 Sustainable Construction and Management Practices

The following special conditions of the water facility planning grant address sustainable construction and management practices to ensure that the water system is being designed, constructed and operated in the most efficient manner.

4.1.1 Sustainable Infrastructure Benchmarking

As part of the proposed water system improvement projects, the City will begin to collect data on power utilization per facility and water produced from wells. This data will be used to create power utilization metric benchmarks for the purpose of making performance comparisons during future facility operation. Benchmarks such as power expenditures per million gallons of water produced will guide the City towards continuous improvement in the efficient use of energy used to drive water producing facilities.

4.1.2 EPA Green Partnership

As part of the proposed capital improvement projects, the City will evaluate the use renewable electricity to power low voltage facilities such as site lighting, communication and control equipment. The City will review the benefits of joining the Green Power Partnership with the goal of reducing their environmental impacts associated with conventional electricity use. During the preliminary design phase of the projects, the City's engineer will review the benefits of using renewable energy with the City and identify areas that renewable energy could be utilized.

4.1.3 Professional Energy Audit

During the preliminary design phase of the proposed project, the City and their engineer will commit to conducting a professional energy audit to identify energy use inefficiencies and conduct a cost benefit analysis on potential energy saving system improvements.

4.1.4 Energy Efficient Motors

The city will commit to installing energy efficient motors on all booster pumps, submersible well pumps associated with all of the proposed capital improvement projects.

4.1.5 Supervisory Control and Data Acquisition (SCADA)

A centralized SCADA control system will be evaluated during the preliminary design phase of the proposed booster station improvement and source of supply addition projects. The main purpose of installing a SCADA system would be to optimize power utilization through a central control system that utilizes the power utilization metric benchmarks as discussed in 4.1.1. Communication and control equipment have been included in each of the proposed backbone plant facilities, and a separate project to evaluate centralized a SCADA system has been added to the priority project list.

4.1.6 Source Water Protection

All existing well sites are covered under the City's source water protection plan. The new proposed well, if constructed, will be included in this plan. The well site will be selected to minimize the chance of groundwater contamination from surface or subsurface contamination. The new well site will include adequate property setbacks from potential sources of contamination, site fencing to ensure wellhead protection and constructed of sanitary well seals to protect comingling of adjacent aquifer zones.

4.1.7 Low-Impact Construction Technologies

The use and specification of utilizing recycled construction materials will be evaluated during the preliminary design phase of the proposed projects. If water main replacement projects are selected as a primary alternative, the benefit and cost saving associated with trenchless technology such as pipe bursting will be compared against conventional open cut construction methods. Service line replacement using pipe bursting will also be evaluated based on providing the low cost and minimal site impact alternative.

4.1.8 Water Conservation - Low flow fixture analysis

During the preliminary design phase of the project, the engineer will evaluate the potential water conservation benefits associated with installing low flow fixtures. A special condition of the planning grant required the City to evaluate the benefits of a City subsidized voluntary program to purchase and installation of low flow fixtures at customer homes and businesses. This project if approved by City council will be funded through rates and included in a revenue requirement analysis of the water utility.

WATER PIPE IMPROVEMENTS TABLE

PIPE SIZE	LENGTH (L.F.)	SIZE/TYPE	NOTES
2.5"	525	3"–HDPE	REPLACE UNKNOWN TYPE PIPE
4"	1,185	N/A	ABANDON DUCTILE IRON PIPE
4"	225	4"–C900	REPLACE UNKNOWN TYPE PIPE
8"	750	8"–C900	REPLACE DUCTILE IRON PIPE

WATER VALVE IMPROVEMENTS TABLE

INTERSECTION		TOTAL NO. VALVES TO INSTALL		
NS	EW	4"	6"	8"
COMMERCIAL	KATHERINE	–	2	2
PETERSON	VIRGINIA	–	2	2
WELL NO. 3	COLT	–	1	3
MILLER	VIRGINIA	–	3	1
HEIGHO	WILEY	–	2	1
HEIGHO	SPEER	1	2	–
HEIGHO	CEDRIC	1	2	–
HEIGHO	KATHERINE	–	2	2
HEIGHO	VIRGINIA	–	–	4
HEIGHO	NORA	1	–	3
HEIGHO	COLT	–	1	3
HEIGHO	TAYLOR	–	2	2
HEIGHO	McCLAIN	–	2	1
WELL NO. 4	WILEY	–	1	2
CUNNINGHAM	VIRGINIA	–	2	1
NORRIS	KATHERINE	–	2	1
NORRIS	NORA	–	2	2
	TOTAL	3	28	30

FIRE HYDRANT REPLACEMENT TABLE

HYDRANT NO.	AGE (YRS.)	PUMPER NOZZLE	HIGH PRIORITY
6	37	YES	–
7	41	NO	YES
8	42	NO	YES
9	41	NO	YES
11	41	NO	YES
14	41	NO	YES
15	42	NO	YES
21	42	NO	YES
22	42	NO	YES
26	41	NO	YES
33	UNKNOWN	NO	YES
34	41	NO	YES
35	42	NO	YES
36	42	NO	YES
38	41	NO	YES
40	42	NO	YES
41	23	YES	–
42	42	NO	YES
43	23	YES	–
45	30	YES	–
46	30	YES	–
48	26	YES	–
49	33	YES	–
50	27	YES	–
56	42	NO	YES

NOTES:

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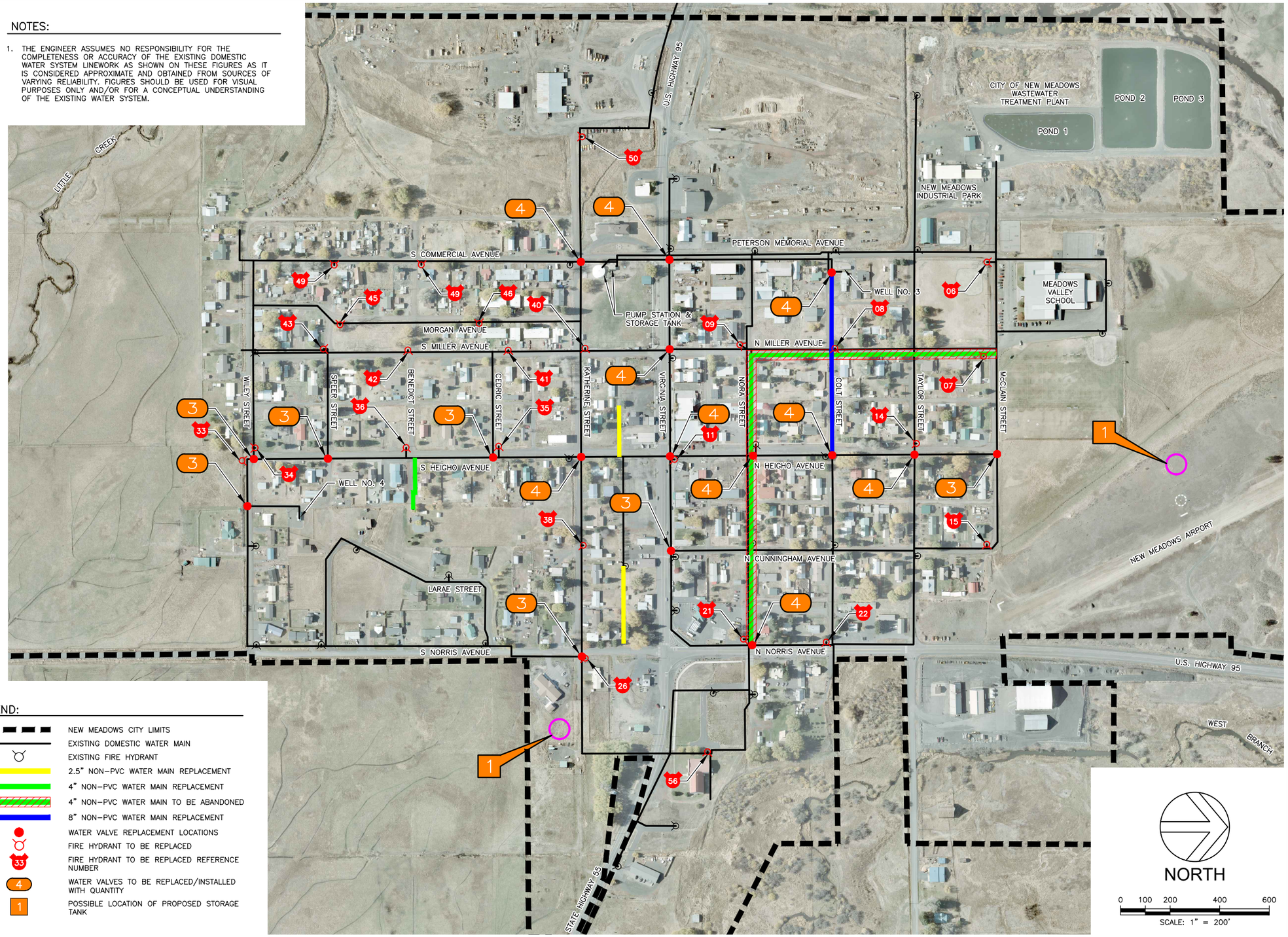

LEGEND:

- NEW MEADOWS CITY LIMITS
- EXISTING DOMESTIC WATER MAIN
- EXISTING FIRE HYDRANT
- 2.5" NON–PVC WATER MAIN REPLACEMENT
- 4" NON–PVC WATER MAIN REPLACEMENT
- 4" NON–PVC WATER MAIN TO BE ABANDONED
- 8" NON–PVC WATER MAIN REPLACEMENT
- WATER VALVE REPLACEMENT LOCATIONS
- FIRE HYDRANT TO BE REPLACED
- 33 — FIRE HYDRANT TO BE REPLACED REFERENCE NUMBER
- 4 — WATER VALVES TO BE REPLACED/INSTALLED WITH QUANTITY
- 1 — POSSIBLE LOCATION OF PROPOSED STORAGE TANK

NORTH

0 100 200 400 600

SCALE: 1" = 200'

NO.	REVISION	BY	DATE
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MOUNTAIN WATERWORKS

CITY OF NEW MEADOWS
NEW MEADOWS, IDAHO

WATER SYSTEM FACILITY PLAN
CAPITAL IMPROVEMENTS

VERIFY SCALE
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0 1"

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DATE JANUARY, 2017

FIGURE 17

Path: M:\Projects\15\024\Civil\Dwg\DD\15024_Figure-22_CapitalImprovements.dwg File Name: 15024_Figure-22_CapitalImprovements.dwg Plot Date: 1/30/2017 4:30 PM Admin

4.2 Source of Supply (SS)

The sustainable capacity of Well No. 4 is less than the rated capacity of 300 gpm of the submersible well pump. The sustainable capacity of the Well No. 4 is assumed to be approximately 150 gpm based on pump testing results performed after the well was constructed. To ensure that sufficient groundwater supply is available during peak season system demands, assuming the largest well is out of service, additional water supply is recommended.

The pump in Well No. 4 is only operated two days out of the week due to pumping water levels reaching the pump setting depth and cavitation at the current production rate of approximately 300 gpm. This results in poor performance and possible damage to the pump impeller and/or housing. The extent of any existing damage is unclear; however, the cavitation issue causes questions as to the long-term sustainability of Well No. 4. If the well or submersible pump were to lose production capacity or fail completely, the City would be limited to the supply from the booster station and Well No. 3 production. This would also eliminate supply to the storage reservoir in the event of a power outage.

Source of supply improvement alternatives will evaluate options to ensure the City has reliable and sustainable water supply, including redundancy in accordance with IDAPA 58.01.08 Idaho Rules for Public Drinking Water Systems.

Well construction details will be approved by IDEQ and IDWR prior to drilling. A deeper surface seal may be required for this well and IDWR will be contacted to determine the actual sealing requirement during the preliminary design process.

4.2.1 SS-1: New Groundwater Well

Source of supply improvements consist of the construction of one new City well, which is anticipated to provide approximately 100 - 400 gpm of supply capacity similar to Well No. 4. Well construction generally consists of the following:

- Well seal to a minimum depth of 58 feet
- 600 ft. Test wells (2 Potential)
- 20 feet of 16-inch casing
- 100 feet of 12-inch casing
- 490 feet of 10-inch casing
- 40 feet of stainless steel well screen
- 100-400 gpm submersible pump, motor and pump column
- 1,000 feet of 6-inch AWWA C900 water main connection

Engineers Estimate $225,000

4.2.2 SS-2: New Well House

A new 14 ft. x 20 ft. well house will be required at the site of the new well. The new well house will be capable of accommodating all the necessary mechanical piping, communication and controls equipment, and water meter. The floor will be a concrete slab, the walls will be constructed with concrete masonry units (CMU), and the roof will either be metal or asphalt shingled. The mechanical piping will include a manifold which will tie all sources of supply together.

The well house will generally consist of the following:

- Well house 14 ft. x 20 ft.
  - Associated mechanical piping and valves
  - Totalizing and instantaneous flow meter
  - Pressure relief and flushing capabilities
  - Electrical service to the well house
  - Communication and control equipment
- Standby power generator and associated controls
- Connection of the well house piping to the distribution system

Engineers Estimate $175,000

4.3 Water Storage (WS)

The existing water reservoir has a volume of approximately 250,000 gallons, while the required volume is estimated at approximately 302,900 gallons over the 20-year planning period. There is currently a water storage deficiency of 43,100 gallons, due to insufficient fire flow and peaking storage. The water storage reservoir should be capable of providing for all the necessary storage requirements throughout the end of the planning period. In addition to the deficient storage capacity, the existing water reservoir is in poor condition and will need significant maintenance in the near future.

A new water storage reservoir must be designed and constructed with additional capacity to allow for growth over the planning period and provide the required fire flow volume during a fire event.

4.3.1 WS-1: New 400,000-Gallon Water Storage Reservoir

This project includes a new 400,000-gallon reservoir to replace the existing reservoir which is undersized and in poor condition. The costs associated with constructing a new storage reservoir has been evaluated for three separate locations. The first site is the area of the City Park where the existing reservoir resides. If this project is completed in conjunction with a new well, the new and existing wells will provide supply and pressure to the water system while the new water reservoir is under construction in the current location. The second site evaluated is a parcel of land on the eastern edge of town owned by the U.S. Forest Service. This site would require an easement or land acquisition and the addition of approximately 125 linear feet of pipe to connect to the distribution system. For the purpose of this evaluation, it is assumed that the City will need to acquire this land. The third site evaluated is on City owned property near the airport. The City

intends to construct a land application management site for wastewater disposal near this location. Idaho code requires that public water supply storage reservoirs be located a minimum of 500 feet away from any wastewater disposal site. Meeting this setback rule could be problematic at this location due to limited space. This site will also require as much as 500 linear feet of additional piping to connect the new reservoir to the existing distribution system.

The new reservoir project is assumed to be at the existing location. In the event that a new location is selected, an amendment to this facility plan will be required.

Water storage improvements consist of the construction of a new 400,000 water storage reservoir. It is assumed that regardless of where the new reservoir is located, the existing reservoir will be taken off line and removed, therefore the removal of the existing reservoir is included in the following cost estimate.

Design and construction will generally consist of the following:

- Abandonment and removal of existing water reservoir
- New 400,000 bolted steel water storage reservoir
  - Foundation preparation
  - Associated mechanical piping and valves
- Site restoration and fencing

Engineers Estimate $750,000

4.4 Booster Pumping Facilities (PF)

4.4.1 PF-1: Update Booster Pump Station

The existing booster pump station is in need of major modifications and upgrades. The existing pumps are not capable of providing the minimum fire flow and have outlived their useful lives. The mechanical piping should be reconfigured to allow ease of access for routine maintenance and repairs. Backup power should also be added so that in the event of a power outage all booster pumps remain operational. The booster station will be sized to be able to provide fire flow capacity with the largest pump out of service.

Design and construction will generally consist of the following:

- 4 - New booster pumps
  - VFDs to control pumps
- New mechanical piping and associated valves
- Backup power generator
- Fire flow capacity – 1,500 gpm
- Communication and control equipment
- Building upgrades

Engineers Estimate $500,000

4.5 Transmission and Distribution (TD)

4.5.1 TD-1: Replace Water Mains

This project will include the replacement of aging metallic and undersized water mains with AWWA C-900 Polyvinyl Chloride (PVC) water main. Galvanized water service lines will be replaced as part of each water main replacement project with AWWA C901 Polyethylene (PE) pipe. Construction will generally consist of the following:

- AWWA C900, PVC, SDR 25 Water Main
- AWWA C901, HDPE, SDR 7 Service lines
- 600-feet of 2.5-inch PVC pipe
- 250-feet of 4-inch PVC pipe
- 750-feet of 8-inch PVC pipe
- Trenching and installation of PVC pipe
- Testing and disinfection of replacement pipe
- Excavation and replacement of all service lines and meters sourced from replaced mains

Engineers Estimate $250,000

4.5.2 TD-2: Install Isolation Valves

New isolation valves should be installed in the distribution system to give City staff the ability to isolate sections of the system during repair and maintenance without having to shut water off to large areas of town. Construction will generally consist of installing valves at 18 locations throughout the system as shown in Figure 18.

Engineers Estimate $250,000

4.5.3 TD-3: Replace Fire Hydrants

The majority of the existing fire hydrants are in poor condition and should be replaced with properly functioning hydrants to ensure adequate firefighting capabilities at all locations in the City. Construction will generally consist of the removal and replacement of the old hydrants with Mueller hydrants. Seventeen (17) fire hydrants have been identified for replacement.

Engineers Estimate $125,000

4.6 Communication and Control (CC)

4.6.1 CC-1 New Centralized SCADA System

The City will evaluate the potential of a new communication and control system that will efficiently operate all backbone plant facilities. The existing control system is located at the wastewater treatment facility. The new SCADA system will optimize the operation and energy utilization of well and booster pumping facilities. The control system will include a Human Machine Interface (HMI), radio communication, SCADA software and programming.

Engineers Estimate $150,000

4.7 Land and Easement Acquisition (LE)

4.7.1 LE-1: Land and Easement Acquisition for Well Facility

This project will include the acquisition of land and right-of-way easements required for the construction of a new well. The minimum land required will be approximately 150' x 150' = 0.5 acres.

Engineers Estimate $90,000

4.8 No Action Alternative

The No Action alternative would leave the City with inadequate water storage to provide for future growth and a pump station unable to provide adequate fire flow. The storage reservoir is in poor condition and has outlived its useful life. Further, if Well No. 4 is allowed to continue to operate in its current condition, the pump may eventually fail and limit the City to one source of supply.

4.9 Recommended Project Priority

The above capital improvement projects have been categorized according to priority from both an operational and regulatory perspective. The immediate need for the City of New Meadows public water system include additional water supply to meet the source water redundancy requirement, a new storage reservoir and booster pumping facility to meet fire flow requirements and underground infrastructure replacement projects. The four highest priority projects are listed below in order of priority.

1. ITD Right of Way Water Main Replacement (mandatory)
2. New Water Supply Well
3. New 400,000 Gallon Storage Reservoir
4. Upgrades to Existing Booster Pumping Facility

Project Costing Summary

The proposed projects are divided into three primary alternatives in the project costing summary. A “No Action” alternative is included as Alternative 4, and should be discussed in detail prior to selecting this alternative. Table 17 compares the cost estimates for Alternatives 1 through 3.

The four primary alternatives include the No Action, Required, Recommended and Complete project alternatives. These are listed below and are shown in Table 17:

1. Alternative 1 - Required CIP Improvements
2. Alternative 2 - Recommended CIP Improvements
3. Alternative 3 - Complete CIP Improvements
4. No Action Alternative

Table 17: Capital Improvement Alternatives

Capital Improvement Alternatives			
Projects	**Alternative 1**	**Alternative 2**	**Alternative 3**
Source of Supply			
SS-1: New Groundwater Well	$225,000	$225,000	$225,000
SS-2: New Well House	$175,000	$175,000	$175,000
Water Storage			
WS-1: New Water Storage Reservoir	$750,000	$750,000	$750,000
Booster Pump Station			
PF-1: Update Booster Pump Station	$500,000	$500,000	$500,000
Transmission and Distribution			
TD-1: Replace Water Mains	50,000	$150,000	$250,000
TD-2: New Isolation Valves	$50,000	$150,000	$250,000
TD-3: Replace Fire Hydrants	$40,000	$80,000	$120,000
Communication and Control			
CC-1: New SCADA System		$150,000	$150,000
Land and Easement Acquisition			
LE-1: Land and Easement Acquisition	$90,000	$90,000	$90,000
Total Construction Cost	**$1,880,000**	**$2,270,000**	**$2,510,000**
Engineering and CMS @ 20%	$376,000	$454,000	$502,000
Inspection @ 5%	$94,000	$113,500	$125,500
Legal and Admin @10%	$188,000	$227,000	$251,000
Total Estimated Cost	**$2,350,000**	**$3,064,500**	**$3,388,500**

Notes:
1. Construction cost estimates should be considered Class 4 level estimates as per AACE (-30% to +50%)
2. Construction costs include 25 percent contingency

4.10 Water Conservation

The City has drastically cut back on water use in recent years, maximizing the existing water infrastructure. However, even with the success of conserving water the system has still reached the limits of water supply and storage capacity for the existing users. Further water demand reduction may be possible through any of the following conservation efforts:

- Individual household water audits, leak detection and repair
- Public Information programs
- Water waste prohibition ordinance
- Low flow plumbing fixture ordinance
- Lawn watering requirements, alternate date irrigation scheduling
- Water conserving landscapes for new developments
- Evaluate Increasing Rate Block structure and other water conservation

An evaluation of the supply versus demand shows very limited unaccounted for water in the system, therefore it is not anticipated that leak detection and repair will yield a significant decrease in water requirements. Although some decrease in demand may result from the implementation of these programs, it is not expected that the reduction will be enough to eliminate the need for more storage capacity.

4.11 Current Funding Plan

The proposed capital improvements outlined in Section 4 will be evaluated by the City of New Meadows and the general public. Once the final projects have been selected, a revised final CIP will be presented to IDEQ in the Final Facility Plan document.

5.0 CAPITAL IMPROVEMENT PLAN - 20 YEAR

To ensure that the water system is sustainable in future years, a 20-year program should be adopted by the City to replace aging infrastructure. An annual replacement plan to replace aging water facilities should be implemented and funded through rates. Currently the City budgets for depreciation expense. For the 2016 fiscal year, the depreciation expense is $45,106; however, the City does not allocate this expense to specific areas of infrastructure replacement.

The depreciation rates shown in Table 18 should be used as a guideline for budgeting annual projects required to replace aging infrastructure. As an example, service lines have an estimated useful life of 40 years, therefore the City could consider replacement of 1/40th of the service lines in the water system every year, or 2.5% of the cost of these facilities. Most utilities cannot afford to fund all system wide depreciation, therefore major backbone depreciation is funded through long-term financing and included in cost of service studies as debt service.

Table 18: Depreciation Schedule

Depreciation Schedule		
Facility Description	**Useful Life**	**Depreciation Rate**
Transmission and Distribution Mains	50 years	2.0%
Water Storage	50 years	2.0%
Pumping Facilities	20 years	5.0%
Water Supply (wells)	35 years	2.8%
Customer Service Lines	40 years	2.5%
Customer Meters	20 years	5.0%
Short-Lived Assets	<15 years	6.7%

Upgrades for the transmission and distribution mains, water storage, water treatment, pumping facilities and wells are funded through long term financing. However, replacement of service lines and meters should be planned for on an ongoing basis. The City currently budgets to replace 6 to 8 service lines per year and should consider budgeting for the long-term future replacement of all the customer meters that were recently installed.

5.1 Short Lived Asset Replacement

The City of New Meadows public water system does not currently budget for replacement of aging water facility assets on an individual line item basis. However, the City is moving towards fully funding facility depreciation expense on an annual basis. The City has budgeted for depreciation based on their annual financial audits which have averaged approximately $66,000 per year. As a special condition of the facility planning grant, IDEQ has requested that the City budget for replacement of short lived assets. Short lived assets are defined as facility assets having a useful life of 20-years or less and include plant in service such; water meters, pumps, motors, electrical equipment, chemical feed equipment, SCADA equipment and vehicles. To accomplish this requirement, a Capital Inventory and Reserve Schedule (Appendix N) has been developed to identify those facilities with a useful life of 20-years or less. This schedule evaluated the future cost of these facilities based on a 2.0% inflation rate and an annualized capital reserve cost at a 4.0% rate. This schedule determined an annual budget amount of $26,100 was required to fund replacement of aging assets in these categories. This line item account should be held in reserved as assets in these categories require maintenance and/or replacement.

6.0 SELECTED CAPITAL IMPROVEMENTS

To be completed upon final selection of alternatives by the City of New Meadows and Technical Review by IDEQ.

7.0 FUNDING APPROACH

7.1 Project Funding Options

7.1.1 IDEQ - State Revolving Loan Fund

DEQ's Drinking Water Revolving Loan Fund provides below-market-rate interest loans to help repair or build new drinking water facilities. Loans of up to 100 percent of project costs may be awarded for project design and/or construction.

For fiscal year 2017 (July 1, 2016 - June 30, 2017), the interest rate for loans range from 1.50 percent to 2.75 percent. These loans must be fully repaid within 20 to 30 years of project completion. Some applicants may qualify as "disadvantaged" and be eligible for an interest rate as low as 0 percent and possible principal forgiveness.

7.1.2 USDA - Rural Development

The Community Facilities program is designed to help local governments in rural areas of the state to provide essential facilities and services. Funding available through this program includes guaranteed loans, direct loans and grant funds. Grant funds may be used in combination with Community Facilities loan funds, local revenues or loans and grants from other sources.

Loan funds may be used to construct, enlarge, or improve community facilities for health care, public safety and public services. This can include costs to acquire land needed for a facility, pay necessary professional fees, and purchase equipment required for its operation. Refinancing existing debts may be considered an eligible direct loan purpose if the debt being refinanced is a secondary part of the loan, is associated with the project facility and if the applicant’s creditors are unwilling to extend or modify terms in order for the new loan to be feasible.

Loan repayment terms may not exceed the applicant’s authority (under state law or organizational structure), the useful life of the facility or a maximum 40 years. The interest rate is currently 2.25 percent for low income communities.

7.1.3 Idaho Department of Commerce

The Idaho Community Development Block Grant program (CDBG) assists Idaho cities and counties with the development of needed public infrastructure. The program is administered by Idaho Department of Commerce, Division of Economic Development, with funds received annually from the U.S. Department of Housing and Urban Development.

CDBG funds are used to construct projects that benefit low and moderate-income persons, help prevent or eliminate slum and blight conditions, or solve catastrophic health and safety threats in local areas. Only incorporated cities with a population under 50,000 or counties are eligible to apply for CDBG funds. Special service providers, such as fire districts, senior citizen centers, and water or sewer districts must be sponsored by a city or county.

Eligible projects include sewer and water systems, streets, fire stations, removal of architectural barriers, and other public infrastructure. Communities can extend infrastructure to public housing projects or assist homeowners with improvements. Applications are due annually in November.

8.0 ENVIRONMENTAL CONDITIONS

8.1 Soil, Geology, and Topography

8.1.1 Soil

Surface soils in the planning area are predominantly loam formed from glacial outwash from granite and alluvium. The soils are prone to frequent flooding and are poorly drained. Appendix O includes an NRCS soils report and map.

8.1.2 Geology

Existing well logs show the presence of thick basalt layers at varying depth below the surface. Across the planning area, the depth to basalt is approximately 150-200 feet. These basalts are identified as Miocene basalts of the Columbia River Group. Overlying the basalts is a Quarternary alluvium that is likely the result of damned drainages and resulting lake environments caused by the fissure basalt flows associated with the Columbia River Group. Well logs are included as Appendix G.

8.1.3 Topography

The topography within the planning area is generally flat with gradual slopes to the east and west foothills. Ground surface elevations within the City range from approximately 3,850 feet to 3,885 feet above mean sea level.

8.2 Water Quantity, Quality, and Uses

8.2.1 Surface Water

Multiple small creeks surround the New Meadows planning area, assessed by the EPA as the Meadow Valley Tributaries. The only designated use for the tributaries assessed was *Cold Water Aquatic Life* which was assessed as good. The Meadow Valley Tributaries feed the Little Salmon River which is listed as impaired for *Cold Water Aquatic Life.*

8.2.2 Groundwater

The City has two active ground water wells (No. 3 and No. 4) that supply the public drinking water system. Water quality meets all primary drinking water standards and does not require treatment. Well No. 3 is designed to produce approximately 400 gpm. While Well No. 4 is reportedly pumped into the system at a rate of 300 gpm, we have assumed the maximum sustainable well production is 200 gpm. Please refer to Section 3.6 for further details on the City's ground water supply.

8.3 Flora and Fauna

Plants and animals in the New Meadows area are typical of those found in west central Idaho. Vegetation consists of a variety of trees, shrubs and grasses. The native vegetation found in and around New Meadows includes mountain brome, Idaho fescue, bluegrass, and bunchgrass. Located along the southwest edge of Meadows Valley, the City of New Meadows is surrounded

with a variety of wildlife habitat. Animals such as elk, deer, and fox can commonly be found roaming the valley floor. The watershed supports a collection of fish and waterfowl.

The Information for Planning and Conservation (IPaC) online tool was used to export a US Fish and Wildlife Service (USFWS) Trust Resource Report for the planning area, included as Appendix P. The Northern Idaho Ground Squirrel is listed as *threatened* although no critical habitat has been designated. Multiple migratory birds were listed as being potentially effected by activities within the planning area. Prior to construction of water system improvements, an environmental review will be conducted in which the USFWS, Idaho Fish and Game, and other interested agencies will be provided the opportunity to review the proposed project and comment. Any mitigation requested by agencies will be included in the project to reduce potential impacts to local flora and fauna.

8.4 Housing, Industrial, and Commercial Development

The majority of the water produced by the City is consumed by household users. Commercial growth within the City of New Meadows has been limited. Convenience stations, retail, small hotel and restaurants make up the commercial entities of the City. There are no large industrial water users.

8.5 Cultural Resources

The planning area includes four properties that are currently included on the Idaho State Historic Preservation Office (SHPO) National Register of Historic Places, including:

- Heartland Inn
- Old Meadows School
- Union Pacific Depot Building
- Heigho, Col E.M. House

During the development of the 2015 *Environmental Information Document* for the City's Wastewater Improvement Project, an archeological survey was prepared for the wastewater project site. That survey identified 14 prior surveys that have been conducted in the vicinity of the planning area that have identified 12 historic sites that include bridges, a Methodist church, the Beaumont school and the New Meadows Odd Fellows Hall.

Given the site location, prehistoric lithic scatters and habitation sites are possible.

The Idaho SHPO will be consulted during the environmental review process prior to construction to determine any necessary mitigation measures in order to reduce potential impacts to potential historic and cultural resources within the planning area.

8.6 Utility Use

The City of New Meadows owns and operates the public drinking water system as well as the sanitary sewer system. City residents are required to connect to the public utilities with the exception of those grandfathered in prior to passing of City ordinances prohibiting private drinking water wells and septic tanks within City limits.

8.7 Flood Plains

Adams County and the City of New Meadows participate in the National Flood Insurance Program (NFIP) established by the Federal Emergency Management Agency (FEMA). Map No. 16003C0330B encompasses the majority of the planning area while Map No. 16003C04240B captures the north side of the planning area. There are some Zone A flood zones within the planning area although the population center of the City is not within those areas. The FEMA flood maps were combined to show the full planning area and included in Appendix Q. Construction within a flood zone must meet the requirements of FEMA.

8.8 Wetlands

A Wetland map from the USFWS National Wetlands Inventory online tool is included as Appendix R. The map shows wetlands along the Little Salmon River and among some lowland areas within the planning area. Permitting from the US Army Corps of Engineers is required prior to any construction activities that may affect wetlands.

8.9 Wild and Scenic Rivers

There are no wild or scenic rivers located within the planning area.

8.10 Agricultural Lands

The planning area does not include prime farmland as defined by the USDA NRCS and as shown in the soils map and report included in Appendix O. As shown on the map, less than 5% of the planning area includes farmland of statewide importance if irrigated. The remaining soils in the planning area are classified as not prime farmland.

8.11 Land Use and Development

The planning area contains a mixture of land uses. Single-family residences comprise a majority of the land use, with commercial and industrial uses located within incorporated City boundaries and along the Highway 95 corridor.

8.12 Climate

The New Meadows area typically has warm summer temperatures in the valleys and cooler temperatures in the surrounding mountains. Winter temperatures are typically cooler in both the valleys and the mountain slopes. The average monthly precipitation is 1.94 inches, with a yearly average snowfall of 86.2 inches. January is historically the coldest month with an average temperature of approximately 19.4°F. Most of the annual precipitation falls as snow during the winter months. Summer weather is normally dry with warm temperatures. July is historically the warmest month with an average temperature of approximately 63°F.

8.13 Air Quality and Noise

The planning area generally enjoys good air quality. While there are no IDEQ air quality monitors located in the planning area, a monitor is located in nearby McCall. This station measures for five ambient air criteria pollutants including particulate matter 2.5, carbon monoxide, nitrogen dioxide, sulfur dioxide, and ozone.

New Meadows is well removed from any major urbanized areas and there are very few sources of pollution in the immediate vicinity. Local automobile emissions (primarily from State Highway 95 traffic), forest fires, agricultural activities, light commercial and industrial processing are the primary contributors to air quality degradation. Particulate matter generated from vehicle traffic on the predominantly gravel local roads has been noted and the City actively manages these roads to reduce the potential for the generation of particulate matter sources. Additionally, high levels of particulate matter may be experienced during certain weather events, or during certain times of the season due to farming practices and forest fires.

8.14 Energy Production and Consumption

The City of New Meadows' power is supplied by Idaho Power Company. The only components of the water system that consume large amounts of energy are the existing well pumps and booster pumps. Well pump sizes include 50 hp and 30 hp, booster pump sizes include 15 hp and 10 hp. The well pumps operate intermittently, only running simultaneously during peak demand.

8.15 Socioeconomic Profile and Population

The area's economy is based primarily on the agricultural, timber and service industries. The largest employers in the area are the logging and log-chipping operations of J.I. Morgan, logging contractors, Evergreen Forest Products, U.S. Forest Service and School District No. 11.

The American Community Survey estimates the median household income of New Meadows as $45,500; 9.2 percent of families had income below the poverty level. The racial and ethnic characteristics of New Meadows are primarily Caucasian. New Meadows has a minority population of approximately 3 percent. Persons of Hispanic origin comprise the largest sector of the minority population.

9.0 REFERENCES

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Appendix A:

Form 5-A Outline and Checklist for Planning Document

Form 5-A
Outline and Checklist for Engineering Report/Facility Plan

Borrower	City of New Meadows	Project	Water Facility Plan
Reviewer		Date	

The Department of Environmental Quality (DEQ) recommends that an engineering report or facility plan, prepared for projects which will receive state planning grant (SPG) and state revolving fund (SRF) loan funding for design and construction, be done substantially in accordance with the following outline. The engineering report or facility plan should address the following issues:

Y=yes N=no N/A=not applicable

A. INTRODUCTION

1. Does the introduction include the following:

a) A discussion of the purpose and need of the project and a brief description of the plan of study? ◉ Y ○ N

b) A discussion of the report organization (table of contents, figures, and tables can be included)? ○ Y ○ N

c) A brief discussion of how the system owner has accepted project responsibility including: ○ Y ○ N

i) what the owner has obtained or can obtain for financial resources, technical qualifications, experience, organization, and adequate facilities to carry out the project according to the project schedule, and ○ Y ○ N

ii) the system owner's performance record for completion of projects and contracts, and ○ Y ○ N

iii) the appropriate procedures required by law for acquiring, maintaining, safeguarding and disposing of property. ○ Y ○ N

B. EXISTING CONDITIONS

The report should adequately describe and document the following existing conditions for the proposed project area including maps, site plans, schematics, and tables, as needed:

1. Boundaries of both the planning areas and the footprint of the actual project site are clearly identified. ☐

2. The existing environmental conditions in the planning area and proximity to the proposed project, including the following descriptions:

a) Physiography, topography, geology, and soils ☐

b) Surface and ground water hydrology (quantity, quality and uses) ☐

c) Fauna, flora, and natural communities ☐

d) Housing, industrial, and commercial development ☐

e) Cultural resources (historical and archaeological) ☐

f) Utility use ☐

g) Floodplains/wetlands ☐

h) Wild and scenic rivers ☐

i) Public health and water quality considerations ☐

j) Important farmlands protection (include maps) ☐

k) Proximity to a sole source aquifer ☐

l) Land use and development ☐

m) Precipitation, temperature and prevailing winds ☐

n) Air quality and noise ☐

o) Energy production and consumption ☐

p) Socioeconomic profile of the affected community including population statistics ☐

q) Maps, site plans, schematics, tables, and letters from consulted agencies as needed ☐

3. A description of the existing sources, distribution system, and treatment facility, including a discussion of each of the following topics:

a) The water source, location, pumping facilities, and appurtenances (include a well log if available) ☐

b) The storage and distribution system, including operation, maintenance, and maps ☐

c) The treatment facilities, including the condition of the facilities, operation, and maintenance ☐

d) The drinking water system (distribution and treatment), its condition, and operations and maintenance records (include a map of the water system) ☐

e) Existing hour use for winter and summer seasons ☐

f) Cross-connection control program ☐

g) Copy of last sanitary survey ☐

4. Drinking water quality, including laboratory analyses for bacteria, chemicals, and radiation, especially as compared to unreasonable risks to health and maximum contaminant levels ☐

5. Computerized hydraulic analysis to support water pressure data and fire protection capabilities ☐

6. Any violations of the Safe Drinking Water Act and the Rules for Public Drinking Water Systems (IDAPA 58.01.08), including persistent customer complaints (unusual discharges, odor, etc.) ☐

7. User charges, and operations and maintenance budget ☐

8. Pressure zone problems, including existing population and households affected ☐

9. List and status of defects or deficiencies ☐

10. Other appropriate information ☐

C. FUTURE CONDITIONS

The engineering report or facility plan should discuss the following topics relating to future conditions. (Use maps, site plans, figures, and tables as appropriate to complete this section.)

1. Future growth for a 20-year population projection. Growth should be consistent with the most recent U.S. Bureau of Census Data or comparable source(s) of data. (Reference the source of information.) ☐
2. Forecast of demand (20-year period), including residential, commercial, industrial, and fire flows. (Include a letter from the State Fire Marshall.) Include data on average and peak use, expected reduction after metering, and appropriate rate structure. ☐
3. Drinking water treatment facilities needed for a minimum 20-year period. (Note: a minimum 40-year period may be used for collection and transmission systems per IDAPA 58.01.22.030.01.c.) ☐
4. Future conditions without the proposed project(s). ☐
5. Land use plans for the area served by existing and future drinking water facilities. ☐
6. Computerized hydraulic analysis to model flow demands and pressure requirements. ☐

D. DEVELOPMENT AND INITIAL SCREENING OF ALTERNATIVES

The engineering report or facility plan should include the following topics related to the development and screening of alternatives:

1. Description of problems/deficiencies with the existing water system to be corrected by the project. ☐

2. Development of alternatives that incorporates the following:

   a) Discussion of reasonable alternatives to upgrade and/or construct new facilities. ☐

   b) Discussion of the "No Action" alternative. ☐

   c) Discussion of optimum operation of existing facilities. ☐

   d) Discussion of regionalization including regional management and physical consolidation of systems. ☐

   e) Discussion of environmental impacts associated with all alternatives, including letters to and from consulted agencies as appropriate. This discussion should build on the broad-spectrum environmental information generated for Item B.2 in this checklist. Indicate the alternatives with environmental conditions similar to the existing planning area and describe any different environmental effects associated with any of the alternatives. (NOTE: This item corresponds to Item C.3 in the environmental information document outline and checklist.) ☐

3. Description of how isolated areas in and around the community will be served. ☐

   Will new wells, reservoirs, and distribution lines be needed for these areas? ○ Y ○ N ○ N/A

4. Description of how new sources (wells or surface water) can be developed. ☐

5. Discussion of treatment requirements for new or upgraded facilities. ☐

6. Discussion of storage requirements ☐

7. Discussion of pumping requirements. ☐

8. Discussion of pressure maintenance ☐

9. Description of any separate irrigation facilities. ☐

10. Discussion of staged distribution ☐

11. Discussion of public input. ☐

12. Discussion of what, if any, changes occur to system classification and operator licensure for each alternative. ☐

13. Other (describe).

E. FINAL SCREENING OF PRINCIPAL ALTERNATIVES AND FACILITY PLAN ADOPTION

Final screening of alternatives and the engineering report or facility plan adoption should include the following areas:

1. Evaluation of costs:
   - a) Present worth analysis (i.e., total project costs over time discounted to current values as a lump sum) ☐
   - b) Capital costs and financing plan ☐
   - c) Operations and maintenance costs ☐
   - d) Cost escalation factors for energy use ☐
   - e) Comparison of costs of alternatives ☐
2. Evaluation of environmental impacts in accordance with Idaho State NEPA-like process, federal cross-cutting authorities, and IDAPA 58.01.20 ☐
3. Consideration of any impacts to water supply systems ☐
4. Consideration of EPA reliability criteria (refers to whether the source of water for the drinking water system will be reliable) ☐
5. Comparison of alternatives, including comparison of environmental effects and costs of mitigation ☐
6. Evaluation of final public input, per 40 CFR Part 25, IDAPA 58.01.20 and DEQ Guidance including the following: ☐
   - a) Role that public participation has in the facility planning process ☐
   - b) Evaluation that the three key public review activities were incorporated, (i.e., information, consultation and notification) ☐
   - c) Describe the public meetings and public hearings held for this project ☐
   - d) Adequate notice provided prior to public meetings/public hearings ☐
   - e) Documentation of public meeting being held for the affected community before the facility plan or engineering report and environmental review were formally adopted ☐
   - f) Summary of the responsiveness to public meetings or public hearings should be included in the final facility plan or engineering report. ☐
7. Description of cost effectiveness analysis and how it was conducted in accordance with 40 CFR 35.2030 (b.)(3.) ☐

F. SELECTED ALTERNATIVE DESCRIPTION AND IMPLEMENTATION ARRANGEMENTS

This section should consist of those activities that normally follow selection of the best alternative. At a minimum, the following information is included in the facility plan or engineering report:

1. Justification and a detailed description of the selected alternative. ☐

2. Preliminary design of the selected alternative including:

   a) Description of the major features ☐

   b) Unit processes and sizes ☐

   c) A schematic flow diagram for treatment ☐

   d) Distribution length and sizes ☐

   e) Proposed design criteria ☐

   f) Design and construction completion schedule ☐

   g) Maps ☐

3. Justification that the selected alternative is the most cost effective means of meeting applicable public health requirements while recognizing environmental and other nonmonetary considerations. If the most cost effective and environmentally sound alternative was not selected explain and give reasons. ☐

4. Total project cost estimates (capital, debt service and O&M) for the selected alternative, including monthly charges. ☐

   What will be the added cost to the customer?

5. The system owner has certified they have the capability to finance and manage the building and operation of the proposed project. ☐

6. Facility plan or engineering report addresses the availability of the most suitable land for the project and an appropriate means to secure rights to the land. ☐

7. Development of a separate chapter or separate document for the environmental information that includes an in-depth discussion of the environmental impacts of the selected alternative, including direct, indirect, short-term, long-term, and cumulative effects. The appropriate environmental document must be prepared in accordance with Form 5-B and 5-C. ☐

NOTE #1: Append to the EID chapter any maps, figures, tables, mailing lists, and correspondence relevant to the EID, such as letters and documented contacts from agencies regarding impacts on fauna and flora, wetlands, floodplains, etc. unless otherwise provided in the facility plan. ☐

NOTE #2: Responses and recommendations for additional information or mitigation from consulted agencies should be included for the selected alternative, as well as a description of how follow-up on consulted agency recommendations will be achieved. ☐

8. Any of the following elements for implementation that are applicable should be included:

a) Intermunicipal service agreements including adequate demonstration that each party has the necessary legal, institutional and managerial resources to ensure the building, operation and maintenance of the project and that an agreement between agencies has been or will be executed prior to the loan application. ☐

b) Financing arrangements ☐

c) Operations and maintenance requirements including a discussion about the O&M budget, staffing, training, laboratory requirements, special maintenance requirements, special operating requirements, residuals disposal, etc.). ☐

d) Project schedule including specific actions to implement the plan and to meet its objectives on schedule, and any dates in this schedule that correspond to compliance dates. ☐

e) Operator(s) licensed appropriately for type and class of system according to IDAPA 58.01.08. ☐

G. APPENDICES

Any of the following items that are applicable should be appended to the engineering report or facility plan:

1. Relevant engineering data. ☐
2. User charge ordinance and latest operations and maintenance budget. ☐
3. Additional maps, charts, figures, and tables as needed. ☐
4. Mailing list and correspondence relevant to the engineering report or facility plan, such as letters and documented contacts from agencies regarding impacts on wetlands, floodplains, etc. (See note #1 in Section F.7 of this checklist.) ☐
5. Hydraulic analysis of distribution system (current and proposed). ☐
6. Public participation information. ☐
7. Reference documents consulted. ☐
8. Water quality test results. ☐
9. DEQ sanitary survey. ☐

Appendix B:

City of New Meadows Resolution #220-2015

CITY OF NEW MEADOWS
RESOLUTION # 220-2015

Pursuant to the provisions of City of New Meadows Ordinances #309-2007; #310-2007: #313-2008; #329-2012; #327-2015; and #338-2015; it is hereby resolved that the fees, charges and rates pertaining to the City of New Meadows are affirmed to be the following:

Pertaining to:	Service	Fee / Rate
Utilities – Water & Sewer	Residential Refundable Utility Deposit (Non-owner occupy)	$150.00
Utilities – Water & Sewer	Special Assessment Filing Fee *1	$100.00
Utilities – Water & Sewer	Returned Check *1	$25.00
Utilities - Water	Water per gallon	$0.01
Utilities - Water	Water Will Serve & Idle Connections	$6.50
Utilities - Water	Water Delinquency	$3.50
Utilities - Water	Water Service Call *1	$15.00
Utilities - Water	Water Service Call – After Hours *1	$40.00
Utilities - Water	Water Admin Fee	$2.50
Utilities - Water	Water Bulk up to 2499 gallons	$30.00
Utilities – Water	Water Bulk over 2500 gallons	$60.00
Utilities - Water	Water Connection – Residential EDU	$2,900.00
Utilities - Water	Water Depreciation	$0.85
Utilities - Sewer	Sewer Flat Fee	$47.10
Utilities - Sewer	Sewer Will Serve & Idle Connections	$7.30
Utilities - Sewer	Sewer Delinquency	$3.50
Utilities - Sewer	Sewer Service Call *1	$15.00
Utilities – Sewer	Sewer Service Call – After Hours *1	$40.00
Utilities - Sewer	Sewer Admin Fee	$2.50
Utilities - Sewer	Sewer Connection – Residential EDU	$5670.00
Utilities - Sewer	Sewer Depreciation	$0.41
Utilities – Water & Sewer	Special Assessment Filing Fee	$100.00
Utilities – Water & Sewer	Returned Check	$25.00
Land Use - Airport	Airport Zoning Application	$100.00
Land Use – CUP	Residential CUP Application	$100.00
Land Use – CUP / NR	Non-Residential CUP Application	$250.00
Land Use – Variance	Variance Application	$100.00
Land Use – Zone Change	Zone Change	$750.00
Land Use – Annexation	Annexation Application	$750.00
Land Use – Subdivision/PUD	Pre-Application Meeting / Review	$100.00
Land Use – Preliminary Plat	Preliminary Plat – Less than 10 Lots	$750.00 + $10/Lot
Land Use – Preliminary Plat	Preliminary Plat – 10 Lots or more	$1,500.00 + $10/Lot
Land Use – Preliminary Plat	Preliminary Plat Extension	$100.00
Land Use – Final Plat	Final Plat	$750.00 + $10/Lot
Land Use – Billable Costs	Legal Publication	Cost + 10%
Land Use – Billable Costs	Public Notice Mailings	$1 / Envelope
Land Use – Billable Costs	Engineering Review	Cost + 10%
Land Use – Billable Costs	Legal Review	Cost + 10%

Animal Control - License	Annual Dog License – Altered	$12.00
Animal Control - License	Annual Dog License – Non-Altered	$20.00
Animal Control - License	Late Annual Dog License – Altered	$24.00
Animal Control - License	Late Annual Dog License – Non-Altered	$40.00
Animal Control - License	Senior Discount on Annual-Altered	$2.00
Animal Control – License	Replacement Tag	$5.00
Animal Control – Penalty	Unlicensed 1st Offense	$25.00
Animal Control – Penalty	Unlicensed 2nd Offense	$50.00
Animal Control – Penalty	Unlicensed 3rd Offense	$100.00
Animal Control – Penalty	Nuisance – At Large 1st Offense	$25.00
Animal Control – Penalty	Nuisance – At Large 2nd Offense	$50.00
Animal Control – Penalty	Nuisance – At Large 3rd Offense	$100.00
Animal Control – Penalty	Nuisance – Barking 1st Offense	$25.00
Animal Control – Penalty	Nuisance – Barking 2nd Offense	$50.00
Animal Control – Penalty	Nuisance – Barking 3rd Offense	$100.00
Animal Control – Penalty	Initial Impound Fee	$25.00
Animal Control – Penalty	Daily Impound Fee	$10.00 / Day
Burn Permit Fee	Burn Permit Application Fee	$10.00
Burn Permit Fee – Discount	Burn Permit Application Fee Discount	$2.00

*1 May be split between water & sewer.

RESOLUTION NO. 220-2015, SETTING FEES, PASSED AND APPROVED this **14th,day of September 2015,** shall be EFFECTIVE and reflected in the billing received on or after **November 1, 2015**

City of New Meadows

_____
Anthony J Koberstein, Mayor

ATTEST: _____
Jacob Mac Qualls, City Clerk

Appendix C:

Enhanced Sanitary Survey – June 2011

STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

1445 North Orchard • Boise, Idaho 83706 • (208) 373-0550

C.L. "Butch" Otter, Governor
Toni Hardesty, Director

June 27, 2011

Mr. Doug Buys
City of New Meadows
P.O. Box 324
New Meadows, ID 83654

ID3020012

Subject: Enhanced Sanitary Survey conducted on June 20, 2011

Dear Mr. Buys:

A copy of the Enhanced Sanitary Survey form for Public Water System ID3020012 is enclosed with this mailing for your records. Also attached is a list of the significant deficiencies and recommended improvements for your system.

Pursuant to IDAPA 58.01.08.302.03, the water system must respond in writing not later than forty-five (45) days after receipt of the sanitary survey report describing how and on what schedule the system will address significant deficiencies identified in the survey. **Since there are no significant deficiencies, there is no need to respond to this communication.**

Prior to construction of new public water supply systems or modifications of existing public water supply systems, plans and specifications must be submitted to the Department for review, and approved, pursuant to IDAPA 58.01.08.551.04.a.

This system remains in substantial compliance with drinking water regulations. Thank you for your time and cooperation in the completion of this survey. If you have any questions, please contact me at 373-0301.

Sincerely,

Steve Staufer
Drinking Water Analyst

Enclosures: Required and Recommended Improvements
Enhanced Sanitary Survey Inspection Form

Printed on Recycled Paper

City of New Meadows
PWS ID3020012
Required and Recommended Improvements

Significant Deficiencies:

None

Recommendations:

Storage

- **The roof of the storage tank was not accessed during the inspection, but rather the May 2008 tank inspection report was referenced.**
  - ⇒ The vent screen was noted to be in "Fair" condition. Please inspect the screen regularly and repair or replace as needed.

State of Idaho Public Water System Enhanced Sanitary Survey

WATER SYSTEM INVENTORY INFORMATION

SURVEY DATE		PWS #
6/20/2011	(mm/dd/yyyy)	ID3020012

Name of Public Water System: **City of New Meadows**	# of Groundwater Sources: 2	# of Storage Facilities: 1	
	#of Surface Water Sources: 0	Total Storage (gal): 250,000	
Date of Last Survey: 08/04/2006	Health District: ☑ N/A	DEQ Region: ☐ N/A BRO	County: Adams
Number of Service Connections: 262	Residential Population: 533	Status: ☑ Approved ☐ Disapproved	Water Purchased From: ☑ N/A PWS #: Name:
Water Sold To: ☑ N/A PWS #: Name:	Owner Type: Local Gov't	Legal Entity: GA	Water System Classification: ☑ Community Water System ☐ Nontransient Noncommunity ☐ Transient Noncommunity - NC
Combined Sources? ☐ Yes ☑ No If yes, ☐ Well Field ☐ Manifold/Spring Box Sources Combined:	System Classification: Distribution: D1 Treatment: ☑ N/A	Seasonal Operation Dates: ☑ N/A Date Open: Date Closed:	

Responsible Charge Operator (DO): ☐ No DO ☐ N/A - Identify Operator for GW-NC PWS)

☑ Mr. ☐ Ms. Doug Buys

Properly Licensed? ☑ Yes ☐ No ☐ N/A-GW-NC | License Type: DWD1 ☐ N/A | License Number: 15651

Mailing Address: P.O. Box 324

City, State, Zip Code: New Meadows, ID 83654

Telephone Day: 208-347-2171 Night: 208-347-2171 Fax: 208-347-2384

E-mail: nmcitysewer@frontiernet.net

Legal Owner's Name: City of New Meadows

Mailing Address: P.O. Box 324

City, State, Zip Code: New Meadows, ID 83654

Telephone Day: 208-347-2171 Night: 208-347-2171 Fax: 208-347-2384

E-mail: new_meadows@frontiernet.net

Substitute Responsible Charge Operator (OP): ☐ No OP ☐ N/A for GW-NC PWS

☑ Mr. ☐ Ms. Steve Richerson

Properly Licensed? ☐ Yes ☑ No ☐ N/A-GW-NC | License Type: VSWS ☐ N/A | License Number: 16454

Mailing Address: P.O. Box 415

City, State, Zip Code: New Meadows, ID 83654

Telephone Day: 208-347-2260 Night: 208-315-2750 Fax:

E-mail: ops@mcpoa.com

Individuals present during inspection:

Name	Title
Doug Buys	Public Works Super
C.W. White	Public Works

Physical location of the PWS (Township, Range, Section): T 19N, R 1E, Sec. 24

Samples taken at the time of survey by inspector? ☐ Yes ☑ No

If yes, what:

Survey performed by: Name: Steve Staufer Title: Drinking Water Analyst Phone #: 373-0301

Agency: ☑ IDEQ ☐ Health Dept. ☐ Other:

yes	no	n/a	unk	note	General Information
☑	☐	☐	☐	☐	1. Have previously required Significant Deficiencies & Deficiencies been addressed?
☐	☑	☐	☐	☐	2. Have modifications been made to the PWS since the last ESS?
☐	☐	☑	☐	☐	3. If yes, are the modifications considered to be significant?
☐	☐	☑	☐	☐	4. If yes, were plans and specs submitted to and approved by DEQ?
☐	☑	☐	☐	☐	5. Are there any known issues or problems with equipment or operation of the PWS that could negatively effect the quality of the water produced? (*If yes, comment*)

Comments:

Mr. Richerson is only certified at the "VSWS" level. City of New Meadows is classified as "Distribution 1." Please work toward obtaining a D1 back-up operator.

Sanitary Survey Index

Modules used:	#
☑ General Information	1
☑ Groundwater Source	2
☑ Storage	1
☐ Hydropneumatic Tanks	
☑ Distribution	1
☑ Pumping	1
☑ Financial Capacity	1
☑ Managerial Capacity	1
☐ Treatment Application	
☐ Disinfection	
☐ Notes	
☐ Photo Log	
Total Modules	8

FIELD GUIDE FOR GENERAL INFORMATION

Certified Operator:
Owners of all community and nontransient noncommunity water systems must place the direct supervision of their drinking water system, including each treatment facility and/or distribution system, under the responsible charge of an operator holding a valid certification equal to or greater than that classification of the drinking water system and/or distribution system.

A disapproved designation may be assigned to a PWS when:

Defects: There are design and/or construction defects.
Operating Procedures: Operation procedures constitute a health hazard.
Quality: Physical, chemical, microbological or radiological quality does not meet the requirements of the rules.
Monitoring: The required monitoring as specified in these rules has not been conducted.
Unapproved Source: An un approved source of drinking water is used or the system is interconnected with a disapproved water system.
Non-Payment Of Annual Fee Assessment: The annual drinking water system fee assessment is not paid as set forth in Section 010.

Legal Entity:
CM - Company
CP - Cooperation
CR - Corporation
GA - Government Agency
HA - Homeowners Association
IN - Individual
NP - Non-profit
OT - Other
RU - Rate Set Utility
TP - Treatment Plant
TR - Trust

Total Storage (gal):
Total Storage does **not** include hydropneumatic tanks, only elevated and ground-level tanks.

DEQ Regions:	Health Districts:	Owner Type	Status:
BRO	District 1- PHDHD	Federal Gov't	Active
PRO	District 2 - NCDHD	Private	Inactive
TFRO	District 3 - SWDHD	State Gov't	
IFRO	District 4 - CDHD	Local Gov't	
CRO	District 5 - SCDHD	Regulated Public Utilities	
LRO	District 6 - SEDHD		
	District 7 - EIPHD		

System Classification:
Distribution: Based on Population
VSWS - 500 or less w/ not treatment other than Disinfection (Chlorination) = VSWS
VSWS + Point of Use Treatment = VSWS
VSWS + any other type of treatment = TMT1 only (No VSWS)
DST1 - 501 to 1,500 w/ Treatment other than Disinfection = DST1 + TMT1 or highter treatment class
DST2 - 1,501 to 15,000
DST3 - 15,001 to 50,000
DST4 - 50,001 or greater

Treatment: (*)
TMT1
TMT2
TMT3
TMT4

(*See DW Treatment Classification Worksheet)

Recent Modifications:
If yes, see that the owner notified the State, see that the system is in conformance with design standards and see thatan engineering report has not been submitted to the Department.

Community Water System - A public water system, which serves at least fifteen (15) service connections, used by year-round residents or regularly serves at least twenty-five (25) year-round residents.

Noncommunity Water System – A public water system that is not a community water system. A non-community water system is either a transient noncommunity water system or a non-transient noncommunity water system.

Transient Noncommunity Water System – A noncommunity water system, which does not regularly serve at least twenty-five (25) of the same persons over six (6) months per year.

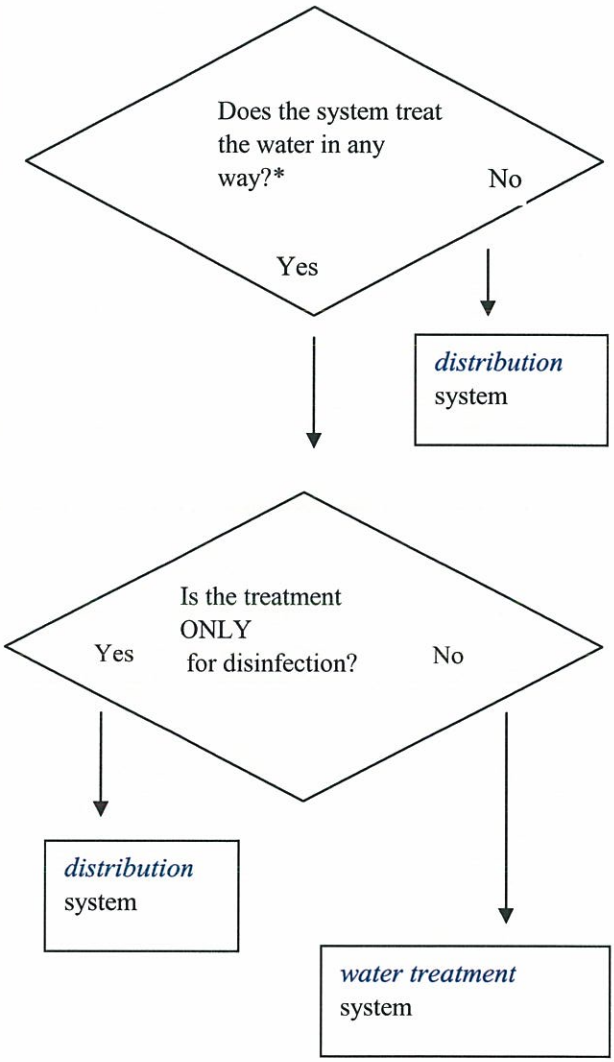
Nontransient Noncommunity Water System – A public water system that is not a community water system and that regularly serves at least twenty-five (25) of the same persons over six (6) months per year.

Knowing What License Your System's **Drinking Water** Operator Needs

First. Is it a *distribution* system or is it a *water treatment* system? Use this flowchart to decide.

Second. What is the systems classification? Use this flowchart to decide.

Distribution System or *Water Treatment* System?



* Inline units for chlorination, stabilization, booster pumping not included

System Classificaitons of a Public Water System

Distribution System Classes determined by size only	*Water Treatment System Classes* determined by complexity also, see worksheets *
Very Small Water System 500 or less	
Distribution System I 501 – 1,500	Water Treatment System I
Distribution System II 1,501 – 15,000	Water Treatment System II
Distribution System III 15,001 – 50,000	Water Treatment System III
Distribution System IV 50,001 or more	Water Treatment System IV

* Worksheets for determining a System's Classification are online at:

http://www.idahocertificationtraining.com/dw_class.htm

Or:

- Call the Brown Environmental Help Desk, 1-800-543-4358 or 208-465-5725
- Call the nearest DEQ regional office.

Last. *You're done*. Any responsible charge operator needs a certificate/license with the same type and level as your system. Other operators need certificates/licenses with the same type as your system.

For Example: If the system treats only by adding chlorine it is a distribution system, and if it serves between 1,501 and 15,000 people it is a Class II distribution system. So it would need a certified Water Distribution System Operator II.

GROUNDWATER SOURCE - PG.1

A separate sources form must be filled out for **each** groundwater source in the PWS.

SURVEY DATE: 6/20/2011 (mm/dd/yyyy)

PWS #: ID3020012

Tag #: E0006202	Common Name of Source: Well #3	Source: ☑ Well → ☐ Manifold; ☐ Spring → ☐ Spring Box	Is this Source Treated? ☐ Yes ☑ No
Physical Location: T 19N, R 1E, Sec. 24, SW, NW			Treatment Objective: ☑ N/A
			Treatment Types: ☑ N/A (Identify Treatment Train in Comments)

Is there a well log for the groundwater source? ☐ Yes ☐ No ☐ N/A ☐ Unk

Pump Capacity (GPM)	Casing Size (In)	Date Drilled:	Well Depth (Ft)	Casing Depth (Ft)	Grout Depth(Ft)	Static Water Depth (Ft)
150	12	11/24/1969	160	152	☑ Unk	☑ Unk

Is the Casing Screened?	Screen Depth (Ft):	Is the Casing Perforated?	Perforation Depth (Ft):
☐ Yes ☐ No ☑ Unk ☐ N/A	From: To:	☑ Yes ☐ No ☐ Unk ☐ N/A	☐ N/A ☐ Unk From: 75 To: 131

Latitude (Decimal): 44.972997

Longitude (Decimal): 116.287347

All Sources

1. This source is: ☑ Active ☐ Proposed ☐ Inactive ☐ Emergency (<60 days per year)

yes	no	n/a	unk	note		
☑	☐	☐	☐	☐	2.	Has there been a Source Water Assessment conducted for the source? Date: 5/9/2001
☑	☐	☐	☐	☐	3.	Has a final GWUDI determination been done for this source? Date: 7/12/1994

☐ N/A 4-36 if source is a spring

WELL INFORMATION

yes	no	n/a	unk	note		
☐	☑		☐	☐	4.	Is the well on a separate lot that is large enough to provide a minimum distance of 50 feet between the well and the nearest property line? (applicable if constructed after 11/1/77)
☐ Significant	☑ Deficiency					

Are the following minimum distances from the PWS well being met?

☑	☐		☐	☐	5.	- Gravity sewer line.....50 Ft.
☑	☐		☐	☐	6.	- Pressure sewer line.....100 Ft.
☑	☐		☐	☐	7.	- Individual home septic tank.....100 Ft.
☑	☐		☐	☐	8.	- Individual home disposal field.....100 Ft.
☑	☐		☐	☐	9.	- Individual home seepage pit.....100 Ft.
☑	☐		☐	☐	10.	- Privies.....100 Ft.
☑	☐		☐	☐	11.	- Livestock.....50 Ft.
☑	☐		☐	☐	12.	- Canals, streams, ditches, lakes, ponds and tanks used to store nonpotable substances.....50 Ft.
☐	☑		☐	☐	13.	Are pesticides, herbicides, fertilizers, portable containers of petroleum products, or other toxic or hazardous materials stored on the well lot?
☐	☑		☐	☐	14.	Are pesticides, herbicides, or fertilizers applied to the well lot?
☐	☑		☐	☐	15.	Is the well in a pit? If yes, Date constructed:
☐	☑	☐	☐	☐	16.	Was the well that is located in a pit installed after 11/5/64?
☑	☐	☐	☐	☐	17.	If pit was installed prior to 11/5/64 – Has DEQ granted an exception and does the pit have water tight construction of pit walls and floor, a floor drain and an acceptable pit cover?

yes	no	n/a	unk	note		
☑	☐	☐	☐	☐	18	Is the well protected from unauthorized entry? *(Recommended)*
☑	☐	☐	☐	☐	19.	Does the casing extend a minimum of 18 inches above the final ground surface and/ or 12 inches above the pump house floor?
☐ Significant	☐ Deficiency					
☑	☐	☐	☐	☐	20.	Is the well vented with the open end of the vent screened and terminated downward at least 18 inches above the final ground surface?
☑	☐		☐	☐	21.	Is the well provided with a sanitary cap that prevents surface water entry?
☑	☐		☐	☐	22.	Is the well cased and sealed in such a manner that surface water cannot enter the well?

COMMENTS:
(Please indicate question number)

4. Well drilled in 1969.

Page _____ Of _____

GROUNDWATER SOURCES - PG. 2	Common Name: Well #3	SURVEY DATE: 6/20/2011 (mm/dd/yyyy)	PWS #: ID3020012

yes	no	n/a	unk	note	WELL INFORMATION (cont.)
☑	☐	☐	☐	☐	23. Is there a smooth nosed sample tap provided on the well discharge pipe prior to treatment? (Threaded tap is approved with backflow preventer)
☑	☐	☐	☐	☐	24. Is an instantaneous and totalizing flow meter equipped with nonvolatile memory installed on the pump distribution line of the well and is it maintained and working properly? 611749000 gallons ☐ Unnecessary
☑	☐	☐	☐	☐	25. Is a pressure gauge provided at all installations and is it maintained and working properly? 68 psi.
☑	☐	☐	☐	☐	26. Can the well be pumped to waste at the design capacity of the well via an approved air gap at a location prior to the first service connection?

yes	no	n/a	unk	note	PUMP HOUSE *(Any structure containing important water system components)*
☑	☐	☐	☐	☐	27. Is the source located in a pump house?
☑	☐	☐	☐	☐	28. Is the pump house kept clean and in good repair? *(Floor cracks?)*
☑	☐	☐	☐	☐	29. Is the pump house protected from unauthorized personnel?
☑	☐	☐	☐	☐	30. Does the pump house have adequate lighting throughout? *(Recommended)*
☑	☐	☐	☐	☐	31. Are all non-sample taps installed in the pump house equipped with an appropriate backflow prevention device?
☑	☐	☐	☐	☐	32. Is adequate ventilation provided in the pump house for dissipation of excess heat and moisture from the equipment? ☐ Significant ☐ Deficiency
☑	☐	☐	☐	☐	33. Is adequate heating provided in the pump house to provided safe and efficient operation of equipment to prevent freezing? ☐ Significant ☐ Deficiency
☑	☐	☐	☐	☐	34. Is the pump house protected from flooding, have adequate drainage, is the floor surface at least six (6) inches above the final ground surface, and is the ground surface graded so as to lead surface water away from the pump house?
☐	☐	☑	☐	☐	35. Is the sump for pump house floor drains closer than 30 feet from the well?
☐	☐	☑	☐	☐	36. Is the floor drain connected to sewer, storm drains, chlorination room drains, or any other source of contamination?

yes	no	n/a	unk	note	SPRING INFORMATION
☐	☐	☑	☐	☐	37. Is the entire area within a one hundred (100) foot radius of the spring box fenced to prevent trespassing of livestock and void of buildings, dwellings and sources of contamination?
☐	☐	☑	☐	☐	38. Is surface water diverted from the 100 foot protection zone around the spring?
☐	☐	☑	☐	☐	39. Is the spring housed in a permanent structure and protected from contamination including the entry of surface water, animals and dust?
☐	☐	☑	☐	☐	40. Is there a smooth nosed sample tap provided on the spring discharge pipe prior to treatment? (Threaded tap is approved with backflow preventer)
☐	☐	☑	☐	☐	41. Is a flow meter or other flow measuring device provided?

yes	no	n/a	unk	note	SPRING BOX INFORMATION *(Not all existing springs have a spring box)*
☐	☐	☑	☐	☐	42. Is the spring box equipped with a screened overflow?
☐	☐	☑	☐	☐	43. Is the supply intake located above the floor of the collection chamber?
☐	☐	☑	☐	☐	44. Is the spring box protected from contamination including the entry of surface water, animals, and dust?
☐	☐	☑	☐	☐	45. Is the access port fitted with a solid water tight cover which overlaps a framed opening and extended down around the frame at least 2 inches?
☐	☐	☑	☐	☐	46. Is the access port a framed opening that is at least 4 inches high with a locking device?
☐	☐	☑	☐	☐	47. Is the access port elevated at least twenty-four (24) inches above the top of the box or ground level, whichever is higher?

COMMENTS:
(Please indicate question number)

Page _____ Of _____

GROUNDWATER SOURCE - PG.1

A separate sources form must be filled out for **each** groundwater source in the PWS.

SURVEY DATE: 6/20/2011 (mm/dd/yyyy)

PWS #: ID3020012

Tag #: E0006846

Common Name of Source: Well #4

Source: ☑ Well → ☐ Manifold; ☐ Spring → ☐ Spring Box

Is this Source Treated? ☐ Yes ☑ No

Treatment Objective: ☑ N/A

Treatment Types: ☑ N/A
(Identify Treatment Train in Comments)

Physical Location: T 19N, R 1E, Sec. 24, NE, SW

Is there a well log for the groundwater source? ☑ Yes ☐ No ☐ N/A ☐ Unk

Pump Capacity (GPM)	Casing Size (In)	Date Drilled:	Well Depth (Ft)	Casing Depth (Ft)	Grout Depth(Ft)	Static Water Depth (Ft)
200	16/12/10	5/27/1996	460	280	160	10

Is the Casing Screened? ☐ Yes ☑ No ☐ Unk ☐ N/A

Screen Depth (Ft): ☑ N/A ☐ Unk
From:
To:

Is the Casing Perforated? ☑ Yes ☐ No ☐ Unk ☐ N/A

Perforation Depth (Ft): ☐ N/A ☐ Unk
From: 180
To: 280

Latitude (Decimal): 44.966943

Longitude (Decimal): 116.283064

All Sources

1. This source is:
   ☑ Active ☐ Proposed
   ☐ Inactive ☐ Emergency (<60 days per year)

yes	no	n/a	unk	note	
☑	☐	☐	☐	☐	2. Has there been a Source Water Assessment conducted for the source? Date: 5/9/2001
☑	☐	☐	☐	☐	3. Has a final GWUDI determination been done for this source? Date: 11/2/2004

☐ N/A 4-36 if source is a spring

WELL INFORMATION

yes	no	n/a	unk	note	
☑	☐		☐	☐	4. Is the well on a separate lot that is large enough to provide a minimum distance of 50 feet between the well and the nearest property line? (applicable if constructed after 11/1/77)
☐ Significant	☐ Deficiency				

Are the following minimum distances from the PWS well being met?

☑	☐		☐	☐	5. - Gravity sewer line.....50 Ft.
☑	☐		☐	☐	6. - Pressure sewer line.....100 Ft.
☑	☐		☐	☐	7. - Individual home septic tank.....100 Ft.
☑	☐		☐	☐	8. - Individual home disposal field.....100 Ft.
☑	☐		☐	☐	9. - Individual home seepage pit.....100 Ft.
☑	☐		☐	☐	10. - Privies.....100 Ft.
☑	☐		☐	☐	11. - Livestock.....50 Ft.
☑	☐		☐	☐	12. - Canals, streams, ditches, lakes, ponds and tanks used to store nonpotable substances.....50 Ft.
☐	☑		☐	☐	13. Are pesticides, herbicides, fertilizers, portable containers of petroleum products, or other toxic or hazardous materials stored on the well lot?
☐	☑		☐	☐	14. Are pesticides, herbicides, or fertilizers applied to the well lot?
☐	☑		☐	☐	15. Is the well in a pit? If yes, Date constructed:
☐	☑	☐	☐	☐	16. Was the well that is located in a pit installed after 11/5/64?
☑	☐	☐	☐	☐	17. If pit was installed prior to 11/5/64 – Has DEQ granted an exception and does the pit have water tight construction of pit walls and floor, a floor drain and an acceptable pit cover?

yes	no	n/a	unk	note	
☑	☐	☐	☐	☐	18 Is the well protected from unauthorized entry? *(Recommended)*
☑	☐	☐	☐	☐	19. Does the casing extend a minimum of 18 inches above the final ground surface and/ or 12 inches above the pump house floor?
☐ Significant	☐ Deficiency				
☑	☐	☐	☐	☐	20. Is the well vented with the open end of the vent screened and terminated downward at least 18 inches above the final ground surface?
☑	☐		☐	☐	21. Is the well provided with a sanitary cap that prevents surface water entry?
☑	☐		☐	☐	22. Is the well cased and sealed in such a manner that surface water cannot enter the well?

COMMENTS:
(Please indicate question number)

Page _____ Of _____

GROUNDWATER SOURCES - PG. 2

Common Name	SURVEY DATE		PWS #
Well #4	6/20/2011	(mm/dd/yyyy)	ID3020012

COMMENTS:
(Please indicate question number)

WELL INFORMATION (cont.)

yes	no	n/a	unk	note		
☑	☐	☐	☐	☐	23.	Is there a smooth nosed sample tap provided on the well discharge pipe prior to treatment? (Threaded tap is approved with backflow preventer)
☑	☐	☐	☐	☐	24.	Is an instantaneous and totalizing flow meter equipped with nonvolatile memory installed on the pump distribution line of the well and is it maintained and working properly? 15863000 gallons
☑	☐	☐	☐	☐	25.	Is a pressure gauge provided at all installations and is it maintained and working properly? 71 psi.
☑	☐	☐	☐	☐	26.	Can the well be pumped to waste at the design capacity of the well via an approved air gap at a location prior to the first service connection?

☐ Unnecessary

PUMP HOUSE *(Any structure containing important water system components)*

yes	no	n/a	unk	note		
☑	☐	☐	☐	☐	27.	Is the source located in a pump house?
☑	☐	☐	☐	☐	28.	Is the pump house kept clean and in good repair? *(Floor cracks?)*
☑	☐	☐	☐	☐	29.	Is the pump house protected from unauthorized personnel?
☑	☐	☐	☐	☐	30.	Does the pump house have adequate lighting throughout? *(Recommended)*
☑	☐	☐	☐	☐	31.	Are all non-sample taps installed in the pump house equipped with an appropriate backflow prevention device?
☑	☐	☐	☐	☐	32.	Is adequate ventilation provided in the pump house for dissipation of excess heat and moisture from the equipment?
☑	☐	☐	☐	☐	33.	Is adequate heating provided in the pump house to provided safe and efficient operation of equipment to prevent freezing?
☑	☐	☐	☐	☐	34.	Is the pump house protected from flooding, have adequate drainage, is the floor surface at least six (6) inches above the final ground surface, and is the ground surface graded so as to lead surface water away from the pump house?
☐	☑	☐	☐	☐	35.	Is the sump for pump house floor drains closer than 30 feet from the well?
☐	☑	☐	☐	☐	36.	Is the floor drain connected to sewer, storm drains, chlorination room drains, or any other source of contamination?

☐ Significant ☐ Deficiency

☐ Significant ☐ Deficiency

SPRING INFORMATION

yes	no	n/a	unk	note		
☐	☐	☑	☐	☐	37.	Is the entire area within a one hundred (100) foot radius of the spring box fenced to prevent trespassing of livestock and void of buildings, dwellings and sources of contamination?
☐	☐	☑	☐	☐	38.	Is surface water diverted from the 100 foot protection zone around the spring?
☐	☐	☑	☐	☐	39.	Is the spring housed in a permanent structure and protected from contamination including the entry of surface water, animals and dust?
☐	☐	☑	☐	☐	40.	Is there a smooth nosed sample tap provided on the spring discharge pipe prior to treatment? (Threaded tap is approved with backflow preventer)
☐	☐	☑	☐	☐	41.	Is a flow meter or other flow measuring device provided?

SPRING BOX INFORMATION *(Not all existing springs have a spring box)*

yes	no	n/a	unk	note		
☐	☐	☑	☐	☐	42.	Is the spring box equipped with a screened overflow?
☐	☐	☑	☐	☐	43.	Is the supply intake located above the floor of the collection chamber?
☐	☐	☑	☐	☐	44.	Is the spring box protected from contamination including the entry of surface water, animals, and dust?
☐	☐	☑	☐	☐	45.	Is the access port fitted with a solid water tight cover which overlaps a framed opening and extended down around the frame at least 2 inches?
☐	☐	☑	☐	☐	46.	Is the access port a framed opening that is at least 4 inches high with a locking device?
☐	☐	☑	☐	☐	47.	Is the access port elevated at least twenty-four (24) inches above the top of the box or ground level, whichever is higher?

FIELD GUIDE FOR GROUNDWATER SOURCE

Potential Sources of Contamination:
Subsurface disposal systems
Sanitary sewer
Storm sewer
Waste lagoon
Surface water
Pesticides, Fertilizers
Petrolium products

LAT/LONG
The latitude and longitude should be as accurate as possible; in the format ± HHMMSSss for latitude and ± HHMMSSss for longitude; where (+) = north or east and (-) = south or west; where H = hours, M = minutes, S = seconds, s = decimal seconds.

Treatment Objective
disinfection by-products control (THM's)
disinfection
disinfection solely to protect the distribution system
corrosion control
dechlorination
iron removal
inorganics removal
manganese removal
no treatment at source
organics removal (color, THM's,VOC's)
particulate removal (turbidity reduction)
radio nuclides removal
softening (hardness removal)
taste/odor control
other

GWUDISW -Groundwater under the direct influence of surface water.
GPM - Gallons per minute
GPD - Gallons per day

Treatment Type
000 No treatment, not applicable
100 Activated alumina
121 Activated carbon, granular
125 Activated carbon, powdered
141 Aeration, cascade
143 Aeration, diffused
145 Aeration, packed tower
147 Aeration, slat tray
149 Aeration, spray
160 Algae control
180 Bone char
200 Chloramines
220 Chlorine dioxide
240 Coagulation
300 Distillation
320 Electrodialysis
341 Filtration, cartridge/bag
342 Filtration, diatomaceous earth
343 Filtration, greensand
344 Filtration, pressure sand
345 Filtration, rapid sand
346 Filtration, slow sand
347 Filtration, ultrafiltration
348 Filtered
349 Successfully avoiding filtration
350 Unfiltered, required to filter
351 Not subject to SWTR
360 Flocculation
401 Gaseous chlorination, post
403 Gaseous chlorination, pre
421 Hypochlorination, post
423 Hypochlorination, pre
441 Inhibitor, bimetalic phosphate
443 Inhibitor, hexametaphosphate
445 Inhibitor, orthorphosphate
447 Inhibitor, polyphosphate
449 Inhibitor, silicate
455 Iodination
460 Ion exchange
500 Lime-soda ash addition
520 Microscreening
541 Ozonation, post
543 Ozonation, pre
560 Permanganate
580 Peroxide
600 Rapid mix
620 Reducing agents
623 Reducing agent, sodium bisulfate
625 Reducing agent, sodium sulfate
627 Reducing agent, sulfur dioxide
640 Reverse osmosis
660 Sedimentation
680 Sequestration
700 Sludge treatment
720 U.V.
740 PH adjustment
741 PH adjustment, post
742 PH adjustment, pre
996 Treatment Applied by
997 Treatment Applied at point of entry
998 Treatment at point of entry

STORAGE

A separate storage form must be filled out for **each** storage unit in the PWS.

SURVEY DATE: 6/20/2011 (mm/dd/yyyy) | PWS #: ID3020012

Storage Structure Name: Storage Tank	Storage Structure ID #: T3020012TS1	COMMENTS: (Please indicate question number)
Physical Location: Booster Station Lot	Date in service: 1/1/1985 ☐ Unk	
	Volume (gal): 250,000 ☐ Unk	

Storage Type: ☑ Reservoir/Tank ☐ Standpipe

Construction: ☐ Elevated ☑ Above Ground ☐ Partially Below Ground ☐ Below Ground

Type of material: ☐ Plastic ☐ Wood ☐ Fiberglass ☑ Metal ☐ Concrete ☐ Naturally Contained

Total Days Supply (This structure):	Date Last: Inspected:	Cleaned:
3 ☐ Unk	5/14/2008 ☐ Unk	5/14/2008 ☐ Unk

How is the water level measured? SCADA ☐ Unk

yes	no	n/a	unk	note	ALL STORAGE STRUCTURES
☑	☐	☐	☐	☐	1. Is the storage structure safely accessible to the inspector?
☐	☑	☐	☐	☐	2. Is the PWS storage tank located within 500 feet of any municipal or Industrial wastewater treatment plant or any land which is spray irrigated with wastewater or used for sludge disposal?
☐	☑	☐	☐	☐	3. Are any of the storage structure drains directly connected to a sewer or storm drain?
☑	☐	☐	☐	☐	4. Is an overflow provided that discharges to daylight in a way that will preclude the possibility of backflow to the reservoir and, where practical, provided with an expanded metal screen installed within the pipe that will exclude rodents and deter vandalism?
☑	☐	☐	☐	☐	5. Are overflows brought down to an elevation between 12 and 24 inches above the ground surface? *(2X the diameter of the discharge pipe above a basin rim)*
☑	☐	☐	☐	☐	6. Do overflows discharge over a drainage inlet structure or splash plate?(storm or sanitary)
☑	☐	☐	☐	☐	7. Is the storage structure secure from unauthorized access?
☑	☐	☐	☐	☐	8. Does the storage reservoir have a watertight roof or cover and is it sloped to facilitate drainage?
☑	☐	☐	☐	☐	9. Is the storage water protected from contamination?
☑	☐	☐	☐	☐	10. Is the storage structure structurally sound?
☐	☑	☐	☐	☐	11. Could vegetation in the area potentially impact the storage structure?*(Recommended)*
☑	☐	☐	☐	☐	12. Is the storage structure designed so that it can be isolated from the distribution system without necessitating loss of pressure in the distribution system?
☐	☑	☐	☐	☐	13. Is leakage evident at time of inspection?
☐	☑	☐	☐	☐	14. Is the storage structure interior coating or liner peeling or cracked?
☑	☐	☐	☐	☐	15. Is the storage structure used to store finished water?
☑	☐	☐	☐	☐	16. Are access manhole openings for the storage structure 4 inches or greater above the surface of the roof, with a cover 2 inches overlapping, water tight, hinged and locked?
☑	☐	☐	☐	☐	17. Are all vents extended 12 inches above the roof and constructed to exclude potential sources of contamination? *(The overflow pipe shall not be considered a vent)*

yes	no	n/a	unk	note	ABOVE GROUND STORAGE
☑	☐	☐	☐	☑	18. Do all vents open downward and are they fitted with a 4 mesh non-corrodible screen?

18. May 2008 Inspection reports that the vent screen was in "fair" condition. Please periodically inspect and replace as needed.

yes	no	n/a	unk	note	GROUND-LEVEL, PARTIALLY BURIED, or BELOW-GROUND STORAGE
☑	☐	☐	☐	☐	19. Does the overflow for the storage structure have a vertical section of pipe at least 2 pipe diameters in length?
☑	☐	☐	☐	☐	20. Is the overflow for the storage structure provided with either a 24 mesh non-corrodible screen installed within the pipe when practical, or an expanded metal screen installed within the pipe plus a weighted flapper or check?
☑	☐	☐	☐	☐	21. Is the area surrounding the storage structure graded in a manner that will prevent surface water from standing within 50 feet of it?
☑	☐	☐	☐	☐	22. Are all vents for the storage structure open downward with the opening at least 24 inches above the roof or the ground level and covered with 24 mesh non-corrodible screen to exclude potential contamination?

yes	no	n/a	unk	note	PARTIALLY BURIED OR BELOW-GROUND STORAGE
☐	☐	☑	☐	☐	23. Are "ALL" manholes elevated 24 inches above the surface of the roof or the ground level, which ever is higher?
☐	☐	☑	☐	☐	24. Is there a minimum distance of 50 feet between the storage structure and any non-potable main, standing water, or other possible source of contamination?

DISTRIBUTION

One form for **all** distribution systems in the PWS.

SURVEY DATE: 6/20/2011 (mm/dd/yyyy)

PWS #: ID3020012

What are water lines made of:

Material(s): ☐ Unk

☐ Steel ☐ HDPE (black) ☐ Asbestos/Cement

☑ PVC ☑ Ductile Iron ☐ Copper

☐ Other:

Size(s): ☐ Unk

6", 8"

How many services are metered?

262 out of **262**

Number of Fire Hydrants: ~50

COMMENTS: (Please indicate the question number)

yes	no	n/a	unk	note	DISTRIBUTION
☐	☑	☐	☐	☐	1. Have there been any interruptions in service during the past year? (including pressure loss)
☐	☐	☑	☐	☐	2. If a loss of pressure occurred (>20 psi), did the PWS provide public notice and disinfect the system? *(Reminder)*
☑	☐	☐	☐	☐	3. Is the PWS able to maintain a minimum pressure of twenty (20) psi throughout the distribution system (including fire flow), or forty (40) psi for PWSs constructed after 7/1/1985 (excluding fire flow), during maximum hourly demand conditions?
☐	☑	☐	☐	☐	4. Was the pressure observed at a service connection?
					5. If yes: ____ psi. Location: ____ Time: ____ ☐ A.M. ☐ P.M.
yes	no	n/a	unk	note	
☑	☐	☐	☐	☐	6. Do all water mains that provide fire flow have a diameter of at least 6 inches?
☑	☐	☐	☐	☐	7. Are valves exercised regularly? *(Recommended)* If yes, how often? **monthly**
☑	☐	☐	☐	☐	8. Is there a leak detection program? *(Recommended)*
☐	☑	☐	☐	☐	9. Is 15% or more of the water unaccounted for?
☑	☐	☐	☐	☐	10. Is a water conservation program in effect? *(Recommended)*
☑	☐	☐	☐	☐	11. Is an adequate map of the distribution system maintained? *(Recommended)*
☑	☐	☐	☐	☐	12. Does the system flush all main lines annually? *(Recommended)*
☑	☐	☐	☐	☐	13. Are all dead end water mains equipped with a means to flush?
☑	☐	☐	☐	☐	14. If yes, are the deadends flushed at least semiannually?
☐	☑	☐	☐	☐	15. Are there any distribution materials used that should not be in contact with the drinking water? *If yes, explain in comments section.*
☑	☐	☐	☐	☐	16. Is the system adequately protected from freezing?
☑	☐	☐	☐	☐	17. Is there a cross connection control program? *(Community PWSs Only)*
☑	☐	☐	☐	☐	18. Is the operator trained in cross connection control? *(Recommended)*
☐	☑	☐	☐	☐	19. Is the operator aware of any cross connections or were any cross connections observed during the course of the survey?
☐	☐	☑	☐	☐	20. If a separate non-potable irrigation system is provided for the consumer, are all mains, hydrants, and appurtenances easily identified as non-potable? (Purple Tape or other) *(Recommended)*

yes	no	n/a	unk	note	**Air/Vacuum Relief Valves** - *Placed at high points in water mains.*
☐	☐	☑	☐	☐	21. Are all automatic air relief valves equipped with a means of backflow protection?

PUMPING - PG. 1

One form for **all** Pumps.

SURVEY DATE		PWS #
6/20/2011	*(mm/dd/yyyy)*	ID3020012

PUMPS, PUMPHOUSES, AND CONTROLS

Pump ID#:	Physical Location:	Type of Pump:	Brand:	Model:	Horsepower:	Purpose:
S3	Well #3	Submersible	unk	unk	unk	drawing water
S4	Well #4	Submersible	Crown	7M-340	50	drawing water
B1	Booster Station	Booster	Marathon	unk	15	pressure
B2	Booster Station	Booster	US Motors	unk	10	pressure

yes	no	n/a	unk	note	**ALL PUMPS**
☑	☐	☐	☐	☐	1. Are all pumps capable of providing the maximum pumping demand of the system?
☐	☑	☐	☐	☐	2. Does the pump(s) cycle excessively? *(Recommended)*
☑	☐	☐	☐	☐	3. Are all pumps provided with readily available spare parts and tools?
☑	☐	☐	☐	☐	4. Is a water pressure relief valve installed where the pump is directly connected to the distribution system?
☑	☐	☐	☐	☐	5. Is a standard pressure gauge installed on the discharge line?

yes	no	n/a	unk	note	**WELL PUMPS**
☑	☐	☐	☐	☐	6. Is there an accessible check valve installed in the discharge line of each well between the pump and the shut-off valve?
☐	☐	☑	☐	☐	7. If the system has a vertical turbine motor driven pump(s), is an air release-vacuum relief valve located upstream from the check valve, with exhaust/relief piping terminating in a down-turned position at least 18 inches above the floor and covered with a 24 mesh corrosion resistant screen?
☐	☐	☑	☐	☐	8. If the pump(s) is "oil lubricated", is the oil NSF approved and suitable for human consumption?

yes	no	n/a	unk	note	**WATER PUMPS** *(not well pumps)*
☑	☐	☐	☐	☐	9. Is an accessible check valve on the discharge side between the pump and the shut-off valve?

yes	no	n/a	unk	note	**AUXILIARY POWER**
☑	☐	☐	☐	☐	10. Is there auxiliary power on-site? (Community Systems Only)
☐ Significant	☐ Deficiency				
☑	☐	☐	☐	☐	11. Is auxiliary power tested? *(Recommended)*
☑	☐	☐	☐	☐	12. If a diesel or gasoline fueled engine is used on the well lot; is the fuel tank and connecting piping double walled?
☑	☐	☐	☐	☐	13. Is the fuel tank above ground?
☑	☐	☐	☐	☐	14. Is a certified operator present during the filling of the fuel tank?
					If the engine is in the well house
☑	☐	☐	☐	☐	15. Is the engine exhaust directly discharged outside the well house?
☑	☐	☐	☐	☐	16. Is a spill containment structure surrounding all fuel tanks adequate? *(Secondary containment - 110% fuel tank volume)*
					Community Systems Only
☐	☐	☑	☐	☐	17. (*Community Systems built after 4/15/07 only*) Is on-site power or standby storage provided so water can be treated and supplied to pressurize the entire distribution system during a power outage for a minimum of 8 hours?
☐	☐	☑	☐	☐	18. (*Community Systems built after 4/15/07 only*) If standby power is provided, Is there a minimum of 8 hours of fuel stored and located on site?

COMMENTS:
(Please indicate the question number)

Challenger
1415 Madison Avenue
Nampa, ID 83687-3039
(208) 461-0608

SURVEY DATE 6/20/2011 (mm/dd/yyyy) PWS # ID3020012

COMMENTS:
(Please indicate the question number)

BOOSTER PUMPS

yes	no	n/a	unk	note		
☑	☐	☐	☐	☐	☐ Unnecessary	19. Is an instantaneous and totalizing flow meter installed where the booster pump is directly connected to the distribution system?
☑	☐	☐	☐	☐		20. Are all in-line booster pumps supplied with an automatic cutoff that activates when intake pressure is less than or equal to 5 psi?
☑	☐	☐	☐	☐		21. Is the booster pump located on a suction line that is directly connected to any storage reservoir?
☑	☐	☐	☐	☐		22. If yes, are all booster pumps protected by an automatic cutoff to prevent pump damage and avoid excessive reservoir drawdown?

PUMP HOUSE *(Only pump houses that don't contain a Groundwater Source)*

yes	no	n/a	unk	note		
☑	☐	☐	☐	☐		23. Is the pump house kept clean and in good repair? *(Floor cracks?)*
☑	☐	☐	☐	☐		24. Is the pump house protected from unauthorized personnel?
☑	☐	☐	☐	☐		25. Does the pump house have adequate lighting throughout? *(Recommended)*
☑	☐	☐	☐	☐		26. Are all non-sample taps installed in the pump house equipped with an appropriate backflow prevention device?
☑	☐	☐	☐	☐	☐ Significant ☐ Deficiency	27. Is adequate ventilation provided in the pump house for dissipation of excess heat and moisture from the equipment?
☑	☐	☐	☐	☐	☐ Significant ☐ Deficiency	28. Is adequate heating provided in the pump house to provided safe and efficient operation of equipment *(prevent moisture buildup and/or freezing)*?
☑	☐	☐	☐	☐		29. Is the pump house protected from flooding, have adequate drainage, is the floor surface at least six (6) inches above the final ground surface, and is the ground surface graded so as to lead surface water away from the pump house?

yes	no	n/a	unk	note	
☐	☑	☐	☐	☐	30. Is the sump for pump house floor drains closer than 30 feet from the well?
☐	☑	☐	☐	☐	31. Is the floor drain connected to sewer, storm drains, chlorination room drains, or any other source of contamination?

FINANCIAL CAPACITY

SURVEY DATE 6/20/2011 (mm/dd/yyyy)

PWS # ID3020012

yes	no	n/a	unk	note	FINANCIAL CAPACITY
☑	☐	☐	☐	☐	1. Is the PWS current with the payment of drinking water fees?
☑	☐	☐	☐	☐	2. Does the PWS charge a drinking water fee to the user? If yes, what is the fee: **$34.00/3000 gal + $2.25/1000 gal**
☑	☐	☐	☐	☐	3. Is the PWS in the business of selling water?
☑	☐	☐	☐	☐	4. Does the PWS provide and use an annual budget? *(Recommended)*
☑	☐	☐	☐	☐	5. If applicable, is the PWS fund separate from the waste water/sewer utility fund? *(Recommended)*
☑	☐	☐	☐	☐	6. Do water system revenues exceed expenditures? *(Recommended)*
☑	☐	☐	☐	☐	7. Are controls established to prevent expenditures from exceeding revenues?
☑	☐	☐	☐	☐	8. Has an independent financial audit been completed? *(Recommended)*
☐	☐	☐	☑	☐	9. If yes, is a copy of the most recent balance sheet for the water system available? *(Recommended)*
☑	☐	☐	☐	☐	10. Does the water system include a cash budget within its annual budget for cash flow? *(Recommended)*
☑	☐	☐	☐	☐	11. Does the water system management review the user fee, user charge, or rate system at least annually? *(Recommended)*
					12. When was the last user fee, user charge, or rate system adjustment? **10/1/2010** *mm/dd/yyyy*
☑	☐	☐	☐	☐	13. Does the water system management review financial reports at least monthly? *(Recommended)*
☑	☐	☐	☐	☐	14. Does the PWS provide and use a capital budget? *(Recommended)*
☐	☐	☐	☑	☐	15. Has this PWS produced and does it currently utilize a capital improvements plan? *(Recommended)*
					16. If yes, when was the capital improvements budget produced? _____ *mm/dd/yyyy*
☐	☐	☐	☑	☐	17. Has the capital improvement budget been updated in the last 18 months? *(Recommended)*
☐	☐	☐	☑	☐	18. Does the water system budget provide funding for depreciation of existing plant in service and/or for the funding of reserves for system replacement?
☑	☐	☐	☐	☐	19. Are there sufficient funds for training personnel?

COMMENTS:
(Please indicate the question number)

Page _____ Of _____

MANAGERIAL CAPACITY

SURVEY DATE: 06/20/2011 (mm/dd/yyyy)

PWS #: ID3020012

yes	no	n/a	unk	note	MANAGERIAL CAPACITY
☑	☐	☐	☐	☐	1. Is a properly licensed operator available at all times? (N/A for GW-NC PWS)
☐	☑	☐	☐	☐	2. Is there a Drinking Water Source Protection Plan developed for this system? Date:
☑	☐	☐	☐	☐	3. Does this PWS have a governing body or board of directors?

If no, please indicate:
- ☐ Sole Proprietorship
- ☐ Partnership
- ☐ Limited Liability Corp.
- ☐ Other:

4. How often does the board meet? ☐ N/A
- ☐ weekly ☐ semi-annually ☐ never
- ☐ monthly ☐ annually ☐ unknown
- ☐ bimonthly ☐ as necessary ☑ other: twice/month

yes	no	n/a	unk	note	Are the following records maintained onsite or located near by?
☑	☐	☐	☐	☐	5. - Bacteriological Analysis - **5 years retention.**
☑	☐	☐	☐	☐	6. - Chemical Analysis - **10 years retention.**
☑	☐	☐	☐	☐	7. - Records of actions taken to correct violations - **3 years retention.**
☑	☐	☐	☐	☐	8. - Copies of reports, summaries or communication related to sanitary surveys - **10 years retention.**
☑	☐	☐	☐	☐	9. - Reports concerning variances or exemptions - **5 years retention.**
☑	☐	☐	☐	☐	10. - Copies of public notices issued - **3 years retention.**
☑	☐	☐	☐	☐	11. - Daily free chlorine residuals *(required disinfection)* - **1 year retention.**
☑	☐	☐	☐	☐	12. Are routine maintenance schedules established? *(Recommended)*
☑	☐	☐	☐	☐	13. Is an operation and maintenance manual(s) provided for the PWS and does it include; daily operating instructions, operator safety procedures, location of valves and other key system features, parts list and parts order form, and information for contacting the water system operator?
☑	☐	☐	☐	☐	14. Is there a clear plan of organization and control among the people responsible for management and operations of the water system? *(Recommended)*

yes	no	n/a	unk	note	Are any samples of the following parameters past due?
☐	☑	☐	☐	☐	15. Coliform
☐	☑	☐	☐	☐	16. Nitrates
☐	☑	☐	☐	☐	17. Nitrites
☐	☑	☐	☐	☐	18. Lead and Copper
☐	☑	☐	☐	☐	19. IOCs
☐	☑	☐	☐	☐	20. VOCs
☐	☑	☐	☐	☐	21. SOCs
☐	☐	☑	☐	☐	22. Disinfection Byproducts
☐	☑	☐	☐	☐	23. Radionuclide
☑	☐	☐	☐	☐	24. Is a written total coliform rule (TCR) sample site plan available for review?
☑	☐	☐	☐	☐	25. Does the (TCR) sample site plan meet the minimum requirements?
☑	☐	☐	☐	☐	26. Does the system have a sufficient supply of approved sampling bottles properly stored? *(Recommended)*
☐	☐	☑	☐	☐	27. Does the PWS provide stairways, ladders and handrails where needed?
☐	☐	☑	☐	☐	28. Are treads of non-slip material provided where needed?
☐	☑	☐	☐	☐	29. Is a health concern produced from inadequately protected electrical wiring?
☑	☐	☐	☐	☐	30. Are all confined space entry requirements considered? *(Recommended)*
☐	☑	☐	☐	☐	31. Are there any unused subsurface water storage tanks that need to be abandoned?
☐	☑	☐	☐	☐	32. Are there any water supply wells that are no longer being used that need to be abandoned?

COMMENTS:
(Please indicate the question number)

Appendix D:

Idaho Department of Water Resources Water Right Reports

Close

IDAHO DEPARTMENT OF WATER RESOURCES
Water Right Report

4/4/2016

WATER RIGHT NO. 78-2053

Owner Type	Name and Address
Current Owner	CITY OF NEW MEADOWS PO BOX 324 NEW MEADOWS, ID 83634 (208)347-2171

Priority Date: 07/20/1948
Basis: Decreed
Status: Active

Source	Tributary
GROUND WATER	

Beneficial Use	From	To	Diversion Rate	Volume
MUNICIPAL	1/01	12/31	1 CFS	
Total Diversion			1 CFS	

Location of Point(s) of Diversion:

GROUND WATER	NESW	Sec. 24	Township 19N	Range 01E	ADAMS County

Place(s) of use: Large POU Info

Conditions of Approval:

1.	C18	This partial decree is subject to such general provisions necessary for the definition of the rights or for the efficient administration of the water rights as may be ultimately determined by the Court at a point in time no later than the entry of a final unified decree. Section 42-1412(6), Idaho

2.	124	Code. Place of use is within the service area of the City of New Meadows municipal water supply system as provided for under Idaho Law.

Dates:
Licensed Date:
Decreed Date: 11/06/2007
Permit Proof Due Date:
Permit Proof Made Date:
Permit Approved Date:
Permit Moratorium Expiration Date:
Enlargement Use Priority Date:
Enlargement Statute Priority Date:
Water Supply Bank Enrollment Date Accepted:
Water Supply Bank Enrollment Date Removed:
Application Received Date:
Protest Deadline Date:
Number of Protests: 0

Other Information:
State or Federal: S
Owner Name Connector:
Water District Number:
Generic Max Rate per Acre:
Generic Max Volume per Acre:
Civil Case Number:
Old Case Number:
Decree Plantiff:
Decree Defendant:
Swan Falls Trust or Nontrust:
Swan Falls Dismissed:
DLE Act Number:
Cary Act Number:
Mitigation Plan: False

Close

Close

IDAHO DEPARTMENT OF WATER RESOURCES
Water Right Report

5/16/2016

WATER RIGHT NO. 78-7012

Owner Type	Name and Address
Current Owner	CITY OF NEW MEADOWS PO BOX 324 NEW MEADOWS, ID 83634 (208)347-2171

Priority Date: 09/27/1969
Basis: Decreed
Status: Active

Source	Tributary
GROUND WATER	

Beneficial Use	From	To	Diversion Rate	Volume
MUNICIPAL	01/01	12/31	1.3 CFS	
Total Diversion			1.3 CFS	

Location of Point(s) of Diversion:

GROUND WATER	SWNW	Sec. 24	Township 19N	Range 01E	ADAMS County
GROUND WATER	NESW	Sec. 24	Township 19N	Range 01E	ADAMS County

Place(s) of use: Large POU Info

Conditions of Approval:

> This partial decree is subject to such general provisions necessary for the definition of the rights or for the efficient administration of the water rights as may be ultimately determined by the

1.	C18	Court at a point in time no later than the entry of a final unified decree. Section 42-1412(6), Idaho Code.
2.	124	Place of use is within the service area of the City of New Meadows municipal water supply system as provided for under Idaho Law.
3.		To the extent necessary for administration, water was first appropriated or used from: New Meadows Well No. 2 located in T19N, R01E, S24, NESW, on 07/20/1948 in the amount of 1.00 cfs New Meadows Well No. 3 located in T19N, R01E, S24, SWNW, on 09/27/1969 in the amount of 1.30 cfs
4.	C03	Right includes accomplished change in point of diversion pursuant to Section 42-1425, Idaho Code.

Dates:
Licensed Date:
Decreed Date: 11/06/2007
Permit Proof Due Date:
Permit Proof Made Date:
Permit Approved Date:
Permit Moratorium Expiration Date:
Enlargement Use Priority Date:
Enlargement Statute Priority Date:
Water Supply Bank Enrollment Date Accepted:
Water Supply Bank Enrollment Date Removed:
Application Received Date:
Protest Deadline Date:
Number of Protests: 0

Other Information:
State or Federal: S
Owner Name Connector:
Water District Number:
Generic Max Rate per Acre:
Generic Max Volume per Acre:
Civil Case Number:
Old Case Number:
Decree Plantiff:
Decree Defendant:
Swan Falls Trust or Nontrust:
Swan Falls Dismissed:
DLE Act Number:
Cary Act Number:
Mitigation Plan: False

Close

Appendix E:

2014 Annual Drinking Water Quality Report

2014

ANNUAL DRINKING WATER QUALITY REPORT

-Jennie Lake, Idaho

City of New Meadows, ID

City of New Meadows Annual Drinking Water Quality Report 2014

Spanish (Espanol)

Este informe contiene informacion muy importante sobre la calidad de su agua potable. Por favor lea este informe o comuniquese con alguien que pueda traducir la informacion.

Is my water safe?

We are pleased to present this year's Annual Water Quality Report (Consumer Confidence Report) as required by the Safe Drinking Water Act (SDWA). This report is designed to provide details about where your water comes from, what it contains, and how it compares to standards set by regulatory agencies. This report is a snapshot of last year's water quality. We are committed to providing you with information because informed customers are our best allies.

Do I need to take special precautions?

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Water Drinking Hotline (800-426-4791).

Where does my water come from?

New Meadows Draws its water from two onsite wells.

Source water assessment and its availability

Your Source water Assessment is available at the website
http://www.deq.idaho.gov/water-quality/source-water/assessments.aspx

Why are there contaminants in my drinking water?

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's (EPA) Safe Drinking Water Hotline (800-426-4791).

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity: microbial contaminants, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife; inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban stormwater runoff, industrial, or domestic wastewater discharges, oil and gas production, mining, or farming; pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses; organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems; and radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities. In order to ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

How can I get involved?

Questions regarding your drinking water or how you can get involved can be directed to Doug Buys @ 208-347-2171.

Water Conservation Tips

Did you know that the average U.S. household uses approximately 400 gallons of water per day or 100 gallons per person per day? Luckily, there are many low-cost and no-cost ways to conserve water. Small changes can make a big difference – try one today and soon it will become second nature.

- Take short showers - a 5 minute shower uses 4 to 5 gallons of water compared to up to 50 gallons for a bath.
- Shut off water while brushing your teeth, washing your hair and shaving and save up to 500 gallons a month.
- Use a water-efficient showerhead. They're inexpensive, easy to install, and can save you up to 750 gallons a month.
- Run your clothes washer and dishwasher only when they are full. You can save up to 1,000 gallons a month.
- Water plants only when necessary.
- Fix leaky toilets and faucets. Faucet washers are inexpensive and take only a few minutes to replace. To check your toilet for a leak, place a few drops of food coloring in the tank and wait. If it seeps into the toilet bowl without flushing, you have a leak. Fixing it or replacing it with a new, more efficient model can save up to 1,000 gallons a month.
- Adjust sprinklers so only your lawn is watered. Apply water only as fast as the soil can absorb it and during the cooler parts of the day to reduce evaporation.
- Teach your kids about water conservation to ensure a future generation that uses water wisely. Make it a family effort to reduce next month's water bill!
- Visit www.epa.gov/watersense for more information.

Cross Connection Control Survey

The purpose of this survey is to determine whether a cross-connection may exist at your home or business. A cross connection is an unprotected or improper connection to a public water distribution system that may cause contamination or pollution to enter the system. We are responsible for enforcing cross-connection control regulations and insuring that no contaminants can, under any flow conditions, enter the distribution system. If you have any of the devices listed below please contact us so that we can discuss the issue, and if needed, survey your connection and assist you in isolating it if that is necessary.

- Boiler/ Radiant heater (water heaters not included)
- Underground lawn sprinkler system
- Pool or hot tub (whirlpool tubs not included)
- Additional source(s) of water on the property
- Decorative pond
- Watering trough

Source Water Protection Tips

Protection of drinking water is everyone's responsibility. You can help protect your community's drinking water source in several ways:

- Eliminate excess use of lawn and garden fertilizers and pesticides – they contain hazardous chemicals that can reach your drinking water source.
- Pick up after your pets.
- If you have your own septic system, properly maintain your system to reduce leaching to water sources or consider connecting to a public water system.
- Dispose of chemicals properly; take used motor oil to a recycling center.
- Volunteer in your community. Find a watershed or wellhead protection organization in your community and volunteer to help. If there are no active groups, consider starting one. Use EPA's Adopt Your Watershed to locate groups in your community, or visit the Watershed Information Network's How to Start a Watershed Team.
- Organize a storm drain stenciling project with your local government or water supplier. Stencil a message next to the street drain reminding people "Dump No Waste - Drains to River" or "Protect Your Water." Produce and distribute a flyer for households to remind residents that storm drains dump directly into your local water body.

Monitoring and reporting of compliance data violations

A monitoring violation for E. Coli and Coliform bacteria occurred in the in the month of August 2014. Adequate number of samples were not obtained in this month. Subsequent samples for bacteria indicated no presence of either bacteria. Continued monitoring for bacteria is continuing on schedule.

Additional Information for Lead

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. City of New Meadows is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at http://www.epa.gov/safewater/lead.

Water Quality Data Table

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of contaminants in water provided by public water systems. The table below lists all of the drinking water contaminants that we detected during the calendar year of this report. Although many more contaminants were tested, only those substances listed below were found in your water. All sources of drinking water contain some naturally occurring contaminants. At low levels, these substances are generally not harmful in our drinking water. Removing all contaminants would be extremely expensive, and in most cases, would not provide increased protection of public health. A few naturally occurring minerals may actually improve the taste of drinking water and have nutritional value at low levels. Unless otherwise noted, the data presented in this table is from testing done in the calendar year of the report. The EPA or the State requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not vary significantly from year to year, or the system is not considered vulnerable to this type of contamination. As such, some of our data, though representative, may be more than one year old. In this table you will find terms and abbreviations that might not be familiar to you. To help you better understand these terms, we have provided the definitions below the table.

Contaminants	MCLG or MRDLG	MCL, TT, or MRDL	Your Water	Range Low	Range High	Sample Date	Violation	Typical Source
Microbiological Contaminants								
Total Coliform (positive samples/month)	0	1	1	NA		2014	No	Naturally present in the environment

Undetected Contaminants

The following contaminants were monitored for, but not detected, in your water.

Contaminants	MCLG or MRDLG	MCL or MRDL	Your Water	Violation	Typical Source
Nitrate [measured as Nitrogen] (ppm)	10	10	ND	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits

Unit Descriptions	
Term	**Definition**
ppm	ppm: parts per million, or milligrams per liter (mg/L)
positive samples/month	positive samples/month: Number of samples taken monthly that were found to be positive
NA	NA: not applicable
ND	ND: Not detected
NR	NR: Monitoring not required, but recommended.

Important Drinking Water Definitions	
Term	**Definition**
MCLG	MCLG: Maximum Contaminant Level Goal: The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
MCL	MCL: Maximum Contaminant Level: The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
TT	TT: Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.
AL	AL: Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
Variances and Exemptions	Variances and Exemptions: State or EPA permission not to meet an MCL or a treatment technique under certain conditions.
MRDLG	MRDLG: Maximum residual disinfection level goal. The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
MRDL	MRDL: Maximum residual disinfectant level. The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
MNR	MNR: Monitored Not Regulated
MPL	MPL: State Assigned Maximum Permissible Level

For more information please contact:

Contact Name: Doug Buys
Phone: 208-347-2171

CCR Certification Form

(*Updated with electronic delivery methods.*)

CCR Report Year: **2014**
Community Water System Name: **City of New Meadows**
Public Water System (PWS) ID No: **3020012**

Please check all items that apply.

____ CCR was distributed by mail.

____ CCR was distributed by other direct delivery method. Specify direct delivery methods:

___ Mail – notification that CCR is available on Web site via a direct uniform resource locator (URL)
___ E-mail – direct URL to CCR
___ E-mail – CCR sent as an attachment to the e-mail
___ E-mail – CCR sent embedded in the e-mail
___ Other: _____

If the CCR was provided by a direct URL, please provide the direct URL Internet address: www._____

If the CCR was provided electronically, please describe how a customer requests paper CCR delivery:

_____

_X__ "Good faith" efforts were used to reach non-bill paying consumers. Those efforts included the following methods as recommended by the state/primacy agency:

_X_ Posting the CCR on the Internet at www.newmeadowsidaho.us/city-departments/water-department/
____ Mailing the CCR to postal patrons within the service area (attach a list of zip codes used)
____ Advertising availability of the CCR in news media (attach copy of announcement)
_ __ Publication of CCR in local newspaper (attach copy of newspaper announcement)
_X Posting the CCR in public places (attach a list of locations) –

- Meadows Valley Public Library
- New Meadows City Hall
- Meadows Valley School

____ Delivery of multiple copies to single bill addresses serving several persons such as: apartments, businesses, and large private employers
____ Delivery to community organizations (attach a list)
__X Electronic city newsletter or electronic community newsletter or listserv (attach a copy of the article or notice)
__X Electronic announcement of CCR availability via social media outlets (attach list of social media outlets utilized)

- Facebook, Twitter

____ (**for systems serving at least 100,000 persons**) Posted CCR on a publicly-accessible Internet site at the address: www._____

____ Delivered CCR to other agencies as required by the state/primacy agency (attach a list)

The community water system named above hereby confirms that its consumer confidence report has been distributed to customers (and appropriate notices of availability have been given). Further, the system certifies that the information contained in the report is correct and consistent with the compliance monitoring data previously submitted to the state/primacy agency.

Certified by:
Name: **Jacob Mac Qualls**
Title: **City Clerk / Treasurer**
Phone #: **208-347-2171** Date: **June 30, 2015**

Appendix F:

Cross Connection Control Ordinance

ORDINANCE #170

AN ORDINANCE RELATING TO CROSS CONNECTIONS, STATING PURPOSE AND SCOPE; PROVIDING DEFINITIONS; MAKING CERTAIN ACTS UNLAWFUL; DEFINING AUTHORITY OF BUILDING OFFICIAL; PROVIDING FOR RULES AND REGULATIONS TO CARRY OUT PROVISIONS OF ORDINANCE; REQUIRING USE OF BACK-FLOW INSPECTION; REQUIRING INSTALLATION PERMITS; ESTABLISHING LIABILITY FOR PAYMENT FOR BACKFLOW PREVENTION DEVICES AND TESTING; PROVIDING FOR TERMINATION OF WATER SERVICE UNDER CERTAIN CIRCUMSTANCES; PROVIDING PENALTIES; PROVIDING THAT EACH DAY A VIOLATION EXISTS CONSTITUTES SEPARATE OFFENSE; AND PROVIDING SEVERABILITY.

BE IT ORDAINED BY THE MAYOR, AND COUNCIL OF THE CITY OF NEW MEADOWS, IDAHO, AS FOLLOWS:

SECTION 1. PURPOSE AND SCOPE:

The purpose of this Ordinance is to protect the public health of water consumers by the control of actual and/or potential cross connections.

Section 2. DEFINITIONS:

(1) "Back flow" The flow, other than the intended direction of flow, of any foreign liquids, gases, or substances into the distribution system of a public water supply

(2) "BACKFLOW Prevention Device" A device to counter-act back pressure or prevent back siphonage

(3) "Contamination" The entry into or presence in a public water supply of any substance which may be deleterious to health and/or quality of the water.

(4) "Cross-Connection" Any physical arrangement whereby a public water supply is connected, directly or indirectly, with any other water supply system, sewer, drain, conduit, pool, storage reservoir, plumbing fixture, or other device which contains or may contain contaminated water, sewage, or other waste or liquids of unknown car unsafe quality which may be capable of imparting contamination to the public water supply as a result of Backflow.

(5) "Building Official" The Building Inspector of the City of New Meadows, or his authorized agent.

(6) "Health Officer' The Idaho Central District Health Officer, or his authorized agent

(7) "Public Water Supply" Any system of water supply intended or used for human consumption or other domestic uses, including source, treatment storage, transportation and distribution facilities, where water is furnished to any collection or number of individuals, or is made available to the public for human consumption or domestics use.

(8) "Purveyor' The City of New Meadows, or its authorized agent.

Section 3. CROSS-CONNECTIONS:

No water service connection to any premises shall be installed or continued in use by the Purveyor unless the water supply is protected by Backflow Prevention Devices as may be required by this ordinance. The installation or maintenance of a Cross-Connection which will endanger the water quality of the potable

water supply of the City of New Meadows shall be unlawful and is prohibited. Any such Cross-Connection now existing or hereafter installed is hereby declared to be a public nuisance and the same shall be abated. The control or elimination of Cross-Connections shall be in accordance with this ordinance, together with the latest addition of appropriate manuals of standard practice pertaining to Cross-Connection control approved by the Idaho State Department of Health. The Building Official shall have the authority to establish requirements more stringent than State regulations if he deems that the conditions so dictate. The Purveyor shall adopt rules and regulations as necessary to carry out the provisions of this ordinance.

Section 4. USE OF BACKFLOW Prevention DEVICES:

(1) BACKFLOW Prevention Devices shall be installed at the ties on the premises or the materials used in connection with service connection or within any premises where, in the judgment of the Purveyor, the nature and extent of activities, or the materials stored on the premises, would present an immediate and dangerous hazard to health and/or be deleterious to the quality of the wafer should a Cross-Connection occur event though such Cross-Connection does not exist at the time the BACKFLOW Prevention Devices shall be installed under circumstances including but not limited to the following:

(a) Premises having an auxiliary water supply, unless the quality of the auxiliary supply is in compliance with Idaho State Department of Health regulations and is acceptable to the Purveyor.

(b) Premises having-l internal Cross-Connections that are not correctable, or intricate plumbing arrangements which make it impracticable to ascertain whether or not Cross-Connections exist.

to) Premises where entry is restricted so that inspections for Cross-Connections cannot be made with sufficient frequency or at sufficiently short notice to assure that Cross-Connections do not exist

(of) Premises having a repeated history of Cross Connections being established or reestablished

(e) Premises on which any substance is handled under pressure so as to permit entry into the public water supply or where a Cross-Connection could reasonably be expected to occur. This shall include the handling of process waters and cooling waters.

(Al Premises where materials of a toxic or hazardous nature are handled in such a way that if back siphonaqe should occur, a serious health hazard might result.
(g) The following} types of facilities will fall into one of the above categories where a sack flow Prevention Device is required to protect the public water supply. A backflow Prevention Device shall be installed at these faculties unless the Purveyor and Building Official determine that no hazard exists:
(i) Hospitals, mortuaries, clinics
(ii) Laboratories
(iii) Metal plating industries
(iv) Piers and docks
(v) Sewage treatment plants
(vi) Food or beverage processing plants
(vii) Chemical plants using a water process
(viii) Petroleum processing or storage plants
(ix) Radioactive material processing slants or nuclear reactors
(x) Others specified by the Idaho State Depart merit Of Health
(h)) Other premises, as specified by the building Official where Backflow Prevention Devices are required to protect the public water supply

(2) The type of protective device required shall depend on the degree of hazard which exists:
(a) An air-gap separation or a reduced pressure principle Backflow Prevention Device shall be installed where the public water supply may be contaminated with sewage, industrial waste of a toxic nature, or other contaminant which could cause a health or System hazard

(b) In the case of a substance which may he objectionable but not hazardous to health, a double check valve assembly, air-gap separation, or a reduced pressure principle Backflow Prevention Device shall be installed.

(3) Backflow Prevention Devices required by this ordinance shall be installed at the meter, at the property line of the premises when meters are not used, or at a location designated by the Purveyor. The device shall be located so as to be readily accessible for maintenance and testing, and furthermore, where no part of the device will be submerged

(4) Backflow Prevention Devices required by this ordinance shall be installed under the supervision of, and with the approval of the Purveyor.

(5) Any protective device required by this ordinance shall be a model approved by the building Official. A double check valve assembly or a reduced pressure principle Backflow Prevention Device will be approved if it has success-fully passed performance tests of the University of Southern California Engineering Center or other testing laboratories satisfactory to the State of Idaho and the Building Official. These devices shall be furnished and installed by and at the expense of the customer.

(6) Backflow Prevention Devices installed pursuant to this ordinance, except atmospheric vacuum breakers, shall be inspected and tested annually, or more often if necessary. Inspections, tests and maintenance shall be at the customer's expense. Whenever the devices are found to be defective, they shall be repaired, overhauled or replaced at the customer's expense. Inspections, tests, repairs and records thereof shall be accomplished under the Purveyor's super vision by certified testers.

(7) No underground sprinkling device will be installed without adequate Backflow Prevention Devices at the point from which the water for irrigation is taken from the public water supply.

(8) Failure of the customer to cooperate in the install lion, maintenance, testing or inspection of sack flow Prevent Devices required by this ordinance shall be grounds for the termination of water service to the premises, or, in the alternative, the installation of an air-gap separation at the customer’s expense.

Section 5. CROSS-CONNECTION INSPECTION-

(1) No water shall be delivered to any structure hereafter built within the City of New Meadows or within areas served by City water until the same shall have been inspected by the Purveyor for possible Cross Connections and been approved as being free of same.

(2) Any construction for industrials or other purposes which is classified as hazardous facilities pursuant to Section 4 (1) (q) of this ordinance, where it is. reasonable to anticipate intermittent Cross-Connections, or as determined by the Building Official shall be protected by the installation of one or more BACKFLOW Prevention Devices at the point of service from the public water supply or an, other location designated by the Purveyor.

(3) Inspections shawl be made periodically of all buildings, structures, or improvements of any nature now receiving water through the City's system, for the purpose of ascertaining whether Cross-Connections exist. Such inspections shall be made by the Purveyor.

Section 6. installation PERMITS:

If Cross-connection control devices are found to be necessary, the owner of the property served must apply to the Purveyor for a specific installation permit.

Section 7. ADDITIONAL REMEDIES:

In the event an improper Cross-Connection is not corrected within the time limit set by the Building; Official or in the event the Purveyor is refused access to any property for the purpose of determining whether or not Cross-Connections exist delivery of water to the property shall cease until the deficiency is corrected to the Purveyor's satisfaction. In addition, the Purveyor may effect the necessary repairs or modification at the expense of the property owner and refuse delivery of water to the property until the cost thereof shall have been paid.

Section 8. VIOLATIONS Air, PENALTIES:

Any person who violates, disobeys, omits, neglects, refuses to comply with, or resists the enforcement of any of the provisions of this ordinance or the rules and regulations as adopted by the Purveyor, shall be deemed guilty of a misdemeanor and, upon conviction thereof, shall for each offense be punished by a fine in any sum net exceeding Three Hundred Dollars (~300. or imprisonment for a term not exceeding ninety (90) days by both such fine and imprisonment. Each day a violations exists shall constitute a separate offense

Section 9. SEVERABILITY:

If any one or more sections, sub-section or sentences of this ordinance are for any reason held to be unconstitutional or invalid, such decision shall not affect the validity of the remaining portions of this ordinance and the same shall remain in full force and effect.

Passed and approved this 9 day of June, 1980.

Daryl Dillon, Mayor
ATTEST: Colleen Moore
City Clerk

Appendix G:

Well Logs – Well No. 3 and Well No. 4

USE TYPEWRITER OR BALL POINT PEN

State of Idaho
Department of Reclamation

WELL DRILLER'S REPORT

WELL No. 3

State law requires that this report be filed with the State Reclamation Engineer within 30 days after completion or abandonment of the well.

1. WELL OWNER

Name City of New Meadows

Address New Meadows, Idaho

Owner's Permit No. 78-7012

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement

☐ Abandoned (describe method of abandoning)

3. PROPOSED USE

☐ Domestic ☐ Irrigation ☐ Test

☒ Municipal ☐ Industrial ☐ Stock

4. METHOD DRILLED

☒ Cable ☐ Rotory ☐ Dug ☐ Other

5. WELL CONSTRUCTION

Diameter of hole 16 inches Total depth 610 feet

Casing schedule: ☒ Steel ☐ Concrete

Thickness	Diameter	From	To
1/4 inches	20 inches	0 feet	20 feet
3/8 inches	16 inches	0 feet	118 feet
.281 inches	12 inches	0 feet	563 feet
inches	inches	feet	feet
inches	inches	feet	feet

Was a packer or seal used? ☐ Yes ☒ No

Perforated? ☐ Yes ☐ No

How perforated? ☒ Factory ☐ Knife ☐ Torch

Size of perforation 1/8 inches by 3 inches

Number	From	To
20 per ft. perforations	157 feet	557 feet
perforations	feet	feet
perforations	feet	feet

Well screen installed? ☐ Yes ☒ No

Manufacturer's name

Type Model No.

Diameter Slot size Set from feet to feet

Diameter Slot size Set from feet to feet

Gravel packed? ☐ Yes ☒ No Size of gravel

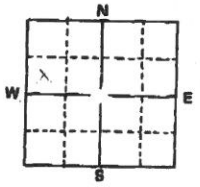
Placed from feet to feet

Surface seal? ☒ Yes ☐ No To what depth 20 feet

Material used in seal ☒ Cement grout ☒ Puddling clay

6. LOCATION OF WELL

Sketch map location must agree with written location.



County Adams

SWNJ

¼ ¼ Sec. 24, T. 19 N/S, R. 1 E/W

7. WATER LEVEL

Static water level 14 feet below land surface

Flowing? ☐ Yes ☒ No G.P.M. flow

Temperature ° F. Quality

Artesian closed-in pressure p.s.i.

Controlled by ☐ Valve ☐ Cap ☐ Plug

8. WELL TEST DATA

☒ Pump ☐ Bailer ☐ Other

Discharge G.P.M.	Draw Down	Hours Pumped
429	500 ft.	8

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
0	0	15	Sandy soil, brown.		-
	15	29	Sand and gravel.	-	
	29	35	Brown clay.		
	35	41	B rown sand.		
	41	49	Brown clay.		
	49	54	Sand and gravel.		
	54	68	Blue clay.		
	68	102	Blue Clay, large granite boulders, hard.		
	102	104	Sand and gravel. Dry.		
	104	111	Black lava.		
	111	130	Sticky blue clay, some boulders.		
	130	154	Brown clay, grey lava.		
	154	163	Brown lava & clay seems hard.		
	163	180	Yellow clay.		
	180	213	Brown lava.		
	213	227	Grey lava, red cinders		
	227	230	Red clay, bright red.		
	230	237	Brown clay and boulders.		
	237	243	Grey lava, hard.		
	243	265	Brown clay and boulders.		
	265	276	Grey lava, hard.		
	276	295	Brown clay and boulders.		
	295	302	Red lava, possible water?		
	302	306	Gray lava, hard.		
	302	340	Porous brown lava & clay.		
	340	406	Grey lava, streaks of blue clay, very hard.		
	406	413	Brown sticky clay, boulders.		
	413	422	Grey lava, hard.		
	422	427	Blue clay and boulders.		
	427	438	Grey lava, hard.		
	438	441	Brown clay and grey lava.		
	441	456	Grey lava, very hard.		
	456	509	Brown clay and boulders.		

10.

Work started 9/18/69 finished 12/5/69

11. DRILLER'S CERTIFICATION 050911

This well was drilled under my supervision and this report is true to the best of my knowledge.

C. L. Hiddleston & Son 35
Driller's or Firm's Name Number

Mountain Home, Idaho
Address

Signed By C. L. Hiddleston Date

USE ADDITIONAL SHEETS IF NECESSARY

FORWARD THE WHITE, BLUE, AND PINK COPIES TO THE DEPARTMENT

USE TYPEWRITER OR BALL POINT PEN

State of Idaho
Department of Reclamation

WELL DRILLER'S REPORT

State law requires that this report be filed with the State Reclamation Engineer within 30 days after completion or abandonment of the well.

RECEIVED Department of Reclamation

1. WELL OWNER

Name City of New Meadows

Address New Meadows, Idaho

Owner's Permit No. 78-7012

2. NATURE OF WORK

☐ New well ☐ Deepened ☐ Replacement

☐ Abandoned (describe method of abandoning)

3. PROPOSED USE

☐ Domestic ☐ Irrigation ☐ Test

☐ Municipal ☐ Industrial ☐ Stock

4. METHOD DRILLED

☐ Cable ☐ Rotory ☐ Dug ☐ Other

5. WELL CONSTRUCTION

Diameter of hole _____ inches Total depth _____ feet

Casing schedule: ☐ Steel ☐ Concrete

Thickness	Diameter	From	To
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet

Was a packer or seal used? ☐ Yes ☐ No

Perforated? ☐ Yes ☐ No

How perforated? ☐ Factory ☐ Knife ☐ Torch

Size of perforation _____ inches by _____ inches

Number	From	To
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet

Well screen installed? ☐ Yes ☐ No

Manufacturer's name _____

Type _____ Model No. _____

Diameter ___ Slot size ___ Set from _____ feet to _____ feet

Diameter ___ Slot size ___ Set from _____ feet to _____ feet

Gravel packed? ☐ Yes ☐ No Size of gravel _____

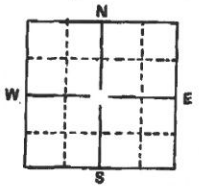
Placed from _____ feet to _____ feet

Surface seal? ☐ Yes ☐ No To what depth _____ feet

Material used in seal ☐ Cement grout ☐ Puddling clay

6. LOCATION OF WELL

Sketch map location must agree with written location.



78 m

County Adams

SWNW ¼ ¼ Sec. 24, T. 19 N/S, R. 1 E/W

7. WATER LEVEL

Static water level _____ feet below land surface

Flowing? ☐ Yes ☐ No G.P.M. flow _____

Temperature _____ ° F. Quality _____

Artesian closed-in pressure _____ p.s.i.

Controlled by ☐ Valve ☐ Cap ☐ Plug

8. WELL TEST DATA

☐ Pump ☐ Bailer ☐ Other

Discharge G.P.M.	Draw Down	Hours Pumped

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
	509	526	Blue clay, sticky.		
	526	534	Grey lava, broken.		
	534	562	Grey lava, hard.		
	562	565	Broken grey lava, red cinders, water	-	
	565	587	Blue clay, grey lava boulders.		
	587	598	Grey lava, firm.		
	598	610	Grey lava, streaks of blue clay.		

050912

10.

Work started 9/18/69 finished 12/5/69

11. DRILLER'S CERTIFICATION

This well was drilled under my supervision and this report is true to the best of my knowledge.

C. L. Hiddleston & Son — Driller's or Firm's Name — Number 35

R.F.D. 1 Box 610-D Mtn. Home, Ida. — Address

Signed By C. L. Hiddleston Date

USE ADDITIONAL SHEETS IF NECESSARY

FORWARD THE WHITE, BLUE, AND PINK COPIES TO THE DEPARTMENT

WELL NO. 4

Form 238-7
7/94

C

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT 94199

Use Typewriter or Ball Point Pen

1. DRILLING PERMIT NO. 78-95-C-0013 ~~300~~ 200
Other IDWR No. 78-7369

2. OWNER:
Name City of New Meadows
Address P.O. Box 324
City New Meadows State Id Zip 83654

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

N / W / E / S — X

Twp. 19 North ☑ or South ☐
Rge. 01 East ☑ or West ☐
Sec. 24, ____ 1/4 NE (10 acres) 1/4 SW (40 acres) 1/4 (160 acres)
Gov't Lot ____ County ADAMS

Address of Well Site WILEY ST. City NEW MEADOWS
(Give at least name of road + Distance to Road or Landmark)

Lt. ____ Blk. ____ Sub. Name Ridgeview Subdiv.

4. PROPOSED USE:
☐ Domestic ☑ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other ____

5. TYPE OF WORK
☐ New Well ☐ Modify or Repair ☑ Replacement ☐ Abandonment

6. DRILL METHOD
☐ Mud Rotary ☑ Air Rotary ☐ Cable ☐ Other ____

7. SEALING PROCEDURES

SEAL/FILTER PACK Material	From	To	AMOUNT Sacks or Pounds	METHOD
Cement Grout	0	60	2960	pressure grout
Bentonite	60	160	1550	pressure grout

Was drive shoe used? ☑ Y ☐ N Shoe Depth(s) 161
Was drive shoe seal tested? Y ☑ N ☐ How? Blew dry 24 HRS

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
16	-8	41	.375	Steel	☑	☐	☑	☐
12	1	160	.375	Steel	☑	☐	☑	☐
10	2	280	.250	Steel	☑	☐	☑	☐

Length of Headpipe ____ Length of Tailpipe ____

9. PERFORATIONS/SCREENS
☑ Perforations Method torch
☐ Screens Screen Type ____

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
180	280	3/8x6	800	10	Steel	☐	☑
						☐	☐
						☐	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
10 ft. below ground Artesian pressure ____ lb.
Depth flow encountered ____ ft. Describe access port or control devices: ____

11. WELL TESTS:
☑ Pump ☐ Bailer ☑ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time
AIR 450		460	8
pump 200	248'	248'	1.3 hrs

Water Temp. 68 Bottom hole temp. ____
Water Quality test or comments: ____

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N
20	0	4	Brown Clay		
20	4	18	Sand & Gravel		
20	18	25	Blue Silt		
20	25	34	Black Sand & Pea Gravel		
20	34	38	Brown Clay		
20	38	42	Grey Sand		
20	42	54	Blue & Brown Clay		
16	54	58	Grey Sand & Clay		
16	58	64	Blue Shale		
16	64	89	Boulders & Pea Gravel		
16	89	105	Brown & Blue Clay w/gravel		
16	105	116	Coarse Black Sand		
16	116	123	Blue Clay		
16	123	132	Black & White Pea Gravel w/Blue Clay		
16	132	138	Brown Clay		
16	138	139	Black Sand		
16	139	145	Brown Clay		
16	145	160	Black Rock		
12	160	187	Black Rock		
12	187	206	Black & Brown Rock	✓	
12	206	284	Black & Brown Rock	✓	
12	284	297	Brown & Black Rock		
12	297	304	Red Rock		
12	304	308	Red Clay		
12	308	315	Red, Brown, Black Rock W/Brown Clay	✓	
12	315	452	Black & Brown Rock		
12	452	460	Black & Brown Fractured	✓	

RECEIVED JUL 30 1996 Department of Water Resources
RECEIVED SEP 11 1996
RECEIVED JUL 25 1996 WATER RESOURCES WESTERN REGION

Completed Depth 455 (Measurable)
Date: Started 4-10-96 Completed 5-27-96

13. DRILLER'S CERTIFICATION
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name Dallas Drilling Firm No. 445
Firm Official ____ Date 7-19-96
and
Supervisor or Operator ____ Date ____
(Sign once if Firm Official & Operator)

FORWARD WHITE COPY TO WATER RESOURCES

Appendix H:

Well Driller Logs

Spelling Name Correction

Form 238-7
6/07

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

1. WELL TAG NO. D 0061719

Drilling Permit No. _____

Water right or injection well # _____

2. OWNER: Dan ~~Stackner~~ ~~Sta~~ Schlachter

Name Dan ~~Stackner~~ Schlachter

Address 3209 Mcleod Lane

City New Meadows State ID Zip 83654

3. WELL LOCATION:

Twp. 19 North ☑ or South ☐ Rge. 1 East ☑ or West ☐

Sec. 24 ____ 10 acres 1/4 NE 40 acres 1/4 SE 160 acres 1/4

Gov't Lot _____ County Adams

Lat. 44 ° 58.122 (Deg. and Decimal minutes)

Long. 116 ° 16.255 (Deg. and Decimal minutes)

Address of Well Site 1 1/4 Mile East of New Meadows down Hwy 55 City New Meadows
(Give at least name of road + Distance to Road or Landmark)

Lot. _____ Blk. _____ Sub. Name _____

4. USE:
☑ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation ☐ Thermal ☐ Injection
☐ Other _____

5. TYPE OF WORK:
☑ New well ☐ Replacement well ☐ Modify existing well
☐ Abandonment ☐ Other _____

6. DRILL METHOD:
☑ Air Rotary ☐ Mud Rotary ☐ Cable ☐ Other _____

7. SEALING PROCEDURES:

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure
Bentonite	0	38	18 sacks	top pour
Hole Plug				

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
6"	+2	58	250	steel	☑	☐	☐	☑
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

Was drive shoe used? ☑ Y ☐ N Shoe Depth(s) 58'

9. PERFORATIONS/SCREENS:

Perforations ☐ Y ☑ N Method _____

Manufactured screen ☐ Y ☑ N Type _____

Method of installation _____

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule

Length of Headpipe _____ Length of Tailpipe _____

Packer ☐ Y ☑ N Type _____

10. FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method

11. FLOWING ARTESIAN:

Flowing Artesian? ☐ Y ☑ N Artesian Pressure (PSIG) _____

Describe control device _____

12. STATIC WATER LEVEL and WELL TESTS:

Depth first water encountered (ft) 60 Static water level (ft) 24

Water temp. (°F) 52° Bottom hole temp. (°F) _____

Describe access port _____

Well test:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)	Test method: Pump	Bailer	Air	Flowing artesian
50	30	60	☐	☐	☑	☐
			☐	☐	☐	☐

Water quality test or comments: good

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water Y	Water N
10	0	12	clay/river rock		✓
10	12	21	brown clay		✓
10	21	38	green clay		✓
6	38	47	green clay + gravel mix		✓
6	47	80	sandy clay pea gravel	✓	

Completed Depth (Measurable): 80

Date Started: 10/24/13 Date Completed: 10/24/13

14. DRILLER'S CERTIFICATION:
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Brett Uhlenkott Drilling Lic. No. 709

*Principal Driller [signature] Date 10-27-13

*Driller _____ Date _____

*Operator II _____ Date _____

Operator I _____ Date _____

* **Signature of Principal Driller and rig operator are required.**

(M) 10/28/13

Form 238-7
6/07

78

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

1. WELL TAG NO. D 0069094

Drilling Permit No. 969598-875655

Water right or injection well # 78-12406

2. OWNER:

Name Meadows Valley School Dist. # 11

Address P.O. Drawer F

City New Meadows State Id. Zip 83654

3. WELL LOCATION:

Twp. 19 North ☒ or South ☐ Rge. 1 East ☒ or West ☐

Sec. 24 SE 1/4 (10 acres) NW 1/4 (40 acres) NW 1/4 (160 acres)

Gov't Lot ____ County Adams

Lat. 44 ° 58.503 (Deg. and Decimal minutes)

Long. 116 ° 17.167 (Deg. and Decimal minutes)

Address of Well Site 500 N. Miller City New Meadows
(Give at least name of road + Distance to Road or Landmark)

Lot. ____ Blk. ____ Sub. Name ____

4. USE:
☐ Domestic ☐ Municipal ☐ Monitor ☒ Irrigation ☐ Thermal ☐ Injection
☐ Other ____

5. TYPE OF WORK:
☒ New well ☐ Replacement well ☐ Modify existing well
☐ Abandonment ☐ Other ____

6. DRILL METHOD:
☒ Air Rotary ☐ Mud Rotary ☐ Cable ☐ Other ____

7. SEALING PROCEDURES:

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure
3/8 Bentonite chip	0	11	550 lbs.	Temp Casing - Poured
Bentonite grout	11	39	198 gal	Temp. casing - pumped
Clay seal	51	68		Driven clay seal

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
8	+2	303	.250	Steel	☒	☐	☐	☒
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) Underreamer shoe at 303'

9. PERFORATIONS/SCREENS:

Perforations ☐ Y ☒ N Method ____

Manufactured screen ☐ Y ☒ N Type ____

Method of installation ____

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule

Length of Headpipe ____ Length of Tailpipe ____

Packer ☐ Y ☒ N Type ____

10. FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method

11. FLOWING ARTESIAN:

Flowing Artesian? ☐ Y ☒ N Artesian Pressure (PSIG) ____

Describe control device ____

12. STATIC WATER LEVEL and WELL TESTS:

Depth first water encountered (ft) 40 Static water level (ft) 17

Water temp. (°F) 50 Bottom hole temp. (°F) ____

Describe access port Sanitary well seal

Well test:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)
286	100	120

Test method: Pump ☐ Bailer ☐ Air ☒ Flowing artesian ☐

Water quality test or comments: good

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water Y	Water N
12	0	2	Top Soil		X
12	2	5	Brown sand + gravel		X
12	5	7	Blue gray muddy sand		X
12	7	32	Brown sandy clay		X
12	32	39	Basalt sand + gravel	X	Static 11'
9	39	51	Basalt sand + gravel	X	
7 3/8	51	68	Brown clay		X
9	68	72	Brown clay + broken basalt		X
9	72	86	Redish brown weathered basalt	4 gpm	
9	86	105	Redish brown + gray fract. basalt		X
9	105	116	Red cinders	10 gpm	
9	116	126	Red weathered basalt		X
9	126	144	gray + brown cinders	10 gpm	
9	144	155	Blue + brown weathered basalt		X
9	155	160	Brown cinders	10 gpm	Static 17'
9	160	177	Blue + brown weathered basalt		X
9	177	183	Redish brown weathered basalt		X
9	183	193	Blue + brown weathered basalt		X
9	193	253	Harder blue + brown basalt		X
9	253	258	Red clay + claystone		X
9	258	270	Brown weathered basalt	10 gpm	Static 17'
9	270	275	Harder brown basalt		X
9	275	304	Brown weathered basalt	50 gpm	
6	304	315	Harder brown basalt		X
6	315	320	Blue, brown + red cinders	100 gpm	Static 17'
6	320	325	Harder brown basalt		X

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Completed Depth (Measurable): 325'

Date Started: 6-16-15 Date Completed: 6-29-15

14. DRILLER'S CERTIFICATION:
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Gestrin Well Drilling Co. No. 408

*Principal Driller Robert W. Gestrin Date 7-4-15

*Driller Robert W. Gestrin Date 7-4-15

*Operator II ____ Date ____

Operator I ____ Date ____

*** Signature of Principal Driller and rig operator are required.**

Form 238-7
7/94

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

Use Typewriter or Ball Point Pen

49269

1. DRILLING PERMIT NO. 78-95-W-0017-000
Other IDWR No.

2. OWNER:
Name: Steve Carpenter
Address: Po Box 155
City: New Meadows State: ID Zip: 83654

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

N / W / E / S

Twp. 19 North ☒ or South ☐
Rge. 1 East ☒ or West ☐
Sec. 24, ____ 10 acres 1/4 SW 40 acres 1/4 NE 160 acres 1/4
Gov't Lot ____ County ADAMS

Address of Well Site 1/4 Mile East of Hyw 95 Stateline City New Meadows
(Give at least name of road + Distance to Road or Landmark)

Lt. ____ Blk. ____ Sub. Name ____

4. PROPOSED USE:
☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other ____

5. TYPE OF WORK
☒ New Well ☐ Modify or Repair ☐ Replacement ☐ Abandonment

6. DRILL METHOD
☐ Mud Rotary ☒ Air Rotary ☐ Cable ☐ Other ____

7. SEALING PROCEDURES

SEAL/FILTER PACK Material	From	To	AMOUNT Sacks or Pounds	METHOD
~~Steel~~	~~+2~~	~~-38~~	~~250~~	~~Top Pour~~
Bentonite	0	-18	250	Top Pour

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 38 ft
Was drive shoe seal tested? Y ☒ N ☐ How? Air Pressure

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
6	+2	-38	.250	Steel	☒	☐	☒	☐
4"	-28	-48	160	Plastic	☐	☒	☐	☐
					☐	☐	☐	☐

Length of Headpipe ____ Length of Tailpipe ____

9. PERFORATIONS/SCREENS
☒ Perforations Method SAW
☐ Screens Screen Type ____

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
-28	-48	1/4 x 6	47	4"	Plastic	☐	☒
						☐	☐
						☐	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
10 ft. below ground Artesian pressure ____ lb.
Depth flow encountered ____ ft. Describe access port or control devices: Top of Casing

11. WELL TESTS:
☐ Pump ☐ Bailer ☒ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time
20			50

Water Temp. ____ Bottom hole temp. ____
Water Quality test or comments: Good

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N
8	0	8	Brown Clay		✓
8	9	18	Cemented Gravel		✓
6	18	42	" "	30	✓
6	42	74	Gray Clay		✓
6	74	90	Soft Basalt (Black)		✓

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AUG 01 1995

Completed Depth 48 ft (Measurable)
Date: Started 6-22-95 Completed 6-23-95

13. DRILLER'S CERTIFICATION
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name Uhlenkott Drilling Firm No. 125
Firm Official Ray Uhlenkott Date 6-23-95
and
Supervisor or Operator Tim J. Uhlenkott Date 6-23-95
(Sign once if Firm Official & Operator)

FORWARD WHITE COPY TO WATER RESOURCES

Appendix I:

Reservoir Inspection Report

Liquid Engineering Corporation

Steel Potable Water Reservoir Inspection Report

Job No. 29500 Utility NEW MEADOWS, ID. Tank 350 KG O/G

AMERICAN WATER WORKS ASSOCIATION
ANSI/AWWA M42 / D101-53 (R86)

SSPC Legend
Society for Protective Coatings

RUST GRADE	DESCRIPTION
10	No rusting, or < 0.01% of surface is rusted
9	Minute rusting, < 0.03% of surface is rusted
8	Few isolated rust spots, < 0.1% of surface is rusted
7	Few isolated rust spots, < 0.3% of surface is rusted
6	Extensive rust spots, < 1% of surface is rusted
5	Rusting to the extent of 3% of surface area
4	Rusting to the extent of 10% of surface area
3	Approximately 1/6th of the surface (17%) is rusted
2	Approximately 1/3rd of the surface (33%) is rusted
1	Approximately ½ of the surface (50%) is rusted
0	Approximately 100% of the surface is rusted

NACE Legend
National Association of Corrosion Engineers

CORROSION GRADE	DESCRIPTION
A	None
B	Uniform Surface Corrosion
C	Pitting
D	Concentration Cell
E	Galvanic
F	Stress Corrosion Cracking
G	Erosion Corrosion
H	Intergranular
I	Dealloying

AWS Legend
American Welding Society

WELD GRADE	DESCRIPTION
L	Satisfactory
M	Spatter
N	Porosity
O	Convexity / Concavity
P	Cracks
Q	Inclusions
R	Incomplete Fusion
S	Incomplete Penetration
T	Undercut
U	Underfill
V	Overlap
W	Unable to Evaluate

INTERIOR RESERVOIR ROOF1

	QUADRANT 1			QUADRANT 2			QUADRANT3			QUADRANT 4		
	SSPC	NACE	AWS	SSPC	NACE	AWS	SSPC	NACE	AWS	SSPC	NACE	AWS
Vents	9	B	L									
Roof Panels	10	A	L	10	A	L	10	A	L	10	A	L
Roof Support Structure	9	B	L	9	B	L	9	B	L	9	B	L
Roof Support Gussets	9	B	L	9	B	L	9	B	L	9	B	L
Painting Ring												

Protective Coating: Good Fair Poor: Blistering - Chalking - Checking - Cracking - Delamination - Growth - Pinholes - Staining - Saggs/Runs

Blisters / Avg. Size N/A Pitting / Avg. Size N/A

INTERIOR RESERVOIR WALLS1

	QUADRANT 1			QUADRANT 2			QUADRANT3			QUADRANT 4		
	SSPC	NACE	AWS	SSPC	NACE	AWS	SSPC	NACE	AWS	SSPC	NACE	AWS
Wall to Roof Weld	10	B	L	10	B	L	10	B	L	10	B	L
Lower Ring Panels	9	B	L	9	B	L	9	B	L	9	B	L
Middle Ring Panels	9	B	L	9	B	L	9	B	L	9	B	L
Upper Ring Panels	9	B	L	9	B	L	9	B	L	9	B	L
~~Interior Ladder~~												

Protective Coating: Good Fair Poor: Blistering - Chalking - Checking - Cracking - Delamination - Growth - Pinholes - Staining - Saggs/Runs

Blisters / Avg. Size Pitting / Avg. Size 1/8

INTERIOR RESERVOIR FLOOR1

	QUADRANT 1			QUADRANT 2			QUADRANT3			QUADRANT 4		
	SSPC	NACE	AWS	SSPC	NACE	AWS	SSPC	NACE	AWS	SSPC	NACE	AWS
Perimeter Weld	8	BDC	L	8	BDC	L	8	BDC	L	8	BDC	L
Floor Sketches (Panels)	7	BDC	L	7	BDC	L	7	BDC	L	7	BDC	L

Protective Coating: Good Fair Poor: Q3+4 Blistering - Chalking - Checking - Cracking - Delamination - Growth - Pinholes - Staining - Saggs/Runs

Blisters / Avg. Size 1/4" Pitting / Avg. Size 1/8"

DISCLAIMER
Liquid Engineering Corporation does not provide consulting engineering services. Unless otherwise noted, the findings contained in this report were neither prepared nor reviewed by a licensed Professional Engineer, but are based on the experience, training and visual examination of the inspecting Dive Maintenance Technician.

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Steel Potable Water Reservoir Inspection Report

Job No. 29500 Utility NEW MEADOWS, ID Tank 350 KG O/G

INTERIOR RESERVOIR SUPPORT COLUMNS1

	QUADRANT 1			QUADRANT 2			QUADRANT3			QUADRANT 4		
	SSPC	NACE	AWS	SSPC	NACE	AWS	SSPC	NACE	AWS	SSPC	NACE	AWS
Column Structures	9	B	L									
Column Base Structure	9	B	L									
Column To Roof Stucture	10	A	L									

Protective Coating (Good) Fair Poor: Blistering - Chalking - Checking - Cracking - Delamination - Growth - Pinholes - (Staining) Saggs/Runs

Blisters / Avg. Size None Pitting / Avg. Size None

INTERIOR RESERVOIR PLUMBING COMPONENTS

	QUADRANT 1			QUADRANT 2			QUADRANT3			QUADRANT 4		
	SSPC	NACE	AWS	SSPC	NACE	AWS	SSPC	NACE	AWS	SSPC	NACE	AWS
Inlet Plumbing	6	BDC	L									
Outlet Plumbing	6	BDC	L									
Manways	8	BDC	L				8	BDC	L			
Floor Drains				9	B	L						
Interior Overflows	6	BDC	L									

EXTERIOR RESERVOIR ROOF1

	QUADRANT 1			QUADRANT 2			QUADRANT3			QUADRANT 4		
	SSPC	NACE	AWS	SSPC	NACE	AWS	SSPC	NACE	AWS	SSPC	NACE	AWS
Vents	9	B	L									
Roof Panels	9	B	L	9	B	L	9	B	L	9	B	L
Access Hatches	9	B	L									

Protective Coating (Good) Fair Poor: Blistering - (Chalking) - Checking - Cracking - Delamination - Growth - Pinholes - (Staining) - Saggs/Runs

Blisters / Avg. Size N/A Pitting / Avg. Size N/A

EXTERIOR RESERVOIR WALLS1

	QUADRANT 1			QUADRANT 2			QUADRANT3			QUADRANT 4		
	SSPC	NACE	AWS	SSPC	NACE	AWS	SSPC	NACE	AWS	SSPC	NACE	AWS
Wall to Roof Weld	10	A	L	10	A	L	10	A	L	10	A	L
Lower Ring Panels	10	A	L	10	A	L	10	A	L	10	A	L
Middle Ring Panels	10	A	L	10	A	L	10	A	L	10	A	L
Upper Ring Panels	10	A	L	10	A	L	10	A	L	10	A	L
Interior Overflows	10	A	L									

Protective Coating (Good) Fair Poor: Blistering - (Chalking) - Checking - Cracking - Delamination - Growth - Pinholes - (Staining) - Saggs/Runs

Blisters / Avg. Size N/A Pitting / Avg. Size N/A

FOOTINGS / FOUNDATION1

Footings / Foundations Satisfactory YES Cracking NO Spalling NO Erosion/Exposed Aggregate N/A

~~Anchor Bolts Satisfactory Loose Rusted / Corroded (If Excessive) Diameter~~

TOWER SUPPORT STRUCTURES1

Tower Legs / Columns Satisfactory Alignment Settling Rust / Corrosion

Riser Pipe Satisfactory Alignment / Settling N Frost Casing Rusted / Corroded

Rods & Turnbuckles Satisfactory Turnbuckle Tension Rod Tension Cotter Pins/Rod Nuts

Leg shoes / Brackets Satisfactory Coating A Rusted / Corroded Pitting / Cracking

Other

DISCLAIMER

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Circular Tank Diagram / NDT ☐ **DFT** ☒ **Coating Adhesion** ☐ **Presence of Lead** ☐

Job# 29500 Tank Name: 350 KG O/G Date: 05/14/08

WALLS

	Q-4	Q-1	Q-2	Q-3
of line		Color: WHITE		
	15 MILS	13 MILS	13 MILS	15 MILS
or line				

Testing and Discrepancy Locations

ROOF

Q-4: 8 MILS	Q-1: 8 MILS
Q-3: 9 MILS	Q-2: 8 MILS

lor: WHITE

BOWL

Q-4: N	Q-1:
Q-3:	Q-2: A

Color:

Color

N A

Color

N A

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Steel Water Reservoir Exterior Condition Worksheet

Job No.: 29500 Tank Name: 350 KG O/G Date 05/14/08

Section 9. General Tank Security

Is the tank surrounded by a security fence?	(Yes) No
Are the access gates locked?	(Yes) No
Is the tank equipped with a vandal guard on the primary access ladder? NO LADDER	~~Yes~~ ~~No~~
Is the vandal guard locked?	~~Yes~~ ~~No~~
Are all of the access hatches equipped with electronic monitoring devices?	(Yes)
Are all of the vents equipped with security vent shrouds?	Yes (No)
Does the exterior of the tank show signs of trespass?	Yes (No)
Does the surrounding geography of the tank obscure it from public view?	Yes (No)
Are the external plumbing components housed in a secure vault or out building?	(Yes) No
Is the area surrounding the tank well lit?	(Yes) No
Are there any additional security features associated with this tank or surrounding area? If yes, describe in additional remarks section.	Yes (No)

Additional Remarks and Measurements

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Section 17: Immediate Needs Assessment

Job No.: 29500 Tank Name: 350 KG O/G Date 05/14/08

I. Health & Safety Items

- ☐ Safety Climb System Installation: N/A (NO LADDER PRESENT)
- ☐ Vent Screen Repairs: FINE MESH PRESENT (FAIR CONDITION)

II. Testing Items

- ☐ Dye Testing For Leak Evaluation: NOT PERFORMED
- ☐ Presence of Lead Test (Interior / Exterior): NOT DETECTED

III. Destructive Testing Items

- ☐ % Of Lead Test (Interior / Exterior)*(Coating samples are removed for laboratory analysis)*: N/A
- ☐ Coating Adhesion Testing (Interior / Exterior): NOT PERFORMED

Specific written authorization required to perform destructive testing. Destructive tests include touch-up of coating system.

IV. Repair Items

- ☐ Epoxy Coating Repairs: 4 HOURS OF EPOXY COMPLETED (SEE BELOW)
- ☐ Temporary Leak Repairs: NOT RECOMMENDED
- ☐ Float Operated Level Indicator Repairs / Maintenance: GOOD CONDITION
- ☐ Hypalon Repairs: N/A

V. Security Related Items *(Critical security upgrade information is immediately available.)*

- ☒ Tank Vents Are Not Equipped With A Security Vent Shroud.
- ☒ Tank Hatches Are Not Equipped With A Security Hatch Locking Device.
- ☐ Tank Perimeter Not Adequately Secured:
- ☐ EPA - Mandated Vulnerability Assessment Not Completed:

Additional Description of Recommended Work

* CLEAN / INSPECT EVERY 3-5 YEARS

* SECURITY RELATED ITEMS LISTED ABOVE

* FOUR HOURS OF EPOXY COMPLETED ON FLOOR OF RESERVOIR. ALL MAJOR PITTED AREAS WERE PREPPED & SEALED-UP. ('1/8" PITT AVE.) 3 PITTS WERE FOUND & SEALED, ALONG WELD SEAMS THAT WERE 1/2" DEEP.

The above noted additional work is considered immediately necessary and recommended to be completed. Some items may be completed in conjunction with work currently being performed while the field crew is on site.

Authorized Utility Signature:

Signing above achkowledges that recommendations have been made for additional work that may be necessary and can be completed while the LEC crew is on site. Signing above does not authorize additional work. An additional work authorization will be prepared to authorize any additional work desired.

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Liquid Engineering Corporation

Potable Water Reservoir Contamination, Health and Safety Report

Job No. 29500 Utility NEW MEADOWS, ID Tank 350 KG O/G

Inspector J. RICHARDS Team Leader J. RICHARDS Date 05/14/08 **Form 1**

Complies With: AWWA • OSHA • ANSI • NIOSH • NAVFAC • NFPAC

• Contamination & Health Checklist •

Air Vents — Type: MUSHROOM # 1 Screen Conditions: (Good) Fair Poor

Hatches — Type: SQUARE # 1 Secured Properly: (Yes) No Properly Sealed: (Yes) No

Exterior Overflow — Flapper: Yes (No) Screen: (Yes) No Gasket: Yes (No) Condition: (Good) Fair Poor

~~Cathodic Covers~~ — ~~Covers in Place: Yes No Gaskets: Yes No Properly Sealed: Yes No # of Covers~~ ____

Roof to Wall Joint — Welded: (Yes) No Properly Sealed: (Yes) No

Roof Integrity — Holes: Yes (No) Cracking: Yes (No) Standing Water: Yes (No) Other: N/A

Wall Integrity — Holes: Yes (No) Cracking: Yes (No) Other: N/A

Manway Integrity — Leaks: Yes (No) Condition: (Good) Fair Poor

Water Clarity — General Appearance: CLEAR Odor: NO Other: N/A

Floating Surface Debris — Type: NONE Source: N/A

Hypalon Floating Cover — Condition: Good Fair Poor Holes: Yes No Tears: Yes No

Telemetry Penetrations — Properly Sealed: (Yes) No

Other Discrepancies — NONE

• Facility Safety Compliance Checklist •

Exterior Ladder

Overall Ladder — Condition: Good Fair Poor Offset Landings Yes / No #: ____ Height: ____

Ladder Vandal Guard — Present: Yes / No / None (N) Vandal Guard Locked: Yes / No

Ladder Rails & Rungs — Condition: Good Fair Poor Missing/Damaged Rungs: Yes No

Rung Spacing & Depth — Spacing: ____ in. (max 12") Toe depth: ____ in. (min. 7")

Rail Spacing & Size — Width: ____ in. (min 2") Thickness: ____ in. (min. ¼") Rail to Rail: ____ in. (max 16")

Safety Climb System — Type: Cage Notched Rail Cable Grab Other None (N) Condition: Good Fair Poor

Number & Locations — Wall ____ Leg ____ Roof ____ Riser Pipe ____ Other ____

Ladder Attachments — Welded Bolted Other

Manways

Type and Size — Type: (Round) Oval Square Other Size: 32 5/8" (24" - 18"X22" min.) # 2

Support Structure — Dogged Davit Arm (Bolted) Other Condition: (Good) Fair Poor

Number & Locations — Wall 2 Roof ____ Riser Pipe ____ Other ____

Hatches

Hatch Type and Size — Round (Square) Rectangle Other (24" - 24"X15" min.) 24 1/2" x 24 1/2"

Hatch & Lid Lip Height — Hatch (4" min.) 5" Lid (2" min.) 2"

Balconies & Railing

Deck/Walkways — Condition: Good Fair Poor (N) Width: ____

Hand Rails — Condition: Good Fair Poor (N) Height ____ (42" min.) No. Rails ____ (min. 2)

Toe Rail — Condition: Good Fair Poor Height ____ (4" min.)

Welds/Attachments — Condition: Good Fair Poor (N)

Roof

~~Safety Tie-Off Points~~ — ~~Condition: Good Fair Poor~~ # Ø

~~Antennas~~ — ~~Types: Transmitting- Point to Point / Omni Directional Receiving~~ # ____

Other Discrepancies — NONE

Additional Information — NONE

DISCLAIMER

Unless otherwise noted, the findings contained in this report were neither prepared nor reviewed by a licensed Professional Engineer, but are based on the experience, training and visual examination of the inspecting Dive Maintenance Technician.

Liquid Engineering Corporation

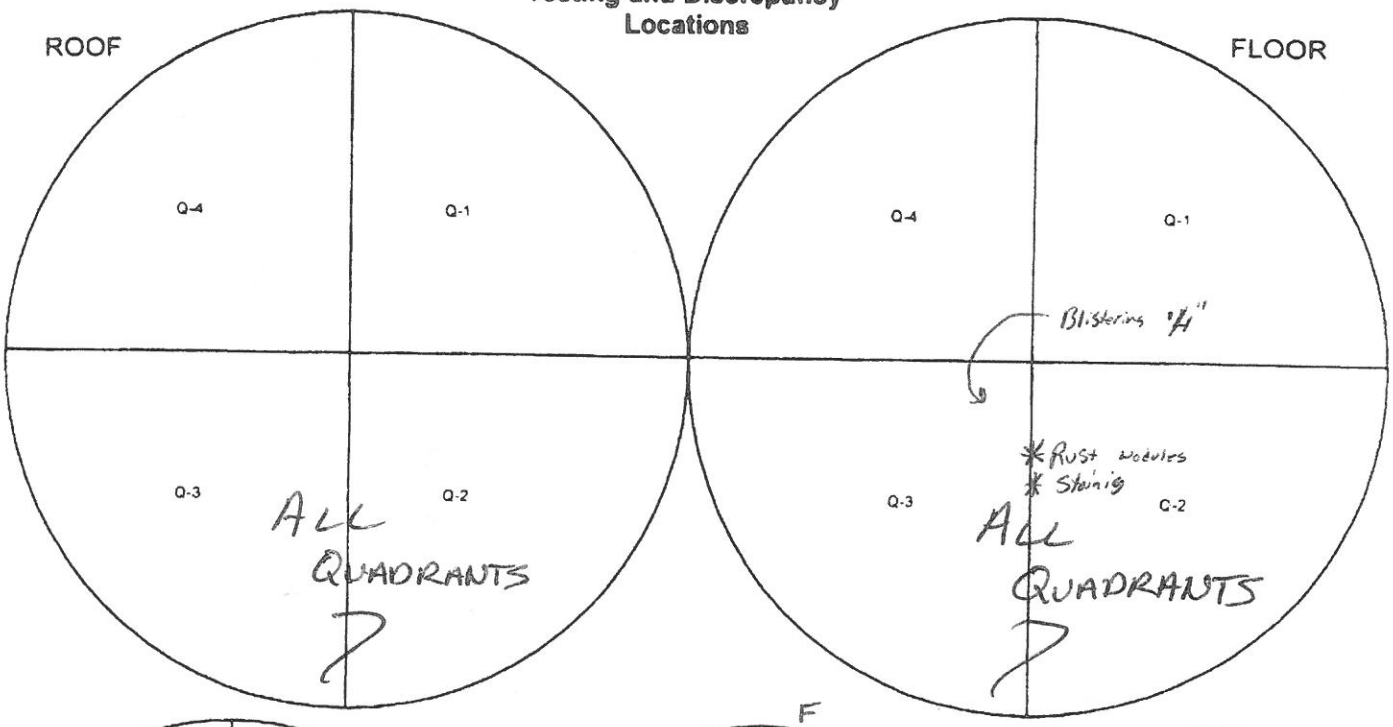
Circular Tank Diagram / Information Worksheet

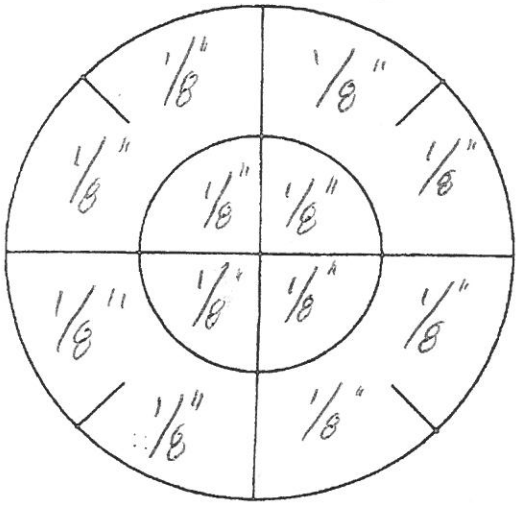
Job# 29500 Tank Name: 350 KG O/G Date: 05/19/08

WALLS

Roof line	Q-4	Q-1	Q-2	Q-3
	*Staining *Heavy Delamination on Lower Ring Plates			
Floor line	ALL QUADRANTS →			

Testing and Discrepancy Locations



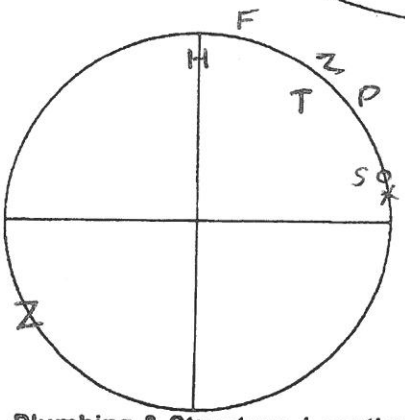


Sediment Depth Measurements

Average Sediment Depth= The sum of all measurements taken, divided by the number of measurements taken.

Average Sediment Depth: 1/8" Cubic Yardage: _____

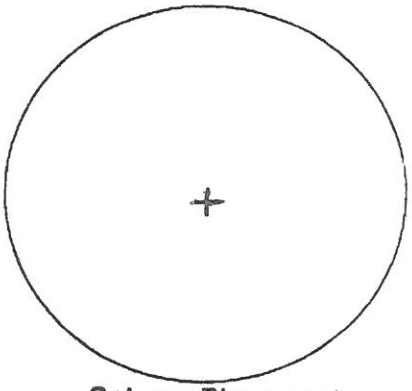
Type of Sediment: Silt



Plumbing & Structure Location

Plumbing and Structure Codes

O=Outlet X=Inlet Z=Manway
V=Vent D=Drain S=Sump
L=Ladder H=Hatch P=Overflow
F=Float level indicator
T=Telemetry

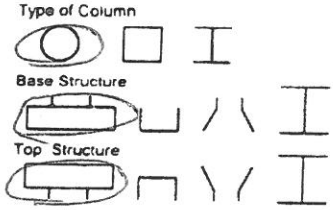


Column Placement =+

Type of Column

Base Structure

Top Structure



Steel Concrete Other: _____

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Additional Work Authorization

LIQUID ENGINEERING CORPORATION

P.O. Box 80230
Billings, MT 59108
(800) 438-2187

Client: CITY OF NEW MEADOWS		Date: 05/14/08	
Address: PO BOX 324		LEC Job Number: 29500	
City: NEW MEADOWS	State: ID	Reservoir Name: 350 KG O/G	
Phone: (208) 347-2171		Date of Contract:	

You are authorized to perform the following specifically described additional work:

FOUR HOURS EPOXY REPAIR X $425 AN HOUR = $1700

ADDITIONAL CHARGE FOR ABOVE WORK IS: $ 1700.00

Payment will be made as follows: Net 30

Above Additional work to be performed under same conditions as specified in original contract unless otherwise stipulated.

Date: _____ Authorizing Signature _____ (Client signs here) Print Name Doug Buis

We hereby agree to furnish labor and materials – complete in accordance with the above specifications, at above stated price.

Authorized Signature _____ (Contractor signs here) Date: 05/14/08

THIS IS CHANGE ORDER NO. _____

Note: This revision becomes part of, and in conformance with, the existing contract.

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Liquid Engineering Corporation

Potable Water Reservoir Contamination, Health and Safety Report

Job No. 29500 Utility NEW MEADOWS, ID Tank 350 KG O/G

Inspector J. RICHARDS Team Leader J. RICHARDS Date 05/14/08 **Form 1**

Complies With: AWWA • OSHA • ANSI • NIOSH • NAVFAC • NFPAC

• Contamination & Health Checklist •

Air Vents	Type: MUSHROOM # 1 Screen Conditions: (Good) Fair Poor
Hatches	Type: SQUARE # 1 Secured Properly: (Yes) No Properly Sealed: (Yes) No
Exterior Overflow	Flapper: Yes (No) Screen: (Yes) No Gasket: Yes (No) Condition: (Good) Fair Poor
~~Cathodic Covers~~	~~Covers in Place: Yes No Gaskets: Yes No Properly Sealed: Yes No # of Covers~~
Roof to Wall Joint	Welded: (Yes) No Properly Sealed: (Yes) No
Roof Integrity	Holes: Yes (No) Cracking: Yes (No) Standing Water: Yes (No) Other: N/A
Wall Integrity	Holes: Yes (No) Cracking: Yes (No) Other: N/A
Manway Integrity	Leaks: Yes (No) Condition: (Good) Fair Poor
Water Clarity	General Appearance: CLEAR Odor: NO Other: N/A
Floating Surface Debris	Type: NONE Source: N/A
Hypalon Floating Cover	Condition: Good Fair Poor Holes: Yes No Tears: Yes No
Telemetry Penetrations	Properly Sealed: (Yes) No
Other Discrepancies	NONE

• Facility Safety Compliance Checklist •

~~**Exterior Ladder**~~

~~Overall Ladder~~	~~Condition: Good Fair Poor Offset Landings Yes / No #: Height:~~
~~Ladder Vandal Guard~~	~~Present: Yes / No / None~~ N ~~Vandal Guard Locked: Yes / No~~
~~Ladder Rails & Rungs~~	~~Condition: Good Fair Poor Missing/Damaged Rungs: Yes No~~
~~Rung Spacing & Depth~~	~~Spacing: in (max 12") Tube depth: in. (min. 7")~~
~~Rail Spacing & Size~~	~~Width: in. (min 2") Thickness: in. (min. ¼") Rail to Rail: in. (max 16")~~
~~Safety Climb System~~	~~Type: Cage Notched Rail Cable Grab Other None Condition: Good Fair Poor~~
~~Number & Locations~~	~~Wall Leg Roof Riser Pipe Other~~
~~Ladder Attachments~~	~~Welded Bolted Other~~

Manways

Type and Size	Type: (Round) Oval Square Other Size: 32 5/8" (24" - 18"X22" min.) # 2
Support Structure	Dogged Davit Arm (Bolted) Other Condition: (Good) Fair Poor
Number & Locations	Wall 2 Roof Riser Pipe Other

Hatches

Hatch Type and Size	Round (Square) Rectangle Other (24" - 24"X15" min.) 24 1/2" x 24 1/2"
Hatch & Lid Lip Height	Hatch (4" min.) 5" Lid (2" min.) 2"

Balconies & Railing

~~Deck/Walkways~~	~~Condition: Good Fair Poor~~ N ~~Width:~~
~~Hand Rails~~	~~Condition: Good Fair Poor Height (42" min.) No. Rails (min. 2)~~
~~Toe Rail~~	~~Condition: Good Fair Poor Height (4" min.)~~
~~Welds/Attachments~~	~~Condition: Good Fair Poor~~ A

Roof

~~Safety Tie-Off Points~~	~~Condition: Good Fair Poor #~~ Ø
~~Antennas~~	~~Types: Transmitting- Point to Point / Omni Directional Receiving #~~

Other Discrepancies NONE

Additional Information NONE

DISCLAIMER

Unless otherwise noted, the findings contained in this report were neither prepared nor reviewed by a licensed Professional Engineer, but are based on the experience, training and *visual examination* of the inspecting Dive Maintenance Technician.

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Appendix J:

Reservoir Interior Images

I-1, Peeling Epoxy

I-2, Pitting

I-3, Bubbling

Appendix K:

Meadows Valley Fire Letter

August 7, 2017

Meadows Valley Fire Protection District
Fire Chief
200 HWY 95
New Meadows, ID 83654

Dear Fire Chief,

The City of New Meadows is currently completing a 20-year water system master plan that will include upgrades to their public drinking water system. Mountain Waterworks is the City's engineer working on this project. In talking with the Fire Chief during the planning process, the District is aware that the current fire flow capacities are approximately 1,000 gpm for a 2-hour duration. Once system improvements have been completed associated with the construction of a new 400,000 gallon water storage reservoir and associated booster station upgrades, the fire flow throughout town will be approximately 1,500 gpm for a 2-hour duration. This will be accomplished by upsizing the storage reservoir from the existing 250,000 gallon tank to 400,000 gallons and increasing the booster pumping facility to provide 1,500 gpm to the distribution system during a fire protection event.

For the City to be eligible for significant grant and low-interest loan funding, the Fire District must approve the design fire flow capacities of the proposed system upgrades. Please sign this letter for your approval of the proposed planned fire flow capacities.

Sincerely,

Mountain Waterworks, Inc.

Tim Farrell, P.E.
Project Manager

Meadows Valley Fire Protection District

Fire Chief

Verbal discussion with the Fire Chief indicates he will sign this letter but as the final copy has not yet been received. This will be replaced in the final document with the signed copy.

Appendix L:

Fire Hydrant Test Locations

New Meadows Water System
Fire Hydrant Inventory
Conducted July 15, 2016

Age
1-10
11-20
21-30
31-40
40+

Hydrant No.	Manufacturer	Year Manufactured	Age as of 2016	Outlet Number/Size No.	Size	No.	Size	Functional Y/N	Cross Street East/West	Cross Street Noth/South	Replacement Priority	Notes
1	Waterous	2000	16	2	2.5"	1	5"	Y	Virginia	North Commercial		
2	Clow	1993	23	2	2.5"	1	5"	Y	Virginia	West of North Commercial		
3	Clow	1993	23	2	2.5"	1	5"	Y	Nora	North Commercial		
4	Clow	1993	23	2	2.5"	1	5"	Y	Colt	North Commercial		
5	Clow	1993	23	2	2.5"	1	5"	Y	Taylor	North Commercial		
6	Waterous	1979	37	2	2.5"	1	5"	Y	Mclain	North Commercial		
7	Waterous	1975	41	2	2.5"			Y	Mclain	North Miller	High	
8	Waterous	1974	42	2	2.5"			Y	Colt	North Miller	High	
9	Waterous	1975	41	2	2.5"			Y	Nora	North Miller	High	Needs to be painted
10	Mueller	2012	4	2	2.5"	1	5"	Y	Virginia	North Miller		Needs to be painted
11	Waterous	1975	41	2	2.5"			Y	Virginia	North Heigho	High	
12	Mueller	2012	4	2	2.5"	1	5"	Y	Nora	North Heigho		
13	Mueller	2014	2	2	2.5"	1	5"	Unknown	Colt	North Heigho		
14	Waterous	1975	41	2	2.5"			Y	Taylor	North Heigho	High	
15	Waterous	1974	42	2	2.5"			Y	Mclain	North Cunningham	High	
16	Mueller	2015	1	2	2.5"	1	5"	Y	Taylor	North Cunningham		
17	Waterous	1997	19	2	2.5"	1	5"	Y	Colt	North Cunningham		
18	Clow	1993	23	2	2.5"	1	5"	Y	Nora	North Cunningham		
19	Waterous	1997	19	2	2.5"	1	5"	Y	Virgina	North Cunningham		
20	Waterous	1997	19	2	2.5"	1	5"	Y	Virgina	West of Norris		
21	Waterous	1974	42	2	2.5"			Y	Nora	Norris	High	Needs to be painted
22	Waterous	1974	42	2	2.5"			Y	Colt	Norris	High	
23	Clow	1993	23	2	2.5"	1	5"	Y	Nora	East of Norris		Needs to be painted
24	Waterous	2006	10	2	2.5"	1	5"	Y	Virgina	Truesdale		Needs to be painted
25	Clow	1993	23	2	2.5"	1	5"	Y	Highway 55	East of Truesdale		
26	Waterous	1975	41	2	2.5"			Y	Kathrine	Norris	High	
27	Waterous	1994	22	2	2.5"	1	5"	Y	Larae	Norris (North Intersection)		
28	Mueller	2005	11	2	2.5"	1	5"	Y	Larae	North End of Larae		2 1/2" cap off needs flushed
29	Mueller	2005	11	2	2.5"	1	5"	Y	Larae	South End of Larae		Needs to be painted
30	Waterous	1994	22	2	2.5"	1	5"	Y	Larae	Norris (South Intersection)		
31	Waterous	1994	22	2	2.5"	1	5"	Y	Wiley	Norris		
32	Waterous	1994	22	2	2.5"	1	5"	Y	Wiley	Between Heigheo/Norris		
33	2 1/2" Standpipe	unknown	unknown	2	2.5"			Unknown	South of Heigho	Wiley	High	Needs to be painted
34	Waterous	1975	41	2	2.5"			Y	Wiley	South Heigho	High	
35	Waterous	1974	42	2	2.5"			Y	Cedric	South Heigho	High	Needs to be painted
36	Waterous	1974	42	2	2.5"			Unknown	Benedict	South Heigho	High	Needs to be painted
37	Mueller	2012	4	2	2.5"	1	5"	Y	Kathrine	South Heigho		
38	Waterous	1975	41	2	2.5"			Y	Kathrine	South Cunningham	High	Needs to be painted
39	Clow	1993	23	2	2.5"	1	5"	Y	Between Virginia/Kathrine	South Cunningham		
40	Waterous	1974	42	2	2.5"			Y	Kathrine	South Miller	High	
41	Clow	1993	23	2	2.5"	1	5"	Y	Cedric	South Miller		
42	Waterous	1974	42	2	2.5"			Y	Benedict	South Miller	High	
43	Clow	1993	23	2	2.5"	1	5"	Y	Speer	South Miller		
44	Mueller	2005	11	2	2.5"	1	5"	Y	Wiley	South Miller		
45	Mueller	1986	30	2	2.5"	1	5"	Y	Speer	Morgan		
46	Mueller	1986	30	2	2.5"	1	5"	Y	West of Cedric	Morgan		
47	Mueller	2007	9	2	2.5"	1	5"	Y	Katherine	South Commercial		
48	Waterous	1990	26	2	2.5"	1	5"	Y	Benedict	South Commercial		
49	Mueller	1983	33	2	2.5"	1	5"	Y	West of Speer	South Commercial		

New Meadows Water System
Fire Hydrant Inventory
Conducted July 15, 2016

Age
1-10
11-20
21-30
31-40
40+

Hydrant No.	Manufacturer	Year Manufactured	Age as of 2016	Outlet Number/Size				Functional Y/N	Cross Street East/West	Cross Street Noth/South	Replacement Priority	Notes
				No.	Size	No.	Size					
50	Clow	1989	27	2	2.5"	1	5"	Y	Katherine	West of South of Commercial		Needs to be painted
51	Clow	1993	23	2	2.5"	1	5"	Y	Highway 95	600 ft West of Commercial		
52	Clow	1993	23	2	2.5"	1	5"	Y	Highway 95	900 ft West of Commercial		Missing 5 1/4" cap, Needs to be painted
53	Clow	1993	23	2	2.5"	1	5"	Y	Highway 95	1200 ft West of Commercial		Needs to be painted
54	Clow	2002	14	2	2.5"	1	5"	Y	Highway 95	1500 ft West of Commercial		
55	Clow	2003	13	2	2.5"	1	5"	Y	Taylor	700 ft West of Commercial		Needs to be painted
56	Waterous	1974	42	2	2.5"			Y	North of Highway 55	East of Norris	High	Needs to be painted
57	Waterous	2006	10	2	2.5"	1	5"	Y	North of Highway 55	East of Truesdale		Needs to be painted
58									North of McClain	Northwest of High School		
59									North of McClain	Northeast of High School		

New Meadows Water System
Fire Hydrant Inventory
Conducted July 15, 2016

Hydrant No. 1

Hydrant No. 2

Hydrant No. 3

Hydrant No. 4

Hydrant No. 5

Hydrant No. 6

Hydrant No. 7

Hydrant No. 8

Hydrant No. 9

Hydrant No. 10

Hydrant No. 11

Hydrant No. 12

Hydrant No. 13

Hydrant No. 14

Hydrant No. 15

New Meadows Water System
Fire Hydrant Inventory
Conducted July 15, 2016

Hydrant No. 16

Hydrant No. 17

Hydrant No. 18

Hydrant No. 19

Hydrant No. 20

Hydrant No. 21

Hydrant No. 22

Hydrant No. 23

Hydrant No. 24

Hydrant No. 25

Hydrant No. 26

Hydrant No. 27

Hydrant No. 28

Hydrant No. 29

Hydrant No. 30

New Meadows Water System
Fire Hydrant Inventory
Conducted July 15, 2016

Hydrant No. 31

Hydrant No. 32

Hydrant No. 33

Hydrant No. 34

Hydrant No. 35

Hydrant No. 36

Hydrant No. 37

Hydrant No. 38

Hydrant No. 39

Hydrant No. 40

Hydrant No. 41

Hydrant No. 42

Hydrant No. 43

Hydrant No. 44

Hydrant No. 45

New Meadows Water System
Fire Hydrant Inventory
Conducted July 15, 2016

Hydrant No. 46

Hydrant No. 47

Hydrant No. 48

Hydrant No. 49

Hydrant No. 50

Hydrant No. 51

Hydrant No. 52

Hydrant No. 53

Hydrant No. 54

Hydrant No. 55

Hydrant No. 56

Hydrant No. 57

Appendix M:

List of Customer Meters

BLACK MOUNTAIN SOFTWARE UTILITY BILLING SYSTEM **CITY OF NEW MEADOWS, ID**

METER SIZES **Data for Meter Sizes as of 06/03/2016 Metered Accounts Only All Installation Dates Primary Accts Only** **09:10:43 - 06/03/2016**

METER SIZES: ALL

Account	Route - Meter	Customer Name	Meter Size	Date Installed
Physical Address		Customer Address		Meter Comment
001-00	01-0010	RAYBACK, DEBRA	5/8 X 3/4	/ /
106 VIRGINIA STREET		PO BOX 108		TURNED OFF
002-00	01-0020	LIBBY, BILL	5/8 X 3/4	/ /
100 VIRGINIA STREET		2789 SLIFER VALLEY ROAD		
003-00	01-0030	NEW MEADOWS SENIOR CENTER	5/8 X 3/4	/ /
102 NORTH COMMERCIAL AVENUE		PO BOX 399		
004-00	01-0035	MEADOWS VALLEY EMERGENCY SERVICES	2"	/ /
200 SOUTH HIGHWAY 95		PO BOX 523		
005-00	01-0060.	M & C PROPERTIES	5/8 X 3/4	/ /
201 NORTH COMMERCIAL AVENUE APARTMENT		PO BOX 327		
006-00	01-0070.	MOREAUX, MARY / DON	5/8 X 3/4	/ /
301 NORTH COMMERCIAL AVENUE 1/2		PO BOX 92		
007-00	01-0080	CROGH, KEN / NIKKI	5/8 X 3/4	/ /
217 NORTH COMMERCIAL AVENUE		PO BOX 401		
008-00	01-0090	FITZHUGH, WILLIAM (NED)	5/8 X 3/4	/ /
307 NORTH COMMERCIAL AVENUE		PO BOX 751		
009-00	01-0100	CROGH, TIM / AUDREY	5/8 X 3/4	/ /
317 NORTH COMMERCIAL AVENUE		PO BOX 103		
010-00	01-0104	ACTIVE EXCAVATION	5/8 X 3/4	/ /
104 WEST TAYLOR STREET # C		PO BOX 95		
012-00	01-0105	ADAMS COUNTY - NEW MEADOWS RECYCLING	5/8 X 3/4	/ /
400 NORTH COMMERCIAL AVENUE		PO BOX 48		
013-00	01-0106	WILLEY'S CUSTOM MEATS	5/8 X 3/4	/ /
104 WEST TAYLOR STREET		243 FINN CHURCH LANE		
014-00	01-0107	CITY OF NEW MEADOWS - INDUSTRIAL PARK	5/8 X 3/4	/ /
106 WEST TAYLOR STREET		PO BOX 324		INDUSTRIAL PARK
015-00	01-0108	CITY OF NEW MEADOWS - SKATE PARK	1-1/2"	/ /
NORTH COMMERCIAL AVENUE		PO BOX 324		SKATE PARK
016-00	01-0110.	BROWN, JEFF	5/8 X 3/4	/ /
317 1/2 NORTH COMMERCIAL AVENUE		PO BOX 242		
017-00	01-0120	KOSMECKI, DAN	5/8 X 3/4	06/16/2011
316 NORTH MILLER AVENUE 1/2		PO BOX 91		SHOP - WATER TO BE OFF!
018-00	01-0130		5/8 X 3/4	12/02/2015
316 NORTH MILLER AVENUE		PO BOX 91		
019-00	01-0140	COMMUNITY HOUSE	5/8 X 3/4	/ /
400 NORTH MILLER AVENUE		PO BOX 571		
020-00	01-0150	DOTSON, MARVIN / LINDA	5/8 X 3/4	/ /
401 NORTH MILLER AVENUE		PO BOX 194		
021-00	01-0160	BORGESON, BILL / TANDY	5/8 X 3/4	/ /
409 NORTH MILLER AVENUE 1/2		PO BOX 68		
022-00	01-0170.	NATION STAR MORTAGAGE, CARE OF DOREEN LOPEZ	5/8 X 3/4	/ /
409 NORTH MILLER AVENUE		8950 CYPRESS WATERS BLVD		
023-00	01-0180	MOORE, BOYD / COLLEEN	5/8 X 3/4	/ /
417 NORTH MILLER AVENUE		PO BOX 54		
024-00	01-0190	MEADOWS VALLEY SCHOOL DISTRICT # 11	2"	/ /
500 NORTH MILLER AVENUE		PO DRAWER F		024- MINUS 365 = 024 USAGE
025-00	01-0195	CITY OF NEW MEADOWS - SEWER PLANT CHLORINE ROOM	5/8 X 3/4	/ /
100 WEST MCLAIN STREET		PO BOX 324		SEWER PLANT -CHLORINE ROOM
364-00	01-0196	CITY OF NEW MEADOWS - SEWER PLANT AUGER ROOM	5/8 X 3/4	/ /
100 WEST MCLAIN STREET		PO BOX 324		SEWER PLAN - AUGER ROOM

METER SIZES: ALL

Account	Route - Meter	Customer Name	Meter Size	Date Installed
Physical Address		Customer Address	Meter Comment	
026-00	01-0200	MCCARTY, SHERE	5/8 X 3/4	/ /
317 NORTH MILLER AVENUE		PO BOX 4		
027-00	01-0210	KELLAR, MELVIN / THERESA	5/8 X 3/4	/ /
309 NORTH MILLER AVENUE		PO BOX 267	RENTAL	
028-00	01-0230.	MCCARLEY, MICHAEL / CAROLINE	5/8 X 3/4	/ /
308 NORTH MILLER AVENUE		PO BOX 83		
029-00	01-0240	KELLAR, MELVIN / THERESA	5/8 X 3/4	/ /
307 NORTH MILLER AVENUE		PO BOX 267		
030-00	01-0250	ARRIEN, PARKER / REBECCA	5/8 X 3/4	/ /
302 NORTH MILLER AVENUE		PO BOX 723		
031-00	01-0260	MENCER, GINA	5/8 X 3/4	/ /
301 NORTH MILLER AVENUE		PO BOX 539		
032-00	01-0270.	KURZ, THOMAS	5/8 X 3/4	/ /
301 NORTH MILLER AVENUE 1/2		PO BOX 182		
033-00	01-0275	WILLIAMS FAMILY TRUST	UNKNOWN	/ /
216 NORTH MILLER AVENUE		7048 MARIPOSA ST	STORAGE BUILDING NO WATER TO BE ON!	
034-00	01-0280.	NORRIS, DARYL / KAZIA	5/8 X 3/4	/ /
215 NORTH MILLER AVENUE		PO BOX 122		
035-00	01-0285	ADAMS COUNTY TRANSPORTATION SHED	5/8 X 3/4	/ /
204 NORTH MILLER AVENUE		PO BOX 48		
036-00	01-0290	TINSLEY, KEN / SYLVIA	5/8 X 3/4	/ /
209 NORTH MILLER AVENUE		PO BOX 12		
037-00	01-0295	PADGETT, MARION	5/8 X 3/4	/ /
201 NORTH MILLER AVENUE		PO BOX 477		
039-00	01-0301.	MOSER, MATT / KAREN	5/8 X 3/4	/ /
110 NORA STREET		30280 BOULDER ROAD		
040-00	01-0302.		5/8 X 3/4	/ /
112 NORA STREET		30280 BOULDER ROAD		
041-00	01-0303.		5/8 X 3/4	/ /
114 NORA STREET		30280 BOULDER ROAD		
042-00	01-0304.		5/8 X 3/4	/ /
116 NORA STREET		30280 BOULDER ROAD		
043-00	01-0305.		5/8 X 3/4	/ /
118 NORA STREET		30280 BOULDER ROAD		
044-00	01-0306.		5/8 X 3/4	/ /
120 NORA STREET		30280 BOULDER ROAD		
045-00	01-0307.		5/8 X 3/4	/ /
122 NORA STREET		30280 BOULDER ROAD		
046-00	01-0308.		5/8 X 3/4	/ /
124 NORA STREET		30280 BOULDER ROAD		
047-00	01-0309		5/8 X 3/4	/ /
NORA STREET / NORTH MILLER AVENUE		30280 BOULDER ROAD	IRRIGATION METER	
048-00	01-0310	GARDNER, MICHEAL (BUTCH)	5/8 X 3/4	/ /
113 NORTH MILLER AVENUE		PO BOX 145		
049-00	01-0311.07	MITCHELL, JIMMY WADE / JEANIE MARIE	5/8 X 3/4	/ /
110 NORTH MILLER AVENUE		PO BOX 2462		
050-00	01-0312.	MITCHELL, JIMMY WADE / JEANIE MARIE ~	5/8 X 3/4	/ /
112 NORTH MILLER AVENUE		PO BOX 2462		
051-00	01-0320	HALL, STAN	5/8 X 3/4	/ /
118 VIRGINIA STREET		PO BOX 212		

METER SIZES: ALL

Account	Route - Meter	Customer Name	Meter Size	Date Installed
Physical Address		Customer Address	Meter Comment	
052-00	01-0330	BARNETT, SUSIE	5/8 X 3/4	/ /
110 VIRGINIA STREET		PO BOX 264		
054-00	01-0340	F&H TRAILER COURT	5/8 X 3/4	/ /
200 KATHERINE STREET		PO BOX 206		
053-00	01-0349	BELOW THE 45TH CONDOMINIUMS	2"	/ /
200 VIRGINIA STREET		PO BOX 486		
055-00	01-0350	FREEMAN, BILL	5/8 X 3/4	/ /
201 VIRGINIA STREET		PO BOX 206		
056-00	01-0360	FAIRCHILD, SHANNON	5/8 X 3/4	/ /
208 VIRGINIA STREET		PO BOX 27	CONNECTION TO USED LATER NO WATER!	
057-00	01-0380		5/8 X 3/4	/ /
210 VIRGINIA STREET		PO BOX 27		
058-00	01-0390	BROWN'S MOUNTAIN MARKET	5/8 X 3/4	09/03/2008
220 NORTH HEIGHO AVENUE		PO BOX 97		
059-00	01-0400	UMPQUA BANK	1"	09/02/2008
220 VIRGINIA STREET		1 SW COLUMBIA STREET SUITE 1400		
060-00	01-0420	ADAMS COUNTY TRANSPORTATION SHED	5/8 X 3/4	/ /
112 NORTH HEIGHO AVENUE		PO BOX 48		
061-00	01-0430	FRONTIER COM CORP SRVC INC - 015-25402-10114	5/8 X 3/4	/ /
111 NORTH MILLER AVENUE 1/2		PO BOX 2440		
062-00	01-0440.	FAIRCHILD, SHANNON	5/8 X 3/4	09/03/2008
200 NORTH HEIGHO AVENUE		PO BOX 27		
063-00	01-0450	UNITED METHODIST EDUCATION BUILDING	5/8 X 3/4	/ /
201 NORTH HEIGHO AVENUE 1/2		PO BOX 189		
064-00	01-0460	UNITED METHODIST CHURCH PARSONAGE	5/8 X 3/4	09/03/2008
203 NORTH HEIGHO AVENUE		PO BOX 189		
065-00	01-0470	PETERSON, LARRY	5/8 X 3/4	09/03/2008
209 NORTH HEIGHO AVENUE		PO BOX 525		
066-00	01-0480	FAIRCHILD, SHANNON	5/8 X 3/4	/ /
208 NORTH HEIGHO AVENUE		PO BOX 27		
067-00	01-0490	LINDENBERG, STEVE	5/8 X 3/4	09/03/2008
216 NORTH HEIGHO AVENUE		PO BOX 61		
068-00	01-0500	RYKER, SHILOH BETH	5/8 X 3/4	09/03/2008
217 COLT STREET		PO BOX 4467		
069-00	01-0510.00	STEINER, BRAD / PATRICIA	5/8 X 3/4	/ /
305 NORTH HEIGHO AVENUE 1/2		PO BOX 274	HKUP IN ALLEY- NO HOUSE	
070-00	01-0520		5/8 X 3/4	09/03/2008
305 NORTH HEIGHO AVENUE		PO BOX 274		
071-00	01-0535	MITCHELL, JAMES A / KIMBERLY S	5/8 X 3/4	09/03/2008
300 NORTH HEIGHO AVENUE		PO BOX 811		
072-00	01-0540	WILMARTH, DALLAS / LISA	5/8 X 3/4	09/03/2008
308 NORTH HEIGHO AVENUE		PO BOX 193		
073-00	01-0550.00	SWANSON, MICHAEL	5/8 X 3/4	/ /
309 NORTH HEIGHO AVENUE		PO BOX 5		
074-00	01-0560	ANDERSON, TONI LYNN	5/8 X 3/4	09/03/2008
315 NORTH HEIGHO AVENUE		PO BOX 323		
075-00	01-0570	HILL, BRODIE / MISTY	5/8 X 3/4	09/03/2008
316 NORTH HEIGHO AVENUE		PO BOX 78		
076-00	01-0580	NICHOLSON, SHERRI / JAMES	5/8 X 3/4	10/07/2008
315 TAYLOR STREET		PO BOX 588		

METER SIZES: ALL

Account	Route - Meter	Customer Name	Meter Size	Date Installed
Physical Address		Customer Address	Meter Comment	
077-00	01-0590	NEILL, CAL / JEANENE	5/8 X 3/4	09/04/2008
400 NORTH HEIGHO AVENUE		3430 FISHLAKE ROAD		
078-00	01-0600.	DIXON BARBARA	5/8 X 3/4	09/04/2008
408 NORTH HEIGHO AVENUE		PO BOX 759		
079-00	01-0605	SCHIFFMAN, SANDY	5/8 X 3/4	10/07/2008
416 NORTH HEIGHO AVENUE		PO BOX 367		
080-00	01-0610	ANDERSON, NIKKI / JASON	5/8 X 3/4	09/04/2008
413 NORTH HEIGHO AVENUE		PO BOX 442		
081-00	01-0620	LOPEZ, EFREN / JUANITA	5/8 X 3/4	09/04/2008
409 NORTH HEIGHO AVENUE		PO BOX 345		
082-00	01-0630	MANLEY, DAVE	5/8 X 3/4	/ /
407 NORTH HEIGHO AVENUE		PO BOX 1	UNUSED HKUP	
083-00	01-0640		5/8 X 3/4	09/03/2008
401 NORTH HEIGHO AVENUE		PO BOX 1		
084-00	01-0650	BROOKS, SHAYLEEN I	5/8 X 3/4	09/04/2008
417 MCCLAIN STREET		PO BOX 94		
085-00	01-0655	ACCOMODATION SERVICES	1-1/2"	/ /
416 NORTH CUNNINGHAM AVENUE		302 NORTH THIRD STREET SUITE A	BEAUMONT APARTMENTS	
086-00	01-0660	MOORE, BRYAN	5/8 X 3/4	/ /
408 NORTH CUNNINGHAM AVENUE # C		PO BOX 394	GUEST HOUSE HKP NOT TO BE ON!	
087-00	01-0661		5/8 X 3/4	07/31/2008
408 TAYLOR STREET		PO BOX 394	ACTUAL HOUSE	
088-00	01-0670		5/8 X 3/4	/ /
408 NORTH CUNNINGHAM AVENUE # A		PO BOX 394	EAST SIDE OF HOUSE NOT TO BE ON!	
089-00	01-0680	ACCOMODATION SERVICES	5/8 X 3/4	/ /
416 NORTH CUNNINGHAM AVENUE 1/2		302 NORTH THIRD STREET SUITE A	MOBILE HOME PAD NOT TO BE ON!	
090-00	01-0685	KOBERSTEIN, TONY / CINDY	5/8 X 3/4	09/04/2008
418 NORTH CUNNINGHAM AVENUE		PO BOX 572		
092-00	01-0690	BARNETT, CURT / LORI	5/8 X 3/4	09/04/2008
413 NORTH CUNNINGHAM AVENUE		PO BOX 38		
093-00	01-0700	JEFFS, WESLEY	5/8 X 3/4	09/04/2008
409 NORTH CUNNINGHAM AVENUE		PO BOX 48		
094-00	01-0710	ROSSELI, WENDY	5/8 X 3/4	09/04/2008
401 NORTH CUNNINGHAM AVENUE		24 TRABERT LANE		
095-00	01-0720	STILLMAN, TED / GALE	5/8 X 3/4	09/04/2008
316 NORTH CUNNINGHAM AVENUE		PO BOX 113		
096-00	01-0730	ELDRED, TAMMY / BJ	5/8 X 3/4	/ /
312 NORTH CUNNINGHAM AVENUE		PO BOX 733		
097-00	01-0740	ALFORD, WILLIAM JR.	5/8 X 3/4	09/04/2008
309 NORTH CUNNINGHAM AVENUE		PO BOX 138		
098-00	01-0750	GOOD, PHILIP	5/8 X 3/4	09/04/2008
315 NORTH CUNNINGHAM AVENUE		PO BOX 411		
099-00	01-0760	SHIELDS, STEVEN / KELLY	5/8 X 3/4	/ /
308 NORTH CUNNINGHAM AVENUE		PO BOX 425		
100-00	01-0770	PARNETT, JEFF	5/8 X 3/4	09/04/2008
300 NORTH CUNNINGHAM AVENUE		PO BOX 52		
101-00	01-0780	EPHRAIM, DAVID	5/8 X 3/4	09/10/2008
301 NORTH CUNNINGHAM AVENUE		PO BOX 404		
102-00	01-0790	TWIFORD, MARLENE	5/8 X 3/4	09/10/2008
301 NORTH CUNNINGHAM AVENUE 1/2		PO BOX 255		

METER SIZES: ALL

Account	Route - Meter	Customer Name	Meter Size	Date Installed
Physical Address		Customer Address	Meter Comment	
103-00	01-0800	SHRIVER, JAMES / MARSHA	5/8 X 3/4	09/10/2008
216 NORTH CUNNINGHAM AVENUE		PO BOX 62		
104-00	01-0810.	BROWN, NICHOLE	5/8 X 3/4	09/10/2008
217 NORTH CUNNINGHAM AVENUE		PO BOX 87		
105-00	01-0820.00	HAYNES-HOLLOWAY, PAULA	5/8 X 3/4	09/10/2008
212 NORTH CUNNINGHAM AVENUE		PO BOX 761		
106-00	01-0830	BRANSTETTER, JIM / GAYE	5/8 X 3/4	09/10/2008
209 NORTH CUNNINGHAM AVENUE		PO BOX 160		
107-00	01-0840	MARY M JONES ESTATE	5/8 X 3/4	09/10/2008
207 NORTH CUNNINGHAM AVENUE		623 COTTONWOOD STREET		
108-00	01-0850	BELLONE, ANTHONY	5/8 X 3/4	09/10/2008
208 NORTH CUNNINGHAM AVENUE		PO BOX 524		
109-00	01-0860.	CRAMPTON, ANNIE	5/8 X 3/4	09/10/2008
204 NORTH CUNNINGHAM AVENUE		PO BOX 804	HOUSE SHOWS 204	
110-00	01-0870	RALLS, CLAY / DEBBIE	5/8 X 3/4	09/10/2008
201 NORTH CUNNINGHAM AVENUE		PO BOX 578		
111-00	01-0880	ROFF, JEFF / SHANNA	5/8 X 3/4	09/10/2008
111 NORTH CUNNINGHAM AVENUE		PO BOX 480		
112-00	01-0890	KUMP, SCOT / SUSAN	5/8 X 3/4	09/10/2008
114 NORTH CUNNINGHAM AVENUE		PO BOX 422		
113-00	01-0900.	FREI, LAUREN / JOAN	5/8 X 3/4	09/10/2008
110 NORTH CUNNINGHAM AVENUE		1609 CEDAR AVE		
114-00	01-0910	ST LUKE'S HEALTH SYSTEM	5/8 X 3/4	/ /
320 VIRGINIA STREET		190 E BANNOCK ST		
115-00	01-0920	KAHILI CLUB	5/8 X 3/4	/ /
316 VIRGINIA STREET		PO BOX 247		
116-00	01-0930	ENDICOTT, SHAWN	5/8 X 3/4	/ /
314 VIRGINIA STREET		1720 EAST STAR LANE		
117-00	01-0940	PERRIN ESTATE	5/8 X 3/4	/ /
310 VIRGINIA STREET		PO BOX 542		
118-00	01-0950	UMPQUA / STERLING SAVINGS BANK / SITE 088	5/8 X 3/4	/ /
308 VIRGINIA STREET		PO BOX 2440		
119-00	01-0960	BROWN'S MOUNTAIN MARKET	5/8 X 3/4	/ /
302 VIRGINIA STREET		PO BOX 97		
120-00	01-0965	FAMILY DOLLAR (STORE # 11323)	5/8 X 3/4	08/01/2014
301 VIRGINIA STREET		PO BOX 1261		
121-00	01-0980	DREYER, BRAD / STACY	5/8 X 3/4	09/12/2008
310 KATHERINE STREET		PO BOX 99		
122-00	01-0990	BRANSTETTER, NITA	5/8 X 3/4	/ /
404 KATHERINE STREET		11937 TIOGA		
123-00	01-1000	BARRA, BOBBIE A	5/8 X 3/4	10/07/2008
413 VIRGINIA STREET		16400 EL MONTE ROAD	HOUSE - MTR IN ALLEY	
124-00	01-1010		5/8 X 3/4	/ /
415 VIRGINIA STREET		16400 EL MONTE ROAD	RSTRNT - UNUSED METER NO WATER!	
125-00	01-1020		5/8 X 3/4	/ /
417 VIRGINIA STREET		16400 EL MONTE ROAD	MOTEL - UNUSED METER NO WATER!	
126-00	01-1022	CITY OF NEW MEADOWS - CITY HALL	5/8 X 3/4	/ /
401 VIRGINIA STREET		PO BOX 324		
127-00	01-1040	THE CONNECTION	5/8 X 3/4	/ /
321 VIRGINIA STREET		PO BOX 328		

METER SIZES: ALL

Account	Route - Meter	Customer Name	Meter Size	Date Installed
Physical Address		Customer Address	Meter Comment	
128-00	01-1045	MEADOWS VALLEY PUBLIC LIBRARY	5/8 X 3/4	/ /
400 VIRGINIA STREET		PO BOX 436		
129-00	01-1050	GRANITE VIEW LLC	5/8 X 3/4	/ /
410 VIRGINIA STREET		PO BOX 216		
130-00	01-1060	TURNING POINT CHEVERON / A & W RESTARAUNTS	1"	09/02/2008
420 VIRGINIA STREET		PO BOX 216		
134-00	01-1070	FOWLER, KIRK / CYNTHIA	UNKNOWN	/ /
502 EAST VIRGINIA STREET		PO BOX 708		
137-00	01-1080	HARTLAND INN	2"	/ /
211 NORTH NORRIS AVENUE		PO BOX 636	MOTEL & B&B	
138-00	01-1091	MEHEN & CROSS PROPERTIES LLC	5/8 X 3/4	/ /
201 NORTH NORRIS AVENUE		PO BOX 636	HOUSE	
139-00	01-1095	CROSS S PROPERTIES LLC	5/8 X 3/4	/ /
201 NORTH NORRIS AVENUE 1/2		PO BOX 636	APARTMENTS	
140-00	01-1100	PZ INVESTMENTS	5/8 X 3/4	09/10/2008
202 NORTH NORRIS AVENUE		PO BOX 639		
141-00	01-1110.		5/8 X 3/4	09/10/2008
208 NORTH NORRIS AVENUE		PO BOX 639		
142-00	01-1120		5/8 X 3/4	09/10/2008
214 NORTH NORRIS AVENUE		PO BOX 639	HOUSE	
143-00	01-1130	MEADOWS VALLEY MOTEL	5/8 X 3/4	/ /
302 NORTH NORRIS AVENUE		302 NORTH NORRIS AVENUE	MOTEL OFFICE / COFFEE SHOP	
144-00	01-1140		1"	09/02/2008
300 NORTH NORRIS AVENUE		302 NORTH NORRIS AVENUE	MOTEL ROOMS	
145-00	01-1150	BROWN, BILL / DONNA	5/8 X 3/4	/ /
400 NORTH NORRIS AVENUE		PO BOX 325	AIRPORT LOTS - NO WATER!	
146-00	01-1160	IDAHO TRANSPORTATION DEPARTMENT	5/8 X 3/4	/ /
417 NORTH NORRIS AVENUE		PO BOX 8028	2" MTR HIGH FLOW AND 5/8 FOR LOW FLO	
147-00	01-1170	BAUMGARTNER, ROCKY / KAMI	5/8 X 3/4	09/10/2008
215 NORTH NORRIS AVENUE		PO BOX 506		
148-00	01-1180	MEADOWS VALLEY COMMUNITY CHURCH	1"	09/02/2008
520 VIRGINIA STREET		PO BOX 185		
149-00	01-1190	MINASIAN, BRADLEY	5/8 X 3/4	09/10/2008
3100 HIGHWAY 55		8108 WEST SILKWOOD COURT	OUTSIDE CITY LIMITS	
154-00	01-1210	BERRY, STEVE	UNKNOWN	/ /
700 EAST VIRGINIA STREET		PO BOX 819		
156-00	01-1220	SAND RIDER, INC	5/8 X 3/4	/ /
505 VIRGINIA STREET		PO BOX 9327		
157-00	01-1230	MCCARTY, DEETTE	5/8 X 3/4	09/10/2008
502 KATHERINE STREET		PO BOX 281		
367-00	01-1235	U.S.D.A. UTILITY INVOICES C/O AMERESCO	1-1/2"	10/01/2010
100 SOUTH NORRIS AVENUE		PO BOX 9400		
158-00	01-1240	WILDE, WADE / HEATHER	5/8 X 3/4	09/10/2008
420 KATHERINE STREET		PO BOX 605		
159-00	01-1250	FAUSETT, TIM / MELANIE	5/8 X 3/4	09/07/2012
421 KATHERINE STREET		PO BOX 67		
160-00	01-1260	HOWARD, JAKE / KELSEY	5/8 X 3/4	09/10/2008
416 KATHERINE STREET		PO BOX 566	MCCARTY RENTAL	
161-00	01-1270	STUART, BRUCE / DEBBIE	5/8 X 3/4	09/10/2008
411 KATHERINE STREET		PO BOX 10		

METER SIZES: ALL

Account	Route - Meter	Customer Name	Meter Size	Date Installed
Physical Address		Customer Address	Meter Comment	
162-00	01-1280	HOPPER, MYRT	5/8 X 3/4	/ /
410 KATHERINE STREET		PO BOX 96		
163-00	01-1290	SHIVELY, LORETTA	5/8 X 3/4	09/10/2008
403 KATHERINE STREET		PO BOX 493		
164-00	01-1310	HALLCROFT, TRYSSTA	5/8 X 3/4	/ /
319 KATHERINE STREET		PO BOX 758	WATER TO BE OFF!	
165-00	01-1320	DILLON, DARYL	5/8 X 3/4	/ /
318 KATHERINE STREET		PO BOX 173		
166-00	01-1325	HELLBUSCH, JACK	5/8 X 3/4	09/04/2008
306 KATHERINE STREET		PO BOX 677		
167-00	01-1330	EVERTSON, JESS	5/8 X 3/4	09/12/2008
300 KATHERINE STREET		PO BOX 231		
168-00	01-1340	UNITED STATES POSTAL SERVICE / NEW MEADOWS	5/8 X 3/4	/ /
221 VIRGINIA STREET				
170-00	01-1350	GRANITE MOUNTAIN CAFE	5/8 X 3/4	09/02/2008
213 VIRGINIA STREET		PO BOX 229		
171-00	01-1360	BOLOPUE, JODY	5/8 X 3/4	09/12/2008
210 KATHERINE STREET		5290 UMATILLA AVENUE		
172-00	01-1370.	MARTINEZ, ELIZABETH	5/8 X 3/4	/ /
218 KATHERINE STREET		PO BOX 653		
173-00	01-1380	LAIRD, EUGENE / LETHIA	5/8 X 3/4	/ /
213 KATHERINE STREET		PO BOX 5938	TURNED OFF	
174-00	01-1390	ANDERSON, EDWARD C 3RD	5/8 X 3/4	/ /
221 KATHERINE STREET		6445 WARM SPRINGS AVENUE		
175-00	01-1400	HEATH, DAVE / DEBRA	5/8 X 3/4	09/12/2008
301 KATHERINE STREET		PO BOX 228		
176-00	01-1410	LEVER, BRANDON	5/8 X 3/4	09/12/2008
211 KATHERINE STREET		PO BOX 5112		
177-00	01-1420	D&D AUTO SERVICE & REPAIR	5/8 X 3/4	/ /
213 SOUTH NORRIS AVENUE		PO BOX 176		
178-00	01-1430	GARNER, LYNN	5/8 X 3/4	09/12/2008
210 SOUTH HEIGHO AVENUE		PO BOX 632	SEASONAL RESIDENT	
179-00	01-1440	MOUNTAIN AIR RENTALS LLC	5/8 X 3/4	09/12/2008
211 SOUTH HEIGHO AVENUE #A & # B		PO BOX 723		
180-00	01-1450		5/8 X 3/4	09/12/2008
217 SOUTH HEIGHO AVENUE # B & # C		PO BOX 723		
181-00	01-1460		5/8 X 3/4	09/12/2008
217 SOUTH HEIGHO AVENUE # D & # A		PO BOX 723		
182-00	01-1470	CROGH, LAMONT / CONNIE	5/8 X 3/4	09/12/2008
214 SOUTH HEIGHO AVENUE		PO BOX 354		
183-00	01-1475	MCFADDEN, FRED / BECKY	5/8 X 3/4	09/12/2008
216 SOUTH HEIGHO AVENUE		PO BOX 631		
184-00	01-1480	ROBERTS, KIM	5/8 X 3/4	/ /
300 SOUTH HEIGHO AVENUE		3325 5TH STREET G	VACANT LOT - NO WATER!	
185-00	01-1485.	GILSTRAP, TAMMY	5/8 X 3/4	09/12/2008
301 SOUTH HEIGHO AVENUE # A		PO BOX 1837		
186-00	01-1486	HUEBERT, TONYA	5/8 X 3/4	09/15/2008
301 SOUTH HEIGHO AVENUE # B		PO BOX 28		
187-00	01-1490	WILLIAMS, DAVID / SANDRA	5/8 X 3/4	09/12/2008
308 SOUTH HEIGHO AVENUE		509 SOUTH POPLAR		

METER SIZES: ALL

Account	Route - Meter	Customer Name	Meter Size	Date Installed
Physical Address		Customer Address	Meter Comment	
188-00	01-1500	BROWN, BILL / DONNA	5/8 X 3/4	09/12/2008
309 SOUTH HEIGHO AVENUE		PO BOX 325		
189-00	01-1510	MOSER, MATT / KAREN	5/8 X 3/4	09/12/2008
317 SOUTH HEIGHO AVENUE 1/2		30280 BOULDER ROAD		
190-00	01-1520		5/8 X 3/4	09/12/2008
317 SOUTH HEIGHO AVENUE		30280 BOULDER ROAD		
191-00	01-1530	MERRITT, ED / ELAINE	5/8 X 3/4	09/12/2008
316 SOUTH HEIGHO AVENUE		PO BOX 461		
192-00	01-1540	MERRITT, GENE	5/8 X 3/4	09/15/2008
316 SOUTH HEIGHO AVENUE 1/2		PO BOX 201		
193-00	01-1550	PETERSON, CHRIS / TRACY	5/8 X 3/4	09/15/2008
400 SOUTH HEIGHO AVENUE		PO BOX 273		
194-00	01-1560	YOUNG, TERESA	5/8 X 3/4	09/15/2008
408 SOUTH HEIGHO AVENUE		PO BOX 793		
195-00	01-1565	ROBINSON, ERNIE / JUDY	5/8 X 3/4	/ /
SOUTH HEIGHO AVENUE		358 ROBINSON LANE	EMPTY LOT	
196-00	01-1570		5/8 X 3/4	08/21/2008
409 SOUTH HEIGHO AVENUE		358 ROBINSON LANE	HOUSE METER	
197-00	01-1580	EDWARDS, DARBEY / LISBETH	5/8 X 3/4	09/15/2008
416 SOUTH HEIGHO AVENUE		PO BOX 378		
198-00	01-1590	HEMMINGER, BRUCE	5/8 X 3/4	/ /
417 SOUTH HEIGHO AVENUE		PO BOX 108	VACANT HOUSE - NO WATER!	
199-00	01-1610		5/8 X 3/4	09/15/2008
417 SOUTH HEIGHO AVENUE 1/2		PO BOX 108		
200-00	01-1620.	MARTIN, JESSI	5/8 X 3/4	09/15/2008
501 SOUTH HEIGHO AVENUE		PO BOX 530		
201-00	01-1630	SCROGHAM, REX / COLLEEN	5/8 X 3/4	09/15/2008
500 SOUTH HEIGHO AVENUE		PO BOX 348		
202-00	01-1640	MCCONNELL, PAMELA	5/8 X 3/4	10/07/2008
500 SOUTH HEIGHO AVENUE 1/2		PO BOX 292		
203-00	01-1650	ROFF, RUSSELL / KATHI	5/8 X 3/4	/ /
509 SOUTH HEIGHO AVENUE		PO BOX 637		
204-00	01-1660	MCLEOD, SANDRA	5/8 X 3/4	07/23/2009
512 SOUTH HEIGHO AVENUE		PO BOX 72		
205-00	01-1670	DEASY, DOUG / TAMI	5/8 X 3/4	10/07/2008
517 SOUTH HEIGHO AVENUE		PO BOX 372		
206-00	01-1680.	HALLCROFT, TRYSSTA	5/8 X 3/4	/ /
516 SOUTH HEIGHO AVENUE		PO BOX 758		
207-00	01-1740	RAYBACK, JAMES / KATHY	5/8 X 3/4	10/08/2008
217 WILEY STREET		PO BOX 233		
208-00	01-1760.	SCHIRMER, JAMES EDWARD	5/8 X 3/4	10/08/2008
211 WILEY STREET		PO BOX 175		
209-00	01-1780	MCMANUS, BILL / SHAWN	5/8 X 3/4	06/10/2008
201 WILEY STREET		PO BOX 775		
210-00	01-1790	MALLORY, WOODY	5/8 X 3/4	10/08/2008
115 WILEY STREET		PO BOX 141		
211-00	01-1800	CHABOT, JERRY / LORI	5/8 X 3/4	10/08/2008
517 SOUTH MILLER AVENUE		PO BOX 745		
212-00	01-1810	BROWN, RICKY	5/8 X 3/4	10/08/2008
509 SOUTH MILLER AVENUE		PO BOX 97		

METER SIZES: ALL

Account	Route - Meter	Customer Name	Meter Size		Date Installed
Physical Address		Customer Address		Meter Comment	
213-00	01-1820.	JESSEE, RANDY ALLEN	5/8 X 3/4		10/08/2008
505 SOUTH MILLER AVENUE		PO BOX 140			
214-00	01-1825	BORGESON, TERESA	5/8 X 3/4		10/08/2008
504 SOUTH MORGAN AVENUE		PO BOX 285			
215-00	01-1830	HERNANDEZ, GERMAN	5/8 X 3/4		10/08/2008
501 SOUTH MILLER AVENUE		PO BOX 3042			
216-00	01-1840.	IRELAND, ZAC	5/8 X 3/4		/ /
500 SOUTH MILLER AVENUE		PO BOX 1451			
217-00	01-1845.	DONERIGHT PROPERTY MANAGEMENT	5/8 X 3/4		/ /
500 SOUTH MILLER AVENUE 1/2		5441 W. 104TH ST			
218-00	01-1850	WILEY - 2ND STREET, LLC	2"		/ /
504516 SOUTH MILLER AVENUE		PO BOX 238		TRAILER PARK	
219-00	01-1860	CONNER, BOB	5/8 X 3/4		10/08/2008
416 SOUTH MILLER AVENUE 1/2		PO BOX 392			
220-00	01-1870	CONNER, BERNARD / LAVINA	5/8 X 3/4		/ /
414 SOUTH MILLER AVENUE		PO BOX 392			
221-00	01-1880	BARNETT, RANDY / CATHY	5/8 X 3/4		10/08/2008
408 SOUTH MILLER AVENUE		PO BOX 137		WATER OFF!	
222-00	01-1890		5/8 X 3/4		10/08/2008
400 SOUTH MILLER AVENUE		PO BOX 137			
223-00	01-1900	MATTHEWS, MONTE / DEEDEE	5/8 X 3/4		10/08/2008
314 SOUTH MILLER AVENUE		PO BOX 147			
224-00	01-1910	LINE, JERRY / CLAUDEAN	5/8 X 3/4		10/09/2008
310 SOUTH MILLER AVENUE		927 CEDAR AVENUE			
225-00	01-1920	BARNETT, ALAINA	5/8 X 3/4		10/09/2008
304 SOUTH MILLER AVENUE		19770 FISH ROAD			
226-00	01-1930		5/8 X 3/4		10/09/2008
300 SOUTH MILLER AVENUE		19770 FISH ROAD			
227-00	01-1940	CRAWFORD, KARA K	5/8 X 3/4		10/09/2008
216 SOUTH MILLER AVENUE		PO BOX 63			
228-00	01-1950	MOUNTAIN AIR RENTALS LLC	5/8 X 3/4		10/09/2008
214 SOUTH MILLER AVENUE 1/2		PO BOX 723			
368-00	01-1955		5/8 X 3/4		05/29/2014
214 SOUTH MILLER AVENUE		PO BOX 723			
229-00	01-1960		5/8 X 3/4		10/09/2008
212 SOUTH MILLER AVENUE		PO BOX 723			
230-00	01-1970	SWANSON, CAROLYN ANN	5/8 X 3/4		10/14/2008
203 KATHERINE STREET		PO BOX 515			
231-00	01-1980	JORDAN, DONNA	5/8 X 3/4		/ /
207 KATHERINE STREET		PO BOX 43			
232-00	01-1990	JOINER, TINA	5/8 X 3/4		10/09/2008
200 SOUTH MORGAN AVENUE		PO BOX 518			
233-00	01-2000	LOPER, STACY	5/8 X 3/4		10/09/2008
201 SOUTH MORGAN AVENUE		4961 HIGHWAY 95 SOUTH			
234-00	01-2010	MATTHEWS, RICHARD	5/8 X 3/4		10/09/2008
210 SOUTH MORGAN AVENUE		PO BOX 812			
235-00	01-2020		5/8 X 3/4		10/09/2008
208 SOUTH MORGAN AVENUE		PO BOX 812			
236-00	01-2030	SIEGEL, JEFF / TWYLIA	5/8 X 3/4		10/09/2008
211 SOUTH MORGAN AVENUE		PO BOX 120			

METER SIZES: ALL

Account	Route - Meter	Customer Name	Meter Size	Date Installed
Physical Address		Customer Address	Meter Comment	
237-00	01-2040		5/8 X 3/4	10/09/2008
209 SOUTH MORGAN AVENUE		PO BOX 120		
238-00	01-2050	NICHOLSON, LUCAS / BETH	5/8 X 3/4	10/09/2008
213 SOUTH MORGAN AVENUE		PO BOX 471		
239-00	01-2060	MATTHEWS, JOHN	5/8 X 3/4	10/09/2008
212 SOUTH MORGAN AVENUE		PO BOX 213		
240-00	01-2070	BRANSTETTER, ERIC / ERIN	5/8 X 3/4	/ /
217 SOUTH MORGAN AVENUE		PO BOX 161	NO WATER VACANT HKUP!	
241-00	01-2080	LOPER, MIKE / DARLENE	5/8 X 3/4	10/09/2008
216 SOUTH MORGAN AVENUE		PO BOX 544		
242-00	01-2090	BRANSTETTER, ERIC / ERIN	5/8 X 3/4	10/09/2008
301 SOUTH MORGAN AVENUE		PO BOX 161	HOUSE METER	
243-00	01-2100	SMITH, JOHNNY / PATTI	5/8 X 3/4	/ /
300 SOUTH MORGAN AVENUE		PO BOX 71		
244-00	01-2110	PEARCE, THOMAS GREGORY	5/8 X 3/4	/ /
304 SOUTH MORGAN AVENUE		PO BOX 59		
245-00	01-2120	BRANSTETTER, ERIC / ERIN	5/8 X 3/4	/ /
305 SOUTH MORGAN AVENUE		PO BOX 161	VACANT LOT NO WATER!	
246-00	01-2130	SCROGHAM, ARTHUR / ANDREA	5/8 X 3/4	/ /
306 SOUTH MORGAN AVENUE		PO BOX 594		
247-00	01-2140.	MEHIEL, HOLLY	5/8 X 3/4	02/25/2015
308 SOUTH MORGAN AVENUE		PO BOX 516		
249-00	01-2145	WITTIG, RON	5/8 X 3/4	/ /
307 SOUTH MORGAN AVENUE		PO BOX 73	VACANT HOUSE NO WATER!	
250-00	01-2150		5/8 X 3/4	/ /
309 SOUTH MORGAN AVENUE		PO BOX 73	HOUSE METER	
251-00	01-2160	JI MORGAN INC	5/8 X 3/4	/ /
312 SOUTH MORGAN AVENUE BLK 3 LOT 10		PO DRAWER D	VACANT LOT NO WATER!	
252-00	01-2170.00	PRIDDY, DEOLE	5/8 X 3/4	/ /
313 SOUTH MORGAN AVENUE		PO BOX 16		
253-00	01-2180	FAIR-MATT ENTERPRISES	5/8 X 3/4	/ /
400 SOUTH MORGAN AVENUE		199 SOUTH FIGUERO ST 3RD FLOOR		
254-00	01-2190	PFOST, KELSIE	5/8 X 3/4	/ /
401 SOUTH MORGAN AVENUE		PO BOX 55		
255-00	01-2200	FAIR-MATT ENTERPRISES	5/8 X 3/4	/ /
402 SOUTH MORGAN AVENUE		199 SOUTH FIGUERO ST 3RD FLOOR		
256-00	01-2210	BUSSOLINI, EMILY	5/8 X 3/4	/ /
403 SOUTH MORGAN AVENUE		PO BOX 2738		
257-00	01-2220	FAIR-MATT ENTERPRISES	5/8 X 3/4	/ /
406 SOUTH MORGAN AVENUE		199 SOUTH FIGUERO ST 3RD FLOOR		
258-00	01-2230		5/8 X 3/4	/ /
410 SOUTH MORGAN AVENUE		199 SOUTH FIGUERO ST 3RD FLOOR		
259-00	01-2240	BROWN, DONNA	5/8 X 3/4	/ /
407 SOUTH MORGAN AVENUE		PO BOX 325		
260-00	01-2250	TRAUGHBER, WAYNE / CONNIE	5/8 X 3/4	/ /
413 SOUTH MORGAN AVENUE		529 NORTH 8TH STREET		
261-00	01-2260	FAIR-MATT ENTERPRISES	5/8 X 3/4	/ /
416 SOUTH MORGAN AVENUE		199 SOUTH FIGUERO ST 3RD FLOOR		
262-00	01-2270.	SLETTUM, CHRISTOPHER	5/8 X 3/4	10/14/2008
417 SOUTH MORGAN AVENUE				

METER SIZES: ALL

Account	Route - Meter	Customer Name	Meter Size	Date Installed
Physical Address		Customer Address	Meter Comment	
263-00	01-2280	MEADOWS VALLEY BIBLE CHURCH	5/8 X 3/4	/ /
501 SOUTH MORGAN AVENUE		2789 SLIFER VALLEY ROAD APT 2	WATER TURNED OFF!	
264-00	01-2290	YATES, VIRGINIA	5/8 X 3/4	10/09/2008
507 SOUTH MORGAN AVENUE		PO BOX 73		
265-00	01-2300	LARSEN, DUSTI MARIE	5/8 X 3/4	10/14/2008
511 SOUTH MORGAN AVENUE		PO BOX 474		
266-00	01-2310	JI MORGAN INC	5/8 X 3/4	/ /
517 SOUTH MORGAN AVENUE BLK 5 LOT 12		PO DRAWER D	VACANT LOT NO WATER!	
267-00	01-2320	CARPENTER, ELDON / ELLEN	5/8 X 3/4	10/08/2008
111 WILEY STREET		PO BOX 224		
268-00	01-2330	PERKINS, THOMAS / ANGELA	5/8 X 3/4	/ /
101 WILEY STREET		PO BOX 643		
269-00	01-2340	FAUSETT, TJ	5/8 X 3/4	/ /
103 WILEY STREET		PO BOX 567		
270-00	01-2350.	LOPER, STACY	5/8 X 3/4	/ /
516 SOUTH COMMERCIAL AVENUE		4961 HIGHWAY 95 SOUTH		
271-00	01-2355		5/8 X 3/4	/ /
514 SOUTH COMMERCIAL AVENUE		4961 HIGHWAY 95 SOUTH		
272-00	01-2360	FAUSETT, TANYA	5/8 X 3/4	/ /
517 SOUTH COMMERCIAL AVENUE		PO BOX 695		
273-00	01-2370	FAUSETT, TIM / MELANIE	5/8 X 3/4	/ /
513 SOUTH COMMERCIAL AVENUE		PO BOX 67		
274-00	01-2380	ESPOSITO, MURIEL	5/8 X 3/4	/ /
510 SOUTH COMMERCIAL AVENUE		PO BOX 159		
275-00	01-2390	FAUSETT, TIM / MELANIE	5/8 X 3/4	/ /
511 SOUTH COMMERCIAL AVENUE		PO BOX 67		
276-00	01-2400	PORTENIER, DOREN (LEE)	5/8 X 3/4	/ /
507 SOUTH COMMERCIAL AVENUE		PO BOX 15		
277-00	01-2410.	RHODES, JOE / VALERIE	5/8 X 3/4	/ /
500 SOUTH COMMERCIAL AVENUE		PO BOX 555		
278-00	01-2420	ESPOSITO, CHRIS	5/8 X 3/4	/ /
501 SOUTH COMMERCIAL AVENUE		142 AVENIDA BARCELONA		
279-00	01-2450	JI MORGAN INC	5/8 X 3/4	10/07/2008
417 SOUTH COMMERCIAL AVENUE BUNK HOUSES		PO DRAWER D	BUNK HOUSES	
280-00	01-2460.	LIBBY, LIAM	5/8 X 3/4	/ /
416 SOUTH COMMERCIAL AVENUE		PO BOX 4		
281-00	01-2470.	TUSHKOWSKI, MARTIN / JANET ~	5/8 X 3/4	/ /
413 SOUTH COMMERCIAL AVENUE		PO BOX 542		
282-00	01-2480.	BENTON, JOSH	5/8 X 3/4	/ /
412 SOUTH COMMERCIAL AVENUE		PO BOX 341		
283-00	01-2500	TUSHKOWSKI, MARTIN / JANET	5/8 X 3/4	/ /
407 SOUTH COMMERCIAL AVENUE		PO BOX 542		
284-00	01-2510	WAITS, LARRY A (RED)	5/8 X 3/4	/ /
405 SOUTH COMMERCIAL AVENUE		PO BOX 23		
285-00	01-2515	PRIDDY, VERNON	5/8 X 3/4	/ /
401 SOUTH COMMERCIAL AVENUE		PO BOX 16		
286-00	01-2520	PRIDDY, DEOLE	5/8 X 3/4	/ /
403 SOUTH COMMERCIAL AVENUE		PO BOX 16		
287-00	01-2525	FAIR-MATT ENTERPRISES	5/8 X 3/4	/ /
408 SOUTH COMMERCIAL AVENUE		199 SOUTH FIGUERO ST 3RD FLOOR		

METER SIZES: ALL

Account	Route - Meter	Customer Name	Meter Size	Date Installed
Physical Address		Customer Address	Meter Comment	
288-00	01-2530	STUDER, MARVIN / JOAN	5/8 X 3/4	/ /
400 SOUTH COMMERCIAL AVENUE		812 1/2 SW 2ND ST		
289-00	01-2535	FAIR-MATT ENTERPRISES	5/8 X 3/4	/ /
404 SOUTH COMMERCIAL AVENUE		199 SOUTH FIGUERO ST 3RD FLOOR		
290-00	01-2540	DEVAS DEVELOPMENT - LLC ATTN JITENDRA AMATYA	5/8 X 3/4	/ /
311 SOUTH COMMERCIAL AVENUE		3266 MALCOLM AVENUE		
292-00	01-2550	PRIDDY, DEOLE	5/8 X 3/4	/ /
314 SOUTH COMMERCIAL AVENUE		PO BOX 16		
291-00	01-2560	DEVAS DEVELOPMENT - LLC ATTN JITENDRA AMATYA	5/8 X 3/4	/ /
315 SOUTH COMMERCIAL AVENUE		3266 MALCOLM AVENUE		
293-00	01-2570	RICK WHIPPLE ESTATE	5/8 X 3/4	/ /
312 SOUTH COMMERCIAL AVENUE		1613 IDAHO STREET # 387		
294-00	01-2580	DEVAS DEVELOPMENT - LLC ATTN JITENDRA AMATYA	5/8 X 3/4	/ /
309 SOUTH COMMERCIAL AVENUE		3266 MALCOLM AVENUE		
011-00	01-2590.	JACKSON, KIM	5/8 X 3/4	/ /
308 SOUTH COMMERCIAL AVENUE		PO BOX 46		
091-00	01-2600.	JUICA, EDWARD / ANNA	5/8 X 3/4	/ /
304 SOUTH COMMERCIAL AVENUE		PO BOX 353		
169-00	01-2610	BONDED LLC	5/8 X 3/4	/ /
301 SOUTH COMMERCIAL AVENUE		PO BOX 34		
248-00	01-2615		5/8 X 3/4	/ /
305 SOUTH COMMERCIAL AVENUE		PO BOX 34		
295-00	01-2620.	BOND, CAROL & TAYO	5/8 X 3/4	/ /
300 SOUTH COMMERCIAL AVENUE		PO BOX 34		
296-00	01-2630	DUPONT, GITTE	5/8 X 3/4	/ /
214 SOUTH COMMERCIAL AVENUE		PO BOX 644		
297-00	01-2640	SMITH, RICHARD / SIBYL	5/8 X 3/4	/ /
213 SOUTH COMMERCIAL AVENUE		2450 EAST 1ST STREET		
298-00	01-2650.00	KEYS, BILLY	5/8 X 3/4	/ /
209 SOUTH COMMERCIAL AVENUE		PO BOX 272		
299-00	01-2660.	LOPER, STACY	5/8 X 3/4	/ /
210 SOUTH COMMERCIAL AVENUE		4961 HIGHWAY 95 SOUTH		
300-00	01-2670.00	KENNEDY, PATRICK	5/8 X 3/4	/ /
208 SOUTH COMMERCIAL AVENUE		PO BOX 439		
301-00	01-2675	TAYLOR, GERALD	5/8 X 3/4	/ /
207 SOUTH COMMERCIAL AVENUE		2950 24TH STREET		
302-00	01-2680	BEDAL, JIM	5/8 X 3/4	/ /
205 SOUTH COMMERCIAL AVENUE		2859 NORTH DEVLIN WAY		
303-00	01-2690	WALKER, STEVEN HOWARD	5/8 X 3/4	/ /
206 SOUTH COMMERCIAL AVENUE		PO BOX 621		
304-00	01-2700	PARSONS, MARJORIE	5/8 X 3/4	/ /
201 SOUTH COMMERCIAL AVENUE		PO BOX 715		
305-00	01-2710	JOINER, HOWARD	5/8 X 3/4	/ /
200 SOUTH COMMERCIAL AVENUE		PO BOX 405		
306-00	01-2715	ADAMS COUNTY HISTORICAL SOCIETY	1-1/2"	/ /
101 SOUTH COMMERCIAL AVENUE		PO BOX 352	OLD NM DEPOT	
307-00	01-2720	JI MORGAN INC	5/8 X 3/4	/ /
201 SOUTH HIGHWAY 95		PO DRAWER D	OFFICE	
308-00	01-2730		3"	/ /
100 WEST KATHERINE STREET SHOP		PO DRAWER D		

METER SIZES: ALL

Account	Route - Meter	Customer Name	Meter Size	Date Installed
Physical Address		Customer Address	Meter Comment	
309-00	01-2735	CITY OF NEW MEADOWS - PARK RESTROOMS	1-1/2"	/ /
101 VIRGINIA STREET		PO BOX 324	PARK RESTROOMS	
310-00	01-2737	CITY OF NEW MEADOWS - PARK IRRIGATION	1-1/2"	/ /
111 VIRGINIA STREET		PO BOX 324		
311-00	01-2738	ASHLEY THOMPSON PROPERTY MANAGEMENT	1-1/2"	/ /
3674 SOUTH HIGHWAY 95		PO BOX 1018	FS OFFICE	
312-00	01-3000	PALMER, HARVEY / JOY	5/8 X 3/4	/ /
301 WILEY STREET		13490 EAST 46TH STREET		
313-00	01-3010.	BURGESS, PHILLIP / SYLVIA	5/8 X 3/4	/ /
403 WILEY STREET		PO BOX 251		
314-00	01-3020	WEBER, DARLA A	5/8 X 3/4	10/08/2008
400 WILEY STREET		PO BOX 207		
315-00	01-3030	WYSONG, PATRICIA	5/8 X 3/4	/ /
402 WILEY STREET		PO BOX 671		
316-00	01-3040	DECHAMBEAU, ANN	5/8 X 3/4	/ /
404 WILEY STREET		10330 JOPLIIN ROAD		
317-00	01-3050	LOGAN, LOGAN	5/8 X 3/4	/ /
406 WILEY STREET		PO BOX 441		
318-00	01-3060	RIMMER, MANDI	5/8 X 3/4	/ /
500 WILEY STREET		PO BOX 2376		
319-00	01-3070	FRY, LINDA	5/8 X 3/4	/ /
502 WILEY STREET		PO BOX 521		
320-00	01-3080.00	BUYS, DOUG	5/8 X 3/4	/ /
505 SOUTH NORRIS AVENUE		PO BOX 681		
321-00	01-3090	SHIPLEY, BILL JR / CAMMI	5/8 X 3/4	/ /
501 SOUTH NORRIS AVENUE		PO BOX 363		
322-00	01-3100	HINES, ROBERT / DESIREE	5/8 X 3/4	/ /
235 LARAE STREET		PO BOX 522		
326-00	01-3140	QUALLS, JACOB / ANISSA	5/8 X 3/4	/ /
227 LARAE STREET		PO BOX 261		
329-00	01-3170	SALAS, DANNY / MANDY	5/8 X 3/4	/ /
221 LARAE STREET		PO BOX 4212		
333-00	01-3210	THOMAS, RANDY / SHEILA	5/8 X 3/4	/ /
211 LARAE STREET		PO BOX 24		
335-00	01-3230	SHADDLE, MATT / ANGIE	5/8 X 3/4	/ /
207 LARAE STREET		PO BOX 183		
338-00	01-3260	LLOYD, LAMONT / LINDA	5/8 X 3/4	/ /
201 LARAE STREET		PO BOX 443		
339-00	01-3290	JOHNSON, CRYSTAL	5/8 X 3/4	10/30/2008
208 LARAE STREET		PO BOX 1377		
340-00	01-3330	CLINTON, MATTHEW	5/8 X 3/4	/ /
210 LARAE STREET		PO BOX 33		
341-00	01-3340	HENRY, DAVE	5/8 X 3/4	/ /
212 LARAE STREET		PO BOX 341		
348-00	01-3410	ADAMS, THEODORE J	5/8 X 3/4	/ /
413 SOUTH NORRIS AVENUE		PO BOX 508		
349-00	01-3420.	HANNA, MICHEAL / NANCY	5/8 X 3/4	/ /
409 SOUTH NORRIS AVENUE		111 GRUMPY OLD MAN ROAD		
350-00	01-3430	MARTINEZ, RANDY E	5/8 X 3/4	/ /
405 SOUTH NORRIS AVENUE		PO BOX 299		

METER SIZES: ALL

Account	Route - Meter	Customer Name	Meter Size	Date Installed
Physical Address		Customer Address	Meter Comment	
352-00	01-3450	JOHNSON, NEAL A & JEANNIE D	5/8 X 3/4	/ /
309 SOUTH NORRIS AVENUE		225 PINECONE PARK LN		
353-00	01-3460	COUNCILMAN, JERRY / DONNA	5/8 X 3/4	/ /
305 SOUTH NORRIS AVENUE		PO BOX 617		
354-00	01-3470	FLORES, CHARLES A	5/8 X 3/4	/ /
301 SOUTH NORRIS AVENUE		PO BOX 709		

Total Number of Accounts: **328**

Appendix N:

Capital Inventory Reserve Schedule

City of New Meadows, Idaho

Capital Inventory and Reserve Schedule

Short Lived Assets (20 years Useful Life)

Asset Description	Size, Length Unit	Unit Cost	Initial Cost	Expected Life	Replacement Year	Replacement Cost @ 2.0%	Annual Cost @ 4.0%
Distribution System						2.0%	4.0%
Water Meters	276	$ 250	$ 69,000	15	2033	$ 92,865	$ 4,638
Source of Supply							
Well Facility No. 3							
Submersible Pump/motor		$ 15,000	$ 15,000	20	2038	$ 22,289	$ 749
Electrical Equipment		$ 12,000	$ 12,000	20	2038	$ 17,831	$ 599
Chemical Feed Equipment		$ 7,500	$ 7,500	20	2038	$ 11,145	$ 374
Well Facility No. 4							
Submersible Pump/motor		$ 15,000	$ 15,000	20	2038	$ 22,289	$ 749
Electrical Equipment		$ 12,000	$ 12,000	15	2033	$ 16,150	$ 807
Chemical Feed Equipment		$ 7,500	$ 7,500	15	2033	$ 10,094	$ 504
Well Facility (new)							
Submersible Pump/motor		$ 15,000	$ 15,000	20	2038	$ 22,289	$ 749
Electrical Equipment		$ 12,000	$ 12,000	15	2033	$ 16,150	$ 807
Chemical Feed Equipment		$ 7,500	$ 7,500	15	2033	$ 10,094	$ 504
Water Storage							
Long Term Asset		$ -	$ -	$ -	$ -	$ -	$ -
Booster Facility (new)							
4 - Centrifugal Pump/Motor		$ 50,000	$ 50,000	20	2038	$ 74,297	$ 2,495
Electrical Equipment		$ 30,000	$ 30,000	15	2033	$ 40,376	$ 2,016
Chemical Feed Equipment		$ 15,000	$ 15,000	15	2033	$ 20,188	$ 1,008
Communication and Controls							
Communication/Control Equipment		$ 50,000	$ 50,000	15	2033	$ 77,898	$ 3,890
Transportation and Equipment							
2 standard Trucks	2	40,000	$ 80,000	15	2033	$ 124,637	$ 6,225
Total Annualized Payment						**$ 578,600**	**$ 26,100**

Assumptions:

1) Inflation Rate = 2.0 %

2) Interest Rate = 4.0 %

Appendix O:

NRCS Custom Soil Resource Report

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Adams-Washington Area, Parts of Adams and Washington Counties, Idaho

February 10, 2016

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (http://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the

individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

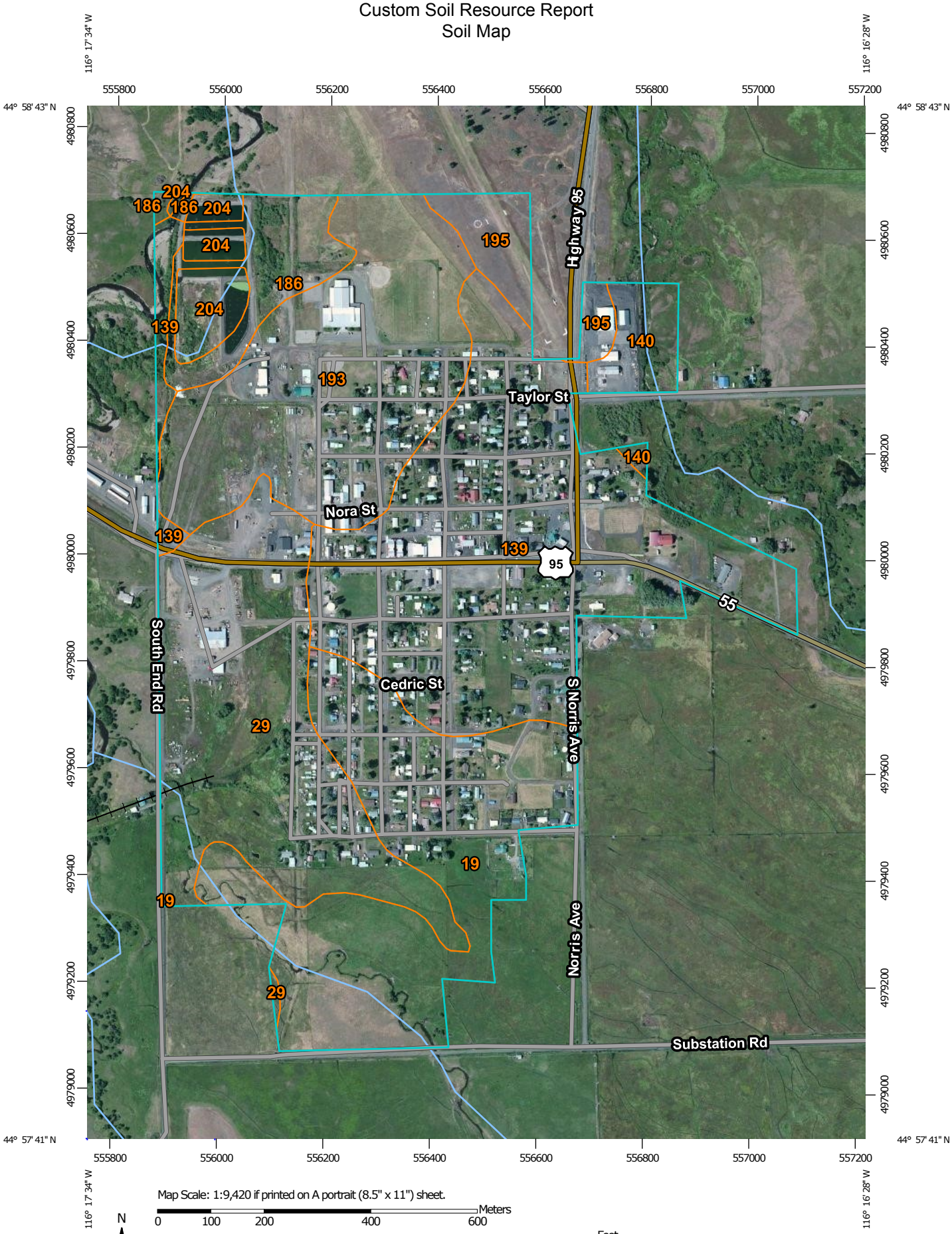
Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



Map Scale: 1:9,420 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 100 200 400 600

Feet: 0 450 900 1800 2700

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Unit Polygons

Soil Map Unit Lines

Soil Map Unit Points

Special Point Features

Blowout

Borrow Pit

Clay Spot

Closed Depression

Gravel Pit

Gravelly Spot

Landfill

Lava Flow

Marsh or swamp

Mine or Quarry

Miscellaneous Water

Perennial Water

Rock Outcrop

Saline Spot

Sandy Spot

Severely Eroded Spot

Sinkhole

Slide or Slip

Sodic Spot

Spoil Area

Stony Spot

Very Stony Spot

Wet Spot

Other

Special Line Features

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Adams-Washington Area, Parts of Adams and Washington Counties, Idaho
Survey Area Data: Version 11, Sep 16, 2015

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 6, 2011—Sep 4, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Adams-Washington Area, Parts of Adams and Washington Counties, Idaho (ID656)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
19	Blackwell clay loam, 0 to 5 percent slopes	59.4	19.6%
29	Cabarton silty clay loam, 0 to 5 percent slopes	58.6	19.3%
139	Melton loam, 0 to 2 percent slopes	91.8	30.2%
140	Melton-Roseberry complex, 0 to 2 percent slopes	7.5	2.5%
186	Roseberry loam, 0 to 2 percent slopes	13.1	4.3%
193	Swede loam, 4 to 12 percent slopes	56.6	18.6%
195	Ticanot very cobbly loam, 4 to 65 percent slopes	8.7	2.9%
204	Water	8.0	2.6%
Totals for Area of Interest		**303.8**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the

contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Adams-Washington Area, Parts of Adams and Washington Counties, Idaho

19—Blackwell clay loam, 0 to 5 percent slopes

Map Unit Setting

National map unit symbol: 2qh6
Elevation: 3,800 to 9,000 feet
Mean annual precipitation: 10 to 30 inches
Mean annual air temperature: 36 to 43 degrees F
Frost-free period: 50 to 75 days
Farmland classification: Not prime farmland

Map Unit Composition

Blackwell and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Blackwell

Setting

Landform: Stream terraces
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mixed alluvium

Typical profile

A - 0 to 20 inches: clay loam
Cg1 - 20 to 29 inches: silt loam
Cg2 - 29 to 38 inches: clay loam
2C - 38 to 60 inches: stratified gravelly sand to sandy clay loam

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: About 0 to 30 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Available water storage in profile: High (about 10.2 inches)

Interpretive groups

Land capability classification (irrigated): 6c
Land capability classification (nonirrigated): 6c
Hydrologic Soil Group: C/D
Ecological site: MEADOW DECA18-CANE2 (R043AY007ID)

Minor Components

Cabarton

Percent of map unit: 5 percent
Landform: Flood plains
Ecological site: WET MEADOW 22-32 CAREX-DECE (R043XY003ID)

Melton

Percent of map unit: 5 percent
Landform: Outwash terraces
Ecological site: WET MEADOW 22-32 CAREX-DECE (R043XY003ID)

29—Cabarton silty clay loam, 0 to 5 percent slopes

Map Unit Setting

National map unit symbol: 2qj1
Elevation: 3,800 to 5,100 feet
Mean annual precipitation: 22 to 24 inches
Mean annual air temperature: 36 to 43 degrees F
Frost-free period: 60 to 75 days
Farmland classification: Not prime farmland

Map Unit Composition

Cabarton and similar soils: 95 percent
Minor components: 2 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cabarton

Setting

Landform: Stream terraces
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mixed alluvium

Typical profile

Ap - 0 to 12 inches: silty clay loam
2C - 12 to 16 inches: silt
3Agb - 16 to 40 inches: clay
3Cg - 40 to 60 inches: clay loam

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: 10 to 20 inches to abrupt textural change
Natural drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Available water storage in profile: Low (about 3.3 inches)

Interpretive groups

Land capability classification (irrigated): 6c
Land capability classification (nonirrigated): 6c
Hydrologic Soil Group: C/D
Ecological site: MEADOW DECA18-CANE2 (R043AY007ID)

Minor Components

Melton

Percent of map unit: 2 percent
Landform: Outwash terraces
Ecological site: WET MEADOW 22-32 CAREX-DECE (R043XY003ID)

139—Melton loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2qfd
Elevation: 3,800 to 9,000 feet
Mean annual precipitation: 10 to 30 inches
Mean annual air temperature: 36 to 43 degrees F
Frost-free period: 50 to 75 days
Farmland classification: Not prime farmland

Map Unit Composition

Melton and similar soils: 95 percent
Minor components: 3 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Melton

Setting

Landform: Outwash terraces
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium and/or outwash derived from granite

Typical profile

A - 0 to 12 inches: loam
Cg1 - 12 to 16 inches: loam
Cg2 - 16 to 33 inches: gravelly sandy loam
C - 33 to 60 inches: very cobbly loamy sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 2.00 in/hr)
Depth to water table: About 12 to 24 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Available water storage in profile: Low (about 5.9 inches)

Interpretive groups

Land capability classification (irrigated): 6c
Land capability classification (nonirrigated): 6c

Hydrologic Soil Group: B/D
Ecological site: MEADOW DECA18-CANE2 (R043AY007ID)

Minor Components

Blackwell
Percent of map unit: 2 percent
Landform: Flood plains
Ecological site: WET MEADOW 22-32 CAREX-DECE (R043XY003ID)

Cabarton
Percent of map unit: 1 percent
Landform: Flood plains
Ecological site: WET MEADOW 22-32 CAREX-DECE (R043XY003ID)

140—Melton-Roseberry complex, 0 to 2 percent slopes

Map Unit Setting
National map unit symbol: 2qfg
Elevation: 3,800 to 9,000 feet
Mean annual precipitation: 10 to 32 inches
Mean annual air temperature: 37 to 43 degrees F
Frost-free period: 50 to 80 days
Farmland classification: Not prime farmland

Map Unit Composition
Melton and similar soils: 50 percent
Roseberry and similar soils: 35 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Melton

Setting
Landform: Outwash terraces
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium and/or outwash derived from granite

Typical profile
A - 0 to 12 inches: loam
Cg1 - 12 to 16 inches: loam
Cg2 - 16 to 33 inches: gravelly sandy loam
C - 33 to 60 inches: very cobbly loamy sand

Properties and qualities
Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 2.00 in/hr)

Depth to water table: About 12 to 24 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Available water storage in profile: Low (about 5.9 inches)

Interpretive groups

Land capability classification (irrigated): 6c
Land capability classification (nonirrigated): 6c
Hydrologic Soil Group: B/D
Ecological site: MEADOW DECA18-CANE2 (R043AY007ID)

Description of Roseberry

Setting

Landform: Outwash terraces
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Outwash derived from granite

Typical profile

A - 0 to 18 inches: loam
C1 - 18 to 26 inches: loam
C2 - 26 to 40 inches: loamy sand
C3 - 40 to 55 inches: sandy loam
C4 - 55 to 60 inches: gravelly sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: About 18 to 30 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Available water storage in profile: Moderate (about 7.3 inches)

Interpretive groups

Land capability classification (irrigated): 6c
Land capability classification (nonirrigated): 6c
Hydrologic Soil Group: B
Ecological site: WET MEADOW 22-32 CAREX-DECE (R043XY003ID)

Minor Components

Blackwell

Percent of map unit: 5 percent
Landform: Flood plains
Ecological site: WET MEADOW 22-32 CAREX-DECE (R043XY003ID)

186—Roseberry loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2qh2
Elevation: 3,800 to 5,100 feet
Mean annual precipitation: 22 to 32 inches
Mean annual air temperature: 37 to 43 degrees F
Frost-free period: 60 to 80 days
Farmland classification: Farmland of statewide importance, if irrigated and drained

Map Unit Composition

Roseberry and similar soils: 95 percent
Minor components: 2 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Roseberry

Setting

Landform: Outwash terraces
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Outwash derived from granite

Typical profile

A - 0 to 18 inches: loam
C1 - 18 to 26 inches: loam
C2 - 26 to 40 inches: loamy sand
C3 - 40 to 55 inches: sandy loam
C4 - 55 to 60 inches: gravelly sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: About 18 to 30 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Available water storage in profile: Moderate (about 7.3 inches)

Interpretive groups

Land capability classification (irrigated): 6c
Land capability classification (nonirrigated): 6c
Hydrologic Soil Group: B
Ecological site: MEADOW DECA18-CANE2 (R043AY007ID)

Minor Components

Melton

Percent of map unit: 2 percent
Landform: Outwash terraces
Ecological site: WET MEADOW 22-32 CAREX-DECE (R043XY003ID)

193—Swede loam, 4 to 12 percent slopes

Map Unit Setting

National map unit symbol: 2qhb
Elevation: 4,100 to 5,300 feet
Mean annual precipitation: 24 to 27 inches
Mean annual air temperature: 39 to 43 degrees F
Frost-free period: 60 to 75 days
Farmland classification: Not prime farmland

Map Unit Composition

Swede and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Swede

Setting

Landform: Fan remnants
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite and/or basalt

Typical profile

A - 0 to 13 inches: loam
Bt1 - 13 to 52 inches: clay loam
Bt2 - 52 to 60 inches: gravelly clay loam

Properties and qualities

Slope: 4 to 12 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: High (about 11.8 inches)

Interpretive groups

Land capability classification (irrigated): 6c
Land capability classification (nonirrigated): 6c
Hydrologic Soil Group: C

195—Ticanot very cobbly loam, 4 to 65 percent slopes

Map Unit Setting

National map unit symbol: 2qhd
Elevation: 3,800 to 6,000 feet
Mean annual precipitation: 22 to 26 inches
Mean annual air temperature: 37 to 43 degrees F
Frost-free period: 65 to 75 days
Farmland classification: Not prime farmland

Map Unit Composition

Ticanot and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ticanot

Setting

Landform: Mountain slopes
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Colluvium over bedrock derived from basalt

Typical profile

A - 0 to 5 inches: very cobbly loam
Bt - 5 to 15 inches: very cobbly clay
R - 15 to 25 inches: bedrock

Properties and qualities

Slope: 4 to 65 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 1.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: D
Ecological site: SHALLOW FRACTURED STONY LOAM 16-22 ARTRV/FEID (R043AY004ID)
Other vegetative classification: FRACTURED STONY LOAM 22+ ARTRV/FEID (043AY004ID)

204—Water

Map Unit Composition

Water: 100 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Soil Information for All Uses

Suitabilities and Limitations for Use

The Suitabilities and Limitations for Use section includes various soil interpretations displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each interpretation.

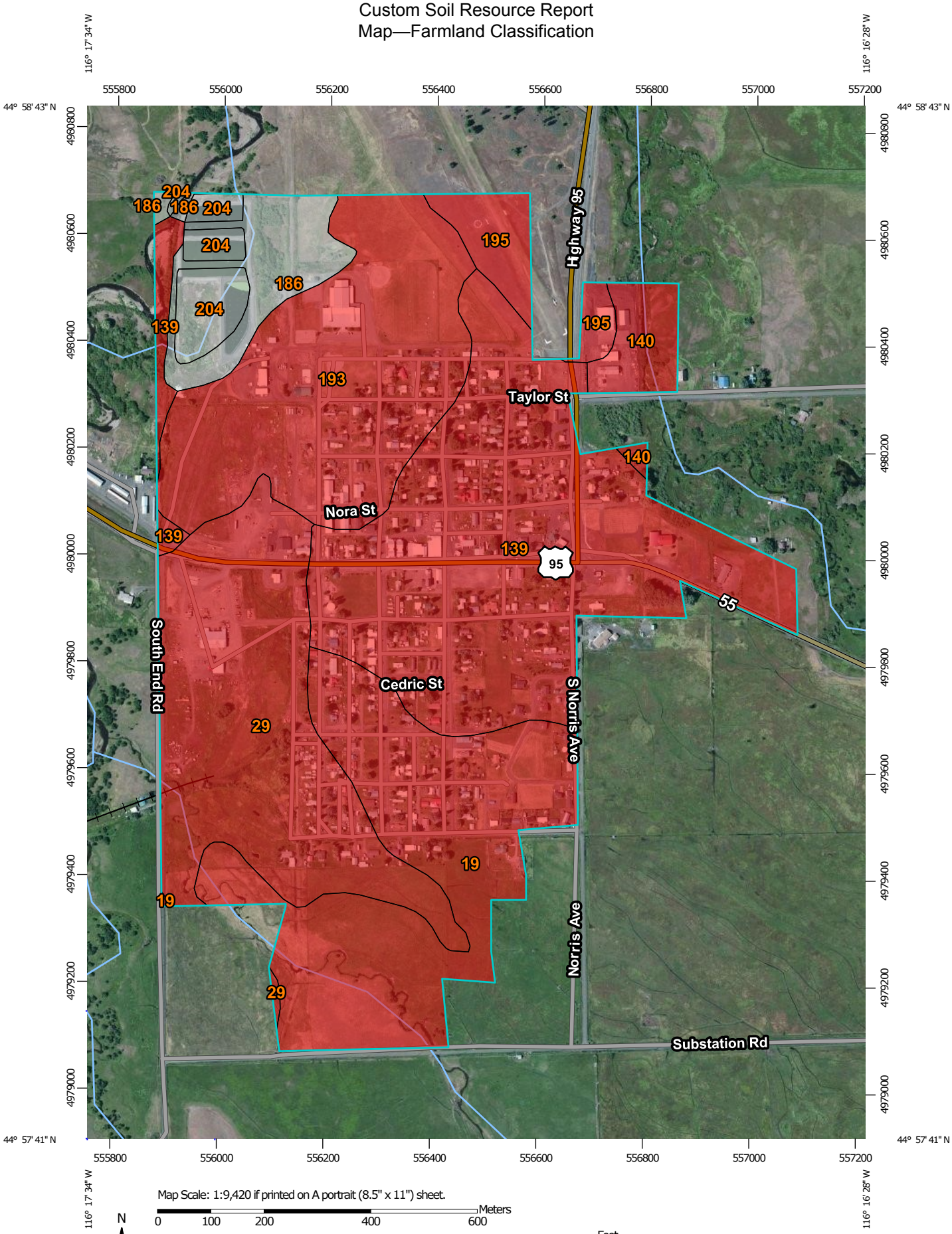
Land Classifications

Land Classifications are specified land use and management groupings that are assigned to soil areas because combinations of soil have similar behavior for specified practices. Most are based on soil properties and other factors that directly influence the specific use of the soil. Example classifications include ecological site classification, farmland classification, irrigated and nonirrigated land capability classification, and hydric rating.

Farmland Classification

Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

Custom Soil Resource Report
Map—Farmland Classification



Map Scale: 1:9,420 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 100 200 400 600

Feet: 0 450 900 1800 2700

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of local importance
- Farmland of unique importance
- Not rated or not available

Soil Rating Lines

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of local importance
- Farmland of unique importance
- Not rated or not available

Soil Rating Points

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of local importance
- Farmland of unique importance
- Not rated or not available

Water Features

MAP INFORMATION

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Adams-Washington Area, Parts of Adams and Washington Counties, Idaho
Survey Area Data: Version 11, Sep 16, 2015

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 6, 2011—Sep 4, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—Farmland Classification

Farmland Classification— Summary by Map Unit — Adams-Washington Area, Parts of Adams and Washington Counties, Idaho (ID656)				
Map unit symbol	**Map unit name**	**Rating**	**Acres in AOI**	**Percent of AOI**
19	Blackwell clay loam, 0 to 5 percent slopes	Not prime farmland	59.4	19.6%
29	Cabarton silty clay loam, 0 to 5 percent slopes	Not prime farmland	58.6	19.3%
139	Melton loam, 0 to 2 percent slopes	Not prime farmland	91.8	30.2%
140	Melton-Roseberry complex, 0 to 2 percent slopes	Not prime farmland	7.5	2.5%
186	Roseberry loam, 0 to 2 percent slopes	Farmland of statewide importance, if irrigated and drained	13.1	4.3%
193	Swede loam, 4 to 12 percent slopes	Not prime farmland	56.6	18.6%
195	Ticanot very cobbly loam, 4 to 65 percent slopes	Not prime farmland	8.7	2.9%
204	Water		8.0	2.6%
Totals for Area of Interest			**303.8**	**100.0%**

Rating Options—Farmland Classification

Aggregation Method: No Aggregation Necessary

Tie-break Rule: Lower

References

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Appendix P:

IPaC Trust Resource Report

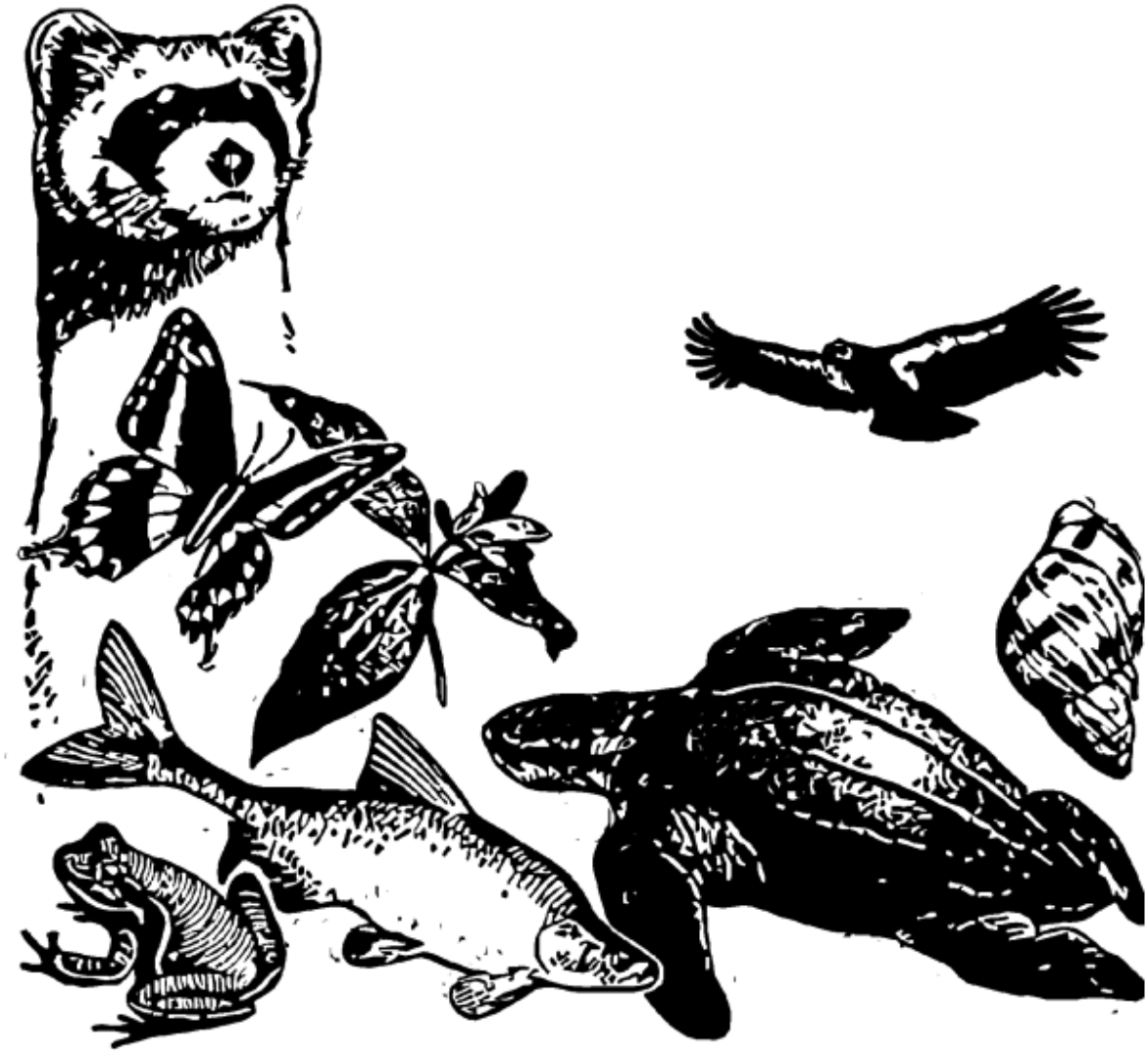
U.S. Fish & Wildlife Service

CIty of New Meadows Water Facility Plan

IPaC Trust Resource Report

Generated February 09, 2016 10:44 AM MST, IPaC v2.3.2

This report is for informational purposes only and should not be used for planning or analyzing project level impacts. For project reviews that require U.S. Fish & Wildlife Service review or concurrence, please return to the IPaC website and request an official species list from the Regulatory Documents page.



IPaC - Information for Planning and Conservation (https://ecos.fws.gov/ipac/): A project planning tool to help streamline the U.S. Fish & Wildlife Service environmental review process.

US Fish & Wildlife Service

IPaC Trust Resource Report

NAME

CIty of New Meadows Water Facility Plan

LOCATION

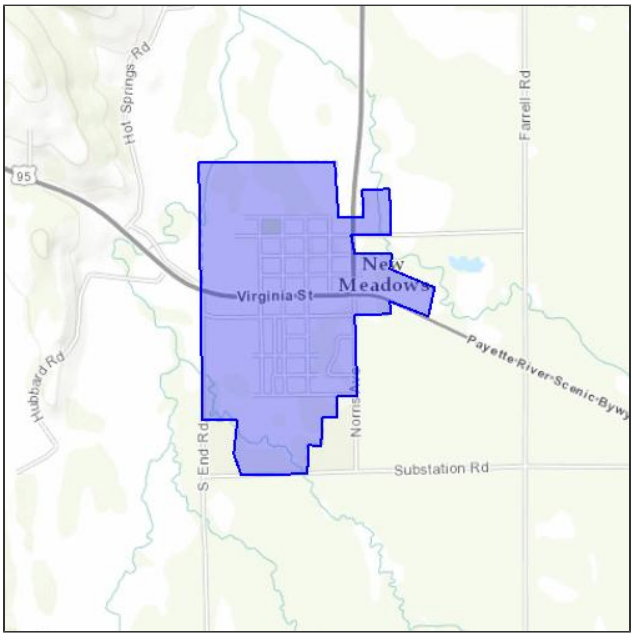
Adams County, Idaho

DESCRIPTION

Water System Assessment

IPAC LINK

https://ecos.fws.gov/ipac/project/HIZFS-NWOZF-A7ZK4-NXN2Z-KDLY5A



U.S. Fish & Wildlife Contact Information

Trust resources in this location are managed by:

Idaho Fish And Wildlife Office
1387 South Vinnell Way, Suite 368
Boise, ID 83709-1657
(208) 378-5243

Endangered Species

Proposed, candidate, threatened, and endangered species are managed by the Endangered Species Program of the U.S. Fish & Wildlife Service.

This USFWS trust resource report is for informational purposes only and should not be used for planning or analyzing project level impacts.

For project evaluations that require FWS concurrence/review, please return to the IPaC website and request an official species list from the Regulatory Documents section.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency.

A letter from the local office and a species list which fulfills this requirement can only be obtained by requesting an official species list from the Regulatory Documents section in IPaC.

The list of species below are those that may occur or could potentially be affected by activities in this location:

Mammals

Northern Idaho Ground Squirrel Urocitellus brunneus — Threatened

CRITICAL HABITAT
No critical habitat has been designated for this species.

https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=A0EK

Critical Habitats

There are no critical habitats in this location

Migratory Birds

Birds are protected by the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act.

Any activity which results in the take of migratory birds or eagles is prohibited unless authorized by the U.S. Fish and Wildlife Service (1). There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured.

Any person or organization who plans or conducts activities that may result in the take of migratory birds is responsible for complying with the appropriate regulations and implementing appropriate conservation measures.

Additional information can be found using the following links:

- Birds of Conservation Concern
  http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Conservation measures for birds
  http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Year-round bird occurrence data
  http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/akn-histogram-tools.php

The following species of migratory birds could potentially be affected by activities in this location:

Bald Eagle Haliaeetus leucocephalus — Bird of conservation concern
Year-round
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B008

Black Rosy-finch Leucosticte atrata — Bird of conservation concern
Year-round
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0J4

Calliope Hummingbird Stellula calliope — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0K3

Cassin's Finch Carpodacus cassinii — Bird of conservation concern
Year-round
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0J6

Ferruginous Hawk Buteo regalis — Bird of conservation concern
Year-round
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B06X

Flammulated Owl Otus flammeolus — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0DK

Fox Sparrow Passerella iliaca — Bird of conservation concern
Season: Breeding

Lewis's Woodpecker Melanerpes lewis — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0HQ

Long-billed Curlew Numenius americanus — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B06S

Olive-sided Flycatcher Contopus cooperi — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0AN

Rufous Hummingbird selasphorus rufus — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0E1

Sage Thrasher Oreoscoptes montanus — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0ID

Short-eared Owl Asio flammeus — Bird of conservation concern
Year-round
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0HD

Swainson's Hawk Buteo swainsoni — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B070

Upland Sandpiper Bartramia longicauda — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0HC

Western Grebe aechmophorus occidentalis — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0EA

White Headed Woodpecker Picoides albolarvatus — Bird of conservation concern
Year-round
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0HU

Williamson's Sapsucker Sphyrapicus thyroideus — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0FX

Willow Flycatcher Empidonax traillii — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0F6

Refuges

Any activity proposed on National Wildlife Refuge lands must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuges in this location

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal Statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

DATA LIMITATIONS

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

DATA EXCLUSIONS

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

DATA PRECAUTIONS

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

This location overlaps all or part of the following wetlands:

Freshwater Emergent Wetland

PEMFh 1.28 acres

PEMA 0.384 acre

Freshwater Pond

PABKrx 8.79 acres

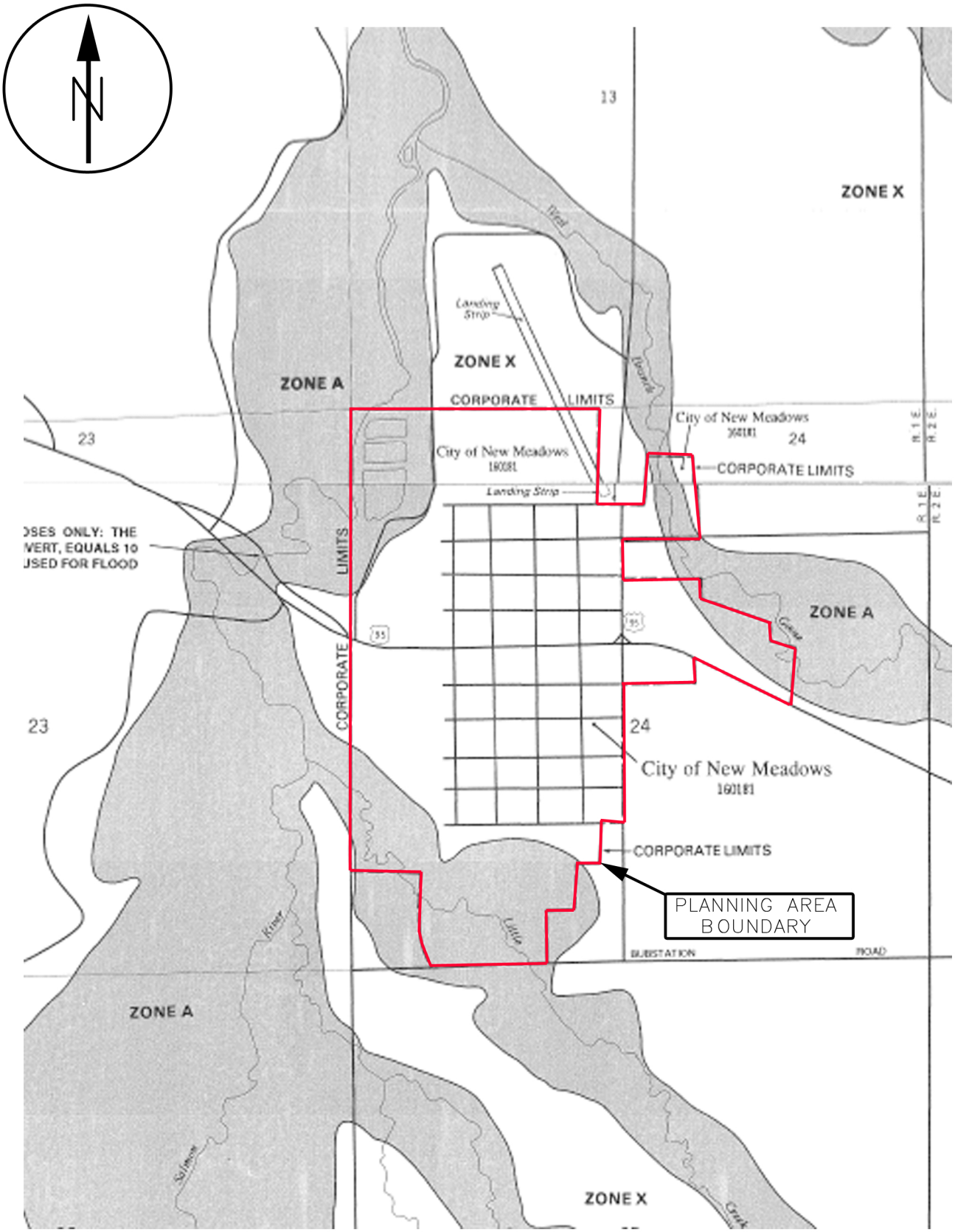
Riverine

R3RSA 1.19 acres

A full description for each wetland code can be found at the National Wetlands Inventory website: http://107.20.228.18/decoders/wetlands.aspx

Appendix Q:

FEMA FIRM Map



MOUNTAIN WATERWORKS

ENGINEERING AND ENVIRONMENTAL SOLUTIONS
2210 W. MAIN ST.
BOISE, IDAHO 83702
208.850.9978

IDAHO OFFICES
BOISE - McCALL - COEUR D'ALENE

CITY OF NEW MEADOWS	PROJECT NO.: 104.0050
FEMA FIRM MAPS	SHEET NO.

Appendix R:

Wetlands Map

U.S. Fish and Wildlife Service

National Wetlands Inventory

City of New Meadows

Feb 9, 2016

Wetlands

- Freshwater Emergent
- Freshwater Forested/Shrub
- Estuarine and Marine Deepwater
- Estuarine and Marine
- Freshwater Pond
- Lake
- Riverine
- Other

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

User Remarks: