CITY OF GLENNS FERRY

Wastewater System Facilities Plan

IDEQ Planning Grant 357-2012-13

December 2014

Technically APPROVED for public comment
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Prepared by

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PROFESSIONAL ENGINEER
REGISTERED
13152
Dec. 5, 2014
STATE OF IDAHO
TREVOR R. LINDLEY

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WASTEWATER SYSTEM FACILITIES PLAN

PROFESSIONAL ENGINEER REGISTERED 13152 STATE OF IDAHO TREVOR R. LINDLEY Dec. 5, 20

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Chapter 1

Introduction

1.0 INTRODUCTION

1.1 PURPOSE AND NEED OF THE STUDY

The City of Glenns Ferry owns and operates a wastewater collection, treatment and disposal system that provides service to the community. The collection system consists of mostly 8-inch collection lines throughout the commercial and residential areas of the community and two larger trunk lines that intercept flow and convey the wastewater to the treatment facility. The wastewater treatment plant (WWTP) consists of a 4 cell lagoon treatment plant with 5 rapid infiltration basins that it owns and operates. The wastewater collection system received upgrades in 1968 and 2007. The WWTP was initially constructed in 1968 and updated in 1987 and 1991.

The purpose of this Wastewater System Facilities Plan is to evaluate the condition and capacity of the collection and treatment system currently and through the planning period (20 years for the treatment system and 40 years for the collection system). A summary of projects necessary to remain in compliance with applicable regulations while simultaneously servicing the current and projected population have been identified.

1.2 REPORT ORGANIZATION

The report is organized into six chapters based on the IDEQ Form 5-A Outline and Checklist for Engineering Report/Facility Plan, including:

- Chapter 1 - Introduction
- Chapter 2 – Existing Conditions
- Chapter 3 – Existing Wastewater System Conditions
- Chapter 4 – Future Conditions
- Chapter 5 – Development and Initial Screening of Improvement Alternatives
- Chapter 6 – Implementation of Wastewater System Improvements

A further breakdown on the organization of the report is provided in the Table of Contents, Appendices, List of Tables, and List of Figures.

1.3 OPINIONS OF PROBABLE COSTS

The opinions of probable cost contained in this report are in 2014 dollars and appropriate escalation factors should be applied to any projects that are implemented beyond the year 2014.

1.4 PROJECT RESPONSIBILITY

The City of Glenns Ferry has successfully completed the following infrastructure projects for water and sewer in recent years:

- sewer line replacements in 2006 and 2007
- replacement of the drinking water reservoir in 1999
- construction of a water treatment plant in 2004
- installation of a fire suppression line using a GEM community grant in 2006

- water line replacements in 2006 and 2007

The listed water and wastewater projects were funded through multiple agencies as well as municipal bonds. The City has a record of completing projects and implementing changes as needed to provide required levels of service and meet regulatory requirements. In addition, J-U-B has 60 years of experience in water/wastewater system planning, design, bidding, and construction and is familiar with the City's drinking water and wastewater systems.

The City of Glenns Ferry acknowledges that work to be performed as a result of this or any other city approved study will require funding and anticipates working with State and Federal agencies for funding through grants, loans, and other available combinations. The City can also use cash reserves and explore private financing options.

The City will adhere to the legal requirements for acquiring, maintaining, safeguarding, and disposing of property, as necessary.

1.5 ENVIRONMENTAL REVIEW

If necessary, an Environmental Information Document (EID) will be prepared separately from this report for the specific improvements identified in the Wastewater System Facilities Plan. The EID will evaluate potential environmental impacts and mitigation measures for the proposed improvements.

Chapter 2

Existing Conditions

PLANNING AREA EXISTING CONDITIONS

2.1 PLANNING AREA

Glenns Ferry is located in Elmore County about 26 miles southeast of Mountain Home, 77 miles east of Boise, and 60 miles northwest of Twin Falls. Elmore County is the 5th largest county in Idaho, encompassing more than 3,100 square miles. The 2010 census indicated Glenns Ferry had a population of 1,319.

The Planning Area Vicinity Map is shown in Figure 2-1. The City is adjacent to Interstate 84 and the Snake River. The City falls within the southwest ¼ of Section 28, the south half of Section 29 the southwest ¼ of Section 30 and the north half of Sections 31 and 32.

This Wastewater System Facilities Plan is based on a specific Planning Area which represents a geographical area and population which the City can reasonably be expected to serve within a 20 year design period from 2014 to 2034. Figure 2-2 shows the Planning Area and existing corporate limits for the City of Glenns Ferry. The city boundary contains an area approximately 2.8 miles wide by 1.3 miles long, bordered by Interstate 84 on the north and the Snake River on the south.

Glenns Ferry provides services to the ranching and farming communities and also to Interstate 84 travelers. Most residents work on the surrounding farms and ranches or at local businesses. The city has a relatively mild climate, a rural friendly nature, and a multitude of recreational opportunities.

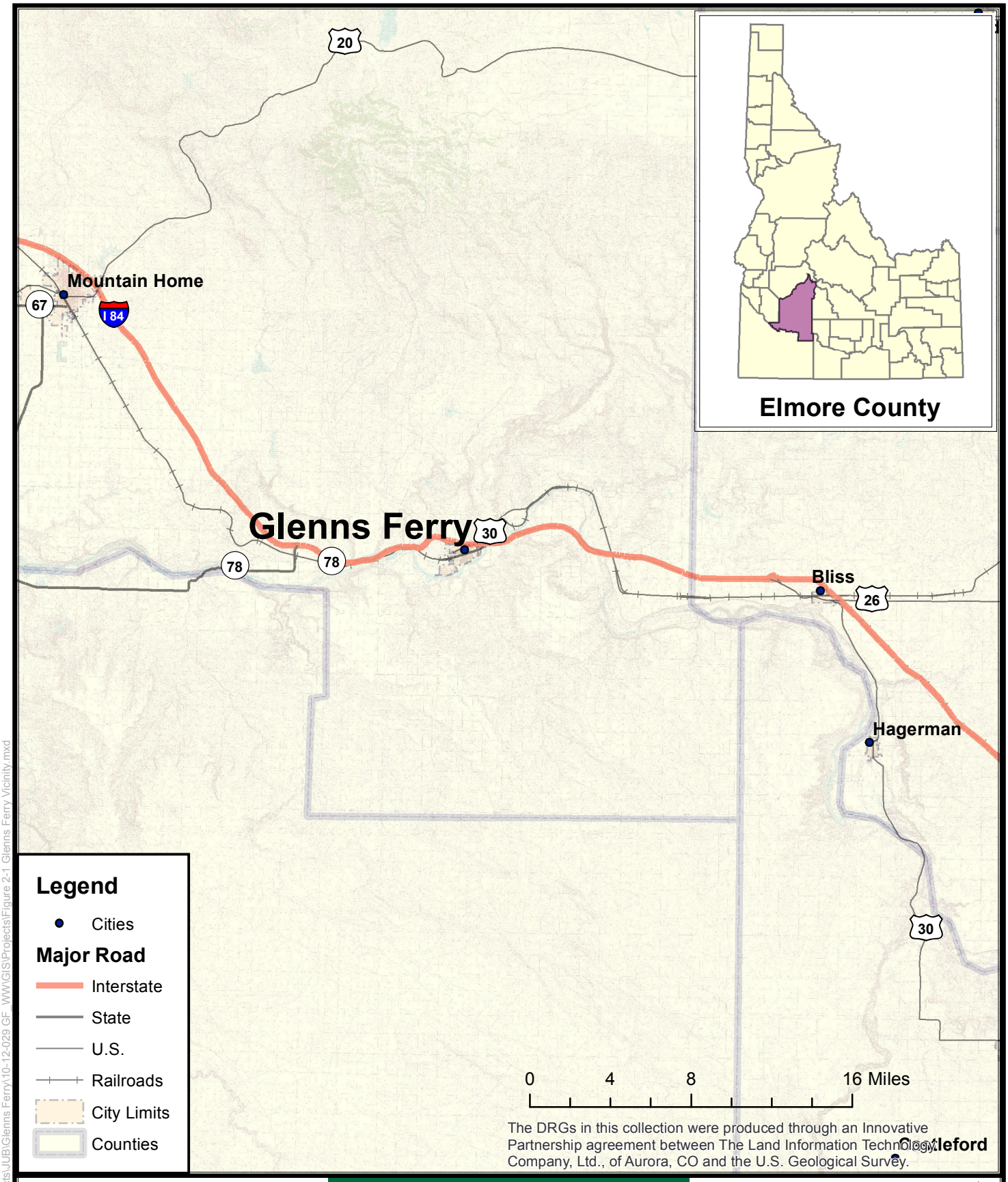
2.2 EXISTING PLANNING AREA CONDITIONS

2.2.1. Physiography, Topography, Geology, and Soils

Glenns Ferry is located in south central Idaho along the Snake River. The City's topography varies throughout the City limits with elevations ranging from approximately 2,500 feet above mean sea level at the Snake River to 2,600 feet above mean sea level along Interstate 84. The City's southwestern portion can be considered flat, the eastern middle area qualifies as rolling hills and the northern portion is hilly. Figure 2-3 shows the topography of the Glenns Ferry Planning Area on a U.S. Geologic Survey (USGS) topographic map.

According to information from Idaho State University, the western Snake River Plain is a north-northwest-trending 10 million year old basin bounded by normal faults. It is filled with thick sequences of basalt lava, sediments of Lake Idaho, and stream deposits derived from the Idaho batholith to the north and the Owyhee Mountains to the south. The thick layers of unconsolidated sediments overlying Miocene-age volcanic rocks distinguish the western Snake River Plain from the eastern Snake River Plain. The western Snake River Plain contains coarse and fine-grained unconsolidated sediment up to 5,000 feet thick. Quaternary basalt is present up to 2,000 feet thick, mainly in the central and eastern parts of the Western Plain.

The geology of the region surrounding Glenns Ferry is illustrated in Figure 2-4. A Natural Resource Conservation Service (NRCS) soil survey map of Glenns Ferry is shown in Figure 2-5.



WASTE WATER SYSTEM FACILITIES PLAN

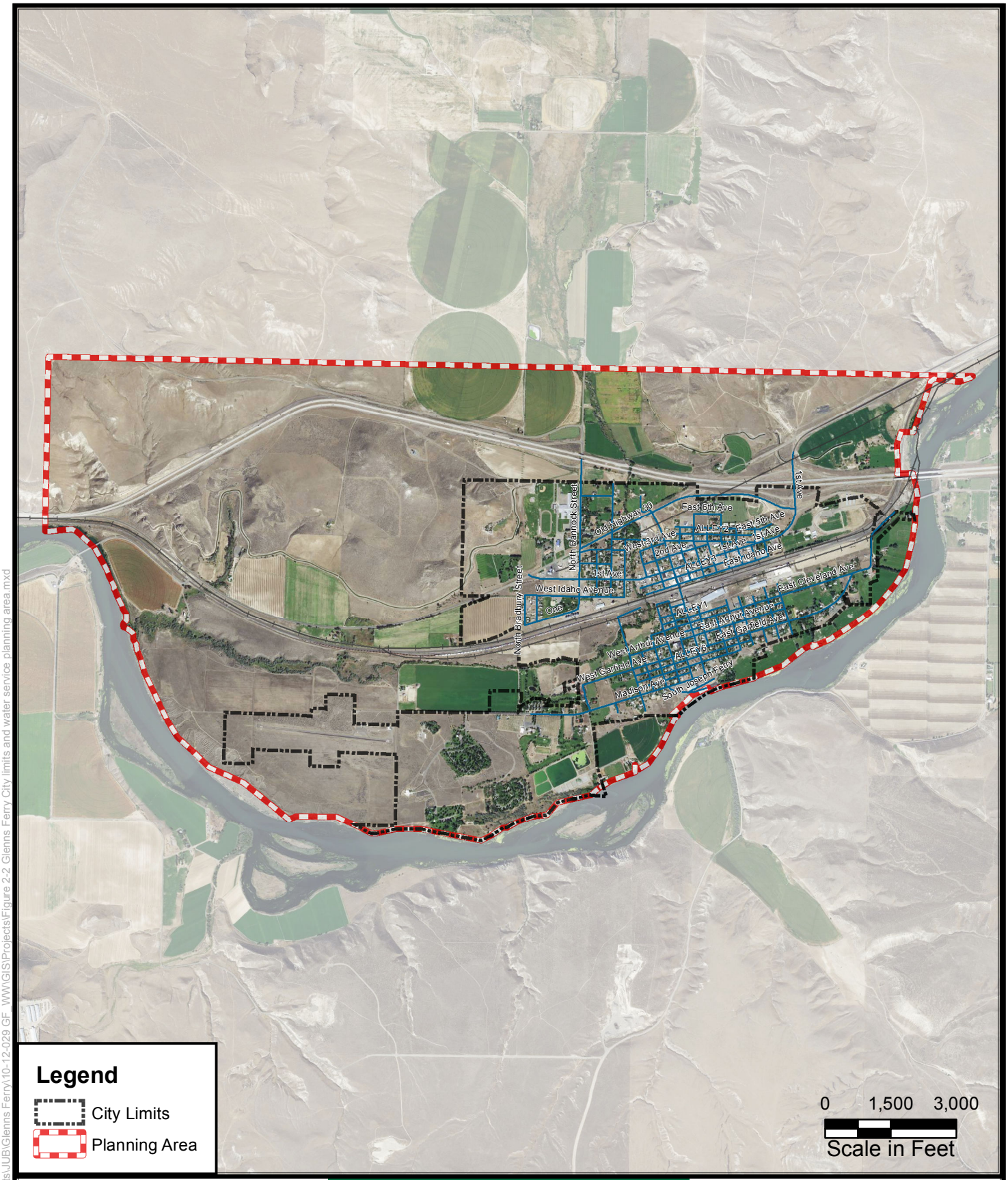
FIGURE 2-1

CITY OF GLENNS FERRY PLANNING AREA VICINITY

J-U-B ENGINEERS, INC.

Path: F:\Projects\JUB\Glenns Ferry\10-12-029 GF_WW\GIS\Projects\Figure 2-1 Glenns Ferry Vicinity.mxd

8/26/2014



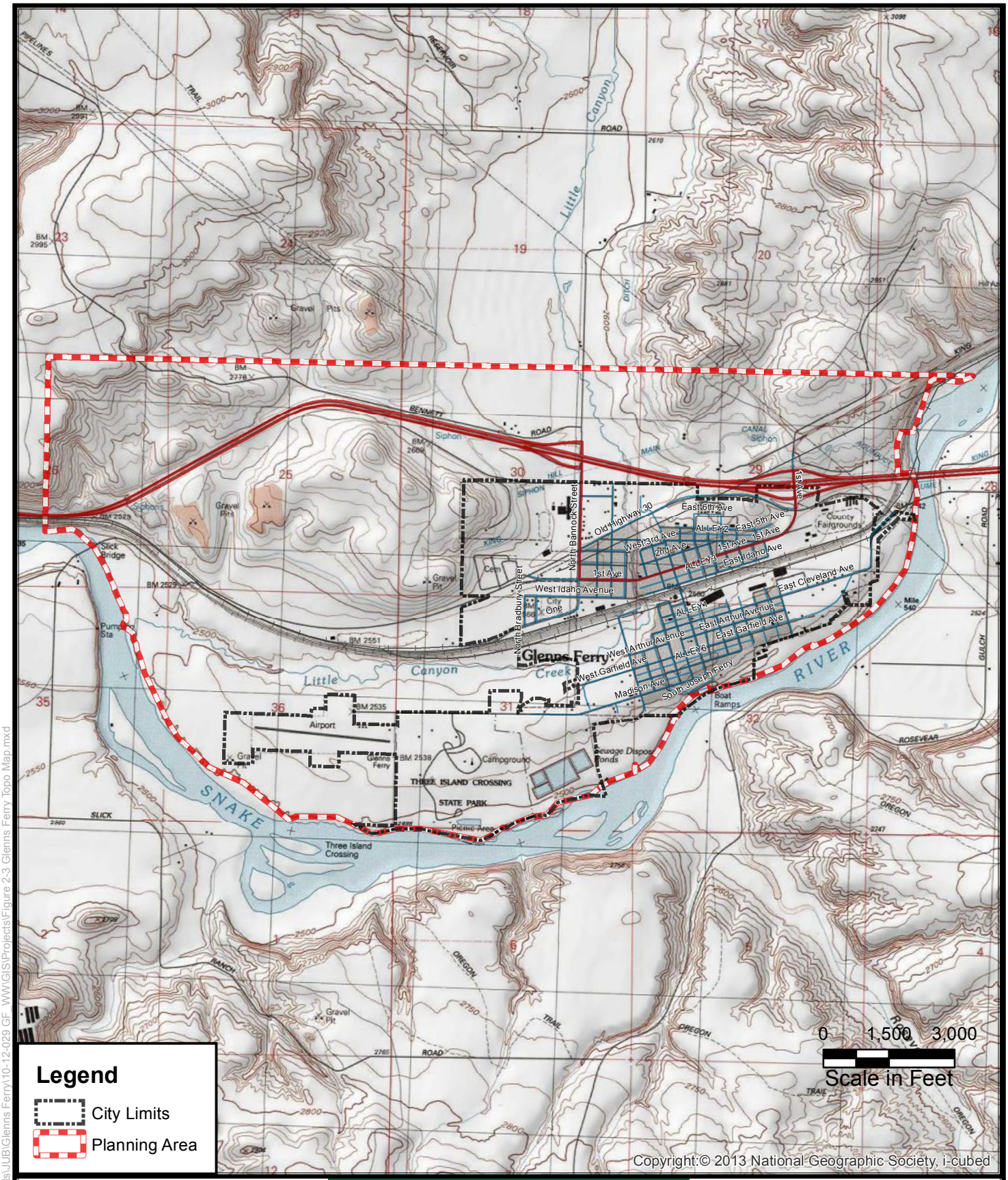
WASTE WATER SYSTEM FACILITIES PLAN

FIGURE 2-2
CITY LIMITS AND WASTE WATER SERVICE PLANNING AREA

J-U-B ENGINEERS, INC.

Path: F:\Projects\JUB\Glenns Ferry\10-12-029 GF_WW\GIS\Projects\Figure 2-2 Glenns Ferry City limits and water service planning area.mxd

9/23/2014



Legend

- City Limits
- Planning Area

CITY OF GLENNS FERRY

WASTE WATER SYSTEM FACILITIES PLAN

FIGURE 2-3

USGS TOPOGRAPHIC MAP

J-U-B ENGINEERS, INC.

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Path: F:\Projects\JUB\Glenns Ferry\10-12-029 GF_WW\GIS\Projects\Figure 2-3 Glenns Ferry Topo Map.mxd

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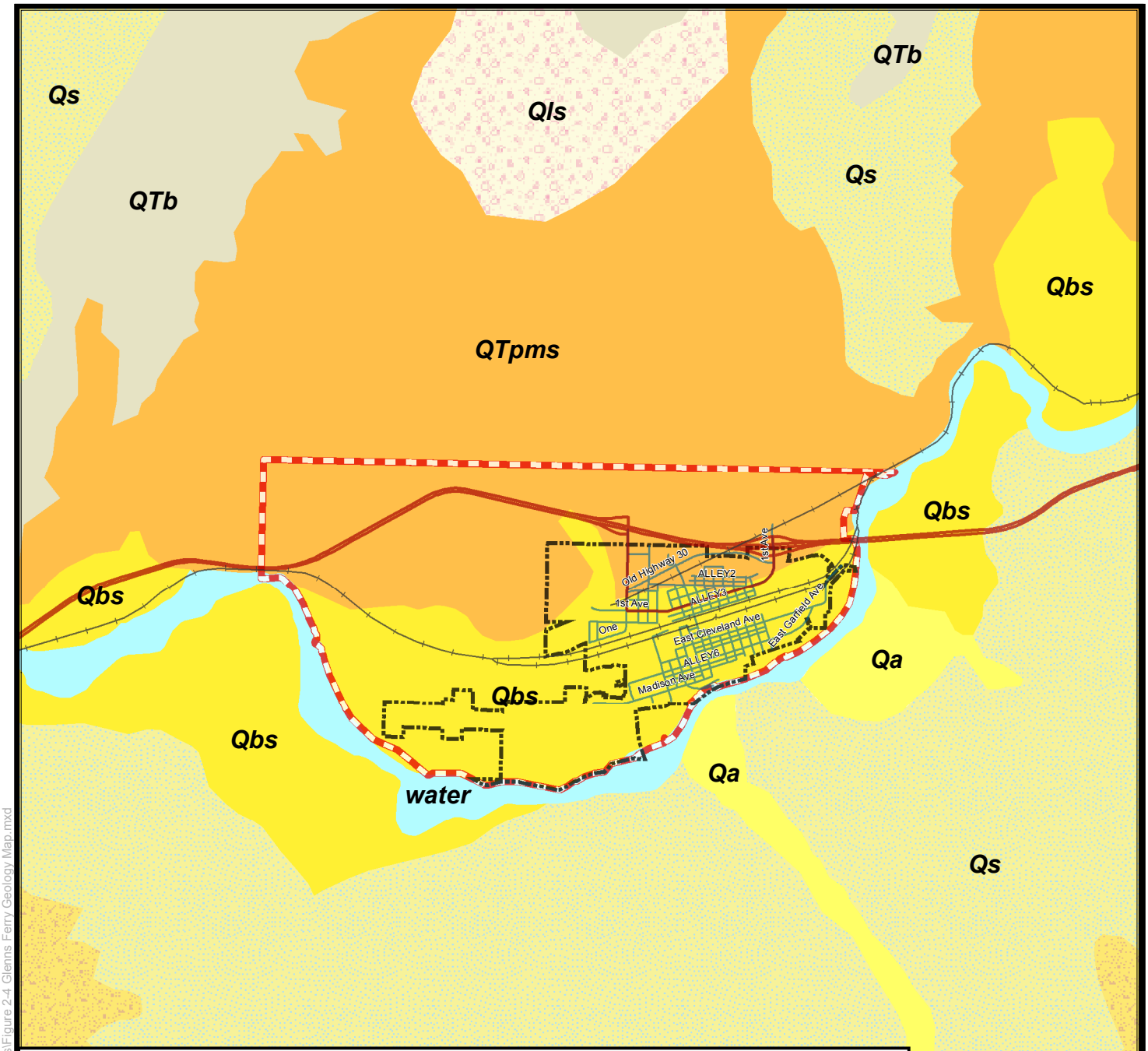

Geology Legend

- QTb - Basalt (Pleistocene and Pliocene)
- QTpms - Sedimentary rocks associated with Basin and Range extension (Quaternary, Pliocene, and Miocene)
- QTs - Sediments and sedimentary rocks (Pleistocene and Pliocene)
- Qa - Alluvial deposits (Quaternary)
- Qbs - Lake Bonneville deposits (Pleistocene)
- Qls - Landslide deposits (Quaternary)
- Qs - Fluvial and lake sediment (Quaternary)
- Water

Legend

- City Limits
- Planning Area

WASTE WATER SYSTEM FACILITIES PLAN

FIGURE 2-4

CITY OF GLENNS FERRY AREA GEOLOGY

J-U-B ENGINEERS, INC.

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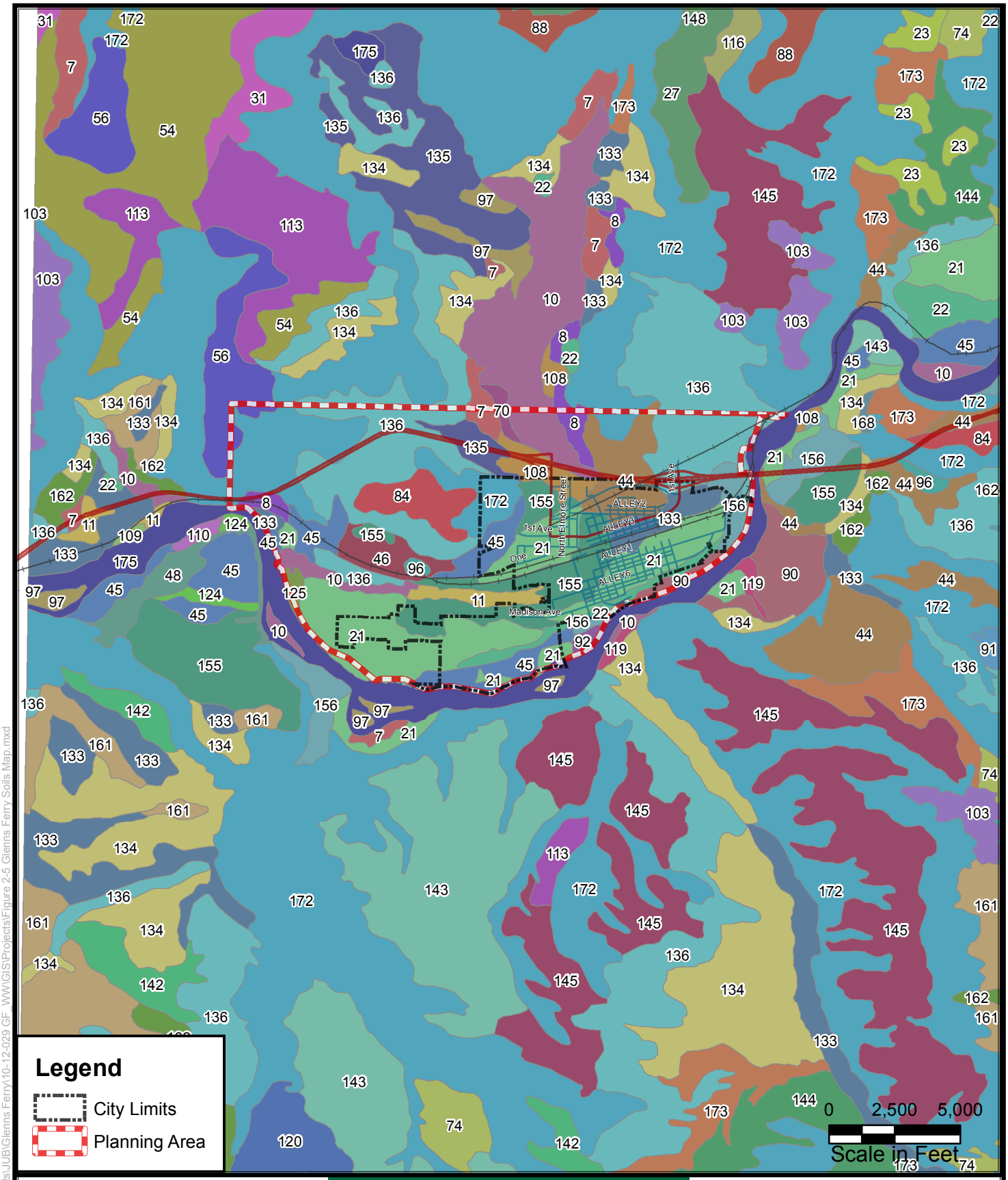
Path: F:\Projects\JUB\Glenns Ferry\10-12-029 GF_WW\GIS\Projects\Figure 2-4 Glenns Ferry Geology Map.mxd

8/26/2014



Path: F:\Projects\JUB\Glenns Ferry\10-12-029 GF_WW\GIS\Projects\Figure 2-5 Glenns Ferry Soils Map.mxd

8/27/2014

WASTE WATER SYSTEM FACILITIES PLAN

FIGURE 2-5

NRCS SOIL SURVEY MAP

J-U-B ENGINEERS, INC.

Table 2-1 summarizes various characteristics of the predominant soil types in the Planning Area. More detailed information on the physical and engineering properties for the soil types is provided in Appendix A.

TABLE 2-1. SOIL CHARACTERISTICS

Label	Soil Type	Slope	Drainage	Use
7	Bahem Silt Loam	0-4%	Well Drained	Irrigated Cropland
8	Bahem Silt Loam	4-8%	Well Drained	Irrigated Cropland
10	Baldock Loam	0-2%	Poorly Drained	Rangeland
11	Bram Silt Loam	0-2%	Somewhat Poorly Drained	Rangeland
21	Buko Fine Sandy Loam	1-4%	Well Drained	Irrigated Cropland
22	Buko Fine Sandy Loam	4-12%	Well Drained	Rangeland
44	Davey Loamy Sand	4-12%	Somewhat Excessively Drained	Irrigated Cropland
45	Davey Loamy Fine Sand	0-4%	Somewhat Excessively Drained	Irrigated Cropland
46	Davey-Buko Complex	1-12%	Somewhat Excessively Drained	Irrigated Cropland
48	Davey-Quincy Complex	1-12%	Somewhat Excessively Drained	Rangeland
56	Elijah-Purdam Silt Loams	0-8%	Well Drained	Irrigated Cropland
70	Grandview Loam	0-4%	Moderately Well Drained	Irrigated Cropland
84	Jacquith Loamy Sand	4-12%	Well Drained	Irrigated Cropland
90	Lankbush Sandy Loam	0-4%	Well Drained	Irrigated Cropland
92	Lankbush-Jenness Association	0-4%	Well Drained	Irrigated Cropland
96	Letha Loam	0-2%	Somewhat Poorly Drained	Rangeland
97	Letha-Baldock Loams	0-2%	Somewhat Poorly Drained	Rangeland
108	Monroe-Jenness Complex	0-2%	Well Drained	Irrigated Cropland
119	Power-Purdam Silt Loams	0-1%	Well Drained	Irrigated Cropland
124	Quincy Fine Sand	0-12%	Excessively Drained	Rangeland
125	Quincy Loamy Fine Sand	12-30%	Excessively Drained	Rangeland
133	Royal Fine Sandy Loam	0-4%	Well Drained	Irrigated Cropland
134	Royal Fine Sandy Loam	4-12%	Well Drained	Irrigated Cropland
135	Royal-Davey Complex	0-12%	Well Drained	Irrigated Cropland
136	Royal-Davey Complex	12-40%	Well Drained	Rangeland
155	Timmerman Sandy Loam	0-4%	Somewhat Excessively Drained	Irrigated Cropland
156	Timmerman Sandy Loam	4-12%	Somewhat Excessively Drained	Irrigated Cropland
172	Xeric Torriorthents and Xerollic Camborthids	8-20%	Well Drained	Rangeland

Sands and gravels prevail within the City boundaries along with some hard clays and silts. The gravelly soils provide good bearing capacity and drainage and are an ideal construction material. Conversely, black flowing sand is common in much of the city's southern area. Flowing black sand has a very poor angle of repose generally requiring two feet of width for each foot of depth. Trench shoring and other safeguards are necessary during construction in this area.

2.2.2. Surface and Ground Water Hydrology

Glenns Ferry rests along the Snake River above the Western Snake River Plain Aquifer. The Western Plain Aquifer is generally considered to begin slightly east of Glenns Ferry at King Hill. Groundwater in Glenns Ferry is limited, while surface water is plentiful. Outlying farms have wells which reportedly do not produce large quantities of water. Little Canyon Creek flows through town and effectively provides drainage of surface water runoff. Little Canyon Creek discharges to the Snake River. The Snake River flows south of the City.

The City's drinking water supply comes from a spring and the Snake River. The sources are combined in an infiltration gallery and subsequently pumped to the Water Treatment Plant

(WTP). An in depth discussion of the water supply with an explanation of the decision to utilize the Snake River for drinking water is contained in the 1993 and 1997 Preliminary Engineering Reports submitted to and accepted by IDEQ.

The drinking water quality is generally excellent because of the state-of-the-art WTP. The WTP uses a membrane system to filter out contaminants. The membrane system is capable of treating 1 million gallons per day. The WTP was constructed so that a second bank of membranes could be installed that would double capacity when needed. The WTP's operation is carefully monitored and maintained in strict compliance with all applicable regulations.

2.2.3. Fauna, Flora, and Natural Communities

The City of Glenns Ferry has been continuously utilized for farming, cattle grazing, and railroad activities for more than 100 years. Most prevailing plants such as Russian Thistle, Russian Olive, Locust Trees and cheat grass arrived with immigrating pioneers. Indigenous species such as bunch grasses and other native plants are not common within the City limits or in the Planning Area.

Animals commonly found in the vicinity of the City include squirrels, rock chuck, fox, skunks and coyote. Deer are also sighted in the area. Fish common in the Snake River include bass, carp, trout, sturgeon, and other fish species. Migratory wildlife, many of which are avian species, use the area seasonally. Common game birds in and around the Planning Area include pheasants, partridge, quail and sage grouse. Waterfowl such as geese and ducks are often found concentrated along the Snake River and other drainage ways. Raptors such as hawks, eagles and owls are also found in the area.

Endangered, threatened, proposed, and candidate species listed by the U.S. Fish and Wildlife Service for Elmore County are shown below in Table 2-2. It should be noted that Elmore County is very large and extends all the way to the Sawtooth Mountains. Some of the species listed below may not be able to survive in the desert climate of Glenns Ferry.

TABLE 2-2. ENDANGERED, THREATENED, PROPOSED, AND CANDIDATE SPECIES

Group	Name	Status
Birds	Greater Sage-Grouse *(Centrocercus urophasianus)*	Candidate
Birds	Yellow-Billed Cuckoo *(Coccyzus americanus)*	Proposed
Mammals	Canada Lynx (*Lynx Canadensis*)	Threatened
Mammals	North American Wolverine (*Gulo gulo luscus*)	Proposed
Fish	Bull Trout (*Salvelinus confluentus*)	Threatened – Designated Critical Habitat
Mullosks	Bliss Rapids Snail *(Taylorconcha serpenticola)*	Threatened
Mullosks	Snake River Physa Snail *(Haitia (Physa) natricina)*	Endangered
Plants	Slickspot Peppergrass (*Lepidium papilliferum*)	Proposed Critical Habitat
Plants	Whitebark Pine (*Pinus albicaulis*)	Candidate

2.2.4. Land Use and Development

Land use within the Planning Area is mostly residential and agricultural, with some areas of commercial and industrial development. Land use and development is regulated by the city through subdivision ordinances and the comprehensive plan. Figure 2-6 shows a current zoning map of the City and the Area of Impact depicting the generalized land use designations.

Residential housing in the city consists primarily of single family homes. There are also trailer parks, a multifamily housing complex, a government subsidized apartment complex, and two motels.

Industrial development has decreased in recent years. The Idahoan potato dehydration and flake processing plant operated in Glenns Ferry for many years until its closure in 2008 resulted in the loss of 130 jobs. Glenns Ferry used to be a hub for Union Pacific Railroad until the early 1970's when the railroad closed operations in the city.

Existing commercial development includes Carmela Vineyards, the fudge factory, some restaurants, and a golf course. Additionally, the Academy of Equine Dentistry resides in Glenns Ferry. The Academy provides educational opportunities leading to certification in equine dentistry.

The areas surrounding Glenns Ferry are predominantly used for agricultural purposes.

2.2.5. Cultural Resources

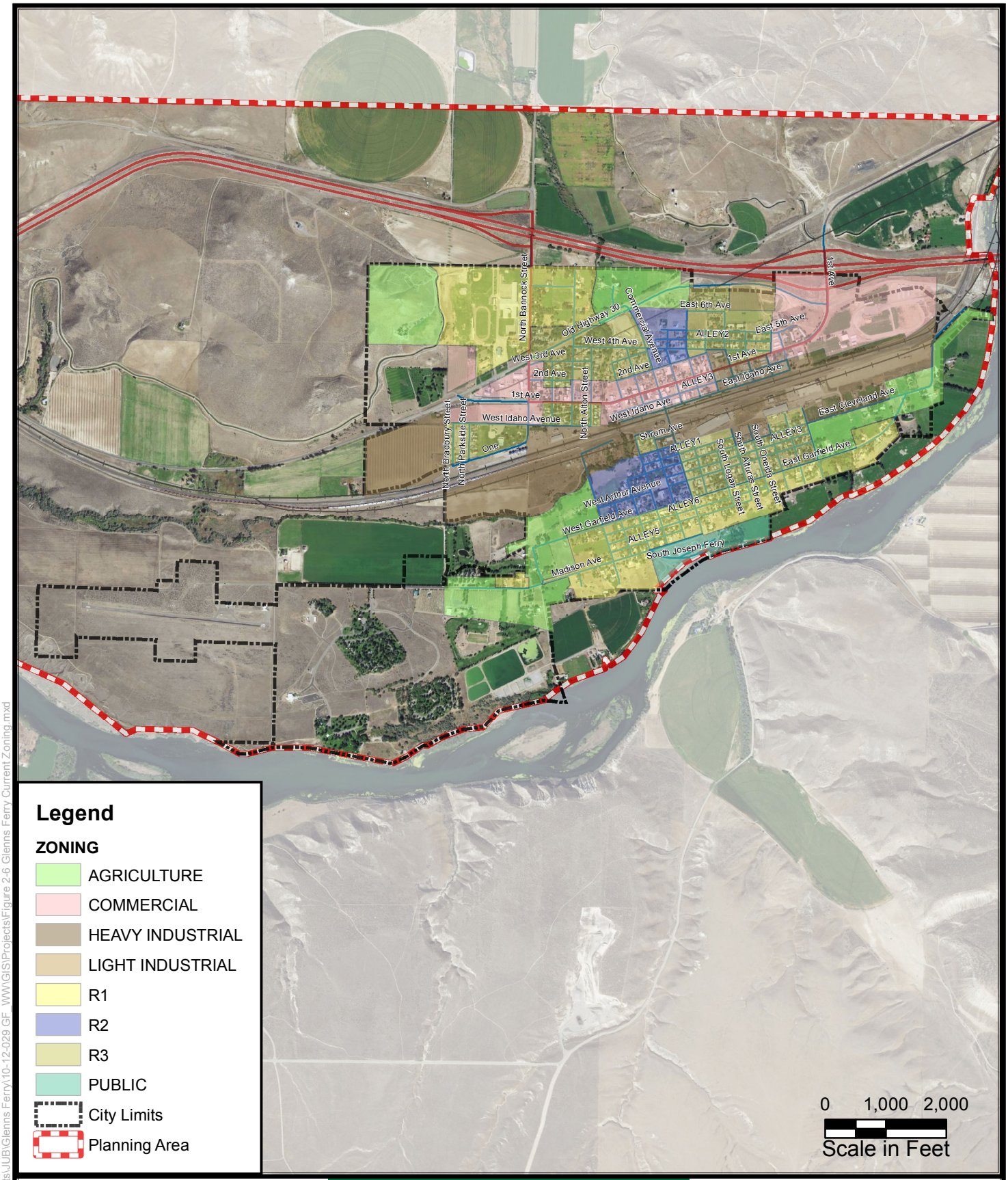
Glenns Ferry has a rich history as one of the most famous river crossings on the Oregon Trail. Three Island State Park is home to the Oregon Trail History and Education Center, where visitors can learn about pioneer immigrants and Native American history.

The Oregon Trail crossed the Snake River at Glenns Ferry because this portion of the river is relatively shallow. Eventually a ferry system was implemented that allowed travelers to cross all year. This mostly permanent arrangement allowed opportunities for other businesses and provided the base for the City's economic development as it appears today.

By the 1880's, Glenns Ferry had become a railroad hub for the Union Pacific Railroad. This endeavor functioned until the early 1970's when the railroad closed its Glenns Ferry operations.

The Three Island State Park Visitor Center houses a cultural center that displays Native American and Oregon Trail artifacts. Glenns Ferry also supports a historical museum and hosts the annual Elmore County Fair and Rodeo. Glenns Ferry is the home of several buildings which are listed in the National Register of Historic Places in Idaho, namely:

- Amustutz Apartments
- Glenns Ferry School, which houses the Glenns Ferry Museum
- Our Lady of Limerick Catholic Church
- O'Neill Brothers Building
- McGinnis, J.S., Building
- Gorby Opera Theater



WASTE WATER SYSTEM FACILITIES PLAN

FIGURE 2-6

CITY OF GLENNS FERRY CURRENT ZONING

J-U-B ENGINEERS, INC.

Path: F:\Projects\JUB\Glenns Ferry\10-12-029 GF_WW\GIS\Projects\Figure 2-6 Glenns Ferry Current Zoning.mxd

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2.2.6. Public Utilities and Services

The City is serviced by a full complement of public utilities and services. These services are intended for the permanent and seasonal residents of Glenns Ferry as well as the immediate surrounding county residents. Some of the public utilities and services offered within the area include:

TABLE 2-3. PUBLIC UTILITIES AND SERVICES

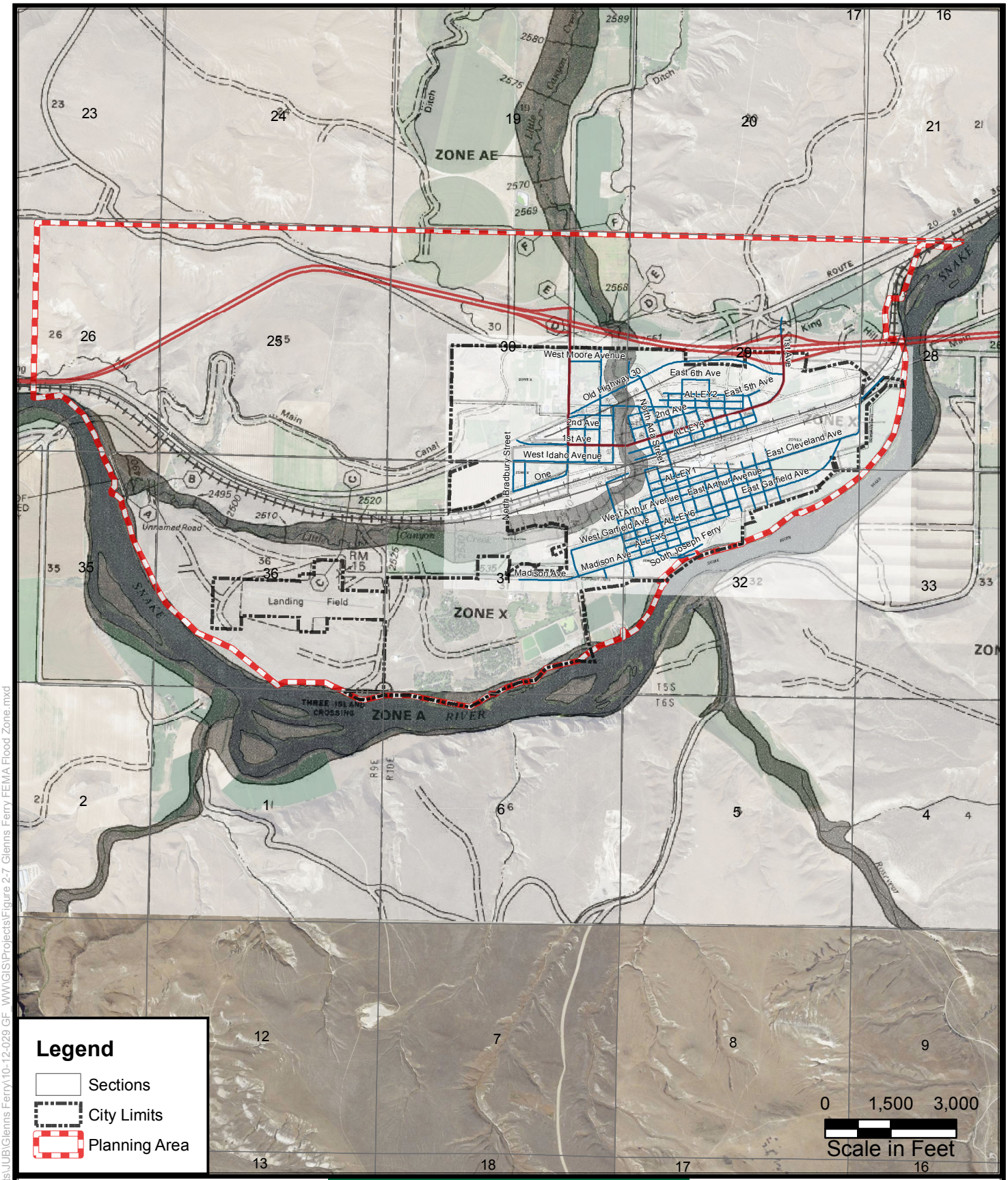
Provider	Service
City of Glenns Ferry	Water, sewer, irrigation, police protection, fire protection
Idaho Power	Electricity
King Hill Irrigation	Irrigation
RTI Rural Telecom, RTC Wireless, Comcast, Wildblue, Centurylink	Phone, Internet, Television Service
Glenns Ferry Health Center	Ambulance / Life Flight
Intermountain Gas	Natural Gas

2.2.7. Floodplains and Wetlands

The Federal Emergency Management Agency (FEMA) web site provides ratings on flood risk within the City limits of Glenns Ferry. Flood Insurance Rate Map (FIRM) Community Panel Number 160057 0001 B addresses Glenns Ferry. The FIRM shows three flood designations:

- Zone AE - 100 year flood with base flood elevations shown on map
- Zone A - 100 year flood with no base flood elevations determined
- Zone X - outside 500-year flood plain

The FEMA map does not address the 25 and 50 year flood plains. Most of the City is designated Zone X. Zone AE parallels Little Canyon Creek, which can occasionally flash flood. The extent of flooding depends on snow melt, snow pack, and the storm event intensity and duration. The width of potential flooding varies up to 500 feet. Zone A is a small strip roughly reflecting the boat dock area. The FEMA map for Glenns Ferry is shown in Figure 2-7.



WASTE WATER SYSTEM FACILITIES PLAN

FIGURE 2-7

FEMA FLOOD ZONE MAP

J-U-B ENGINEERS, INC.

Path: F:\Projects\JUB\Glenns Ferry\10-12-029 GF WWW\GIS\Projects\Figure 2-7 Glenns Ferry FEMA Flood Zone.mxd

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The U.S. Fish and Wildlife Service's National Wetlands Inventory provides mapping of wetlands across the United States. The basic criteria that define wetland types are water depth and permanence, water chemistry, life form of vegetation and dominant plant species. Wetlands are categorized in a hierarchical structure, progressing from systems and subsystems at the most general levels, to classes, subclasses, and dominance types. Special modifiers describe wetlands that have been either created or highly modified by man or beavers. There are five defined systems used by the Fish and Wildlife Service: marine, estuarine, riverine, lacustrine and palustrine.

According to the U.S. Fish and Wildlife Services (USFWS) National Wetlands Inventory Map, there are some wetlands located within the Planning Area. These are described below in Table 2-4.

TABLE 2-4. WETLAND AREAS LOCATED WITHIN THE PLANNING AREA

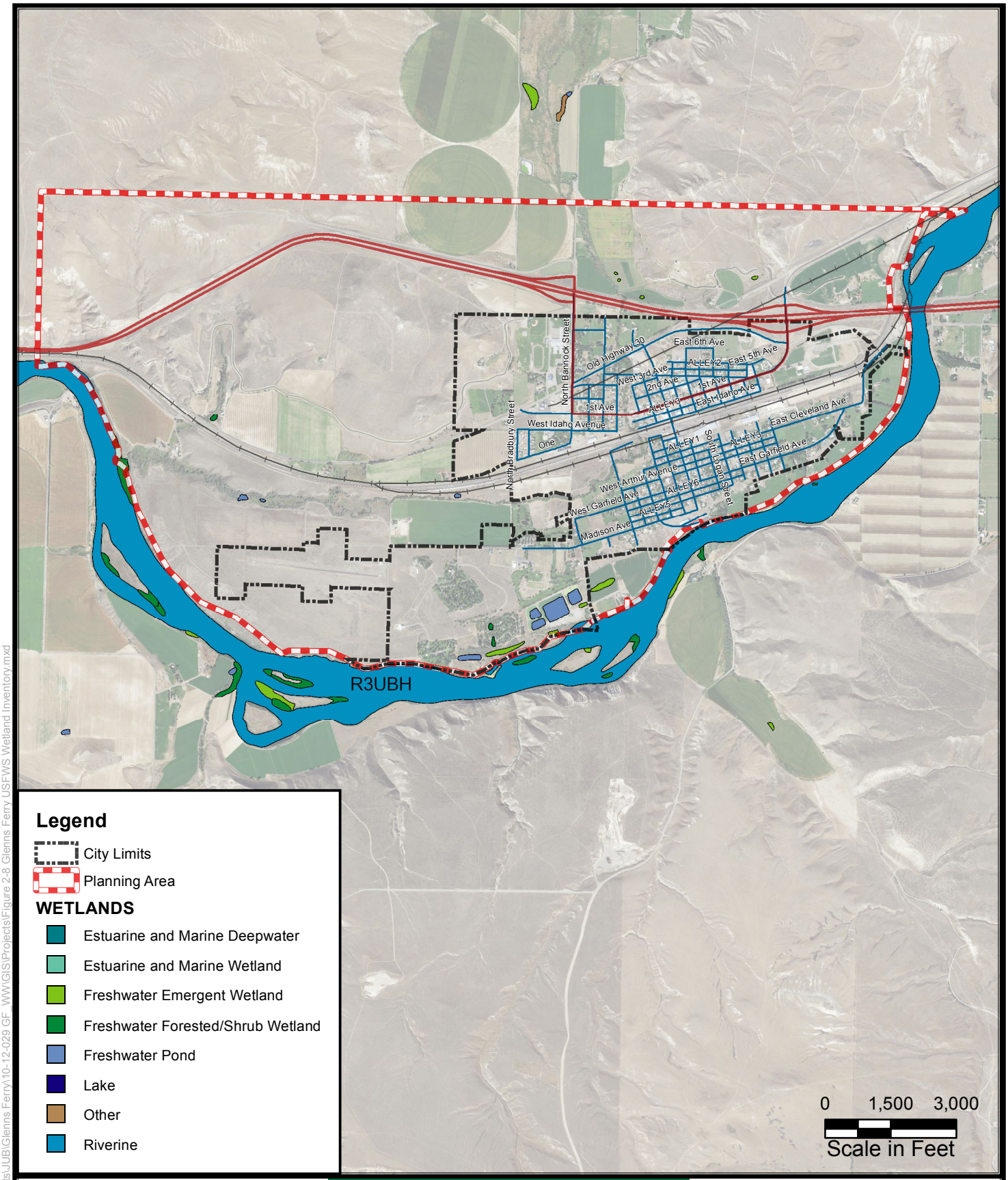
Label	Location	Description
PUBKx	Wastewater lagoons	Palustrine system with an unconsolidated bottom, artificially flooded, and excavated through artificial means
PEMC	Isolated areas near lagoons	Palustrine system with emergent vegetation, seasonally flooded
PFOC	Three Island State Park	Palustrine system with forested vegetation, seasonally flooded
PABH	Three Island State Park	Palustrine system with aquatic bed, permanently flooded

Figure 2-8 shows the wetland areas that have been delineated by USFWS.

2.2.8. Wild and Scenic Rivers

The Wild and Scenic Rivers Act, as promulgated by Congress on October 2, 1968, states that "…certain selected rivers of the Nation which, with their immediate environments, possess outstandingly remarkable scenic, recreation, geologic, fish and wildlife, historic, cultural, or other similar values, shall be protected for the benefit and enjoyment of present and future generations."

The Snake River and Little Canyon Creek flow past and through Glenns Ferry respectively. Neither water body has been designated as wild and scenic (The Snake River has been designated as wild and scenic in a different area of the state where it passes through Hells Canyon). At present, there are no plans for classification of any surface water systems within the Glenns Ferry Planning Area.



WASTE WATER SYSTEM FACILITIES PLAN

FIGURE 2-8

U.S. FWS WETLANDS INVENTORY MAP

J-U-B ENGINEERS, INC.

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Path: F:\Projects\JUB\Glenns Ferry\10-12-029 GF_WW\GIS\Projects\Figure 2-8 Glenns Ferry USFWS Wetland Inventory.mxd

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2.2.9. Public Health and Water Quality Considerations

2.2.9.1. Public Health Considerations

The Glenns Ferry Planning Area has minimal public health problems.

If a construction project results from this master plan, a storm water pollution prevention plan (SWPPP) will be prepared prior to the construction. The SWPPP will be tailored specifically to the proposed project and serve to minimize soil erosion, contain sediment, and protect surface water quality during the construction activities.

2.2.9.2. Water Systems in Proposed Project Area

2.2.9.2.1 Drinking Water

The city's water supply comes from a spring and the Snake River. An in depth discussion of the water supply with an explanation of the decision process to utilize the Snake River for drinking water supplies is contained in the 1993 and 1997 Preliminary Engineering reports submitted to and accepted by IDEQ. The sources are combined in an infiltration gallery and subsequently pumped to the water treatment plant.

The water treatment plant is a membrane system that is carefully monitored and maintained in strict compliance with all applicable regulations. The drinking water quality in the city is excellent because of the state of the art water treatment plant.

The drinking water system is described in detail in the 2014 Water Master Plan. A map showing the drinking water system in the community is included below in Figure 2-9.

2.2.9.2.2 Wastewater

The City's wastewater collection system currently serves the majority of properties within the city limits. Two different trunk lines convey sewage to the wastewater treatment lagoons. There is one lift station that serves lower lying areas in the city. There are still some areas within the city limits that use septic systems; sewage from these properties is not treated at the lagoons.

The treatment lagoons consist of one aerated pond, three facultative/polishing ponds, and five rapid infiltration basins. Effluent from the lagoons is discharged into the Snake River.

The wastewater system is described in detail in this report. Figure 3-1, in the following chapter, shows the wastewater system in the community.

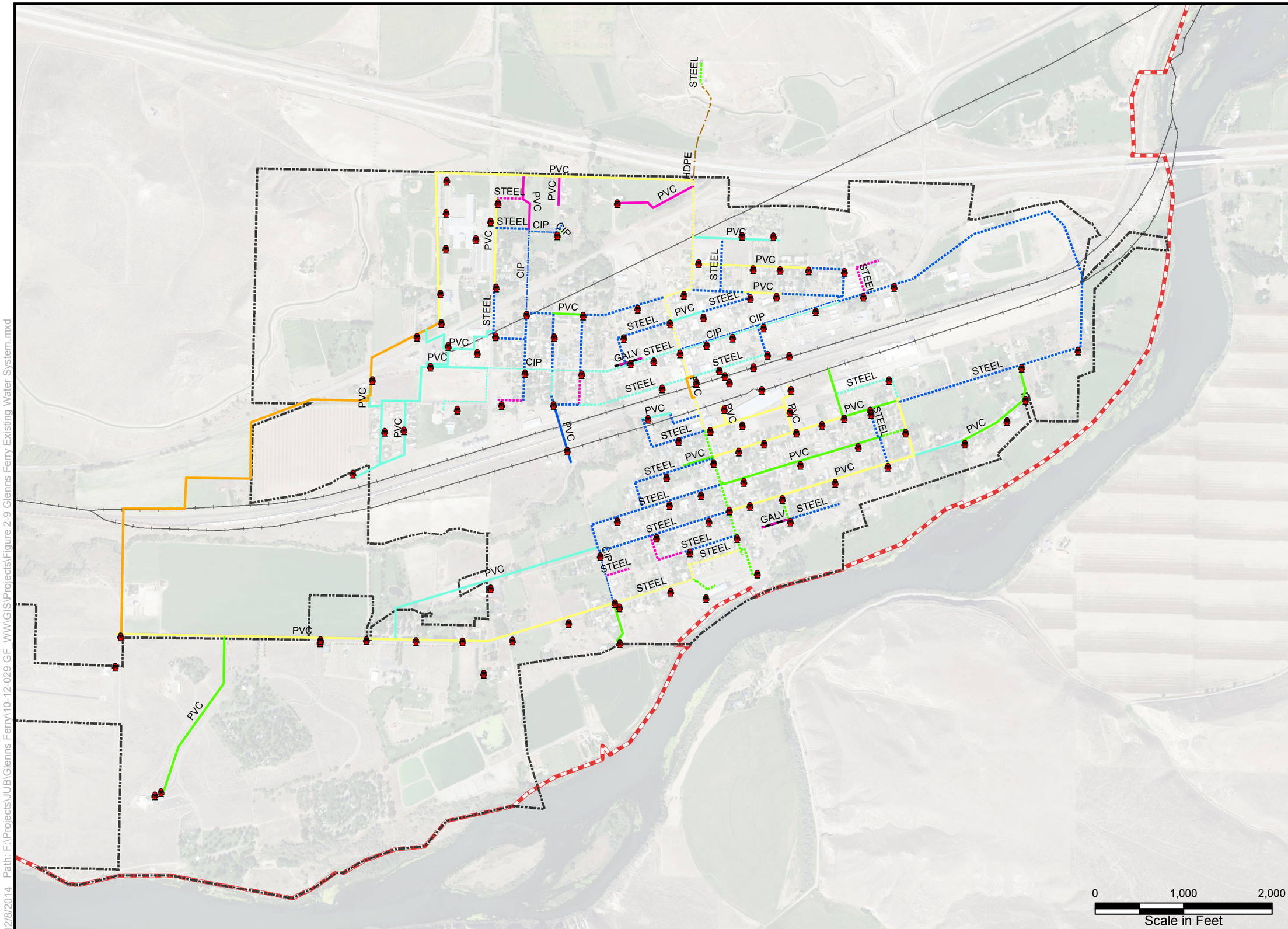
2.2.9.2.3 Irrigation

Portions of the City are served by a secondary irrigation system maintained by King Hill Irrigation District. A map showing the secondary irrigation system in the community is included below in Figure 2-10.

FIGURE 2-9

CITY OF GLENNS FERRY EXISTING WATER SYSTEM

WASTE WATER SYSTEM FACILITIES PLAN



Legend

- Water Tank
- Snake River Intake/ Spring Infiltration Gallery
- Pump/Treatment Plant
- Fire Hydrants

Waterlines By type and size

CIP
- 4, CIP
- 6, CIP
- 8, CIP

GALV
- 2, GALV

HDPE
- 14, HDPE

PVC
- 2, PVC
- 4, PVC
- 6, PVC
- 8, PVC
- 10, PVC
- 12, PVC

STEEL
- 2, STEEL
- 4, STEEL
- 6, STEEL
- 8, STEEL
- 10, STEEL
- 12, STEEL

- City Limits
- Planning Area

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12/8/2014 Path: F:\Projects\JUB\Glenns Ferry\10-12-029 GF_WW\GIS\Projects\Figure 2-9 Glenns Ferry Existing Water System.mxd

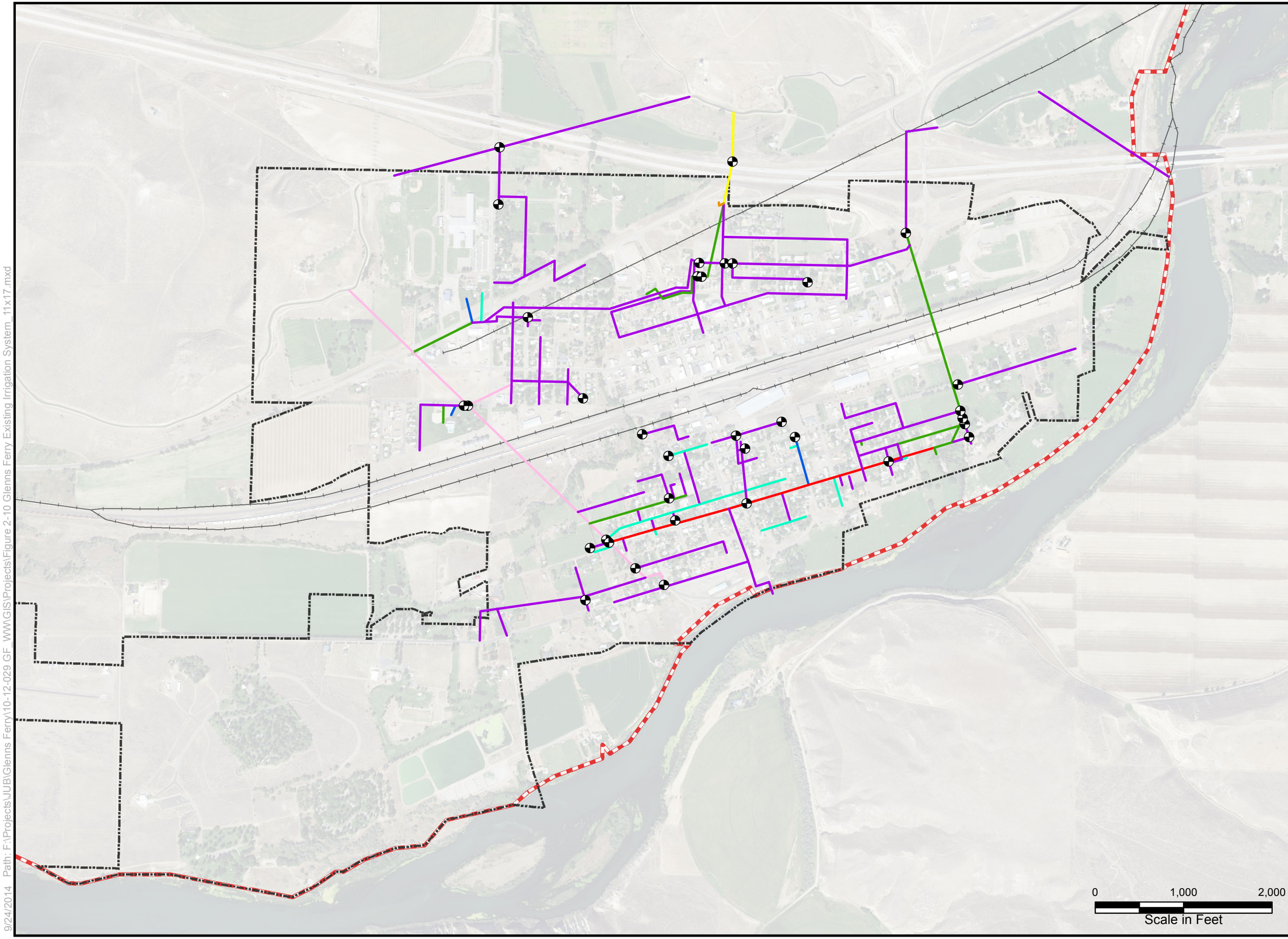

FIGURE 2-10

CITY OF GLENNS FERRY IRRIGATION SYSTEM

WASTE WATER SYSTEM FACILITIES PLAN

Legend

- Irrigation Valves

Irrigation Pipe by Diameter

- 2"
- 4"
- 5"
- 6"
- 8"
- 10"
- 18"
- Unknown Size
- City Limits
- Planning Area

J-U-B ENGINEERS, INC.

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9/24/2014 Path: F:\Projects\JUB\Glenns Ferry\10-12-029 GF_WW\GIS\Projects\Figure 2-10 Glenns Ferry Existing Irrigation System_11x17.mxd

2.2.10. Important Farmland Protections

Prime farmland is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber and oilseed crops and is available for these uses, as defined by the U.S. Environmental Protection Agency (EPA) Policy to Protect Environmentally Significant Agricultural Lands of 1978. Much of the land area located adjacent to the City is used for agriculture.

The following soil types in the vicinity of the Planning Area have been designated as "prime" farmland if irrigated (see Figure 2-5): Bahem Silt Loam, Buko Fine Sandy Loam, Davey Loamy Sand, Elijah-Purdam Silt Loams, Grandview Loam (if reclaimed of excess salts and sodium), Jacquith Loamy Sand, Lankbush Sandy Loam, Lankbush-Jenness Association, Monroe-Jenness Complex, Power-Purdam Silt Loams, and Timmerman Sandy Loam

2.2.11. Proximity to Sole Source Aquifer

The Sole Source Aquifer (SSA) program was established under Section 1424(e) of the Safe Drinking Water Act (SDWA) of 1974. The program allows individuals and organizations to petition the EPA to designate aquifers as the "sole or principal" source of drinking water for an area. To meet the criteria for designation, a sole source aquifer must supply at least 50 percent of the drinking water consumed in the area overlying the aquifer. The EPA guidelines also stipulate that these areas can have no alternative drinking water source(s) which could physically, legally, and economically supply all those who depend upon the aquifer for drinking water.

The Environmental Protection Agency has published a map titled "Designated Sole Source Aquifers in EPA Region X Idaho, Oregon, Washington". The Eastern Snake River Plain Aquifer is designated as a Sole Source Aquifer. However, this aquifer terminates slightly east of Glenns Ferry in the vicinity of King Hill. Glenns Ferry is located above the Western Snake River Plain Aquifer which is not designated as a sole source aquifer.

2.2.12. Air Quality and Noise

Glenns Ferry generally has excellent air quality. Due to the gorge effect, air is constantly exchanged and renewed. Glenns Ferry is well removed from urbanized areas and the City is not located in an air quality "non-attainment area". There are no significant sources of air pollution in the immediate vicinity. Higher levels of particulate matter may be experienced during significant wind events or during certain times of the agricultural season due to farming practices.

Noise from sources other than background sources are minimal with the notable exception of Union Pacific Railroad, which requires locomotives to provide warning whistles when crossing roads. The locomotives themselves are also a noise source. In both cases the noise level is elevated for a short duration of time.

2.2.13. Precipitation, Temperature, and Prevailing Winds

Glenns Ferry is located in a desert climate as defined by averaging less than 10 inches of precipitation per year. The temperatures are considered to be relatively mild, typically ranging between 60 and 100 degrees during the summer and 10 to 50 degrees during the winter. Sunshine prevails with 290 days of clear blue sky each year.

Table 2-5 summarizes historical temperature, precipitation, snowfall and evaporation data for the Planning Area. Winter weather is characterized by alternating high and low pressure systems that bring associated inclement or clear conditions. January is historically the coldest month with an average temperature of approximately 29.7°F. Most of the annual precipitation falls as snow during the winter months. Summer weather is normally dry with warm to hot temperatures. July is historically the warmest month with an average temperature of approximately 76.7°F. The warm summer temperatures combined with low relative humidity produce an annual evaporation rate of approximately 45 inches.

Prevailing winds travel from west to east in the Snake River Gorge area. The average wind speed is approximately 8 mph with occasional higher wind gusts.

TABLE 2-5. MONTHLY CLIMATIC DATA

Month	Mean Temperature[1] (°F)	Mean Precipitation[1] (in)	Mean Snowfall[1] (in)	Mean Evaporation[2] (in)
January	29.7	1.28	5.2	0.23
February	36.0	0.95	2.7	0.68
March	43.5	0.83	0.7	1.80
April	51.2	0.72	0.2	3.60
May	59.7	0.84	0.0	6.30
June	68.1	0.66	0.0	6.75
July	76.7	0.23	0.0	7.65
August	73.6	0.20	0.0	7.20
September	63.1	0.35	0.0	4.50
October	51.4	0.62	0.0	2.70
November	39.8	1.22	1.0	2.25
December	31.3	1.19	3.6	1.34
Annual	**52.0**	**9.08**	**13.4**	**45.0**

1 Monthly averages for Glenns Ferry from the Western Regional Climatic Center (1905-2012). (www.wrcc.dri.edu/summary/Climsmsid.html).

2 From "Monthly Shallow Pond Evaporation in Idaho", Molnau, Kpordze and Craine, 1992, ASAE Paper PNW 92-111 (Region 3).

2.2.14. Energy Production and Consumption

A majority of the population in the Planning Area consumes energy in the form of electricity, natural gas, propane, and/or fuel oil. However, the City of Glenns Ferry does not actively participate in energy production. Nearly all of the State of Idaho's power demand is supplied by hydroelectric power, which is a renewable energy source.

The city is conscious of energy consumption and proactively retrofitted City Hall with a rigid insulation roof package covered with a white elastomeric membrane system. Additionally, the building has been updated with insulated windows and the exterior has been insulated and covered with stucco.

The City constantly looks for energy saving opportunities when replacing equipment and updating buildings.

2.2.15. Economic and Social Profile

Glenns Ferry has one school that serves all grades, city residents, and adjacent areas. The school is relatively new and up to date.

There is a health clinic for day to day wellness needs. Life Flight is available at the clinic's heliport. Fixed wing flights can utilize the 3,000 foot airport runway.

According to the 2008-2012 American Community Survey 5-Year Estimates for the U.S. Census Bureau, the median household income is $30,429 and the per capita income is $18,168. 14.6 percent of families in Glenns Ferry live at or below the U.S. Health and Human Services poverty level. The unemployment rate is 8.9%.

Data from the U.S. Census Bureau was summarized to obtain social profiles for the City of Glenns Ferry. A summary of information from the 2010 Census is shown below in Table 2-6.

TABLE 2-6. SOCIAL PROFILE

Parameter		Value
Sex		
	Total Population	1,319
	Male	49.1%
	Female	50.9%
Age		
	Under 18 Years	25.6%
	18 to 24 Years	6.4%
	25 to 44 Years	20.3%
	45 to 64 Years	24.8%
	65 Years and Over	23.0%
Race and Ethnicity		
	White	82.2%
	African American	0.2%
	Native American	2.0%
	Asian	0.4%
	Pacific Islander	0.0%
	Multi-Race	3.4%
	Other	11.8%
	Hispanic or Latino	24.6%
Education for Population 25+		
	High School or Higher	79.6%
	Bachelor's Degree or Higher	11.2%
	Graduate Degree	2.3%
Housing		
	Total Housing Units	684
	Average Household Size	2.36
	Vacant Housing Units	18.3%
	Owner-Occupied Housing Units	66.4%
	Renter-Occupied Housing Units	33.6%

1. Data from 2010 Census – U.S Census Bureau

This wastewater system facilities plan provides a roadmap to improve the quality and capacity of basic sanitary services in the city. The intent is to recommend a cost effective solution uniquely suited for a developing rural community while incorporating the environmental safeguards necessary for public welfare.

It appears that no disadvantaged group will be adversely affected by a project to improve the existing wastewater facilities. However, the community in general will collectively benefit from improving the wastewater facilities.

Chapter 3

Existing Wastewater System Conditions

EXISTING WASTEWATER SYSTEM CONDITIONS

3.1 EXISTING COLLECTION SYSTEM

3.1.1 Collection System Evaluation

Two main concrete trunk lines capture flows from the east and west portions of the city. The trunk lines were installed in 1968, the same year the lagoon treatment system was constructed. Much of the collection system is even older than the trunk lines as the city used to collect the wastewater and discharge untreated sewage to the Snake River prior to construction of the lagoons.

A significant percentage of the clay and concrete pipelines installed in the City's collection system have exceeded their design life. Many of the gravity sewer lines need to be rehabilitated or replaced. Root intrusion is common as is lateral cracking within the pipelines. During construction of the golf course several manholes on the west trunk line were buried. Without the ability to off gas it is possible that the concrete pipes in this area are corroding from hydrogen sulfide gas.

The City cleans and videos lines on an as needed basis. Video inspection helps the city identify and prioritize problematic areas. A 2005 – 2007 project replaced portions of the sewer system with PVC pipe.

Flow records to the WWTP indicate that flows increase substantially during and shortly after large rain events. Inflow to the sewer system can primarily be attributed stormwater infiltration. For example, the intersection of Logan and Cleveland sits in a low spot in the city and accumulates stormwater during large rain events. To minimize stormwater ponding and potential flooding of nearby houses, the storm drains in this location are directly connected to the sanitary sewer system. Stormwater inflow can overwhelm the main trunkline to the lagoons. As recently as August 3, 2014 the east trunkline spilled in multiple locations near the water treatment plant out the top of the sewer lids. The City reported the sanitary sewer overflows to IDEQ and EPA. On that day, the influent flow meter at the wastewater treatment plant read 794 gpm (average day flow to the treatment facility is typically 71 gpm). It is recommended that connections such as the one described above need to be eliminated to reduce stormwater inflow to the sewer lagoons.

It appears that most, if not all of the capacity issues within the sewer system are related to stormwater inflow. Removing the connections between the stormwater system and the sewer system would free up capacity. It is believed that groundwater infiltration is very minor to non-existent as the soil type in the area does not support groundwater.

Regardless of capacity availability within the collection system, it is recommended that the City replace all clay and deteriorated concrete pipe incrementally and on a prioritized basis over the coming years. Cleaning and videoing the entire collection system would provide the basis for pipeline repairs and/or replacement. Figure 3-1 shows the collection system and Table 3-1 presents the length of collection line for each diameter.

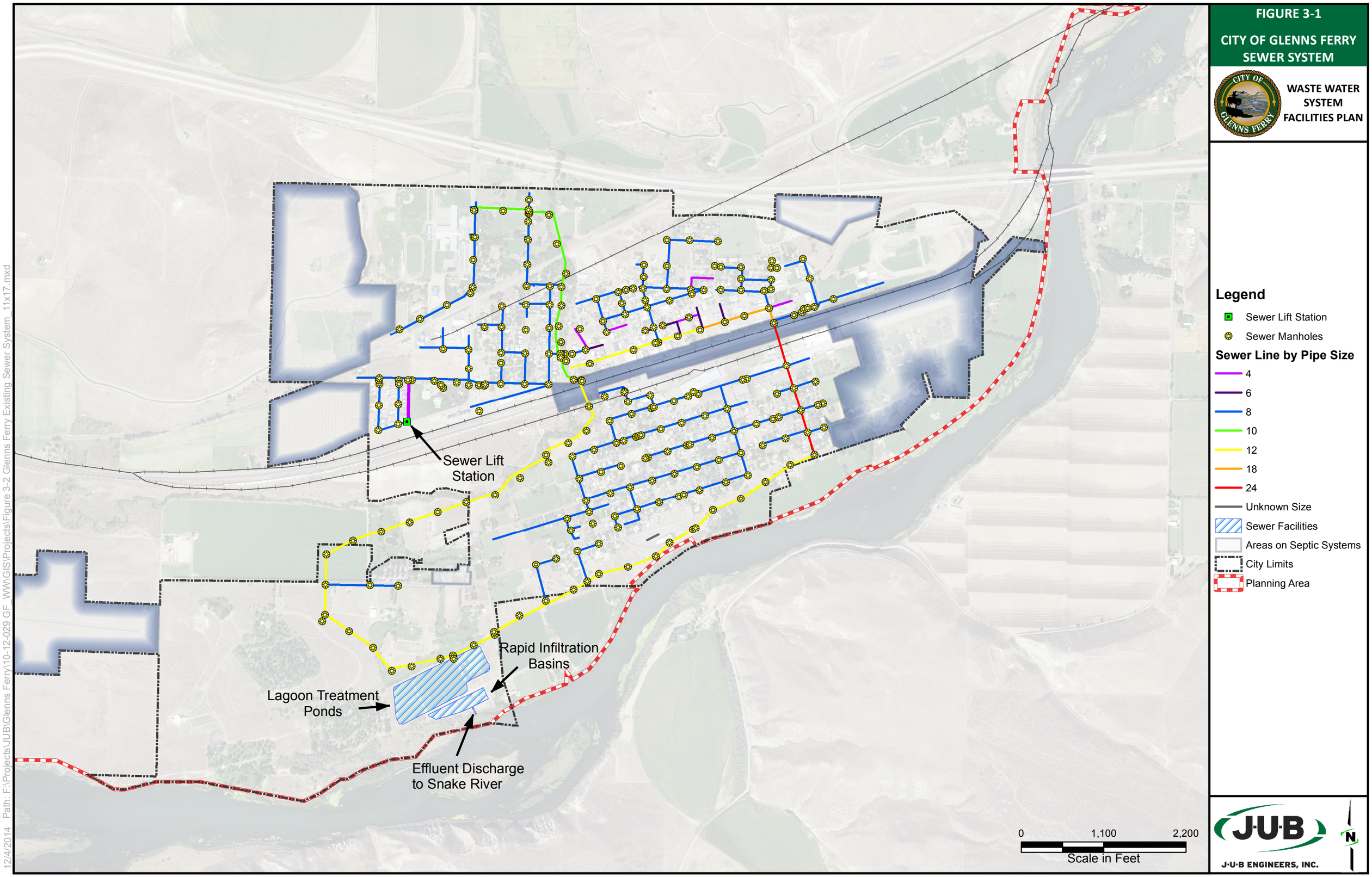


FIGURE 3-1
CITY OF GLENNS FERRY SEWER SYSTEM
WASTE WATER SYSTEM FACILITIES PLAN
Legend
Sewer Lift Station
Sewer Manholes
Sewer Line by Pipe Size
4
6
8
10
12
18
24
Unknown Size
Sewer Facilities
Areas on Septic Systems
City Limits
Planning Area
Sewer Lift Station
Rapid Infiltration Basins
Lagoon Treatment Ponds
Effluent Discharge to Snake River
0
1,100
2,200
Scale in Feet
J-U-B ENGINEERS, INC.
N
Path: F:\Projects\JUB\Glenns Ferry\10-12-029 GF_WW\GIS\Projects\Figure 3-2 Glenns Ferry Existing Sewer System_11x17.mxd
12/4/2014

TABLE 3-1. EXISTING COLLECTION SYSTEM SUMMARY

Pipe Size	Length
4 inch Force Main	552 LF
4 inch Service Laterals	2,169 LF
6 inch	1,242 LF
8 inch	47,766 LF
10 inch	3,518 LF
12 inch	14,943 LF
18 inch	1,108 LF
24 inch	1,875 LF
Summary Total	**73,172 LF**

3.2 EXISTING SEWER LIFT STATION

The city operates a single sewer lift station that was constructed by a developer, likely in the late 1970s. It appears to be operating satisfactorily and the city has had few issues with it. It is a submersible lift station with two constant speed pumps. The City has not repaired or replaced either of the pumps in the past 20 years. It has no SCADA controls, radio telemetry, or alarms. A security fence was recently installed around the lift station. The lift station is not equipped with a backup generator. The lift station serves a residential area of with approximately 25 units; there is land available to add to the lift station service area.

The pump discharge rate is unknown because a flow meter is not installed on the force main. Based on flow monitors installed in the collection system by J-U-B in 2012 it appears that the lift station kicks on approximately 4 times per day. Pump discharge rates are difficult to determine as the flow was attenuated in the downstream gravity lines to approximately 50 gpm by the time it reached the flow meter.

The force main connects to the gravity sewer on Idaho Avenue, located approximately 550 feet north of the lift station. The City reports that the force main appears to be in good condition and they haven't had any issues with it. Figure 3-2 is a photo of the lift station.

3.3 EXISTING WASTEWATER TREATMENT FACILITIES

3.3.1 Overview

As described above, the City's collection system generally consists of a west and east collection basin. Each basin is drained by a 12" diameter gravity trunk line that discharges into a four foot diameter manhole located just north of the lagoons. The manhole has a hand formed invert that collects flows from the two trunk lines and combines them into a south flowing 15" pipe to the adjacent treatment lagoons.

FIGURE 3-2. EXISTING SEWER LIFT STATION

The Glenns Ferry Wastewater Treatment Plant was initially constructed in 1968 and at that time consisted of 4 ponds designated as "Aerated Pond" and Ponds 1-3. The WWTP was modified in 1987 with the addition of four rapid infiltration basins, an alternate inflow pipe, and influent monitoring equipment. A fifth rapid infiltration basin was added in 1991. Effluent is discharged to the Snake River under NPDES permit number ID-002200-4. A process flow diagram of the existing lagoon treatment system is shown in Figure 3-3.

According to IDAPA 58.01.16-493.05, wastewater treatment lagoons need to be located a minimum of 200 feet from residential property lines. The lands immediately surrounding the lagoons are zoned agricultural, public, or are located outside of the city limits. Therefore, the location of the treatment lagoons is in compliance with the IDAPA requirements.

3.3.2 Influent Flow Monitoring

Flow proceeds from the 15" pipe to a Parshall Flume and inlet structure. A Milltronics Multiranger ultrasonic transmitter measures the depth in the 6" Parshall flume and converts the upstream level to a flow rate in gallons per minute. There is also a totalizer that tracks cumulative flow into the lagoons. The Multiranger transmitter and Partlow chart recorder were last recalibrated in 2008. However, the chart recorder is currently not operational and needs to be repaired. As a result, the operator manually records the influent flow rate every day based on totalizer readings. Figure 3-4 is a photo of the influent flow monitoring station.

FIGURE 3-3. TREATMENT LAGOONS PROCESS FLOW DIAGRAM

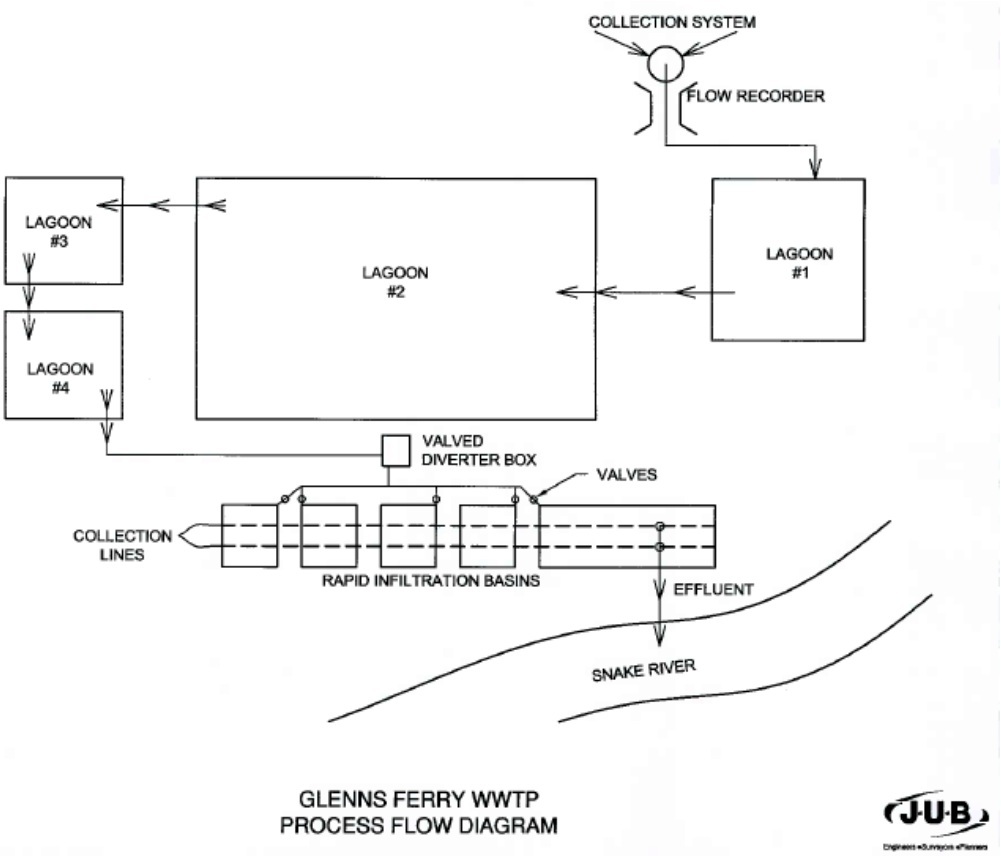


FIGURE 3-4. INFLUENT FLOW MONITORING

3.3.3 Headworks

The headworks structure is not equipped with a bar rack, grinder, or screen. All objects that enter the collection system pass into the treatment lagoons.

Initially two 16" slide gates controlled the flume outflow and directed wastewater to either the Aerated Pond or Pond No.1. During the 1987 upgrade a third 16" diameter slide gate was added in the east side of the inlet structure to provide an alternate outflow to the Aerated Pond. The additional inlet to the Aerated Pond is located approximately 200 feet east of the headworks structure. All pipes to the treatment ponds are 15" diameter. Figure 3-5 shows the headworks area.

FIGURE 3-5. HEADWORKS STRUCTURE

3.3.4 Treatment Lagoons and Rapid Infiltration Basins

The treatment system employed at the Glenns Ferry Wastewater Treatment Facility is generally referred to as an Aerated Facultative Lagoon Process. In this system, the incoming wastewater is treated in an aerated lagoon, three non-aerated lagoons (in series), and five rapid infiltration basins (in parallel).

In the Aerated Facultative Lagoon Process, the microorganisms are divided into three classes: aerobic, anaerobic, and facultative. Aerobic microorganisms predominate in the aerated pond and the upper portions of the non-aerated lagoons and utilize soluble organics and oxygen to

produce CO_2, water, and more aerobic microorganisms. Anaerobic microorganisms predominate in the lowest lagoon zones and utilize organic sediments for an energy source. The anaerobic process produces by-products of carbon dioxide (CO_2), water, and soluble organics. Facultative microorganisms have the ability to adapt to either aerobic or anaerobic conditions. Facultative microorganisms utilize oxygen and soluble organics as energy sources and predominate just above the lagoon bottom.

In the aerated lagoon, three 5 HP mechanical surface aerators provide mixing and elevated oxygen content so aerobic microorganisms can utilize the organic waste material as a food source. Two of the surface aerators have been damaged by plastic bags and other debris that entered the aerated pond. After flowing through the aerated pond, the sewage passes through the three non-aerated facultative lagoons in series. Series operation allows more suspended solids to settle before discharge and provides additional detention time for treatment of organic materials. Figure 3-6 shows an aerial view of the lagoon treatment system.

FIGURE 3-6. GLENNS FERRY WASTEWATER TREATMENT LAGOONS

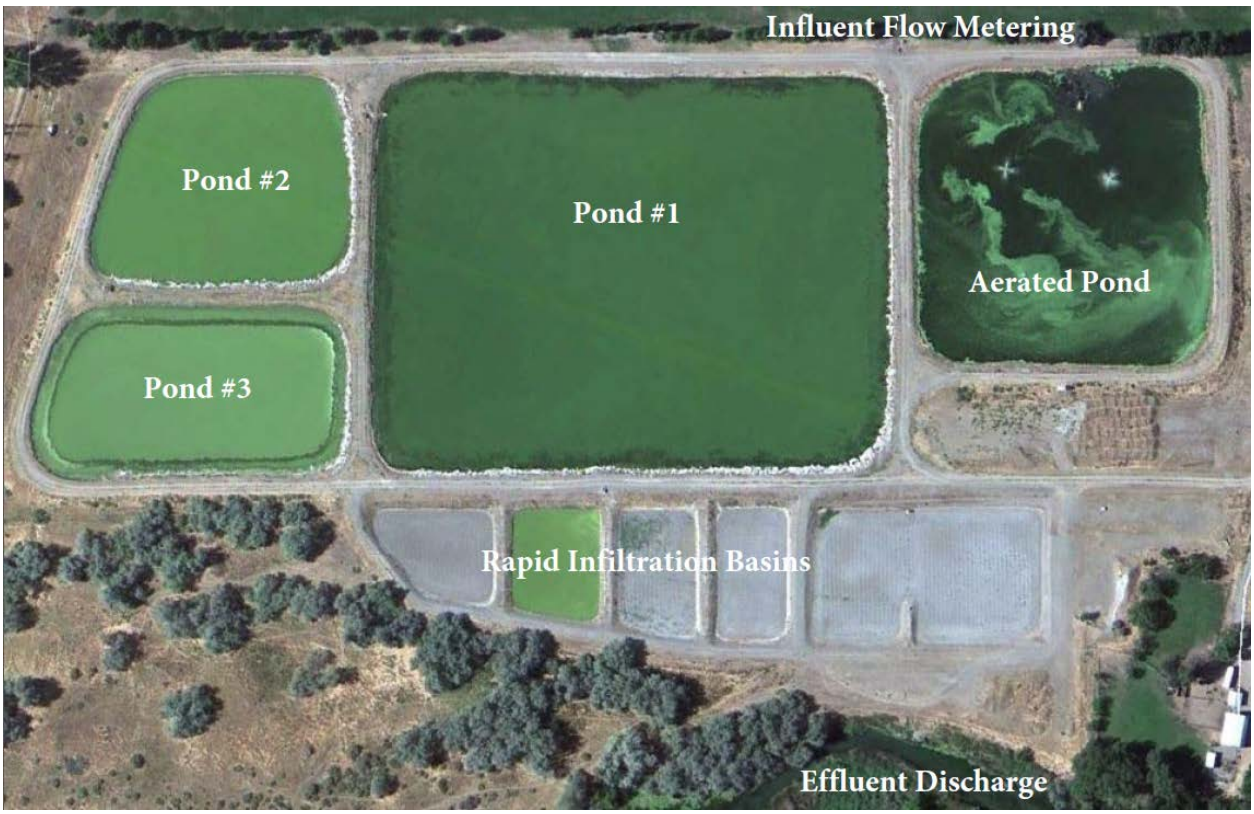


Figure 3-7 shows Facultative Pond #1.

FIGURE 3-7. GLENNS FERRY TREATMENT FACILITY – FACULTATIVE POND #1

Rapid Infiltration Basins were constructed as a back end filtration process to remove additional BOD, E. Coli bacteria, and suspended solids such as algae, which can become established in the upper layers of the lagoon surface during the summer and fall. The RI Basins utilize a combination of physical and biological processes and must be maintained in an aerobic condition (i.e., dosed relatively rapidly). The RI basins are typically dosed sequentially and in parallel so they can rest and regenerate in between uses. The effluent is filtered and collected in an underdrain system which flows to the outfall pipe and is discharged to the Snake River.

The City's lagoons have the operating characteristics reported in Table 3-2. The Rapid Infiltration Basin Design Parameters are shown in Table 3-3.

TABLE 3-2. LAGOON OPERATING CHARACTERISTICS

Lagoon Cell	Water Surface Area (acres)	Design Water Depth (ft)	Calc'd Volume (Mgal)	Average Sludge Depth [1] (ft)	Sludge Volume (Mgal)	Effective Lagoon Volume (Mgal)	Percent Sludge (%)
Aerated Pond	2.81	8.0	6.11	2.5	1.53	4.58	25.0
Pond #1	6.58	5.0	9.95	1.0	1.84	8.11	18.5
Pond #2	1.56	5.0	2.18	1.0	0.36	1.82	16.5
Pond #3	1.56	5.0	2.18	1.0	0.36	1.82	16.5
Total	**12.5**		**20.4**		**4.1**	**16.3**	

1. Average sludge depth in aerated pond reported to be 1.94 ft with local areas as deep as 4 ft. Assumed 2.5 ft to be conservative. Sludge depth in Ponds #1-3 were not measured but were conservatively estimated to be 1.0 ft.

TABLE 3-3. RAPID INFILTRATION BASIN DESIGN PARAMETERS

Basin Number	Infiltration Area (ft^2)	Design Water Depth (ft)	Design Application Rate (inches/day)
RI Basin #1	12,690	3	9.8
RI Basin #2	12,690	3	9.8
RI Basin #3	12,690	3	9.8
RI Basin #4	12,690	3	9.8
RI Basin #5	43,560	1.5	4.3

3.3.4.1 Lagoon Seepage

IDEQ Rules require that all wastewater storage lagoons be seepage tested. According to IDAPA 58.01.16, the 5-day average seepage rates need to be less than 0.25 in/day, the maximum seepage rate allowed for lagoons built prior to April 15, 2007. Seepage tests were conducted on the Aerated Pond and Ponds #1, #2, and #3 between September 22nd and October 20th, 2011. The 5-day average seepage rates were estimated for each lagoon and are given below in Table 3-4. The lagoons passed the seepage test and will not have to be tested again until 2021 unless the lagoons are damaged, signs of leaking are apparent, or regulations change.

TABLE 3-4. 5-DAY AVERAGE SEEPAGE RATES

Lagoon No.	Seepage Rate (in/day)		
	5-Day Average	Error (+/-)	Allowable
Aerated Pond	0.0630	0.0175	0.25
Pond #1	0.0968	0.0331	0.25
Pond #2	0.0348	0.0410	0.25
Pond #3	0.0858	0.0166	0.25

3.3.4.2 Transfer Structures and Piping

Two transfer structures direct flow from the Aerated Pond. Transfer structure No. 1 conveys waste water from the Aerated Pond to Pond No. 2, providing a method to bypass Pond No.1. Transfer structure No.1 is located in the NW corner of the Aerated Pond and consists of a four foot diameter manhole with concrete baffle and check boards to regulate the water surface elevation. The inlet and outlet pipes are eight inch diameter.

Transfer structure No. 2 is located in the SW corner of the Aerated Pond and conveys flow from the Aerated Pond to Pond No. 1. Both transfers share the same design and have eight inch diameter inflow and outflow pipes.

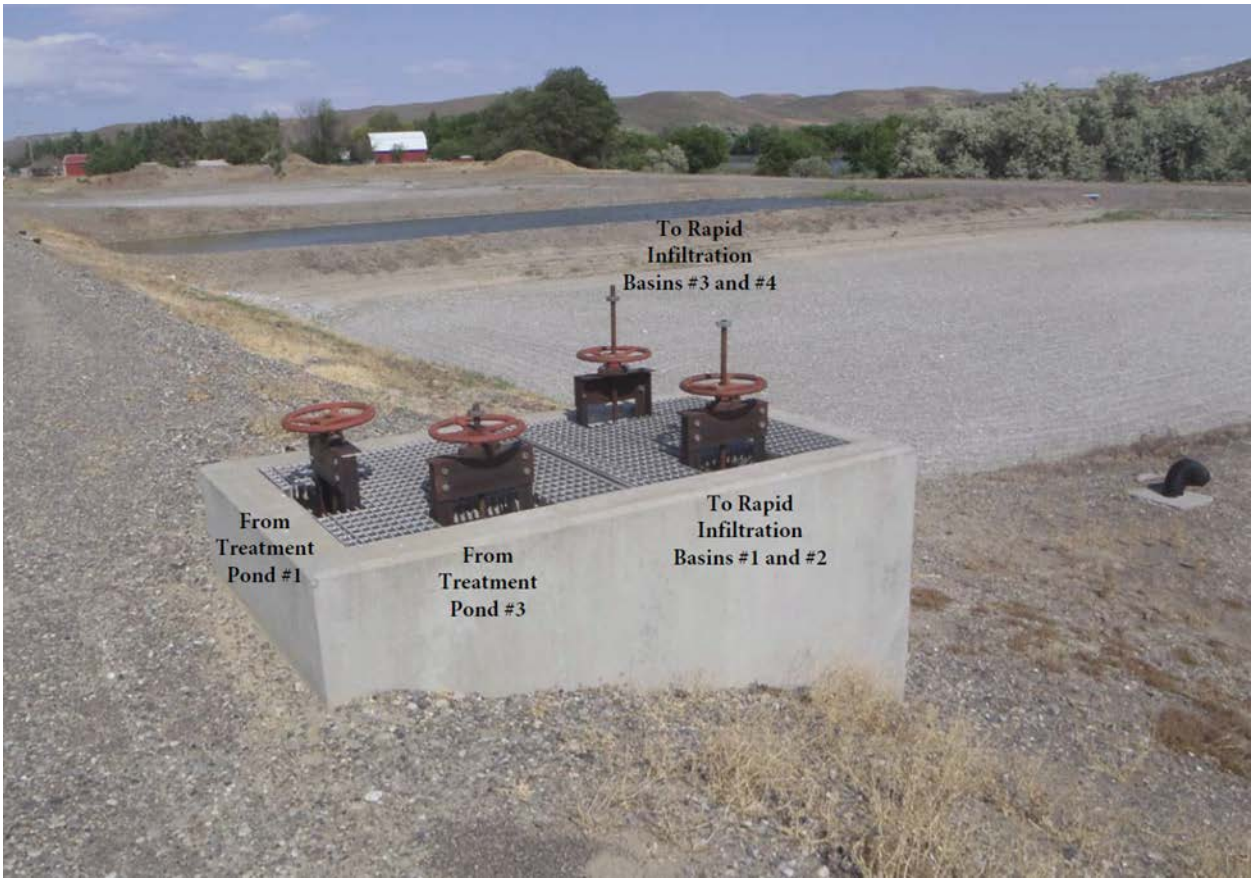
Wastewater flows from Pond No. 1 to Pond No.2 through Transfer Structure No. 3 which shares a common design with Transfer Structures No. 1 and No.2. Pond No. 1 also has a surface transfer structure designated Surface Transfer No. 1. This apparatus provides an overflow/emergency relief if the surface water exceeds the maximum elevation. Surface Transfer No. 1 is constructed with a standard 24" head gate and 24" diameter pipe. A drain line is also furnished in Pond No.1. The eight inch diameter drain line is located in the SW corner of the pond and is equipped with a valve. The drain line allows the operator to bypass Pond No.2 and No.3 and terminates in the Distribution Transfer Structure.

Flow proceeds from Pond No. 2 to Pond no. 3 through Transfer Structure No. 4. Transfer Structure No. 4 is located in the SW corner of the Pond and is constructed similarly to Transfer Structures Nos. 1 to 3 except that it contains a slide gate to regulate outflow. Surface Transfer No. 2 also connects Ponds Nos. 2 and 3. Surface Transfer Structures No. 1 and No. 2 are identical.

Flow discharges from Pond No. 3 through an Outlet Structure. The outlet structure is a four foot diameter concrete manhole with baffle, check boards, and slide gate. The inlet and outflow pipes are eight inch diameter. The operator can control plant flows from this structure.

A distribution transfer structure directs flow to one of the five rapid infiltration (RI) basins. The RI basins provide tertiary treatment and can be dosed sequentially or in parallel. After final treatment in the rapid infiltration basin, the effluent is collected in an underdrain system and discharged to the Snake River. Figure 3-8 shows a photo of the RI basin transfer structure.

FIGURE 3-8. TRANSFER STRUCTURE TO RI BASINS



3.3.4.3 Electrical and Instrumentation

3-phase overhead power is delivered to the facility by Idaho Power. Disconnects and starters are housed under a weather/sun enclosure adjacent to the aerated pond (see Figure 3-9).

There currently is no SCADA system or any other remote monitoring/controls at the lagoon facility.

3.3.4.4 Biosolids Accumulation

A quick visual inspection indicates that the aerated pond has significant solids build up in it. This is shown below in Figure 3-10. As the solids settle to the bottom of the lagoons, they form a biosolids, or "sludge", layer. A portion of these biosolids slowly undergo anaerobic degradation and are released back into the wastewater as various gases, solids and soluble organics. Typically the biosolids are accumulated faster than they degrade. In addition, a fraction of solid matter is inert and cannot degrade.

Figure 3-11 shows the sludge depths in the aerated pond as measured by Rural Water in 2012. One can see that there is significant sludge buildup in this pond particularly around the edges and along the north side where the influent enters the pond. The sludge depth is minimal near the surface aerators because the pond is well-mixed at those locations and the solids remain in suspension.

FIGURE 3-9. TREATMENT FACILITY POWER

FIGURE 3-10. BIOSOLIDS ACCUMULATION IN AERATED POND

FIGURE 3-11. SLUDGE DEPTHS IN AERATED POND

It is likely that the solids have continued to accumulate since they were last measured 2 years ago. The large volume of debris and sludge in the aerated pond can be attributed to the age of the lagoons and not having any form of pretreatment that would remove screenable material. The City does not believe that sludge has ever been removed from the aerated pond since it was constructed in 1968. Sludge buildup in the facultative cells was not measured but is likely minimal since the flow needs to pass over a weir to enter these lagoons. It is anticipated that the vast majority of the sludge settles out in the aerated pond.

3.3.5 Effluent Disinfection

The City does not have an effluent disinfection system.

3.3.6 Effluent Flow Monitoring

The City does not have an effluent flow meter. For the purposes of calculating wastewater loads the City has been conservatively assuming the effluent flow rate is equal to the influent flow rate.

3.3.7 Effluent Disposal and NPDES Permit

Effluent discharge to the Snake River is shown below in Figure 3-12. One can see that the water quality is quite good for lagoon effluent.

FIGURE 3-12. EFFLUENT DISCHARGE

Effluent is discharged into the Snake River under NPDES permit number ID-002200-4. The permit became effective January 1, 2012 and expires January 1, 2016. The city's waste load allocations and permit limits are shown in Table 3-5. A copy of the complete permit is included in the Appendix.

TABLE 3-5. NPDES PERMIT LIMITS

Table 1: Effluent Limitations and Monitoring Requirements Outfall 001						
	Effluent Limitations			Monitoring Requirements		
Parameter	Average Monthly Limit	Average Weekly Limit	Instantaneous Maximum Limit	Sample Location	Sample Frequency	Sample Type
Flow mgd	---	---	---	Influent	Continuous	Recording
Flow mgd	---	---	---	Effluent	1/week	Estimate
Biochemical Oxygen Demand (BOD_5)	30 mg/L	45 mg/L	---	Effluent	1/month	8-hour composite
	≥85% removal	---	---	Influent and Effluent[1]	---	Calculation[2]
	125 lbs/day	188 lbs/day	---	Effluent	1/month	Calculation[3]
Total Suspended Solids (TSS)	30 mg/L	45 mg/L	---	Effluent	1/month	8-hour composite
	≥85% removal	---	---	Influent and Effluent[1]	---	Calculation[2]
	125 lbs/day	188 lbs/day	---	Effluent	1/month	Calculation[3]
E. coli Bacteria	126 colonies/ 100 mL[4]	---	406 colonies/ 100 mL[5]	Effluent	5/month	Grab
pH	6.5 – 9.0			Effluent	1/week	Grab
Total Phosphorus, as P	6.1 mg/L	---	---	Influent and Effluent	1/month	8-hour composite
	25.6 lbs/day	38.4 lbs/day	---			Calculation[3]
Total Ammonia as Nitrogen[6], mg/L	---	---	---	Effluent	1/month	8-hour composite
NPDES Application Form 2A Effluent Testing Data	---	---	---	Effluent	1 each in 2nd, 3rd, & 4th years of the permit	See footnote 7

3.3.7.1 Permit Violations

Glenns Ferry received a notice of violation (NOV) on January 29, 2009 as a result of a site visit by EPA. A copy of the violation letter is included in the Appendix. Table 3-6 describes the cited deficiencies and violations.

TABLE 3-6. 2009 NOTICE OF VIOLATION

Description	Category	Resolution
Debris within the influent flow channel and vegetative growth within the aerated pond.	Deficiency	Debris was removed from the influent channel. Vegetative growth is sprayed 3 times/year by Dave's Lawn and Garden.
The principal executive officer was not signing Discharge Monitoring Reports (DMR)	Deficiency	The Mayor now signs DMRs.
The city had conducted only one year of surface water monitoring on the Snake River instead of four years as required by the NPDES permit.	Violation	The City will collect the data until the minimum required samples have been acquired.
The Operations Manual was not available during the inspection	Violation	O&M Manual was updated and submitted to the State for review.
A Quality Assurance Plan (QAP) was not developed	Violation	A Quality Assurance Plan was developed.
Incorrect calculation of BOD and TSS	Violation	BOD and TSS are now being calculated as instructed during the inspection.

3.4 EXISTING FLOWS AND LOADS

3.4.1 General

Influent flow and sampling data were compiled and analyzed to evaluate existing flows and waste loads. This information was then used as a basis for projecting future flows and waste loads in Chapter 4.

3.4.2 Existing Influent Flows

The influent flows to the treatment lagoons from January 2011 through December 2013 are shown below in Figure 3-13. These flows are recorded daily by the operator based on the totalizer reading from the influent Parshall flume using the ultrasonic transmitter.

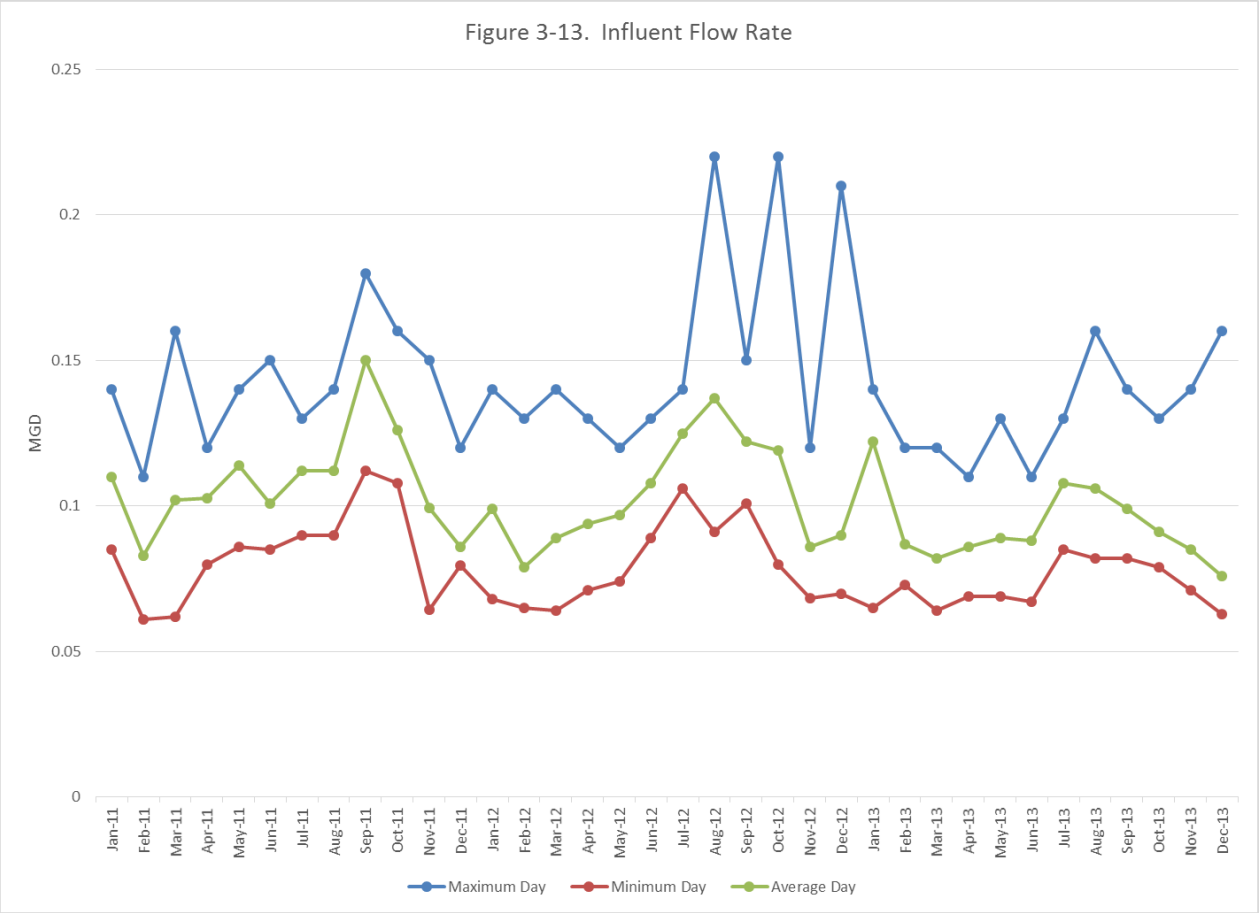


Table 3-7 shows the average day flows for the past 3 years. An average of these 3 flows was used as the existing 2014 flow rate.

TABLE 3-7. INFLUENT FLOW RATES

Year	Average Day Flow
2011	108,200 gal/day
2012	103,800 gal/day
2013	93,200 gal/day
Existing Flow	**101,700 gal/day**

It should be noted that the flow rates dropped significantly (approximately by 60,000 gal/d) after the Idahoan potato processing plant shut down in the spring of 2008. This reflects both the lack of wastewater discharge by the facility as well as unemployed families moving from Glenns Ferry to find work elsewhere (nearly 10 percent of the town lost their jobs).

The peaking factors shown in Table 3-8 were developed based on the available data.

TABLE 3-8. GLENNS FERRY PEAKING FACTORS

Flow Condition	Peaking Factor	Basis
Maximum Month	1.47	Based on daily totalizer readings at influent flume
Peak Day	2.16	Based on daily totalizer readings at influent flume
Peak Hour	3.76	Based on 60 minute average of flows from flow monitoring at lagoons (Oct 3-17, 2012)
Instantaneous Peak	7.17	Based on instantaneous peak flow event from flow monitoring at lagoons (Oct 3-17, 2012). These short duration instantaneous peaks are a result of tank cleans at the water treatment plant, which occur every other day.

The peaking factors developed above are similar to data from other cities in the region.

TABLE 3-9. PEAKING FACTORS FROM OTHER IDAHO CITIES

Location	Maximum Month	Peak Day	Peak Hour
Kimberly	1.18	1.89	3.31
Filer	1.47	2.11	2.65
Hagerman	1.14	-	-
Carey	1.30	-	-

It should be noted that the peak hour peaking factor for Glenns Ferry is higher than normal because of the membrane tank cleans at the water treatment plant. The first membrane tank is drained every other day at approximately 2,250 gpm for 4 minutes. The second tank is drained at the same flow rate approximately 1 hour later. The water treatment plant has the ability to store the flow and meter it into the sewer system but at this time equalization is not used nor is it required.

The existing influent flow rates to the treatment facility are shown below in the Table 3-10.

TABLE 3-10. INFLUENT FLOW RATES

Flow Condition	Flow Rate
Average Day	101,700 gallons/day
Maximum Month[1]	150,000 gallons /day
Peak Day[1]	220,000 gallons /day
Peak Hour[2]	382,400 gallons /day
Average Day Per Capita[3]	75 gallons/person/day

1. Based on daily totalizer readings at the influent flume.
2. Based on flow monitoring October 2012.
3. Based on a population of 1,358 served by the sewer system.

According to City staff, there are approximately 600 occupied sewer connections. This results in an average day flow of approximately 170 gallons per connection or 75 gallons per person per day for the portion of the community that discharges to the lagoons (there are approximately 30 customers that have potable water service but still use a septic system for wastewater disposal).

3.4.3 Existing Influent Concentrations

Influent BOD and TSS concentrations are shown below in Table 3-11. These are based on monthly sampling data collected from January 2009 through May 2014 (2007 and 2008 sampling data were not used due to the potential influence of the Idahoan potato processing plant, even though most of the industrial waste from that facility was disposed offsite on farmland). The City does not have any phosphorus or nitrogen influent data.

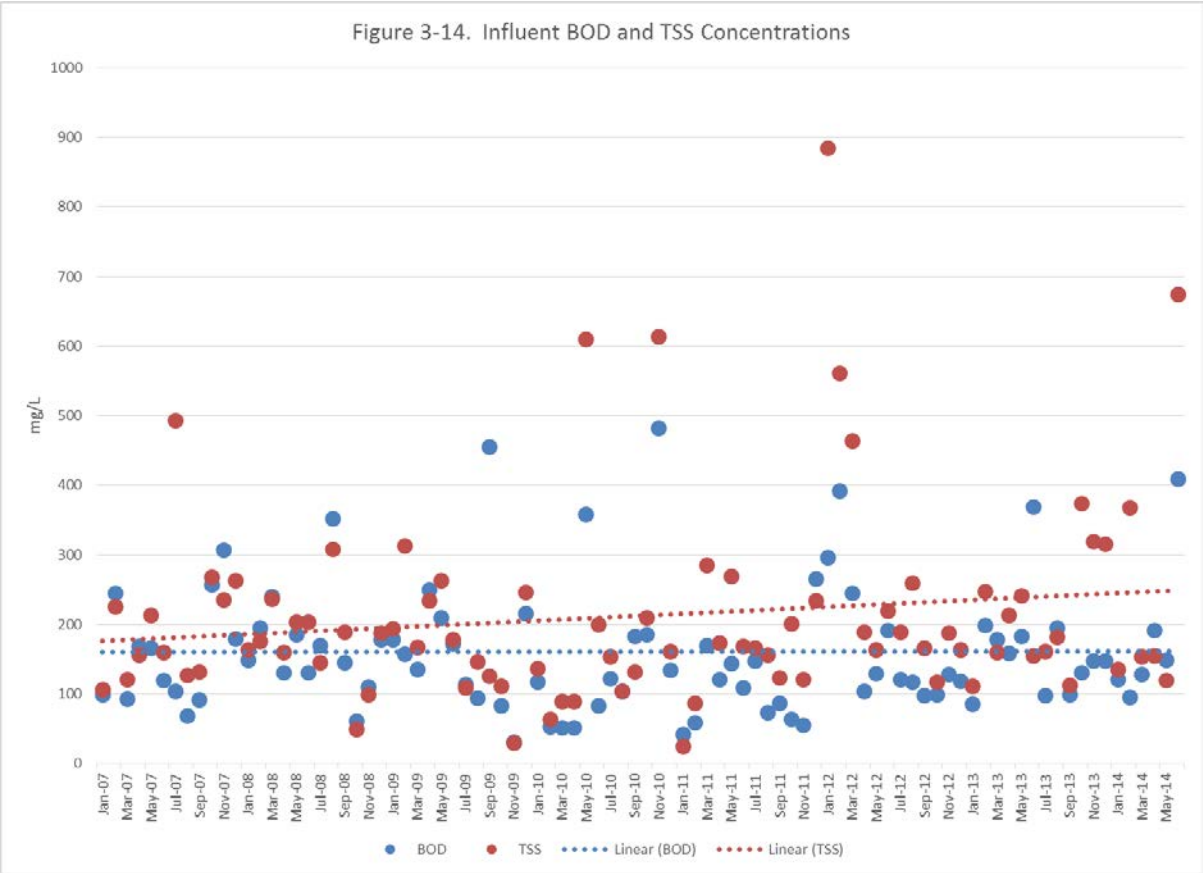
One can see by looking at Table 3-11 that the influent can be described as lower strength wastewater when compared to other communities in the region.

TABLE 3-11. INFLUENT WASTEWATER CONCENTRATIONS

	BOD	TSS	Total P	TKN
Calculated [1]	159	219	NA	NA
Typical Domestic at Nearby Communities [2]	300	300	8	50

1. Based on sampling data from 2009-2014
2. Typical values in southern Idaho based on sampling data at similar communities (Filer, Wendell, Murtaugh, and Hazelton). Many southern Idaho communities have higher strength wastewater than average, which is defined by Metcalf and Eddy as BOD = 190 mg/L and TSS = 210 mg/L (M&E, 2003, pg 186).

Figure 3-14 shows influent BOD and TSS concentrations and trendlines going back to 2007.



Peaking factors for the influent loads were developed based on data from similarly-sized communities in the region as shown below in Table 3-12.

TABLE 3-12. TYPICAL WASTE LOAD PEAKING FACTORS

Parameter	Kimberly	Filer	Hagerman	M&E [1]	Average Used for Glenns Ferry
BOD					
Max Month	1.30	1.40	1.69	1.30	1.42
Peak Day	2.27	3.20	-	2.65	2.71
TSS					
Max Month	1.51	1.50	1.50	1.30	1.45
Peak Day	2.30	4.20	-	2.80	3.10
TKN					
Max Month	1.30	1.30	1.51	1.35	1.37
Peak Day	2.17	2.20	-	2.30	2.22
Total P					
Max Month	1.25	1.30	1.47	1.35	1.34
Peak Day	1.75	1.80	-	1.95	1.83

1. Metcalf & Eddy, 2003, Figure 3-8.

A summary of the existing waste loads to the lagoons are shown below in Table 3-13.

TABLE 3-13. INFLUENT WASTE LOAD SUMMARY

Parameter	Load Condition	Existing Concentration / Loading	Units
BOD	Average Day	159	mg/L
	Average Day	135	pounds/day
	Average Day	0.10	pounds/capita/day
	Maximum Month	192	pounds/day
	Peak Day	365	pounds/day
TSS	Average Day	219	mg/L
	Average Day	186	pounds/day
	Average Day	0.14	pounds/capita/day
	Maximum Month	270	pounds/day
	Peak Day	577	pounds/day
TKN	Average Day	50	mg/L
	Average Day	42	pounds/day
	Average Day	0.03	pounds/capita/day
	Maximum Month	57	pounds/day
	Peak Day	93	pounds/day
Total-P	Average Day	8.0	mg/L
	Average Day	7	pounds/day
	Average Day	0.01	pounds/capita/day
	Maximum Month	9	pounds/day
	Peak Day	13	pounds/day

1. Maximum month and peak day loadings were calculated by multiplying the average day loading by the peaking factor developed in Table 3-12.

3.4.4 Existing Effluent Flows

The treatment facility does not have an effluent flow meter. For the purposes of permit compliance and calculating waste loads, the city has taken a very conservative approach in assuming that the effluent flow is equal to the maximum day influent reading of that month. In reality, effluent flow should be significantly less than the influent flow due to evaporation and seepage. According to calculations, it is likely that the effluent flow is less than 50% of the influent flow rate on an annual basis.

Table 3-14, below, indicates that an average influent flow of 101,700 gallons/day will result in an average effluent flow of 42,000 gallons/day when taking into account evaporation and seepage. It also shows that effluent flow rates vary dramatically depending on the time of year.

TABLE 3-14. EFFLUENT FLOW CALCULATIONS

	Inflow		Precipitation		Evaporation		Seepage		Net Effluent	Effluent Flow
Month	**gal/day**	**Mgal**	**Inches**	**Mgal**	**Inches**	**Mgal**	**Inches**	**Mgal**	**Mgal**	**gal/day**
Oct	101,700	3.15	1.28	0.43	0.23	0.08	2.48	0.84	2.66	86,000
Nov	101,700	3.05	0.95	0.32	0.68	0.23	2.40	0.82	2.32	77,000
Dec	101,700	3.15	0.83	0.28	1.80	0.61	2.48	0.84	1.98	64,000
Jan	101,700	3.15	0.72	0.24	3.60	1.22	2.48	0.84	1.33	43,000
Feb	101,700	2.85	0.84	0.29	6.30	2.14	2.24	0.76	0.24	9,000
Mar	101,700	3.15	0.66	0.22	6.75	2.29	2.48	0.84	0.24	8,000
Apr	101,700	3.05	0.23	0.08	7.65	2.60	2.40	0.82	0.00	0
May	101,700	3.15	0.20	0.07	7.20	2.45	2.48	0.84	0.00	0
Jun	101,700	3.05	0.35	0.12	4.50	1.53	2.40	0.82	0.82	27,000
Jul	101,700	3.15	0.62	0.21	2.70	0.92	2.48	0.84	1.60	52,000
Aug	101,700	3.15	1.22	0.41	2.25	0.76	2.48	0.84	1.96	63,000
Sep	101,700	3.05	1.19	0.40	1.34	0.46	2.40	0.82	2.17	72,000
Total		**37.10**	**9.08**	**3.07**	**45.00**	**15.29**	**29.24**	**9.92**	**15.32**	

1. Based on average precipitation and evaporation numbers as reported for Glenns Ferry, ID. Existing lagoon surface area for the four cells = 12.5 acres. Weighted lagoon depth = 5.7 ft and weighted seepage rate = 0.08 in/day (from seepage test results).

As waste loads begin to approach the permit limits it may be beneficial for the city to install an effluent flow meter to more accurately quantify the loads that are being discharged to the Snake River. As it currently stands, the City is likely reporting higher discharge loads than are actually being discharged.

3.4.5 Existing Effluent Concentrations and Loads

Table 3-15 shows the existing effluent concentrations and loads from the Glenns Ferry wastewater treatment plant. The loads shown below are what were submitted on the Discharge Monitoring Reports. As described above, these assume the effluent flow is equal to the maximum day influent flow from the month, which is an extremely conservative assumption. Despite this, the treatment facility easily meets the loading requirements for all permitted parameters. One can see that the treatment plant is operating well within its permit limits on an average day basis.

TABLE 3-15. EFFLUENT CONCENTRATIONS AND LOADINGS VERSUS PERMIT LIMITS

	Units	Value [1]	Permit [2]
BOD			
Concentration	mg/L	8.1	30
Loading	ppd	9.8	125
Percent Removal	%	93	85
TSS			
Concentration	mg/L	15.8	30
Loading	ppd	20.3	125
Percent Removal	%	89	85
Total P			
Concentration	mg/L	2.14	NA
Loading	ppd	2.66	25.6
Ammonia-N			
Concentration	mg/L	1.7	NA
pH			
Minimum	-	7.56	6.5
Maximum	-	7.77	9
E. Coli			
Geometric Mean	#/100 mL	18.6	126
Instantaneous Max	#/100 mL	82.6	406

1. Average value from 2009-2014.
2. Average monthly limit from NPDES permit.

Graphs and trendlines for all effluent data are shown on the following pages in Figures 3-15 to 3-26. One can see that there are some excursions beyond the permit limits for a few effluent parameters, particularly effluent TSS. The TSS permit violations are likely due to algae growth.

Figure 3-15. Effllluent BOD and TSS Concentrations

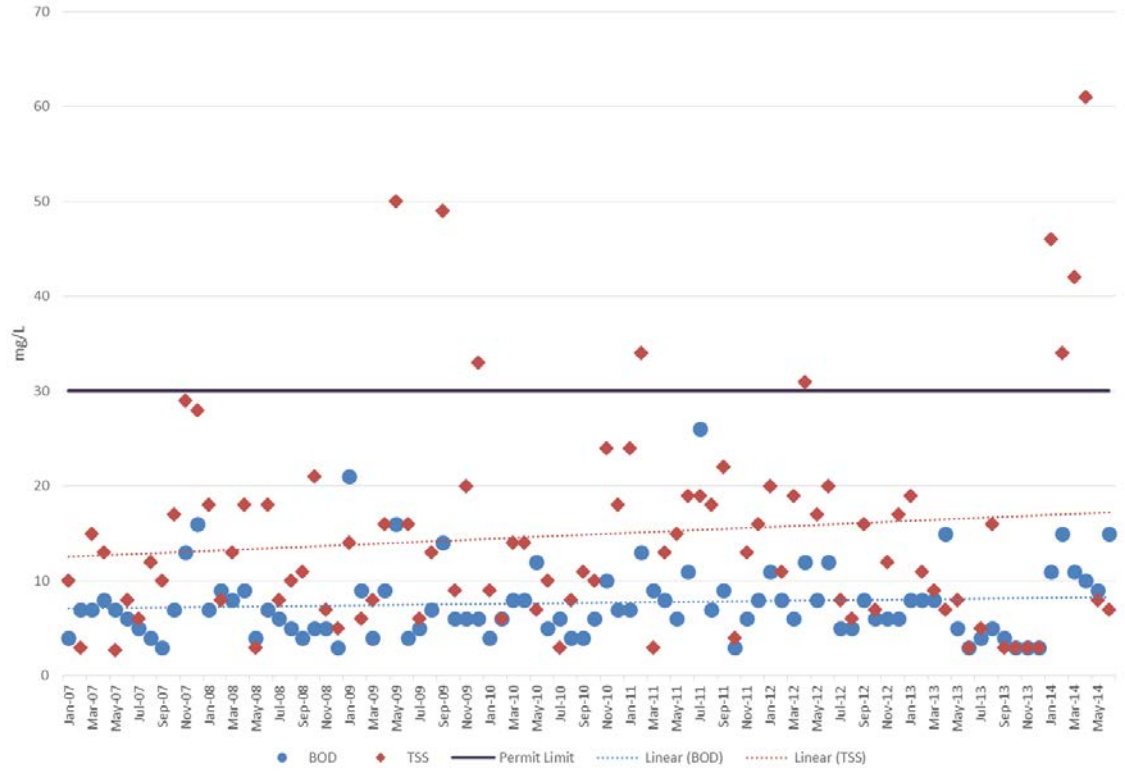
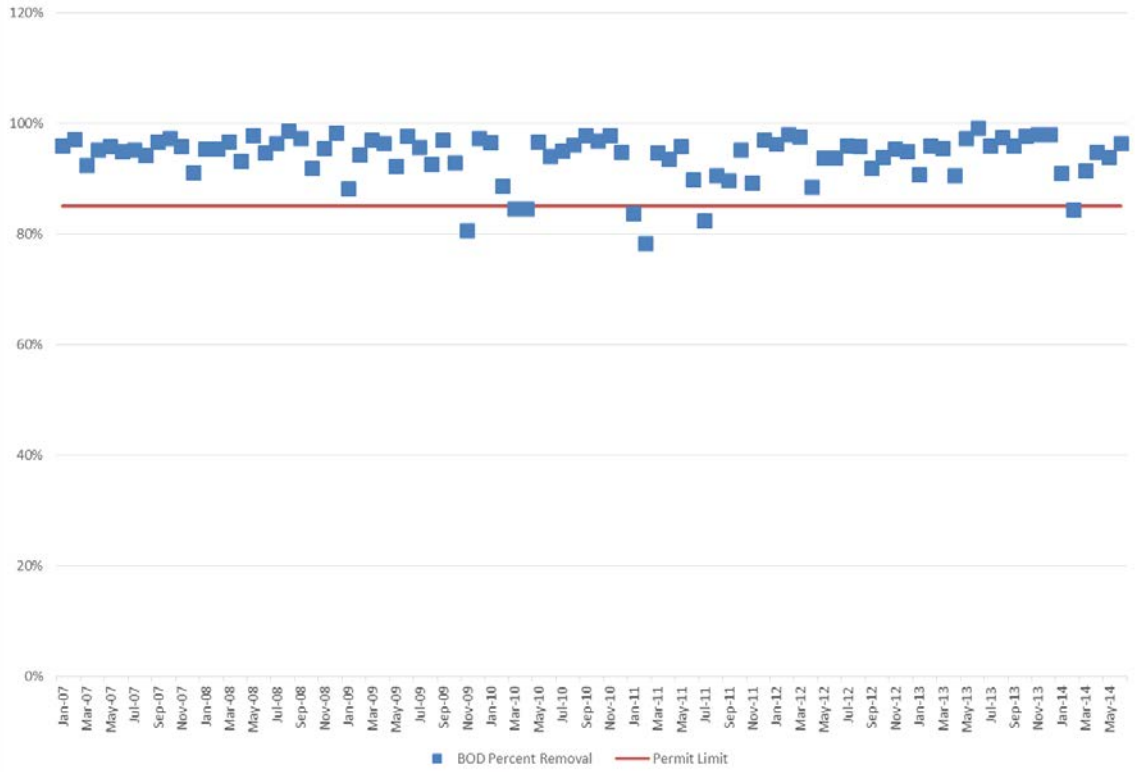


Figure 3-16. BOD Percent Removal



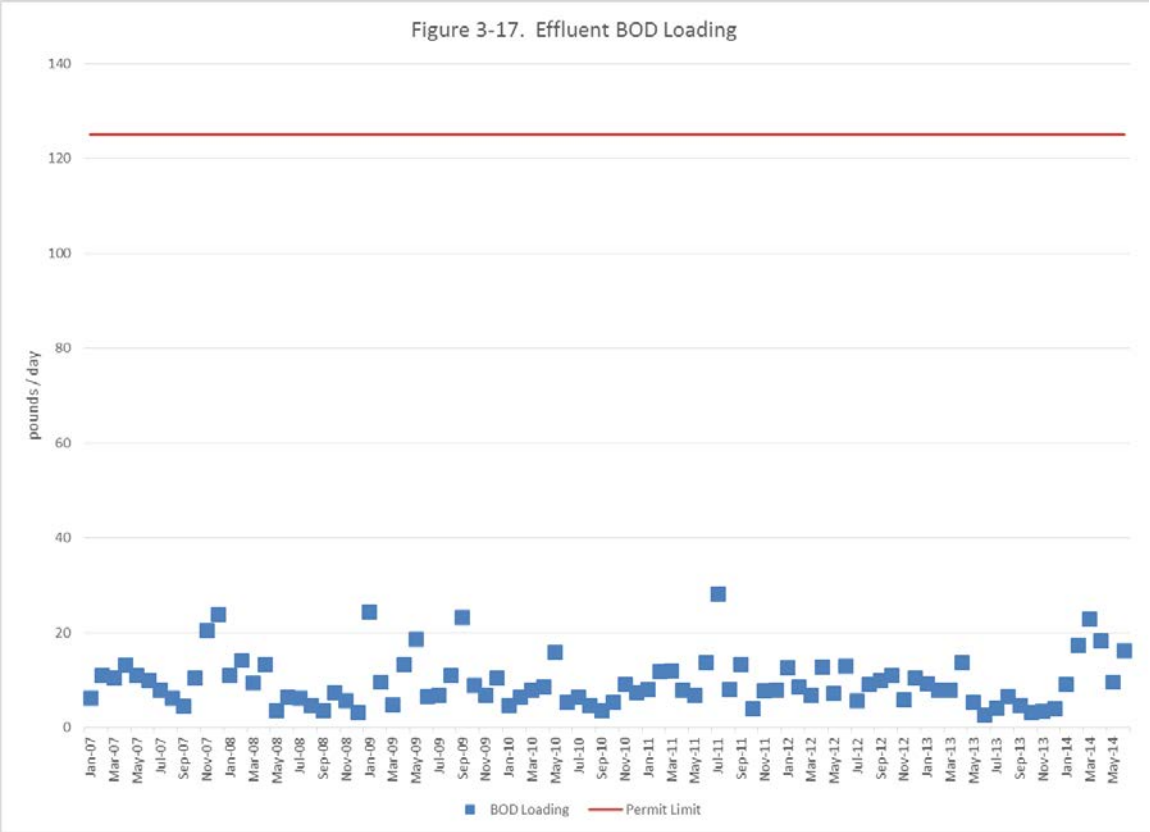


Figure 3-17. Effluent BOD Loading
pounds / day
140
120
100
80
60
40
20
0
Jan-07
Mar-07
May-07
Jul-07
Sep-07
Nov-07
Jan-08
Mar-08
May-08
Jul-08
Sep-08
Nov-08
Jan-09
Mar-09
May-09
Jul-09
Sep-09
Nov-09
Jan-10
Mar-10
May-10
Jul-10
Sep-10
Nov-10
Jan-11
Mar-11
May-11
Jul-11
Sep-11
Nov-11
Jan-12
Mar-12
May-12
Jul-12
Sep-12
Nov-12
Jan-13
Mar-13
May-13
Jul-13
Sep-13
Nov-13
Jan-14
Mar-14
May-14
BOD Loading
Permit Limit

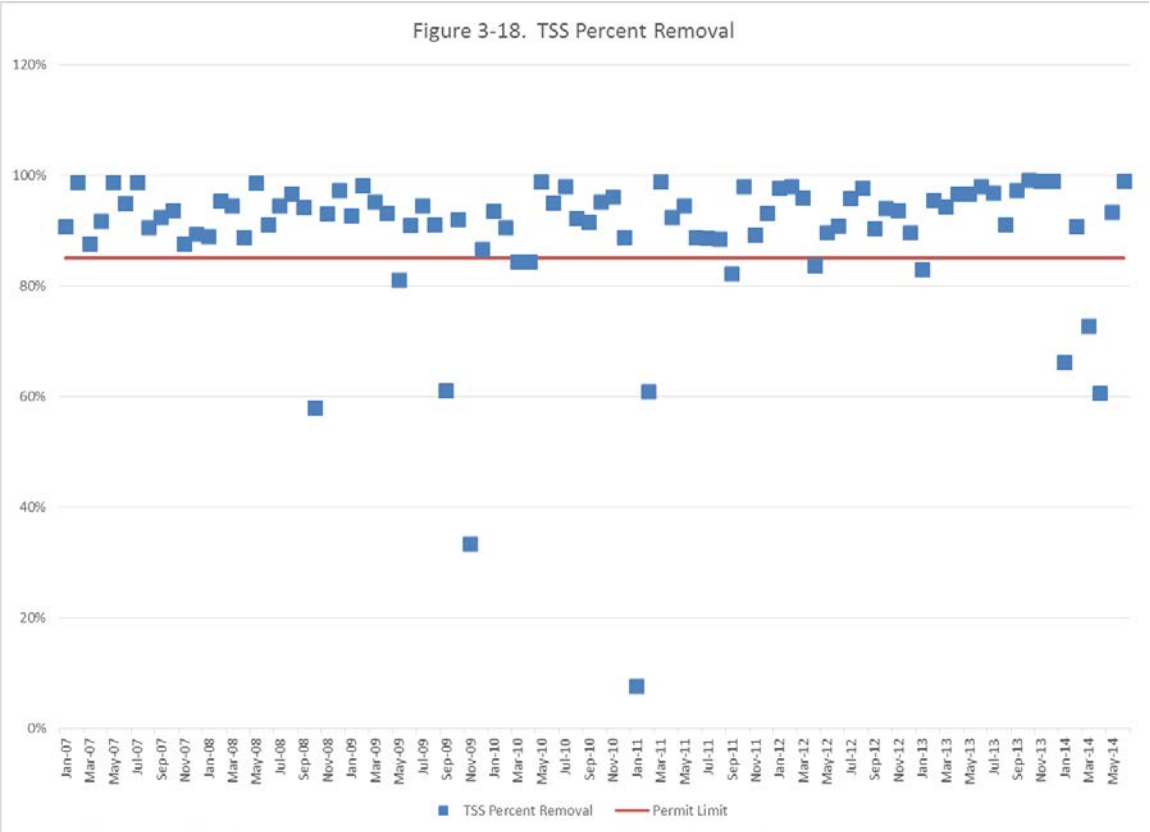


Figure 3-18. TSS Percent Removal
120%
100%
80%
60%
40%
20%
0%
Jan-07
Mar-07
May-07
Jul-07
Sep-07
Nov-07
Jan-08
Mar-08
May-08
Jul-08
Sep-08
Nov-08
Jan-09
Mar-09
May-09
Jul-09
Sep-09
Nov-09
Jan-10
Mar-10
May-10
Jul-10
Sep-10
Nov-10
Jan-11
Mar-11
May-11
Jul-11
Sep-11
Nov-11
Jan-12
Mar-12
May-12
Jul-12
Sep-12
Nov-12
Jan-13
Mar-13
May-13
Jul-13
Sep-13
Nov-13
Jan-14
Mar-14
May-14
TSS Percent Removal
Permit Limit

Figure 3-19. Effluent TSS Loading

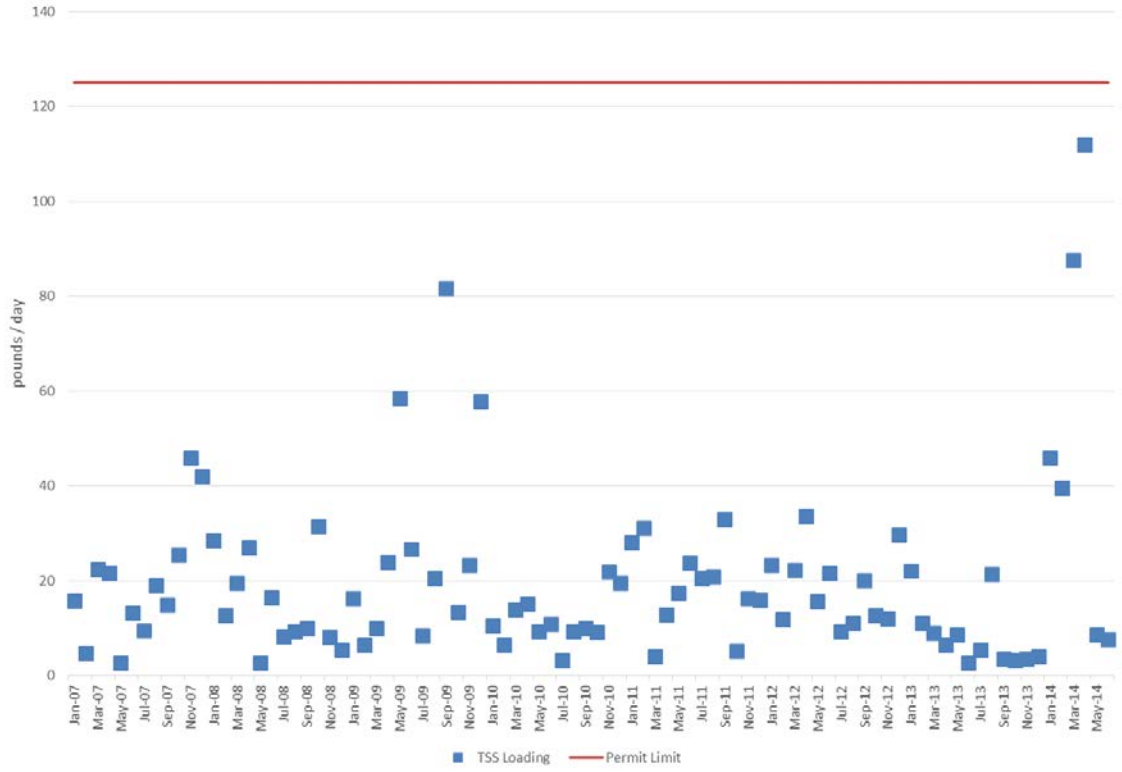
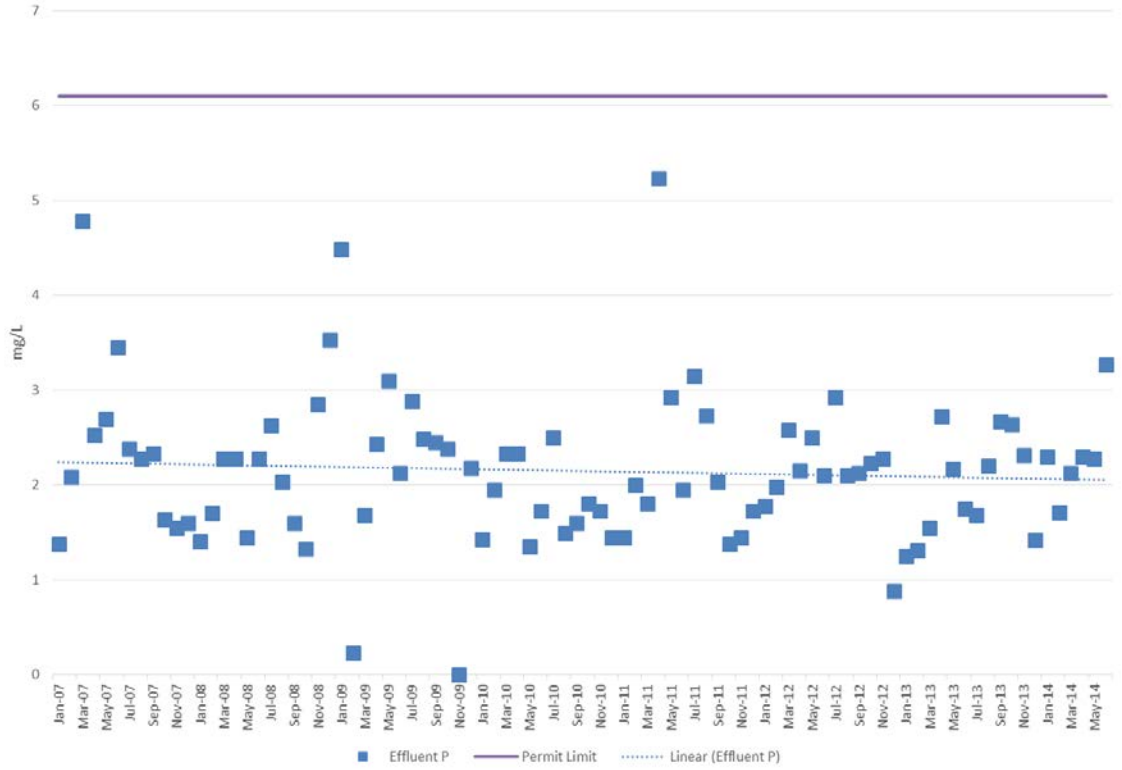


Figure 3-20. Effluent Phosphorus Concentration



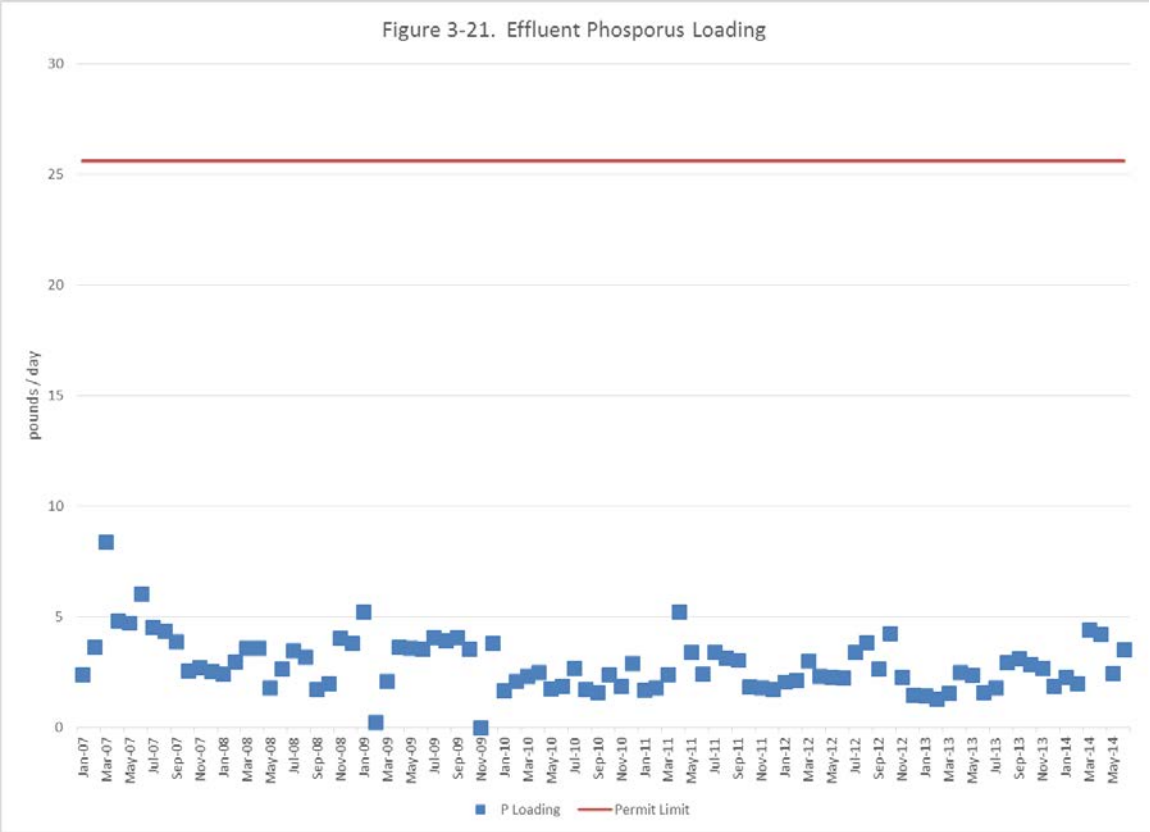


Figure 3-21. Effluent Phosporus Loading
pounds / day
30
25
20
15
10
5
0
Jan-07
Mar-07
May-07
Jul-07
Sep-07
Nov-07
Jan-08
Mar-08
May-08
Jul-08
Sep-08
Nov-08
Jan-09
Mar-09
May-09
Jul-09
Sep-09
Nov-09
Jan-10
Mar-10
May-10
Jul-10
Sep-10
Nov-10
Jan-11
Mar-11
May-11
Jul-11
Sep-11
Nov-11
Jan-12
Mar-12
May-12
Jul-12
Sep-12
Nov-12
Jan-13
Mar-13
May-13
Jul-13
Sep-13
Nov-13
Jan-14
Mar-14
May-14
P Loading
Permit Limit

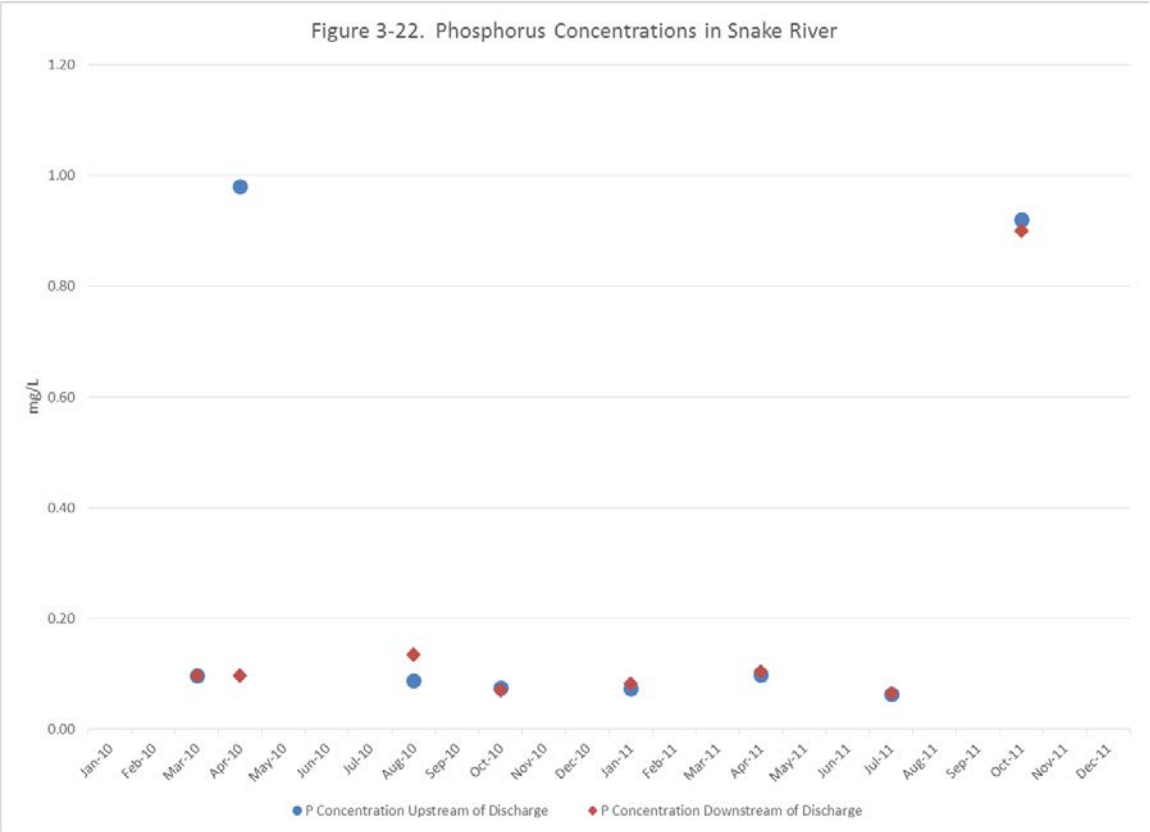


Figure 3-22. Phosphorus Concentrations in Snake River
mg/L
1.20
1.00
0.80
0.60
0.40
0.20
0.00
Jan-10
Feb-10
Mar-10
Apr-10
May-10
Jun-10
Jul-10
Aug-10
Sep-10
Oct-10
Nov-10
Dec-10
Jan-11
Feb-11
Mar-11
Apr-11
May-11
Jun-11
Jul-11
Aug-11
Sep-11
Oct-11
Nov-11
Dec-11
P Concentration Upstream of Discharge
P Concentration Downstream of Discharge

Figure 3-23. Effluent Ammonia as Nitrogen Concentration

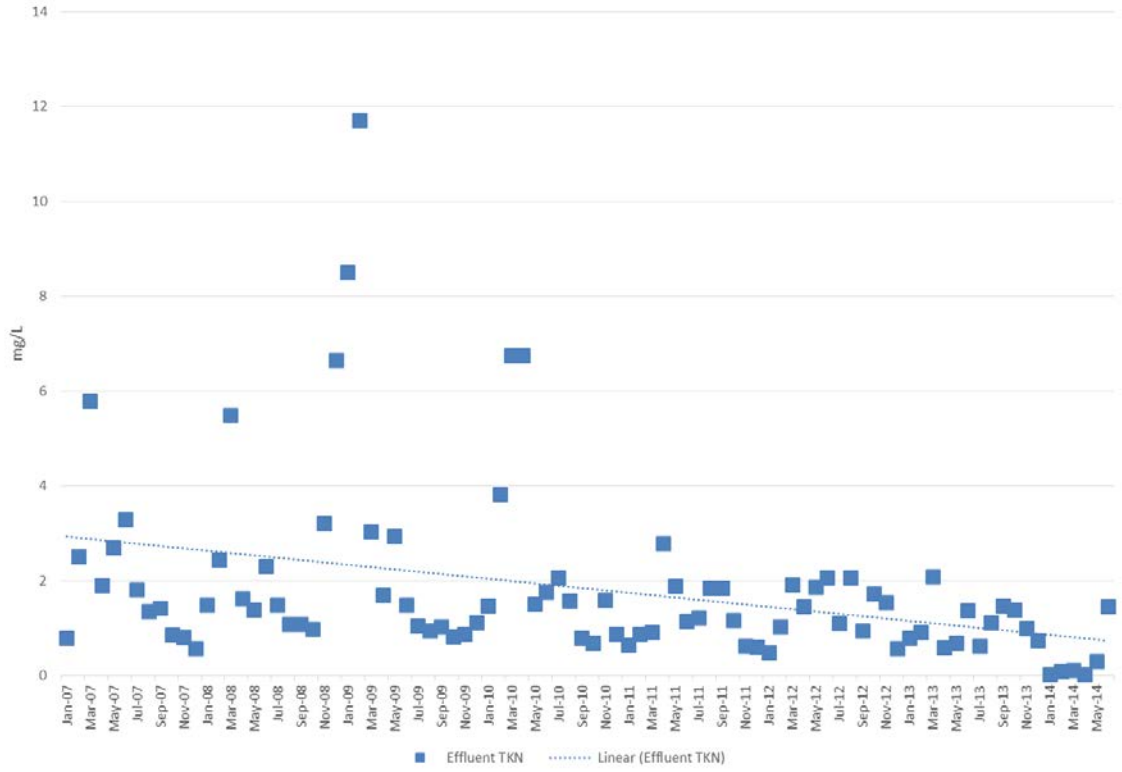
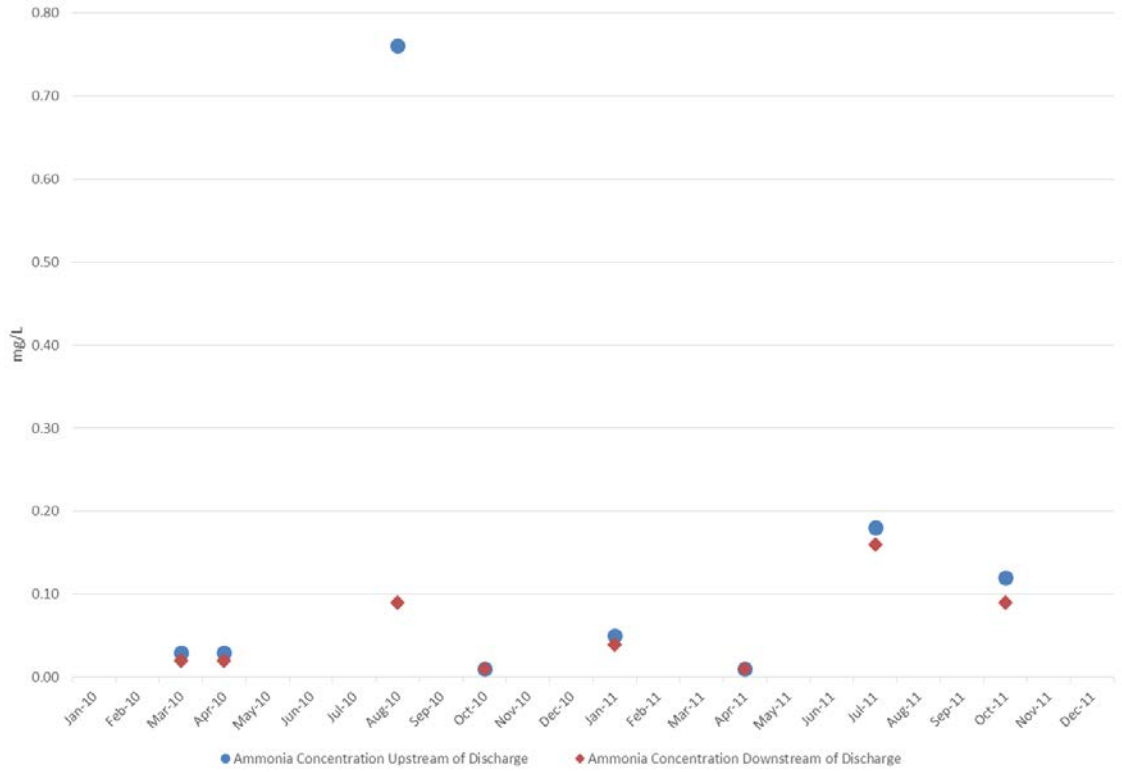


Figure 3-24. Snake River Ammonia Concentrations



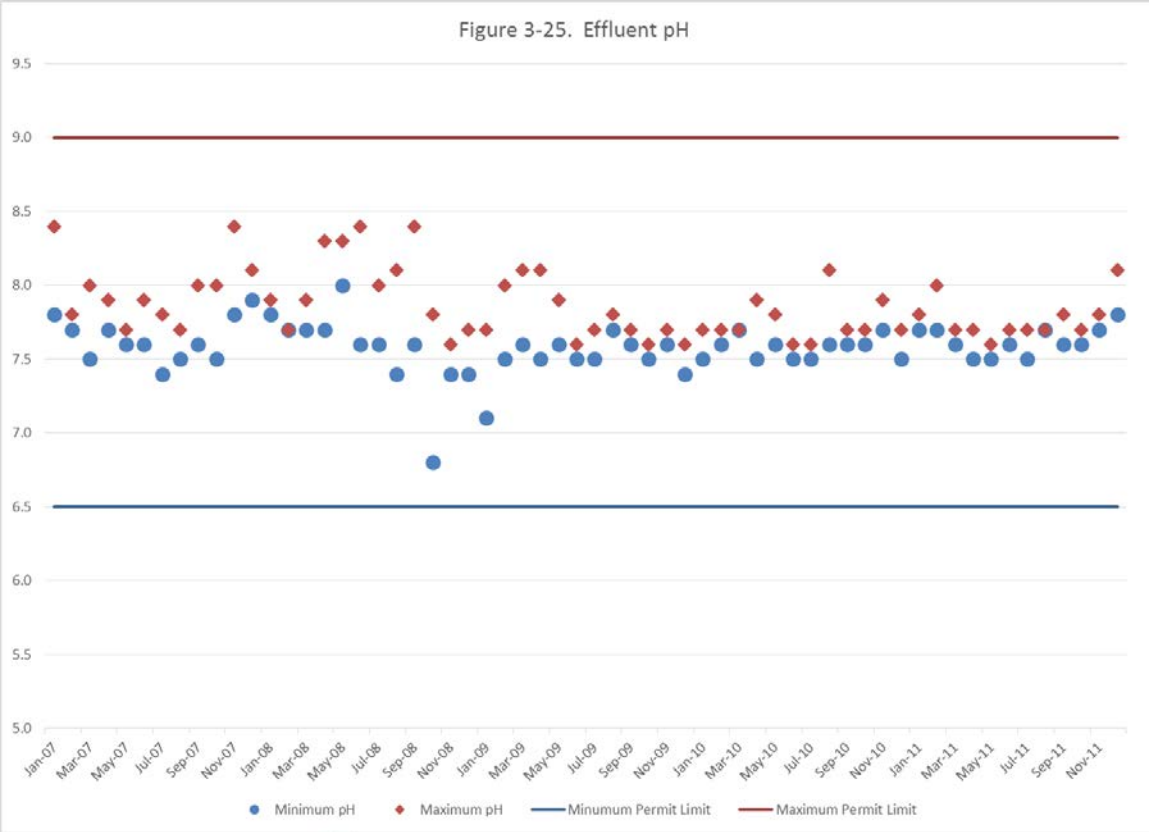


Figure 3-25. Effluent pH
9.5
9.0
8.5
8.0
7.5
7.0
6.5
6.0
5.5
5.0
Jan-07
Mar-07
May-07
Jul-07
Sep-07
Nov-07
Jan-08
Mar-08
May-08
Jul-08
Sep-08
Nov-08
Jan-09
Mar-09
May-09
Jul-09
Sep-09
Nov-09
Jan-10
Mar-10
May-10
Jul-10
Sep-10
Nov-10
Jan-11
Mar-11
May-11
Jul-11
Sep-11
Nov-11
Minimum pH
Maximum pH
Minumum Permit Limit
Maximum Permit Limit

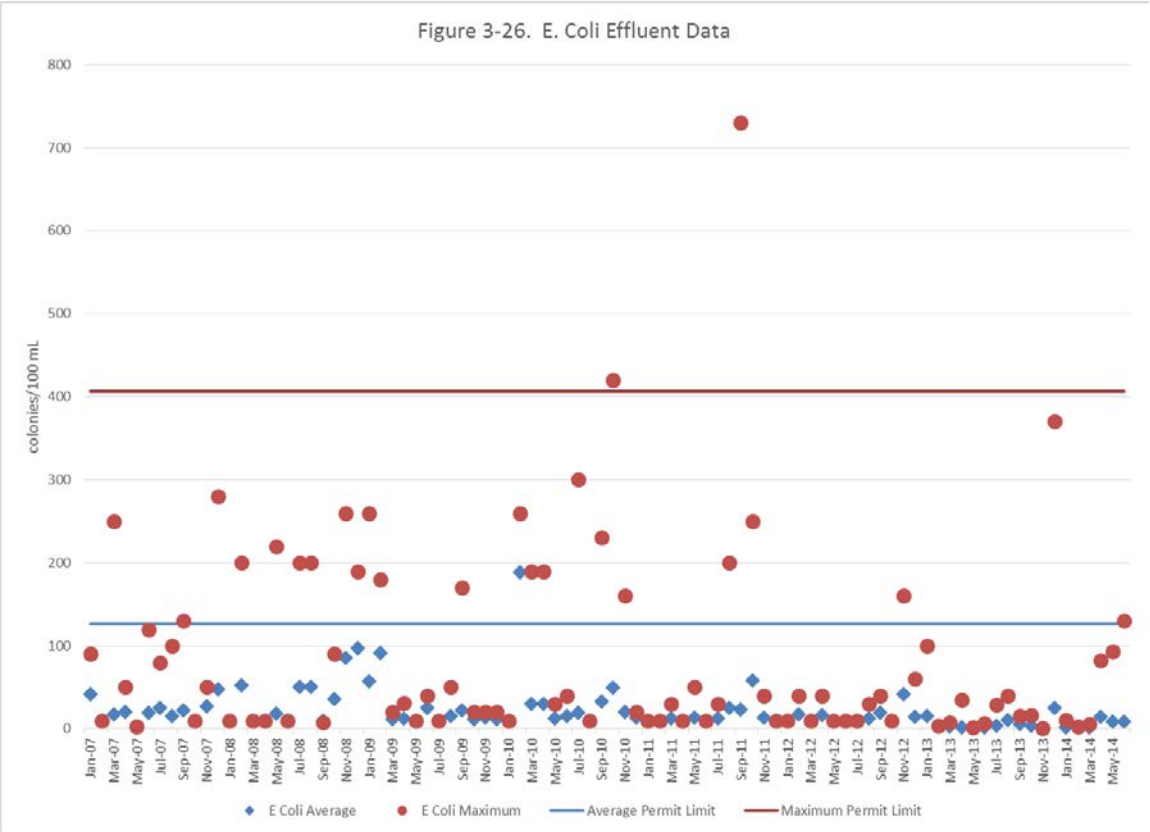


Figure 3-26. E. Coli Effluent Data
colonies/100 mL
800
700
600
500
400
300
200
100
0
Jan-07
Mar-07
May-07
Jul-07
Sep-07
Nov-07
Jan-08
Mar-08
May-08
Jul-08
Sep-08
Nov-08
Jan-09
Mar-09
May-09
Jul-09
Sep-09
Nov-09
Jan-10
Mar-10
May-10
Jul-10
Sep-10
Nov-10
Jan-11
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Jul-11
Sep-11
Nov-11
Jan-12
Mar-12
May-12
Jul-12
Sep-12
Nov-12
Jan-13
Mar-13
May-13
Jul-13
Sep-13
Nov-13
Jan-14
Mar-14
May-14
E Coli Average
E Coli Maximum
Average Permit Limit
Maximum Permit Limit

3.5 USER CHARGES AND MAINTENANCE BUDGET

The sustainability of the wastewater budget can be directly correlated to user rates. Periodic adjustments need to be implemented in order to ensure a balanced budget. On February 26, 2013 the City Council passed Resolution No. 13-02 increasing the water and sewer rates in the city. The new sewer rates are shown below in Table 3-16.

TABLE 3-16. SEWER USER RATES

Water Meter Size	Number of EDUs	Base Rate	Rate per 1,000 gallons
¾" or less	1	$16.50	$1.25
1"	1.8	$29.70	$1.25
1.25"	2.8	$46.20	$1.25
1.5"	4	$66.00	$1.25
2"	7	$115.50	$1.25
3"	16	$264.00	$1.25
4"	28	$462.00	$1.25

1. Sewer rates for apartments, mobile home/trailer parks, and RV parks will be assessed by multiplying the monthly base rate of $16.50 by the total number of units and then adding the calculated rate per 1,000 gallons of water used.
2. Sewer rates will be assessed based on the effluent and composition of the effluent for those businesses with sewer flow monitors. If sewer flow data is not available, sewer use is estimated from winter water usage data.

Chapter 4

Future Conditions

4.0 FUTURE CONDITIONS

4.1 FUTURE LAND USE AND DEVELOPMENT

The Glenns Ferry Planning Area represents a geographical area and population that the City can be expected to serve within a 20 year design period from 2014 to 2034 for wastewater treatment and a 40 year design period from 2014 to 2054 for the collection system. Sufficient land was included in the Planning Area to accommodate all forecasted residential, commercial, and industrial growth in addition to allowing some flexibility for future unforeseen growth in the community.

The future land use map is shown on the following page in Figure 4-1.

A review of the City's Comprehensive Plan and zoning map indicates that much of the city is zoned residential with significant areas of industrial and commercial land near the railroad tracks and in the center of town. The city's industrial corridor is currently mostly vacant due to Union Pacific leaving town in the 1970s and the Idahoan potato processing facility closing down in 2008. The Curry Grain Facility has also been abandoned. The City is actively trying to lure new industries to the area.

It is anticipated that growth within the Planning Area for the 40 year design period will consist primarily of residential development including infill within vacant areas of the existing City limits. It is also anticipated that additional commercial and industrial development will occur as the economy improves.

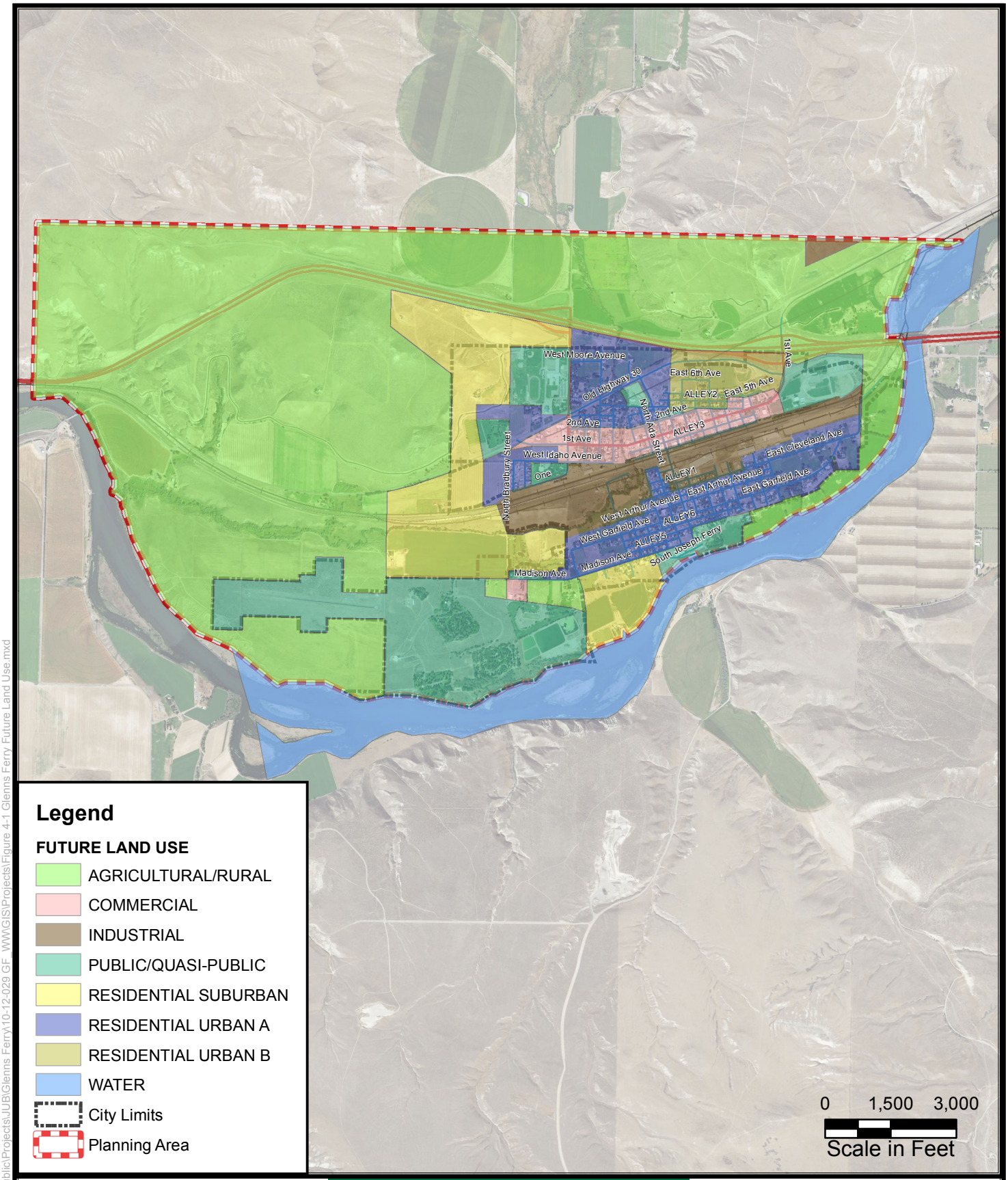
4.2 POPULATION PROJECTIONS

4.2.1 Historical Population Growth

Glenns Ferry's population has fluctuated relative to the available employment opportunities in the city. After the Union Pacific Railroad ceased their Glenns Ferry operations the 1970s, more than 100 jobs were lost. In 2008 another 130 jobs were lost and many families were forced to relocate as a result of Idahoan Potato Plant closure.

Data from the U.S. Census Bureau indicates that Glenns Ferry had a larger population in 1930 than it does now. However, there was significant growth in the city from 1990 up until the economic collapse in 2008. In 2000, the City of Glenns Ferry had a population of 1,611 residents with a median age of 36 years. In 2010, the population was 1,319 with a median age of 43 years. As described above, there was an abrupt reduction in the city's population in 2008-2009 after the closure of the potato plant.

The population trend in Glenns Ferry has generally mirrored unincorporated Elmore County over the past 30 years. The notable exception in the region is Mountain Home, which has consistently enjoyed steady growth and has nearly doubled in population since 1980.



Legend

FUTURE LAND USE

- AGRICULTURAL/RURAL
- COMMERCIAL
- INDUSTRIAL
- PUBLIC/QUASI-PUBLIC
- RESIDENTIAL SUBURBAN
- RESIDENTIAL URBAN A
- RESIDENTIAL URBAN B
- WATER
- City Limits
- Planning Area

WASTE WATER SYSTEM FACILITIES PLAN

FIGURE 4-1

CITY OF GLENNS FERRY FUTURE LAND USE

J-U-B ENGINEERS, INC.

N

Path: \\Kays\Public\Projects\JUB\Glenns Ferry\10-12-029 GF_WW\GIS\Projects\Figure 4-1 Glenns Ferry Future Land Use.mxd

9/24/2014

The historical population data from the U.S. Census Bureau is shown below in Table 4-1.

TABLE 4-1. HISTORICAL POPULATION GROWTH

Year	Population [1]	Average Annual Percent Change
1920	1,243	
1930	1,414	1.38%
1940	1,290	-0.88%
1950	1,515	1.74%
1960	1,374	-0.93%
1970	1,386	0.09%
1980	1,374	-0.09%
1990	1,304	-0.51%
2000	1,611	2.35%
2010	1,319	-1.81%

1. Data from U.S. Census Bureau.

4.2.2 Seasonal Population Fluctuations

Although Glenns Ferry is located within an agricultural area, the Planning Area experiences little, if any, seasonal population fluctuations due to an influx of migrant or other workers. The Planning Area does not contain a migrant labor center, as do some other communities in southern Idaho. As a result, almost all migrant and/or seasonal workers are housed on the farms on which they are employed, most of which are located outside the Planning Area. Therefore, Glenns Ferry does not experience any significant seasonal population changes due to agricultural practices in the area.

4.2.3 Growth Forecast

Due to the area's desirable location and proximity to the growing cities of Boise, Mountain Home, and Twin Falls, it is reasonable to assume that population growth will occur. This hypothesis is supported by the population spike from the 1990s up until the 2008 economic crash. The question of when and how quickly growth will occur is difficult to predict. Factors that affect population growth and housing construction include regional economic conditions, mortgage interest rates, gasoline prices, taxes, demographics, and job availability. It is possible that a new agriculturally based industry could open in the coming years, potentially restoring the population to the 2000 Census levels or higher.

Glenns Ferry is actively pursuing economic development opportunities by focusing on the following attributes that are unique to the city:

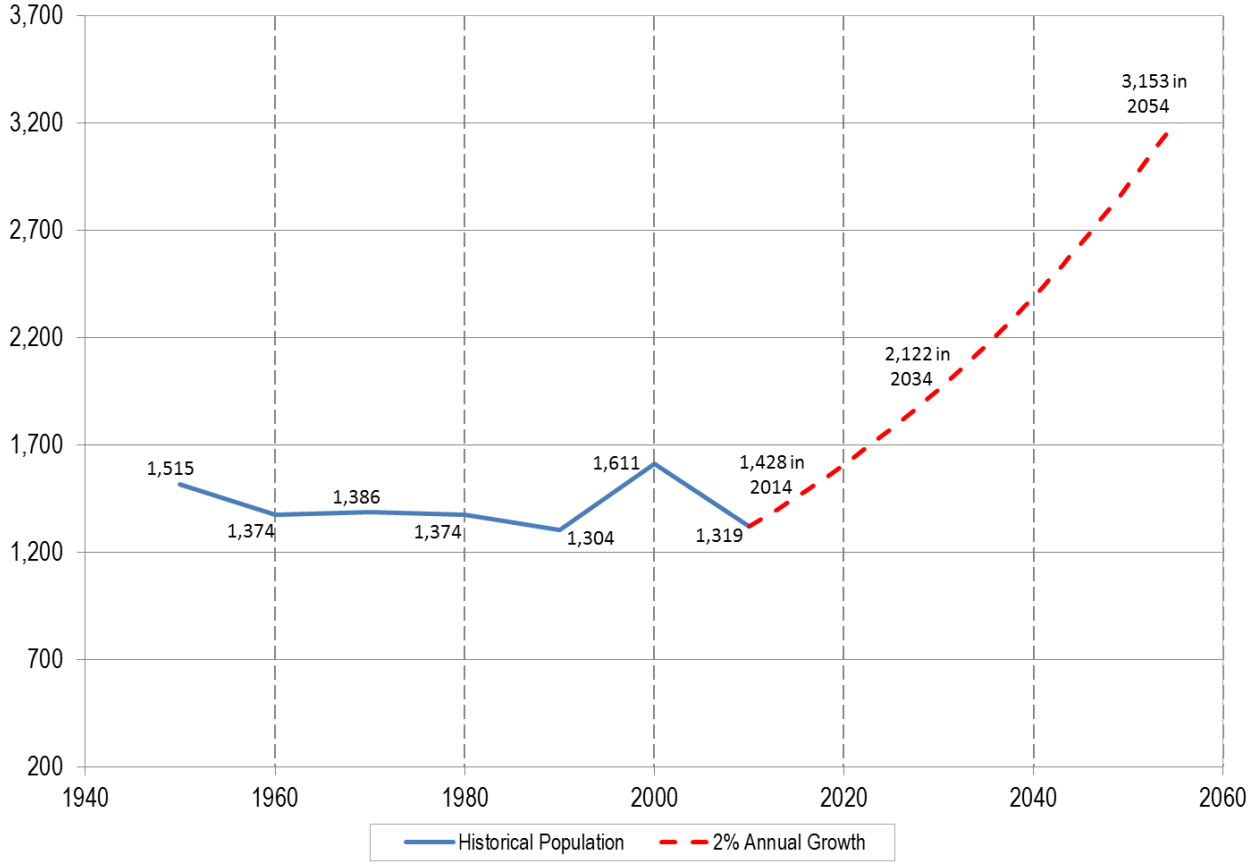
- Existing and proposed Industrial-zoned land with access to rail spurs
- Attractions such as the Carmela Winery and Golf Course
- Idaho-Oregon Snake River Water Trail plans
- Pedestrian Pathway Improvements

- Tourism
- Airport Improvements
- Corridor Enhancements, Signage, and Lighting
- Downtown Revitalization Efforts
- Convenient access to I-84
- Close to Mountain Home Air Force Base

Based on discussions with City personnel, it was determined that a 2 percent annual growth rate would be a reasonable assumption for the 20-year and 40-year planning periods. The 2% growth rate is also consistent with the City's current Transportation Master Plan and 2014 Water Master Plan. Using this growth rate, it is projected that the City of Glenns Ferry will have 2,122 residents in the year 2034 and 3,153 residents in the year 2054. The projected 2034 population represents an increase of 803 residents, or a population 61% greater than the 1,319 residents reported to be living in the city by the 2010 U.S. Census Bureau.

Figure 4-2 summarizes the historical population data in Glenns Ferry and also shows the projected growth trend into the future. This population projection provides the basis for future sewage flows which are then used to evaluate wastewater system infrastructure needs.

Figure 4-2. Glenns Ferry Historical Population and Projected Growth



4.3 FUTURE FLOWS AND WASTE LOADS

4.3.1 Projected Influent Flows

As noted in Chapter 3, a portion of the city is still using septic systems for wastewater disposal. Although there are no current plans to require that these properties connect to the sewer system, it was assumed that in the future all properties within the planning area would discharge to the lagoons. This assumption also includes houses that currently sit vacant. This is a conservative assumption but it helps provide a buffer in the event of unforeseen growth or a new industry moving into town.

As described in the previous chapter, the existing wastewater flow per connection is 170 gallons per day. Since some commercial and industrial entities use more water than an average residential customer, it is useful to convert to Equivalent Domestic Units (EDUs). There are currently 555 active residential sewer connections and 45 non-residential connections. These 600 connections are equivalent to 718 EDUs. Dividing the average day flow by the number of EDUs results in a flow rate of 142 gallons/EDU.

According to City staff, there are approximately 30 houses utilizing septic systems within the city limits and an additional 30 houses that are connected to the sewer system but inactive (the house is unoccupied). The potential addition of these 60 EDUs to the sewer system would increase the flow rate by approximately 8,500 gallons/day. Therefore, the future flows were projected using a baseline flow rate of 101,700 + 8,500 = 110,200 gallons per day. This base flow was subsequently increased by 2 percent per year based on the projected population growth. This flow projection assumes an identical mix of residential, commercial, industrial, and infiltration and inflow as the existing conditions. However, in reality, it is anticipated that inflow into the system will decrease in the future as the stormwater system is modified and prioritized collection system lines are repaired and replaced.

Average day influent flows to the City's wastewater treatment facilities were projected over the 20-year planning period based on the assumptions described above. The wastewater peaking factors developed in Chapter 3 were then applied to the projected annual average day flow to estimate future maximum month, peak day, and peak hour flows. Table 4-2 shows the projected growth through the years and Table 4-3 summarizes the 20-year projected influent flows. The 40-year projected collection system flow rates were developed separately as part of the hydraulic model.

Figure 4-3 graphically shows the projected flow rates over the 20-year planning period. The gap between the measured flow rates and the projected flow rates in 2014 illustrates the additional wastewater produced by connecting the 60 properties that are currently on septic or are unoccupied to the sewer system.

TABLE 4-2. PROJECTED GROWTH AND WASTEWATER FLOW RATES BY YEAR

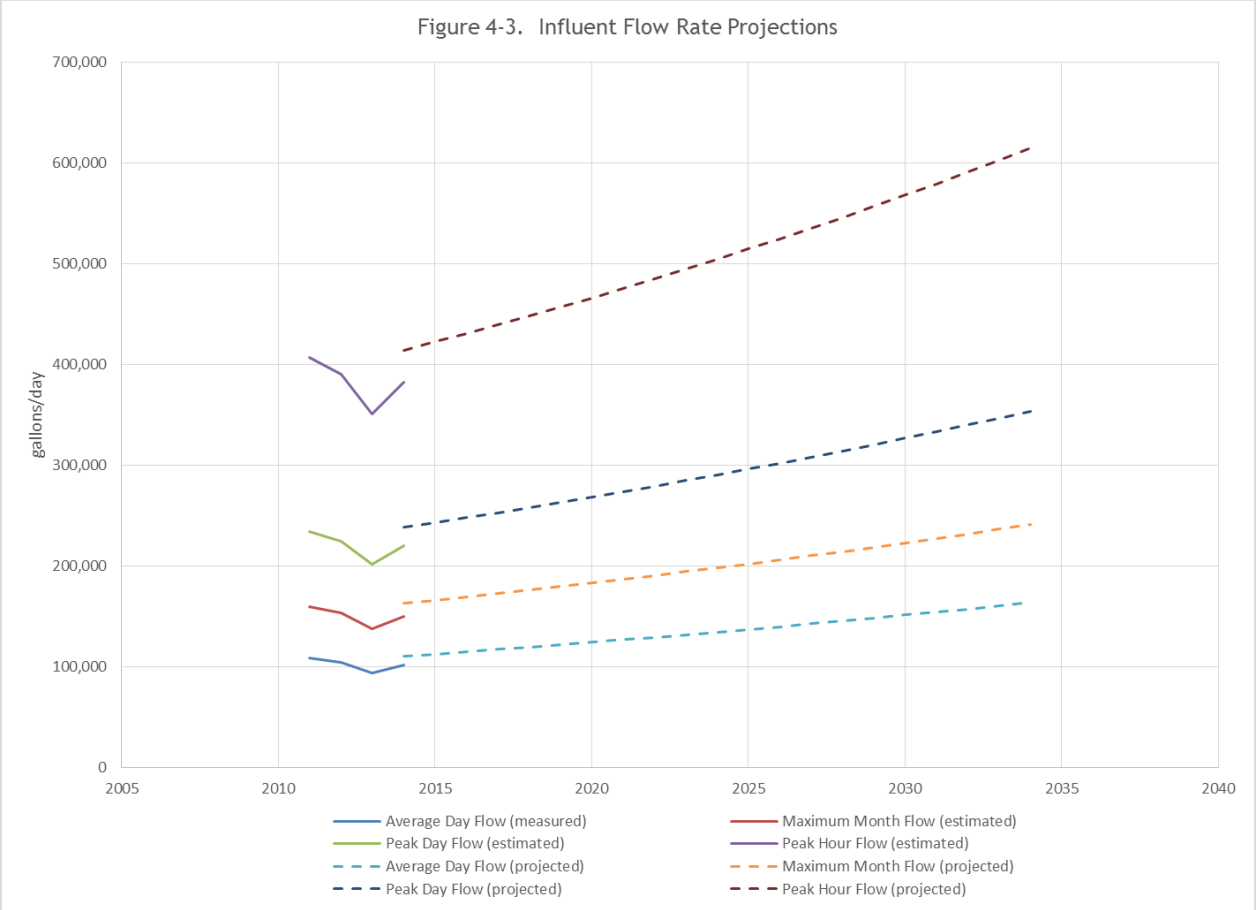
Year	Population	EDUs [1]	Annual Avg Day Flow [2] gal/d	Max Month Flow gal/d	Peak Day Flow gal/d	Peak Hour Flow gal/d
2010	1,319	664	---	---	---	---
2011	1,345	677	108,200	159,600	234,000	406,800
2012	1,372	691	103,800	153,100	224,500	390,300
2013	1,400	705	93,200	137,400	201,600	350,400
2014 [3]	1,428	718	101,700	150,000	220,000	382,400
2014 [4]	1,428	778	110,200	162,500	238,300	414,400
2015	1,456	794	112,400	165,800	243,100	422,600
2016	1,485	809	114,600	169,000	247,900	430,900
2017	1,515	826	116,900	172,400	252,800	439,500
2018	1,545	842	119,200	175,800	257,800	448,200
2019	1,576	859	121,600	179,300	263,000	457,200
2020	1,608	876	124,000	182,900	268,200	466,200
2021	1,640	894	126,500	186,500	273,600	475,600
2022	1,673	912	129,000	190,200	279,000	485,000
2023	1,706	930	131,600	194,100	284,600	494,800
2024	1,740	948	134,200	197,900	290,200	504,600
2025	1,775	967	136,900	201,900	296,100	514,700
2026	1,811	987	139,600	205,900	301,900	524,900
2027	1,847	1,006	142,400	210,000	308,000	535,400
2028	1,884	1,027	145,200	214,100	314,000	546,000
2029	1,922	1,047	148,100	218,400	320,300	556,900
2030	1,960	1,068	151,100	222,800	326,800	568,100
2031	1,999	1,089	154,100	227,200	333,300	579,400
2032	2,039	1,111	157,200	231,800	340,000	591,100
2033	2,080	1,133	160,300	236,400	346,700	602,700
2034	2,122	1,156	163,500	241,100	353,600	614,800

1. EDUs estimated from existing connections and water meter size data (e.g., the City considers a 2" water meter to be equivalent to 7 EDUs).
2. Flow rates based on 142 gallons/EDU.
3. There are currently 600 active sewer connections and 718 EDUs.
4. Projected flows assume all currently vacant houses are occupied (30 additional EDUs) and all residents in the city on septic connect to the sewer system (30 additional EDUs). This results in 778 EDUs when everything is connected to the sewer system.

TABLE 4-3. PROJECTED INFLUENT FLOW RATES (2034)

Flow Condition	Flow Rate
Average Day	163,500 gallons/day
Maximum Month[1]	241,100 gallons /day
Peak Day[1]	353,600 gallons /day
Peak Hour[1]	614,800 gallons /day

1. Based on the peaking factors developed for existing flows (see Chapter 3)



4.3.2 Projected Influent Waste Loads

As described in Chapter 3, the existing influent BOD and TSS concentrations are generally lower strength which is indicative of mostly residential wastewater with some infiltration and inflow. Any of the following events could increase wastewater strength in the City:

- A new industry moves to town
- Additional restaurants and other tourism-related growth occurs
- Infiltration and inflow is reduced through targeted collection system repairs and stormwater sytem improvements
- Installation of low flow toilets and other water efficient appliances

To be conservative, it was assumed that wastewater strength would increase from the existing concentrations when calculating the future waste load projections. The wastewater concentrations that were used for the future load projections are shown below in Table 4-4.

The average day wastewater concentrations shown in the table were multiplied by the projected flow rates to calculate the future average day waste loads. The same peaking factors developed in Chapter 3 were then applied to the projected annual average day waste load to estimate future maximum month, peak day, and peak hour loads. The projected loads are shown below in Table 4-5.

TABLE 4-4. INFLUENT WASTEWATER CONCENTRATIONS

	BOD	TSS	Total P	TKN
Existing	159	219	NA	NA
Typical Domestic at Nearby Communities [1]	300	300	8	50
Future Projection [2]	**230**	**260**	**8**	**50**

1. Typical values in southern Idaho based on sampling data at similar communities (Filer, Wendell, Murtaugh, and Hazelton). Many southern Idaho communities have higher strength wastewater than average, which is defined by Metcalf and Eddy as BOD = 190 mg/L and TSS = 210 mg/L (M&E, 2003, pg 186).
2. Future projections of BOD and TSS were assumed to be an average of existing measured concentrations and typical domestic concentrations from nearby communities.

TABLE 4-5. PROJECTED INFLUENT WASTE LOAD SUMMARY (2034)

Parameter	Load Condition	Existing Concentration / Loading	Units
BOD	Average Day	230	mg/L
	Average Day	313	pounds/day
	Average Day	0.15	pounds/capita/day
	Maximum Month	445	pounds/day
	Peak Day	847	pounds/day
TSS	Average Day	260	mg/L
	Average Day	354	pounds/day
	Average Day	0.17	pounds/capita/day
	Maximum Month	514	pounds/day
	Peak Day	1,097	pounds/day
TKN	Average Day	50	mg/L
	Average Day	68	pounds/day
	Average Day	0.03	pounds/capita/day
	Maximum Month	93	pounds/day
	Peak Day	151	pounds/day
Total-P	Average Day	8.0	mg/L
	Average Day	11	pounds/day
	Average Day	0.01	pounds/capita/day
	Maximum Month	15	pounds/day
	Peak Day	20	pounds/day

1. Maximum month and peak day loadings were calculated by multiplying the average day loading by the peaking factor developed in Table 3-12.

Chapter 5

Analysis of Existing and Future System

5.0 EVALUATION OF EXISTING AND FUTURE SYSTEM

The City of Glenns Ferry's wastewater collection and treatment system consists of neighborhood collector lines (predominately 8-inch), two main trunk lines, a 4-cell lagoon treatment system and RI basins split among 5 cells. All of the wastewater system components are described in detail in Chapter 3. The following sections evaluate the condition of the individual wastewater system components.

5.1 COLLECTION SYSTEM

5.1.1 Flow Monitoring

J-U-B conducted flow monitoring in the city from October 3, 2012 to October 17, 2012. Flow monitors were installed along the west trunk line (manhole #120), east trunk line (manhole #142) and at the entrance flume to the lagoons. A wet weather event was not captured during this 2 week period.

Figure 5-1 shows the results of the west trunk monitoring. One can see that the flow monitoring along the west branch picked up the sewer lift station which appears to pump approximately four times per day. The spikes appear to be approximately 50 gpm each although these flows were likely attenuated in the gravity sewer line because the monitoring location was a relatively long distance from the lift station.

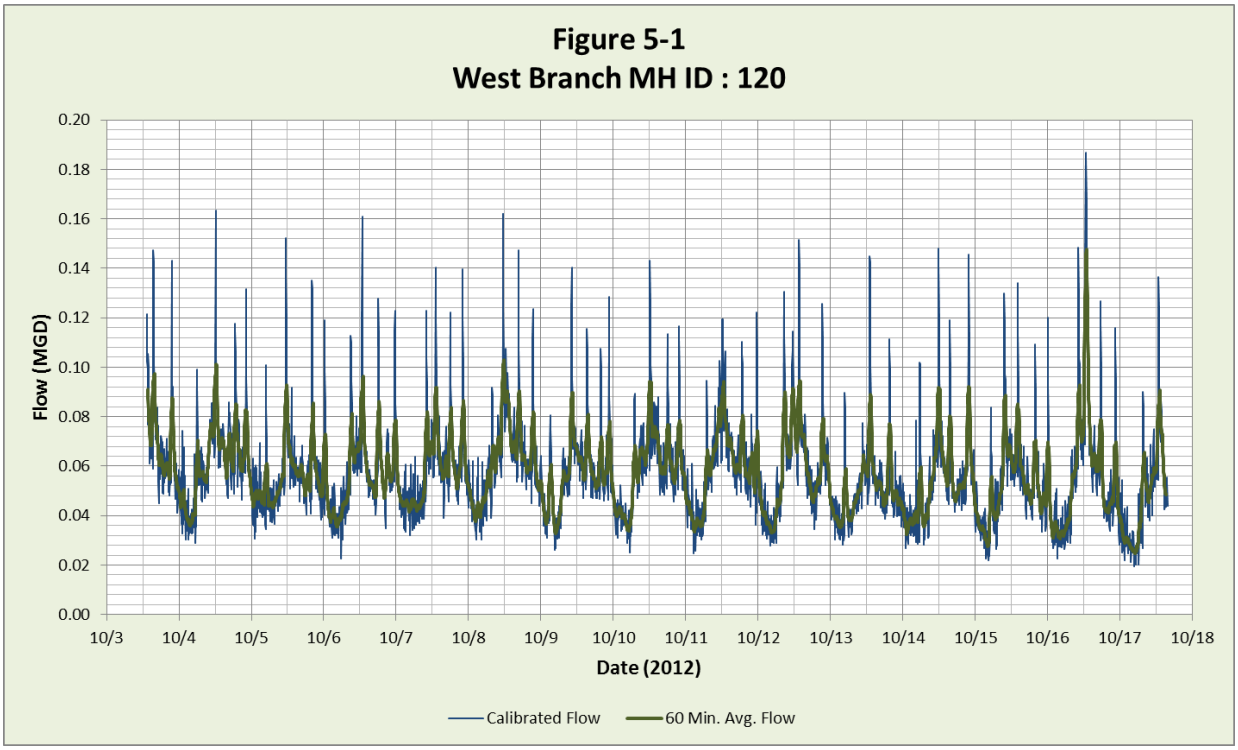
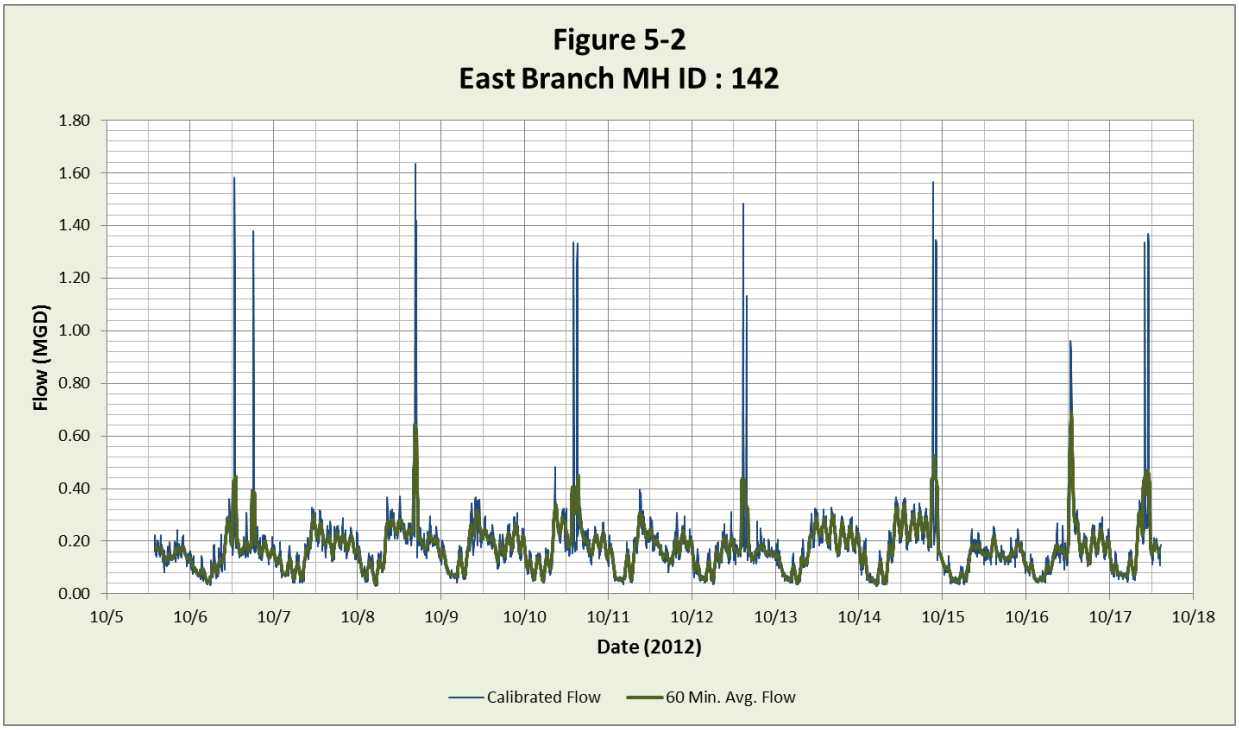
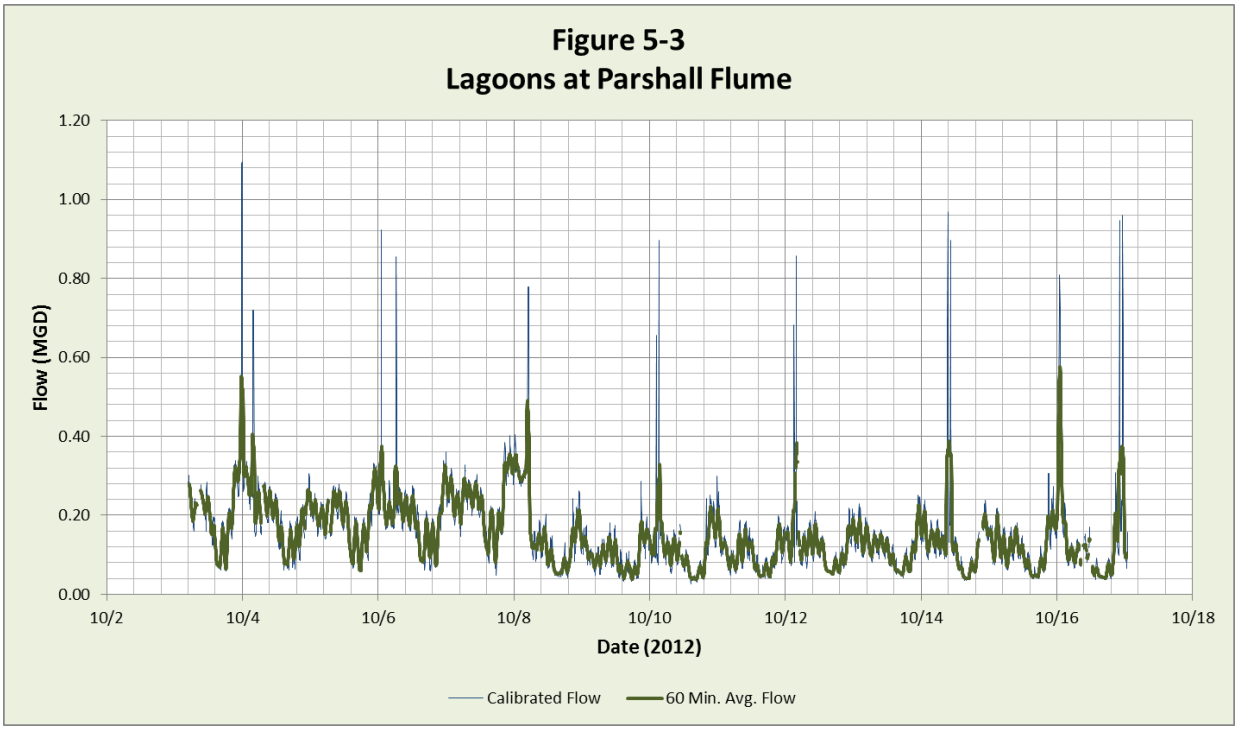


Figure 5-2 shows the results of the east trunk monitoring. Flow monitoring along the east trunk line clearly picked up tank cleans at the water treatment plant. These occur approximately every other day when the two trains are emptied approximately 60 minutes apart. Plant operators indicate that it takes about 4 minutes to drain the 9,000 gallon tanks

(2,250 gpm). By the time the tank drain events reached the flow monitor the peaks had attenuated in the gravity sewer pipe to approximately 700 gpm.



The combination of flows from the east and west trunk lines is shown below in Figure 5-3. Onc can still see the effect of the plug flow spikes from draining the water treatment plant tanks.



5.1.2 Collection System Model

A computer model was created using Pizer's Hydra 7 modeling software. The model simulates the existing system and flow conditions and checks the capacity of the system under projected future flow conditions. The flow data that was collected with the flow meters was used during the modeling process to calibrate the model for an accurate simulation of actual conditions. Further discussion of the hydrographs and model calibration is included in the following sections.

5.1.2.1 Existing System Key Modeling Assumptions

A computer model of a sewer system is based on assumptions that characterize the area and system components. The key assumptions used in the Existing System Model are as follows:

- Current commercial, industrial, and residential units were counted using the City's parcel data

- The existing population served by the collection system is 1,358 based on the current population estimated to contribute to the sewer system (see Section 3.4 of chapter 3).

- Each equivalent dwelling unit produces 142 gallons per EDU per day (see Chapter 4).

- It was assumed that infiltration into the system was very low (due to limited groundwater impacts) and so for this model no infiltration was assigned. Infiltration consists of groundwater that enters into the sewer system through open joint pipes, cracks in pipes, faulty service connections, leaky manhole joints and poor seals at the connections between pipes and manholes.

- It has been noted some stormwater is connected to the system; however, a rain event was not modeled as it was not captured in the flow monitoring.

5.1.2.2 Model Development

The model input consists of three drawing layers: the system layer, the service area layer, and the land use layer. These three layers were created using ArcMap 10.1, a GIS software, and then were imported into the Hydra modeling software.

System

The system layer contains a geometric map of the sewer system and a database that holds information about the sewer system, such as pipe length, pipe diameter, manhole rim elevation, and pipe invert (flow line) elevations. The system layer was built using the GPS survey data, record drawings, and interpolation. The existing lines that are not included in the model were not modeled because they serve small areas that do not generate enough flows to create capacity concerns.

Service Areas

The service area layer was created to split the city into smaller sewer drainage basins to determine where sewer flows are collected by the existing sewer system and where areas to develop in the future will be collected. The service areas were determined based on the current layout of the sewer system and area topography.

Land Use Areas

The land use layer generates the flows and is used to identify where the flows are injected into the collection system. It contains the flow generating information such as population, contribution per capita, commercial and industrial contribution, and daily use patterns (diurnal curves). The land use areas were delineated based on the planned future land use densities that are shown on the future land use map used for the water master plan. Many of the land use areas are in parts of the city that are currently undeveloped. These undeveloped land use areas do not contribute flows in the existing model.

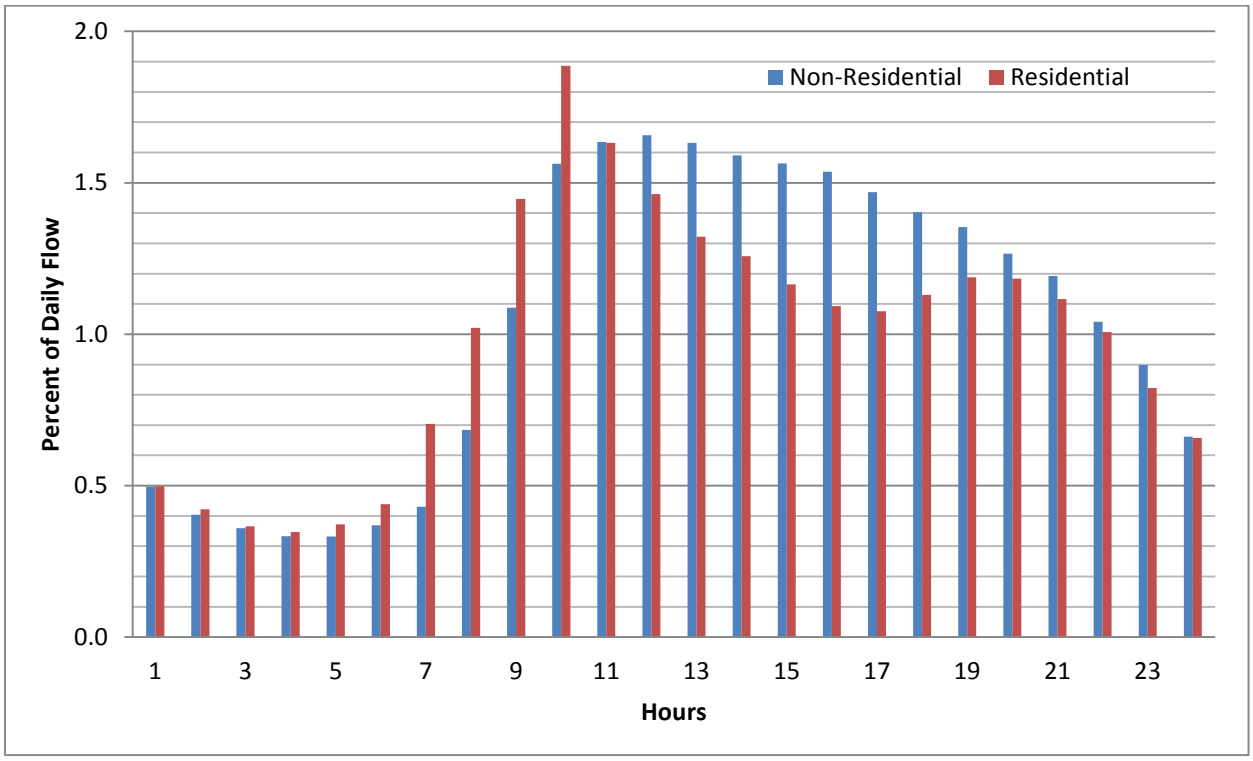
5.1.2.3 Diurnal Flow Patterns

Sewer flows vary differently throughout the day. The shapes that are formed as a result of graphing flows verses the time of day are known as diurnal hydrographs or diurnal curves. Figure 5-4 below shows the different diurnal curves that were used in the model for the following categories:

- Residential
- Non-Residential

These curves were created to match the shape of the curves generated from these different regions as recorded by the installed flow meters.

FIGURE 5-4. DIURNAL CURVES



The unit diurnal curve allows the modeling software to quantify the flow throughout the day for the various types of land use. For example, residential diurnal curves tend to have two peaks throughout the day, 1) mid-morning, and 2) later in the evening. These peaks are due

to similar lifestyles. Most people wake up and begin to use water by taking showers and preparing breakfast in preparation for work, school, or church at approximately the same time. As these morning flows are combined, the first and highest peak is formed. The second and lower peak occurs in the late afternoon or evening when most people come home and prepare dinner. The second peak is lower, and less pronounced because people tend to prepare dinner and use water at more varied times throughout the evening.

The commercial curve tends to have more flow during the regular working hours of the days. The schools in the city were modeled using the commercial diurnal curve because they typically generate peak flows around lunch time much like the commercial entities.

5.1.2.4 Calibration

The computer model was calibrated to simulate measured existing flow conditions. These conditions were determined by measuring flows at the three meter locations within the system over the two week metering period.

Calibration involved superimposing the graphs of the monitored flows over the model-generated diurnal curves. Then the model parameters (contribution per capita, contribution per acre of commercial and industrial areas) were adjusted to match field conditions. During the calibration process, the flow generating parameters of the model were adjusted globally, which fine-tuned the model to simulate the measured flows. For instance, the residential diurnal curve was modified globally so that all of the land use areas with residential flows would take the same shape. As a result, the model curve took a shape that more closely reflected actual conditions.

The flows from the model calibrated very closely to the measured flows from the meters with the exception of the meter that was installed at Site 101 in the 12 inch line on the West Trunk line.

The model was calibrated to match the flows that were present on October 7, 2012 which was a weekend (Sunday). Calibration graphs for each flow monitoring site comparing the flows in the model verses actual field measured flows are included in the Appendix.

5.1.3 Existing System Model Analysis

The existing system model is what the system looks like on an average day without a rain storm or any high flow contributing connections. Figure 5-5 shows the depth of flow over diameter of pipe (DOD) for the analyzed sewer lines under calibrated conditions. The DOD is a quick measure of how a sewer is accommodating flows and a typical indicator of sewer pipe capacity. A full pipe would have a DOD value of 1.0, and would have no reserve capacity. While a pipe flowing half full would have a DOD value of 0.5, and would have some reserve capacity. Larger lines are able to handle more flows than are smaller lines, at equivalent DOD values, i.e., the larger lines have more reserve capacity per increment of DOD value.

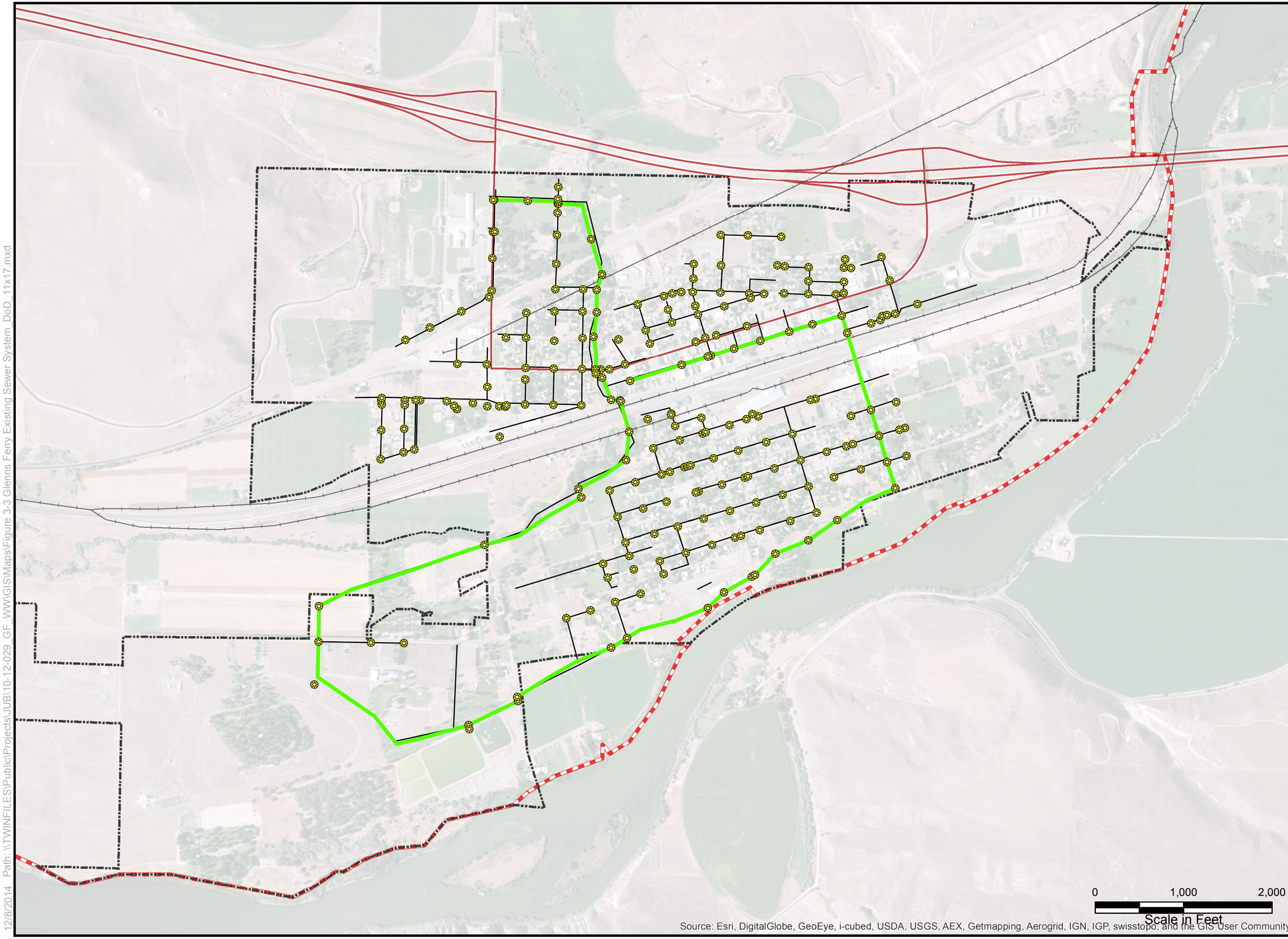


FIGURE 5-5

CITY OF GLENNS FERRY SEWER SYSTEM

WASTE WATER SYSTEM FACILITIES PLAN

EXISTING DEPTH OVER DIAMETER (DOD)

Legend

- Sewer Manholes

DoverD

- 0.0 - 0.5
- 0.5 - 0.65
- 0.65 - 0.85
- 0.85 - 0.93
- 0.93 - 1.0
- Unmodeled Lines
- City Limits
- Planning Area

J-U-B ENGINEERS, INC.

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12/8/2014 Path: \\TWINFILES\Public\Projects\JUB\10-12-029_GF_WW\GIS\Maps\Figure 3-3 Glenns Ferry Existing Sewer System_DoD_11x17.mxd

5.1.4 Future System Model Analysis

Figure 5-6 shows the depth of flow over diameter of pipe (DOD) for the future collection lines at the growth and service areas assumed. The analysis indicates there no capacity concerns on the trunk lines using the planning assumptions.

5.1.5 Reserve Capacity Assessment

City leaders have indicated an interest in understanding the 'reserve' capacity of the system. To estimate the 'reserve' capacity of the trunk lines, additional flows greater than those anticipated under the 2 percent growth planning assumptions were applied to the model. The reserve capacity assessment results are show below in Table 5-1. The "location of least capacity" is typically the flattest sections of the trunk line that become the bottleneck to the maximum capacity of the pipe.

TABLE 5-1. TRUNK LINE CAPACITY ASSESSMENT

Location of Least Capacity	Dia-meter	2014 Condition		40 Year Condition		Full Capacity	
		Peak Flow (gpm)	d/D	Peak Flow (gpm)	d/D	Peak Flow (gpm)	d/D
East Trunk MH 142 to MH 102 (next to the water treatment plant)	12"	194	0.36	280	0.42	910	0.85
West Trunk MH158 to MH 137 (North of 2nd Ave)	10"	44	0.19	138	0.36	624	0.85

5.1.6 Pressure Sewer Force Mains

There is only one sewer force main in the City. The 4" force main was installed in the late 1970s and is approximately 500 feet long. The City reports it hasn't had any issues with this force main and no repairs are anticipated for the 20-year planning period. The duplex submersible lift station and force main are only serving approximately 25 homes. The force main appears to have adequate capacity for the existing and future conditions.

5.1.7 Evaluation of Sewer Alignments

The sewer collection system has been surveyed in conjunction with the Facility Plan process. Sewer collection alignments have been checked and generally are acceptable. However, there are some areas where the existing sewer is not 10 feet away from the water line. Any sewer replacement projects in these areas need to move the sewer collection alignment so that a ten foot separation is achieved.

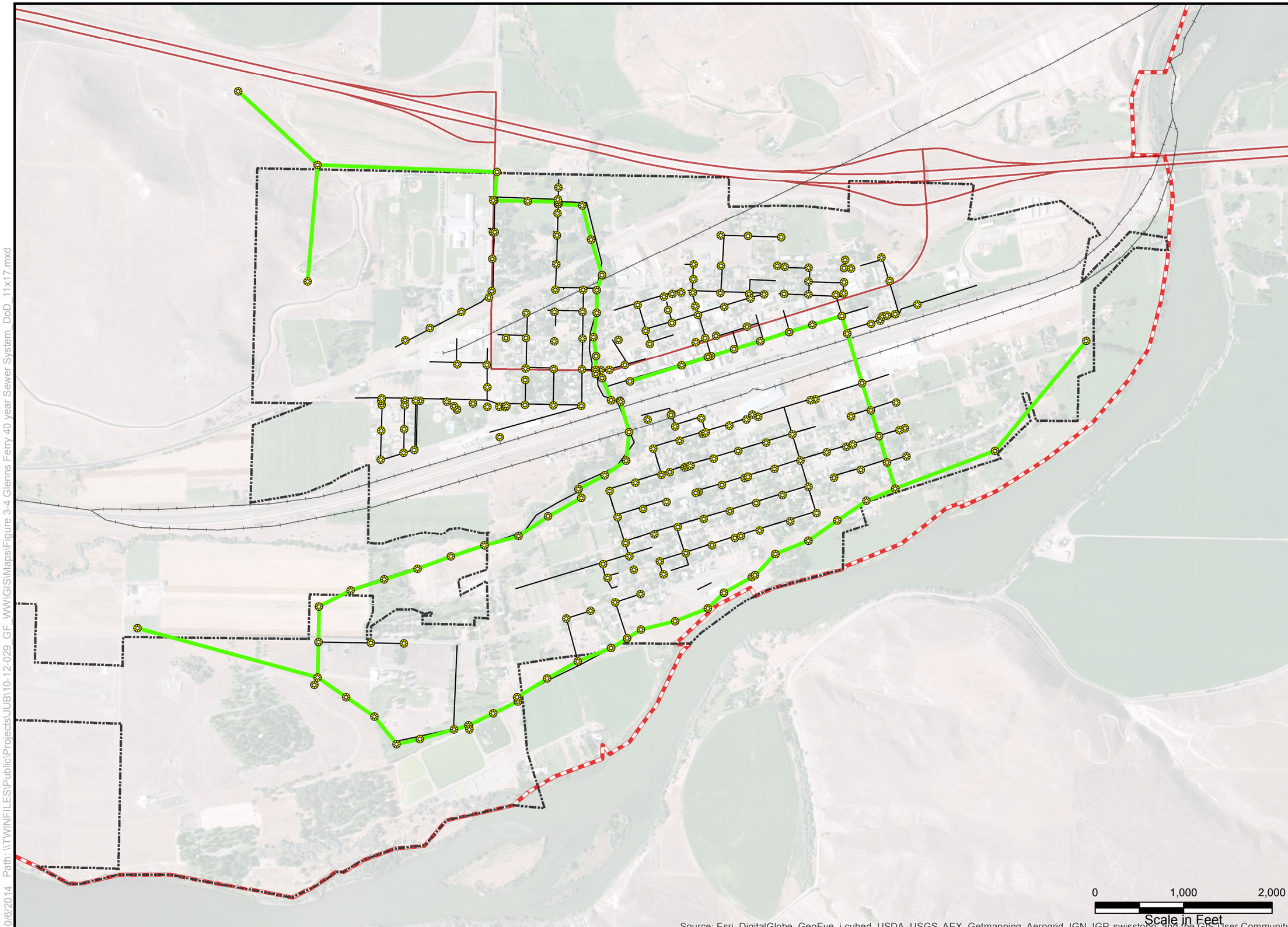

FIGURE 5-6

CITY OF GLENNS FERRY SEWER SYSTEM

WASTE WATER SYSTEM FACILITIES PLAN

40 YEAR FUTURE DEPTH OVER DIAMETER (DOD)

Legend

- Sewer Manholes

DoverD_PR

- 0.0 - 0.5
- 0.5 - 0.65
- 0.65 - 0.85
- 0.85 - 0.93
- 0.93 - 1.0
- Unmodeled_Lines
- City Limits
- Planning Area

J-U-B ENGINEERS, INC.

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10/6/2014 Path: \\TWINFILES\Public\Projects\JUB\10-12-029_GF_WW\GIS\Maps\Figure 3-4 Glenns Ferry 40 year Sewer System_DoD_11x17.mxd

5.1.8 Regionalization

Hammett, Idaho is the closest town to Glenns Ferry; it is located approximately nine miles to the west. Distance and topography make it impractical to connect the sewer system in the two towns.

5.1.9 Un-Sewered Areas in and Around the Community.

The majority of the structures within the city limits are connected to the sewer system. However, there still are some areas that use septic systems for wastewater disposal (see Figure 3-1). The majority of these areas are low density and mostly undeveloped. There are a few houses in the center of town that utilize septic because they are located below the gravity line and would need to pump their sewage into the collection system. The less developed east side of town near the fairgrounds also uses septic systems for wastewater disposal.

New additions to the city are required by ordinance to install sewer collection systems that connect to the city's system. Property annexed that is currently not connected to the City's system must connect when feasible to do so. All collection system expansions must be constructed in accordance with the latest sewer design requirements.

As discussed in Chapter 4, it was assumed in the future growth projections that all of the areas currently on septic would connect to the sewer system.

5.2 SEWER LIFT STATION

The duplex submersible lift station serves approximately 25 homes located just west of the City Park. The City is generally satisfied with the condition of the sewer lift station and have not reported any issues or concerns with its operation. Based on the flow monitoring results, the pumps appear to turn on approximately four times per day. There is room for growth in the area but the lift station appears to be adequately sized for the existing and future conditions.

However, the pumps have not been changed out in at least 20 years which means they have reached the end of their design life. At some point in the near future the pumps will likely fail and need to be replaced. The lift station does not have any alarms or telemetry to alert the operator if there is a problem. The lift station cannot connect to a portable backup generator in the event of an extended power outage.

5.3 EXISTING WASTEWATER TREATMENT FACILITIES

The existing wastewater treatment facilities appear to be operating satisfactorily and generally meeting the NPDES permit requirements. With some relatively minor modifications, the treatment facilities will be adequate for the 20-year planning period unless permit conditions change significantly. A capacity assessment of all of the major components of the lagoon treatment system is included at the end of the chapter.

5.3.1 Influent Flow Monitoring

Influent flow monitoring consists of a 6" Parshall flume which can accurately measure a flow range between 25 and 1,750 gpm. The flume sizing is adequate for existing and future conditions. The concrete flume also appears to be in relatively good condition despite its age. The continuous flow recorder is not functioning and the ultrasonic transmitter is approaching the end of its design life.

5.3.2 Treatment Lagoons and Rapid Infiltration Basins

Lagoon treatment systems are relatively low maintenance treatment systems that fundamentally utilize aeration and detention time to reduce BOD and TSS in the influent. The aeration system, BOD loading, hydraulic retention time, and other treatment performance parameters are evaluated in the following sections.

5.3.2.1 Aeration Requirements

Aeration requirements generally depend on the average BOD loading, the degree of treatment required, and the concentration of suspended solids in the wastewater. Rules of thumbs exist for determining the horsepower requirements for oxygen transfer and mixing in the aerated lagoon cell. The oxygen transfer requirement is based on the mechanical surface aerators needing to deliver 1.75 pounds of oxygen per pound of BOD consumed. To be conservative, the mass of BOD removed was calculated assuming a maximum month loading condition. The mixing horsepower requirement is based on typical design recommendations for providing 5 HP of aeration per million gallons of treatment volume in the aerated pond. The oxygen transfer and mixing horsepower requirements are shown below in Table 5-2. Currently there are three 5 HP mechanical surface aerators installed in the aerated pond.

TABLE 5-2. SURFACE AERATION HORSEPOWER REQUIREMENT

	2014 Maximum Month Condition		2034 Maximum Month Condition	
	Summer	**Winter**	**Summer**	**Winter**
Oxygen Transfer Power Requirement	9 HP	8 HP	20 HP	19 HP
Mixing Power Requirement	30 HP	30 HP	30 HP	30 HP
Installed Aeration	15 HP			
Operational Aerator Power	5 HP (2 aerators are currently damaged)			

The table indicates that the 15 HP of installed aerators provides adequate horsepower to meet the existing oxygen transfer requirements in the aerated pond. However, only one surface aerator is currently operational. This does not meet the oxygen transfer requirement for the maximum month condition and at least one of the aerators needs to be repaired at this time. In the past, the City has typically had at least 2 aerators operational. It is also recommended to have a standby aerator for redundancy. One can see by reviewing the figures in Chapter 3 that the effluent BOD concentrations have been slightly higher the past few months.

It should also be noted that the installed surface aerators do not meet the existing design recommendations for keeping the pond fully mixed. This is not a concern with regards to treatment; however, it does indicate that the mixing is not adequate to keep the solids in suspension. As a result, most of the solids entering the lagoons are settling out in the aerated pond. This conclusion is confirmed through visual analysis of solids accumulation in the first cell and also the sludge judge results. Additional aeration would keep the solids in suspension and minimize sludge deposition in the aerated pond. However, this would result in slightly increased solids deposition in the facultative ponds.

It is unlikely that mechanical aeration will be required in the facultative ponds during the planning period. Based on treatment performance, it appears that atmospheric aeration is adequate for these cells for the foreseeable future. If effluent BOD concentrations begin to increase in the future, this assumption can be revisited.

5.3.2.2 Organic (BOD) Loading

Idaho does not specifically provide design guidance for BOD loading to the primary aerated cell. However, other sources such as the Illinois Administrative Code for Environmental Protection recommend that the organic loading for aerated lagoons should not exceed 0.5 pounds of BOD per 1,000 cubic feet in the first cell. In Glenns Ferry's case, this equates to an allowable organic loading rate of 408 lbs per day to the primary aerated cell. Table 5-3 compares the allowable BOD loading rate to the projected rates over the 20-year planning period.

TABLE 5-3. ORGANIC LOADING RATE TO PRIMARY AERATED CELL

Parameter	Average Day	Maximum Month
2014 Loading Rate	135 lbs/day	192 lbs/day
2034 Loading Rate	313 lbs/day	445 lbs/day
Allowable Loading Rate to Primary Aerated Cell Based on Typical Design Guidance	408 lbs/day	

Typical design guidance also recommends an organic loading between 20-40 lbs/acre-d during the winter months for the entire system (all four lagoon cells). Table 5-4 compares the recommended organic loading rate to the projected rates over the 20-year planning period.

TABLE 5-4. ORGANIC LOADING RATE TO ENTIRE SYSTEM

Parameter	Average Day	Maximum Month
2014 Loading Rate	11 lbs/acre/day	15 lbs/acre/day
2034 Loading Rate	25 lbs/acre/day	36 lbs/acre/day
Allowable Loading Rate to Primary Aerated Cell Based on Typical Design Guidance	20-40 lbs/acre/day	

The tables above indicate that the entire system is sized adequately to accommodate the existing and projected BOD loadings. However, typical design recommendations will likely be exceeded later in the planning period for maximum month BOD loadings in the primary aerated pond. No modifications are required at this time to meet the design recommendations for organic loading. However, the city should continue to monitor the BOD loadings and treatment performance of the lagoon cells in the future, particularly if a new industry moves to town and the BOD loadings increase unexpectedly.

5.3.2.3 Hydraulic Retention Time

The treatment performance of the lagoons partially depends on providing an adequate HRT, which is a function of the influent flow rate and cell operating volume. During cold weather conditions, microbial activity is reduced by approximately one-half for every 10ºC decrease in water temperature. As a result, a longer HRT is generally required to maintain a removal efficiency equivalent to that observed during warm weather conditions.

Hydraulic retention times for the lagoons were calculated at the existing and projected average day and maximum month flows. To be conservative, it was assumed the sludge depth in the lagoons would remain approximately the same as current levels over the planning period. Table 5-5 summarizes the lagoon HRTs under current and future conditions.

TABLE 5-5. HYDRAULIC RETENTION TIME

				Average Day		Max Month	
	Lagoon Volume (mgal)	Sludge Volume (mgal)[1]	Operating Volume (mgal)	2014 Operating HRT (d)	2034 Operating HRT (d)	2014 Operating HRT (d)	2034 Operating HRT (d)
Aerated Pond	6.1	1.5	4.6	45	28	31	19
Pond #1	10.0	1.8	8.1	80	50	54	34
Pond #2	2.2	0.4	1.8	18	11	12	8
Pond #3	2.2	0.4	1.8	18	11	12	8
Total	20.4	4.1	16.3	161	100	109	68

1. Sludge volume assumes 2.5 ft depth in the aerated cell and 1 ft sludge depth in the remaining cells.

A Capacity Analysis was performed using guidelines recommended in the Great Lakes-Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers,

Recommended Standards for Waste Water Facilities ("10 States Standards") as recognized by Idaho Department of Environmental Quality to estimate the treatment capacity.

Lagoon performance is estimated by the following equation:

$$\frac{S}{S_O} = \frac{1}{1 + 2.3 \cdot k \cdot t}$$

Where:

S = BOD_5 leaving the lagoon, mg/l (assume 90% removal, 23 mg/L)

S_O = BOD_5 entering the lagoon (230 mg/L)

k = Reaction coefficient (0.06 d for winter, 0.12 d for summer)

t = Lagoon hydraulic detention time, day

Based on this model, the required hydraulic retention time to achieve 90 percent removal is 65 days in the winter and 33 days in the summer. As shown in Table 5-5, there is adequate hydraulic capacity over the entire planning period even using the maximum month condition and a conservative percent removal requirement (the permit only requires 85% removal).

Using 85% percent BOD removal and assuming 1.5 feet of sludge depth in the aerated pond and 0.5 feet in the remaining cells results in a hydraulic retention time of 41 days, or 0.44 MGD. This matches the 1991 design drawings for the addition of the Rapid Infiltration Basins which stated the design capacity of the system to be 0.44 MGD.

The NPDES permit fact sheet states that the design capacity of the lagoon treatment system is 0.5 MGD. The permit loadings are also based on 0.5 MGD.

The existing flow into the lagoons is 0.102 MGD which is well below the design capacity of the system. The treatment facility meets the hydraulic retention time design guidance for the 20-year planning period and no modifications are required.

10 States Standards also recommends that aerated cells be followed by polishing cells with a volume of at least 30 percent of the total volume of the aerated cells. The Glenns Ferry lagoons easily meet this requirement.

5.3.2.4 Sludge Accumulation

The aerated lagoon has significant solids build up in it, particularly around the edges of the lagoon and where the inlet pipes enter the pond. It is recommended that the sludge be removed from the aerated pond.

5.3.2.5 Rapid Infiltration Basins

As discussed previously, wastewater flows to the treatment facility decreased significantly after the potato processing plant closed down in 2008. As a result, flow distribution to the RI Basins has also decreased. In the past, water was applied frequently and loaded 3 feet deep thereby drowning the plants inside the basins. Plants can create flow conduits and lead to breakthrough resulting in decreased tertiary treatment of TSS and other parameters.

The size and capacity of the RI basins are adequate for existing and future (20-year) conditions. However, the City should continue to monitor effluent TSS concentrations and

overall RI basin performance. If breakthrough occurs it may be necessary to replace the RI basin media during the planning period.

5.3.3 Effluent Disinfection

Effluent is not disinfected prior to discharge to the Snake River. IDAPA code states that disinfection requirements for lagoons having at least a 30-day retention time will be evaluated on a case by case basis. As described above, the existing hydraulic retention time in the lagoons is 161 days based on average day flow.

The City generally meets the E.Coli bacteria permit limits as shown below in Table 5-6. The last time the permit was exceeded was September 2011. In general, effluent E.Coli counts appear to be trending downwards as illustrated in Chapter 3 (Figure 3-26).

TABLE 5-6. EFFLUENT E.COLI RESULTS

Parameter	Units	Average Value (2007-2014)	Permit Limit	Number of Data Points	Number of Permit Excursions
E. Coli Geometric Mean *	#/100 mL	21.5	126	90	1
E. Coli Instantaneous Maximum	#/100 mL	89.3	406	90	2

*Based on a minimum of 5 samples taken every 3-7 days within a calendar month.

5.3.4 Effluent Flow Monitoring

The City's 2012 draft NPDES permit required continuous effluent flow monitoring. However, the City successfully petitioned that this requirement be dropped as effluent loadings can be estimated based on readings from the influent flow meter. The permit was revised so the City needs to visually monitor and estimate the effluent flow once per week. As described in Chapter 3, effluent flow is likely only about 50 percent of the influent flow on an annual basis. Therefore, the reported loadings from the facility are likely higher than the actual amounts.

5.3.5 Effluent Disposal

The City is currently discharging to the Snake River under a NPDES permit and is generally meeting the permit requirements.

5.3.6 Treatment System Capacity Analysis

A capacity analysis of all of the major components of the lagoon treatment system is shown below in Table 5-7. In general, there is plenty of excess capacity available in the treatment lagoons. For average day flows the system is currently operating at approximately 25% capacity hydraulically and about 35% capacity in terms of organic loading.

TABLE 5-7. LAGOON TREATMENT CAPACITY ANALYSIS

Parameter	Basis of Design	Existing Condition (2014)	20-Year Condition (2034)	Capacity Evaluation (EDUs and Projected Year of Exceedance)
Influent Flow Metering	6" Parshall Flume flow range: 25-1,750 gpm	Ave Day = 71 gpm Peak Hour = 266 gpm	Ave Day = 104 gpm Peak Hour = 415 gpm	The 6" Parshall Flume is adequately sized for current and future flow conditions. The existing flume can accommodate 4,200 EDUs at peak hour flow conditions (2100 based on 2% growth rate)
Aeration Capacity	15 HP of aerators installed but only 5 HP is currently operational	Ave Day Oxygen Transfer Requirement = 6 HP Max Month = 9 HP	Ave Day Oxygen Transfer Requirement = 12 HP Max Month = 20 HP	Maximum month BOD loads could exceed the installed aeration capacity at approximately 1,620 EDUs (2021 based on 2% growth rate).
BOD Loading to Primary Cell	Allowable loading rate based on design guidelines = 408 lbs/day	Ave Day = 135 lbs/day Max Month = 192 lbs/day	Ave Day = 192 lbs/day Max Month = 445 lbs/day	Maximum month BOD loading to the primary cell could exceed design recommendations at approximately 1,160 EDUs (2034 based on 2% growth rate).
BOD Loading to Entire System	Allowable loading rate based on design guidelines = 40 lbs/acre/day	Ave Day = 11 lbs/acre/day Max Month = 25 lbs/acre/day	Ave Day = 15 lbs/acre/day Max Month = 36 lbs/acre/day	Capacity exists to treat BOD loads over all four cells during the entire planning period. BOD loading to the entire system is not exceeded under maximum month conditions until approximately 2,390 EDUs (2040 based on 2% growth rate).
Hydraulic Retention Time	Design hydraulic capacity is 41 days = 0.44 MGD	Ave Day = 161 days Max Month = 103 days	Ave Day = 103 Max Month = 70 days	Adequate hydraulic retention time exists to treat flow rates both now and into the future. The hydraulic capacity will not be exceeded until approximately 3,850 EDUs at the maximum month condition (2064 based on 2% growth rate).

Chapter 6

Development and Initial Screening of Improvement Alternatives

6.0 DEVELOPMENT AND SCREENING OF IMPROVEMENT ALTERNATIVES

Opinions of probable construction cost have been developed for potential improvements. All costs are in 2014 dollars and cost escalation should be considered for future expenditures. The cost opinions in this report are based on costs typical of the area and typical of the means and methods expected for this kind of construction. The cost opinions are based essentially on summaries of similar projects (i.e., bid tabs) not on detailed take offs from design drawings (which have not yet been developed). The level of cost estimating provided could be considered Class 4 (Study/Feasibility) estimate as defined by the American Association of Cost Engineering (AACE) with an expected range of the final cost to be within -20% to +30% of the estimate. Effort has been made to appropriately estimate the impacts of the conditions known such as local subsurface conditions (such as sand) and general trench depth.

6.1 WASTEWATER COLLECTION SYSTEM

6.1.1 "Do-Nothing" Option

Under this alternative, no action would be taken to replace and/or rehabilitate the existing gravity lines that have exceeded their design life. In addition, the stormwater system would not be disconnected from the sewer system. Large rain events would continue to overwhelm the sewer system.

This option is likely acceptable for pipes, manholes, and other appurtenances that are in good condition and are not broken or deteriorated. However, it does not address the issues outlined in Chapter 3 for stormwater inflow, leaky and/or cracked joints and service lateral connections, root intrusion, and potentially deteriorated mains. This alternative also does not correct for pipes with potential grade, depth, or alignment problems.

Collection system modifications and repairs are required to separate the stormwater system from the sewer system, properly handle waste flows, and protect the environment from spills.

6.1.2 Gravity Sewer Mains

As previously discussed, there are two primary concerns with the gravity collection system:

- Excessive stormwater inflow
- A significant percentage of the pipes have exceeded their design life

6.1.2.1 Reducing Stormwater Inflow

Much of the stormwater enters the sewer system at the intersection of Logan and Cleveland. At some point in the past, stormwater inlets were installed that drain directly to the sewer system. Since this location is at a low point in the city, the stormwater cannot gravity flow to Little Canyon Creek or the Snake River without requiring extremely deep and lengthy gravity lines. For example, the existing sewer line is approximately 27 feet deep on Atlantic Street. It would likely be cheaper and less invasive to construct a stormwater pump station with a 6" force main that discharges approximately 1,500 feet to the west to Little Canyon Creek. This would be a duplex submersible below grade pump station constructed using manhole rings. There is a vacant lot just to the north of the intersection where the pump station could potentially be located. Some regulatory permitting may be required.

The collection system hydraulic analysis indicated that if stormwater were removed from the sewer system, the pipe sizes are generally adequate to accommodate the current and projected 40-year flowrates.

6.1.2.1.1 Opinion of Probable Capital Costs

An opinion of the probable cost in 2014 dollars to construct a stormwater pump station is shown below in Table 6-1.

TABLE 6-1. PROBABLE CAPITAL COSTS FOR STORMWATER PUMP STATION

Item	Estimated Quantity	Unit	Unit Price	Total Price
Site Grading and Clearing	1	LS	$10,000.00	$10,000
Wet-Well (8' Diameter, Pre-Cast Concrete)	2	EA	$20,000.00	$40,000
Valve Vault (6' Diameter, Pre-Cast Concrete)	1	EA	$10,000.00	$10,000
Access Hatches	2	EA	$3,000.00	$6,000
Non-Clog Submersible Pumps	2	EA	$12,500.00	$25,000
6" Check Valves	2	EA	$2,100.00	$4,200
6" Plug Valves	2	EA	$1,700.00	$3,400
Internal Piping and Fittings	1	LS	$20,000.00	$20,000
Force Main	1,500	LF	$35.00	$52,500
SAFL Baffle Stormwater Treatment	1	LS	$5,000.00	$5,000
Jib Crane	1	LS	$4,000.00	$4,000
Electrical/Controls	1	LS	$20,000.00	$20,000
Sub-Total Construction Costs				$200,100
Contractor Mob/Demob (5%)				$10,000
Buy American Provisions (5%)				$10,000
Davis-Bacon Wages (5%)				$10,000
Contingency (20%)				$40,000
Total Construction Costs				$270,100
Engineering & Construction Admin. (17.5%)				$47,300
Funding, Legal, Admin, Bonding (10%)				$27,000
TOTAL PROJECT COST				*$344,400*

6.1.2.1.1 Opinion of Probable Operating and Maintenance Costs

O&M costs for the stormwater pump station are dependent on the frequency, size, and duration of storm events which will vary from year to year. The operator should stop by

occasionally, pull the pumps, clean the pump station, and make sure everything is operational. It is estimated that the labor, spare parts, and energy would cost approximately $7,500 per year.

6.1.2.2 Condition Assessment

In the past, the City has typically cleaned and video inspected problematic lines on an as needed basis. Many of these inspections led to replacement of the inspected pipes with PVC gravity sewer pipe. A map showing the areas where PVC pipe has been installed in recent years is shown below in Figure 6-1.

As described previously, the City has only cleaned and video inspected a relatively small percentage of the gravity sewer mains. As a result, there is generally insufficient information available to identify specific improvements to correct deteriorated piping and/or remedy grade, depth or alignment issues. As such, it is recommended the City incrementally clean and video inspect the entire gravity collection system over the next couple of years. This will allow them to:

- Identify the condition of the gravity sewer mains
- Prioritize the mains that need to be replaced and/or rehabilitated so that the most problematic areas can be addressed as funding becomes available.
- Identify the appropriate method for replacing and/or rehabilitating the mains (e.g., open trench, cured-in-place-pipe [CIPP], pipe bursting, etc.).
- Provide a systematic approach to replacing and/or rehabilitating the gravity sewer mains.

Specific areas that should be prioritized for cleaning and inspection are as follows:

- The gravity sewer line on Cleveland Street between Ada and Alturas Streets should be video inspected. It is suspected that the connection to the Alturas Street line was made using joint deflections as there is no manhole there. Also, the stormwater connections need to be verified and located.
- West Garfield Street between Owyhee Street and Commercial Street is reported to be laid at a very flat grade which constricts its capacity. This line should be video inspected to determine its condition. The flow line should also be surveyed to determine if it meets minimum slope guidelines.
- The 24” gravity sewer down Atlantic Street is an old clay pipe that has exceeded its design life. Due to the topography of the land, it is buried up to 27 feet deep in some locations. This pipeline should be video inspected to determine its condition. Due to the depth of the line, it is likely this line would need to be rehabilitated using trenchless technology.
- The entire west trunk line should be video inspected especially near the golf course where covered manholes could potentially be causing H_2S corrosion. These manholes should be uncovered by the City to prevent further deterioration.
- The entire east trunk line should be video inspected especially where the old 24” clay pipe connects to the 12” concrete pipe to the lagoons. This is where the city has had sewer overflows in the past. They have also had issues with root intrusion in this area.

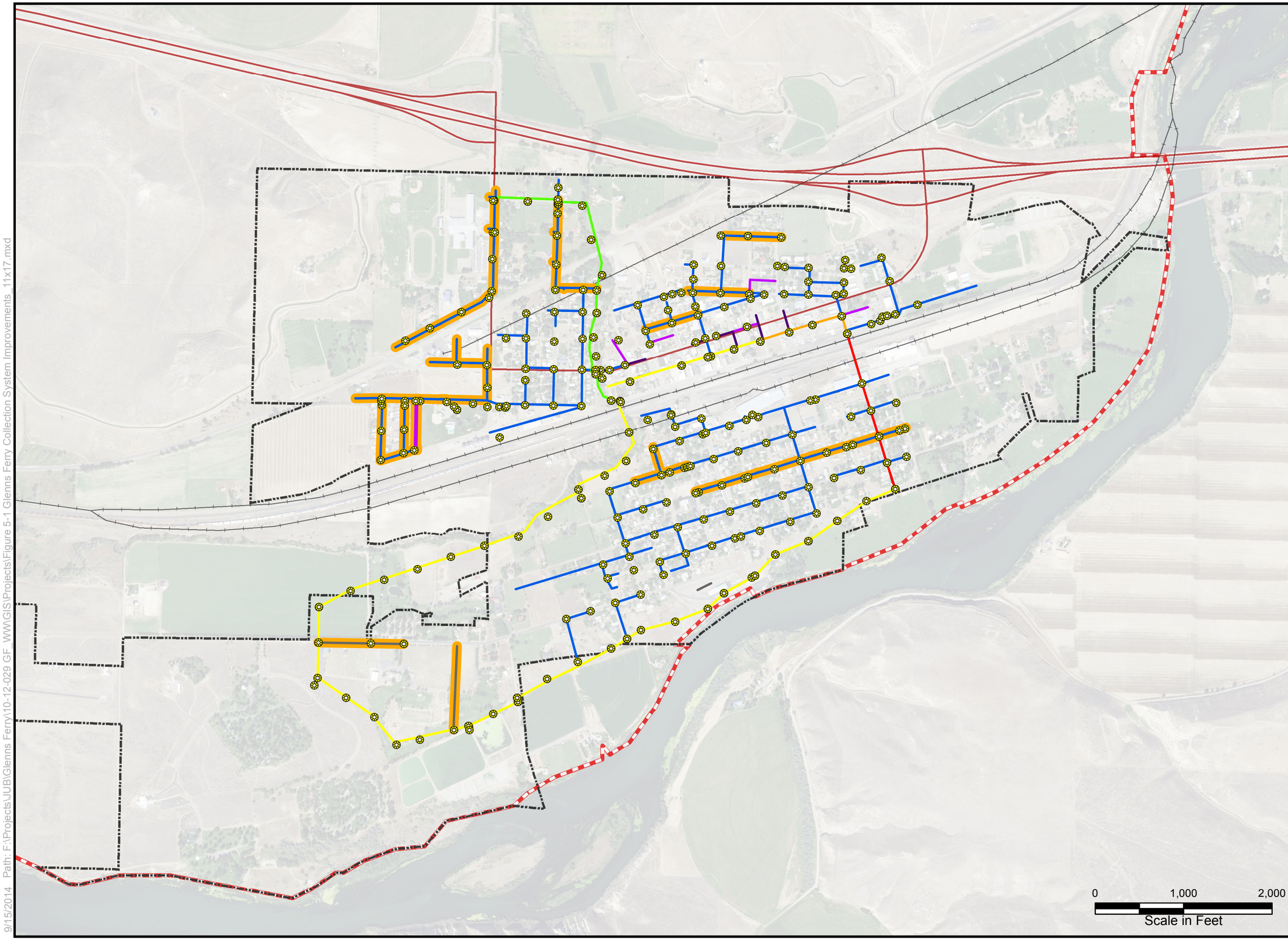

FIGURE 6-1

CITY OF GLENNS FERRY SEWER SYSTEM

WASTE WATER SYSTEM FACILITIES PLAN

COLLECTION SYSTEM IMPROVEMENTS

Legend

- Sewer Manholes

Sewer Line by Pipe Size

- 4
- 6
- 8
- 10
- 12
- 18
- 24
- Unknown Size
- New PVC Improvements
- City Limits
- Planning Area

J-U-B ENGINEERS, INC.

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9/15/2014 Path: F:\Projects\JUB\Glenns Ferry\10-12-029 GF_WW\GIS\Projects\Figure 5-1 Glenns Ferry Collection System Improvements_11x17.mxd

6.1.2.2.1 Opinion of Probable Capital Costs for Cleaning and Video Inspection

An opinion of the probable cost in 2014 dollars to clean and video inspect the entire gravity collection system is shown in Table 6-2.

TABLE 6-2. PROBABLE CAPITAL COSTS FOR CLEANING AND VIDEO INSPECTION

Item	Estimated Quantity	Unit	Unit Price	Total Price
Clean and Video Inspect Gravity Collection System	73,172.00	LF	$1.50	$109,800
Sub-Total Construction Costs				$109,800
Contractor Mob/Demob (5%)				$5,500
Contingency (20%)				$22,000
Total Construction Costs				$137,300
Funding, Legal, Admin, Bonding (10%)				$13,700
TOTAL PROJECT COST				*$151,000*

6.1.2.3 Pipeline Repair and Replacement

There are several alternatives available to install new gravity lines and/or repair failing and defective sewer lines, each with relative advantages and disadvantages. There is no single method that is most effective and economical in all cases. The effectiveness of each technique is dependent on the nature of the required repairs, surface and subsurface conditions, site access, costs, construction requirements and environmental impacts. Pipe repair methods can be broadly categorized into two groups:

1. Techniques that remove the existing deteriorated pipe and replace it with new pipe.
2. Methods that rehabilitate the existing pipe in-place (in-situ) with new pipe.

A brief description of the most widely used gravity sewer line installation techniques is provided in the following sections.

6.1.2.3.1 Open Trench

This method is the most commonly used technique to install new pipe, repair severely deteriorated sewer mains, correct grade and alignment problems, or enlarge pipe sizes. Generally, a trench is excavated to the required depth and a new pipe is installed. The new pipe is bedded and backfilled in the same trench. Existing lines are typically removed, as opposed to abandoning them in place, to allow for reuse of the existing manholes and to minimize interference with existing utilities. Service lines are generally replaced from the new pipe to the property line and reconnected to the old service.

Access to excavate the trench is critical for this to be a viable alternative. As such, narrow alleys and congested streets are of a concern due to limited access. Additionally, surface conditions have a dramatic effect on the feasibility and cost-effectiveness of this option, as surface repair of paved streets, landscaping and traffic control can become major expenses. The installation or replacement of deep mains with large excavation depths also reduces the cost-effectiveness of the open trench technique.

6.1.2.3.2 Pipe Bursting

Pipe bursting allows for in-situ replacement of deteriorated lines with new pipe. To a limited extent, pipe bursting also allows for upsizing an existing line to a larger diameter pipe. Typically, pipe bursting is accomplished by pulling a bursting device through an existing line, which by virtue of its size or radial expansion ability, shatters the existing pipe and forces the fragments into the surrounding soil. A new pipe is pulled behind the pipe bursting device, replacing the existing pipe. Since the replacement pipe requires a high strength, ductile and abrasion tolerant material, solid wall HDPE pipe is typically selected.

The pipe bursting technique can be effective in rehabilitating areas that are not easily accessible (i.e., alleys, congested roads, etc.). Pipe bursting also minimizes the disturbance of surface features above grade, resulting in less surface repair of roads and landscaping. The use of pipe bursting is beneficial in rehabilitating deep lines that may otherwise require extensive excavation. A unique characteristic of this rehabilitation method is that the replacement pipe can be of a slightly larger diameter than the existing main, if necessary. Pipe bursting also works well in areas with compactable soil and where surrounding utilities or road-beds won't be disturbed by vibration or compaction.

Pipe bursting becomes less cost-effective as the number of service connections along the rehabilitated length increases. Additionally, it does not work well in lines with sharp bends or with grade problems. Pipe bursting does not allow for a change in the alignment or depth of the sewer main, and cannot be used for installation of lines in unsewered areas.

6.1.2.3.3 Fold and Form Lining

The fold and form lining method consists of pulling a folded plastic PVC or PVC alloy conduit through an existing deteriorated sewer main. Once positioned, the conduit is heated with steam to a pliable state and pressurized to expand the plastic conduit against the outer surfaces of the existing pipe. Following rounding, the material is cured with cold water so that it will set in a rigid and structural state. Existing manholes can typically be used as access points to insert the liner, eliminating the need for excavation pits.

The liners are typically designed and constructed for a 50-year life. Although the liner reduces the actual pipe diameter, the flow capacity may actually increase due to reduced friction. Fold and form lining minimizes the disturbance of surface features above grade, resulting in less surface repair of roads and landscaping. This technique is beneficial in rehabilitating deep lines that may otherwise require extensive excavation.

In-situ lining generally becomes less cost-effective as the number of service connections along the rehabilitated length increases. Additionally, this method does not correct for pipes with grade, alignment and/or depth problems, and cannot be used for installation of lines in unsewered areas. Protruding taps, blockages, roots or other structural problem may prohibit the use of a lining system unless corrected prior to installation. The existing lines must be cleaned prior to installation of the liner.

6.1.2.3.4 Cured in Place Lining (CIP)

This method is an inserted lining technique similar to fold and form, but differs in the inserted material and curing mechanism. A resin saturated composite material is inserted into a totally contained tubular liner. The liner is impregnated with a vacuum and/or roller system, allowing full saturation of the tube with resin. The impregnated liner is inserted into the host pipe through an existing manhole. The liner is inverted against the host pipe by circulating water within the liner or by the use of an inflation bladder. Once positioned, the liner is cured in place by modifying the water circulation temperature or by using steam. This

creates a bond with the host pipe, forming a rigid and structural pipe section. Service lines are generally re-connected in a manner similar to the fold and form liner.

The liners are typically designed and constructed for a 50-year life. Other advantages and disadvantages of a CIP liner are similar to those discussed for the fold and form liner.

6.1.2.3.5 Opinion of Probable Capital Costs for Gravity Sewer Repair / Replacement

Costs are included for engineering support to review and prioritize the lines for repair and to identify the recommended method for replacement and/or rehabilitation. Since specific gravity collection system improvements cannot be identified with the available information, it was assumed that approximately 25 percent of the existing gravity sewer mains would need to be replaced via open trench. This is simply an assumption that may allow the City to address some of the required improvements. Once the video inspection and analysis is complete, a more detailed list of improvements and an opinion of probable capital costs for implementing specific gravity collection system improvements can be prepared. An opinion of the probable cost in 2014 dollars to replace approximately 25 percent of the existing gravity collection system mains is shown below in Table 6-3.

TABLE 6-3. PROBABLE CAPITAL COSTS FOR REPLACING 25% OF COLLECTION SYSTEM

Item	Estimated Quantity	Unit	Unit Price	Total Price
Traffic Control	1	LS	$5,000.00	$5,000
8" PVC Gravity Sewer Main	14,300	LF	$40.00	$572,000
12" PVC Gravity Sewer Main	4,000	LF	$55.00	$220,000
Standard 4' Dia. Manhole with Ring and Cover	46	EA	$2,500.00	$115,000
Connection to Existing Manhole	92	EA	$1,000.00	$92,000
Disconnect/Abandon Existing Gravity Sewer	46	LS	$1,000.00	$46,000
Remove/Dispose of Existing Manhole	46	EA	$500.00	$23,000
Sewer Service Line Re-Connection	138	EA	$400.00	$55,200
Asphalt Surface Repair	7,150	LF	$35.00	$250,300
Gravel Surface Repair	7,150	LF	$14.00	$100,100
Post Install Cleaning/Video Inspection	14,300	LF	$2.00	$28,600
Sub-Total Construction Costs				$1,507,200
Contractor Mob/Demob (5%)				$75,400
Buy American Provisions (5%)				$75,400
Davis-Bacon Wages (5%)				$75,400
Contingency (20%)				$301,400
Total Construction Costs				$2,034,800
Engineering & Construction Admin. (17.5%)				$356,100
Funding, Legal, Admin, Bonding (10%)				$203,500
TOTAL PROJECT COST				*$2,594,400*

6.1.2.3.6 Opinion of Probable Operating and Maintenance Costs

Annual operation and maintenance (O&M) costs associated with the gravity sewer lines are not expected to change considerably. However, it is recommended that the City consider adding annual budget line items for capital improvements and to fund depreciation of assets such as the collection system. As a simple reference, the City has over 73,000 feet of collection line. Assuming an average replacement value of $75/LF, the value of the collection system is $5.475M in today's dollars. With an assumed life of 50 years the City should be setting aside on the low end $110,000 per year to replace that asset. Routine cleaning and inspection is expected to cost approximately $20,000 to $30,000 per year assuming the entire system is cleaned and inspected every 5 years.

6.2 LIFT STATION

6.2.1 "Do-Nothing" Option

The pumps have reached the end of their design life and at some point in the near future may fail and need to be replaced. The lift station does not have any alarms or telemetry to alert the operator if there is a problem. The lift station cannot connect to a portable backup generator in the event of an extended power outage.

6.2.2 Lift Station Improvements Option

It is recommended that the City budget for pump replacement and at a minimum purchase a spare pump (identical to the existing pumps) that can quickly be inserted in the event of a pump failure. A jib crane should be added to ease pump removal and maintenance. It is also recommended the City install a visual alarm light at the lift station and connect it to a remote telemetry/SCADA system. Lastly, the lift station should be wired so it can be connected to a portable backup generator that would be purchased by the City.

6.2.2.1 Opinion of Probable Capital Costs

An opinion of the probable cost in 2014 dollars for the lift station improvements is shown below in Table 6-4.

6.2.2.2 Opinion of Probable Operating and Maintenance Costs

The proposed lift station improvements would not increase O&M costs over the current system.

TABLE 6-4. PROBABLE CAPITAL COSTS FOR LIFT STATION IMPROVEMENTS

Item	Estimated Quantity	Unit	Unit Price	Total Price
Non-Clog Submersible Pumps	2	EA	$10,000.00	$20,000
Jib Crane	1	LS	$4,000.00	$4,000
Wiring to Connect to Portable Generator and Alarms	1	LS	$6,000.00	$6,000
Portable Generator	1	LS	$7,500.00	$7,500
SCADA/Telemetry (priced elsewhere)	-	-	-	-
Sub-Total Construction Costs				$37,500
Contractor Mob/Demob (5%)				$1,900
Buy American Provisions (5%)				$1,900
Davis-Bacon Wages (5%)				$1,900
Contingency (20%)				$7,500
Total Construction Costs				$50,700
Engineering & Construction Admin. (10%)				$5,100
Funding, Legal, Admin, Bonding (10%)				$5,100
TOTAL PROJECT COST				*$60,900*

6.2.3 Abandon Lift Station and Install Gravity Line

There is a gravity sewer line located about 1,000 feet to the east of the sewer lift station. Preliminary measurements suggest that the lift station could potentially be decommissioned and replaced with a gravity line to the manhole to the east. An 8" gravity sewer line would likely come in too deep but potentially a 12" line laid at minimum slope could connect to the existing gravity line. This should be verified by surveying the flow line elevations at the Parkside manhole and 660 West manhole.

Alternatively, a gravity sewer line could be installed to connect to the gravity sewer trunk line located about 1,100 feet to the south of the lift station. The topography drops approximately 35 feet in elevation over this distance so there is no doubt that this line would gravity flow if the lift station were decommissioned. The problem with this alignment is the sewer line would need to cross under the railroad tracks and Little Canyon Creek.

The two options described above need to be investigated further to determine if they are feasible.

6.2.3.1 Opinion of Probable Capital Costs

For the purposes of estimating capital costs, the more expensive option crossing the railroad tracks was assumed. An opinion of the probable cost in 2014 dollars to eliminate the lift station is shown below in Table 6-5. Connecting to the collection system to the east of the lift station would be cheaper and easier but it needs to be verified that this alternative is technically feasible for gravity flow.

TABLE 6-5. PROBABLE CAPITAL COSTS FOR ABANDONING LIFT STATION

Item	Estimated Quantity	Unit	Unit Price	Total Price
8" Sewer to South Trunk Line	1,100	LF	$45.00	$49,500
Casing Under Railroad Tracks	400	LF	$250.00	$100,000
Little Canyon Creek Crossing	100	LF	$250.00	$25,000
Connect to Existing Sewer	1	EA	$1,000.00	$1,000
Standard 4' Dia. Manhole with Ring and Cover	3	EA	$2,500.00	$7,500
Post Install Cleaning/Video Inspection	1,100	LF	$2.00	$2,200
Abandon and Salvage Existing Lift Station	1	LS	$5,000.00	$5,000
Sub-Total Construction Costs				$190,200
Contractor Mob/Demob (5%)				$9,500
Buy American Provisions (5%)				$9,500
Davis-Bacon Wages (5%)				$9,500
Contingency (20%)				$38,000
Total Construction Costs				$256,700
Engineering & Construction Admin. (17.5%)				$44,900
Funding, Legal, Admin, Bonding (10%)				$25,700
TOTAL PROJECT COST				*$327,300*

6.2.3.2 Opinion of Probable Operating and Maintenance Costs

In terms of operating and maintenance costs, a gravity line is always preferred to a lift station and force main. O&M costs will be significantly reduced by not needing to use electricity to run the pumps and eliminating the need for pump and general lift station maintenance.

6.3 WASTEWATER TREATMENT FACILITIES

Suggested improvements for each of the unit processes compared to a "Do-Nothing" alternative are described below.

6.3.1 Influent Flow Monitoring

6.3.1.1 "Do-Nothing" Option

The City currently is not in compliance with their NPDES permit as the continuous chart recorder is not operational and needs to be repaired. Currently the flow is manually recorded every day by the operator as there is no SCADA capability at the treatment facilities. Also the ultrasonic level transmitter is at least 12 years old and should be replaced in the near future.

6.3.1.2 Install New Ultrasonic Transmitter and Continuous Recorder

The ultrasonic transmitter has served the City well but it has reached the end of its design life and needs to be replaced. The continuous chart recorder is no longer functioning and also needs to be replaced. It is recommended the City install a new ultrasonic transmitter and chart recorder. The ideal solution would be to tie the influent flow monitor into a new wastewater SCADA system for continuous flow monitoring which would negate the need for the chart recorder.

6.3.1.2.1 Opinion of Probable Capital Costs

An opinion of probable capital costs in 2014 dollars for the recommended influent flow monitoring improvements is shown below in Table 6-6.

TABLE 6-6. PROBABLE CAPITAL COSTS FOR INFLUENT FLOW MONITORING IMPROVEMENTS

Item	Estimated Quantity	Unit	Unit Price	Total Price
Ultrasonic Transmitter	1	EA	$3,500.00	$3,500
Continuous Chart Recorder	1	LS	$3,500.00	$3,500
Electrical	1	LS	$3,000.00	$3,000
SCADA/Telemetry (priced elsewhere)	-	-	-	-
Sub-Total Construction Costs				$10,000
Contractor Mob/Demob (5%)				$500
Buy American Provisions (5%)				$500
Davis-Bacon Wages (5%)				$500
Contingency (20%)				$2,000
Total Construction Costs				$13,500
Engineering & Construction Admin. (17.5%)				$2,400
Funding, Legal, Admin, Bonding (10%)				$1,400
TOTAL PROJECT COST				*$17,300*

6.3.1.2.2 Opinion of Probable Operating and Maintenance Costs

The proposed influent flow monitoring improvements would not increase O&M costs over the existing condition.

6.3.2 Headworks / Pretreatment

6.3.2.1 "Do-Nothing" Option

There currently is no method for screening debris in the headworks structure upstream of the lagoons. As a result, everything that enters the collection system flows into the lagoons

including wet wipes, tampons, plastic bags, and prophylactics. These inert objects typically settle out in the aerated pond and eventually need to be removed. Other items such as plastic bags and wet wipes get tangled up in the surface aerators and can damage the motors.

Up front screening would reduce the rate of sludge accumulation in the lagoons and protect downstream equipment.

6.3.2.2 Manual Bar Rack

Under this alternative, a manually cleaned bar rack would be installed after the Parshall flume. The bar rack would have 2" openings between the bars to screen out coarse material. The bar rack would likely need to be manually raked daily or every other day to prevent blinding and potentially backing up flow into the sewer trunk lines.

6.3.2.2.1 Opinion of Probable Capital Costs

An opinion of probable capital costs in 2014 dollars for the manual bar rack alternative is shown below in Table 6-7.

TABLE 6-7. PROBABLE CAPITAL COSTS FOR HEADWORKS IMPROVEMENTS – BAR RACK

Item	Estimated Quantity	Unit	Unit Price	Total Price
Screening Structure / Single Channel	1	LS	$25,000.00	$25,000
Manual Bar Rack	1	LS	$3,500.00	$3,500
Pipe Connections to Structure	2	EA	$1,000.00	$2,000
Bypass Pumping	20	Days	$250.00	$5,000
Sub-Total Construction Costs				$35,500
Contractor Mob/Demob (5%)				$1,800
Buy American Provisions (5%)				$1,800
Davis-Bacon Wages (5%)				$1,800
Contingency (20%)				$7,100
Total Construction Costs				$48,000
Engineering & Construction Admin. (17.5%)				$8,400
Funding, Legal, Admin, Bonding (10%)				$4,800
TOTAL PROJECT COST				*$61,200*

6.3.2.2.2 Opinion of Probable Operating and Maintenance Costs

The operator would need to stop by the site daily to rake the manual bar rack so it doesn't blind. This would only take a couple minutes and could be completed during the lagoon site visits that are already currently taking place. The cleaning frequency could be adjusted depending on how long it takes for the bar rack to blind.

6.3.2.3 Grinder/Comminutor

Under this alternative, a grinder/comminutor would be installed downstream of the Parshall flume. The grinder would shred objects such as wet wipes, plastic bags, etc. All debris will still enter the lagoons so the sludge accumulation rate will not change. In addition, there remains a chance these shredded objects could "reform" into ropes. However, in general, the grinder/communitor would improve protection of downstream equipment over the existing conditions.

6.3.2.3.1 Opinion of Probable Capital Costs

An opinion of probable capital costs in 2014 dollars for the grinder/comminutor alternative is shown below in Table 6-8.

TABLE 6-8. PROBABLE CAPITAL COSTS FOR HEADWORKS IMPROVEMENTS – GRINDER

Item	Estimated Quantity	Unit	Unit Price	Total Price
Screening Structure / Single Channel	1	LS	$25,000.00	$25,000
Grinder/Comminutor	1	LS	$15,000.00	$15,000
Pipe Connections to Structure	2	EA	$1,000.00	$2,000
Electrical and Power Supply	1	LS	$10,000.00	$10,000
Bypass Pumping	20	Days	$250.00	$5,000
Sub-Total Construction Costs				$57,000
Contractor Mob/Demob (5%)				$2,900
Buy American Provisions (5%)				$2,900
Davis-Bacon Wages (5%)				$2,900
Contingency (20%)				$11,400
Total Construction Costs				$77,100
Engineering & Construction Admin. (17.5%)				$13,500
Funding, Legal, Admin, Bonding (10%)				$7,700
TOTAL PROJECT COST				*$98,300*

6.3.2.3.2 Opinion of Probable Operating and Maintenance Costs

The grinder would be operating continuously and will require periodic maintenance. Assuming the grinder is 5 HP this will require approximately $2,500 in energy costs annually. Adding in spare parts and labor would bring the annual O&M costs for this alternative to approximately $7,500 per year.

6.3.2.4 Mechanical Screen and Headworks Building

Under this alternative, a mechanical screen would automatically remove screenings from the raw sewage and compact the screenings for disposal. Screen openings could range from ¼"

to 1". The mechanical screen would be housed inside a new headworks building. One complication of this option is the mechanical screen needs a source of water to keep the screen clean; the nearest source of pressurized clean water is approximately 1,000 feet away in Madison Avenue.

6.3.2.4.1 Opinion of Probable Capital Costs

An opinion of probable capital costs in 2014 dollars for the mechanical screen and headworks building alternative is shown below in Table 6-9.

TABLE 6-9. PROBABLE CAPITAL COSTS - MECHANICAL SCREEN / HEADWORKS BUILDING

Item	Estimated Quantity	Unit	Unit Price	Total Price
Building Structure /Dual Channels	1	LS	$75,000.00	$75,000
Mechanical Screen with Integral Washer/Compactor	1	LS	$100,000.00	$100,000
Bar Rack in Bypass Channel	1	EA	$3,500.00	$3,500
Pipe Connections to Structure	2	EA	$1,000.00	$2,000
Slide Gates	4	EA	$3,000.00	$12,000
Potable Water to Screen for Washwater	1,000	LF	$20.00	$20,000
Backflow Preventer	1	LS	$3,500.00	$3,500
Hose Bibb	1	EA	$500.00	$500
Pre-Engineered Metal Building (approx 30'x25')	750	SF	$75.00	$56,250
Electrical and Power Supply	1	LS	$30,000.00	$30,000
Building HVAC	1	LS	$10,000.00	$10,000
Bypass Pumping	60	Days	$250.00	$15,000
Sub-Total Construction Costs				$327,750
Contractor Mob/Demob (5%)				$16,400
Buy American Provisions (5%)				$16,400
Davis-Bacon Wages (5%)				$16,400
Contingency (20%)				$65,600
Total Construction Costs				$442,550
Engineering & Construction Admin. (17.5%)				$77,400
Funding, Legal, Admin, Bonding (10%)				$44,300
TOTAL PROJECT COST				*$564,250*

6.3.2.4.2 Opinion of Probable Operating and Maintenance Costs

O&M costs for this alternative will likely be approximately $30,000 per year based on energy costs for the screening equipment, building power and HVAC costs, spare parts, and additional labor requirements for equipment maintenance.

6.3.3 Treatment Lagoons

The following sections focus specifically on improvements required for the treatment aspects of the lagoon system.

6.3.3.1 Aeration Requirements

6.3.3.1.1 "Do-Nothing" Option

The lagoons are currently operating on a single 5 HP aerator. BOD removal will decrease as influent BOD loadings increase. Solids will continue to accumulate in the aerated pond due to inadequate mixing and overall treatment performance will be impacted until the two damaged surface aerators are repaired. Even after the aerators are repaired, additional aeration will be required in approximately 10-15 years.

6.3.3.1.2 Description of Option – Repair Existing Aerators

It is recommended that the City repair the two damaged aerators and continue to monitor the effluent BOD concentrations. It is likely that even with 15 HP of installed aeration the BOD loadings could exceed the design recommendations for oxygen transfer in approximately 10-15 years and additional aeration horsepower would be required at that time.

6.3.3.1.2.1 Opinion of Probable Capital Costs

An opinion of probable capital costs in 2014 dollars for repairing the aerators is shown below in Table 6-10.

TABLE 6-10. PROBABLE CAPITAL COSTS FOR REPAIRING SURFACE AERATORS

Item	Estimated Quantity	Unit	Unit Price	Total Price
Repair 5 HP Aerator	2	EA	$5,000.00	$10,000
SCADA/Telemetry (priced elsewhere)	-	-	-	-
Sub-Total Construction Costs				$10,000
Contractor Mob/Demob (5%)				$500
Buy American Provisions (5%)				$500
Davis-Bacon Wages (5%)				$500
Contingency (20%)				$2,000
Total Construction Costs				$13,500
Funding, Legal, Admin, Bonding (10%)				$1,400
TOTAL PROJECT COST				*$14,900*

6.3.3.1.2.2 Opinion of Probable Operating and Maintenance Costs

If the 2 repaired aerators are run 24 hours per day it would result in approximately $4,600 in additional energy costs. The City could provide adequate treatment for the next 5-10 years by just running 1 additional aerator (2 total), resulting in additional energy costs of $2,300 per year. There would be no additional labor or maintenance under this alternative, as this equipment is existing and just being repaired.

6.3.3.1.3 Description of Option – Install Additional Aeration

As discussed in Chapter 5, it is anticipated that the aeration demand will be 20 HP at the end of the 20-year planning period when analyzing at the maximum month loading condition. This option assumes that the two existing surface aerators would be repaired and 2 additional aerators would be installed. This would result in 5 surface aerators in the primary cell. One of the aerators would provide redundancy for the aeration system. In addition, running 20 HP of aeration even during the early years would greatly improve mixing in the primary cell which would reduce settling and potentially improve overall treatment performance.

6.3.3.1.3.1 Opinion of Probable Capital Costs

An opinion of probable capital costs in 2014 dollars for repairing the damaged aerators and installing two new aerators is shown below in Table 6-11.

TABLE 6-11. PROBABLE CAPITAL COSTS FOR INSTALLING ADDITIONAL AERATION

Item	Estimated Quantity	Unit	Unit Price	Total Price
Repair 5 HP Aerator	2	EA	$5,000.00	$10,000
Install 2 new 5 HP Aerators	2	EA	$20,000.00	$40,000
Electrical	1	LS	$5,000.00	$5,000
SCADA/Telemetry (priced elsewhere)	-	-	-	-
Sub-Total Construction Costs				$55,000
Contractor Mob/Demob (5%)				$2,800
Buy American Provisions (5%)				$2,800
Davis-Bacon Wages (5%)				$2,800
Contingency (20%)				$11,000
Total Construction Costs				$74,400
Engineering & Construction Admin. (17.5%)				$13,000
Funding, Legal, Admin, Bonding (10%)				$7,400
TOTAL PROJECT COST				*$94,800*

6.3.3.1.3.2 Opinion of Probable Operating and Maintenance Costs

If 4 aerators are run 24 hours per day it would result in approximately $6,900 in additional energy costs over the existing system where only 1 aerator is operational. The City should also budget approximately $2,000 per year for spare parts and repairs of the new aerators. This results in total increase in O&M costs of $8,900 per year.

6.3.3.2 Organic (BOD) Loading

6.3.3.2.1 "Do-Nothing" Option

No modifications are required at this time to meet the design recommendations for organic loading. However, the city should continue to monitor the BOD loadings and treatment performance of the lagoon cells in the future, particularly if a new industry moves to town and the BOD loadings increase unexpectedly. If reduced treatment performance and/or odors become an issue in the future, the City should consider installing additional aeration in the primary and/or subsequent lagoon cells.

6.3.3.3 Hydraulic Retention Time

6.3.3.3.1 "Do-Nothing" Option

The existing flow into the lagoons is 0.102 MGD which is well below the design capacity of the system. The treatment facility meets the hydraulic retention time design guidance for the 20-year planning period and no modifications are required.

6.3.3.4 Rapid Infiltration Basins

6.3.3.4.1 "Do-Nothing" Option

The rock media has never been cleaned or replaced since it was installed over 20 years ago. There have been some concerns regarding clogging in some portions of the basins. Other locations in the basins could be prone to short-circuiting due to plant growth. It is recommended that the City continue to monitor effluent parameters especially TSS. As effluent TSS concentrations increase it may be time to replace or clean the media in the RI Basins. In the meantime, the City could consider batch loading to reduce plant growth in the basins.

6.3.3.4.2 Description of Option – Replace Rock Media

This option involves removing the existing rock media, cleaning/scarifying the rapid infiltration basins, and replacing the rock media to match the original design intent (slower percolation rates, no vegetation, etc.).

6.3.3.4.2.1 Opinion of Probable Capital Costs

The opinion of probable cost in 2014 dollars to remove and replace the rock media in all five rapid infiltration basins is shown below in Table 6-12.

TABLE 6-12. PROBABLE CAPITAL COSTS FOR REPLACING ROCK MEDIA IN RI BASINS

Item	Estimated Quantity	Unit	Unit Price	Total Price
Remove and Replace Rock Media	3,493	CY	$15.00	$52,400
Sub-Total Construction Costs				$52,400
Contractor Mob/Demob (5%)				$2,600
Buy American Provisions (5%)				$2,600
Davis-Bacon Wages (5%)				$2,600
Contingency (20%)				$10,500
Total Construction Costs				$70,700
Engineering & Construction Admin. (10%)				$7,100
Funding, Legal, Admin, Bonding (10%)				$7,100
TOTAL PROJECT COST				*$84,900*

6.3.3.4.2.2 Opinion of Probable Operating and Maintenance Costs

There will be no additional O&M costs associated with this alternative.

6.3.3.5 Effluent Disinfection

6.3.3.5.1 "Do-Nothing" Option

It is recommended the City continue to monitor E.Coli counts in the effluent. While the E.Coli numbers appear to be trending downward the past couple years, that could change if a new industry comes to town or lagoon performance is impacted by sludge accumulation and/or aeration deficiencies. If the effluent E.Coli counts increase in the future and begin to approach the permit limits (or the permit limits are modified), a disinfection system may need to be installed.

6.3.3.6 Transfer Structures

6.3.3.6.1 "Do-Nothing" Option

The transfer structures and internal piping appear to be in good condition and no improvements are anticipated during the planning period.

6.3.3.7 Sludge Accumulation

6.3.3.7.1 "Do-Nothing" Option

The WWTP cannot be operated optimally until the excess solids are removed. Excessive biosolids accumulation may result in potential treatment problems, including:

- A reduction in operating volume and hydraulic retention time (HRT).
- Potential odor issues resulting from anaerobic digestion of the sludge layer.
- Increased oxygen demand from the feedback of soluble organics during degradation.
- Elevated effluent TSS and BOD5 from the feedback of solids and excessive algal and plant growth triggered by the release of nutrients from sludge stabilization.
- High effluent ammonia caused by the release of ammonia during sludge stabilization.

6.3.3.7.2 Description of Option – Sludge Removal using Independent Contractor

There are a number of companies in southern Idaho that routinely remove sludge from lagoons. J-U-B can provide contact phone numbers for some sludge removal companies if desired. The advantage of going with an independent contractor is they take care of the problem with minimal involvement from City staff. It is a one-time operation that won't need to be repeated during the 20-year planning period. The aerated pond will likely need to be removed from service during the sludge removal process.

One drawback with using an independent contractor is that a new seepage test may be required after solids removal. It is noted the City recently (2011) completed seepage testing showing favorable results. Some contractors have stated they can remove sludge without damaging the liner which suggests a renewed round of seepage testing is not required. However, IDEQ is the ultimate decision maker as to whether a new seepage test will be required after sludge removal. Therefore, before performing any activity that may affect liner permeability, it is recommended the City contact IDEQ in writing to determine if a new seepage test will be required prior to returning the aerated pond to service.

A Biosolids Management Plan needs to be submitted if the sludge will be land applied. Alternatively, the sludge could be disposed of at a landfill but the tipping fees would likely cost more than land application. Disposal at a landfill would likely not require a Biosolids Management Plan.

6.3.3.7.2.1 Opinion of Probable Capital Costs

Sludge removal costs vary depending on the Contractor, their method of sludge removal, and the condition of the lagoons. Typical capital costs can range anywhere from $0.035 per gallon to $0.18 per gallon. It is advantageous for the City to drain the aerated pond down to the sludge layer to minimize the volume that needs to be pumped.

An opinion of probable capital costs in 2014 dollars for hiring an independent contractor for sludge removal is shown below in Table 6-13.

TABLE 6-13. PROBABLE CAPITAL COSTS FOR SLUDGE REMOVAL AND DISPOSAL

Item	Estimated Quantity	Unit	Unit Price	Total Price
Sludge Removal and Disposal	2,000,000	Gallons	$0.06	$120,000
Seepage Testing [1]	1	LS	$10,000	$10,000
Sub-Total Construction Costs				$130,000
Contractor Mob/Demob (5%)				$6,500
Buy American Provisions (5%)				$6,500
Davis-Bacon Wages (5%)				$6,500
Contingency (20%)				$26,000
Total Construction Costs				$175,500
Engineering & Construction Admin. (10%)				$17,600
Funding, Legal, Admin, Bonding (10%)				$17,600
TOTAL PROJECT COST				*$210,700*

1. If required by IDEQ.

6.3.3.7.2.2 Opinion of Probable Operating and Maintenance Costs

There will be no additional O&M costs associated with this alternative aside from coordinating with the sludge removal contractor as required.

6.3.3.7.3 Description of Option – Ongoing Sludge Removal by the City

An alternative to hiring an independent sludge removal contractor would be for the City to manage and remove the sludge on their own. Under this scenario, the city would purchase a small portable dredge that would remove sludge from the solids inventory at a prescribed rate, thereby maintaining a healthy biological community. This would be a more time consuming sludge removal process, potentially lasting several summers depending on the size of the dredge. The aerated pond would remain fully operational during sludge removal.

For this alternative, it was assumed the sludge would be dewatered using Geobags. After a period of time in the Geobags the biosolids would be dried and could be land applied to farmland. Prior to land application of the sludge, a Biosolids Management Plan needs to be submitted to the state. The City of Bonners Ferry currently utilizes a similar approach for sludge removal. J-U-B can provide contact information if desired.

One potential benefit to using this approach is the liner is generally protected and the city may not need to seepage test again. However, IDEQ should be consulted if considering this alternative as they are the ultimate decision maker as to whether a new seepage test will be required.

Capital costs will be lower than hiring an independent contractor; however, O&M costs would increase as the city would need to hire a seasonal employee to oversee the sludge removal and dewatering operation.

6.3.3.7.3.1 Opinion of Probable Capital Costs

An opinion of probable capital costs in 2014 dollars for ongoing sludge management by the city is shown below in Table 6-14.

TABLE 6-14. PROBABLE CAPITAL COSTS FOR ONGOING SLUDGE MANAGEMENT

Item	Estimated Quantity	Unit	Unit Price	Total Price
Floating Dredge Sludge Removal System	1	LS	$50,000.00	$50,000
Flexible Piping	1	LS	$5,000.00	$5,000
Geobags	4	EA	$5,000.00	$20,000
Labor (over 2 summers)	1	LS	$40,000.00	$40,000
Sub-Total Construction Costs				$115,000
Buy American Provisions (5%)				$5,800
Davis-Bacon Wages (5%)				$5,800
Contingency (20%)				$23,000
Total Construction Costs				$149,600
Engineering & Construction Admin. (10%)				$15,000
Funding, Legal, Admin, Bonding (10%)				$15,000
TOTAL PROJECT COST				*$179,600*

6.3.3.7.3.2 Opinion of Probable Operating and Maintenance Costs

This alternative may be cost effective if the City can hire a temporary employee for the summer to conduct the sludge removal operation. Over the course of 2 summers this is estimated to cost approximately $30,000 in labor costs. There would also be approximately $10,000 in additional labor from existing city employees to help coordinate the sludge removal and land application of the dried biosolids. Due to the short-term nature of these labor costs, they were rolled into the capital costs for this option as shown in Table 6-14.

6.3.4 Effluent Flow Monitoring

6.3.4.1 "Do-Nothing" Option

Under this alternative, the City would continue to report loadings based on the influent flow rate. This eliminates the cost of an effluent flowmeter and the additional instrumentation required for flow recording. However, as the City grows (or the permit changes) and effluent loadings begin to approach the permit limits, it is recommended to install an effluent flow meter so the loadings can be more accurately reported.

6.3.4.2 Description of Option – Install Effluent Flow Meter

Under this alternative a Parshall flume, ultrasonic transmitter, continuous flow recorder, and effluent sampling station would be installed downstream from the RI Basins. This would require power and could potentially connect to a new SCADA system if available.

6.3.4.2.1 Opinion of Probable Capital Costs

An opinion of probable capital costs in 2014 dollars for installation of an effluent flow meter is shown in Table 6-15.

6.3.4.2.2 Opinion of Probable Operating and Maintenance Costs

Additional O&M costs for this alternative would be minimal. Power requirements would be negligible. Generally the operator would just need to check on the flow meter occasionally to determine if it is operating satisfactorily.

6.3.5 Effluent Disposal

6.3.5.1 "Do-Nothing" Option

The lagoon system as currently configured is generally meeting its NPDES discharge permit limits. However, it should be noted that other communities in southern Idaho have very stringent permit limits, particularly in regards to phosphorus and nitrogen. It is recommended the City continue to discharge to the river unless unforeseen and very low nutrient limits are enacted that require drastic changes in the operation of the treatment facility. If this occurs in the future, a land application effluent alternative could be studied in further detail. Alternatively, a move toward advanced mechanical treatment capable of biological nutrient removal could be considered.

TABLE 6-15. PROBABLE CAPITAL COSTS FOR EFFLUENT FLOW METER

Item	Estimated Quantity	Unit	Unit Price	Total Price
Metering Manhole with Integral Parshall Flume	1	EA	$7,500.00	$7,500
Ultrasonic Transmitter	1	EA	$3,500.00	$3,500
Continuous Chart Recorder	1	LS	$3,500.00	$3,500
Composite Sampler	1	LS	$5,000.00	$5,000
Power	600	LF	$10.00	$6,000
Electrical	1	LS	$6,000.00	$6,000
Connect to Metering Manhole	2	EA	$500.00	$1,000
SCADA/Telemetry (priced elsewhere)	-	-	-	-
Sub-Total Construction Costs				$32,500
Contractor Mob/Demob (5%)				$1,600
Buy American Provisions (5%)				$1,600
Davis-Bacon Wages (5%)				$1,600
Contingency (20%)				$6,500
Total Construction Costs				$43,800
Engineering & Construction Admin. (17.5%)				$7,700
Funding, Legal, Admin, Bonding (10%)				$4,400
TOTAL PROJECT COST				*$55,900*

6.3.5.2 Description of Option - Land Application

Under this scenario, the effluent would be land applied to farmland instead of discharging to the river. This would require construction of a winter storage pond and additional labor for growing alfalfa or another feed crop.

There has been some preliminary discussion about potentially land applying the effluent at the adjacent golf course. However, a mechanical treatment plant with tertiary filtration and effluent disinfection would be required to land apply at a public facility like a golf course (Class A or B Recycled Water). The current lagoon system is currently only capable of producing water that can be land applied on farmland with limited public access and used to grow crops that are not consumed by humans (Class C, D, or E Recycled Water).

As discussed previously, the land application alternative is not recommended unless unforeseen and extremely stringent permit limits are enacted in the future. Therefore, cost opinions for this alternative were not developed at this time.

6.4 INSTRUMENTATION

6.4.1 "Do-Nothing" Option

The City does not have a SCADA system for the wastewater facilities and lift station. Everything is run manually with no capabilities for remote alarms, status updates, or facilities monitoring. It is not required that a SCADA system be installed but it would improve response times to emergencies and improve documentation for reportable parameters such as influent flow rate.

6.4.2 Description of Option

This option involves installing a SCADA system for control and monitoring of the City's wastewater facilities. At a minimum, this would include monitoring the water level and pump status in the sewer lift station, influent flow rate, aerator status, and effluent flow rate (if installed).

6.4.2.1 Opinion of Probable Capital Costs – SCADA System

An opinion of probable capital costs in 2014 dollars for installation of a SCADA system is shown below in Table 6-16.

TABLE 6-16. PROBABLE CAPITAL COSTS FOR WASTEWATER SCADA SYSTEM

Item	Estimated Quantity	Unit	Unit Price	Total Price
Install SCADA System*	1	EA	$60,000.00	$60,000
Sub-Total Construction Costs				$60,000
Contractor Mob/Demob (5%)				$3,000
Buy American Provisions (5%)				$3,000
Davis-Bacon Wages (5%)				$3,000
Contingency (20%)				$12,000
Total Construction Costs				$81,000
Engineering & Construction Admin. (17.5%)				$14,200
Funding, Legal, Admin, Bonding (10%)				$8,100
TOTAL PROJECT COST				*$103,300*

*At a minimum, this would include monitoring the water level and pump status in the sewer lift station, influent flow rate, aerator status, and effluent flow rate (if installed).

6.4.2.2 Opinion of Probable Operating and Maintenance Costs

Operating and Maintenance costs for a new SCADA system are difficult to predict. It is recommended that the City budget approximately $5,000 per year for a SCADA provider to maintain and update the system as required.

Chapter 7

Implementation of Wastewater System Improvements

7.0 IMPLEMENTATION OF WASTEWATER SYSTEM IMPROVEMENTS

7.1 RECOMMENDED WASTEWATER SYSTEM IMPROVEMENTS

This Wastewater System Facilities Master Plan indicated that the City's wastewater system is adequately sized to accommodate projected growth and is generally in compliance with the majority of its permit requirements. However, there are a few areas of concern regarding the wastewater system, including:

- Stormwater drains are connected to the sewer collection system at a low point in the city. As a result, the collection system can be overwhelmed during large rain events.
- A significant percentage of gravity sewer lines in the collection system have exceeded their design life and need to be rehabilitated or replaced.
- The sewer lift station needs some relatively minor upgrades to improve reliability.
- The influent flow meter needs some relatively minor upgrades to improve reliability and comply with the permit requirements.
- There is no screening upstream of the sewer ponds; as a result, everything that enters the collection system flows into the lagoons.
- Two out of the three surface aerators are damaged and need to be repaired. The system is currently not providing adequate aeration to satisfy the oxygen demand.
- The rock filtration media at the Rapid Infiltration Basins needs to be replaced.
- Sludge depths in the aerated pond has reached unacceptable levels and needs to be removed.
- The City currently does not have a method for measuring effluent flow rates.
- The City does not have a SCADA system for the wastewater facilities.

7.2 RECOMMENDATION OPTIONS

7.2.1 Option 1

7.2.1.1 Improvements Included in Option 1

The first option examined includes the highest priority upgrades that are required to meet regulatory requirements and to protect the health, safety, and welfare of the public and environment.

The Option 1 collection system improvements include the following:

- Separate the stormwater system from the sewer system and construct a stormwater pump station

- Assess the condition of existing pipelines through video inspection and cleaning
- Implement sewer lift station upgrades

The Option 1 treatment system improvements include the following:

- Influent flow meter improvements
- Installation of a grinder upstream of the sewer ponds
- Repairing the damaged aerators and installing new ones to improve mixing and meet oxygen demands later in the planning period
- Replacing the rock filtration media in the RI Basins
- Hiring an independent Contractor to remove sludge from the aerated pond
- Installation of an effluent flow meter

7.2.1.2 Opinion of Probable Costs – Option 1

Table 7-1 combines the cost estimates for the included alternatives listed above into an overall opinion of probable cost for Option 1.

TABLE 7-1. OPINION OF PROBABLE COSTS - OPTION 1

Option 1 Improvements	Capital Costs [1]	O&M Costs
Construct Stormwater Pump Station and Force Main	$344,400	$7,500
Video and Clean Entire Collection System	$151,000	$0
Sewer Lift Station Reliability Improvements	$60,900	$0
Influent Flow Meter Improvements	$17,300	$0
Install Grinder at Headworks	$98,300	$7,500
Repair Existing Aerators and Install New Ones	$94,800	$8,900
Replace Rock Media at RI Basins	$84,900	$0
Remove Sludge from Aerated Pond	$210,700	$0
Install Effluent Flow Meter	$55,900	$0
Total Cost of Improvements	**$1,118,200**	**$23,900**

1. Costs Include: Construction, engineering, inspection, and contingency

7.2.1.3 Monthly User Charge Rate Analysis – Option 1

Single-family residential connections (e.g., one equivalent residential unit, or ERU) are currently charged a base monthly sewer user rate of $16.50 per month. Other entities within the City are billed different monthly rates based on the size of their water meter.

Changes to the monthly user rates were estimated for the wastewater system improvements described for this option. For comparison purposes, two financing scenarios were considered for the proposed improvements. The two scenarios were based on the source and amount of funding procured for the project:

1. Scenario 1 – No grant funding would be secured and the project would be funded entirely through low-interest loans.

2. Scenario 2 – Approximately half of the project will be funded through grants and the remaining portion would be funded through low interest loans.

There may be other project financing combinations that should be explored by the City. These two scenarios are simply used to illustrate possible changes to the monthly user rates for the wastewater system improvements. Table 7-2 summarizes the results of the user charge rate analysis for the two financing alternatives for this option.

TABLE 7-2. MONTHLY USER RATE CHARGE ANALYSIS - OPTION 1

Item	Funding Scenario #1	Funding Scenario #2
Total Capital Cost of Improvements	$1,118,200	$1,118,200
Loan / Grant	$1.12M / $0.0M	$0.56M / $0.56M
Loan Term	30 years	40 years
Loan Rate	2%	3%
Annualized Capital	$49,900	$24,200
Annual O&M[1]	$23,900	$23,900
Total Annual Costs	$73,800	$48,100
# of EDUs	718	718
$/EDU/Month Increase	$8.57	$5.58

1. This O&M cost is incremental to any current ongoing O&M costs being incurred by the City.

7.2.2 Option 2

7.2.2.1 Improvements Included in Option 2

The second option includes the following alternatives:

- All of the high priority Option 1 alternatives
- Replace and/or rehabilitate prioritized pipelines (estimated at 25% of collection system but final quantity will vary pending the results of the video inspection)
- Install a SCADA system for the wastewater facilities including lift station monitoring and alarms, flow recording, and aerator status.

7.2.2.2 Opinion of Probable Costs – Option 2

Table 7-3 combines the cost estimates for the included alternatives listed above into an overall opinion of probable cost for Option 2.

7.2.2.3 Monthly User Charge Rate Analysis

Table 7-4 summarizes the results of a user charge rate analysis for Option 2, identical to the one performed above for Option 1, using the same two financing alternatives described.

TABLE 7-3. OPINION OF PROBABLE COSTS - OPTION 2

Option 2 Improvements	Capital Costs [1]	O&M Costs
Construct Stormwater Pump Station and Force Main	$344,400	$7,500
Video and Clean Entire Collection System	$151,000	$0
Replace/Rehabilitate 25% of Collection System	$2,594,400	$0
Sewer Lift Station Reliability Improvements	$60,900	$0
Influent Flow Meter Improvements	$17,300	$0
Install Grinder at Headworks	$98,300	$7,500
Repair Existing Aerators and Install New Ones	$94,800	$8,900
Replace Rock Media at RI Basins	$84,900	$0
Remove Sludge from Aerated Pond	$210,700	$0
Install Effluent Flow Meter	$55,900	$0
SCADA System for Wastewater Facilities	$103,300	$5,000
Total Cost of Improvements	**$3,815,900**	**$28,900**

1. Costs Include: Construction, engineering, inspection, and contingency

TABLE 7-4. MONTHLY USER RATE CHARGE ANALYSIS - OPTION 2

Item	Funding Scenario #1	Funding Scenario #2
Total Capital Cost of Improvements	$3,815,900	$3,815,900
Loan / Grant	$3.82M / $0.0M	$1.91M / $1.91M
Loan Term	30 years	40 years
Loan Rate	2%	3%
Annualized Capital	$170,400	$82,500
Annual O&M[1]	$28,900	$28,900
Total Annual Costs	$199,300	$111,400
# of EDUs	718	718
$/EDU/Month Increase	$23.13	$12.93

1. This O&M cost is incremental to any current ongoing O&M costs being incurred by the City.

7.2.3 Option 3

7.2.3.1 Improvements Included in Option 3

The third option includes all of the Option 2 alternatives with the exception of replacing the grinder with a mechanical screen and headworks building.

7.2.3.2 Opinion of Probable Costs – Option 3

Table 7-5 combines the cost estimates for the included alternatives listed above into an overall opinion of probable cost for Option 3.

TABLE 7-5. OPINION OF PROBABLE COSTS - OPTION 3

Option 3 Improvements	Capital Costs [1]	O&M Costs
Construct Stormwater Pump Station and Force Main	$344,400	$7,500
Video and Clean Entire Collection System	$151,000	$0
Replace/Rehabilitate 25% of Collection System	$2,594,400	$0
Sewer Lift Station Reliability Improvements	$60,900	$0
Influent Flow Meter Improvements	$17,300	$0
Mechanical Screen and Headworks Building	$564,300	$30,000
Repair Existing Aerators and Install New Ones	$94,800	$8,900
Replace Rock Media at RI Basins	$84,900	$0
Remove Sludge from Aerated Pond	$210,700	$0
Install Effluent Flow Meter	$55,900	$0
SCADA System for Wastewater Facilities	$103,300	$5,000
Total Cost of Improvements	**$4,281,900**	**$51,400**

1. Costs Include: Construction, engineering, inspection, and contingency

7.2.3.3 Monthly User Charge Rate Analysis

Table 7-6 summarizes the results of a user charge rate analysis for Option 3, identical to the ones performed above for Options 1 and 2, using the same two financing alternatives described.

TABLE 7-6. MONTHLY USER RATE CHARGE ANALYSIS - OPTION 3

Item	Funding Scenario #1	Funding Scenario #2
Total Capital Cost of Improvements	$4,281,900	$4,281,900
Loan / Grant	$4.28M / $0.0M	$2.14M / $2.14M
Loan Term	30 years	40 years
Loan Rate	2%	3%
Annualized Capital	$191,200	$92,600
Annual O&M[1]	$51,400	$51,400
Total Annual Costs	$242,600	$144,000
# of EDUs	718	718
$/EDU/Month Increase	$28.16	$16.71

1. This O&M cost is incremental to any current ongoing O&M costs being incurred by the City.

7.2.4 Summary of Options

Table 7-7 summarizes the improvements included in each option, along with total capital costs and expected increases in user rates.

TABLE 7-7. SUMMARY OF IMPROVEMENT OPTIONS

Option	Parameter	Funding Scenario #1	Funding Scenario #2
Option 1	Improvements Included	Stormwater pump station, video entire collection system, sewer lift station improvements, influent flow meter improvements, grinder at headworks, repair aerators and install new ones, replace rock media at RI Basins, remove sludge from aerated pond, install effluent flow meter	
	Capital Cost	$1.12M	
	Projected User Rate Increase	$8.57	$5.58
Option 2	Improvements Included	All Option 1 improvements plus replace/rehabilitate 25% of collection system and install a SCADA system for the wastewater facilities	
	Capital Cost	$3.82M	
	Projected User Rate Increase	$23.13	$12.93
Option 3	Improvements Included	All Option 2 improvements except replace grinder at headworks with a mechanical screen inside a building	
	Capital Cost	$4.28M	
	Projected User Rate Increase	$28.16	$16.71

7.3 PROJECT FINANCING

The City could consider making application for financing of the proposed improvements, including both loans and grants, to minimize the costs to the community. Assessment of fees to new development may also be used to replace and/or upgrade the existing system.

Potential sources of funding include the IDEQ Revolving Loan Fund, U.S. Department of Agriculture Rural Development Agency (RD) loans and grants, Department of Commerce and Labor Community Development Block Grant Program, Department of Commerce Economic Development Administration Grants, EPA State and Tribal Assistance Grants (STAG), and U.S. Forest Service, and other non-governmental sources such as private bond markets. Some funding sources have requirements such as completion of an environmental document in accordance with the National Environmental Policy Act (NEPA). Some also have requirements to source labor in accordance with prevailing wages (i.e., Davis-Bacon wages) or purchase equipment substantially manufactured in the United States. These requirements tend to increase costs and the costs provided in Chapter 6 and Chapter 7 may have to be escalated if these requirements are in force. The City should consult qualified financial professionals or the potential funding agencies for additional guidance on what type of funding is best for the community.

The Idaho Department Environmental Quality has funds available through their Revolving Loan Fund. This program provides below market rate interest loans to Idaho communities to build

new, or repair, existing water and wastewater facilities. The loan term is 20 years; however, some applicants may qualify as disadvantaged and be eligible for reduced loan terms. The funding is derived from an appropriation from the EPA (80%) and a 20% match from the Water Pollution Control Account.

Rural Development Agency makes loans and grants to public bodies and non-profit organizations in rural areas to construct or improve facilities that are modest in size, cost and design. Water and Waste Disposal (WWD) Loans and Grants may be used to construct, repair, improve, expand or otherwise modify rural water and wastewater facilities; pay necessary fees and costs associated with the project; or finance facilities in conjunction with funds from other agencies or those provided by the applicant. The maximum loan term is 40 years and grant funds may be available for facilities serving the most financially needy communities.

The Idaho Community Development Block Grant program (ICDBG) assists Idaho Cities and Counties under 50,000 population with the development of needed public infrastructure and housing in an effort to support local economic diversification and growth. The program is administered by the Department of Commerce and Labor Division of Community Development, with funds received annually from the U.S. Department of Housing and Urban Development. ICDBG 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.

The U.S. Department of Commerce Economic Development Administration (EDA) provides funding for the construction of public infrastructure under the authority of the Public Works and Economic Development Act of 1965. Eligible projects include water and wastewater improvement and projects that support economic development within the community. Cities, counties and special cities are eligible to apply. Projects must meet economic development eligibility criteria as established by Congress - specifically, per capita income, employment and other demographic characteristics, with an emphasis on resolving unemployment and barriers to economic growth and stability. EDA funds are provided as grants of from 50 to 80 percent of the project. Applicants must provide the local share from acceptable sources, including cash, local government bonds or a Community Development Block Grant.

The EPA provides STAG grant funds through their Office of Enforcement and Compliance Assurance (OECA) to carry out compliance assurance activities related to regional focus areas, potentially including water and wastewater systems. Eligible grant recipients include States, tribes, territories, local governments and multi-jurisdictional organizations. The OECA typically announces the availability of grant funds for a specific focus area through a Federal Register Notice. Preference is generally given to those applicants that provide some match towards the grant.

Many of the funding agencies have affordability criteria which they may follow as look at monthly user rate impacts. These criteria may include such things as local income levels and utility costs in nearby communities. As user rates exceed affordability criteria, the City may have the opportunity for grant funding for the proposed project.

The Idaho State Legislature ruled in March 1996 that communities can attach a price to new growth and development through the implementation of impact fees. The law allows government entities to charge a developer for a “proportionate share” of the cost of public facilities impacted by residential, commercial and industrial building. The calculation of the

proportionate share must be based on a sturdy planning foundation that includes a comprehensive land use plan, a capital improvements plan, and a cash flow analysis. The money must be spent on the specific project it was collected for, within five years of collection.

Government entities may also charge a "new user capacity", "capacity buy-in", or "equity buy-in", fee to developers desiring to connect to water and wastewater systems. This fee typically accounts for the demand the new connection will place on a system and the depreciated replacement value of the system at the time of connection. The funds collection from this fee are generally held in a separate account and used for replacement of the water or wastewater system. The recommended charges are based on audited financial information and estimated system capacities.

7.5 ENVIRONMENTAL CONSIDERATIONS

The proposed improvements should result in minimal environmental impacts from construction activities. The proposed improvements are generally in existing road right of ways or at the existing treatment facility. Heavy equipment and machinery will be used during construction, resulting in increased noise levels. However, construction activity should be limited to normal working hours to reduce the noise impacts on residential areas. In addition, construction noise should be temporary and can be minimized by the use of well-maintained equipment and mufflers.

Air quality may be impacted during construction due to dust and exhaust emissions from construction equipment, which may produce some minor air pollution. Debris created by construction should not be burned, but transported to a disposal area to avoid further air pollution. The impacts of construction dust can be mitigated by ceasing activity during exceptionally windy conditions and using watering equipment.

Open trenches, electrical utilities, and heavy equipment may present health and safety hazards during construction. These hazards may be mitigated by educating project personnel about the applicable health and safety regulations, and establishing safe operating procedures. Traffic control may also result in a safety hazard, as traffic patterns are altered for construction purposes.

It is anticipated that impacts on agricultural lands, cultural resources, wetlands, plants, or wildlife from the improvements will be minimal. If properly designed, operated and maintained, the proposed improvements should have minimal impacts on the soil, groundwater, and surface water.

The preliminarily locations of improvements are at sites where there are existing structures or streets. There is a possibility that some of the improvements will be constructed in areas where trees and vegetation have been planted and the area has been landscaped. In all areas where construction of the proposed improvements takes place, an effort will be required to reconstruct, replant, and landscape the area to its former condition.

An Environmental Information Document (EID) will be prepared separately from this report for the specific improvements identified in the Wastewater System Facilities Plan. The EID will evaluate potential environmental impacts and mitigation measures for the proposed improvements.

7.6 IMPLEMENTATION ISSUES

Implementation of the proposed projects is a function of regulatory approval, public acceptance, funding, and constructability. It is anticipated that the City will be able to obtain the necessary regulatory approval and permits for construction and operation of the proposed wastewater system improvements.

7.7 PULIC PARTICIPATION

It is recommended that the City hold a public meeting such as an open house to explain the current conditions, deficiencies, alternatives, and costs. This feedback from the public can be used in the EID and final funding assessment. A final public hearing on the rates is also recommended, and likely required, depending on the final funding package. The City could elect to gain public support for one of the options listed above and select an approach based on the public's input.

Appendix A

User Rate Resolution
and
Ordinance

RESOLUTION NO. 13-02

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF GLENNS FERRY, ELMORE COUNTY, IDAHO, ESTABLISHING WATER AND SEWER RATES FOR THE CITY; ESTABLISHING METHODS FOR ASSESSING WATER AND SEWER RATES FOR APARTMENTS, MOBILE HOME/TRAILER PARKS, AND RECREATIONAL VEHICLE PARKS; ESTABLISHING METHODS FOR ASSESSING SEWER RATES FOR BUSINESSES WITH SEWER FLOW METERS; MAKING RATE PROVISIONS FOR CURRENT RESIDENTIAL USERS THAT HAVE LARGER THAN THREE-QUARTER INCH METERS; AND PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, the City of Glenns Ferry, Elmore County, Idaho (the "City"), is a municipal corporation duly organized and operating under the laws of the State of Idaho; and

WHEREAS, the City Council desires to increase water and sewer rates for the City; and

WHEREAS, a public hearing, duly noticed as required by law, was held on February 12, 2013 for consideration of the water and sewer rates to be established by the City;

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF GLENNS FERRY, Elmore County, Idaho, as follows:

Section I: That, the City Council hereby establishes the following schedule for water rates:

Meter Size	.75 or less	1	1.25	1.5	2	3	4
Multiplier	1	1.8	2.8	4	7	16	28
Proposed Monthly 0 Base Rate	$36.00	$64.80	$100.80	$144.00	$252.00	$576.00	$1,008.00
Proposed Rate per 1,000 Gallons	$1.90	$1.90	$1.90	$1.90	$1.90	$1.90	$1.90

Section Ia: Water rates for apartments, mobile home/trailer parks, and recreational vehicle parks will be assessed by multiplying the monthly base rate of $36.00 by the total number of units and then adding the calculated rate per 1000 gallons of water used.

Section II: That, the City Council hereby establishes the following schedule for sewer rates:

Meter Size	.75 or less	1	1.25	1.5	2	3	4
Multiplier	1	1.8	2.8	4	7	16	28
Proposed Monthly 0 Base Rate	$16.50	$29.70	$46.20	$66.00	$115.50	$264.00	$462.00
Proposed Rate per 1,000 Gallons	$1.25	$1.25	$1.25	$1.25	$1.25	$1.25	$1.25

Section IIa: Sewer rates for apartments, mobile home/trailer parks, and recreational vehicle parks will be assessed by multiplying the monthly base rate of $16.50 by the total number of units and then adding the calculated rate per 1000 gallons of water used

Section IIb: Sewer rates will be assessed based on the effluent and the composition of the effluent for those businesses with sewer flow meters.

Section III: This Resolution is passed by the Council and approved by the Mayor this 26th, day of February, 2013. All provisions of this resolution shall become effective upon its approval and passage.

DATED this, 26th, of February, 2013.

CITY OF GLENNS FERRY
Elmore County, Idaho

Mayor Joanne Lanham

ATTEST:

City Clerk-Treasurer Debra Rowan

(SEAL)

ORDINANCE NO. 461

AN ORDINANCE AMENDING CITY CODE, SECTIONS 8-4-29, 8-4-31, 8-4-32; ESTABLISHING SEWER USER CHARGES AND CONNECTION FEES; SEWER CONNECTION CHARGES; INDUSTRIAL USER CHARGES; REPEALING ALL ORDINANCES IN CONFLICT HEREWITH, AND PROVIDING AN EFFECTIVE DATE.

BE IT ORDAINED BY THE MAYOR AND CITY COUNCIL OF THE CITY OF GLENNS FERRY:

SECTION I: THAT TITLE VIII, CHAPTER IV, OF THE GLENNS FERRY MUNICIPAL CODE, AND ORDINANCE NO. 383 SECTIONS 8-4-29, 8-4-31, AND 8-4-32 BE AMENDED IN THE FOLLOWING MANNER:

8-4-29: SEWER USER CHARGES: The monthly user rates for sanitary sewer service in the City, as hereafter developed in accordance with Section 8-4-28 of this Chapter, are based on the user's water meter size, the number of dwelling units, or effluent composition, as set by resolution. Except where there are exceptions provided for in this code, every person, company or organization on the municipal sewer system shall pay a minimum monthly sewer charge, as shall be set from time-to-time by resolution of the City Council.

8-4-31: SEWER CONNECTION CHARGE: The owner, or said owner's agent, of all properties connecting to the public sewer of the City under the terms of this Chapter shall pay a sewer connection charge, as shall be set from time-to-time by resolution of the City Council, for each equivalent connection or fraction thereof as may be assigned to the property by the City.

8-4-32: INDUSTRIAL USER CHARGES: All industrial users shall be charged a sewer rate based on their water meter size unless, however, the industrial user has installed a sewer flow meter, in which case industrial user charges shall be established by separate agreement between each separate contributing industry and the Mayor and Council. All charges so established shall be in proportion to the benefits derived by the user from the sewerage system. The charges so established shall generate sufficient revenue to pay the operation and maintenance of the sewerage system, and the industrial cost recovery charges. The charges shall be based on the amount of flow (Q), the biochemical oxygen demand (BOD), the suspended solids (SS) and any other pertinent components of the wastes that the industrial user is contributing to the sewerage system.

(A) All contributing industrial user charges shall be reviewed annually and revised as ncessary to insure that each contributing industrial user pays its allocable share. If the discharge of a contributing industrial user changes significantly, greater than ten percent (10%) plus or minus (by strength, volume, delivery flow rate or other pertinent component characteristics), such industrial user's charge shall be adjusted accordingly to assure that the user continues to pay its allocable share.

(B) Contributing industrial users discharging pretreated process wastes into the sewerage system shall pay industrial user charges based on the characteristics of the waste effluent from the pretreatment facilities.

(C) The amount of payment required from an industry for industrial user charges is to be the sum of the operation and maintenance charges and the industrial cost recovery charges.

(D) Actions for nonpayment will be in accordance with Section 8-4-37 of this Chapter.

SECTION II: THAT ALL ORDINANCES IN CONFLICT WITH ORDINANCE 461 ARE HEARBY REPEALED AND THAT THIS ORDINANCE SHALL TAKE EFFECT AND BE IN FORCE AFTER ITS PASSAGE, APPROVAL, AND PUBLICATION AS REQUIRED BY LAW.

PASSED UNDER SUSPENSION OF RULES AT A REGULAR MEETING OF THE CITY COUNCIL OF THE CITY OF GLENNS FERRY HELD ON THE 10TH DAY OF APRIL 2000 AT 7:00 P.M. UPON WHICH A ROLL CALL VOTE WAS DULY TAKEN AND DULY ENACTED AN ORDINANCE OF THE CITY OF GLENNS FERRY, IDAHO.

APPROVED this 10th day of April, 2000.

Glenn Thompson, Mayor

ATTEST:

David Hahn, City Clerk-Treasurer

(SEAL)

Appendix B

Wastewater System Budget

Sewer Department Budget

Utility Revenue	2013-2014 Budget	2013-2014 Actual	2013-2014 Projected	2014-2015 Budget
Sewer Fees	$ 265,410.00	$ 110,426.00	$ 174,042.00	$ 273,372.00
Installation Fees	$ 2,000.00	$ -	$ -	$ 2,000.00
Construction Fees	$ 250.00	$ -	$ -	$ 250.00
Interest Revenue Allocation	$ -	$ 234.00	$ 351.00	$ -
Miscellaneous	$ 100.00	$ 533.00	$ 799.50	$ 100.00
Use of Beginning Fund Balance	$ 41,267.00	$ -	$ 41,267.00	$ 30,000.00
DEQ Planning Grant	$ 16,700.00		$ 16,700.00	$ 40,000.00
UTILITY REVENUE TOTALS	$ 325,727.00	$ 111,193.00	$ 216,459.50	$ 345,722.00

Non-Departmental Expenditures	2013-2014 Budget	2013-2014 Actual	2013-2014 Projected	2014-2015 Budget
Salaries and Wages	$ 62,622.00	$ 36,557.00	$ 54,893.00	$ 66,900.00
Employee Payroll Benefits	$ 13,000.00	$ 8,616.00	$ 12,968.00	$ 14,655.00
Employee Benefits	$ 21,608.00	$ 12,052.00	$ 17,888.00	$ 22,746.00
Employee Insurance Reimbursed	$ 600.00	$ 281.00	$ 421.50	$ 600.00
Unemployment Benefits	$ 2,072.00		$ -	$ -
Liability Insurance Allocation	$ 4,225.00	$ -	$ 4,225.00	$ 4,225.00
Professional & Technical Service	$ 44,000.00	$ 2,887.00	$ 44,000.00	$ 44,000.00
Attorney	$ 1,000.00	$ 32.00	$ 48.00	$ 1,000.00
Lab Testing	$ 4,000.00	$ 2,233.00	$ 3,349.50	$ 4,000.00
Travel,Training,& Meetings	$ 2,000.00	$ 165.00	$ 247.50	$ 2,000.00
Drug Testing Program	$ 100.00	$ -	$ 50.00	$ 100.00
Utilities	$ 5,000.00	$ 2,159.00	$ 4,000.00	$ 5,000.00
Telephone	$ 280.00	$ -	$ -	$ 280.00
Equipment	$ 10,000.00	$ -	$ 4,000.00	$ 9,154.00
Equipment Repair & Maintenance	$ 10,000.00	$ 3,613.00	$ 7,800.00	$ 10,000.00
Printing	$ 100.00	$ 661.00	$ 991.50	$ 100.00
County Solid Waste Fee	$ 27.00	$ 27.00	$ 40.50	$ 27.00
Fuel	$ 4,500.00	$ 1,344.00	$ 2,016.00	$ 4,500.00
Office Supplies and Expenses	$ 1,600.00	$ 623.00	$ 934.50	$ 1,600.00
Supplies	$ 10,000.00	$ 173.00	$ 5,000.00	$ 10,000.00
Miscellaneous	$ 700.00	$ 294.00	$ 441.00	$ 700.00
Dues,Subscriptions& Memderships	$ 660.00	$ 127.00	$ 190.50	$ 660.00
Depreciation	$ 16,700.00	$ -	$ 16,700.00	$ 32,542.00
Contingency	$ 6,153.00	$ -	$ -	$ 6,153.00
Weed Control	$ 2,000.00	$ -	$ 1,600.00	$ 2,000.00
Bond Payment Reserve	$ 2,980.00	$ -	$ 2,980.00	$ 2,980.00
Bond Payment	$ 29,800.00	$ -	$ 29,800.00	$ 29,800.00
Expenditures Totals	$ 255,727.00	$ 71,844.00	$ 214,584.50	$ 275,722.00
Capital Improvements				
Leased Equipment	$ 4,000.00	$ -	$ 4,000.00	$ 4,000.00
Fuel	$ 5,000.00	$ -	$ 5,000.00	$ 5,000.00
Supplies new Construction	$ 61,000.00	$ -	$ 61,000.00	$ 61,000.00
Contractors	$ -	$ -	$ -	$ -
Contingency		$ -	$ -	
Capital Improvement Totals	$ 70,000.00	$ -	$ 70,000.00	$ 70,000.00
SEWER BUDGET TOTALS	$ 325,727.00	$ 71,844.00	$ 284,584.50	$ 345,722.00

Appendix C

NPDES Permit

United States Environmental Protection Agency
Region 10
1200 Sixth Avenue, Suite 900
Seattle, Washington 98101

Authorization to Discharge Under the National Pollutant Discharge Elimination System

In compliance with the provisions of the Clean Water Act, 33 U.S.C. §1251 *et seq*., as amended by the Water Quality Act of 1987, P.L. 100-4, the "Act",

CITY of GLENNS FERRY
901 South Steen Drive
Glenns Ferry, Idaho 83623

is authorized to discharge from a wastewater treatment facility located in City of Glenns Ferry, Idaho, at the following location(s):

Outfall	**Receiving Water**	**Latitude**	**Longitude**
001	Snake River	42° 56' 38" N	115^0 18' 28" W

in accordance with discharge point(s), effluent limitations, monitoring requirements and other conditions set forth herein.

This permit shall become effective January 1, 2012

This permit and the authorization to discharge shall expire at midnight, December 31, 2016

The permittee shall reapply for a permit reissuance on or before June 30, 2016, 180 days before the expiration of this permit if the permittee intends to continue operations and discharges at the facility beyond the term of this permit.

Signed this 17th day of November, 2011

/s/
Michael A. Bussell, Director
Office of Water and Watersheds

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Schedule of Submissions

The following is a summary of some of the items the permittee must complete and/or submit to the EPA during the term of this permit:

Item	Due Date
1. Discharge Monitoring Reports (DMR)	DMRs are due monthly and must be submitted by the 10th day of the month. (see Part III.B.).
2. Operation and Maintenance (O&M) Plan	The permittee must provide the EPA and Idaho Department of Environmental Quality (IDEQ) with written notification that the Operations and Maintenance Plan has been developed or updated and is being implemented within 180 days after the effective date of the final permit. The Plan must be kept on site and made available to the EPA and IDEQ upon request (see Part II.A).
3. Quality Assurance Plan (QAP)	The permittee must provide the EPA and IDEQ with written notification that the Quality Assurance Plan has been developed and implemented within 90 days after the effective date of the final permit (see Part II.B.). The Plan must be kept on site and made available to the EPA and IDEQ upon request (see Part II.B.).
4. Twenty-Four Hour Notice of Noncompliance Reporting	The permittee must report certain occurrences of noncompliance by telephone to (206) 553-1846 within 24 hours after the time the permittee becomes aware of the certain circumstances (See Part III.G.).
5. Emergency Response and Public Notification Plan	The permittee must provide the EPA and IDEQ with written notification that the Plan has been updated and implemented within 180 days after the effective date of the final permit (see Part II.D.).
6. NPDES Application Renewal	The application must be submitted at least 180 days before the expiration date of the final permit (see Part V.B.).

I. Limitations and Monitoring Requirements

A. Discharge Authorization

During the effective period of this permit, the permittee is authorized to discharge pollutants from the outfall specified herein to the Snake River, within the limits and subject to the conditions set forth herein. This permit authorizes the discharge of only those pollutants resulting from facility processes, waste streams, and operations that have been clearly identified in the permit application process.

B. Effluent Limitations and Monitoring Requirements

1. Effluent Limitations. The permittee must limit and monitor discharges from Outfall 001 as specified in Table 1, below. All limits represent maximum effluent limits unless otherwise indicated. The permittee must comply with the effluent limits in the table at all times, unless otherwise indicated, regardless of the frequency of monitoring or reporting required by other provisions of this permit.

Table 1: Effluent Limitations and Monitoring Requirements Outfall 001

Parameter	Effluent Limitations			Monitoring Requirements		
	Average Monthly Limit	Average Weekly Limit	Instantaneous Maximum Limit	Sample Location	Sample Frequency	Sample Type
Flow mgd	---	---	---	Influent	Continuous	Recording
Flow mgd	---	---	---	Effluent	1/week	Estimate
Biochemical Oxygen Demand (BOD_5)	30 mg/L	45 mg/L	---	Effluent	1/month	8-hour composite
	≥85% removal	---	---	Influent and Effluent[1]	---	Calculation[2]
	125 lbs/day	188 lbs/day	---	Effluent	1/month	Calculation[3]
Total Suspended Solids (TSS)	30 mg/L	45 mg/L	---	Effluent	1/month	8-hour composite
	≥85% removal	---	---	Influent and Effluent[1]	---	Calculation[2]
	125 lbs/day	188 lbs/day	---	Effluent	1/month	Calculation[3]

Table 1: Effluent Limitations and Monitoring Requirements Outfall 001						
	Effluent Limitations			Monitoring Requirements		
Parameter	Average Monthly Limit	Average Weekly Limit	Instantaneous Maximum Limit	Sample Location	Sample Frequency	Sample Type
E. coli Bacteria	126 colonies/ 100 mL[4]	---	406 colonies/ 100 mL[5]	Effluent	5/month	Grab
pH	6.5 – 9.0			Effluent	1/week	Grab
Total Phosphorus, as P	6.1 mg/L	---	---	Influent and Effluent	1/month	8-hour composite
	25.6 lbs/day	38.4 lbs/day	---			Calculation[3]
Total Ammonia as Nitrogen[6], mg/L	---	---	---	Effluent	1/month	8-hour composite
NPDES Application Form 2A Effluent Testing Data	---	---	---	Effluent	1 each in 2nd, 3rd, & 4th years of the permit	See footnote 7

[1] Influent and effluent composite samples shall be collected during the same 8-hour period.
[2] Percent removal is calculated using the following equation: ((average monthly influent concentration – average monthly effluent concentration) ÷ average monthly influent concentration) x100.
[3] Loading is calculated by multiplying the concentration (mg/L) by the flow (mgd) on the day sampling occurred and a conversion factor of 8.34.
[4] The monthly average for *E. coli* is the geometric mean of all samples based on a minimum of five samples taken every 3-7 days within a calendar month,
[5] This is an instantaneous maximum limit, applicable to each grab sample without averaging. A violation must be reported within 24 hours.
[6] Method 350.1 must be used. The minimum level(ml) is 0.10 mg/L.
[7] For Effluent Testing Data, in accordance with instructions in NPDES Application Form 2A, Part B.6.

2. The permittee must report within 24 hours to the EPA at (206) 553-1846 any violation of the maximum daily limits for *E. coli.* The permittee must report violations of all other effluent limits at the time that discharge monitoring reports are submitted (See Part III.B. and Part III.G., below).
3. The permittee must not discharge any floating solids, visible foam in other than trace amounts, or oily wastes that produce a sheen on the surface of the receiving water.
4. The permittee must collect effluent samples from the effluent stream after the last treatment unit prior to discharge into the receiving waters.
5. For all effluent monitoring, the permittee must use methods that can achieve a MDL less than the effluent limitation.

6. Minimum Levels. For all effluent monitoring, the permittee must use methods that can achieve a minimum level (ML) less than the effluent limitation.
7. For purposes of reporting on the Discharge Monitoring Report (DMR) for a single sample, if a value is less than the MDL, the permittee must report "less than {numeric value of the MDL}" and if a value is less than the ML, the permittee must report "less than {numeric value of the ML}."
8. For purposes of calculating monthly averages, except for *E. coli*, zero may be assigned for values less than the MDL, and the {numeric value of the MDL} may be assigned for values between the MDL and the ML. If the average value is less than the MDL, the permittee must report "less than {numeric value of the MDL}" and if the average value is less than the ML, the permittee must report "less than {numeric value of the ML}." If the average value is equal to or greater than the ML, the permittee must report the actual value. The resulting average value must be compared to the compliance level, the ML, in assessing compliance.

II. Special Conditions

A. Operation and Maintenance Plan

In addition to the requirements specified in Part IV.E. of this permit (Proper Operation and Maintenance), within 180 days after the effective date of the final permit, the permittee must provide written notice to the EPA and IDEQ that an operation and maintenance plan for the current wastewater treatment facility has been developed and implemented. The plan shall be retained on site and made available on request to the EPA and IDEQ.

B. Quality Assurance Plan (QAP)

The permittee must develop and implement a quality assurance plan (QAP) for all monitoring required by this permit. The permittee must submit written notice to the EPA and IDEQ that the QAP has been developed and implemented within 90 days of the effective date of the final permit. Any existing QAPs may be modified for compliance with this section.

1. The QAP must be designed to assist in planning for the collection and analysis of effluent and receiving water samples in support of the permit and in explaining data anomalies when they occur.
2. Throughout all sample collection and analysis activities, the permittee must use the EPA-approved QA/QC and chain-of-custody procedures described in *Requirements for Quality Assurance Project Plans* (EPA/QA/R-5) and *Guidance for Quality Assurance Project Plans* (EPA/QA/G-5). The QAP must be prepared in the format that is specified in these documents.

3. At a minimum, the QAP must include the following:
   a) Details on the number of samples, type of sample containers, preservation of samples, holding times, analytical methods, analytical detection and quantitation limits for each target compound, type and number of quality assurance field samples, precision and accuracy requirements, sample preparation requirements, sample shipping methods, and laboratory data delivery requirements.
   b) Map(s) indicating the location of each sampling point.
   c) Qualification and training of personnel.
   d) Name(s), address(es) and telephone number(s) of the laboratories used by or proposed to be used by the permittee.
4. The permittee must amend the QAP whenever there is a modification in sample collection, sample analysis, or other procedure addressed by the QAP.
5. Copies of the QAP must be kept on site and made available to the EPA or IDEQ upon request.

C. Control of Undesirable Pollutants and Industrial Users

1. The permittee must require any industrial user discharging to its treatment works to comply with any applicable requirements of 40 CFR 403 through 471, including the following requirements.
2. The permittee must not allow industrial users to discharge the following pollutants into the POTW:
   a) Pollutants which create a fire or explosion hazard in the POTW, including, but not limited to, wastestreams with a closed cup flashpoint of less than 140 degrees Fahrenheit (ºF) or 60 degrees Centigrade (ºC) using the test methods specified in 40 CFR 261.21.
   b) Pollutants which will cause corrosive structural damage to the POTW, but in no case Discharges with pH lower than 5.0, unless the works is specifically designed to accommodate such Discharges.
   c) Solid or viscous pollutants in amounts which will cause obstruction to the flow in the POTW resulting in Interference.
   d) Any pollutant, including oxygen demanding pollutants (BOD, etc.) released in a discharge at a flow rate and/or pollutant concentration which will cause Interference with the POTW.
   e) Heat in amounts which will inhibit biological activity in the POTW resulting in interference, but in no case heat in such quantities that the temperature at the POTW Treatment Plant exceeds 40 ºC (104 ºF) unless the Director of the Office of Water and Watersheds, upon request of the POTW, approves alternate temperature limits.
   f) Petroleum oil, nonbiodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass through.

g) Pollutants which result in the presence of toxic gases, vapors, or fumes within the POTW in a quantity that may cause acute worker health and safety problems.

h) Any trucked or hauled pollutants, except at discharge points designated by the POTW.

i) Any pollutant which causes Pass Through or Interference.

D. Emergency Response and Public Notification Plan

1. The permittee must develop and implement an overflow emergency response and public notification plan that identifies measures to protect public health from overflows that may endanger health and unanticipated bypasses or upsets that exceed any effluent limitation in the final permit. At a minimum, the plan must include mechanisms to:

   a) Ensure that the permittee is aware (to the greatest extent possible) of all overflows from portions of the collection system over which the permittee has ownership or operational control and unanticipated bypass or upset that exceed any effluent limitation in the permit;

   b) Ensure appropriate responses including assurance that reports of an overflow or of an unanticipated bypass or upset that exceed any effluent limitation in the permit are immediately dispatched to appropriate personnel for investigation and response;

   c) Ensure immediate notification to the public, health agencies, and other affected public entities (including public water systems). The overflow response plan must identify the public health and other officials who will receive immediate notification;

   d) Ensure that appropriate personnel are aware of and follow the plan and are appropriately trained; and

   e) Provide for continued operation during emergencies.

2. The permittee must submit written notice to the EPA and IDEQ that the plan has been developed and implemented within 180 days after the effective date of this permit. Any existing emergency response and public notification plan may be modified for compliance with this section.

III. Monitoring, Recording and Reporting Requirements

A. Representative Sampling (Routine and Non-Routine Discharges)

Samples and measurements must be representative of the volume and nature of the monitored discharge.

In order to ensure that the effluent limits set forth in this permit are not violated at times other than when routine samples are taken, the permittee must collect additional samples at the appropriate outfall whenever any discharge occurs that may reasonably be expected to cause or contribute to a violation that is unlikely to be detected by a routine sample. The permittee

must analyze the additional samples for those parameters limited in Part I.B. of this permit that are likely to be affected by the discharge.

The permittee must collect such additional samples as soon as the spill, discharge, or bypassed effluent reaches the outfall. The samples must be analyzed in accordance with Part III.C. ("Monitoring Procedures"). The permittee must report all additional monitoring in accordance with Part III.D. ("Additional Monitoring by Permittee").

B. Reporting of Monitoring Results

1. Paper Copy Submissions

   The permittee must summarize monitoring results each month on DMR form (EPA No. 3320-1) or equivalent. The permittee must submit reports monthly, postmarked by the 10th day of the following month. The permittee must sign and certify all DMRs, and all other reports, in accordance with the requirements of Part V.E. of this permit ("Signatory Requirements"). The permittee must submit the legible originals of these documents to the Director, Office of Compliance and Enforcement, with copies to IDEQ at the following addresses:

   US EPA Region 10
   Attn: ICIS Data Entry Team
   1200 Sixth Avenue, Suite 900
   OCE-133
   Seattle, Washington 98101-3140

   Idaho Department of Environmental Quality
   Boise Regional Office
   1445 N. Orchard St.
   Boise, ID 83706-2239

2. Electronic submissions

   If, during the period when this permit is effective, the EPA makes electronic reporting available, the permittee may submit reports electronically, following guidance provided by the EPA according to the same due dates in Part III.B.1., above. The permittee must certify all DMRs and all other reports in accordance with the requirements of Part V.E. ("Signatory Requirements"). The permittee must retain the legible originals of these documents and make them available, upon request, to the EPA Region 10 Director, Office of Compliance and Enforcement.

C. Monitoring Procedures

Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit or approved by the EPA as alternate test procedures under 40 CFR 136.5.

D. Additional Monitoring by Permittee

If the permittee monitors any pollutant more frequently than required by this permit, using test procedures approved under 40 CFR Part 136 or as specified in this permit, the permittee must include the results of this monitoring in the calculation and reporting of the data submitted in the DMR.

Upon request by the EPA, the permittee must submit results of any other sampling, regardless of the test method used.

E. Records Contents

Records of monitoring information must include:

1. the date, exact place, and time of sampling or measurements;
2. the name(s) of the individual(s) who performed the sampling or measurements;
3. the date(s) analyses were performed;
4. the names of the individual(s) who performed the analyses;
5. the analytical techniques or methods used; and
6. the results of such analyses.

F. Retention of Records

The permittee must retain records of all monitoring information, including, all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, copies of DMRs, a copy of the NPDES permit, and records of all data used to complete the application for this permit, for a period of at least five years from the date of the sample, measurement, report or application. This period may be extended by request of the EPA or IDEQ at any time.

G. Twenty-four Hour Notice of Noncompliance Reporting

1. The permittee must report the following occurrences of noncompliance by telephone within 24 hours from the time the permittee becomes aware of the circumstances:
   a) any noncompliance that may endanger health or the environment;
   b) any unanticipated bypass that exceeds any effluent limitation in the permit (See Part IV.F., “Bypass of Treatment Facilities”);
   c) any upset that exceeds any effluent limitation in the permit (See Part IV.G., “Upset Conditions”); or
   d) any violation of a maximum daily or instantaneous maximum effluent limitation for applicable pollutants listed in the permit to be reported within 24 hours (See Part I.B.).
   e) any overflow prior to the treatment works, whether or not such overflow endangers health or the environment or exceeds any effluent limitation in the permit.

(i) an overflow that results in a discharge to waters of the United States; and

(ii) an overflow of wastewater, including a wastewater backup into a building (other than a backup caused solely by a blockage or other malfunction in a privately owned sewer or building lateral) that does not reach waters of the United States.

2. The permittee must also provide a written submission within five days of the time that the permittee becomes aware of any event required to be reported under subpart 1 above. The written submission must contain:

   a) a description of the noncompliance and its cause;

   b) the period of noncompliance, including exact dates and times;

   c) the estimated time noncompliance is expected to continue if it has not been corrected; and

   d) steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

   e) if the noncompliance involves an overflow, the written submission must contain:

      (i) The location of the overflow;

      (ii) The receiving water (if there is one);

      (iii) An estimate of the volume of the overflow;

      (iv) A description of the sewer system component from which the release occurred (e.g., manhole, constructed overflow pipe, crack in pipe);

      (v) The estimated date and time when the overflow began and stopped or will be stopped;

      (vi) The cause or suspected cause of the overflow;

      (vii) Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the overflow and a schedule of major milestones for those steps;

      (viii) An estimate of the number of persons who came into contact with wastewater from the overflow; and

      (ix) Steps taken or planned to mitigate the impact(s) of the overflow and a schedule of major milestones for those steps.

3. The Director of the Office of Compliance and Enforcement may waive the written report on a case-by-case basis if the oral report has been received within 24 hours by the NPDES Compliance Hotline in Seattle, Washington, by telephone, (206) 553-1846.

4. Reports must be submitted to the addresses in Part III.B ("Reporting of Monitoring Results").

H. Other Noncompliance Reporting

The permittee must report all instances of noncompliance, not required to be reported within 24 hours, at the time that monitoring reports for Part III.B. ("Reporting of Monitoring

Results") are submitted. The reports must contain the information listed in Part III.G.2 of this permit ("Twenty-four Hour Notice of Noncompliance Reporting").

I. Notice of New Introduction of Toxic Pollutants

The permittee must notify the Director of the Office of Water and Watersheds and IDEQ in writing of:

1. Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to Sections 301 or 306 of the Act if it were directly discharging those pollutants; and
2. Any substantial change in the volume or character of pollutants being introduced into the POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.
3. For the purposes of this section, adequate notice must include information on:
   a) The quality and quantity of effluent to be introduced into the POTW, and
   b) Any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.
4. The permittee must notify the Director of the Office of Water and Watersheds at the following address:

   US EPA Region 10
   Attn: NPDES Permits Unit Manager
   1200 Sixth Avenue, Suite 900
   OWW-130
   Seattle, WA 98101-3140

IV. Compliance Responsibilities

A. Duty to Comply

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification, or for denial of a permit renewal application.

B. Penalties for Violations of Permit Conditions

1. Civil and Administrative Penalties. Pursuant to 40 CFR Part 19 and the Act, any person who violates section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any such sections in a permit issued under Section 402, or any requirement imposed in a pretreatment program approved under Sections 402(a)(3) or 402(b)(8) of the Act, is subject to a civil penalty not to exceed the maximum amounts authorized by Section 309(d) of the Act and the Federal Civil Penalties Inflation Adjustment Act (28 U.S.C. § 2461 note) as amended by the Debt Collection Improvement Act (31 U.S.C. § 3701 note) (currently $37,500 per day for each violation).

2. Administrative Penalties. Any person may be assessed an administrative penalty by the Administrator for violating section 301, 302, 306, 307, 308, 318 or 405 of this Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of this Act. Pursuant to 40 CFR 19 and the Act, administrative penalties for Class I violations are not to exceed the maximum amounts authorized by Section 309(g)(2)(A) of the Act and the Federal Civil Penalties Inflation Adjustment Act (28 U.S.C. § 2461 note) as amended by the Debt Collection Improvement Act (31 U.S.C. § 3701 note) (currently $16,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed $37,500). Pursuant to 40 CFR §19 and the Act, penalties for Class II violations are not to exceed the maximum amounts authorized by Section 309(g)(2)(B) of the Act and the Federal Civil Penalties Inflation Adjustment Act (28 U.S.C. § 2461 note) as amended by the Debt Collection Improvement Act (31 U.S.C. § 3701 note) (currently $16,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed $177,500).

3. Criminal Penalties:

   a) Negligent Violations. The Act provides that any person who negligently violates Sections 301, 302, 306, 307, 308, 318, or 405 of the Act, or any condition or limitation implementing any of such sections in a permit issued under Section 402 of the Act, or any requirement imposed in a pretreatment program approved under Section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of $2,500 to $25,000 per day of violation, or imprisonment of not more than 1 year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than $50,000 per day of violation, or by imprisonment of not more than 2 years, or both.

   b) Knowing Violations. Any person who knowingly violates such sections, or such conditions or limitations is subject to criminal penalties of $5,000 to $50,000 per day of violation, or imprisonment for not more than 3 years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than $100,000 per day of violation, or imprisonment of not more than 6 years, or both.

   c) Knowing Endangerment. Any person who knowingly violates Section 301, 302, 303, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under Section 402 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than $250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than $500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in Section 309(c)(3)(B)(iii) of the Act, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than $1,000,000 and can be fined up to $2,000,000 for second or subsequent convictions.

d) False Statements. The Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by imprisonment of not more than 4 years, or both. The Act further provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

C. Need To Halt or Reduce Activity not a Defense

It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with this permit.

D. Duty to Mitigate

The permittee must take all reasonable steps to minimize or prevent any discharge in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment.

E. Proper Operation and Maintenance

The permittee must at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems, which are installed by the permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

F. Bypass of Treatment Facilities

1. Bypass not exceeding limitations. The permittee may allow any bypass to occur that does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of Paragraphs F.2 and 3, below.

2. Required Notice.

   a) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it must submit prior written notice, if possible at least 10 days before the date of the bypass.

b) Unanticipated bypass. The permittee must submit notice of an unanticipated bypass as required under Part III.G. ("Twenty-four Hour Notice of Noncompliance Reporting").

3. Prohibition of bypass.

a) Bypass is prohibited, and the Director of the Office of Compliance and Enforcement may take enforcement action against the permittee for a bypass, unless:

(i) The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

(ii) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance; and

(iii) The permittee submitted notices as required under Paragraph 2 of this Part.

b) The Director of the Office of Compliance and Enforcement may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed above in Paragraph 3.a) of this Part.

G. Upset Conditions

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the permittee meets the requirements of Paragraph 2 of this Part. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

2. Conditions necessary for a demonstration of upset. To establish the affirmative defense of upset, the permittee must demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

a) An upset occurred and that the permittee can identify the cause(s) of the upset;

b) The permitted facility was at the time being properly operated;

c) The permittee submitted notice of the upset as required under Part III.G., "Twenty-four Hour Notice of Noncompliance Reporting;" and

d) The permittee complied with any remedial measures required under Part IV.D., "Duty to Mitigate"

3. Burden of proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

H. Toxic Pollutants

The permittee must comply with effluent standards or prohibitions established under Section 307(a) of the Act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

I. Planned Changes

The permittee must give written notice to the Director of the Office of Water and Watersheds as specified in Part III.I.4. and IDEQ as soon as possible of any planned physical alterations or additions to the permitted facility whenever:

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source as determined in 40 CFR 122.29(b); or
2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this permit.
3. The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application site.

J. Anticipated Noncompliance

The permittee must give written advance notice to the Director of the Office of Compliance and Enforcement and IDEQ of any planned changes in the permitted facility or activity that may result in noncompliance with this permit.

K. Reopener

This permit may be reopened to include any applicable standard for sewage sludge use or disposal promulgated under section 405(d) of the Act. The Director may modify or revoke and reissue the permit if the standard for sewage sludge use or disposal is more stringent than any requirements for sludge use or disposal in the permit, or controls a pollutant or practice not limited in the permit.

V. General Provisions

A. Permit Actions

This permit may be modified, revoked and reissued, or terminated for cause as specified in 40 CFR 122.62, 122.64, or 124.5. The filing of a request by the permittee for a permit modification, revocation and reissuance, termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

B. Duty to Reapply

If the permittee intends to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. In accordance with 40 CFR 122.21(d), and unless permission for the application to be submitted at a later date has been granted by the Regional Administrator, the permittee must submit a new application at least 180 days before the expiration date of this permit.

C. Duty to Provide Information

The permittee must furnish to the EPA and IDEQ, within the time specified in the request, any information that the EPA or IDEQ may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee must also furnish to the EPA or IDEQ, upon request, copies of records required to be kept by this permit.

D. Other Information

When the permittee becomes aware that it failed to submit any relevant facts in a permit application, or that it submitted incorrect information in a permit application or any report to the EPA or IDEQ, it must promptly submit the omitted facts or corrected information in writing.

E. Signatory Requirements

All applications, reports or information submitted to the EPA and IDEQ must be signed and certified as follows.

1. All permit applications must be signed as follows:
   a) For a corporation: by a responsible corporate officer.
   b) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively.
   c) For a municipality, state, federal, Indian tribe, or other public agency: by either a principal executive officer or ranking elected official.
2. All reports required by the permit and other information requested by the EPA or IDEQ must be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:
   a) The authorization is made in writing by a person described above;
   b) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company; and
   c) The written authorization is submitted to the Director of the Office of Compliance and Enforcement and IDEQ.

3. Changes to authorization. If an authorization under Part V.E.2. is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Part V.E.2. must be submitted to the Director of the Office of Compliance and Enforcement and IDEQ prior to or together with any reports, information, or applications to be signed by an authorized representative.
4. Certification. Any person signing a document under this Part must make the following certification:

> "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

F. Availability of Reports

In accordance with 40 CFR 2, information submitted to the EPA pursuant to this permit may be claimed as confidential by the permittee. In accordance with the Act, permit applications, permits and effluent data are not considered confidential. Any confidentiality claim must be asserted at the time of submission by stamping the words "confidential business information" on each page containing such information. If no claim is made at the time of submission, the EPA may make the information available to the public without further notice to the permittee. If a claim is asserted, the information will be treated in accordance with the procedures in 40 CFR 2, Subpart B (Public Information) and 41 Fed. Reg. 36902 through 36924 (September 1, 1976), as amended.

G. Inspection and Entry

The permittee must allow the Director of the Office of Compliance and Enforcement, the EPA Region 10; IDEQ; or an authorized representative (including an authorized contractor acting as a representative of the Administrator), upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
4. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by the Act, any substances or parameters at any location.

H. Property Rights

The issuance of this permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to persons or property or invasion of other private rights, nor any infringement of federal, tribal, state or local laws or regulations.

I. Transfers

This permit is not transferable to any person except after written notice to the Director of the Office of Water and Watersheds as specified in Part III.I.4. The Director may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Act. (See 40 CFR 122.61; in some cases, modification or revocation and reissuance are mandatory).

J. State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by Section 510 of the Act.

VI. Definitions

1. "Act" means the Clean Water Act.
2. "Administrator" means the Administrator of the EPA, or an authorized representative.
3. "Average monthly effluent limitation" means the highest allowable average of "daily discharges" over a calendar month, calculated as the sum of all "daily discharges" measured during a calendar month divided by the number of "daily discharges" measured during that month.
4. "Average weekly effluent limitation" means the highest allowable average of "daily discharges" over a calendar week, calculated as the sum of all "daily discharges" measured during a calendar week divided by the number of "daily discharges" measured during that week.
5. "Best Management Practices" (BMPs) means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage areas.
6. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.
7. "Composite" - see "8-hour composite"
8. "Daily discharge" means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the "daily discharge" is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the "daily discharge" is calculated as the average measurement of the pollutant over the day.

9. “Director of the Office of Compliance and Enforcement” means the Director of the Office of Compliance and Enforcement, EPA Region 10, or an authorized representative.
10. “Director of the Office of Water and Watersheds” means the Director of the Office of Water and Watersheds, EPA Region 10, or an authorized representative.
11. “DMR” means discharge monitoring report.
12. “EPA” means the United States Environmental Protection Agency.
13. “Geometric Mean” means the nth root of a product of n factors, or the antilogarithm of the arithmetic mean of the logarithms of the individual sample values.
14. “Grab” sample is an individual sample collected over a period of time not exceeding 15 minutes.
15. “IDEQ” means the Idaho Department of Environmental Quality.
16. “Interference” is defined in 40 CFR 403.3.
17. “Maximum daily effluent limitation” means the highest allowable “daily discharge.”
18. “Method Detection Limit (MDL)” means the minimum concentration of a substance (analyte) that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix containing the analyte.
19. “Minimum Level (ML)” means the concentration at which the entire analytical system must give a recognizable signal and an acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method-specified sample weights, volumes and processing steps have been followed. This level is used as the compliance level if the effluent limit is below it.
20. “NPDES” means National Pollutant Discharge Elimination System, the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits . . . under sections 307, 402, 318, and 405 of the CWA.
21. “Pass Through” means a Discharge which exits the POTW into waters of the United States in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation).
22. “POTW” means publicly owned treatment works, i.e. the permittee.
23. “QA/QC” means quality assurance/quality control.
24. “Regional Administrator” means the Regional Administrator of Region 10 of the EPA, or the authorized representative of the Regional Administrator.
25. “Severe property damage” means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the

absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

26. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

27. "8-hour composite" means a combination of at least three discrete samples collected at equal time intervals from the same location, over an 8 hour period. The sample aliquots must be collected and stored in accordance with procedures prescribed in the most recent edition of *Standard Methods for the Examination of Water and Wastewater*.

Appendix D

Regulatory Correspondence

RESPONSE TO COMMENTS

City of Glenns Ferry
Wastewater Treatment Plant
NPDES Permit # ID-002200-4
November 16, 2011

On September 14, 2011, the U.S. Environmental Protection Agency (EPA) issued a public notice for the proposed reissuance of the City of Glenns Ferry Wastewater Treatment Plant (WWTP) draft National Pollutant Discharge Elimination System (NPDES) Permit No. ID-002200-4. This Response to Comments provides a summary of significant comments and provides corresponding EPA responses. Where indicated, EPA has made appropriate changes to the final NPDES Permit.

Comments were received from the following:

Jeff Cook, Public Works Director - City of Glenns Ferry,

1. **Comment:** The cost of ammonia monitoring is an economic burden on the City of Glenns Ferry during a time when in general and Elmore County in particular have been economically devastated. It is from this point of view that we ask for a reduction of ammonia sampling from monthly to quarterly. The historical results for this plant show that ammonia is relatively constant and there would be little if any benefit from additional data. Modify sampling frequency to quarterly.

   Response: EPA disagrees with the statement that ammonia discharges are relatively constant. Ammonia discharges varied from 0.62 mg/L to ten times this concentration to 6.25 mg/L. This is a significant difference. There is no cost for collection of the analyte because the monthly composite sample for TSS and BOD_5 can be used for the analysis of ammonia. The cost of analysis of ammonia using method 350.1 is fifteen dollars bringing the added cost for monthly sampling to $120. This is a reasonable additional cost to provide more representative impacts to the Snake River listed for nutrients under the Clean Water Act Section 303(d). Monthly ammonia monitoring is consistent with ammonia monitoring in other sewage treatment plant permits in Idaho. The monthly ammonia monitoring requirement is unchanged in the final permit.

2. **Comment:** For the same reasons we are requesting continuing with the previously EPA approved practice of considering the influent and effluent equal. Currently there is no monitoring system in the effluent. A vault sufficient to house flow measuring and data collection equipment would be significantly deep – approximately fifteen feet and would probably cost in the vicinity of $25,000 which is not available. This may in fact be only half of the potential project cost. Recent similar installation range from $37,000 to $52,000.

   Response: Continuous flow monitoring is changed from effluent to influent in the final permit. Effluent flow is now required to be estimated weekly to determine if influent flow

monitoring is representative of effluent flow. The results will be used in deciding if effluent monitoring is required in the next permit reissuance.

3. **Comment:** The fact sheet shows that the plant disinfection utilizes ultraviolet radiation. In actual fact there is no formal disinfection process. The Rapid Infiltration Basins have performed very well as tertiary treatment and provide disinfection through natural (green) processes.

   Response: The typographical error is noted. Fact sheets are not changed for final issuance of permits. EPA also notes only one violation of the e-coli limit occurred during the last permit cycle.

STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

1410 North Hilton • Boise, Idaho 83706 • (208) 373-0502

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

TSP&S-158/2011

December 16, 2011

Jeff Cook, Public Works Department
City of Glenns Ferry
110 East 2nd Avenue
P.O. Box 910
Glenns Ferry, Idaho 83623

Subject: City of Glenns Ferry Wastewater Treatment Facility *(Glenns Ferry, Elmore County)*
Seepage Test Report for Aerated Pond and Ponds #1, #2, and #3

Dear Mr. Cook:

The Department of Environmental Quality (DEQ) has completed our review of the above referenced seepage rate tests conducted by J-U-B Engineers, Inc.. DEQ has determined that the test procedures utilized are consistent with the testing procedures approved by DEQ on June 21, 2011.

The maximum allowable seepage rate for each of the four lagoons is 0.25 inch per day as specified in the Wastewater Rules (IDAPA 58.01.16). The test results provided by your consultant indicate seepage rates that are less than 0.25 inch per day. Therefore, the City of Glenns Ferry has satisfactorily met the seepage testing requirement of IDAPA 58.01.16.493.02 for the Aerated Pond and Ponds #1, #2, and #3.

Please note that lagoons are required to be seepage tested every 10 years and if there is a change of condition to the liner that may affect its permeability, including, but not limited to:

- Liner repair below the high water line;
- Liner replacement;
- Lagoon dewatering of soil-lined lagoons which results in desiccation of the soil liner;
- Seal installation; or
- Earthwork affecting liner integrity.

Solids removal from the lagoon may also require a seepage test. Please contact DEQ in writing prior to performing activities that may affect liner permeability to determine if a seepage test will be required prior to returning the lagoon to service.

Please call me with any questions at (208) 373-0123, or contact me via e-mail at michael.stambulis@deq.idaho.gov.

Sincerely,

Michael Stambulis

Michael Stambulis, P.E.
Technical Engineer I

MS:sjt

19 February 2009

United States Environmental Protection Agency, Region X
Attn: OCE-133
1200 Sixth Avenue, Suite 900
Seattle, WA 98101-3140

Re: City of Glenns Ferry Wastewater Treatment Plant NPDES Permit # ID-002200-4

Dear Lauris:

Thank you for your 29 January 2008 letter outlining various items that David Domingo of your staff observed during his site visit of 24 October 2008. The following responses outline the City's actions to correct the areas of concern.

I. Deficiencies.

1. Debris has been removed from the influent flow channel. Vegetative growth in lagoon #1 is sprayed three times per year by Dove's Lawn and Garden, a certified applicator under contract with the City.
2. The Mayor shall sign DMR's. If the Mayor is unable to sign the DMR, the Council President shall sign the DMR.

II. Violations:

1. The City shall collect the necessary data as described in Table 2 of the permit until the minimum required samples have been acquired.
2. The operations and maintenance manual has been attached for your review.
3. The contracting laboratory has been contacted and a method to prevent reoccurrence has been identified. All chain of custody forms shall be copied before shipping samples and shall remain with the sample through testing, and finally a copy of the chain of custody will accompany the test results back to the City.
4. The influent flow meter has been repaired. The circular chart recorder will be repaired as soon as possible.

The City of Glenns Ferry has a 100% compliance policy. Thank you for helping us to achieve this goal.

Sincerely,

Honorable JoAnne Lanham, Mayor

CC: Public Works Director

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue, Suite 900
Seattle, Washington 98101-3140

JAN 29 2009

Reply To: OCE-133

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

NOTICE OF VIOLATION

The Honorable JoAnne Lanham
Mayor of Glenns Ferry
P.O. Box 910
Glenns Ferry, Idaho 83623

Re: City of Glenns Ferry Wastewater Treatment Plant
NPDES Permit Number ID-002200-4

Dear Mayor Lanham:

On November 17, 2003, the U.S. Environmental Protection Agency (EPA) issued a National Pollutant Discharge Elimination System (NPDES) Permit to the City of Glenns Ferry, Idaho, (City) wastewater treatment facility (Facility), NPDES Permit Number ID-002200-4 (Permit). The purpose of this letter is to notify you of violations that EPA discovered during an inspection of the Facility by EPA on October 24, 2008. The purpose of the inspection was to gather information regarding the City's operation of the Facility as part of an overall and ongoing evaluation of the Permit compliance status of the Facility. I would like to express my appreciation for your staff's time and cooperation during the inspection.

October 2008 Inspection

The following deficiencies and violations were noted during the inspection:

Deficiencies

1) Part III.E of the Permit specifies that the permittee must at all times properly operate and maintain all facilities and systems of treatment and control. The inspector noted debris within the influent flow channel and vegetative growth within lagoon #1. The City must properly operate and maintain all facilities and systems of treatment and control in accordance with Part III.E of the Permit.

2) Part IV.E of the Permit specifies that for a municipality, state, federal or other public agency, a principal executive officer, ranking elected official or duly authorized representative must sign all applications, reports or information submitted to EPA and the Idaho Department of Environmental Quality (IDEQ). The inspector noted that Mr. Jeff Cook, Public Works Director, signs and certifies the monthly discharge

monitoring reports (DMRs). In accordance with Part IV.E.2 of the Permit, a person is a duly authorized individual if 1) the authorization is made in writing by a person described above; 2) the authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager; and 3) the written authorization is submitted to EPA and IDEQ. Any individual signing and certifying the DMRs for the City must be a principal executive officer, ranking elected official or duly authorized representative in accordance with Part IV.E of the Permit.

Violations

1) Part I.B of the Permit specifies that the permittee must monitor the Snake River for parameters listed in Table 2 of the Permit starting by the April - June 2004 quarter and continuing for four years. At the time of the inspection, the City had only conducted one year of the surface water monitoring. This is a violation of Part I.B of the Permit. The surface water monitoring is an essential part of reissuing the Permit and to determine if additional or more stringent limits are necessary to meet state water quality standards.

2) Part I.C of the Permit specifies that the permittee must develop and implement an operations and maintenance (O&M) plan for the Facility by June 15, 2004. The O&M plan shall be retained onsite and made available on request to EPA. The O&M plan was not available during the inspection. This is a violation of Part I.C of the Permit.

3) Part I.D of the Permit specifies that the permittee must develop and implement a quality assurance plan (QAP) for all monitoring required by the Permit by June 15, 2004. Also, the permittee must use EPA-approved quality assurance/quality control (QA/QC) and chain-of-custody procedures described in EPA's Requirements for Quality Assurance Project Plans (EPA-QA/R-5) and Guidance for Quality Assurance Project Plans (EPA-QA/G-5) throughout all sample collection and analysis activities. Part II.F of the Permit specifies that the permittee must retain records of all monitoring information and copies of all reports required by the Permit for at least five years. At the time of the inspection, the City had not developed a QAP. This is a violation of Part I.D of the Permit. The inspector noted that the City did not have the September 2008 chain-of-custody form for the analyses conducted by their contract laboratory. This is a violation of Part II.F of the Permit. Furthermore, the City cannot demonstrate compliance with Part I.D of the Permit in terms of using the appropriate QA/QC procedures and chain-of-custody forms.

4) Parts II.B and IV.E of the Permit specify that the permittee must sign all DMRs and certify that the information submitted is true, accurate and complete. At the time of the inspection, the September 2008 DMR was reviewed along with the corresponding analytical data (i.e., certificate of analysis and the operator's log). The corresponding flow on the date that sampling occurred was not used to calculate the daily and

monthly loadings for biochemical oxygen demand (BOD) and total suspended solids (TSS). This is a violation of Parts II.B and IV.E of the Permit.

Although EPA's goal is to ensure NPDES facilities comply fully with their permits, the ultimate responsibility rests with the Facility. As such, I want to strongly encourage you to continue your efforts to maintain full knowledge of the Permit requirements, and other appropriate statutes, and to take appropriate measures to ensure compliance. Notwithstanding your response to this letter, EPA retains all rights to pursue enforcement actions which may include monetary penalties to address these and any other violations.

Should you have questions or comments regarding this letter, please feel free to contact David Domingo, Compliance Officer, at (206) 553-0531.

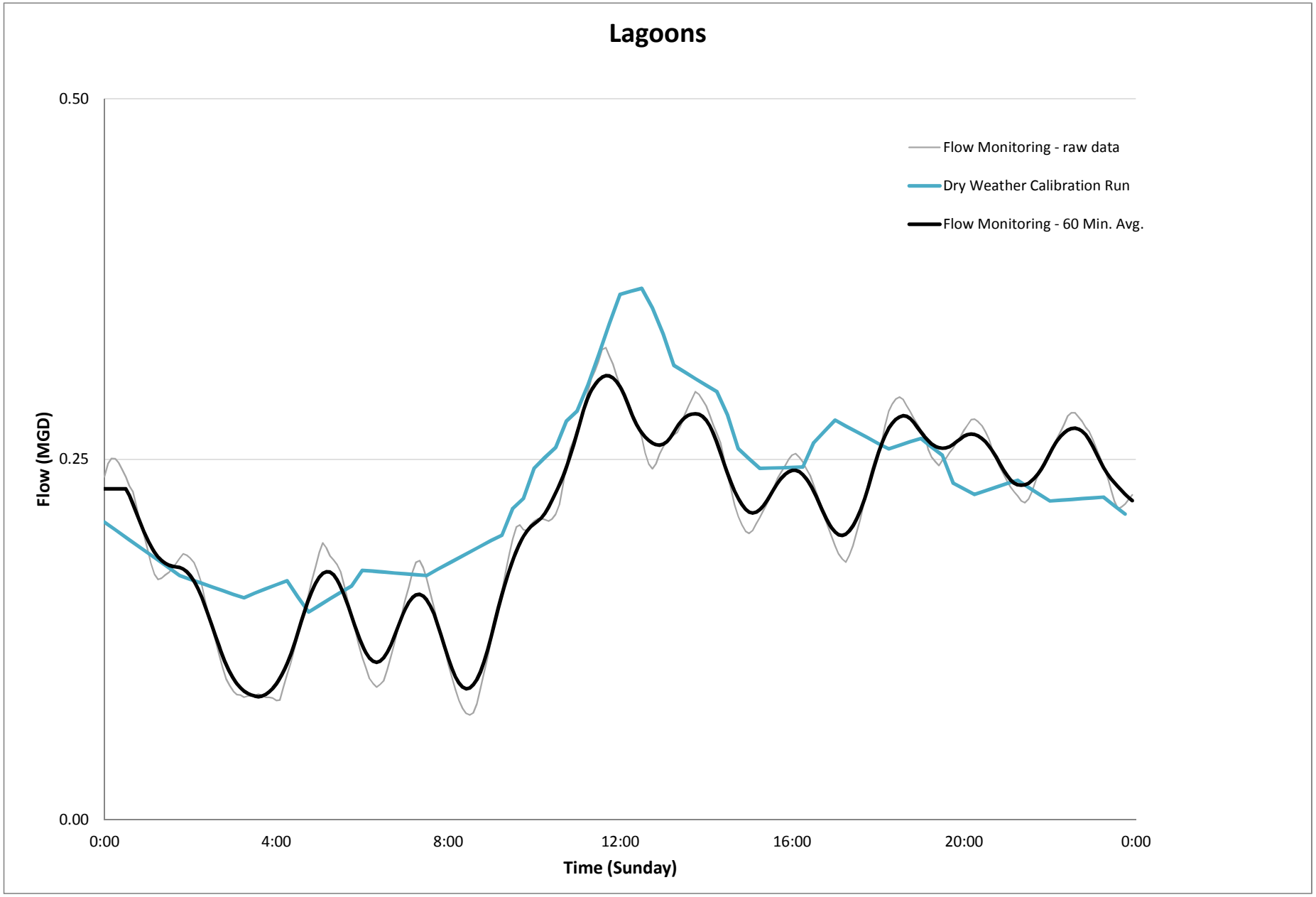
Sincerely,

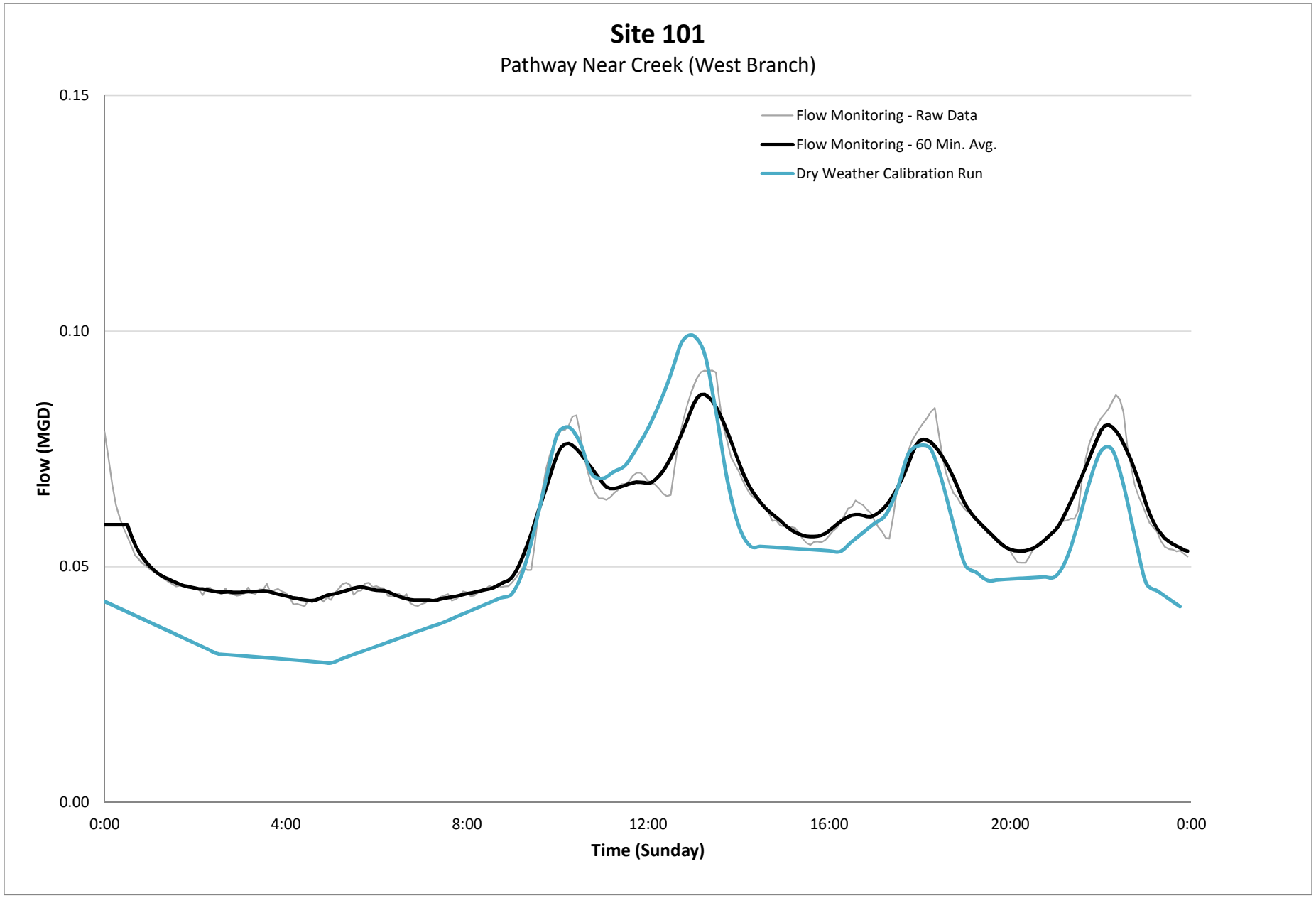
Lauris C. Davies, Acting Director
Office of Compliance and Enforcement

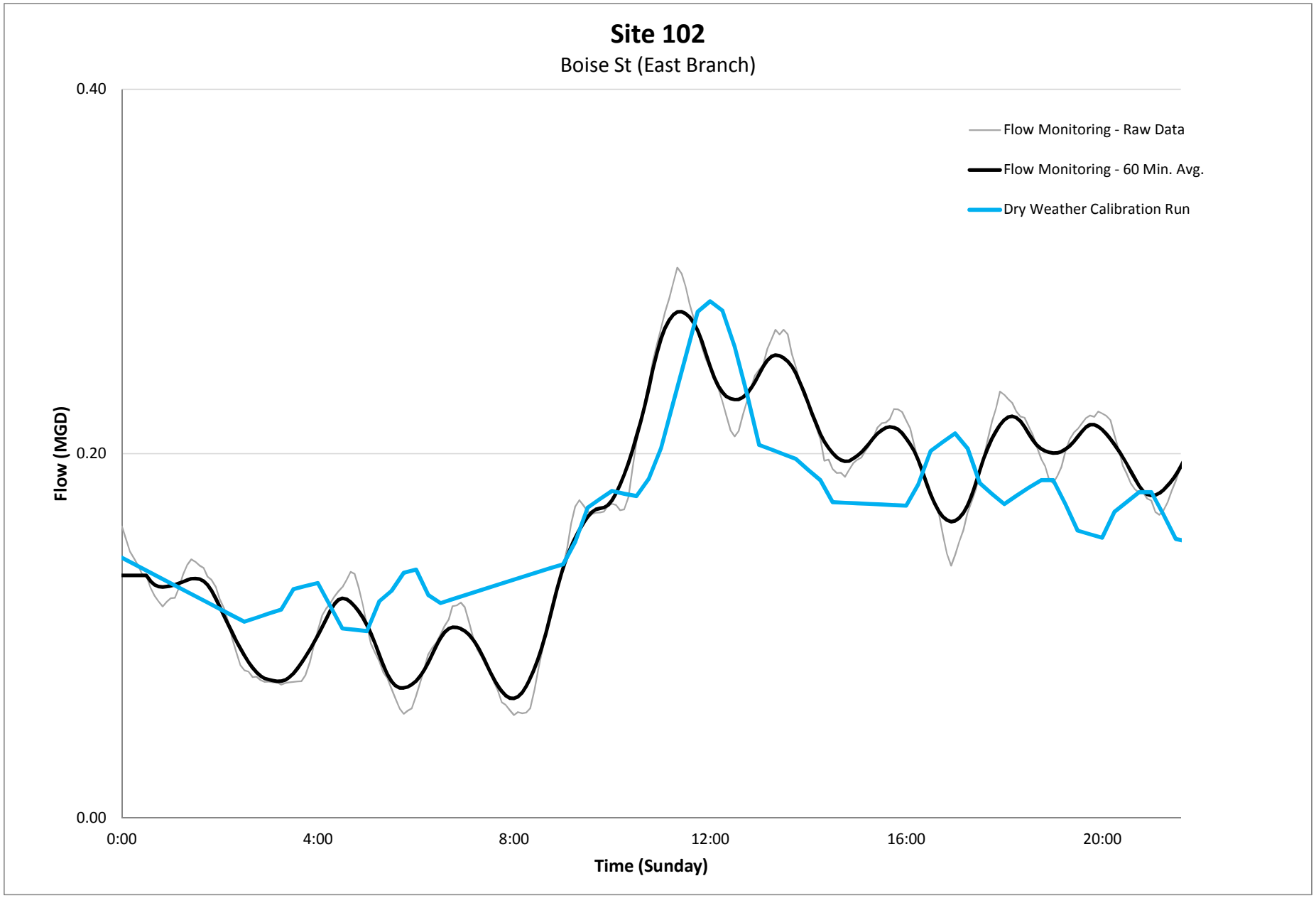
cc: Jeff Cook, Public Works Director
Dave Anderson, IDEQ – Twin Falls
Rick Huddleston, IDEQ – Boise

Appendix E

Sewer Model Results and Calculations


Lagoons
0.50
0.25
0.00
Flow (MGD)
0:00
4:00
8:00
12:00
16:00
20:00
0:00
Time (Sunday)
Flow Monitoring - raw data
Dry Weather Calibration Run
Flow Monitoring - 60 Min. Avg.


Site 101
Pathway Near Creek (West Branch)
Flow Monitoring - Raw Data
Flow Monitoring - 60 Min. Avg.
Dry Weather Calibration Run
0.15
0.10
0.05
0.00
Flow (MGD)
0:00
4:00
8:00
12:00
16:00
20:00
0:00
Time (Sunday)


Site 102
Boise St (East Branch)
0.40
0.20
0.00
Flow (MGD)
0:00
4:00
8:00
12:00
16:00
20:00
Time (Sunday)
Flow Monitoring - Raw Data
Flow Monitoring - 60 Min. Avg.
Dry Weather Calibration Run

System Layer- Existing Calibrated model

G_ID	G_TYPE	G_SIZE	SY_NAME	SY_LENGTH	SY_TYPE	SY_SIZE	SY_DES	SY_INVUP	SY_INVDN	SY_SLOPE	SY_GRUP	SY_GRDN	SY_IDOVER	SY_INVOVER	SY_LOCK	SY_MAXQ	SY_TWE	SY_OFE	HG_SF_SAN	HG_SF_INF	HG_SF_RAP	HG_SF_STO	NODE_UP	NODE_DOWN	InvSource	RimSource
1	2	43.82	100	43.82	EPI	12	DEFAULT	2512.43	2512.24	4.34E-03	2519.17	2515.95	0	0	0	0	0	0	1	1	1	1	120	121		
2	2	310.18	101	310.18	EPI	12	DEFAULT	2511.13	2510.03	3.55E-03	2514.63	2517.036	0	0	0	0	0	0	1	1	1	1	69	123		
3	2	15.62	102	15.62	EPI	15	DEFAULT	2510.03	2509.68	2.24E-02	2517.036	2512.38	0	0	0	0	0	0	1	1	1	1	123	137		
4	2	308.52	103	308.52	EPI	24	DEFAULT	2531.39	2530.3	3.53E-03	2562.67	2539.87	0	0	0	0	0	0	1	1	1	1	93	112		
5	2	398.38	104	398.38	EPI	12	DEFAULT	2526.99	2525.73	3.16E-03	2531.27	2529.83	0	0	0	0	0	0	1	1	1	1	114	113		
6	2	401.02	105	401.02	EPI	12	DEFAULT	2525.66	2524.37	3.22E-03	2529.83	2536.38	0	0	0	0	0	0	1	1	1	1	113	115		
7	2	334.54	106	334.54	EPI	12	DEFAULT	2524.37	2523.12	3.74E-03	2536.38	2527.58	0	0	0	0	0	0	1	1	1	1	115	116		
8	2	401.49	107	401.49	EPI	12	DEFAULT	2530.53	2529.33	2.99E-03	2536.63	2534.69	0	0	0	0	0	0	1	1	1	1	89	97		
9	2	270.60	108	270.60	EPI	12	DEFAULT	2543.08	2542.03	3.88E-03	2557.53	2553.83	0	0	0	0	0	0	1	1	1	1	108	109		
10	2	400.70	109	400.70	EPI	10	DEFAULT	2551.13	2549.53	3.99E-03	2559.13	2555.97	0	0	0	0	0	0	1	1	1	1	85	124		
11	2	609.91	110	609.91	EPI	12	DEFAULT	2549.08	2546.59	4.08E-03	2558.86	2561.04	0	0	0	0	0	0	1	1	1	1	105	90		
12	2	345.09	111	345.09	EPI	18	DEFAULT	2542.87	2541.59	3.71E-03	2553.14	2551.5	0	0	0	0	0	0	1	1	1	1	131	101		
13	2	345.17	112	345.17	EPI	18	DEFAULT	2540.71	2539.56	-9.27E-04	2551.75	2554.17	0	0	0	0	0	0	1	1	1	1	100	99		
14	2	209.01	113	209.01	EPI	18	DEFAULT	2539.56	2538.89	4.21E-03	2554.17	2552.54	0	0	0	0	0	0	1	1	1	1	99	98		
15	2	587.68	114	587.68	EPI	24	DEFAULT	2538.89	2536.22	4.54E-03	2552.54	2555.68	0	0	0	0	0	0	1	1	1	1	98	136		
16	2	380.70	115	380.70	EPI	10	DEFAULT	2555.43	2554.04	3.65E-03	2565.82	2561.61	0	0	0	0	0	0	1	1	1	1	130	129		
17	2	309.46	116	309.46	EPI	24	DEFAULT	2532.81	2531.39	4.59E-03	2561.47	2562.67	0	0	0	0	0	0	1	1	1	1	133	93		
18	2	310.29	117	310.29	EPI	24	DEFAULT	2534.76	2532.81	6.28E-03	2557.39	2561.47	0	0	0	0	0	0	1	1	1	1	91	133		
19	2	396.61	118	396.61	EPI	12	DEFAULT	2520.63	2519.13	3.78E-03	2529.08	2530.13	0	0	0	0	0	0	1	1	1	1	118	73		
20	2	401.30	119	401.30	EPI	12	DEFAULT	2522.97	2521.66	3.26E-03	2527.58	2529.54	0	0	0	0	0	0	1	1	1	1	116	117		
21	2	212.43	120	212.43	EPI	12	DEFAULT	2517.359	2516.59	3.62E-03	2528.28	2524.12	0	0	0	0	0	0	1	1	1	1	119	111		
22	2	310.18	121	310.18	EPI	12	DEFAULT	2512.24	2511.13	3.58E-03	2515.947	2514.63	0	0	0	0	0	0	1	1	1	1	121	69		
23	2	185.49	122	185.49	EPI	12	DEFAULT	2518.03	2517.359	3.62E-03	2523.88	2528.28	0	0	0	0	0	0	1	1	1	1	72	119		
24	2	255.41	123	255.41	EPI	12	DEFAULT	2521.58	2520.7	3.45E-03	2529.54	2529.08	0	0	0	0	0	0	1	1	1	1	117	118		
25	2	398.53	124	398.53	EPI	12	DEFAULT	2528.48	2527.02	3.66E-03	2533.63	2531.27	0	0	0	0	0	0	1	1	1	1	74	114		
26	2	352.54	125	352.54	EPI	12	DEFAULT	2530.08	2528.48	4.54E-03	2539.87	2533.63	0	0	0	0	0	0	1	1	1	1	112	74		
27	2	404.57	126	404.57	EPI	12	DEFAULT	2521.59	2519.98	3.98E-03	2542.52	2545.87	0	0	0	0	0	0	1	1	1	1	122	92		
28	2	400.20	127	400.20	EPI	12	DEFAULT	2528.13	2526.53	4.00E-03	2531.93	2530.63	0	0	0	0	0	0	1	1	1	1	76	77		
29	2	397.01	128	397.01	EPI	12	DEFAULT	2526.53	2524.93	4.03E-03	2530.63	2530.13	0	0	0	0	0	0	1	1	1	1	77	78		
30	2	397.01	129	397.01	EPI	12	DEFAULT	2524.93	2523.33	4.03E-03	2530.13	2528.63	0	0	0	0	0	0	1	1	1	1	78	75		
31	2	26.39	130	26.39	EPI	10	DEFAULT	2552.43	2552.33	3.79E-03	2560.92	2560.73	0	0	0	0	0	0	1	1	1	1	128	134		
32	2	348.23	131	348.23	EPI	10	DEFAULT	2553.99	2552.51	4.25E-03	2561.61	2560.92	0	0	0	0	0	0	1	1	1	1	129	128		
33	2	416.33	132	416.33	EPI	10	DEFAULT	2549.53	2547.92	3.87E-03	2555.97	2556.06	0	0	0	0	0	0	1	1	1	1	124	110		
34	2	183.73	133	183.73	EPI	10	DEFAULT	2547.87	2547.17	3.81E-03	2556.06	2557.75	0	0	0	0	0	0	1	1	1	1	110	127		
35	2	252.17	134	252.17	EPI	10	DEFAULT	2547.17	2546.19	3.89E-03	2557.75	2555.35	0	0	0	0	0	0	1	1	1	1	127	126		
36	2	219.00	135	219.00	EPI	10	DEFAULT	2545.14	2544.3	3.84E-03	2555.17	2554.93	0	0	0	0	0	0	1	1	1	1	125	86		
37	2	275.71	136	275.71	EPI	10	DEFAULT	2546.19	2545.14	3.81E-03	2555.35	2555.17	0	0	0	0	0	0	1	1	1	1	126	125		
38	2	267.80	137	267.80	EPI	10	DEFAULT	2552.23	2551.18	3.92E-03	2560.73	2559.13	0	0	0	0	0	0	1	1	1	1	134	85		
39	2	154.63	138	154.63	EPI	10	DEFAULT	2544.3	2543.7	3.88E-03	2554.93	2556.34	0	0	0	0	0	0	1	1	1	1	86	106		
40	2	47.39	139	47.39	EPI	12	DEFAULT	2543.7	2543.51	4.01E-03	2556.34	2556.64	0	0	0	0	0	0	1	1	1	1	106	107		
41	2	86.86	140	86.86	EPI	12	DEFAULT	2543.46	2543.13	3.80E-03	2556.64	2557.53	0	0	0	0	0	0	1	1	1	1	107	108		
42	2	101.83	141	101.83	EPI	12	DEFAULT	2541.98	2541.59	3.83E-03	2553.83	2552.23	0	0	0	0	0	0	1	1	1	1	109	132		
43	2	365.11	142	365.11	EPI	12	DEFAULT	2541.54	2540.08	4.00E-03	2552.23	2546.23	0	0	0	0	0	0	1	1	1	1	132	96		
44	2	324.52	143	324.52	EPI	12	DEFAULT	2538.68	2537.38	4.01E-03	2546.23	2544.16	0	0	0	0	0	0	1	1	1	1	96	135		
45	2	294.00	144	294.00	EPI	12	DEFAULT	2537.33	2536.15	4.01E-03	2544.16	2542.13	0	0	0	0	0	0	1	1	1	1	135	87		
46	2	336.08	145	336.08	EPI	12	DEFAULT	2536.15	2534.8	4.02E-03	2542.13	2541.23	0	0	0	0	0	0	1	1	1	1	87	95		
47	2	103.29	146	103.29	EPI	12	DEFAULT	2534.75	2534.34	3.97E-03	2541.23	2541.93	0	0	0	0	0	0	1	1	1	1	95	94		
48	2	431.17	147	431.17	EPI	12	DEFAULT	2533.45	2531.73	3.99E-03	2541.93	2538.63	0	0	0	0	0	0	1	1	1	1	94	88		
49	2	400.00	148	400.00	EPI	12	DEFAULT	2531.73	2530.53	3.00E-03	2538.63	2536.63	0	0	0	0	0	0	1	1	1	1	88	89		
50	2	400.00	149	400.00	EPI	12	DEFAULT	2529.33	2528.13	3.00E-03	2534.69	2531.93	0	0	0	0	0	0	1	1	1	1	97	76		
51	2	400.00	150	400.00	EPI	12	DEFAULT	2523.33	2521.71	4.05E-03	2528.63	2542.52	0	0	0	0	0	0	1	1	1	1	75	122		
52	2	400.00	151	400.00	EPI	12	DEFAULT	2519.92	2518.48	3.60E-03	2545.87	2545.33	0	0	0	0	0	0	1	1	1	1	92	84		
53	2	390.00	152	390.00	EPI	12	DEFAULT	2518.43	2516.88	3.97E-03	2545.33	2542.83	0	0	0	0	0	0	1	1	1	1	84	83		
54	2	390.00	153	390.00	EPI	12	DEFAULT	2516.88	2515.33	3.97E-03	2542.83	2537.13	0	0	0	0	0	0	1	1	1	1	83	82		
55	2	400.00	154	400.00	EPI	12	DEFAULT	2515.08	2513.48	4.00E-03	2537.13	2521.13	0	0	0	0	0	0	1	1	1	1	82	79		
56	2	270.00	155	270.00	EPI	12	DEFAULT	2513.43	2512.33	4.07E-03	2521.13	2520.13	0	0	0	0	0	0	1	1	1	1	79	81		
57	2	400.00	156	400.00	EPI	12	DEFAULT	2512.33	2510.73	4.00E-03	2520.13	2518.13	0	0	0	0	0	0	1	1	1	1	81	80		
58	2	172.06	157	172.06	EPI	12	DEFAULT	2510.73	2510.03	4.07E-03	2518.13	2517.036	0	0	0	0	0	0	1	1	1	1	80	123		
59	2	400.00	158	400.00	EPI	12	DEFAULT	2513.83	2512.43	3.50E-03	2520.13	2519.166	0	0	0	0	0	0	1	1	1	1	70	120		

System Layer- Existing Calibrated model

G_ID	G_TYPE	G_SIZE	SY_NAME	SY_LENGTH	SY_TYPE	SY_SIZE	SY_DES	SY_INVUP	SY_INVDN	SY_SLOPE	SY_GRUP	SY_GRDN	SY_IDOVER	SY_INVOVER	SY_LOCK	SY_MAXQ	SY_TWE	SY_OFE	HG_SF_SAN	HG_SF_INF	HG_SF_RAP	HG_SF_STO	NODE_UP	NODE_DOWN	InvSource	RimSource
60	2	400.00	159	400.00	EPI	12	DEFAULT	2515.23	2513.83	3.50E-03	2520.63	2520.13	0	0	0	0	0	0	1	1	1	1	71	70		
61	2	401.97	160	401.97	EPI	12	DEFAULT	2516.49	2515.23	3.13E-03	2524.12	2520.63	0	0	0	0	0	0	1	1	1	1	111	71		
62	2	400.00	161	400.00	EPI	12	DEFAULT	2519.43	2518.03	3.50E-03	2530.13	2523.88	0	0	0	0	0	0	1	1	1	1	73	72		
63	2	321.01	162	321.01	EPI	24	DEFAULT	2536.22	2534.76	4.55E-03	2555.68	2557.39	0	0	0	0	0	0	1	1	1	1	136	91		
64	2	274.71	163	274.71	EPI	18	DEFAULT	2541.57	2540.71	3.13E-03	2551.5	2551.75	0	0	0	0	0	0	1	1	1	1	101	100		
65	2	310.36	164	310.36	EPI	12	DEFAULT	2544.26	2542.87	4.48E-03	2554.04	2553.14	0	0	0	0	0	0	1	1	1	1	104	131		
66	2	274.34	165	275.79	EPI	12	DEFAULT	2545.41	2544.26	4.17E-03	2557.39	2554.04	0	0	0	0	0	0	1	1	1	1	102	104		
67	2	35.61	166	35.61	EPI	12	DEFAULT	2545.33	2545.57	-6.74E-03	2558.17	2557.39	0	0	0	0	0	0	1	1	1	1	103	102		
68	2	309.75	167	309.75	EPI	12	DEFAULT	2546.57	2545.36	3.91E-03	2561.04	2558.17	0	0	0	0	0	0	1	1	1	1	90	103		
69	1	0.00	100	0.00	MAN	0	DEFAULT	2511.13	2511.13		2514.63	2514.63	0	0	0	0	0	0	1	1	1	1	0	0	Record DWG	Record DWG
70	1	0.00	101	0.00	MAN	0	DEFAULT	2513.83	2513.83		2520.13	2520.13	0	0	0	0	0	0	1	1	1	1	0	0	Record DWG	Record DWG
71	1	0.00	102	0.00	MAN	0	DEFAULT	2515.23	2515.23		2520.63	2520.63	0	0	0	0	0	0	1	1	1	1	0	0	Record DWG	Record DWG
72	1	0.00	103	0.00	MAN	0	DEFAULT	2518.03	2518.03		2523.88	2523.88	0	0	0	0	0	0	1	1	1	1	0	0	Record DWG	Record DWG
73	1	0.00	104	0.00	MAN	0	DEFAULT	2519.43	2519.43		2530.13	2530.13	0	0	0	0	0	0	1	1	1	1	0	0	Record DWG	Record DWG
74	1	0.00	105	0.00	MAN	0	DEFAULT	2528.48	2528.48		2533.63	2533.63	0	0	0	0	0	0	1	1	1	1	0	0	Record DWG	Record DWG
75	1	0.00	106	0.00	MAN	0	DEFAULT	2523.33	2523.33		2528.63	2528.63	0	0	0	0	0	0	1	1	1	1	0	0	Record DWG	Record DWG
76	1	0.00	107	0.00	MAN	0	DEFAULT	2528.13	2528.13		2531.93	2531.93	0	0	0	0	0	0	1	1	1	1	0	0	Record DWG	Record DWG
77	1	0.00	108	0.00	MAN	0	DEFAULT	2526.53	2526.53		2530.63	2530.63	0	0	0	0	0	0	1	1	1	1	0	0	Record DWG	Record DWG
78	1	0.00	109	0.00	MAN	0	DEFAULT	2524.93	2524.93		2530.13	2530.13	0	0	0	0	0	0	1	1	1	1	0	0	Record DWG	Record DWG
79	1	0.00	110	0.00	MAN	0	DEFAULT	2513.43	2513.43		2521.13	2521.13	0	0	0	0	0	0	1	1	1	1	0	0	Record DWG	Record DWG
80	1	0.00	111	0.00	MAN	0	DEFAULT	2510.73	2510.73		2518.13	2518.13	0	0	0	0	0	0	1	1	1	1	0	0	Record DWG	Record DWG
81	1	0.00	112	0.00	MAN	0	DEFAULT	2512.33	2512.33		2520.13	2520.13	0	0	0	0	0	0	1	1	1	1	0	0	Record DWG	Record DWG
82	1	0.00	113	0.00	MAN	0	DEFAULT	2515.08	2515.08		2537.13	2537.13	0	0	0	0	0	0	1	1	1	1	0	0	Record DWG	Record DWG
83	1	0.00	114	0.00	MAN	0	DEFAULT	2516.88	2516.88		2542.83	2542.83	0	0	0	0	0	0	1	1	1	1	0	0	Record DWG	Record DWG
84	1	0.00	115	0.00	MAN	0	DEFAULT	2518.43	2518.43		2545.33	2545.33	0	0	0	0	0	0	1	1	1	1	0	0	Record DWG	Record DWG
85	1	0.00	116	0.00	MAN	0	DEFAULT	2551.13	2551.13		2559.13	2559.13	0	0	0	0	0	0	1	1	1	1	0	0	Record DWG	Record DWG
86	1	0.00	117	0.00	MAN	0	DEFAULT	2544.3	2544.3		2554.93	2554.93	0	0	0	0	0	0	1	1	1	1	0	0	Record DWG	Record DWG
87	1	0.00	118	0.00	MAN	0	DEFAULT	2536.15	2536.15		2542.13	2542.13	0	0	0	0	0	0	1	1	1	1	0	0	Record DWG	Record DWG
88	1	0.00	119	0.00	MAN	0	DEFAULT	2531.73	2531.73		2538.63	2538.63	0	0	0	0	0	0	1	1	1	1	0	0	Record DWG	Record DWG
89	1	0.00	120	0.00	MAN	0	DEFAULT	2530.53	2530.53		2536.63	2536.63	0	0	0	0	0	0	1	1	1	1	0	0	Record DWG	Record DWG
90	1	0.00	121	0.00	MAN	0	DEFAULT	2546.57	2546.57		2561.041	2561.041	0	0	0	0	0	0	1	1	1	1	0	0	Survey	Survey
91	1	0.00	122	0.00	MAN	0	DEFAULT	2534.76	2534.76		2557.394	2557.394	0	0	0	0	0	0	1	1	1	1	0	0	Survey	Survey
92	1	0.00	123	0.00	MAN	0	DEFAULT	2519.92	2519.92		2545.872	2545.872	0	0	0	0	0	0	1	1	1	1	0	0	Survey	Survey
93	1	0.00	124	0.00	MAN	0	DEFAULT	2531.39	2531.39		2562.671	2562.671	0	0	0	0	0	0	1	1	1	1	0	0	Survey	Survey
94	1	0.00	125	0.00	MAN	0	DEFAULT	2533.45	2533.45		2543.31	2543.31	0	0	0	0	0	0	1	1	1	1	0	0	Record DWG	Survey
95	1	0.00	126	0.00	MAN	0	DEFAULT	2534.75	2534.75		2543.03	2543.03	0	0	0	0	0	0	1	1	1	1	0	0	Record DWG	Survey
96	1	0.00	127	0.00	MAN	0	DEFAULT	2538.68	2538.68		2546.234	2546.234	0	0	0	0	0	0	1	1	1	1	0	0	Record DWG	Survey
97	1	0.00	128	0.00	MAN	0	DEFAULT	2529.33	2529.33		2534.687	2534.687	0	0	0	0	0	0	1	1	1	1	0	0	Record DWG	Survey
98	1	0.00	129	0.00	MAN	0	DEFAULT	2538.89	2538.89		2552.538	2552.538	0	0	0	0	0	0	1	1	1	1	0	0	Survey	Survey
99	1	0.00	130	0.00	MAN	0	DEFAULT	2539.56	2539.56		2554.165	2554.165	0	0	0	0	0	0	1	1	1	1	0	0	Survey	Survey
100	1	0.00	131	0.00	MAN	0	DEFAULT	2540.71	2540.71		2551.747	2551.747	0	0	0	0	0	0	1	1	1	1	0	0	Survey	Survey
101	1	0.00	132	0.00	MAN	0	DEFAULT	2541.57	2541.57		2551.496	2551.496	0	0	0	0	0	0	1	1	1	1	0	0	Survey	Survey
102	1	0.00	133	0.00	MAN	0	DEFAULT	2545.41	2545.41		2557.392	2557.392	0	0	0	0	0	0	1	1	1	1	0	0	Survey	Survey
103	1	0.00	134	0.00	MAN	0	DEFAULT	2545.33	2545.33		2558.169	2558.169	0	0	0	0	0	0	1	1	1	1	0	0	Survey	Survey
104	1	0.00	135	0.00	MAN	0	DEFAULT	2544.26	2544.26		2554.035	2554.035	0	0	0	0	0	0	1	1	1	1	0	0	Survey	Survey
105	1	0.00	136	0.00	MAN	0	DEFAULT	2549.08	2549.08		2558.859	2558.859	0	0	0	0	0	0	1	1	1	1	0	0	Survey	Survey
106	1	0.00	137	0.00	MAN	0	DEFAULT	2543.7	2543.7		2556.342	2556.342	0	0	0	0	0	0	1	1	1	1	0	0	Record DWG	Survey
107	1	0.00	138	0.00	MAN	0	DEFAULT	2543.46	2543.46		2556.641	2556.641	0	0	0	0	0	0	1	1	1	1	0	0	Record DWG	Survey
108	1	0.00	139	0.00	MAN	0	DEFAULT	2543.08	2543.08		2557.534	2557.534	0	0	0	0	0	0	1	1	1	1	0	0	Record DWG	Survey
109	1	0.00	140	0.00	MAN	0	DEFAULT	2541.98	2541.98		2553.828	2553.828	0	0	0	0	0	0	1	1	1	1	0	0	Record DWG	Survey
110	1	0.00	141	0.00	MAN	0	DEFAULT	2547.87	2547.87		2556.055	2556.055	0	0	0	0	0	0	1	1	1	1	0	0	Record DWG	Survey
111	1	0.00	142	0.00	MAN	0	DEFAULT	2516.49	2516.49		2524.12	2524.12	0	0	0	0	0	0	1	1	1	1	0	0	Survey	Survey
112	1	0.00	143	0.00	MAN	0	DEFAULT	2530.08	2530.08		2539.867	2539.867	0	0	0	0	0	0	1	1	1	1	0	0	Survey	Survey
113	1	0.00	144	0.00	MAN	0	DEFAULT	2525.66	2525.66		2529.83	2529.83	0	0	0	0	0	0	1	1	1	1	0	0	Survey	Survey
114	1	0.00	145	0.00	MAN	0	DEFAULT	2526.99	2526.99		2531.271	2531.271	0	0	0	0	0	0	1	1	1	1	0	0	Survey	Survey
115	1	0.00	146	0.00	MAN	0	DEFAULT	2524.37	2524.37		2536.379	2536.379	0	0	0	0	0	0	1	1	1	1	0	0	Survey	Survey
116	1	0.00	147	0.00	MAN	0	DEFAULT	2522.97	2522.97		2527.583	2527.583	0	0	0	0	0	0	1	1	1	1	0	0	Survey	Survey
117	1	0.00	149	0.00	MAN	0	DEFAULT	2521.58	2521.58		2529.54	2529.54	0	0	0	0	0	0	1	1	1	1	0	0	Survey	Survey
118	1	0.00	150	0.00	MAN	0	DEFAULT	2520.63	2520.63		2529.082	2529.082	0	0	0	0	0	0	1	1	1	1	0	0	Survey	Survey

System Layer- Existing Calibrated model

G_ID	G_TYPE	G_SIZE	SY_NAME	SY_LENGTH	SY_TYPE	SY_SIZE	SY_DES	SY_INVUP	SY_INVDN	SY_SLOPE	SY_GRUP	SY_GRDN	SY_IDOVER	SY_INVOVER	SY_LOCK	SY_MAXQ	SY_TWE	SY_OFE	HG_SF_SAN	HG_SF_INF	HG_SF_RAP	HG_SF_STO	NODE_UP	NODE_DOWN	InvSource	RimSource
119	1	0.00	151	0.00	MAN	0	DEFAULT	2517.35	2517.35		2528.283	2528.283	0	0	0	0	0	0	1	1	1	1	0	0	Survey	Survey
120	1	0.00	152	0.00	MAN	0	DEFAULT	2512.43	2512.43		2519.166	2519.166	0	0	0	0	0	0	1	1	1	1	0	0	Survey	Survey
121	1	0.00	153	0.00	MAN	0	DEFAULT	2512.24	2512.24		2515.947	2515.947	0	0	0	0	0	0	1	1	1	1	0	0	Survey	Survey
122	1	0.00	154	0.00	MAN	0	DEFAULT	2521.59	2521.59		2542.518	2542.518	0	0	0	0	0	0	1	1	1	1	0	0	Survey	Survey
123	1	0.00	155	0.00	MAN	0	DEFAULT	2510.03	2510.03		2517.036	2517.036	0	0	0	0	0	0	1	1	1	1	0	0	Record DWG	Survey
124	1	0.00	156	0.00	MAN	0	DEFAULT	2549.53	2549.53		2555.966	2555.966	0	0	0	0	0	0	1	1	1	1	0	0	Record DWG	Survey
125	1	0.00	157	0.00	MAN	0	DEFAULT	2545.14	2545.14		2555.172	2555.172	0	0	0	0	0	0	1	1	1	1	0	0	Record DWG	Survey
126	1	0.00	158	0.00	MAN	0	DEFAULT	2546.19	2546.19		2555.35	2555.35	0	0	0	0	0	0	1	1	1	1	0	0	Record DWG	Survey
127	1	0.00	159	0.00	MAN	0	DEFAULT	2547.17	2547.17		2557.751	2557.751	0	0	0	0	0	0	1	1	1	1	0	0	Record DWG	Survey
128	1	0.00	160	0.00	MAN	0	DEFAULT	2552.43	2552.43		2560.923	2560.923	0	0	0	0	0	0	1	1	1	1	0	0	Survey	Survey
129	1	0.00	161	0.00	MAN	0	DEFAULT	2553.99	2553.99		2561.608	2561.608	0	0	0	0	0	0	1	1	1	1	0	0	Survey	Survey
130	1	0.00	162	0.00	MAN	0	DEFAULT	2555.43	2555.43		2565.821	2565.821	0	0	0	0	0	0	1	1	1	1	0	0	Record DWG	Survey
131	1	0.00	163	0.00	MAN	0	DEFAULT	2542.87	2542.87		2553.144	2553.144	0	0	0	0	0	0	1	1	1	1	0	0	Survey	Survey
132	1	0.00	164	0.00	MAN	0	DEFAULT	2541.54	2541.54		2552.227	2552.227	0	0	0	0	0	0	1	1	1	1	0	0	Record DWG	Survey
133	1	0.00	165	0.00	MAN	0	DEFAULT	2532.81	2532.81		2561.472	2561.472	0	0	0	0	0	0	1	1	1	1	0	0	Survey	Survey
134	1	0.00	166	0.00	MAN	0	DEFAULT	2552.23	2552.23		2560.727	2560.727	0	0	0	0	0	0	1	1	1	1	0	0	Record DWG	Survey
135	1	0.00	167	0.00	MAN	0	DEFAULT	2537.33	2537.33		2544.16	2544.16	0	0	0	0	0	0	1	1	1	1	0	0	Record DWG	Survey
136	1	0.00	168	0.00	MAN	0	DEFAULT	2536.22	2536.22		2555.68	2555.68	0	0	0	0	0	0	1	1	1	1	0	0	Interpolated	Interpolated
137	1	0.00	169	0.00	OUT	0	DEFAULT	2509.68	2509.68		2512.38	2512.38	0	0	0	0	0	0	1	1	1	1	0	0	Record DWG	Record DWG

Results Existing Calibrated Model

G_ID	SY_NAME	SYTYPE	LENGTH	GRUP	GRDN	DES_INVUP	DES_INVDN	SIZE	SAN_AREA	SAN_POPULA	Q_OUT_SAN	FACTOR_SAN	Q_OUT_INF	Q_OUT_STO	Q_OUT_RAP	Q_OUT	VEL_MAX	Q_AVERAGE
1	100	EPI	43.8177	2519.17	2515.95	2512.43	2512.24	12	277.8	1202.04	0.4351	1.7302	0	0	0	0.4356	2.0329	0.2517
2	101	EPI	310.1821	2514.63	2517.036	2511.13	2510.03	12	279.4	1205.28	0.4302	1.7178	0	0	0	0.4333	1.9018	0.2523
3	102	EPI	15.6198	2517.036	2512.38	2510.03	2509.68	15	551.75	1577.88	0.5724	1.6299	0	0	0	0.573	4.0402	0.3516
4	103	EPI	308.5155	2562.67	2539.87	2531.39	2530.3	24	259.4	1176.12	0.4248	1.8391	0	0	0	0.4257	1.7904	0.2315
5	104	EPI	398.3823	2531.27	2529.83	2526.99	2525.73	12	259.4	1176.12	0.4193	1.8225	0	0	0	0.422	1.796	0.2315
6	105	EPI	401.0188	2529.83	2536.38	2525.66	2524.37	12	259.4	1176.12	0.4157	1.8108	0	0	0	0.4193	1.8113	0.2315
7	106	EPI	334.5367	2536.38	2527.58	2524.37	2523.12	12	259.4	1176.12	0.4124	1.7958	0	0	0	0.4157	1.9522	0.2315
8	107	EPI	401.4895	2536.63	2534.69	2530.53	2529.33	12	79.05	343.44	0.1516	1.9039	0	0	0	0.1533	1.3705	0.0805
9	108	EPI	270.6048	2557.53	2553.83	2543.08	2542.03	12	79.05	343.44	0.1619	2.0637	0	0	0	0.1663	1.5616	0.0806
10	109	EPI	400.697	2559.13	2555.97	2551.13	2549.53	10	21	93.96	0.0323	1.8604	0	0	0	0.0324	1.0159	0.0174
11	110	EPI	609.9127	2558.86	2561.04	2549.08	2546.59	12	0	0	0	0	0	0	0	0.0142	0.2	0
12	111	EPI	345.0857	2553.14	2551.5	2542.87	2541.59	18	26.7	0	0.0142	1.5862	0	0	0	0.0142	0.7556	0.009
13	112	EPI	345.1719	2551.75	2554.17	2540.71	2539.56	18	76.7	230.04	0.0936	1.8154	0	0	0	0.0938	1.1785	0.0517
14	113	EPI	209.0147	2554.17	2552.54	2539.56	2538.89	18	87.7	230.04	0.1008	1.7936	0	0	0	0.1009	1.2519	0.0563
15	114	EPI	587.6786	2552.54	2555.68	2538.89	2536.22	24	87.7	230.04	0.1006	1.7926	0	0	0	0.1008	1.4071	0.0562
16	115	EPI	380.6988	2565.82	2561.61	2555.43	2554.04	10	14	48.6	0.0168	1.8647	0	0	0	0.0168	0.8473	0.009
17	116	EPI	309.4552	2561.47	2562.67	2532.81	2531.39	24	259.4	1176.12	0.4257	1.8416	0	0	0	0.4265	2.0404	0.2316
18	117	EPI	310.2921	2557.39	2561.47	2534.76	2532.81	24	217.7	1091.88	0.3973	1.8421	0	0	0	0.398	2.1646	0.2161
19	118	EPI	396.6121	2529.08	2530.13	2520.63	2519.13	12	265.6	1176.12	0.4482	1.8288	0	0	0	0.4523	1.964	0.2473
20	119	EPI	401.3001	2527.58	2529.54	2522.97	2521.66	12	259.4	1176.12	0.4081	1.7822	0	0	0	0.4124	1.8247	0.2314
21	120	EPI	212.4314	2528.28	2524.12	2517.359	2516.59	12	267.9	1179.36	0.4389	1.7838	0	0	0	0.4422	1.9215	0.2479
22	121	EPI	310.1821	2515.947	2514.63	2512.24	2511.13	12	279.4	1205.28	0.4333	1.7268	0	0	0	0.4357	1.9104	0.2523
23	122	EPI	185.4892	2523.88	2528.28	2518.03	2517.359	12	267.9	1179.36	0.4422	1.796	0	0	0	0.4453	1.9208	0.2479
24	123	EPI	255.405	2529.54	2529.08	2521.58	2520.7	12	265.6	1176.12	0.4523	1.8418	0	0	0	0.4554	1.9353	0.2473
25	124	EPI	398.5285	2533.63	2531.27	2528.48	2527.02	12	259.4	1176.12	0.422	1.8303	0	0	0	0.4236	1.933	0.2314
26	125	EPI	352.5351	2539.87	2533.63	2530.08	2528.48	12	259.4	1176.12	0.4236	1.8352	0	0	0	0.4248	2.0798	0.2315
27	126	EPI	404.5718	2542.52	2545.87	2521.59	2519.98	12	88.15	362.88	0.1529	1.7799	0	0	0	0.1533	1.4996	0.0861
28	127	EPI	400.1964	2531.93	2530.63	2528.13	2526.53	12	84.85	343.44	0.1526	1.8529	0	0	0	0.1528	1.5031	0.0825
29	128	EPI	397.006	2530.63	2530.13	2526.53	2524.93	12	84.85	343.44	0.1518	1.8496	0	0	0	0.1526	1.5091	0.0825
30	129	EPI	397.006	2530.13	2528.63	2524.93	2523.33	12	84.85	343.44	0.1507	1.8403	0	0	0	0.1518	1.5091	0.0825
31	130	EPI	26.3942	2560.92	2560.73	2552.43	2552.33	10	14	48.6	0.0168	1.8639	0	0	0	0.0168	0.8631	0.009
32	131	EPI	348.2312	2561.61	2560.92	2553.99	2552.51	10	14	48.6	0.0168	1.8648	0	0	0	0.0168	0.9142	0.009
33	132	EPI	416.327	2555.97	2556.06	2549.53	2547.92	10	21	93.96	0.0319	1.851	0	0	0	0.0323	0.9997	0.0174
34	133	EPI	183.7288	2556.06	2557.75	2547.87	2547.17	10	21	93.96	0.0317	1.8329	0	0	0	0.0319	0.9923	0.0174
35	134	EPI	252.1698	2557.75	2555.35	2547.17	2546.19	10	21	93.96	0.0314	1.8194	0	0	0	0.0317	1.0022	0.0174
36	135	EPI	219	2555.17	2554.93	2545.14	2544.3	10	39.39	255.96	0.0866	1.8307	0	0	0	0.087	1.2756	0.0475
37	136	EPI	275.709	2555.35	2555.17	2546.19	2545.14	10	39.39	255.96	0.087	1.8406	0	0	0	0.0874	1.2711	0.0475
38	137	EPI	267.8	2560.73	2559.13	2552.23	2551.18	10	19.2	81	0.0279	1.8632	0	0	0	0.028	1.0066	0.015
39	138	EPI	154.6306	2554.93	2556.34	2544.3	2543.7	10	62.05	255.96	0.0983	1.7898	0	0	0	0.0986	1.3689	0.0551
40	139	EPI	47.3869	2556.34	2556.64	2543.7	2543.51	12	62.05	255.96	0.0981	1.7845	0	0	0	0.0983	1.3326	0.0551
41	140	EPI	86.8626	2556.64	2557.53	2543.46	2543.13	12	79.05	343.44	0.1663	2.1239	0	0	0	0.1711	1.5451	0.0806
42	141	EPI	101.8304	2553.83	2552.23	2541.98	2541.59	12	79.05	343.44	0.1613	2.0091	0	0	0	0.1619	1.4712	0.0806
43	142	EPI	365.1068	2552.23	2546.23	2541.54	2540.08	12	79.05	343.44	0.159	2.0028	0	0	0	0.1613	1.5033	0.0805
44	143	EPI	324.5194	2546.23	2544.16	2538.68	2537.38	12	79.05	343.44	0.1576	1.9743	0	0	0	0.159	1.5046	0.0805
45	144	EPI	294	2544.16	2542.13	2537.33	2536.15	12	79.05	343.44	0.1569	1.9566	0	0	0	0.1576	1.506	0.0805
46	145	EPI	336.0767	2542.13	2541.23	2536.15	2534.8	12	79.05	343.44	0.1554	1.9486	0	0	0	0.1569	1.5067	0.0805
47	146	EPI	103.2889	2541.23	2541.93	2534.75	2534.34	12	79.05	343.44	0.1546	1.9296	0	0	0	0.1554	1.4977	0.0805
48	147	EPI	431.1669	2541.93	2538.63	2533.45	2531.73	12	79.05	343.44	0.1544	1.92	0	0	0	0.1546	1.5014	0.0805
49	148	EPI	400	2538.63	2536.63	2531.73	2530.53	12	79.05	343.44	0.1533	1.9177	0	0	0	0.1544	1.3731	0.0805

Results Existing Calibrated Model

G_ID	SY_NAME	SYTYPE	LENGTH	GRUP	GRDN	DES_INVUP	DES_INVDN	SIZE	SAN_AREA	SAN_POPULA	Q_OUT_SAN	FACTOR_SAN	Q_OUT_INF	Q_OUT_STO	Q_OUT_RAP	Q_OUT	VEL_MAX	Q_AVERAGE
50	149	EPI	400	2534.69	2531.93	2529.33	2528.13	12	84.85	343.44	0.1528	1.8749	0	0	0	0.1546	1.3731	0.0825
51	150	EPI	400	2528.63	2542.52	2523.33	2521.71	12	88.15	362.88	0.1533	1.796	0	0	0	0.1546	1.5128	0.0861
52	151	EPI	400	2545.87	2545.33	2519.92	2518.48	12	88.45	366.12	0.153	1.7716	0	0	0	0.1535	1.4263	0.0867
53	152	EPI	390	2545.33	2542.83	2518.43	2516.88	12	90.45	372.6	0.1534	1.7557	0	0	0	0.1543	1.4987	0.0879
54	153	EPI	390	2542.83	2537.13	2516.88	2515.33	12	269.55	372.6	0.1639	1.6768	0	0	0	0.165	1.4987	0.0984
55	154	EPI	400	2537.13	2521.13	2515.08	2513.48	12	272.35	372.6	0.1649	1.6634	0	0	0	0.1653	1.5035	0.0994
56	155	EPI	270	2521.13	2520.13	2513.43	2512.33	12	272.35	372.6	0.1647	1.6598	0	0	0	0.1649	1.5173	0.0994
57	156	EPI	400	2520.13	2518.13	2512.33	2510.73	12	272.35	372.6	0.164	1.657	0	0	0	0.1647	1.5035	0.0994
58	157	EPI	172.0645	2518.13	2517.036	2510.73	2510.03	12	272.35	372.6	0.1636	1.6509	0	0	0	0.164	1.5162	0.0994
59	158	EPI	400	2520.13	2519.166	2513.83	2512.43	12	274.4	1195.56	0.4343	1.7392	0	0	0	0.436	1.8894	0.2507
60	159	EPI	400	2520.63	2520.13	2515.23	2513.83	12	269.6	1185.84	0.4341	1.747	0	0	0	0.4353	1.8894	0.2491
61	160	EPI	401.9734	2524.12	2520.63	2516.49	2515.23	12	267.9	1179.36	0.433	1.7707	0	0	0	0.4389	1.8459	0.2479
62	161	EPI	400	2530.13	2523.88	2519.43	2518.03	12	265.6	1176.12	0.4442	1.8124	0	0	0	0.4482	1.9506	0.2473
63	162	EPI	321.0111	2555.68	2557.39	2536.22	2534.76	24	217.7	1091.88	0.398	1.8448	0	0	0	0.3989	1.9435	0.2162
64	163	EPI	274.706	2551.5	2551.75	2541.57	2540.71	18	76.7	230.04	0.0938	1.8155	0	0	0	0.0938	1.1424	0.0517
65	164	EPI	310.3616	2554.04	2553.14	2544.26	2542.87	12	26.7	0	0.0142	1.586	0	0	0	0.0142	0.8003	0.009
66	165	EPI	275.7888	2557.39	2554.04	2545.41	2544.26	12	26.7	0	0.0142	1.5863	0	0	0	0.0142	0.7722	0.009
67	166	EPI	35.6112	2558.17	2557.39	2545.33	2545.57	12	26.7	0	0.0142	1.5862	0	0	0	0.0142	0.2	0.0089
68	167	EPI	309.7516	2561.04	2558.17	2546.57	2545.36	12	0	0	0	0	0	0	0	0.0142	0.2	0
69	100	MAN	4	2514.63	2514.63	2511.13	2511.13	4	279.4	1205.28	0.4333	1.7178	0	0	0	0.4333	0	0.2523
70	101	MAN	4	2520.13	2520.13	2513.83	2513.83	4	274.4	1195.56	0.436	1.7377	0	0	0	0.436	0	0.2509
71	102	MAN	4	2520.63	2520.63	2515.23	2515.23	4	269.6	1185.84	0.4353	1.7473	0	0	0	0.4353	0	0.2491
72	103	MAN	4	2523.88	2523.88	2518.03	2518.03	4	267.9	1179.36	0.4453	1.7963	0	0	0	0.4453	0	0.2479
73	104	MAN	4	2530.13	2530.13	2519.43	2519.43	4	265.6	1176.12	0.4482	1.8124	0	0	0	0.4482	0	0.2473
74	105	MAN	4	2533.63	2533.63	2528.48	2528.48	4	259.4	1176.12	0.4236	1.8303	0	0	0	0.4236	0	0.2314
75	106	MAN	4	2528.63	2528.63	2523.33	2523.33	4	88.15	362.88	0.1546	1.7963	0	0	0	0.1546	0	0.0861
76	107	MAN	4	2531.93	2531.93	2528.13	2528.13	4	84.85	343.44	0.1528	1.8529	0	0	0	0.1528	0	0.0825
77	108	MAN	4	2530.63	2530.63	2526.53	2526.53	4	84.85	343.44	0.1526	1.8496	0	0	0	0.1526	0	0.0825
78	109	MAN	4	2530.13	2530.13	2524.93	2524.93	4	84.85	343.44	0.1518	1.8403	0	0	0	0.1518	0	0.0825
79	110	MAN	4	2521.13	2521.13	2513.43	2513.43	4	272.35	372.6	0.1649	1.6598	0	0	0	0.1649	0	0.0994
80	111	MAN	4	2518.13	2518.13	2510.73	2510.73	4	272.35	372.6	0.164	1.6509	0	0	0	0.164	0	0.0994
81	112	MAN	4	2520.13	2520.13	2512.33	2512.33	4	272.35	372.6	0.1647	1.657	0	0	0	0.1647	0	0.0994
82	113	MAN	4	2537.13	2537.13	2515.08	2515.08	4	272.35	372.6	0.1653	1.6637	0	0	0	0.1653	0	0.0994
83	114	MAN	4	2542.83	2542.83	2516.88	2516.88	4	269.55	372.6	0.165	1.6767	0	0	0	0.165	0	0.0984
84	115	MAN	4	2545.33	2545.33	2518.43	2518.43	4	90.45	372.6	0.1543	1.7555	0	0	0	0.1543	0	0.0879
85	116	MAN	4	2559.13	2559.13	2551.13	2551.13	4	21	93.96	0.0324	1.8603	0	0	0	0.0324	0	0.0174
86	117	MAN	4	2554.93	2554.93	2544.3	2544.3	4	62.05	255.96	0.0986	1.7898	0	0	0	0.0986	0	0.0551
87	118	MAN	4	2542.13	2542.13	2536.15	2536.15	4	79.05	343.44	0.1569	1.9486	0	0	0	0.1569	0	0.0805
88	119	MAN	4	2538.63	2538.63	2531.73	2531.73	4	79.05	343.44	0.1544	1.9177	0	0	0	0.1544	0	0.0805
89	120	MAN	4	2536.63	2536.63	2530.53	2530.53	4	79.05	343.44	0.1533	1.9039	0	0	0	0.1533	0	0.0805
90	121	MAN	4	2561.041	2561.041	2546.57	2546.57	4	0	0	0	0	0	0	0	0.0142	0	0
91	122	MAN	4	2557.394	2557.394	2534.76	2534.76	4	217.7	1091.88	0.398	1.8421	0	0	0	0.398	0	0.2161
92	123	MAN	4	2545.872	2545.872	2519.92	2519.92	4	88.45	366.12	0.1535	1.7706	0	0	0	0.1535	0	0.0867
93	124	MAN	4	2562.671	2562.671	2531.39	2531.39	4	259.4	1176.12	0.4257	1.8391	0	0	0	0.4257	0	0.2315
94	125	MAN	4	2543.31	2543.31	2533.45	2533.45	4	79.05	343.44	0.1546	1.92	0	0	0	0.1546	0	0.0805
95	126	MAN	4	2543.03	2543.03	2534.75	2534.75	4	79.05	343.44	0.1554	1.9296	0	0	0	0.1554	0	0.0805
96	127	MAN	4	2546.234	2546.234	2538.68	2538.68	4	79.05	343.44	0.159	1.9743	0	0	0	0.159	0	0.0805
97	128	MAN	4	2534.687	2534.687	2529.33	2529.33	4	84.85	343.44	0.1546	1.875	0	0	0	0.1546	0	0.0825
98	129	MAN	4	2552.538	2552.538	2538.89	2538.89	4	87.7	230.04	0.1008	1.7926	0	0	0	0.1008	0	0.0562

Results Existing Calibrated Model

G_ID	SY_NAME	SYTYPE	LENGTH	GRUP	GRDN	DES_INVUP	DES_INVDN	SIZE	SAN_AREA	SAN_POPULA	Q_OUT_SAN	FACTOR_SAN	Q_OUT_INF	Q_OUT_STO	Q_OUT_RAP	Q_OUT	VEL_MAX	Q_AVERAGE
99	130	MAN	4	2554.165	2554.165	2539.56	2539.56	4	87.7	230.04	0.1009	1.7932	0	0	0	0.1009	0	0.0563
100	131	MAN	4	2551.747	2551.747	2540.71	2540.71	4	76.7	230.04	0.0938	1.8154	0	0	0	0.0938	0	0.0517
101	132	MAN	4	2551.496	2551.496	2541.57	2541.57	4	76.7	230.04	0.0938	1.8155	0	0	0	0.0938	0	0.0517
102	133	MAN	4	2557.392	2557.392	2545.41	2545.41	4	26.7	0	0.0142	1.5863	0	0	0	0.0142	0	0.009
103	134	MAN	4	2558.169	2558.169	2545.33	2545.33	4	26.7	0	0.0142	1.5857	0	0	0	0.0142	0	0.009
104	135	MAN	4	2554.035	2554.035	2544.26	2544.26	4	26.7	0	0.0142	1.586	0	0	0	0.0142	0	0.009
105	136	MAN	4	2558.859	2558.859	2549.08	2549.08	4	0	0	0	0	0	0	0	0.0142	0	0
106	137	MAN	4	2556.342	2556.342	2543.7	2543.7	4	62.05	255.96	0.0983	1.7845	0	0	0	0.0983	0	0.0551
107	138	MAN	4	2556.641	2556.641	2543.46	2543.46	4	79.05	343.44	0.1711	2.1233	0	0	0	0.1711	0	0.0806
108	139	MAN	4	2557.534	2557.534	2543.08	2543.08	4	79.05	343.44	0.1663	2.0637	0	0	0	0.1663	0	0.0806
109	140	MAN	4	2553.828	2553.828	2541.98	2541.98	4	79.05	343.44	0.1619	2.0091	0	0	0	0.1619	0	0.0806
110	141	MAN	4	2556.055	2556.055	2547.87	2547.87	4	21	93.96	0.0319	1.8329	0	0	0	0.0319	0	0.0174
111	142	MAN	4	2524.12	2524.12	2516.49	2516.49	4	267.9	1179.36	0.4389	1.7707	0	0	0	0.4389	0	0.2479
112	143	MAN	4	2539.867	2539.867	2530.08	2530.08	4	259.4	1176.12	0.4248	1.8352	0	0	0	0.4248	0	0.2315
113	144	MAN	4	2529.83	2529.83	2525.66	2525.66	4	259.4	1176.12	0.4193	1.8108	0	0	0	0.4193	0	0.2315
114	145	MAN	4	2531.271	2531.271	2526.99	2526.99	4	259.4	1176.12	0.422	1.8225	0	0	0	0.422	0	0.2315
115	146	MAN	4	2536.379	2536.379	2524.37	2524.37	4	259.4	1176.12	0.4157	1.7958	0	0	0	0.4157	0	0.2315
116	147	MAN	4	2527.583	2527.583	2522.97	2522.97	4	259.4	1176.12	0.4124	1.7822	0	0	0	0.4124	0	0.2314
117	149	MAN	4	2529.54	2529.54	2521.58	2521.58	4	265.6	1176.12	0.4554	1.842	0	0	0	0.4554	0	0.2472
118	150	MAN	4	2529.082	2529.082	2520.63	2520.63	4	265.6	1176.12	0.4523	1.8288	0	0	0	0.4523	0	0.2473
119	151	MAN	4	2528.283	2528.283	2517.35	2517.35	4	267.9	1179.36	0.4422	1.7838	0	0	0	0.4422	0	0.2479
120	152	MAN	4	2519.166	2519.166	2512.43	2512.43	4	277.8	1202.04	0.4356	1.7292	0	0	0	0.4356	0	0.2519
121	153	MAN	4	2515.947	2515.947	2512.24	2512.24	4	279.4	1205.28	0.4357	1.7261	0	0	0	0.4357	0	0.2524
122	154	MAN	4	2542.518	2542.518	2521.59	2521.59	4	88.15	362.88	0.1533	1.7799	0	0	0	0.1533	0	0.0861
123	155	MAN	4	2517.036	2517.036	2510.03	2510.03	4	551.75	1577.88	0.573	1.6297	0	0	0	0.573	0	0.3516
124	156	MAN	4	2555.966	2555.966	2549.53	2549.53	4	21	93.96	0.0323	1.851	0	0	0	0.0323	0	0.0174
125	157	MAN	4	2555.172	2555.172	2545.14	2545.14	4	39.39	255.96	0.087	1.8307	0	0	0	0.087	0	0.0475
126	158	MAN	4	2555.35	2555.35	2546.19	2546.19	4	39.39	255.96	0.0874	1.8405	0	0	0	0.0874	0	0.0475
127	159	MAN	4	2557.751	2557.751	2547.17	2547.17	4	21	93.96	0.0317	1.8194	0	0	0	0.0317	0	0.0174
128	160	MAN	4	2560.923	2560.923	2552.43	2552.43	4	14	48.6	0.0168	1.8639	0	0	0	0.0168	0	0.009
129	161	MAN	4	2561.608	2561.608	2553.99	2553.99	4	14	48.6	0.0168	1.8648	0	0	0	0.0168	0	0.009
130	162	MAN	4	2565.821	2565.821	2555.43	2555.43	4	14	48.6	0.0168	1.8641	0	0	0	0.0168	0	0.009
131	163	MAN	4	2553.144	2553.144	2542.87	2542.87	4	26.7	0	0.0142	1.5862	0	0	0	0.0142	0	0.009
132	164	MAN	4	2552.227	2552.227	2541.54	2541.54	4	79.05	343.44	0.1613	2.0028	0	0	0	0.1613	0	0.0805
133	165	MAN	4	2561.472	2561.472	2532.81	2532.81	4	259.4	1176.12	0.4265	1.8414	0	0	0	0.4265	0	0.2316
134	166	MAN	4	2560.727	2560.727	2552.23	2552.23	4	19.2	81	0.028	1.8631	0	0	0	0.028	0	0.015
135	167	MAN	4	2544.16	2544.16	2537.33	2537.33	4	79.05	343.44	0.1576	1.9566	0	0	0	0.1576	0	0.0805
136	168	MAN	4	2555.68	2555.68	2536.22	2536.22	4	217.7	1091.88	0.3989	1.8444	0	0	0	0.3989	0	0.2162

Results Existing Calibrated Model

G_ID	SY_NAME	NORM_WS_DN	LINK_TIME	COST_TOTAL	HGL_UP	HGL_DN	HGL_MIDSTA	HGL_MID	SURCHARGE	N	QFULL	QMAX	EXCESSCAP	DEPTH	DOVERD	FROUDENUMBER	CRIT_DEPTH	SLOPE
1	100	2512.56	0.3592	0	2512.75	2512.607	33.078	2512.607	-0.633	0.0154	2.5484	2.3925	1.957	3.84	0.32	0.8155	0.28	0.00434
2	101	2510.37	2.7183	0	2511.47	2510.364	232.637	2510.645	-0.66	0.01537	2.3047	2.1637	1.7303	4.08	0.34	0.7785	0.275	0.00355
3	102	2509.92	0.0644	0	2510.27	2509.98	12.942	2509.98	-0.95	0.01526	10.5037	9.8612	9.2881	2.88	0.192	1.4843	0.3	0.02241
4	103	2530.56	2.872	0	2531.65	2530.53	231.387	2530.833	-1.74	0.01474	14.6064	13.7131	13.2873	3.12	0.13	0.8166	0.23	0.00353
5	104	2526.07	3.6968	0	2527.33	2526.025	298.787	2526.385	-0.66	0.01537	2.1765	2.0433	1.6214	4.08	0.34	0.7352	0.275	0.00316
6	105	2524.71	3.6899	0	2526	2524.734	393.5	2524.734	-0.636	0.01537	2.195	2.0607	1.6414	4.08	0.34	0.7414	0.275	0.00322
7	106	2523.46	2.8561	0	2524.71	2523.39	250.903	2523.773	-0.66	0.01537	2.3657	2.2209	1.8052	4.08	0.34	0.8094	0.27	0.00374
8	107	2529.55	4.8825	0	2530.75	2529.561	397.71	2529.561	-0.769	0.01535	2.1158	1.9864	1.8331	2.64	0.22	0.7547	0.165	0.00299
9	108	2542.25	2.8882	0	2543.3	2542.2	202.954	2542.512	-0.78	0.01535	2.4107	2.2632	2.097	2.64	0.22	0.8416	0.17	0.00388
10	109	2549.63	6.5741	0	2551.23	2549.636	399.226	2549.636	-0.727	0.01466	1.5039	1.4119	1.3795	1.2	0.12	0.8049	0.08	0.00399
11	110	2546.59	50.8261	0	2549.08	2546.59	609.913	2546.59	-1	0.012	2.4728	2.3215	2.3215	0	0	0	0	0.00408
12	111	2541.65	7.6117	0	2542.93	2541.72	326.248	2541.72	-1.37	0.01388	6.9493	6.5242	6.51	0.72	0.04	0.7586	0.05	0.00371
13	112	2539.7	4.8814	0	2540.85	2539.728	336.851	2539.728	-1.332	0.01458	6.5861	6.1832	6.0895	1.68	0.0933	0.7775	0.115	0.00333
14	113	2539.05	2.7826	0	2539.72	2539.038	156.761	2539.217	-1.34	0.01465	6.4602	6.0651	5.9641	1.92	0.1067	0.8246	0.12	0.00321
15	114	2536.36	6.9608	0	2539.03	2536.487	559.714	2536.487	-1.733	0.01437	16.5636	15.5505	15.4497	1.68	0.07	0.9314	0.115	0.00454
16	115	2554.12	7.4884	0	2555.51	2554.1	285.524	2554.467	-0.753	0.0146	1.4381	1.3501	1.3333	0.96	0.096	0.7898	0.06	0.00365
17	116	2531.65	2.5277	0	2533.07	2531.674	304.137	2531.674	-1.716	0.01474	16.6461	15.6281	15.2016	3.12	0.13	0.9307	0.23	0.00459
18	117	2533.03	2.3892	0	2534.98	2533.094	300.03	2533.094	-1.716	0.01465	19.4805	18.2891	17.8911	2.64	0.11	0.9838	0.22	0.00628
19	118	2519.47	3.3657	0	2520.97	2519.814	305.641	2519.814	-0.316	0.01537	2.38	2.2344	1.7822	4.08	0.34	0.7841	0.285	0.00378
20	119	2522	3.6655	0	2523.31	2521.965	300.975	2522.327	-0.66	0.01537	2.2112	2.0759	1.6634	4.08	0.34	0.7566	0.27	0.00326
21	120	2516.93	1.8426	0	2517.699	2516.873	159.324	2517.122	-0.66	0.01537	2.3285	2.186	1.7439	4.08	0.34	0.7767	0.28	0.00362
22	121	2511.47	2.706	0	2512.58	2511.496	302.838	2511.496	-0.634	0.01537	2.3151	2.1735	1.7378	4.08	0.34	0.7722	0.28	0.00358
23	122	2517.699	1.6095	0	2518.37	2517.726	177.925	2517.726	-0.633	0.01537	2.3277	2.1853	1.74	4.08	0.34	0.7764	0.28	0.00362
24	123	2521.06	2.1995	0	2521.94	2520.999	191.554	2521.28	-0.64	0.01534	2.2717	2.1327	1.6773	4.32	0.36	0.7778	0.285	0.00345
25	124	2527.36	3.4362	0	2528.82	2527.355	298.896	2527.725	-0.66	0.01537	2.3424	2.1991	1.7755	4.08	0.34	0.7912	0.275	0.00366
26	125	2528.8	2.825	0	2530.4	2528.845	342.595	2528.845	-0.635	0.0154	2.6072	2.4477	2.0229	3.84	0.32	0.8449	0.275	0.00454
27	126	2520.18	4.4964	0	2521.79	2520.145	303.429	2520.582	-0.8	0.0153	2.4414	2.292	2.1388	2.4	0.2	0.8115	0.165	0.00398
28	127	2526.73	4.4374	0	2528.33	2526.744	396.585	2526.744	-0.786	0.0153	2.4471	2.2973	2.1445	2.4	0.2	0.8134	0.165	0.004
29	128	2525.13	4.3845	0	2526.73	2525.144	393.459	2525.144	-0.786	0.0153	2.4569	2.3066	2.154	2.4	0.2	0.8167	0.165	0.00403
30	129	2523.53	4.3845	0	2525.13	2523.545	393.325	2523.545	-0.785	0.0153	2.4569	2.3066	2.1548	2.4	0.2	0.8167	0.165	0.00403
31	130	2552.41	0.5097	0	2552.51	2552.39	19.796	2552.435	-0.753	0.0146	1.4649	1.3753	1.3585	0.96	0.096	0.8045	0.06	0.00379
32	131	2552.59	6.3488	0	2554.07	2552.57	261.173	2552.96	-0.753	0.0146	1.5516	1.4566	1.4398	0.96	0.096	0.8521	0.06	0.00425
33	132	2548.02	6.9408	0	2549.63	2548	312.245	2548.423	-0.733	0.01466	1.48	1.3895	1.3572	1.2	0.12	0.7921	0.08	0.00387
34	133	2547.27	3.0859	0	2547.97	2547.276	182.239	2547.276	-0.728	0.01466	1.469	1.3791	1.3472	1.2	0.12	0.7862	0.08	0.00381
35	134	2546.29	4.1937	0	2547.27	2546.361	233.886	2546.361	-0.662	0.01466	1.4837	1.3929	1.3612	1.2	0.12	0.794	0.08	0.00389
36	135	2544.46	2.8614	0	2545.3	2544.49	211.166	2544.49	-0.643	0.01526	1.474	1.3838	1.2968	1.92	0.192	0.7811	0.13	0.00384
37	136	2545.3	3.6152	0	2546.35	2545.311	272.836	2545.311	-0.662	0.01526	1.4687	1.3789	1.2914	1.92	0.192	0.7784	0.13	0.00381
38	137	2551.28	4.434	0	2552.33	2551.255	200.85	2551.542	-0.733	0.01466	1.4903	1.3991	1.3711	1.2	0.12	0.8363	0.075	0.00392
39	138	2543.88	1.8827	0	2544.48	2543.871	115.973	2544.03	-0.653	0.01534	1.4825	1.3918	1.2932	2.16	0.216	0.8122	0.14	0.00388
40	139	2543.67	0.5927	0	2543.86	2543.694	41.44	2543.694	-0.816	0.01511	2.4506	2.3007	2.2023	1.92	0.16	0.7984	0.135	0.00401
41	140	2543.35	0.9369	0	2543.68	2543.313	65.147	2543.432	-0.78	0.01535	2.3854	2.2395	2.0683	2.64	0.22	0.8155	0.175	0.0038
42	141	2541.79	1.1536	0	2542.18	2541.76	76.373	2541.887	-0.8	0.0153	2.3951	2.2485	2.0867	2.4	0.2	0.7791	0.17	0.00383
43	142	2540.28	4.048	0	2541.74	2540.25	273.83	2540.645	-0.8	0.0153	2.4473	2.2976	2.1363	2.4	0.2	0.7961	0.17	0.004
44	143	2537.58	3.5948	0	2538.88	2537.55	243.39	2537.905	-0.8	0.0153	2.4495	2.2996	2.1406	2.4	0.2	0.7969	0.17	0.00401
45	144	2536.35	3.2536	0	2537.53	2536.365	290.196	2536.365	-0.785	0.0153	2.4518	2.3018	2.1443	2.4	0.2	0.815	0.165	0.00401
46	145	2535	3.7177	0	2536.35	2534.965	252.058	2535.338	-0.8	0.0153	2.4528	2.3028	2.1459	2.4	0.2	0.8153	0.165	0.00402
47	146	2534.54	1.1494	0	2534.95	2534.505	77.467	2534.642	-0.8	0.0153	2.4383	2.2891	2.1337	2.4	0.2	0.8105	0.165	0.00397
48	147	2531.93	4.7861	0	2533.65	2531.961	423.328	2531.961	-0.769	0.0153	2.4443	2.2948	2.1402	2.4	0.2	0.8125	0.165	0.00399
49	148	2530.75	4.8553	0	2531.95	2530.761	396.297	2530.761	-0.769	0.01535	2.1197	1.99	1.8356	2.64	0.22	0.7561	0.165	0.003

Results Existing Calibrated Model

G_ID	SY_NAME	NORM_WS_DN	LINK_TIME	COST_TOTAL	HGL_UP	HGL_DN	HGL_MIDSTA	HGL_MID	SURCHARGE	N	QFULL	QMAX	EXCESSCAP	DEPTH	DOVERD	FROUDENUMBER	CRIT_DEPTH	SLOPE
50	149	2528.35	4.8553	0	2529.55	2528.344	300	2528.65	-0.78	0.01535	2.1197	1.99	1.8355	2.64	0.22	0.7561	0.165	0.003
51	150	2521.91	4.4067	0	2523.53	2521.875	300	2522.315	-0.8	0.0153	2.4629	2.3122	2.1576	2.4	0.2	0.8187	0.165	0.00405
52	151	2518.68	4.674	0	2520.12	2518.645	300	2519.04	-0.8	0.0153	2.3221	2.18	2.0265	2.4	0.2	0.7718	0.165	0.0036
53	152	2517.08	4.3372	0	2518.63	2517.097	385.748	2517.097	-0.783	0.0153	2.4398	2.2905	2.1363	2.4	0.2	0.811	0.165	0.00397
54	153	2515.53	4.3372	0	2517.08	2515.5	292.5	2515.917	-0.8	0.0153	2.4398	2.2905	2.1255	2.4	0.2	0.7937	0.17	0.00397
55	154	2513.68	4.4342	0	2515.28	2513.65	300	2514.08	-0.8	0.0153	2.4477	2.2979	2.1326	2.4	0.2	0.7963	0.17	0.004
56	155	2512.53	2.9657	0	2513.63	2512.547	265.872	2512.547	-0.783	0.0153	2.4702	2.3191	2.1542	2.4	0.2	0.8036	0.17	0.00407
57	156	2510.93	4.4342	0	2512.53	2510.947	395.826	2510.947	-0.783	0.0153	2.4477	2.2979	2.1333	2.4	0.2	0.7963	0.17	0.004
58	157	2510.23	1.8913	0	2510.93	2510.364	139.177	2510.364	-0.666	0.0153	2.4685	2.3174	2.1534	2.4	0.2	0.803	0.17	0.00407
59	158	2512.77	3.5285	0	2514.17	2512.781	396.754	2512.781	-0.649	0.01537	2.2896	2.1495	1.7135	4.08	0.34	0.7637	0.28	0.0035
60	159	2514.17	3.5285	0	2515.57	2514.197	392.398	2514.197	-0.633	0.01537	2.2896	2.1495	1.7142	4.08	0.34	0.7637	0.28	0.0035
61	160	2515.59	3.6294	0	2516.85	2515.597	399.895	2515.597	-0.633	0.01534	2.1667	2.0342	1.5953	4.32	0.36	0.7511	0.28	0.00313
62	161	2518.39	3.4178	0	2519.79	2518.398	397.785	2518.398	-0.632	0.01534	2.2896	2.1495	1.7013	4.32	0.36	0.7937	0.28	0.0035
63	162	2535	2.7529	0	2536.46	2535.015	317.769	2535.015	-1.745	0.01466	16.5724	15.5588	15.1599	2.88	0.12	0.9002	0.22	0.00455
64	163	2540.85	4.0076	0	2541.71	2540.86	271.552	2540.86	-1.35	0.01458	6.3843	5.9938	5.9	1.68	0.0933	0.7537	0.115	0.00313
65	164	2542.93	6.4636	0	2544.32	2542.933	309.742	2542.933	-0.937	0.01431	2.59	2.4315	2.4173	0.72	0.06	0.7469	0.055	0.00448
66	165	2544.32	5.9525	0	2545.47	2544.324	274.777	2544.324	-0.936	0.01431	2.4991	2.3462	2.332	0.72	0.06	0.7207	0.055	0.00417
67	166	2545.57	2.9676	0	2545.625	2545.625	0	2545.625	-0.705	0.012	0	0	0	0	0	0	0.055	-0.00674
68	167	2545.36	25.8126	0	2546.57	2545.625	241.903	2545.625	-0.735	0.012	2.4188	2.2709	2.2709	0	0	0	0	0.00391
69	100	0	0	0	2511.496	2511.496	0	2511.496	-3.134									
70	101	0	0	0	2514.197	2514.197	0	2514.197	-5.933									
71	102	0	0	0	2515.597	2515.597	0	2515.597	-5.033									
72	103	0	0	0	2518.398	2518.398	0	2518.398	-5.482									
73	104	0	0	0	2519.814	2519.814	0	2519.814	-10.316									
74	105	0	0	0	2528.845	2528.845	0	2528.845	-4.785									
75	106	0	0	0	2523.545	2523.545	0	2523.545	-5.085									
76	107	0	0	0	2528.344	2528.344	0	2528.344	-3.586									
77	108	0	0	0	2526.744	2526.744	0	2526.744	-3.886									
78	109	0	0	0	2525.144	2525.144	0	2525.144	-4.986									
79	110	0	0	0	2513.647	2513.647	0	2513.647	-7.483									
80	111	0	0	0	2510.947	2510.947	0	2510.947	-7.183									
81	112	0	0	0	2512.547	2512.547	0	2512.547	-7.583									
82	113	0	0	0	2515.297	2515.297	0	2515.297	-21.833									
83	114	0	0	0	2517.097	2517.097	0	2517.097	-25.733									
84	115	0	0	0	2518.645	2518.645	0	2518.645	-26.685									
85	116	0	0	0	2551.236	2551.236	0	2551.236	-7.894									
86	117	0	0	0	2544.49	2544.49	0	2544.49	-10.44									
87	118	0	0	0	2536.365	2536.365	0	2536.365	-5.765									
88	119	0	0	0	2531.961	2531.961	0	2531.961	-6.669									
89	120	0	0	0	2530.761	2530.761	0	2530.761	-5.869									
90	121	0	0	0	2546.57	2546.57	0	2546.57	-14.471									
91	122	0	0	0	2535.015	2535.015	0	2535.015	-22.379									
92	123	0	0	0	2520.135	2520.135	0	2520.135	-25.737									
93	124	0	0	0	2531.674	2531.674	0	2531.674	-30.997									
94	125	0	0	0	2533.665	2533.665	0	2533.665	-9.645									
95	126	0	0	0	2534.965	2534.965	0	2534.965	-8.065									
96	127	0	0	0	2538.896	2538.896	0	2538.896	-7.338									
97	128	0	0	0	2529.561	2529.561	0	2529.561	-5.126									
98	129	0	0	0	2539.038	2539.038	0	2539.038	-13.5									

Results Existing Calibrated Model

G_ID	SY_NAME	NORM_WS_DN	LINK_TIME	COST_TOTAL	HGL_UP	HGL_DN	HGL_MIDSTA	HGL_MID	SURCHARGE	N	QFULL	QMAX	EXCESSCAP	DEPTH	DOVERD	FROUDENUMBER	CRIT_DEPTH	SLOPE
99	130	0	0	0	2539.728	2539.728	0	2539.728	-14.437									
100	131	0	0	0	2540.86	2540.86	0	2540.86	-10.887									
101	132	0	0	0	2541.72	2541.72	0	2541.72	-9.776									
102	133	0	0	0	2545.474	2545.474	0	2545.474	-11.918									
103	134	0	0	0	2545.625	2545.625	0	2545.625	-12.544									
104	135	0	0	0	2544.324	2544.324	0	2544.324	-9.711									
105	136	0	0	0	2549.08	2549.08	0	2549.08	-9.779									
106	137	0	0	0	2543.871	2543.871	0	2543.871	-12.471									
107	138	0	0	0	2543.694	2543.694	0	2543.694	-12.947									
108	139	0	0	0	2543.313	2543.313	0	2543.313	-14.221									
109	140	0	0	0	2542.196	2542.196	0	2542.196	-11.632									
110	141	0	0	0	2547.976	2547.976	0	2547.976	-8.079									
111	142	0	0	0	2516.873	2516.873	0	2516.873	-7.247									
112	143	0	0	0	2530.43	2530.43	0	2530.43	-9.437									
113	144	0	0	0	2526.025	2526.025	0	2526.025	-3.805									
114	145	0	0	0	2527.355	2527.355	0	2527.355	-3.916									
115	146	0	0	0	2524.734	2524.734	0	2524.734	-11.645									
116	147	0	0	0	2523.334	2523.334	0	2523.334	-4.249									
117	149	0	0	0	2521.965	2521.965	0	2521.965	-7.575									
118	150	0	0	0	2520.999	2520.999	0	2520.999	-8.083									
119	151	0	0	0	2517.726	2517.726	0	2517.726	-10.557									
120	152	0	0	0	2512.781	2512.781	0	2512.781	-6.385									
121	153	0	0	0	2512.607	2512.607	0	2512.607	-3.34									
122	154	0	0	0	2521.805	2521.805	0	2521.805	-20.713									
123	155	0	0	0	2510.364	2510.364	0	2510.364	-6.672									
124	156	0	0	0	2549.636	2549.636	0	2549.636	-6.33									
125	157	0	0	0	2545.311	2545.311	0	2545.311	-9.861									
126	158	0	0	0	2546.361	2546.361	0	2546.361	-8.989									
127	159	0	0	0	2547.276	2547.276	0	2547.276	-10.475									
128	160	0	0	0	2552.513	2552.513	0	2552.513	-8.41									
129	161	0	0	0	2554.073	2554.073	0	2554.073	-7.535									
130	162	0	0	0	2555.516	2555.513	0	2555.516	-10.305									
131	163	0	0	0	2542.933	2542.933	0	2542.933	-10.211									
132	164	0	0	0	2541.756	2541.756	0	2541.756	-10.471									
133	165	0	0	0	2533.094	2533.094	0	2533.094	-28.378									
134	166	0	0	0	2552.334	2552.334	0	2552.334	-8.393									
135	167	0	0	0	2537.545	2537.545	0	2537.545	-6.615									
136	168	0	0	0	2536.487	2536.487	0	2536.487	-19.193									

RESULTS 40 Year Model

G_ID	SY_NAME	SYTYPE	LENGTH	GRUP	GRDN	DES_INVUP	DES_INVDN	SIZE	SAN_AREA	SAN_POPULA	Q_OUT_SAN	FACTOR_SAN	Q_OUT_INF	Q_OUT_STO	Q_OUT_RAP	Q_OUT	VEL_MAX	Q_AVERAGE
2	101	EPI	310.1821	2514.63	2517.036	2511.13	2510.03	12	279.4	1863	0.6457	1.7128	0	0	0	0.6465	2.1393	0.3775
3	102	EPI	15.6198	2517.036	2512.38	2510.03	2509.68	15	553.35	3350.16	1.1251	1.623	0	0	0	1.1257	4.7309	0.6936
4	103	EPI	308.5155	2562.67	2539.87	2531.39	2530.3	24	217.7	1441.8	0.5189	1.838	0	0	0	0.5203	1.9148	0.2831
5	104	EPI	398.3823	2531.27	2529.83	2526.99	2525.73	12	259.4	1736.64	0.6137	1.8249	0	0	0	0.6168	2.0203	0.338
6	105	EPI	401.0188	2529.83	2536.38	2525.66	2524.37	12	259.4	1736.64	0.6099	1.8152	0	0	0	0.6137	2.0375	0.3381
7	106	EPI	334.5367	2536.38	2527.58	2524.37	2523.12	12	259.4	1736.64	0.6054	1.8035	0	0	0	0.6099	2.1363	0.3382
8	107	EPI	401.4895	2536.63	2534.69	2530.53	2529.33	12	80.65	1049.76	0.3696	1.6751	0	0	0	0.3707	1.746	0.2213
9	108	EPI	270.6048	2557.53	2553.83	2543.08	2542.03	12	79.05	936.36	0.3662	1.8584	0	0	0	0.3723	1.9231	0.2004
10	109	EPI	400.697	2559.13	2555.97	2551.13	2549.53	10	21	686.88	0.2339	1.8494	0	0	0	0.2354	1.703	0.1273
11	110	EPI	609.9127	2558.86	2561.04	2549.08	2546.59	12	0	0	0	0	0	0	0	0.0178	0.2	0
12	111	EPI	345.0857	2553.14	2551.5	2542.87	2541.59	18	26.7	0	0.0177	1.5863	0	0	0	0.0177	0.7556	0.0112
13	112	EPI	345.1719	2551.75	2554.17	2540.71	2539.56	18	76.7	320.76	0.1286	1.8206	0	0	0	0.1288	1.2763	0.0707
14	113	EPI	209.0147	2554.17	2552.54	2539.56	2538.89	18	87.7	579.96	0.2252	1.8271	0	0	0	0.2255	1.4902	0.1234
15	114	EPI	587.6786	2552.54	2555.68	2538.89	2536.22	24	87.7	579.96	0.225	1.8254	0	0	0	0.2252	1.6327	0.1234
16	115	EPI	380.6988	2565.82	2561.61	2555.43	2554.04	10	14	641.52	0.2215	1.8646	0	0	0	0.2219	1.6285	0.119
17	116	EPI	309.4552	2561.47	2562.67	2532.81	2531.39	24	217.7	1441.8	0.5203	1.8412	0	0	0	0.5214	2.1136	0.2832
18	117	EPI	310.2921	2557.39	2561.47	2534.76	2532.81	24	217.7	1441.8	0.5214	1.8436	0	0	0	0.5222	2.3878	0.2833
19	118	EPI	396.6121	2529.08	2530.13	2520.63	2519.13	12	265.6	1736.64	0.6387	1.8185	0	0	0	0.644	2.2092	0.3541
20	119	EPI	401.3001	2527.58	2529.54	2522.97	2521.66	12	259.4	1736.64	0.6007	1.7901	0	0	0	0.6054	2.0525	0.3382
21	120	EPI	212.4314	2528.28	2524.12	2517.359	2516.59	12	267.9	1739.88	0.6271	1.7802	0	0	0	0.6314	2.1614	0.3547
22	121	EPI	310.1821	2515.947	2514.63	2512.24	2511.13	12	279.4	1863	0.6465	1.7171	0	0	0	0.6482	2.149	0.3775
23	122	EPI	185.4892	2523.88	2528.28	2518.03	2517.359	12	267.9	1739.88	0.6314	1.7878	0	0	0	0.6342	2.1606	0.3547
24	123	EPI	255.405	2529.54	2529.08	2521.58	2520.7	12	265.6	1736.64	0.644	1.8305	0	0	0	0.648	2.1087	0.354
25	124	EPI	398.5285	2533.63	2531.27	2528.48	2527.02	12	259.4	1736.64	0.6168	1.8328	0	0	0	0.6192	2.1153	0.3378
26	125	EPI	352.5351	2539.87	2533.63	2530.08	2528.48	12	259.4	1736.64	0.6192	1.8375	0	0	0	0.6209	2.2891	0.3379
27	126	EPI	404.5718	2542.52	2545.87	2521.59	2519.98	12	89.75	1477.44	0.4778	1.5917	0	0	0	0.482	2.0799	0.3028
28	127	EPI	400.1964	2531.93	2530.63	2528.13	2526.53	12	86.45	1049.76	0.3691	1.6609	0	0	0	0.3709	1.8819	0.2233
29	128	EPI	397.006	2530.63	2530.13	2526.53	2524.93	12	86.45	1049.76	0.3683	1.6525	0	0	0	0.3691	1.8894	0.2233
30	129	EPI	397.006	2530.13	2528.63	2524.93	2523.33	12	86.45	1049.76	0.3679	1.6493	0	0	0	0.3683	1.8894	0.2233
31	130	EPI	26.3942	2560.92	2560.73	2552.43	2552.33	10	14	641.52	0.2206	1.8577	0	0	0	0.2209	1.6589	0.1189
32	131	EPI	348.2312	2561.61	2560.92	2553.99	2552.51	10	14	641.52	0.2209	1.8621	0	0	0	0.2215	1.757	0.1189
33	132	EPI	416.327	2555.97	2556.06	2549.53	2547.92	10	21	686.88	0.2319	1.837	0	0	0	0.2339	1.676	0.1273
34	133	EPI	183.7288	2556.06	2557.75	2547.87	2547.17	10	21	686.88	0.2306	1.8215	0	0	0	0.2319	1.6635	0.1273
35	134	EPI	252.1698	2557.75	2555.35	2547.17	2546.19	10	21	686.88	0.2286	1.8105	0	0	0	0.2306	1.6801	0.1274
36	135	EPI	219	2555.17	2554.93	2545.14	2544.3	10	39.39	848.88	0.281	1.7957	0	0	0	0.2826	1.8082	0.1574
37	136	EPI	275.709	2555.35	2555.17	2546.19	2545.14	10	39.39	848.88	0.2826	1.8094	0	0	0	0.2847	1.8018	0.1574
38	137	EPI	267.8	2560.73	2559.13	2552.23	2551.18	10	19.2	673.92	0.2309	1.8567	0	0	0	0.2318	1.6876	0.1249
39	138	EPI	154.6306	2554.93	2556.34	2544.3	2543.7	10	62.05	848.88	0.3075	1.7642	0	0	0	0.3086	1.8187	0.1749
40	139	EPI	47.3869	2556.34	2556.64	2543.7	2543.51	12	62.05	848.88	0.307	1.758	0	0	0	0.3075	1.814	0.1749
41	140	EPI	86.8626	2556.64	2557.53	2543.46	2543.13	12	79.05	936.36	0.3723	1.8816	0	0	0	0.3769	1.9029	0.2003
42	141	EPI	101.8304	2553.83	2552.23	2541.98	2541.59	12	79.05	936.36	0.363	1.8288	0	0	0	0.3662	1.9106	0.2003
43	142	EPI	365.1068	2552.23	2546.23	2541.54	2540.08	12	79.05	936.36	0.3575	1.8129	0	0	0	0.363	1.8821	0.2002
44	143	EPI	324.5194	2546.23	2544.16	2538.68	2537.38	12	79.05	936.36	0.357	1.786	0	0	0	0.3575	1.8837	0.2002
45	144	EPI	294	2544.16	2542.13	2537.33	2536.15	12	79.05	936.36	0.3554	1.7836	0	0	0	0.357	1.8855	0.2002
46	145	EPI	336.0767	2542.13	2541.23	2536.15	2534.8	12	79.05	936.36	0.3532	1.7754	0	0	0	0.3554	1.8863	0.2002
47	146	EPI	103.2889	2541.23	2541.93	2534.75	2534.34	12	79.05	936.36	0.352	1.7642	0	0	0	0.3532	1.8751	0.2002
48	147	EPI	431.1669	2541.93	2538.63	2533.45	2531.73	12	79.05	936.36	0.3488	1.7577	0	0	0	0.352	1.8798	0.2003
49	148	EPI	400	2538.63	2536.63	2531.73	2530.53	12	79.05	936.36	0.3486	1.7419	0	0	0	0.3488	1.691	0.2002
50	149	EPI	400	2534.69	2531.93	2529.33	2528.13	12	86.45	1049.76	0.3709	1.6691	0	0	0	0.3727	1.7492	0.2233

RESULTS 40 Year Model

G_ID	SY_NAME	SYTYPE	LENGTH	GRUP	GRDN	DES_INVUP	DES_INVDN	SIZE	SAN_AREA	SAN_POPULA	Q_OUT_SAN	FACTOR_SAN	Q_OUT_INF	Q_OUT_STO	Q_OUT_RAP	Q_OUT	VEL_MAX	Q_AVERAGE
51	150	EPI	400	2528.63	2542.52	2523.33	2521.71	12	89.75	1069.2	0.371	1.6375	0	0	0	0.3717	1.8941	0.227
52	151	EPI	400	2545.87	2545.33	2519.92	2518.48	12	90.05	1480.68	0.4751	1.5779	0	0	0	0.4789	1.9782	0.3035
53	152	EPI	390	2545.33	2542.83	2518.43	2516.88	12	92.05	1487.16	0.4738	1.5662	0	0	0	0.4773	2.0785	0.3048
54	153	EPI	390	2542.83	2537.13	2516.88	2515.33	12	273.95	1487.16	0.4916	1.5652	0	0	0	0.495	2.0785	0.3162
55	154	EPI	400	2537.13	2521.13	2515.08	2513.48	12	273.95	1487.16	0.4883	1.5546	0	0	0	0.4916	2.0852	0.3162
56	155	EPI	270	2521.13	2520.13	2513.43	2512.33	12	273.95	1487.16	0.486	1.5442	0	0	0	0.4883	2.1045	0.3162
57	156	EPI	400	2520.13	2518.13	2512.33	2510.73	12	273.95	1487.16	0.4828	1.5365	0	0	0	0.486	2.0852	0.3163
58	157	EPI	172.0645	2518.13	2517.036	2510.73	2510.03	12	273.95	1487.16	0.4812	1.5265	0	0	0	0.4828	2.103	0.3163
59	158	EPI	400	2520.13	2519.166	2513.83	2512.43	12	274.4	1853.28	0.6463	1.7389	0	0	0	0.6534	2.1253	0.3757
60	159	EPI	400	2520.63	2520.13	2515.23	2513.83	12	269.6	1843.56	0.65	1.7563	0	0	0	0.6568	2.1253	0.374
61	160	EPI	401.9734	2524.12	2520.63	2516.49	2515.23	12	267.9	1739.88	0.6209	1.7682	0	0	0	0.6271	2.0112	0.3546
62	161	EPI	400	2530.13	2523.88	2519.43	2518.03	12	265.6	1736.64	0.6331	1.8037	0	0	0	0.6387	2.1253	0.3541
63	162	EPI	321.0111	2555.68	2557.39	2536.22	2534.76	24	217.7	1441.8	0.5222	1.8468	0	0	0	0.5233	2.1043	0.2833
64	163	EPI	274.706	2551.5	2551.75	2541.57	2540.71	18	76.7	320.76	0.1288	1.8201	0	0	0	0.1288	1.331	0.0707
65	164	EPI	310.3616	2554.04	2553.14	2544.26	2542.87	12	26.7	0	0.0177	1.5862	0	0	0	0.0178	0.9535	0.0112
66	165	EPI	275.7888	2557.39	2554.04	2545.41	2544.26	12	26.7	0	0.0178	1.5863	0	0	0	0.0178	0.9201	0.0112
67	166	EPI	35.6112	2558.17	2557.39	2545.33	2545.57	12	26.7	0	0.0178	1.5862	0	0	0	0.0178	0.2	0.0112
68	167	EPI	309.7516	2561.04	2558.17	2546.57	2545.36	12	0	0	0	0	0	0	0	0.0178	0.2	0
75	106	MAN	4	2528.63	2528.63	2523.33	2523.33	4	89.75	1069.2	0.3717	1.6381	0	0	0	0.3717	0	0.2269
76	107	MAN	4	2531.93	2531.93	2528.13	2528.13	4	86.45	1049.76	0.3709	1.6609	0	0	0	0.3709	0	0.2233
77	108	MAN	4	2530.63	2530.63	2526.53	2526.53	4	86.45	1049.76	0.3691	1.6525	0	0	0	0.3691	0	0.2233
78	109	MAN	4	2530.13	2530.13	2524.93	2524.93	4	86.45	1049.76	0.3683	1.6493	0	0	0	0.3683	0	0.2233
79	110	MAN	4	2521.13	2521.13	2513.43	2513.43	4	273.95	1487.16	0.4883	1.5442	0	0	0	0.4883	0	0.3162
80	111	MAN	4	2518.13	2518.13	2510.73	2510.73	4	273.95	1487.16	0.4828	1.5265	0	0	0	0.4828	0	0.3163
81	112	MAN	4	2520.13	2520.13	2512.33	2512.33	4	273.95	1487.16	0.486	1.5365	0	0	0	0.486	0	0.3163
82	113	MAN	4	2537.13	2537.13	2515.08	2515.08	4	273.95	1487.16	0.4916	1.5546	0	0	0	0.4916	0	0.3162
83	114	MAN	4	2542.83	2542.83	2516.88	2516.88	4	273.95	1487.16	0.495	1.5652	0	0	0	0.495	0	0.3162
84	115	MAN	4	2545.33	2545.33	2518.43	2518.43	4	92.05	1487.16	0.4773	1.5666	0	0	0	0.4773	0	0.3047
85	116	MAN	4	2559.13	2559.13	2551.13	2551.13	4	21	686.88	0.2354	1.8493	0	0	0	0.2354	0	0.1273
86	117	MAN	4	2554.93	2554.93	2544.3	2544.3	4	62.05	848.88	0.3086	1.7641	0	0	0	0.3086	0	0.1749
87	118	MAN	4	2542.13	2542.13	2536.15	2536.15	4	79.05	936.36	0.3554	1.7754	0	0	0	0.3554	0	0.2002
88	119	MAN	4	2538.63	2538.63	2531.73	2531.73	4	79.05	936.36	0.3488	1.7419	0	0	0	0.3488	0	0.2002
89	120	MAN	4	2536.63	2536.63	2530.53	2530.53	4	80.65	1049.76	0.3707	1.6752	0	0	0	0.3707	0	0.2213
90	121	MAN	4	2561.041	2561.041	2546.57	2546.57	4	0	0	0	0	0	0	0	0.0178	0	0
91	122	MAN	4	2557.394	2557.394	2534.76	2534.76	4	217.7	1441.8	0.5222	1.8436	0	0	0	0.5222	0	0.2833
92	123	MAN	4	2545.872	2545.872	2519.92	2519.92	4	90.05	1480.68	0.4789	1.5784	0	0	0	0.4789	0	0.3034
93	124	MAN	4	2562.671	2562.671	2531.39	2531.39	4	217.7	1441.8	0.5203	1.838	0	0	0	0.5203	0	0.2831
94	125	MAN	4	2543.31	2543.31	2533.45	2533.45	4	79.05	936.36	0.352	1.7577	0	0	0	0.352	0	0.2003
95	126	MAN	4	2543.03	2543.03	2534.75	2534.75	4	79.05	936.36	0.3532	1.7642	0	0	0	0.3532	0	0.2002
96	127	MAN	4	2546.234	2546.234	2538.68	2538.68	4	79.05	936.36	0.3575	1.786	0	0	0	0.3575	0	0.2002
97	128	MAN	4	2534.687	2534.687	2529.33	2529.33	4	86.45	1049.76	0.3727	1.6692	0	0	0	0.3727	0	0.2233
98	129	MAN	4	2552.538	2552.538	2538.89	2538.89	4	87.7	579.96	0.2252	1.8254	0	0	0	0.2252	0	0.1234
99	130	MAN	4	2554.165	2554.165	2539.56	2539.56	4	87.7	579.96	0.2255	1.8271	0	0	0	0.2255	0	0.1234
100	131	MAN	4	2551.747	2551.747	2540.71	2540.71	4	76.7	320.76	0.1288	1.8206	0	0	0	0.1288	0	0.0707
101	132	MAN	4	2551.496	2551.496	2541.57	2541.57	4	76.7	320.76	0.1288	1.82	0	0	0	0.1288	0	0.0707
102	133	MAN	4	2557.392	2557.392	2545.41	2545.41	4	26.7	0	0.0178	1.5863	0	0	0	0.0178	0	0.0112
103	134	MAN	4	2558.169	2558.169	2545.33	2545.33	4	26.7	0	0.0178	1.5857	0	0	0	0.0178	0	0.0112
104	135	MAN	4	2554.035	2554.035	2544.26	2544.26	4	26.7	0	0.0178	1.5862	0	0	0	0.0178	0	0.0112
105	136	MAN	4	2558.859	2558.859	2549.08	2549.08	4	0	0	0	0	0	0	0	0.0178	0	0

RESULTS 40 Year Model

G_ID	SY_NAME	SYTYPE	LENGTH	GRUP	GRDN	DES_INVUP	DES_INVDN	SIZE	SAN_AREA	SAN_POPULA	Q_OUT_SAN	FACTOR_SAN	Q_OUT_INF	Q_OUT_STO	Q_OUT_RAP	Q_OUT	VEL_MAX	Q_AVERAGE
106	137	MAN	4	2556.342	2556.342	2543.7	2543.7	4	62.05	848.88	0.3075	1.758	0	0	0	0.3075	0	0.1749
107	138	MAN	4	2556.641	2556.641	2543.46	2543.46	4	79.05	936.36	0.3769	1.8817	0	0	0	0.3769	0	0.2003
108	139	MAN	4	2557.534	2557.534	2543.08	2543.08	4	79.05	936.36	0.3723	1.8584	0	0	0	0.3723	0	0.2004
109	140	MAN	4	2553.828	2553.828	2541.98	2541.98	4	79.05	936.36	0.3662	1.8288	0	0	0	0.3662	0	0.2003
110	141	MAN	4	2556.055	2556.055	2547.87	2547.87	4	21	686.88	0.2319	1.8215	0	0	0	0.2319	0	0.1273
111	142	MAN	4	2524.12	2524.12	2516.49	2516.49	4	267.9	1739.88	0.6271	1.7682	0	0	0	0.6271	0	0.3546
112	143	MAN	4	2539.867	2539.867	2530.08	2530.08	4	259.4	1736.64	0.6209	1.8381	0	0	0	0.6209	0	0.3378
113	144	MAN	4	2529.83	2529.83	2525.66	2525.66	4	259.4	1736.64	0.6137	1.8152	0	0	0	0.6137	0	0.3381
114	145	MAN	4	2531.271	2531.271	2526.99	2526.99	4	259.4	1736.64	0.6168	1.8249	0	0	0	0.6168	0	0.338
115	146	MAN	4	2536.379	2536.379	2524.37	2524.37	4	259.4	1736.64	0.6099	1.8035	0	0	0	0.6099	0	0.3382
116	147	MAN	4	2527.583	2527.583	2522.97	2522.97	4	259.4	1736.64	0.6054	1.7901	0	0	0	0.6054	0	0.3382
117	149	MAN	4	2529.54	2529.54	2521.58	2521.58	4	265.6	1736.64	0.648	1.831	0	0	0	0.648	0	0.3539
118	150	MAN	4	2529.082	2529.082	2520.63	2520.63	4	265.6	1736.64	0.644	1.8185	0	0	0	0.644	0	0.3541
119	151	MAN	4	2528.283	2528.283	2517.35	2517.35	4	267.9	1739.88	0.6314	1.7802	0	0	0	0.6314	0	0.3547
120	152	MAN	4	2519.166	2519.166	2512.43	2512.43	4	277.8	1859.76	0.6485	1.7212	0	0	0	0.6485	0	0.3768
121	153	MAN	4	2515.947	2515.947	2512.24	2512.24	4	279.4	1863	0.6482	1.7173	0	0	0	0.6482	0	0.3775
122	154	MAN	4	2542.518	2542.518	2521.59	2521.59	4	89.75	1477.44	0.482	1.5917	0	0	0	0.482	0	0.3028
123	155	MAN	4	2517.036	2517.036	2510.03	2510.03	4	553.35	3350.16	1.1257	1.623	0	0	0	1.1257	0	0.6936
124	156	MAN	4	2555.966	2555.966	2549.53	2549.53	4	21	686.88	0.2339	1.837	0	0	0	0.2339	0	0.1273
125	157	MAN	4	2555.172	2555.172	2545.14	2545.14	4	39.39	848.88	0.2826	1.7957	0	0	0	0.2826	0	0.1574
126	158	MAN	4	2555.35	2555.35	2546.19	2546.19	4	39.39	848.88	0.2847	1.8089	0	0	0	0.2847	0	0.1574
127	159	MAN	4	2557.751	2557.751	2547.17	2547.17	4	21	686.88	0.2306	1.8105	0	0	0	0.2306	0	0.1274
128	160	MAN	4	2560.923	2560.923	2552.43	2552.43	4	14	641.52	0.2209	1.8577	0	0	0	0.2209	0	0.1189
129	161	MAN	4	2561.608	2561.608	2553.99	2553.99	4	14	641.52	0.2215	1.8621	0	0	0	0.2215	0	0.1189
130	162	MAN	4	2565.821	2565.821	2555.43	2555.43	4	14	641.52	0.2219	1.8644	0	0	0	0.2219	0	0.119
131	163	MAN	4	2553.144	2553.144	2542.87	2542.87	4	26.7	0	0.0177	1.5863	0	0	0	0.0177	0	0.0112
132	164	MAN	4	2552.227	2552.227	2541.54	2541.54	4	79.05	936.36	0.363	1.8129	0	0	0	0.363	0	0.2002
133	165	MAN	4	2561.472	2561.472	2532.81	2532.81	4	217.7	1441.8	0.5214	1.8412	0	0	0	0.5214	0	0.2832
134	166	MAN	4	2560.727	2560.727	2552.23	2552.23	4	19.2	673.92	0.2318	1.8566	0	0	0	0.2318	0	0.1249
135	167	MAN	4	2544.16	2544.16	2537.33	2537.33	4	79.05	936.36	0.357	1.7836	0	0	0	0.357	0	0.2002
136	168	MAN	4	2555.68	2555.68	2536.22	2536.22	4	217.7	1441.8	0.5233	1.8466	0	0	0	0.5233	0	0.2834
138	100	EPI	43.8177	2519.17	2515.95	2512.43	2512.24	12	277.8	1859.76	0.6471	1.721	0	0	0	0.6485	2.3013	0.3768
139	200	DPI	1207.202	2541.68	2539.87	2532.74	2530.08	12	41.7	294.84	0.102	1.8647	0	0	0	0.102	1.1159	0.0547
147	205	DPI	1322.297	2675	2638	2660	2628	8	4.6	6.48	0.0022	1.8647	0	0	0	0.0022	0.9559	0.0012
148	206	DPI	1224.518	2642	2638	2631.4	2628	8	0	0	0	0	0	0	0	0.0178	0	0
149	201	DPI	1618.685	2551.88	2541.68	2540	2532.74	12	0	0	0	0	0	0	0	0.0178	0	0
150	202	DPI	2112.154	2534	2545.33	2523.07	2518.43	12	0	0	0	0	0	0	0	0.0178	0	0
151	203	DPI	326.1345	2576	2565.82	2566	2555.43	12	4.6	498.96	0.1727	1.8652	0	0	0	0.1727	3.2682	0.0926
152	204	DPI	2031.547	2638	2576	2628	2566	10	4.6	498.96	0.1727	1.8649	0	0	0	0.1727	3.3453	0.0926
153	100	MAN	4	2514.63	2514.63	2511.13	2511.13	4	279.4	1863	0.6465	1.7128	0	0	0	0.6465	0	0.3775
154	101	MAN	4	2520.13	2520.13	2513.83	2513.83	4	274.4	1853.28	0.6534	1.7392	0	0	0	0.6534	0	0.3757
155	102	MAN	4	2520.63	2520.63	2515.23	2515.23	4	269.6	1843.56	0.6568	1.7565	0	0	0	0.6568	0	0.3739
156	103	MAN	4	2523.88	2523.88	2518.03	2518.03	4	267.9	1739.88	0.6342	1.788	0	0	0	0.6342	0	0.3547
157	104	MAN	4	2530.13	2530.13	2519.43	2519.43	4	265.6	1736.64	0.6387	1.8037	0	0	0	0.6387	0	0.3541
158	105	MAN	4	2533.63	2533.63	2528.48	2528.48	4	259.4	1736.64	0.6192	1.8328	0	0	0	0.6192	0	0.3378
159	300	MAN	4	2551.88	2551.88	2540	2540	4	0	0	0	0	0	0	0	0.0178	0	0
160	301	MAN	4	2541.68	2541.68	2532.74	2532.74	4	41.7	294.84	0.102	1.8641	0	0	0	0.102	0	0.0547
161	302	MAN	4	2576	2576	2566	2566	4	4.6	498.96	0.1727	1.8652	0	0	0	0.1727	0	0.0926
162	303	MAN	4	2638	2638	2628	2628	4	4.6	498.96	0.1727	1.8641	0	0	0	0.1727	0	0.0926

RESULTS 40 Year Model

G_ID	SY_NAME	SYTYPE	LENGTH	GRUP	GRDN	DES_INVUP	DES_INVDN	SIZE	SAN_AREA	SAN_POPULA	Q_OUT_SAN	FACTOR_SAN	Q_OUT_INF	Q_OUT_STO	Q_OUT_RAP	Q_OUT	VEL_MAX	Q_AVERAGE
163	304	MAN	4	2675	2675	2660	2660	4	4.6	6.48	0.0022	1.8641	0	0	0	0.0022	0	0.0012
164	305	MAN	4	2534	2534	2523.07	2523.07	4	0	0	0	0	0	0	0	0.0178	0	0
165	306	MAN	4	2642	2642	2631.4	2631.4	4	0	0	0	0	0	0	0	0.0178	0	0

RESULTS 40 Year Model

G_ID	SY_NAME	NORM_WS_DN	LINK_TIME	COST_TOTAL	HGL_UP	HGL_DN	HGL_MIDSTA	HGL_MID	SURCHARGE	N	QFULL	QMAX	EXCESSCAP	DEPTH	DOVERD	FROUDENUMBER	CRIT_DEPTH	SLOPE
2	101	2510.45	2.4166	0	2511.55	2510.51	293.324	2510.51	-0.52	0.01521	2.3047	2.1637	1.5171	5.04	0.42	0.7718	0.34	0.00355
3	102	2510	0.055	0	2510.35	2510.105	10.934	2510.105	-0.825	0.01542	10.5037	9.8612	8.7354	3.84	0.256	1.4355	0.425	0.02241
4	103	2530.6	2.6853	0	2531.69	2530.55	231.387	2530.873	-1.7	0.01506	14.6064	13.7131	13.1927	3.6	0.15	0.8468	0.25	0.00353
5	104	2526.15	3.2865	0	2527.41	2526.11	298.787	2526.465	-0.58	0.01521	2.1765	2.0433	1.4265	5.04	0.42	0.744	0.33	0.00316
6	105	2524.79	3.2804	0	2526.08	2524.804	396.81	2524.804	-0.566	0.01521	2.195	2.0607	1.447	5.04	0.42	0.7503	0.33	0.00322
7	106	2523.52	2.61	0	2524.77	2523.45	250.903	2523.832	-0.6	0.01526	2.3657	2.2209	1.6111	4.8	0.4	0.7837	0.33	0.00374
8	107	2529.67	3.8325	0	2530.87	2529.689	394.986	2529.689	-0.641	0.01537	2.1158	1.9864	1.6157	4.08	0.34	0.7536	0.255	0.00299
9	108	2542.35	2.3452	0	2543.4	2542.322	202.954	2542.613	-0.68	0.0154	2.4107	2.2632	1.8909	3.84	0.32	0.8237	0.255	0.00388
10	109	2549.79	3.9214	0	2551.39	2549.81	395.66	2549.81	-0.553	0.01541	1.5039	1.4119	1.1765	3.12	0.312	0.7897	0.215	0.00399
11	110	2546.59	50.8261	0	2549.08	2546.59	609.913	2546.59	-1	0.012	2.4728	2.3215	2.3215	0	0	0	0	0.00408
12	111	2541.65	7.6117	0	2542.93	2541.759	315.724	2541.759	-1.331	0.01388	6.9493	6.5242	6.5064	0.72	0.04	0.7067	0.055	0.00371
13	112	2539.72	4.5075	0	2540.87	2539.795	322.588	2539.795	-1.265	0.01465	6.5861	6.1832	6.0545	1.92	0.1067	0.7708	0.135	0.00333
14	113	2539.11	2.3377	0	2539.78	2539.09	156.761	2539.277	-1.28	0.01501	6.4602	6.0651	5.8395	2.64	0.1467	0.7804	0.18	0.00321
15	114	2536.4	5.999	0	2539.07	2536.53	559.128	2536.53	-1.69	0.01454	16.5636	15.5505	15.3253	2.16	0.09	0.8767	0.165	0.00454
16	115	2554.3	3.8962	0	2555.69	2554.268	285.524	2554.648	-0.573	0.01541	1.4381	1.3501	1.1282	3.12	0.312	0.7678	0.21	0.00365
17	116	2531.67	2.4402	0	2533.09	2531.714	299.856	2531.714	-1.676	0.0149	16.6461	15.6281	15.1067	3.36	0.14	0.9215	0.25	0.00459
18	117	2533.07	2.1658	0	2535.02	2533.119	302.416	2533.119	-1.691	0.01474	19.4805	18.2891	17.7668	3.12	0.13	1.0248	0.25	0.00628
19	118	2519.55	2.9921	0	2521.05	2519.882	308.748	2519.882	-0.248	0.01521	2.38	2.2344	1.5905	5.04	0.42	0.7971	0.34	0.00378
20	119	2522.08	3.2587	0	2523.39	2522.033	300.975	2522.407	-0.58	0.01521	2.2112	2.0759	1.4705	5.04	0.42	0.7558	0.33	0.00326
21	120	2517.01	1.6381	0	2517.779	2516.941	159.324	2517.202	-0.58	0.01521	2.3285	2.186	1.5546	5.04	0.42	0.7877	0.335	0.00362
22	121	2511.55	2.4057	0	2512.66	2511.583	300.931	2511.583	-0.547	0.01521	2.3151	2.1735	1.5253	5.04	0.42	0.7753	0.34	0.00358
23	122	2517.779	1.4308	0	2518.45	2517.811	176.761	2517.811	-0.548	0.01521	2.3277	2.1853	1.5511	5.04	0.42	0.7875	0.335	0.00362
24	123	2521.12	2.0187	0	2522	2521.083	191.554	2521.34	-0.58	0.01521	2.2717	2.1327	1.4847	5.04	0.42	0.7608	0.34	0.00345
25	124	2527.42	3.1401	0	2528.88	2527.44	393.034	2527.44	-0.58	0.01526	2.3424	2.1991	1.5799	4.8	0.4	0.776	0.33	0.00366
26	125	2528.86	2.5667	0	2530.46	2528.915	340.511	2528.915	-0.565	0.0153	2.6072	2.4477	1.8268	4.56	0.38	0.8273	0.335	0.00454
27	126	2520.34	3.2419	0	2521.95	2520.307	303.429	2520.743	-0.64	0.01534	2.4414	2.292	1.81	4.32	0.36	0.8161	0.295	0.00398
28	127	2526.83	3.5443	0	2528.43	2526.857	393.464	2526.857	-0.673	0.01542	2.4471	2.2973	1.9265	3.6	0.3	0.7989	0.255	0.004
29	128	2525.23	3.502	0	2526.83	2525.257	390.356	2525.257	-0.673	0.01542	2.4569	2.3066	1.9375	3.6	0.3	0.8021	0.255	0.00403
30	129	2523.63	3.502	0	2525.23	2523.657	390.232	2523.657	-0.673	0.01542	2.4569	2.3066	1.9383	3.6	0.3	0.8021	0.255	0.00403
31	130	2552.59	0.2652	0	2552.69	2552.54	19.796	2552.615	-0.573	0.01541	1.4649	1.3753	1.1544	3.12	0.312	0.7821	0.21	0.00379
32	131	2552.77	3.3033	0	2554.25	2552.72	261.173	2553.14	-0.573	0.01541	1.5516	1.4566	1.2351	3.12	0.312	0.8283	0.21	0.00425
33	132	2548.18	4.1402	0	2549.79	2548.15	312.245	2548.583	-0.573	0.01541	1.48	1.3895	1.1555	3.12	0.312	0.7772	0.215	0.00387
34	133	2547.43	1.8407	0	2548.13	2547.45	178.599	2547.45	-0.554	0.01541	1.469	1.3791	1.1472	3.12	0.312	0.7714	0.215	0.00381
35	134	2546.45	2.5015	0	2547.43	2546.51	236.697	2546.51	-0.513	0.01541	1.4837	1.3929	1.1623	3.12	0.312	0.7921	0.21	0.00389
36	135	2544.6	2.0186	0	2545.44	2544.624	212.833	2544.624	-0.51	0.01534	1.474	1.3838	1.1012	3.6	0.36	0.8019	0.235	0.00384
37	136	2545.44	2.5503	0	2546.49	2545.46	270.501	2545.46	-0.513	0.01534	1.4687	1.3789	1.0941	3.6	0.36	0.799	0.235	0.00381
38	137	2551.44	2.6448	0	2552.49	2551.41	200.85	2551.703	-0.573	0.01541	1.4903	1.3991	1.1672	3.12	0.312	0.7825	0.215	0.00392
39	138	2544	1.417	0	2544.6	2544.003	153.949	2544.003	-0.531	0.01534	1.4825	1.3918	1.0832	3.6	0.36	0.7835	0.245	0.00388
40	139	2543.79	0.4354	0	2543.98	2543.803	44.023	2543.803	-0.707	0.01542	2.4506	2.3007	1.9931	3.36	0.28	0.8075	0.235	0.00401
41	140	2543.45	0.7608	0	2543.78	2543.423	65.147	2543.533	-0.68	0.0154	2.3854	2.2395	1.8625	3.84	0.32	0.804	0.26	0.0038
42	141	2541.91	0.8883	0	2542.3	2541.866	76.373	2542.008	-0.68	0.0154	2.3951	2.2485	1.8823	3.84	0.32	0.8183	0.255	0.00383
43	142	2540.38	3.2332	0	2541.84	2540.335	273.83	2540.745	-0.7	0.01542	2.4473	2.2976	1.9346	3.6	0.3	0.799	0.255	0.004
44	143	2537.68	2.8713	0	2538.98	2537.655	243.39	2538.005	-0.7	0.01542	2.4495	2.2996	1.9421	3.6	0.3	0.8109	0.25	0.00401
45	144	2536.45	2.5987	0	2537.63	2536.475	287.78	2536.475	-0.675	0.01542	2.4518	2.3018	1.9448	3.6	0.3	0.8117	0.25	0.00401
46	145	2535.1	2.9694	0	2536.45	2535.075	252.058	2535.438	-0.7	0.01542	2.4528	2.3028	1.9473	3.6	0.3	0.8121	0.25	0.00402
47	146	2534.64	0.9181	0	2535.05	2534.59	77.467	2534.743	-0.7	0.01542	2.4383	2.2891	1.9359	3.6	0.3	0.8072	0.25	0.00397
48	147	2532.03	3.8228	0	2533.75	2532.07	421.113	2532.07	-0.66	0.01542	2.4443	2.2948	1.9428	3.6	0.3	0.8092	0.25	0.00399
49	148	2530.85	3.9425	0	2532.05	2530.889	386.923	2530.889	-0.641	0.0154	2.1197	1.99	1.6413	3.84	0.32	0.7344	0.25	0.003
50	149	2528.47	3.8112	0	2529.67	2528.457	300	2528.77	-0.66	0.01537	2.1197	1.99	1.6174	4.08	0.34	0.755	0.255	0.003

RESULTS 40 Year Model

G_ID	SY_NAME	NORM_WS_DN	LINK_TIME	COST_TOTAL	HGL_UP	HGL_DN	HGL_MIDSTA	HGL_MID	SURCHARGE	N	QFULL	QMAX	EXCESSCAP	DEPTH	DOVERD	FROUDENUMBER	CRIT_DEPTH	SLOPE
51	150	2522.01	3.5198	0	2523.63	2521.978	300	2522.415	-0.7	0.01542	2.4629	2.3122	1.9405	3.6	0.3	0.8041	0.255	0.00405
52	151	2518.84	3.37	0	2520.28	2518.817	300	2519.2	-0.64	0.01534	2.3221	2.18	1.7011	4.32	0.36	0.7855	0.29	0.0036
53	152	2517.24	3.1272	0	2518.79	2517.269	382.618	2517.269	-0.611	0.01534	2.4398	2.2905	1.8132	4.32	0.36	0.8253	0.29	0.00397
54	153	2515.69	3.1272	0	2517.24	2515.625	292.5	2516.078	-0.64	0.01534	2.4398	2.2905	1.7956	4.32	0.36	0.8156	0.295	0.00397
55	154	2513.84	3.1971	0	2515.44	2513.819	300	2514.24	-0.64	0.01534	2.4477	2.2979	1.8063	4.32	0.36	0.8182	0.295	0.004
56	155	2512.69	2.1383	0	2513.79	2512.718	263.058	2512.718	-0.612	0.01534	2.4702	2.3191	1.8307	4.32	0.36	0.8257	0.295	0.00407
57	156	2511.09	3.1971	0	2512.69	2511.118	393.022	2511.118	-0.612	0.01534	2.4477	2.2979	1.8119	4.32	0.36	0.8182	0.295	0.004
58	157	2510.39	1.3637	0	2511.09	2510.51	142.62	2510.51	-0.52	0.01534	2.4685	2.3174	1.8347	4.32	0.36	0.8251	0.295	0.00407
59	158	2512.85	3.1369	0	2514.25	2512.868	394.879	2512.868	-0.562	0.01521	2.2896	2.1495	1.4961	5.04	0.42	0.7668	0.34	0.0035
60	159	2514.25	3.1369	0	2515.65	2514.284	390.341	2514.284	-0.546	0.01521	2.2896	2.1495	1.4927	5.04	0.42	0.7668	0.34	0.0035
61	160	2515.65	3.331	0	2516.91	2515.684	391.074	2515.684	-0.546	0.01521	2.1667	2.0342	1.4071	5.04	0.42	0.733	0.335	0.00313
62	161	2518.45	3.1369	0	2519.85	2518.482	390.899	2518.482	-0.548	0.01521	2.2896	2.1495	1.5108	5.04	0.42	0.7668	0.34	0.0035
63	162	2535.04	2.5425	0	2536.5	2535.057	317.335	2535.057	-1.703	0.0149	16.5724	15.5588	15.0355	3.36	0.14	0.9042	0.255	0.00455
64	163	2540.89	3.4398	0	2541.75	2540.883	206.03	2541.105	-1.32	0.01466	6.3843	5.9938	5.865	2.16	0.12	0.8248	0.135	0.00313
65	164	2542.95	5.4248	0	2544.34	2542.934	232.771	2543.297	-0.92	0.01445	2.59	2.4315	2.4138	0.96	0.08	0.8918	0.06	0.00448
66	165	2544.34	4.9958	0	2545.49	2544.343	275.113	2544.343	-0.917	0.01445	2.4991	2.3462	2.3284	0.96	0.08	0.8606	0.06	0.00417
67	166	2545.57	2.9676	0	2545.63	2545.63	0	2545.63	-0.7	0.012	0	0	0	0	0	0	0.06	-0.00674
68	167	2545.36	25.8126	0	2546.57	2545.63	240.618	2545.63	-0.73	0.012	2.4188	2.2709	2.2709	0	0	0	0	0.00391
75	106	0	0	0	2523.657	2523.657	0	2523.657	-4.973									
76	107	0	0	0	2528.457	2528.457	0	2528.457	-3.473									
77	108	0	0	0	2526.857	2526.857	0	2526.857	-3.773									
78	109	0	0	0	2525.257	2525.257	0	2525.257	-4.873									
79	110	0	0	0	2513.819	2513.819	0	2513.819	-7.311									
80	111	0	0	0	2511.118	2511.118	0	2511.118	-7.012									
81	112	0	0	0	2512.718	2512.718	0	2512.718	-7.412									
82	113	0	0	0	2515.469	2515.469	0	2515.469	-21.661									
83	114	0	0	0	2517.269	2517.269	0	2517.269	-25.561									
84	115	0	0	0	2518.817	2518.817	0	2518.817	-26.513									
85	116	0	0	0	2551.41	2551.41	0	2551.41	-7.72									
86	117	0	0	0	2544.624	2544.624	0	2544.624	-10.306									
87	118	0	0	0	2536.475	2536.475	0	2536.475	-5.655									
88	119	0	0	0	2532.07	2532.07	0	2532.07	-6.56									
89	120	0	0	0	2530.889	2530.889	0	2530.889	-5.741									
90	121	0	0	0	2546.57	2546.57	0	2546.57	-14.471									
91	122	0	0	0	2535.057	2535.057	0	2535.057	-22.337									
92	123	0	0	0	2520.307	2520.307	0	2520.307	-25.565									
93	124	0	0	0	2531.714	2531.714	0	2531.714	-30.957									
94	125	0	0	0	2533.774	2533.774	0	2533.774	-9.536									
95	126	0	0	0	2535.075	2535.075	0	2535.075	-7.955									
96	127	0	0	0	2539.005	2539.005	0	2539.005	-7.229									
97	128	0	0	0	2529.689	2529.689	0	2529.689	-4.998									
98	129	0	0	0	2539.09	2539.09	0	2539.09	-13.448									
99	130	0	0	0	2539.795	2539.795	0	2539.795	-14.37									
100	131	0	0	0	2540.883	2540.883	0	2540.883	-10.864									
101	132	0	0	0	2541.759	2541.759	0	2541.759	-9.737									
102	133	0	0	0	2545.493	2545.493	0	2545.493	-11.899									
103	134	0	0	0	2545.63	2545.63	0	2545.63	-12.539									
104	135	0	0	0	2544.343	2544.343	0	2544.343	-9.692									
105	136	0	0	0	2549.08	2549.08	0	2549.08	-9.779									

RESULTS 40 Year Model

G_ID	SY_NAME	NORM_WS_DN	LINK_TIME	COST_TOTAL	HGL_UP	HGL_DN	HGL_MIDSTA	HGL_MID	SURCHARGE	N	QFULL	QMAX	EXCESSCAP	DEPTH	DOVERD	FROUDENUMBER	CRIT_DEPTH	SLOPE
106	137	0	0	0	2544.003	2544.003	0	2544.003	-12.339									
107	138	0	0	0	2543.803	2543.803	0	2543.803	-12.838									
108	139	0	0	0	2543.423	2543.423	0	2543.423	-14.111									
109	140	0	0	0	2542.322	2542.322	0	2542.322	-11.506									
110	141	0	0	0	2548.15	2548.15	0	2548.15	-7.905									
111	142	0	0	0	2516.941	2516.941	0	2516.941	-7.179									
112	143	0	0	0	2530.5	2530.5	0	2530.5	-9.367									
113	144	0	0	0	2526.11	2526.11	0	2526.11	-3.72									
114	145	0	0	0	2527.44	2527.44	0	2527.44	-3.831									
115	146	0	0	0	2524.804	2524.804	0	2524.804	-11.575									
116	147	0	0	0	2523.419	2523.419	0	2523.419	-4.164									
117	149	0	0	0	2522.033	2522.033	0	2522.033	-7.507									
118	150	0	0	0	2521.083	2521.083	0	2521.083	-7.999									
119	151	0	0	0	2517.811	2517.811	0	2517.811	-10.472									
120	152	0	0	0	2512.868	2512.868	0	2512.868	-6.298									
121	153	0	0	0	2512.693	2512.693	0	2512.693	-3.254									
122	154	0	0	0	2521.978	2521.978	0	2521.978	-20.54									
123	155	0	0	0	2510.51	2510.51	0	2510.51	-6.526									
124	156	0	0	0	2549.81	2549.81	0	2549.81	-6.156									
125	157	0	0	0	2545.46	2545.46	0	2545.46	-9.712									
126	158	0	0	0	2546.51	2546.51	0	2546.51	-8.84									
127	159	0	0	0	2547.45	2547.45	0	2547.45	-10.301									
128	160	0	0	0	2552.708	2552.708	0	2552.708	-8.215									
129	161	0	0	0	2554.268	2554.268	0	2554.268	-7.34									
130	162	0	0	0	2555.708	2555.708	0	2555.708	-10.113									
131	163	0	0	0	2542.934	2542.934	0	2542.934	-10.21									
132	164	0	0	0	2541.866	2541.866	0	2541.866	-10.361									
133	165	0	0	0	2533.119	2533.119	0	2533.119	-28.353									
134	166	0	0	0	2552.51	2552.51	0	2552.51	-8.217									
135	167	0	0	0	2537.655	2537.655	0	2537.655	-6.505									
136	168	0	0	0	2536.53	2536.53	0	2536.53	-19.15									
138	100	2512.64	0.3173	0	2512.83	2512.693	31.532	2512.693	-0.547	0.01526	2.5484	2.3925	1.744	4.8	0.4	0.8272	0.34	0.00434
139	200	2530.28	10.06	0	2532.94	2530.5	1107.41	2530.5	-0.58	0.0153				2.4	0.2		0.135	0.0022
147	205	2628.02	11.0191	0	2660.02	2628.14	1317.338	2628.14	-0.527	0.01352				0.24	0.03		0.025	0.0242
148	206	2628	0	0	2631.4	2628.14	1174.096	2628.14	-0.527	0.012				0	0		0	0.00278
149	201	2532.74	0	0	2540	2532.94	1574.093	2532.94	-0.8	0.012				0	0		0	0.00449
150	202	2518.43	0	0	2523.07	2518.817	1935.858	2518.817	-0.613	0.012				0	0		0	0.0022
151	203	2555.55	1.6632	0	2566.12	2555.708	321.256	2555.708	-0.722	0.01466				1.44	0.12		0.175	0.03241
152	204	2566.14	10.1214	0	2628.14	2566.14	0	2628.14	-0.693	0.01515				1.68	0.168		0.185	0.03052
153	100	0	0	0	2511.583	2511.583	0	2511.583	-3.047									
154	101	0	0	0	2514.284	2514.284	0	2514.284	-5.846									
155	102	0	0	0	2515.684	2515.684	0	2515.684	-4.946									
156	103	0	0	0	2518.482	2518.482	0	2518.482	-5.398									
157	104	0	0	0	2519.882	2519.882	0	2519.882	-10.248									
158	105	0	0	0	2528.915	2528.915	0	2528.915	-4.715									
159	300	0	0	0	2540	2540	0	2540	-11.88									
160	301	0	0	0	2532.94	2532.94	0	2532.94	-8.74									
161	302	0	0	0	2566.12	2566.12	0	2566.12	-9.88									
162	303	0	0	0	2628.14	2628.14	0	2628.14	-9.86									

RESULTS 40 Year Model

G_ID	SY_NAME	NORM_WS_DN	LINK_TIME	COST_TOTAL	HGL_UP	HGL_DN	HGL_MIDSTA	HGL_MID	SURCHARGE	N	QFULL	QMAX	EXCESSCAP	DEPTH	DOVERD	FROUDENUMBER	CRIT_DEPTH	SLOPE
163	304	0	0	0	2660.02	2660.02	0	2660.02	-14.98									
164	305	0	0	0	2523.07	2523.07	0	2523.07	-10.93									
165	306	0	0	0	2631.4	2631.4	0	2631.4	-10.6									

RESULTS 40 Year Model

G_ID	SY_NAME	MINDPTHTOINV	MINCOVER	DEPTHUP	DEPTHDN
2	101				
3	102				
4	103				
5	104				
6	105				
7	106				
8	107				
9	108				
10	109				
11	110				
12	111				
13	112				
14	113				
15	114				
16	115				
17	116				
18	117				
19	118				
20	119				
21	120				
22	121				
23	122				
24	123				
25	124				
26	125				
27	126				
28	127				
29	128				
30	129				
31	130				
32	131				
33	132				
34	133				
35	134				
36	135				
37	136				
38	137				
39	138				
40	139				
41	140				
42	141				
43	142				
44	143				
45	144				
46	145				
47	146				
48	147				
49	148				
50	149				

RESULTS 40 Year Model

G_ID	SY_NAME	MINDPTHTOINV	MINCOVER	DEPTHUP	DEPTHDN
51	150				
52	151				
53	152				
54	153				
55	154				
56	155				
57	156				
58	157				
59	158				
60	159				
61	160				
62	161				
63	162				
64	163				
65	164				
66	165				
67	166				
68	167				
75	106				
76	107				
77	108				
78	109				
79	110				
80	111				
81	112				
82	113				
83	114				
84	115				
85	116				
86	117				
87	118				
88	119				
89	120				
90	121				
91	122				
92	123				
93	124				
94	125				
95	126				
96	127				
97	128				
98	129				
99	130				
100	131				
101	132				
102	133				
103	134				
104	135				
105	136				

RESULTS 40 Year Model

G_ID	SY_NAME	MINDPTHTOINV	MINCOVER	DEPTHUP	DEPTHDN
106	137				
107	138				
108	139				
109	140				
110	141				
111	142				
112	143				
113	144				
114	145				
115	146				
116	147				
117	149				
118	150				
119	151				
120	152				
121	153				
122	154				
123	155				
124	156				
125	157				
126	158				
127	159				
128	160				
129	161				
130	162				
131	163				
132	164				
133	165				
134	166				
135	167				
136	168				
138	100				
139	200	8.94	7.8567	8.94	9.79
147	205	10	9.2778	15	10
148	206	10	9.2778	10.6	10
149	201	8.94	7.8567	11.88	8.94
150	202	10.93	9.8467	10.93	26.9
151	203	10	8.9167	10	10.39
152	204	10	9.0972	10	10
153	100				
154	101				
155	102				
156	103				
157	104				
158	105				
159	300				
160	301				
161	302				
162	303				

RESULTS 40 Year Model

G_ID	SY_NAME	MINDPTHTOINV	MINCOVER	DEPTHUP	DEPTHDN
163	304				
164	305				
165	306				

GLENNS FERRY
2014 WASTEWATER FACILITIES PLAN
LAGOON CALCULATIONS

1) Lagoon Sludge Volume

	Water Surface Area (acres)	Water Surface Area (sq ft)	Bottom Surface Area (acres)	Bottom Surface Area (sq ft)	Design Water Depth (ft)	Calc'd Volume (Mgal)	Average Sludge Depth [1] (ft)	Sludge Volume (Mgal)	Effective Lagoon Volume (Mgal)	% Sludge
Aerated Pond	2.81	122,404	1.88	81,717	8.0	6.11	2.5	1.53	4.58	25.0
Pond #1	6.58	286,625	5.63	245,395	5.0	9.95	1.0	1.84	8.11	18.5
Pond #2	1.56	67,954	1.12	48,699	5.0	2.18	1.0	0.36	1.82	16.5
Pond #3	1.56	67,954	1.12	48,699	5.0	2.18	1.0	0.36	1.82	16.5
Total	12.51		9.75		23.00	20.42	5.50	4.09	16.33	

[1] Average sludge depth in aerated pond reported to be 1.94 ft with local areas as deep as 3.5 ft. Assumed 2.5 ft to be conservative. Sludge depth in Ponds #1-3 were not measured but were conservatively estimated to be 1.0 ft.

2) Hydraulic Retention Time

	Avg Day	Max Mon	
Existing Flow (2014) =	0.102	0.150	MGD
Projected Flow (2034) =	0.164	0.241	MGD

				Average Day		Max Month	
	Lagoon Volume (mgal)	Sludge Volume (mgal)	Operating Volume (mgal)	2014 Operating HRT (d)	2034 Operating HRT (d)	2014 Operating HRT (d)	2034 Operating HRT (d)
Aerated Pond	6.1	1.5	4.6	45	28	31	19
Pond #1	10.0	1.8	8.1	80	50	54	34
Pond #2	2.2	0.4	1.8	18	11	12	8
Pond #3	2.2	0.4	1.8	18	11	12	8
	20.4	4.1	16.3	161	100	109	68

Aerated Lagoons:
- 8 to 20 days in cold weather climates to reduce algal growth (Chapter 10, p. 10-36)
- 5 to 30 days - M&E, 1991, p. 645, Table 10-20
- 4 to 10 days - M&E, 2004, p. 841, Table 8-29

Facultative Lagoons:
- 20 to 180 days (EPA Tech. Fact Sheet)
- 5 to 30 days warm climate, 180 days cold (Chpt. 6, p. 238)
- 180 days between high WSL & 2 foot - controlled discharge - entire system (10 State Standards, p. 90-
- 90 to 120 days - flow through - entire system (10 State Standards, p. 90-15)
- 40 to 60 days at winter air temps of 33-59 F - total system (Chpt. 10, p. 10-13)
- 15 to 30 days at winter air temps of 33-59 F - first cell (Chpt. 10, p. 10-13)
- 5 to 30 days (M&E, p. 645)

Polishing Lagoons:
- < 5 days to prevent algal growth (Chapter 10, p. 10-5)
- < 4 days per pond to prevent algal growth (Chapter 10, p. 10-55)
- > 5 days for pathogen removal (Chapter 10, p. 10-55)
- 2-4 days for settling (Chapter 6, p. 246)
- 1-2 day (Adams & Eckenfelder, p. 87)

Parameter	Unit	2014 Winter	2014 Summer	2034 Winter	2034 Summer
S	mg/L	16	16	23	23
So	mg/L	159	159	230	230
k	d	0.06	0.12	0.06	0.12
t	d	65	33	65	33

assume 90% removal

$$\frac{S}{S_o} = \frac{1}{1 + 2.3 \cdot k \cdot t}$$

Where:

S = BOD_5 leaving the lagoon, mg/l

S_o = BOD_5 entering the lagoon, mg/l

k = Reaction coefficient, 0.06 d for winter, 0.12 d for summer

t = Lagoon hydraulic detention time, day

t = (So-S)/(2.3kS)

Hydraulic retention time is adequate to achieve the desired BOD percent removal.

Basis of design:

Flow	0.44	MGD
HRT actual	41	days assuming 1.5 ft sludge depth in first cell and 0.5 ft in remaining cells
HRT required	41	days assuming 85% removal in winter

3) Organic Loading

GLENNS FERRY
2014 WASTEWATER FACILITIES PLAN
LAGOON CALCULATIONS

Year	Population	Ave Day BOD (lbs/d)	Aerated Pond Organic Loading (lbs/ac-d)	System Organic Loading (lbs/ac-d)
2011	1345	143	51.1	11.5
2012	1372	138	49.0	11.0
2013	1400	124	44.0	9.9
2014	1428	135	48.0	10.8
2015	1456	215	76.6	17.2
2016	1485	219	78.1	17.5
2017	1515	224	79.6	17.9
2018	1545	228	81.2	18.2
2019	1576	233	82.8	18.6
2020	1608	237	84.5	19.0
2021	1640	242	86.2	19.4
2022	1673	247	87.9	19.7
2023	1706	252	89.6	20.1
2024	1740	257	91.4	20.5
2025	1775	262	93.2	20.9
2026	1811	267	95.1	21.4
2027	1847	273	97.0	21.8
2028	1884	278	98.9	22.2
2029	1922	283	100.9	22.7
2030	1960	289	102.9	23.1
2031	1999	295	105.0	23.6
2032	2039	301	107.1	24.1
2033	2080	307	109.2	24.5
2034	2122	313	111.4	25.0

13 to 71 lbs/acre-d (EPA Tech. Fact Sheet)
15 to 50 lbs/acre-d (Chpt 6., p. 238 & 249)
15 to 35 lbs/acre-d - primary pond (10 State Standards, p. 90-15)
20 to 25 lbs/acre-d (Chpt. 10, p. 10-10)
20 to 40 lbs/acre-d at winter air temps of 33-59 F - total system (Chpt. 10, p. 10-13)
60 to 120 lbs/acre-d at winter air temps of 33-59 F - first cell (Chpt. 10, p. 10-13)
25 to 35 lbs/acre-d - single pond or parallel (Reynolds, p. 560)
75 to 80 lbs/acre-d - primary pond in series operation (Reynolds, p. 560)
25 to 35 lbs/acre-d - secondary ponds in series operation (Reynolds, p. 560)
16.7 to 60 lbs/acre-d (M&E, p. 645)

B) Aerated Lagoons
The organic loading for aerated lagoons shall not exceed 0.5 lb. BOD[5] day per 1,000 cu. ft. first cell nor 0.3 lb. BOD[5] day per 1,000 cu. ft. on any subsequent cells. If more accurate design information for the particular type waste is not submitted and supported by the engineer, the second and third cells shall be sized for an organic loading of 25% of each preceding cell.

816,845 cf in first ce
408 lb/d

http://www.ilga.gov/commission/jcar/admincode/035/03500370OI09300R.html

Oxygen Demand

Oxygen Requirement = 1.75 lbs O_2/lbs BOD

1.75 - 2.25 - Metcalf & Eddy, 3rd Ed., 1991, p. 648
1.5 - EPA Wastewater Technology Fact Sheet Aerated Partial Mix Lagoons
1.5 - 2.0 - EPA Design Manual Municipal Wastewater Stabilization Ponds

	2014	2034	
BOD Mass (Max Month) =	192	445	lbs BOD/d
Percent Removal	85%	85%	
BOD Mass Removed (Max Month)	163	378	
Actual O_2 Demand =	286	662	lbs O_2/d

1.5 - 10 State Std, 92.331, p. 90-9, act. sludge
2 - Chapter 10, p. 10-37
1.75 - 2.5 - Chapter 6, p. 238
2.25 - Chapter 6, p. 250

Oxygen Transfer Efficiency

$$AOTR = SOTR\left(\frac{\beta C_s - C_w}{C_{s20}}\right)\theta^{T-20}(\alpha)$$

Eq. 5-62, Metcalf & Eddy, 4th Ed., 2003, p. 447

Where:
AOTR = Actual Oxygen Transfer Rate Under Field Conditions
SOTR = Standard Oxygen Transfer Rate at 20°C and Zero DO
b = Correction Factor for Wastewater Characteristics
a = Correction Factor for Mixing and Basin Geometry
q = Correction Factor for Temperature
Cs = Oxygen Saturation Concentration for Tap Water at Field Temperature and Pressure

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LAGOON CALCULATIONS

Cs_{20} = Oxygen Saturation Concentration for Tap Water at 20ºC and 1 atm
Cw = Operating Oxygen Concentration in Wastewater
T = Wastewater Temperature under Field Conditions

	Summer	Winter	Unit	Comment/Reference
SOTR =	3.0	3.0	lbs O_2/hp-hr	Aqua-Aerobics; Metcalf & Eddy, 4th Ed., 2003, p. 446
b =	0.95	0.95	-	Metcalf & Eddy, 4th Ed., 2003, p. 429
a =	0.82	0.82	-	Metcalf & Eddy, 4th Ed., 2003, p. 447
q =	1.024	1.024	-	Metcalf & Eddy, 4th Ed., 2003, p. 429
Cs_{20} =	9.08	9.08	mg/L	Metcalf & Eddy, 4th Ed., 2003, Table D-2, p. 1747
Cw =	2.0	2.0	mg/L	Assumed
Elev. =	2500	2500	ft amsl	Topo
Atm. Press. @ Site =	692	692	mm Hg	Reynolds & Richards, 1996, Table 16.2, p. 509
Std. Press. =	760	760	mm Hg	
Temperature @ Site =	28	10	ºC	From Filer & Buhl WWTP Improvement Projects
C_s @ Site Temp =	7.81	11.28	mg/L	
C_s Corrected for Site Pressure =	7.11	10.27	mg/L	Metcalf & Eddy, 2003, Table D-2, p. 1747, corrected for site pressure
AOTR =	1.56	1.66	lbs O_2/hp-hr	

Horsepower Requirements for Oxygen Transfer

	2014		2034		
	Summer	Winter	Summer	Winter	
Brake Horsepower	7.6	7.2	17.7	16.6	hp
Motor Efficiency	88	88	88	88	%
Motor Horsepower	8.6	8.2	20.1	18.9	hp

Horsepower Requirements for Mixing

	Aerated Pond	
Aeration HP =	15	hp currently provided
Volume =	6.11	mgal
Volumetric Mixing =	2.5	hp/mgal

Minimim Power Level = 4 hp/mgal (Adams & Eckenfelder, p. 99)
5-6.25 hp/mgal (M&E, 2003, p. 841, Table 8-29)
5- 10 hp/mgal (EPA Wastewater Technology Fact Sheet Aerated Partial Mix Lagoons)

Provided horsepower is adequate for oxygen transfer. However it is not adequate for mixing. This can help explain why they have issues with sludge accumulation.

	Water Surface Area (acres)	Design Water Depth (ft)	Calc'd Volume (Mgal)	Average Sludge Depth [1] (ft)	Sludge Volume (Mgal)	Effective Lagoon Volume (Mgal)	% Sludge
Aerated Pond (15 HP)	2.81	8	6.11	2.5	1.53	4.58	25
Facultative Pond #1	6.58	5	9.95	1	1.84	8.11	18
Facultative Pond #2	1.56	5	2.18	1	0.36	1.82	17
Facultative Pond #3	1.56	5	2.18	1	0.36	1.82	17
Total	9.39		16.06		3.37	12.69	

1 Average sludge depth in aerated pond reported to be 1.94 ft with local areas as deep as 3.5 ft. Assumed 2.5 ft to be conservative. Sludge depth in Ponds #1-3 were not measured but were conservatively estimated to be 1.0 ft.

Rapid Infiltration Basin Design Parameters

	Infiltration Area (ft^2)	Design Water Depth (ft)	Design Application Rate (inches/day)
RI Basin #1	12,690	3	9.8
RI Basin #2	12,690	3	9.8
RI Basin #3	12,690	3	9.8
RI Basin #4	12,690	3	9.8
RI Basin #5	43,560	1.5	4.3
	94,320		

RAPID INFILTRATION BASIN DESIGN PARAMETERS

1. CLEAN WATER ACCEPTANCE RATE=6" /HR.
2. DESIGN APPLICATION RATE=4.3" /DAY
3. APPLICATION AREA=1 ACRE
4. TOTAL SYSTEM DESIGN CAPACITY = 0.44 MGD

RAPID INFILTRATION BASIN DESIGN PARAMETERS

Average Double-Ring Infiltrometer Infiltration Rate - 8.2 inches/hour
Design Application Rate @ 5% - 9.8 inches/day
Infiltration Area - 50,760 square feet
4 Basins @ 12,690 square feet
1 Day of Dosing and 3 Days Rest
Depth of Basin - 4 feet
Depth of Water after Dosing - 3 feet

Appendix F

Discharge Monitoring Reports

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

NAME: GLENNS FERRY, CITY OF
ADDRESS: PO BOX 910
GLENNS FERRY, ID 83623
FACILITY: GLENNS FERRY, CITY OF - GLENNS FERRY WWTP
LOCATION: 901 SOUTH STEEN DRIVE
GLENNS FERRY, ID 83623

ATTN: JEFF COOK, PUBLIC WORK SUPER

PERMIT NUMBER	DISCHARGE NUMBER
ID0022004	001-A

MONITORING PERIOD MM/DD/YYYY	MM/DD/YYYY
6/1/2014	6/30/2014

DMR Mailing ZIP CODE: 83623
MINOR $
(SUBR 02)

External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING VALUE	VALUE	UNITS	QUALITY OR CONCENTRATION VALUE	VALUE	VALUE	UNITS	NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
BOD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	16.26	******		******	15	******		0	01/30	comp 8
00310 1 0 Effluent Gross	PERMIT REQUIREMENT	125 MO AVG	******	lb/d	******	30 MO AVG	******	mg/L		Monthly	COMP-8
BOD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	******	******	******	******	410	******		0	01/30	Comp 8
00310 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	******	******	******	******	Req. Mon. MO AVG	******	mg/L		Monthly	COMP-8
BOD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	16.26	******		******	15	******		0	01/30	Comp 8
00310 W 0 See Comments	PERMIT REQUIREMENT	188 WKLY AVG	******	lb/d	******	45 WKLY AVG	******	mg/L		Monthly	COMP-8
pH	SAMPLE MEASUREMENT	******	******	******	7.5	******	7.8		0	01/07	GR
00400 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	6.5 INST MIN	******	9 INST MAX	SU		Weekly	GRAB
Solids, total suspended	SAMPLE MEASUREMENT	7.58	******		******	7	******		0	01/30	comp 8
00530 1 0 Effluent Gross	PERMIT REQUIREMENT	125 MO AVG	******	lb/d	******	30 MO AVG	******	mg/L		Monthly	COMP-8
Solids, total suspended	SAMPLE MEASUREMENT	******	******	******	******	675	******		0	01/30	Comp 8
00530 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	******	******	******	******	Req. Mon. MO AVG	******	mg/L		Monthly	COMP-8
Solids, total suspended	SAMPLE MEASUREMENT	7.58	******		******	7	******		0	01/30	Comp 8
00530 W 0 See Comments	PERMIT REQUIREMENT	188 WKLY AVG	******	lb/d	******	45 WKLY AVG	******	mg/L		Monthly	COMP-8

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE (AREA Code)	TELEPHONE (NUMBER)	DATE MM/DD/YYYY
Connie Wills Mayor (TYPED OR PRINTED)	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	Connie Wills	208	366-7418	07/01/2014

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
W=WEEKLY LIMITS

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External Outfall

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PARAMETER		QUANTITY OR LOADING VALUE	QUANTITY OR LOADING VALUE	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION VALUE	QUALITY OR CONCENTRATION VALUE	QUALITY OR CONCENTRATION VALUE	QUALITY OR CONCENTRATION UNITS	NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
Nitrogen, ammonia total [as N]	SAMPLE MEASUREMENT	******	******	******	******	******	1.46		0	01/30	Comp 8
00610 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. MO MAX	mg/L		Monthly	COMP-8
Phosphorus, total [as P]	SAMPLE MEASUREMENT	3.54	******		******	3.27	3.27		0	01/30	comp 8
00665 1 0 Effluent Gross	PERMIT REQUIREMENT	25.6 MO AVG	******	lb/d	******	6.1 MO AVG	Req. Mon. MO MAX	mg/L		Monthly	COMP-8
Phosphorus, total [as P]	SAMPLE MEASUREMENT	3.54	******		******	******	3.27		0	01/30	Comp 8
00665 W 0 See Comments	PERMIT REQUIREMENT	38.4 WKLY AVG	******	lb/d	******	******	Req. Mon. MO MAX	mg/L		Monthly	COMP-8
E. coli, MTEC-MF	SAMPLE MEASUREMENT	******	******	******	******	8.3	130		0	05/30	GR
31648 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	126 MO GEOMN	406 INST MAX	#/100mL		5 Times Every Month	GRAB
Floating solids or visible foam-visual	SAMPLE MEASUREMENT	******	0		******	******	******	******	0	WO	V
45613 1 0 Effluent Gross	PERMIT REQUIREMENT	******	0 MO MAX	Y=1;N=0	******	******	******	******		When Discharging	VISUAL
Flow, in conduit or thru treatment plant	SAMPLE MEASUREMENT	******	.11		******	******	******	******	0	W	EST
50050 1 0 Effluent Gross	PERMIT REQUIREMENT	******	Req. Mon. MO MAX	MGD	******	******	******	******		Weekly	ESTIMA
Flow, in conduit or thru treatment plant	SAMPLE MEASUREMENT	******	.13		******	******	******	******	0	99/99	RC
50050 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	******	Req. Mon. MO MAX	MGD	******	******	******	******		Continuous	RCORDR

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE AREA Code	TELEPHONE NUMBER	DATE MM/DD/YYYY
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W=WEEKLY LIMITS

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Form Approved
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LOCATION: 901 SOUTH STEEN DRIVE
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ATTN: JEFF COOK, PUBLIC WORK SUPER

PERMIT NUMBER	DISCHARGE NUMBER
ID0022004	001-A

MONITORING PERIOD MM/DD/YYYY	MM/DD/YYYY
6/1/2014	6/30/2014

DMR Mailing ZIP CODE: 83623
MINOR $
(SUBR 02)

External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING VALUE	QUANTITY OR LOADING VALUE	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION VALUE	QUALITY OR CONCENTRATION VALUE	QUALITY OR CONCENTRATION VALUE	QUALITY OR CONCENTRATION UNITS	NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
BOD, 5-day, percent removal	SAMPLE MEASUREMENT	******	******	******	95	******	******		0	01/30	C
81010 K 0 Percent Removal	PERMIT REQUIREMENT	******	******	******	85 MO MIN	******	******	%		Monthly	CALCTD
Solids, suspended percent removal	SAMPLE MEASUREMENT	******	******	******	98	******	******		0	01/30	C
81011 K 0 Percent Removal	PERMIT REQUIREMENT	******	******	******	85 MO MIN	******	******	%		Monthly	CALCTD
Oil and grease visual	SAMPLE MEASUREMENT	******	0		******	******	******	******	0	WD	V
84066 1 0 Effluent Gross	PERMIT REQUIREMENT	******	0 MO MAX	Y=1;N=0	******	******	******	******		When Discharging	VISUAL

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
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TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

W=WEEKLY LIMITS

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DISCHARGE MONITORING REPORT (DMR)

Form Approved
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PERMIT NUMBER	DISCHARGE NUMBER
ID0022004	001-A

MONITORING PERIOD MM/DD/YYYY	MM/DD/YYYY
5/1/2014	5/31/2014

DMR Mailing ZIP CODE: 83623
MINOR $
(SUBR 02)

External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING VALUE	QUANTITY OR LOADING VALUE	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION VALUE	QUALITY OR CONCENTRATION VALUE	QUALITY OR CONCENTRATION VALUE	QUALITY OR CONCENTRATION UNITS	NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
BOD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	9.75	******		******	9	******		0	01/30	Comp 8
00310 1 0 Effluent Gross	PERMIT REQUIREMENT	125 MO AVG	******	lb/d	******	30 MO AVG	******	mg/L		Monthly	COMP-8
BOD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	******	******	******	******	149	******		0	01/30	Comp 8
00310 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	******	******	******	******	Req. Mon. MO AVG	******	mg/L		Monthly	COMP-8
BOD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	9.75	******		******	9	******		0	01/30	Comp 8
00310 W 0 See Comments	PERMIT REQUIREMENT	188 WKLY AVG	******	lb/d	******	45 WKLY AVG	******	mg/L		Monthly	COMP-8
pH	SAMPLE MEASUREMENT	******	******	******	7.6	******	7.8		0	01/07	GR
00400 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	6.5 INST MIN	******	9 INST MAX	SU		Weekly	GRAB
Solids, total suspended	SAMPLE MEASUREMENT	8.67	******		******	8	******		0	01/30	Comp 8
00530 1 0 Effluent Gross	PERMIT REQUIREMENT	125 MO AVG	******	lb/d	******	30 MO AVG	******	mg/L		Monthly	COMP-8
Solids, total suspended	SAMPLE MEASUREMENT	******	******	******	******	120	******		0	01/30	Comp 8
00530 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	******	******	******	******	Req. Mon. MO AVG	******	mg/L		Monthly	COMP-8
Solids, total suspended	SAMPLE MEASUREMENT	8.67	******		******	8	******		0	01/30	Comp 8
00530 W 0 See Comments	PERMIT REQUIREMENT	188 WKLY AVG	******	lb/d	******	45 WKLY AVG	******	mg/L		Monthly	COMP-8

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COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
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GLENNS FERRY, ID 83623
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PERMIT NUMBER	DISCHARGE NUMBER
ID0022004	001-A

MONITORING PERIOD MM/DD/YYYY	MM/DD/YYYY
5/1/2014	5/31/2014

DMR Mailing ZIP CODE: 83623
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External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING VALUE	QUANTITY OR LOADING VALUE	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION VALUE	QUALITY OR CONCENTRATION VALUE	QUALITY OR CONCENTRATION VALUE	QUALITY OR CONCENTRATION UNITS	NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
Nitrogen, ammonia total [as N]	SAMPLE MEASUREMENT	******	******	******	******	******	.30		0	01/30	comp8
00610 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. MO MAX	mg/L		Monthly	COMP-8
Phosphorus, total [as P]	SAMPLE MEASUREMENT	2.47	******		******	2.28	2.28		0	01/30	comp8
00665 1 0 Effluent Gross	PERMIT REQUIREMENT	25.6 MO AVG	******	lb/d	******	6.1 MO AVG	Req. Mon. MO MAX	mg/L		Monthly	COMP-8
Phosphorus, total [as P]	SAMPLE MEASUREMENT	2.47	******		******	******	2.28		0	01/30	comp8
00665 W 0 See Comments	PERMIT REQUIREMENT	38.4 WKLY AVG	******	lb/d	******	******	Req. Mon. MO MAX	mg/L		Monthly	COMP-8
E. coli, MTEC-MF	SAMPLE MEASUREMENT	******	******	******	******	8.75	93		0	05/30	6R
31648 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	126 MO GEOMN	406 INST MAX	#/100mL		5 Times Every Month	GRAB
Floating solids or visible foam-visual	SAMPLE MEASUREMENT	******	0		******	******	******	******	0	WD	V
05613 1 0 Effluent Gross	PERMIT REQUIREMENT	******	0 MO MAX	Y=1;N=0	******	******	******	******		When Discharging	VISUAL
Flow, in conduit or thru treatment plant	SAMPLE MEASUREMENT	******	.11		******	******	******	******	0	W	EST
50050 1 0 Effluent Gross	PERMIT REQUIREMENT	******	Req. Mon. MO MAX	MGD	******	******	******	******		Weekly	ESTIMA
Flow, in conduit or thru treatment plant	SAMPLE MEASUREMENT	******	.13		******	******	******	******	0	99/99	RC
50050 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	******	Req. Mon. MO MAX	MGD	******	******	******	******		Continuous	RCORDR

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE		DATE
Connie Wills Mayor	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations	Connie Wills	208-366-7418		06/09/2014
TYPED OR PRINTED			AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

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MM/DD/YYYY	MM/DD/YYYY
5/1/2014	5/31/2014

DMR Mailing ZIP CODE: 83623
MINOR $
(SUBR 02)

External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
BOD, 5-day, percent removal	SAMPLE MEASUREMENT	******	******	******	93	******	******		0	01/30	C
01010 K 0 Percent Removal	PERMIT REQUIREMENT	******	******	******	85 MO MIN	******	******	%		Monthly	CALCTD
Solids, suspended percent removal	SAMPLE MEASUREMENT	******	******	******	93	******	******		0	01/30	C
01011 K 0 Percent Removal	PERMIT REQUIREMENT	******	******	******	85 MO MIN	******	******	%		Monthly	CALCTD
Oil and grease visual	SAMPLE MEASUREMENT	******	0		******	******	******	******	0	WD	V
04066 1 0 Effluent Gross	PERMIT REQUIREMENT	******	0 MO MAX	Y=1;N=0	******	******	******	******		When Discharging	VISUAL

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
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TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

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ATTN: JEFF COOK, PUBLIC WORK SUPER

PERMIT NUMBER	DISCHARGE NUMBER
ID0022004	001-A

MONITORING PERIOD MM/DD/YYYY	MM/DD/YYYY
4/1/2014	4/30/2014

DMR Mailing ZIP CODE: 83623
MINOR $
(SUBR 02)

External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING VALUE	QUANTITY OR LOADING VALUE	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION VALUE	QUALITY OR CONCENTRATION VALUE	QUALITY OR CONCENTRATION VALUE	QUALITY OR CONCENTRATION UNITS	NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
BOD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	18.34	******		******	10	******		0	01/30	comp 8
00310 1 0 Effluent Gross	PERMIT REQUIREMENT	125 MO AVG	******	lb/d	******	30 MO AVG	******	mg/L		Monthly	COMP-8
BOD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	******	******	******	******	192	******		0	01/30	comp 8
00310 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	******	******	******	******	Req. Mon. MO AVG	******	mg/L		Monthly	COMP-8
BOD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	18.34	******		******	10	******		0	01/30	comp 8
00310 W 0 See Comments	PERMIT REQUIREMENT	188 WKLY AVG	******	lb/d	******	45 WKLY AVG	******	mg/L		Monthly	COMP-8
pH	SAMPLE MEASUREMENT	******	******	******	7.6	******	8.0		0	01/07	GR
00400 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	6.5 INST MIN	******	9 INST MAX	SU		Weekly	GRAB
Solids, total suspended	SAMPLE MEASUREMENT	111.9	******		******	61	******		0	01/30	Comp 8
00530 1 0 Effluent Gross	PERMIT REQUIREMENT	125 MO AVG	******	lb/d	******	30 MO AVG	******	mg/L		Monthly	COMP-8
Solids, total suspended	SAMPLE MEASUREMENT	******	******	******	******	155	******		0	01/30	comp 8
00530 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	******	******	******	******	Req. Mon. MO AVG	******	mg/L		Monthly	COMP-8
Solids, total suspended	SAMPLE MEASUREMENT	111.9	******		******	61	******		0	01/30	comp 8
00530 W 0 See Comments	PERMIT REQUIREMENT	188 WKLY AVG	******	lb/d	******	45 WKLY AVG	******	mg/L		Monthly	COMP-8

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
Connie Mills Mayor	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	Connie Mills	208-366-7418		05/01/2014
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

W=WEEKLY LIMITS

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

NAME: GLENNS FERRY, CITY OF
ADDRESS: PO BOX 910
GLENNS FERRY, ID 83623
FACILITY: GLENNS FERRY, CITY OF - GLENNS FERRY WWTP
LOCATION: 901 SOUTH STEEN DRIVE
GLENNS FERRY, ID 83623

ATTN: JEFF COOK, PUBLIC WORK SUPER

ID0022004	001-A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD	
MM/DD/YYYY	MM/DD/YYYY
4/1/2014	4/30/2014

DMR Mailing ZIP CODE: 83623
MINOR $
(SUBR 02)

External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Nitrogen, ammonia total [as N]	SAMPLE MEASUREMENT	******	******	******	******	******	.04		0	01/30	Comp8
00610 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. MO MAX	mg/L		Monthly	COMP-8
Phosphorus, total [as P]	SAMPLE MEASUREMENT	4.22	******		******	2.30	2.30		0	01/30	comp8
00665 1 0 Effluent Gross	PERMIT REQUIREMENT	25.6 MO AVG	******	lb/d	******	6.1 MO AVG	Req. Mon. MO MAX	mg/L		Monthly	COMP-8
Phosphorus, total [as P]	SAMPLE MEASUREMENT	4.22	******		******	******	2.30		0	01/30	comp8
00665 W 0 See Comments	PERMIT REQUIREMENT	38.4 WKLY AVG	******	lb/d	******	******	Req. Mon. MO MAX	mg/L		Monthly	COMP-8
E. coli, MTEC-MF	SAMPLE MEASUREMENT	******	******	******	******	14.4	83		0	05/30	GR
31648 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	126 MO GEOMN	406 INST MAX	#/100mL		5 Times Every Month	GRAB
Floating solids or visible foam-visual	SAMPLE MEASUREMENT	******	0		******	******	******	******	0	WD	V
45613 1 0 Effluent Gross	PERMIT REQUIREMENT	******	0 MO MAX	Y=1;N=0	******	******	******	******		When Discharging	VISUAL
Flow, in conduit or thru treatment plant	SAMPLE MEASUREMENT	******	.12		******	******	******	******	0	W	EST
50050 1 0 Effluent Gross	PERMIT REQUIREMENT	******	Req. Mon. MO MAX	MGD	******	******	******	******		Weekly	ESTIMA
Flow, in conduit or thru treatment plant	SAMPLE MEASUREMENT	******	.22		******	******	******	******	0	99/99	RC
50050 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	******	Req. Mon. MO MAX	MGD	******	******	******	******		Continuous	RCORDR

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		TELEPHONE		DATE
Connie Wills Mayor	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations	208-366-7418		05/01/2014
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code / NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

W=WEEKLY LIMITS

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

NAME: GLENNS FERRY, CITY OF
ADDRESS: PO BOX 910
GLENNS FERRY, ID 83623
FACILITY: GLENNS FERRY, CITY OF - GLENNS FERRY WWTP
LOCATION: 901 SOUTH STEEN DRIVE
GLENNS FERRY, ID 83623

ATTN: JEFF COOK, PUBLIC WORK SUPER

PERMIT NUMBER	DISCHARGE NUMBER
ID0022004	001-A

MONITORING PERIOD MM/DD/YYYY	MM/DD/YYYY
4/1/2014	4/30/2014

DMR Mailing ZIP CODE: 83623
MINOR $
(SUBR 02)

External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING VALUE	QUANTITY OR LOADING VALUE	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION VALUE	QUALITY OR CONCENTRATION VALUE	QUALITY OR CONCENTRATION VALUE	QUALITY OR CONCENTRATION UNITS	NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
BOD, 5-day, percent removal	SAMPLE MEASUREMENT	******	******	******	94	******	******		0	01/30	C
81010 K 0 Percent Removal	PERMIT REQUIREMENT	******	******	******	85 MO MIN	******	******	%		Monthly	CALCTD
Solids, suspended percent removal	SAMPLE MEASUREMENT	******	******	******	61	******	******		1	01/30	C
81011 K 0 Percent Removal	PERMIT REQUIREMENT	******	******	******	85 MO MIN	******	******	%		Monthly	CALCTD
Oil and grease visual	SAMPLE MEASUREMENT	******	0		******	******	******	******	0	WD	V
84066 1 0 Effluent Gross	PERMIT REQUIREMENT	******	0 MO MAX	Y=1;N=0	******	******	******	******		When Discharging	VISUAL

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
Connie Wills Mayor	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations	Connie Wills	208-366-7418		05/01/2014
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
W=WEEKLY LIMITS

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

ERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

AME: GLENNS FERRY, CITY OF
DDRESS: PO BOX 910
GLENNS FERRY, ID 83623
ACILITY: GLENNS FERRY, CITY OF - GLENNS FERRY WWTP
OCATION: 901 SOUTH STEEN DRIVE
GLENNS FERRY, ID 83623
TTN: JEFF COOK, PUBLIC WORK SUPER

PERMIT NUMBER	DISCHARGE NUMBER
ID0022004	001-A

MONITORING PERIOD	
MM/DD/YYYY	MM/DD/YYYY
3/1/2014	3/31/2014

DMR Mailing ZIP CODE: 83623
MINOR $
(SUBR 02)

External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
OD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	22.9	******		******	11	******		0	01/30	Comp 8
)310 1 0 fluent Gross	PERMIT REQUIREMENT	125 MO AVG	******	lb/d	******	30 MO AVG	******	mg/L		Monthly	COMP-8
OD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	******	******	******	******	129	******		0	01/30	Comp 8
)310 G 0 aw Sewage Influent	PERMIT REQUIREMENT	******	******	******	******	Req. Mon. MO AVG	******	mg/L		Monthly	COMP-8
OD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	22.9	******		******	11	******		0	01/30	Comp 8
)310 W 0 ee Comments	PERMIT REQUIREMENT	188 WKLY AVG	******	lb/d	******	45 WKLY AVG	******	mg/L		Monthly	COMP-8
H	SAMPLE MEASUREMENT	******	******	******	7.7	******	7.9		0	01/07	GR
)400 1 0 fluent Gross	PERMIT REQUIREMENT	******	******	******	6.5 INST MIN	******	9 INST MAX	SU		Weekly	GRAB
olids, total suspended	SAMPLE MEASUREMENT	87.6	******		******	42	******		1	01/30	Comp 8
)530 1 0 fluent Gross	PERMIT REQUIREMENT	125 MO AVG	******	lb/d	******	30 MO AVG	******	mg/L		Monthly	COMP-8
olids, total suspended	SAMPLE MEASUREMENT	******	******	******	******	154	******		0	01/30	Comp 8
)530 G 0 aw Sewage Influent	PERMIT REQUIREMENT	******	******	******	******	Req. Mon. MO AVG	******	mg/L		Monthly	COMP-8
olids, total suspended	SAMPLE MEASUREMENT	87.6	******		******	42	******		0	01/30	Comp 8
)530 W 0 ee Comments	PERMIT REQUIREMENT	188 WKLY AVG	******	lb/d	******	45 WKLY AVG	******	mg/L		Monthly	COMP-8

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
Mayor Connie Wills	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	Connie Wills	208-366-7418		04/22/2014
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

OMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

=WEEKLY LIMITS

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

NAME: GLENNS FERRY, CITY OF
ADDRESS: PO BOX 910
GLENNS FERRY, ID 83623
FACILITY: GLENNS FERRY, CITY OF - GLENNS FERRY WWTP
LOCATION: 901 SOUTH STEEN DRIVE
GLENNS FERRY, ID 83623
ATTN: JEFF COOK, PUBLIC WORK SUPER

PERMIT NUMBER	DISCHARGE NUMBER
ID0022004	001-A

MONITORING PERIOD MM/DD/YYYY	MM/DD/YYYY
3/1/2014	3/31/2014

DMR Mailing ZIP CODE: 83623
MINOR $
(SUBR 02)

External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING VALUE	QUANTITY OR LOADING VALUE	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION VALUE	QUALITY OR CONCENTRATION VALUE	QUALITY OR CONCENTRATION VALUE	QUALITY OR CONCENTRATION UNITS	NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
Nitrogen, ammonia total [as N]	SAMPLE MEASUREMENT	******	******	******	******	******	.12		0	01/30	Comp8
00610 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. MO MAX	mg/L		Monthly	COMP-8
Phosphorus, total [as P]	SAMPLE MEASUREMENT	4.4	******		******	2.13	2.13		0	01/30	Comp8
00665 1 0 Effluent Gross	PERMIT REQUIREMENT	25.6 MO AVG	******	lb/d	******	6.1 MO AVG	Req. Mon. MO MAX	mg/L		Monthly	COMP-8
Phosphorus, total [as P]	SAMPLE MEASUREMENT	4.4	******		******	******	2.13		0	01/30	Comp8
00665 W 0 See Comments	PERMIT REQUIREMENT	38.4 WKLY AVG	******	lb/d	******	******	Req. Mon. MO MAX	mg/L		Monthly	COMP-8
E. coli, MTEC-MF	SAMPLE MEASUREMENT	******	******	******	******	2.17	6		0	05/30	GR
31648 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	126 MO GEOMN	406 INST MAX	#/100mL		5 Times Every Month	GRAB
Floating solids or visible foam-visual	SAMPLE MEASUREMENT	******	0		******	******	******	******	0	WD	V
05613 1 0 Effluent Gross	PERMIT REQUIREMENT	******	0 MO MAX	Y=1;N=0	******	******	******	******		When Discharging	VISUAL
Flow, in conduit or thru treatment plant	SAMPLE MEASUREMENT	******	.23		******	******	******	******	0	W	EST
50050 1 0 Effluent Gross	PERMIT REQUIREMENT	******	Req. Mon. MO MAX	MGD	******	******	******	******		Weekly	ESTIMA
Flow, in conduit or thru treatment plant	SAMPLE MEASUREMENT	******	.25		******	******	******	******	0	99/99	RC
50050 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	******	Req. Mon. MO MAX	MGD	******	******	******	******		Continuous	RCORDR

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
Mayor Connie Wills	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations	Connie Wills	208-366-7416		04/22/2014
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

W=WEEKLY LIMITS

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

ERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*
AME: GLENNS FERRY, CITY OF
DDRESS: PO BOX 910
GLENNS FERRY, ID 83623
ACILITY: GLENNS FERRY, CITY OF - GLENNS FERRY WWTP
OCATION: 901 SOUTH STEEN DRIVE
GLENNS FERRY, ID 83623
TTN: JEFF COOK, PUBLIC WORK SUPER

PERMIT NUMBER	DISCHARGE NUMBER
ID0022004	001-A

MONITORING PERIOD MM/DD/YYYY	MM/DD/YYYY
3/1/2014	3/31/2014

DMR Mailing ZIP CODE: 83623
MINOR $
(SUBR 02)

External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING VALUE	QUANTITY OR LOADING VALUE	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION VALUE	QUALITY OR CONCENTRATION VALUE	QUALITY OR CONCENTRATION VALUE	QUALITY OR CONCENTRATION UNITS	NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
OD, 5-day, percent removal	SAMPLE MEASUREMENT	******	******	******	91	******	******		0	01/30	C
1010 K 0 ercent Removal	PERMIT REQUIREMENT	******	******	******	85 MO MIN	******	******	%		Monthly	CALCTD
olids, suspended percent removal	SAMPLE MEASUREMENT	******	******	******	72	******	******		0	01/30	C
1011 K 0 ercent Removal	PERMIT REQUIREMENT	******	******	******	85 MO MIN	******	******	%		Monthly	CALCTD
il and grease visual	SAMPLE MEASUREMENT	******	0		******	******	******	******	0	WD	V
4066 1 0 ffluent Gross	PERMIT REQUIREMENT	******	0 MO MAX	Y=1;N=0	******	******	******	******		When Discharging	VISUAL

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
Mayor Connie Wills	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	Connie Wills	208-366-7418		04/22/2014
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

OMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
V=WEEKLY LIMITS

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

NAME: GLENNS FERRY, CITY OF
ADDRESS: PO BOX 910
GLENNS FERRY, ID 83623
FACILITY: GLENNS FERRY, CITY OF - GLENNS FERRY WWTP
LOCATION: 901 SOUTH STEEN DRIVE
GLENNS FERRY, ID 83623

ATTN: JEFF COOK, PUBLIC WORK SUPER

PERMIT NUMBER	DISCHARGE NUMBER
ID0022004	001-A

MONITORING PERIOD MM/DD/YYYY	MM/DD/YYYY
2/1/2014	2/28/2014

DMR Mailing ZIP CODE: 83623
MINOR $
(SUBR 02)

External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING VALUE	QUANTITY OR LOADING VALUE	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION VALUE	QUALITY OR CONCENTRATION VALUE	QUALITY OR CONCENTRATION VALUE	QUALITY OR CONCENTRATION UNITS	NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
BOD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	17.51	******		******	15	******		0	01/30	Comp 8
00310 1 0 Effluent Gross	PERMIT REQUIREMENT	125 MO AVG	******	lb/d	******	30 MO AVG	******	mg/L		Monthly	COMP-8
BOD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	******	******	******	******	96	******		0	01/30	Comp 8
00310 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	******	******	******	******	Req. Mon. MO AVG	******	mg/L		Monthly	COMP-8
BOD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	17.51	******		******	15	******		0	01/30	Comp 8
00310 W 0 See Comments	PERMIT REQUIREMENT	188 WKLY AVG	******	lb/d	******	45 WKLY AVG	******	mg/L		Monthly	COMP-8
pH	SAMPLE MEASUREMENT	******	******	******	7.5		7.7		0	01/07	GR
00400 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	6.5 INST MIN	******	9 INST MAX	SU		Weekly	GRAB
Solids, total suspended	SAMPLE MEASUREMENT	39.69	******		******	34	******		0	01/30	Comp 8
00530 1 0 Effluent Gross	PERMIT REQUIREMENT	125 MO AVG	******	lb/d	******	30 MO AVG	******	mg/L		Monthly	COMP-8
Solids, total suspended	SAMPLE MEASUREMENT	******	******	******	******	368	******		0	01/30	Comp 8
00530 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	******	******	******	******	Req. Mon. MO AVG	******	mg/L		Monthly	COMP-8
Solids, total suspended	SAMPLE MEASUREMENT	39.69	******		******	34	******		0	01/30	Comp 8
00530 W 0 See Comments	PERMIT REQUIREMENT	188 WKLY AVG	******	lb/d	******	45 WKLY AVG	******	mg/L		Monthly	COMP-8

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
Connie Witts Mayor	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	Connie Witts	208-366-7418		03/10/2014
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

W=WEEKLY LIMITS

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

NAME: GLENNS FERRY, CITY OF
ADDRESS: PO BOX 910
GLENNS FERRY, ID 83623
FACILITY: GLENNS FERRY, CITY OF - GLENNS FERRY WWTP
LOCATION: 901 SOUTH STEEN DRIVE
GLENNS FERRY, ID 83623

ATTN: JEFF COOK, PUBLIC WORK SUPER

PERMIT NUMBER	DISCHARGE NUMBER
ID0022004	001-A

MONITORING PERIOD MM/DD/YYYY	MM/DD/YYYY
2/1/2014	2/28/2014

DMR Mailing ZIP CODE: 83623
MINOR $
(SUBR 02)

External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING VALUE	VALUE	UNITS	QUALITY OR CONCENTRATION VALUE	VALUE	VALUE	UNITS	NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
Nitrogen, ammonia total [as N]	SAMPLE MEASUREMENT	******	******	******	******	******	.10		0	01/30	comp8
00610 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. MO MAX	mg/L		Monthly	COMP-8
Phosphorus, total [as P]	SAMPLE MEASUREMENT	2.04	******		******	1.75	1.71		0	01/30	comp8
00665 1 0 Effluent Gross	PERMIT REQUIREMENT	25.6 MO AVG	******	lb/d	******	6.1 MO AVG	Req. Mon. MO MAX	mg/L		Monthly	COMP-8
Phosphorus, total [as P]	SAMPLE MEASUREMENT	2.04	******		******	******	1.71		0	01/30	comp8
00665 W 0 See Comments	PERMIT REQUIREMENT	38.4 WKLY AVG	******	lb/d	******	******	Req. Mon. MO MAX	mg/L		Monthly	COMP-8
E. coli, MTEC-MF	SAMPLE MEASUREMENT	******	******	******	******	1.64	3		0	03/30	GR
31648 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	126 MO GEOMN	406 INST MAX	#/100mL		5 Times Every Month	GRAB
Floating solids or visible foam-visual	SAMPLE MEASUREMENT	******	0		******	******	******	******	0	WD	V
45613 1 0 Effluent Gross	PERMIT REQUIREMENT	******	0 MO MAX	Y=1;N=0	******	******	******	******		When Discharging	VISUAL
Flow, in conduit or thru treatment plant	SAMPLE MEASUREMENT	******	.13		******	******	******	******	0	W	EST
50050 1 0 Effluent Gross	PERMIT REQUIREMENT	******	Req. Mon. MO MAX	MGD	******	******	******	******		Weekly	ESTIMA
Flow, in conduit or thru treatment plant	SAMPLE MEASUREMENT	******	.14		******	******	******	******	0	99/99	RC
50050 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	******	Req. Mon. MO MAX	MGD	******	******	******	******		Continuous	RCORDR

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE AREA Code	NUMBER	DATE MM/DD/YYYY
Connie Wills Mayor (TYPED OR PRINTED)	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations	Connie Wills	208-366-	7418	03/10/2014

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

W=WEEKLY LIMITS

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

NAME: GLENNS FERRY, CITY OF
ADDRESS: PO BOX 910
GLENNS FERRY, ID 83623
FACILITY: GLENNS FERRY, CITY OF - GLENNS FERRY WWTP
LOCATION: 901 SOUTH STEEN DRIVE
GLENNS FERRY, ID 83623

ATTN: JEFF COOK, PUBLIC WORK SUPER

PERMIT NUMBER	DISCHARGE NUMBER
ID0022004	001-A

MONITORING PERIOD MM/DD/YYYY	MM/DD/YYYY
2/1/2014	2/28/2014

DMR Mailing ZIP CODE: 83623
MINOR $
(SUBR 02)

External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING VALUE	QUANTITY OR LOADING VALUE	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION VALUE	QUALITY OR CONCENTRATION VALUE	QUALITY OR CONCENTRATION VALUE	QUALITY OR CONCENTRATION UNITS	NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
BOD, 5-day, percent removal	SAMPLE MEASUREMENT	******	******	******	84	******	******		0	01/30	C
81010 K 0 Percent Removal	PERMIT REQUIREMENT	******	******	******	85 MO MIN	******	******	%		Monthly	CALCTD
Solids, suspended percent removal	SAMPLE MEASUREMENT	******	******	******	90	******	******		0	01/30	C
81011 K 0 Percent Removal	PERMIT REQUIREMENT	******	******	******	85 MO MIN	******	******	%		Monthly	CALCTD
Oil and grease visual	SAMPLE MEASUREMENT	******	0		******	******	******	******	0	WD	V
84066 1 0 Effluent Gross	PERMIT REQUIREMENT	******	0 MO MAX	Y=1;N=0	******	******	******	******		When Discharging	VISUAL

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
Connie Wills Mayor	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations	Connie Wills	208-366-7418		03/10/2014
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

W=WEEKLY LIMITS

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

NAME: GLENNS FERRY, CITY OF
ADDRESS: PO BOX 910
GLENNS FERRY, ID 83623
FACILITY: GLENNS FERRY, CITY OF - GLENNS FERRY WWTP
LOCATION: 901 SOUTH STEEN DRIVE
GLENNS FERRY, ID 83623

ATTN: JEFF COOK, PUBLIC WORK SUPER

PERMIT NUMBER	DISCHARGE NUMBER
ID0022004	001-A

MONITORING PERIOD MM/DD/YYYY	MM/DD/YYYY
1/1/2014	1/31/2014

DMR Mailing ZIP CODE: 83623
MINOR $
(SUBR 02)

External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING VALUE	QUANTITY OR LOADING VALUE	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION VALUE	QUALITY OR CONCENTRATION VALUE	QUALITY OR CONCENTRATION VALUE	QUALITY OR CONCENTRATION UNITS	NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
BOD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	9.17	******		******	11	******		0	01/30	comp 8
00310 1 0 Effluent Gross	PERMIT REQUIREMENT	125 MO AVG	******	lb/d	******	30 MO AVG	******	mg/L		Monthly	COMP-8
BOD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	******	******	******	******	122	******		0	01/30	comp 8
00310 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	******	******	******	******	Req. Mon. MO AVG	******	mg/L		Monthly	COMP-8
BOD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	9.17	******		******	11	******		0	01/30	comp 8
00310 W 0 See Comments	PERMIT REQUIREMENT	188 WKLY AVG	******	lb/d	******	45 WKLY AVG	******	mg/L		Monthly	COMP-8
pH	SAMPLE MEASUREMENT	******	******	******	7.7	******	8.0		0	01/07	comp 8
00400 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	6.5 INST MIN	******	9 INST MAX	SU		Weekly	GRAB
Solids, total suspended	SAMPLE MEASUREMENT	46	******		******	46	******		Ø	01/30	comp 8
00530 1 0 Effluent Gross	PERMIT REQUIREMENT	125 MO AVG	******	lb/d	******	30 MO AVG	******	mg/L		Monthly	COMP-8
Solids, total suspended	SAMPLE MEASUREMENT	******	******	******	******	136	******		0	01/30	comp 8
00530 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	******	******	******	******	Req. Mon. MO AVG	******	mg/L		Monthly	COMP-8
Solids, total suspended	SAMPLE MEASUREMENT	46	******		******	46	******		Ø	01/30	comp 8
00530 W 0 See Comments	PERMIT REQUIREMENT	188 WKLY AVG	******	lb/d	******	45 WKLY AVG	******	mg/L		Monthly	COMP-8

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
Mayor Connie Wills	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations	Connie Wills	208-366-7418		02/10/2014
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

W=WEEKLY LIMITS

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

NAME: GLENNS FERRY, CITY OF
ADDRESS: PO BOX 910
GLENNS FERRY, ID 83623
FACILITY: GLENNS FERRY, CITY OF - GLENNS FERRY WWTP
LOCATION: 901 SOUTH STEEN DRIVE
GLENNS FERRY, ID 83623
ATTN: JEFF COOK, PUBLIC WORK SUPER

PERMIT NUMBER	DISCHARGE NUMBER
ID0022004	001-A

MONITORING PERIOD	
MM/DD/YYYY	MM/DD/YYYY
1/1/2014	1/31/2014

DMR Mailing ZIP CODE: 83623
MINOR $
(SUBR 02)

External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING VALUE	QUANTITY OR LOADING VALUE	QUANTITY OR LOADING UNITS	QUALITY OR CONCENTRATION VALUE	QUALITY OR CONCENTRATION VALUE	QUALITY OR CONCENTRATION VALUE	QUALITY OR CONCENTRATION UNITS	NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
Nitrogen, ammonia total [as N]	SAMPLE MEASUREMENT	******	******	******	******	******	.04		0	01/30	Comp 8
00610 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. MO MAX	mg/L		Monthly	COMP-8
Phosphorus, total [as P]	SAMPLE MEASUREMENT	2.3	******		******	2.30	2.30		0	01/30	Comp 8
00665 1 0 Effluent Gross	PERMIT REQUIREMENT	25.6 MO AVG	******	lb/d	******	6.1 MO AVG	Req. Mon. MO MAX	mg/L		Monthly	COMP-8
Phosphorus, total [as P]	SAMPLE MEASUREMENT	2.3	******		******	******	2.30		0	01/30	Comp 8
00665 W 0 See Comments	PERMIT REQUIREMENT	38.4 WKLY AVG	******	lb/d	******	******	Req. Mon. MO MAX	mg/L		Monthly	COMP-8
E. coli, MTEC-MF	SAMPLE MEASUREMENT	******	******	******	******	2.13	11		0	05/30	GR
31648 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	126 MO GEOMN	406 INST MAX	#/100mL		5 Times Every Month	GRAB
Floating solids or visible foam-visual	SAMPLE MEASUREMENT	******	0		******	******	******	******	0	WO	V
45613 1 0 Effluent Gross	PERMIT REQUIREMENT	******	0 MO MAX	Y=1;N=0	******	******	******	******		When Discharging	VISUAL
Flow, in conduit or thru treatment plant	SAMPLE MEASUREMENT	******	.10		******	******	******	******	0	W	EST
50050 1 0 Effluent Gross	PERMIT REQUIREMENT	******	Req. Mon. MO MAX	MGD	******	******	******	******		Weekly	ESTIMA
Flow, in conduit or thru treatment plant	SAMPLE MEASUREMENT	******	.12		******	******	******	******	0	99/99	RC
50050 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	******	Req. Mon. MO MAX	MGD	******	******	******	******		Continuous	RCORDR

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
Mayor Connie Wills	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	Connie Wills	208-366-7418		02/10/2014
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

W=WEEKLY LIMITS

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

NAME: GLENNS FERRY, CITY OF
ADDRESS: PO BOX 910
GLENNS FERRY, ID 83623
FACILITY: GLENNS FERRY, CITY OF - GLENNS FERRY WWTP
LOCATION: 901 SOUTH STEEN DRIVE
GLENNS FERRY, ID 83623

ATTN: JEFF COOK, PUBLIC WORK SUPER

PERMIT NUMBER	DISCHARGE NUMBER
ID0022004	001-A

MONITORING PERIOD	
MM/DD/YYYY	MM/DD/YYYY
1/1/2014	1/31/2014

DMR Mailing ZIP CODE: 83623
MINOR $
(SUBR 02)

External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
BOD, 5-day, percent removal	SAMPLE MEASUREMENT	******	******	******	90	******	******		0	01/30	C
81010 K 0 Percent Removal	PERMIT REQUIREMENT	******	******	******	85 MO MIN	******	******	%		Monthly	CALCTD
Solids, suspended percent removal	SAMPLE MEASUREMENT	******	******	******	66	******	******		1	01/30	C
81011 K 0 Percent Removal	PERMIT REQUIREMENT	******	******	******	85 MO MIN	******	******	%		Monthly	CALCTD
Oil and grease visual	SAMPLE MEASUREMENT	******	0		******	******	******	******	0	WD	V
84066 1 0 Effluent Gross	PERMIT REQUIREMENT	******	0 MO MAX	Y=1;N=0	******	******	******	******		When Discharging	VISUAL

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
Mayor Connie Wills	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	Connie Wills	208-366-7418		02/10/2014
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

W=WEEKLY LIMITS

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

NAME: GLENNS FERRY, CITY OF
ADDRESS: P.O. BOX 910
GLENNS FERRY, ID 83623

FACILITY: GLENNS FERRY, CITY OF
LOCATION: 901 SOUTH MARTELL DRIVE
GLENNS FERRY, ID 83623

ATTN: JEFF COOK, PUBLIC WORK SUPER

ID0022004	001-A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD		
	MM/DD/YYYY	MM/DD/YYYY
FROM	12/01/2013	TO 12/31/2013

DMR Mailing ZIP CODE: 83623
MINOR $
(SUBR 02)

External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
BOD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	4	******		******	3	******		0	01/30	Comp8
00310 1 0 Effluent Gross	PERMIT REQUIREMENT	125 MO AVG	******	lb/d	******	30 MO AVG	******	mg/L		Monthly	COMP-8
BOD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	******	******	******	******	148	******		0	01/30	Comp 8
00310 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	******	******	******	******	Req. Mon. MO AVG	******	mg/L		Monthly	COMP-8
BOD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	4	******		******	3	******		0	01/30	Comp 8
00310 W 0 See Comments	PERMIT REQUIREMENT	188 WKLY AVG	******	lb/d	******	45 WKLY AVG	******	mg/L		Monthly	COMP-8
pH	SAMPLE MEASUREMENT	******	******	******	7.6	******	8.1		0	01/07	GR
00400 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	6.5 INST MIN	******	9 INST MAX	SU		Weekly	GRAB
Solids, total suspended	SAMPLE MEASUREMENT	4	******		******	3	******		0	01/30	Comp 8
00530 1 0 Effluent Gross	PERMIT REQUIREMENT	125 MO AVG	******	lb/d	******	30 MO AVG	******	mg/L		Monthly	COMP-8
Solids, total suspended	SAMPLE MEASUREMENT	******	******	******	******	316	******		0	01/30	Comp 8
00530 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	******	******	******	******	Req. Mon. MO AVG	******	mg/L		Monthly	COMP-8
Solids, total suspended	SAMPLE MEASUREMENT	4	******		******	3	******		0	01/30	Comp 8
00530 W 0 See Comments	PERMIT REQUIREMENT	188 WKLY AVG	******	lb/d	******	45 WKLY AVG	******	mg/L		Monthly	COMP-8

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		TELEPHONE		DATE
JoAnne Lanham Mayor	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	208-366-7418		01/08/2014
TYPED OR PRINTED	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
W=WEEKLY LIMITS

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

NAME: GLENNS FERRY, CITY OF
ADDRESS: P.O. BOX 910
GLENNS FERRY, ID 83623
FACILITY: GLENNS FERRY, CITY OF
LOCATION: 901 SOUTH MARTELL DRIVE
GLENNS FERRY, ID 83623

ATTN: JEFF COOK, PUBLIC WORK SUPER

ID0022004	001-A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	12/01/2013	TO	12/31/2013

DMR Mailing ZIP CODE: 83623
MINOR $
(SUBR 02)

External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Nitrogen, ammonia total (as N)	SAMPLE MEASUREMENT	******	******	******	******	******	.75		0	01/30	COMP8
00610 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. MO MAX	mg/L		Monthly	COMP-8
Phosphorus, total (as P)	SAMPLE MEASUREMENT	1.89	******		******	1.42	1.42		0	01/30	COMP8
00665 1 0 Effluent Gross	PERMIT REQUIREMENT	25.6 MO AVG	******	lb/d	******	6.1 MO AVG	Req. Mon. MO MAX	mg/L		Monthly	COMP-8
Phosphorus, total (as P)	SAMPLE MEASUREMENT	1.89	******		******	******	1.42		0	01/30	COMP8
00665 W 0 See Comments	PERMIT REQUIREMENT	38.4 WKLY AVG	******	lb/d	******	******	Req. Mon. MO MAX	mg/L		Monthly	COMP-8
E. coli, MTEC-MF	SAMPLE MEASUREMENT	******	******	******	******	25	370		0	05/30	COMP8
31648 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	126 MO GEOMN	406 INST MAX	#/100mL		5 Times Every Month	GRAB
Floating solids or visible foam-visual	SAMPLE MEASUREMENT	******	0		******	******	******	******	0	WO	V
45613 1 0 Effluent Gross	PERMIT REQUIREMENT	******	0 MO MAX	Y=1;N=0	******	******	******	******		When Discharging	VISUAL
Flow, in conduit or thru treatment plant	SAMPLE MEASUREMENT	******	.12		******	******	******	******	0	W	EST
50050 1 0 Effluent Gross	PERMIT REQUIREMENT	******	Req. Mon. MO MAX	MGD	******	******	******	******		Weekly	ESTIMA
Flow, in conduit or thru treatment plant	SAMPLE MEASUREMENT	******	.16		******	******	******	******	0	99/99	RC
50050 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	******	Req. Mon. MO MAX	MGD	******	******	******	******		Continuous	RCORDR

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
JoAnn Lanham Mayor	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	JoAnn Lanham (SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT)	208-366-7418		01/08/2014
TYPED OR PRINTED			AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
W=WEEKLY LIMITS

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

NAME: GLENNS FERRY, CITY OF
ADDRESS: P.O. BOX 910
GLENNS FERRY, ID 83623
FACILITY: GLENNS FERRY, CITY OF
LOCATION: 901 SOUTH MARTELL DRIVE
GLENNS FERRY, ID 83623

ATTN: JEFF COOK, PUBLIC WORK SUPER

ID0022004	001-A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD		
	MM/DD/YYYY	MM/DD/YYYY
FROM	12/01/2013	TO 12/31/2013

DMR Mailing ZIP CODE: 83623
MINOR $
(SUBR 02)

External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
BOD, 5-day, percent removal	SAMPLE MEASUREMENT	******	******	******	97	******	******		0	01/30	C
81010 K 0 Percent Removal	PERMIT REQUIREMENT	******	******	******	85 MO MIN	******	******	%		Monthly	CALCTD
Solids, suspended percent removal	SAMPLE MEASUREMENT	******	******	******	99	******	******		0	01/30	C
81011 K 0 Percent Removal	PERMIT REQUIREMENT	******	******	******	85 MO MIN	******	******	%		Monthly	CALCTD
Oil and grease visual	SAMPLE MEASUREMENT	******	0		******	******	******	******	0	WD	V
84066 1 0 Effluent Gross	PERMIT REQUIREMENT	******	0 MO MAX	Y=1;N=0	******	******	******	******		When Discharging	VISUAL

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
JoAnne Lanham Mayor	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	JoAnne Lanham	208-366-7418		01/06/2014
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
W=WEEKLY LIMITS

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

NAME: GLENNS FERRY, CITY OF
ADDRESS: P.O. BOX 910
GLENNS FERRY, ID 83623
FACILITY: GLENNS FERRY, CITY OF
LOCATION: 901 SOUTH MARTELL DRIVE
GLENNS FERRY, ID 83623

ATTN: JEFF COOK, PUBLIC WORK SUPER

ID0022004	001-A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	11/01/2013	TO	11/30/2013

DMR Mailing ZIP CODE: 83623
MINOR $
(SUBR 02)

External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
BOD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	3.5	******		******	3	******		0	01/30	Comp 8
00310 1 0 Effluent Gross	PERMIT REQUIREMENT	125 MO AVG	******	lb/d	******	30 MO AVG	******	mg/L		Monthly	COMP-8
BOD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	******	******	******	******	148	******		0	01/30	Comp 8
00310 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	******	******	******	******	Req. Mon. MO AVG	******	mg/L		Monthly	COMP-8
BOD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	3.5	******		******	3	******		0	01/30	Comp 8
00310 W 0 See Comments	PERMIT REQUIREMENT	188 WKLY AVG	******	lb/d	******	45 WKLY AVG	******	mg/L		Monthly	COMP-8
pH	SAMPLE MEASUREMENT	******	******	******	7.5	******	7.7		0	01/07	GR
00400 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	6.5 INST MIN	******	9 INST MAX	SU		Weekly	GRAB
Solids, total suspended	SAMPLE MEASUREMENT	3.5	******		******	3	******		0	01/30	Comp 8
00530 1 0 Effluent Gross	PERMIT REQUIREMENT	125 MO AVG	******	lb/d	******	30 MO AVG	******	mg/L		Monthly	COMP-8
Solids, total suspended	SAMPLE MEASUREMENT	******	******	******	******	320	******		0	01/30	Comp 8
00530 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	******	******	******	******	Req. Mon. MO AVG	******	mg/L		Monthly	COMP-8
Solids, total suspended	SAMPLE MEASUREMENT	3.5	******		******	3	******		0	01/30	Comp 8
00530 W 0 See Comments	PERMIT REQUIREMENT	188 WKLY AVG	******	lb/d	******	45 WKLY AVG	******	mg/L		Monthly	COMP-8

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
Mayor JoAnne Lanham	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	JoAnne Lanham	208-366-7418		12/10/2013
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
W=WEEKLY LIMITS

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

NAME: GLENNS FERRY, CITY OF
ADDRESS: P.O. BOX 910
GLENNS FERRY, ID 83623

FACILITY: GLENNS FERRY, CITY OF
LOCATION: 901 SOUTH MARTELL DRIVE
GLENNS FERRY, ID 83623

ATTN: JEFF COOK, PUBLIC WORK SUPER

ID0022004	001-A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	11/01/2013	TO	11/30/2013

DMR Mailing ZIP CODE: 83623
MINOR $
(SUBR 02)

External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Nitrogen, ammonia total (as N)	SAMPLE MEASUREMENT	******	******	******	******	******	1.01			01/30	Comp8
00610 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. MO MAX	mg/L		Monthly	COMP-8
Phosphorus, total (as P)	SAMPLE MEASUREMENT	2.7	******		******	2.31	2.31			01/30	Comp8
00665 1 0 Effluent Gross	PERMIT REQUIREMENT	25.6 MO AVG	******	lb/d	******	6.1 MO AVG	Req. Mon. MO MAX	mg/L		Monthly	COMP-8
Phosphorus, total (as P)	SAMPLE MEASUREMENT	2.7	******		******	******	2.31			01/30	Comp8
00665 W 0 See Comments	PERMIT REQUIREMENT	38.4 WKLY AVG	******	lb/d	******	******	Req. Mon. MO MAX	mg/L		Monthly	COMP-8
E. coli, MTEC-MF	SAMPLE MEASUREMENT	******	******	******	******	1	1			05/30	GR
31648 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	126 MO GEOMN	406 INST MAX	#/100mL		5 Times Every Month	GRAB
Floating solids or visible foam-visual	SAMPLE MEASUREMENT	******	0		******	******	******	******		WO	V
45613 1 0 Effluent Gross	PERMIT REQUIREMENT	******	0 MO MAX	Y=1;N=0	******	******	******	******		When Discharging	VISUAL
Flow, in conduit or thru treatment plant	SAMPLE MEASUREMENT	******	.12		******	******	******	******		W	EST
50050 1 0 Effluent Gross	PERMIT REQUIREMENT	******	Req. Mon. MO MAX	MGD	******	******	******	******		Weekly	ESTIMA
Flow, in conduit or thru treatment plant	SAMPLE MEASUREMENT	******	.14		******	******	******	******		99/99	RC
50050 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	******	Req. Mon. MO MAX	MGD	******	******	******	******		Continuous	RCORDR

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
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TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
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Form Approved
OMB No. 2040-0004

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LOCATION: 901 SOUTH MARTELL DRIVE
GLENNS FERRY, ID 83623

ATTN: JEFF COOK, PUBLIC WORK SUPER

ID0022004	001-A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	11/01/2013	TO	11/30/2013

DMR Mailing ZIP CODE: 83623
MINOR $
(SUBR 02)

External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
BOD, 5-day, percent removal	SAMPLE MEASUREMENT	******	******	******	97	******	******		0	01/30	C
81010 K 0 Percent Removal	PERMIT REQUIREMENT	******	******	******	85 MO MIN	******	******	%		Monthly	CALCTD
Solids, suspended percent removal	SAMPLE MEASUREMENT	******	******	******	99	******	******		0	01/30	C
81011 K 0 Percent Removal	PERMIT REQUIREMENT	******	******	******	85 MO MIN	******	******	%		Monthly	CALCTD
Oil and grease visual	SAMPLE MEASUREMENT	******	0		******	******	******	******	0	WO	V
84066 1 0 Effluent Gross	PERMIT REQUIREMENT	******	0 MO MAX	Y=1;N=0	******	******	******	******		When Discharging	VISUAL

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
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TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
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EPA Form 3320-1 (Rev.01/06) Previous editions may be used.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

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FACILITY: GLENNS FERRY, CITY OF
LOCATION: 901 SOUTH MARTELL DRIVE
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ATTN: JEFF COOK, PUBLIC WORK SUPER

ID0022004	001-A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD		
	MM/DD/YYYY	MM/DD/YYYY
FROM	10/01/2013	TO 10/31/2013

DMR Mailing ZIP CODE: 83623
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External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
BOD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	3.25	******		******	3	******		0	01/30	Comp 8
00310 1 0 Effluent Gross	PERMIT REQUIREMENT	125 MO AVG	******	lb/d	******	30 MO AVG	******	mg/L		Monthly	COMP-8
BOD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	******	******	******	******	131	******		0	01/30	Comp 8
00310 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	******	******	******	******	Req. Mon. MO AVG	******	mg/L		Monthly	COMP-8
BOD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	3.25	******		******	3	******		0	01/30	Comp 8
00310 W 0 See Comments	PERMIT REQUIREMENT	188 WKLY AVG	******	lb/d	******	45 WKLY AVG	******	mg/L		Monthly	COMP-8
pH	SAMPLE MEASUREMENT	******	******	******	7.6	******	7.6		0	01/07	GR
00400 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	6.5 INST MIN	******	9 INST MAX	SU		Weekly	GRAB
Solids, total suspended	SAMPLE MEASUREMENT	3.25	******		******	3	******		0	01/30	Comp 8
00530 1 0 Effluent Gross	PERMIT REQUIREMENT	125 MO AVG	******	lb/d	******	30 MO AVG	******	mg/L		Monthly	COMP-8
Solids, total suspended	SAMPLE MEASUREMENT	******	******	******	******	374	******		0	01/30	Comp 8
00530 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	******	******	******	******	Req. Mon. MO AVG	******	mg/L		Monthly	COMP-8
Solids, total suspended	SAMPLE MEASUREMENT	3.25	******		******	3	******		0	01/30	Comp 8
00530 W 0 See Comments	PERMIT REQUIREMENT	188 WKLY AVG	******	lb/d	******	45 WKLY AVG	******	mg/L		Monthly	COMP-8

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
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TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
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NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

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FACILITY: GLENNS FERRY, CITY OF
LOCATION: 901 SOUTH MARTELL DRIVE
GLENNS FERRY, ID 83623

ATTN: JEFF COOK, PUBLIC WORK SUPER

ID0022004	001-A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	10/01/2013	TO	10/31/2013

DMR Mailing ZIP CODE: 83623
MINOR $
(SUBR 02)

External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Nitrogen, ammonia total (as N)	SAMPLE MEASUREMENT	******	******	******	******	******	1.39		0	01/30	comp8
00610 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. MO MAX	mg/L		Monthly	COMP-8
Phosphorus, total (as P)	SAMPLE MEASUREMENT	2.86	******		******	2.64	2.64		0	01/30	comp 8
00665 1 0 Effluent Gross	PERMIT REQUIREMENT	25.6 MO AVG	******	lb/d	******	6.1 MO AVG	Req. Mon. MO MAX	mg/L		Monthly	COMP-8
Phosphorus, total (as P)	SAMPLE MEASUREMENT	2.86	******		******	******	2.64		0	01/30	comp 8
00665 W 0 See Comments	PERMIT REQUIREMENT	38.4 WKLY AVG	******	lb/d	******	******	Req. Mon. MO MAX	mg/L		Monthly	COMP-8
E. coli, MTEC-MF	SAMPLE MEASUREMENT	******	******	******	******	3.44	16		0	05/30	GR
31648 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	126 MO GEOMN	406 INST MAX	#/100mL		5 Times Every Month	GRAB
Floating solids or visible foam-visual	SAMPLE MEASUREMENT	******	0		******	******	******	******	0	WD	V
45613 1 0 Effluent Gross	PERMIT REQUIREMENT	******	0 MO MAX	Y=1;N=0	******	******	******	******		When Discharging	VISUAL
Flow, in conduit or thru treatment plant	SAMPLE MEASUREMENT	******	.12		******	******	******	******	0	W	EST
50050 1 0 Effluent Gross	PERMIT REQUIREMENT	******	Req. Mon. MO MAX	MGD	******	******	******	******		Weekly	ESTIMA
Flow, in conduit or thru treatment plant	SAMPLE MEASUREMENT	******	.13		******	******	******	******	0	99/99	RC
50050 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	******	Req. Mon. MO MAX	MGD	******	******	******	******		Continuous	RCORDR

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE		DATE
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TYPED OR PRINTED			AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
W=WEEKLY LIMITS

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

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Form Approved
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ADDRESS: P.O. BOX 910
GLENNS FERRY, ID 83623
FACILITY: GLENNS FERRY, CITY OF
LOCATION: 901 SOUTH MARTELL DRIVE
GLENNS FERRY, ID 83623

ATTN: JEFF COOK, PUBLIC WORK SUPER

ID0022004	001-A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	10/01/2013	TO	10/31/2013

DMR Mailing ZIP CODE: 83623
MINOR $
(SUBR 02)

External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
BOD, 5-day, percent removal	SAMPLE MEASUREMENT	******	******	******	97	******	******		0	01/30	C
81010 K 0 Percent Removal	PERMIT REQUIREMENT	******	******	******	85 MO MIN	******	******	%		Monthly	CALCTD
Solids, suspended percent removal	SAMPLE MEASUREMENT	******	******	******	99	******	******		0	01/30	C
81011 K 0 Percent Removal	PERMIT REQUIREMENT	******	******	******	85 MO MIN	******	******	%		Monthly	CALCTD
Oil and grease visual	SAMPLE MEASUREMENT	******	0		******	******	******	******	0	WD	V
84066 1 0 Effluent Gross	PERMIT REQUIREMENT	******	0 MO MAX	Y=1;N=0	******	******	******	******		When Discharging	VISUAL

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE		DATE
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TYPED OR PRINTED			AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
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		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
BOD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	4.67	******		******	4	******		0	01/30	Comp 8
00310 1 0 Effluent Gross	PERMIT REQUIREMENT	125 MO AVG	******	lb/d	******	30 MO AVG	******	mg/L		Monthly	COMP-8
BOD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	******	******	******	******	100	******		0	01/30	Comp 8
00310 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	******	******	******	******	Req. Mon. MO AVG	******	mg/L		Monthly	COMP-8
BOD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	4.67	******		******	4	******		0	01/30	Comp 8
00310 W 0 See Comments	PERMIT REQUIREMENT	188 WKLY AVG	******	lb/d	******	45 WKLY AVG	******	mg/L		Monthly	COMP-8
pH	SAMPLE MEASUREMENT	******	******	******	7.6	******	7.7		0	01/07	GR
00400 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	6.5 INST MIN	******	9 INST MAX	SU		Weekly	GRAB
Solids, total suspended	SAMPLE MEASUREMENT	3.5	******		******	3	******		0	01/30	Comp 8
00530 1 0 Effluent Gross	PERMIT REQUIREMENT	125 MO AVG	******	lb/d	******	30 MO AVG	******	mg/L		Monthly	COMP-8
Solids, total suspended	SAMPLE MEASUREMENT	******	******	******	******	113	******		0	01/30	Comp 8
00530 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	******	******	******	******	Req. Mon. MO AVG	******	mg/L		Monthly	COMP-8
Solids, total suspended	SAMPLE MEASUREMENT	3.5	******		******	3	******		0	01/30	Comp 8
00530 W 0 See Comments	PERMIT REQUIREMENT	188 WKLY AVG	******	lb/d	******	45 WKLY AVG	******	mg/L		Monthly	COMP-8

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
JoAnne Lanham mayor	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations	JoAnne Lanham	208-366-7418		10/09/2013
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

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ATTN: JEFF COOK, PUBLIC WORK SUPER

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		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Nitrogen, ammonia total (as N)	SAMPLE MEASUREMENT	******	******	******	******	******	1.48		0	01/30	COMP 8
00610 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. MO MAX	mg/L		Monthly	COMP-8
Phosphorus, total (as P)	SAMPLE MEASUREMENT	3.12	******		******	2.67	2.67		0	01/30	COMP 8
00665 1 0 Effluent Gross	PERMIT REQUIREMENT	25.6 MO AVG	******	lb/d	******	6.1 MO AVG	Req. Mon. MO MAX	mg/L		Monthly	COMP-8
Phosphorus, total (as P)	SAMPLE MEASUREMENT	3.12	******		******	******	2.67		0	01/30	COMP 8
00665 W 0 See Comments	PERMIT REQUIREMENT	38.4 WKLY AVG	******	lb/d	******	******	Req. Mon. MO MAX	mg/L		Monthly	COMP-8
E. coli, MTEC-MF	SAMPLE MEASUREMENT	******	******	******	******	5.67	15		0	05/30	GR
31648 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	126 MO GEOMN	406 INST MAX	#/100mL		5 Times Every Month	GRAB
Floating solids or visible foam-visual	SAMPLE MEASUREMENT	******	0		******	******	******	******	0	WD	V
45613 1 0 Effluent Gross	PERMIT REQUIREMENT	******	0 MO MAX	Y=1;N=0	******	******	******	******		When Discharging	VISUAL
Flow, in conduit or thru treatment plant	SAMPLE MEASUREMENT	******	.14		******	******	******	******	0	W	EST
50050 1 0 Effluent Gross	PERMIT REQUIREMENT	******	Req. Mon. MO MAX	MGD	******	******	******	******		Weekly	ESTIMA
Flow, in conduit or thru treatment plant	SAMPLE MEASUREMENT	******	.12		******	******	******	******	0	99/99	RC
50050 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	******	Req. Mon. MO MAX	MGD	******	******	******	******		Continuous	RCORDR

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TYPED OR PRINTED			AREA Code	NUMBER	MM/DD/YYYY

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PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

NAME: GLENNS FERRY, CITY OF
ADDRESS: P.O. BOX 910
GLENNS FERRY, ID 83623
FACILITY: GLENNS FERRY, CITY OF
LOCATION: 901 SOUTH MARTELL DRIVE
GLENNS FERRY, ID 83623

ATTN: JEFF COOK, PUBLIC WORK SUPER

PERMIT NUMBER	DISCHARGE NUMBER
ID0022004	001-A

MONITORING PERIOD		
	MM/DD/YYYY	MM/DD/YYYY
FROM	09/01/2013	TO 09/30/2013

DMR Mailing ZIP CODE: 83623
MINOR $
(SUBR 02)

External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
BOD, 5-day, percent removal	SAMPLE MEASUREMENT	******	******	******	96	******	******		0	01/30	C
81010 K 0 Percent Removal	PERMIT REQUIREMENT	******	******	******	85 MO MIN	******	******	%		Monthly	CALCTD
Solids, suspended percent removal	SAMPLE MEASUREMENT	******	******	******	97	******	******		0	01/30	C
81011 K 0 Percent Removal	PERMIT REQUIREMENT	******	******	******	85 MO MIN	******	******	%		Monthly	CALCTD
Oil and grease visual	SAMPLE MEASUREMENT	******	0		******	******	******	******	0	WD	V
84066 1 0 Effluent Gross	PERMIT REQUIREMENT	******	0 MO MAX	Y=1;N=0	******	******	******	******		When Discharging	VISUAL

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
Jo Anne Lanham Mayor	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations	Jo Anne Lanham	208-366-7418		10/09/2013
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
W=WEEKLY LIMITS

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

NAME: GLENNS FERRY, CITY OF
ADDRESS: P.O. BOX 910
GLENNS FERRY, ID 83623
FACILITY: GLENNS FERRY, CITY OF
LOCATION: 901 SOUTH MARTELL DRIVE
GLENNS FERRY, ID 83623

ATTN: JEFF COOK, PUBLIC WORK SUPER

ID0022004	001-A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	08/01/2013	TO	08/31/2013

DMR Mailing ZIP CODE: 83623
MINOR $
(SUBR 02)

External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
BOD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	6.7	******		******	5	******		0	01/30	Comp8
00310 1 0 Effluent Gross	PERMIT REQUIREMENT	125 MO AVG	******	lb/d	******	30 MO AVG	******	mg/L		Monthly	COMP-8
BOD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	******	******	******	******	196	******		0	01/30	Comp8
00310 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	******	******	******	******	Req. Mon. MO AVG	******	mg/L		Monthly	COMP-8
BOD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	6.7	******		******	5	******		0	01/30	Comp8
00310 W 0 See Comments	PERMIT REQUIREMENT	188 WKLY AVG	******	lb/d	******	45 WKLY AVG	******	mg/L		Monthly	COMP-8
pH	SAMPLE MEASUREMENT	******	******	******	7.6	******	7.6		0	01/07	GR
00400 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	6.5 INST MIN	******	9 INST MAX	SU		Weekly	GRAB
Solids, total suspended	SAMPLE MEASUREMENT	21.4	******		******	16	******		0	01/30	Comp8
00530 1 0 Effluent Gross	PERMIT REQUIREMENT	125 MO AVG	******	lb/d	******	30 MO AVG	******	mg/L		Monthly	COMP-8
Solids, total suspended	SAMPLE MEASUREMENT	******	******	******	******	182	******		0	01/30	Comp8
00530 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	******	******	******	******	Req. Mon. MO AVG	******	mg/L		Monthly	COMP-8
Solids, total suspended	SAMPLE MEASUREMENT	21.4	******		******	16	******		0	01/30	Comp8
00530 W 0 See Comments	PERMIT REQUIREMENT	188 WKLY AVG	******	lb/d	******	45 WKLY AVG	******	mg/L		Monthly	COMP-8

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
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TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
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EPA Form 3320-1 (Rev.01/06) Previous editions may be used.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

NAME: GLENNS FERRY, CITY OF
ADDRESS: P.O. BOX 910
GLENNS FERRY, ID 83623
FACILITY: GLENNS FERRY, CITY OF
LOCATION: 901 SOUTH MARTELL DRIVE
GLENNS FERRY, ID 83623

ATTN: JEFF COOK, PUBLIC WORK SUPER

ID0022004	001-A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	08/01/2013	TO	08/31/2013

DMR Mailing ZIP CODE: 83623
MINOR $
(SUBR 02)

External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Nitrogen, ammonia total (as N)	SAMPLE MEASUREMENT	******	******	******	******	******	1.12		0	01/30	comp8
00610 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. MO MAX	mg/L		Monthly	COMP-8
Phosphorus, total (as P)	SAMPLE MEASUREMENT	2.9	******		******	2.20	2.20		0	01/30	comp8
00665 1 0 Effluent Gross	PERMIT REQUIREMENT	25.6 MO AVG	******	lb/d	******	6.1 MO AVG	Req. Mon. MO MAX	mg/L		Monthly	COMP-8
Phosphorus, total (as P)	SAMPLE MEASUREMENT	2.9	******		******	******	2.20		0	01/30	comp8
00665 W 0 See Comments	PERMIT REQUIREMENT	38.4 WKLY AVG	******	lb/d	******	******	Req. Mon. MO MAX	mg/L		Monthly	COMP-8
E. coli, MTEC-MF	SAMPLE MEASUREMENT	******	******	******	******	10.7	40		0	05/30	GR
31648 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	126 MO GEOMN	406 INST MAX	#/100mL		5 Times Every Month	GRAB
Floating solids or visible foam-visual	SAMPLE MEASUREMENT	******	0		******	******	******	******	0	WD	V
45613 1 0 Effluent Gross	PERMIT REQUIREMENT	******	0 MO MAX	Y=1;N=0	******	******	******	******		When Discharging	VISUAL
Flow, in conduit or thru treatment plant	SAMPLE MEASUREMENT	******	.12		******	******	******	******	0	W	EST
50050 1 0 Effluent Gross	PERMIT REQUIREMENT	******	Req. Mon. MO MAX	MGD	******	******	******	******		Weekly	ESTIMA
Flow, in conduit or thru treatment plant	SAMPLE MEASUREMENT	******	.16		******	******	******	******	0	99/99	RC
50050 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	******	Req. Mon. MO MAX	MGD	******	******	******	******		Continuous	RCORDR

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE		DATE
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TYPED OR PRINTED			AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
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NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

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OMB No. 2040-0004

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LOCATION: 901 SOUTH MARTELL DRIVE
GLENNS FERRY, ID 83623

ATTN: JEFF COOK, PUBLIC WORK SUPER

PERMIT NUMBER	DISCHARGE NUMBER
ID0022004	001-A

MONITORING PERIOD		
	MM/DD/YYYY	MM/DD/YYYY
FROM	08/01/2013	TO 08/31/2013

DMR Mailing ZIP CODE: 83623
MINOR $
(SUBR 02)

External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
BOD, 5-day, percent removal	SAMPLE MEASUREMENT	******	******	******	97	******	******		0	01/30	C
81010 K 0 Percent Removal	PERMIT REQUIREMENT	******	******	******	85 MO MIN	******	******	%		Monthly	CALCTD
Solids, suspended percent removal	SAMPLE MEASUREMENT	******	******	******	91	******	******		0	01/30	C
81011 K 0 Percent Removal	PERMIT REQUIREMENT	******	******	******	85 MO MIN	******	******	%		Monthly	CALCTD
Oil and grease visual	SAMPLE MEASUREMENT	******	0		******	******	******	******	0	WO	V
84066 1 0 Effluent Gross	PERMIT REQUIREMENT	******	0 MO MAX	Y=1;N=0	******	******	******	******		When Discharging	VISUAL

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE		DATE
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TYPED OR PRINTED			AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
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EPA Form 3320-1 (Rev.01/06) Previous editions may be used.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

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ATTN: JEFF COOK, PUBLIC WORK SUPER

ID0022004	001-A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	07/01/2013	TO	07/31/2013

DMR Mailing ZIP CODE: 83623
MINOR $
(SUBR 02)

External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
BOD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	4.3	******		******	4	******		0	01/30	Comp 8
00310 1 0 Effluent Gross	PERMIT REQUIREMENT	125 MO AVG	******	lb/d	******	30 MO AVG	******	mg/L		Monthly	COMP-8
BOD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	******	******	******	******	99	******		0	01/30	Comp 8
00310 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	******	******	******	******	Req. Mon. MO AVG	******	mg/L		Monthly	COMP-8
BOD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	4.3	******		******	4	******		0	01/30	Comp 8
00310 W 0 See Comments	PERMIT REQUIREMENT	188 WKLY AVG	******	lb/d	******	45 WKLY AVG	******	mg/L		Monthly	COMP-8
pH	SAMPLE MEASUREMENT	******	******	******	7.5	******	7.6		0	01/07	GR
00400 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	6.5 INST MIN	******	9 INST MAX	SU		Weekly	GRAB
Solids, total suspended	SAMPLE MEASUREMENT	5.4	******		******	5	******		0	01/30	Comp 8
00530 1 0 Effluent Gross	PERMIT REQUIREMENT	125 MO AVG	******	lb/d	******	30 MO AVG	******	mg/L		Monthly	COMP-8
Solids, total suspended	SAMPLE MEASUREMENT	******	******	******	******	161	******		0	01/30	Comp 8
00530 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	******	******	******	******	Req. Mon. MO AVG	******	mg/L		Monthly	COMP-8
Solids, total suspended	SAMPLE MEASUREMENT	5.4	******		******	5	******		0	01/30	Comp 8
00530 W 0 See Comments	PERMIT REQUIREMENT	188 WKLY AVG	******	lb/d	******	45 WKLY AVG	******	mg/L		Monthly	COMP-8

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
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TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
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NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
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Form Approved
OMB No. 2040-0004

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FACILITY: GLENNS FERRY, CITY OF
LOCATION: 901 SOUTH MARTELL DRIVE
GLENNS FERRY, ID 83623

ATTN: JEFF COOK, PUBLIC WORK SUPER

ID0022004	001-A
PERMIT NUMBER	DISCHARGE NUMBER

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	MM/DD/YYYY		MM/DD/YYYY
FROM	07/01/2013	TO	07/31/2013

DMR Mailing ZIP CODE: 83623
MINOR $
(SUBR 02)

External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Nitrogen, ammonia total (as N)	SAMPLE MEASUREMENT	******	******	******	******	******	0.62		0	01/30	comp 8
00610 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. MO MAX	mg/L		Monthly	COMP-8
Phosphorus, total (as P)	SAMPLE MEASUREMENT	1.82	******		******	1.68	1.68		0	01/30	comp 8
00665 1 0 Effluent Gross	PERMIT REQUIREMENT	25.6 MO AVG	******	lb/d	******	6.1 MO AVG	Req. Mon. MO MAX	mg/L		Monthly	COMP-8
Phosphorus, total (as P)	SAMPLE MEASUREMENT	1.82	******		******	******	1.68		0	01/30	comp 8
00665 W 0 See Comments	PERMIT REQUIREMENT	38.4 WKLY AVG	******	lb/d	******	******	Req. Mon. MO MAX	mg/L		Monthly	COMP-8
E. coli, MTEC-MF	SAMPLE MEASUREMENT	******	******	******	******	3.57	29		0	05/30	GR
31648 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	126 MO GEOMN	406 INST MAX	#/100mL		5 Times Every Month	GRAB
Floating solids or visible foam-visual	SAMPLE MEASUREMENT	******	0		******	******	******	******	0	WD	V
45613 1 0 Effluent Gross	PERMIT REQUIREMENT	******	0 MO MAX	Y=1;N=0	******	******	******	******		When Discharging	VISUAL
Flow, in conduit or thru treatment plant	SAMPLE MEASUREMENT	******	.11		******	******	******	******	0	W	EST
50050 1 0 Effluent Gross	PERMIT REQUIREMENT	******	Req. Mon. MO MAX	MGD	******	******	******	******		Weekly	ESTIMA
Flow, in conduit or thru treatment plant	SAMPLE MEASUREMENT	******	.13		******	******	******	******	0	99/99	RC
50050 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	******	Req. Mon. MO MAX	MGD	******	******	******	******		Continuous	RCORDR

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
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TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

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Form Approved
OMB No. 2040-0004

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FACILITY: GLENNS FERRY, CITY OF
LOCATION: 901 SOUTH MARTELL DRIVE
GLENNS FERRY, ID 83623

ATTN: JEFF COOK, PUBLIC WORK SUPER

ID0022004	001-A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	07/01/2013	TO	07/31/2013

DMR Mailing ZIP CODE: 83623
MINOR $
(SUBR 02)

External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
BOD, 5-day, percent removal	SAMPLE MEASUREMENT	******	******	******	95	******	******		0	01/30	C
81010 K 0 Percent Removal	PERMIT REQUIREMENT	******	******	******	85 MO MIN	******	******	%		Monthly	CALCTD
Solids, suspended percent removal	SAMPLE MEASUREMENT	******	******	******	96	******	******		0	01/30	C
81011 K 0 Percent Removal	PERMIT REQUIREMENT	******	******	******	85 MO MIN	******	******	%		Monthly	CALCTD
Oil and grease visual	SAMPLE MEASUREMENT	******	0		******	******	******	******	0	WD	V
84066 1 0 Effluent Gross	PERMIT REQUIREMENT	******	0 MO MAX	Y=1;N=0	******	******	******	******		When Discharging	VISUAL

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TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
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NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
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PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

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ADDRESS: P.O. BOX 910
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FACILITY: GLENNS FERRY, CITY OF
LOCATION: 901 SOUTH MARTELL DRIVE
GLENNS FERRY, ID 83623

ATTN: JEFF COOK, PUBLIC WORK SUPER

ID0022004	001-A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD		
	MM/DD/YYYY	MM/DD/YYYY
FROM	06/01/2013	TO 06/30/2013

DMR Mailing ZIP CODE: 83623
MINOR $
(SUBR 02)

External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
BOD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	2.75	******		******	3	******		0	01/30	Comp 8
00310 1 0 Effluent Gross	PERMIT REQUIREMENT	125 MO AVG	******	lb/d	******	30 MO AVG	******	mg/L		Monthly	COMP-8
BOD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	******	******	******	******	369	******		0	01/30	Comp 8
00310 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	******	******	******	******	Req. Mon. MO AVG	******	mg/L		Monthly	COMP-8
BOD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	2.75	******		******	3	******		0	01/30	Comp 8
00310 W 0 See Comments	PERMIT REQUIREMENT	188 WKLY AVG	******	lb/d	******	45 WKLY AVG	******	mg/L		Monthly	COMP-8
pH	SAMPLE MEASUREMENT	******	******	******	7.5	******	7.7		0	W	GR
00400 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	6.5 INST MIN	******	9 INST MAX	SU		Weekly	GRAB
Solids, total suspended	SAMPLE MEASUREMENT	2.75	******		******	3	******		0	01/30	Comp 8
00530 1 0 Effluent Gross	PERMIT REQUIREMENT	125 MO AVG	******	lb/d	******	30 MO AVG	******	mg/L		Monthly	COMP-8
Solids, total suspended	SAMPLE MEASUREMENT	******	******	******	******	156	******		0	01/30	Comp 8
00530 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	******	******	******	******	Req. Mon. MO AVG	******	mg/L		Monthly	COMP-8
Solids, total suspended	SAMPLE MEASUREMENT	2.75	******		******	3	******		0	01/30	Comp 8
00530 W 0 See Comments	PERMIT REQUIREMENT	188 WKLY AVG	******	lb/d	******	45 WKLY AVG	******	mg/L		Monthly	COMP-8

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
JoAnne Lanham Mayor	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	JoAnne Lanham	208-366-7418		07/10/2013
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
W=WEEKLY LIMITS

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

NAME: GLENNS FERRY, CITY OF
ADDRESS: P.O. BOX 910
GLENNS FERRY, ID 83623
FACILITY: GLENNS FERRY, CITY OF
LOCATION: 901 SOUTH MARTELL DRIVE
GLENNS FERRY, ID 83623

ATTN: JEFF COOK, PUBLIC WORK SUPER

ID0022004	001-A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	06/01/2013	TO	06/30/2013

DMR Mailing ZIP CODE: 83623
MINOR $
(SUBR 02)

External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Nitrogen, ammonia total (as N)	SAMPLE MEASUREMENT	******	******	******	******	******	1.38		0	01/30	comp 8
00610 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. MO MAX	mg/L		Monthly	COMP-8
Phosphorus, total (as P)	SAMPLE MEASUREMENT	1.60	******		******	1.75	1.75		0	01/30	comp 8
00665 1 0 Effluent Gross	PERMIT REQUIREMENT	25.6 MO AVG	******	lb/d	******	6.1 MO AVG	Req. Mon. MO MAX	mg/L		Monthly	COMP-8
Phosphorus, total (as P)	SAMPLE MEASUREMENT	1.60	******		******	******	1.75		0	01/30	comp 8
00665 W 0 See Comments	PERMIT REQUIREMENT	38.4 WKLY AVG	******	lb/d	******	******	Req. Mon. MO MAX	mg/L		Monthly	COMP-8
E. coli, MTEC-MF	SAMPLE MEASUREMENT	******	******	******	******	1.47	7		0	05/30	GR
31648 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	126 MO GEOMN	406 INST MAX	#/100mL		5 Times Every Month	GRAB
Floating solids or visible foam-visual	SAMPLE MEASUREMENT	******	0		******	******	******	******	0	WD	V
45613 1 0 Effluent Gross	PERMIT REQUIREMENT	******	0 MO MAX	Y=1;N=0	******	******	******	******		When Discharging	VISUAL
Flow, in conduit or thru treatment plant	SAMPLE MEASUREMENT	******	.09		******	******	******	******	0	W	EST
50050 1 0 Effluent Gross	PERMIT REQUIREMENT	******	Req. Mon. MO MAX	MGD	******	******	******	******		Weekly	ESTIMA
Flow, in conduit or thru treatment plant	SAMPLE MEASUREMENT	******	.11		******	******	******	******	0	99/99	RC
50050 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	******	Req. Mon. MO MAX	MGD	******	******	******	******		Continuous	RCORDR

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
Joanne Laubaum Mayor	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	Joanne Laubaum	208-366-7919		07/10/2013
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
W=WEEKLY LIMITS

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

NAME: GLENNS FERRY, CITY OF
ADDRESS: P.O. BOX 910
GLENNS FERRY, ID 83623

FACILITY: GLENNS FERRY, CITY OF
LOCATION: 901 SOUTH MARTELL DRIVE
GLENNS FERRY, ID 83623

ATTN: JEFF COOK, PUBLIC WORK SUPER

ID0022004	001-A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	06/01/2013	TO	06/30/2013

DMR Mailing ZIP CODE: 83623
MINOR $
(SUBR 02)

External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
BOD, 5-day, percent removal	SAMPLE MEASUREMENT	******	******	******	99	******	******		0	01/30	C
81010 K 0 Percent Removal	PERMIT REQUIREMENT	******	******	******	85 MO MIN	******	******	%		Monthly	CALCTD
Solids, suspended percent removal	SAMPLE MEASUREMENT	******	******	******	98	******	******		0	01/30	C
81011 K 0 Percent Removal	PERMIT REQUIREMENT	******	******	******	85 MO MIN	******	******	%		Monthly	CALCTD
Oil and grease visual	SAMPLE MEASUREMENT	******	0		******	******	******	******	0	WD	V
84066 1 0 Effluent Gross	PERMIT REQUIREMENT	******	0 MO MAX	Y=1;N=0	******	******	******	******		When Discharging	VISUAL

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
JoAnne Landman Mayor	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	JoAnne Landman	208-366-7418		03/10/2013
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
W=WEEKLY LIMITS

EPA Form 3320-1 (Rev.01/06) Previous editions may be used.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

NAME: GLENNS FERRY, CITY OF
ADDRESS: P.O. BOX 910
GLENNS FERRY, ID 83623
FACILITY: GLENNS FERRY, CITY OF
LOCATION: 901 SOUTH MARTELL DRIVE
GLENNS FERRY, ID 83623

ATTN: JEFF COOK, PUBLIC WORK SUPER

ID0022004	001-A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	05/01/2013	TO	05/31/2013

DMR Mailing ZIP CODE: 83623
MINOR $
(SUBR 02)

External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Nitrogen, ammonia total (as N)	SAMPLE MEASUREMENT	******	******	******	******	******	.70		0	01/30	COMP8
00610 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. MO MAX	mg/L		Monthly	COMP-8
Phosphorus, total (as P)	SAMPLE MEASUREMENT	2.35	******		******	2.17	2.17		0	01/30	COMP 8
00665 1 0 Effluent Gross	PERMIT REQUIREMENT	25.6 MO AVG	******	lb/d	******	6.1 MO AVG	Req. Mon. MO MAX	mg/L		Monthly	COMP-8
Phosphorus, total (as P)	SAMPLE MEASUREMENT	2.35	******		******	******	2.17		0	01/30	COMP 8
00665 W 0 See Comments	PERMIT REQUIREMENT	38.4 WKLY AVG	******	lb/d	******	******	Req. Mon. MO MAX	mg/L		Monthly	COMP-8
E. coli, MTEC-MF	SAMPLE MEASUREMENT	******	******	******	******	1.15	2		0	05/30	GR
31648 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	126 MO GEOMN	406 INST MAX	#/100mL		5 Times Every Month	GRAB
Floating solids or visible foam-visual	SAMPLE MEASUREMENT	******	0		******	******	******	******	0	WO	V
45613 1 0 Effluent Gross	PERMIT REQUIREMENT	******	0 MO MAX	Y=1;N=0	******	******	******	******		When Discharging	VISUAL
Flow, in conduit or thru treatment plant	SAMPLE MEASUREMENT	******	.11		******	******	******	******	0	W	EST
50050 1 0 Effluent Gross	PERMIT REQUIREMENT	******	Req. Mon. MO MAX	MGD	******	******	******	******		Weekly	ESTIMA
Flow, in conduit or thru treatment plant	SAMPLE MEASUREMENT	******	.13		******	******	******	******	0	99/99	RC
50050 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	******	Req. Mon. MO MAX	MGD	******	******	******	******		Continuous	RCORDR

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE		DATE
JoAnne Lanham Mayor	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	JoAnne Lanham	208-366-7413		06/20/2013
TYPED OR PRINTED			AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
W=WEEKLY LIMITS

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

NAME: GLENNS FERRY, CITY OF
ADDRESS: P.O. BOX 910
GLENNS FERRY, ID 83623
FACILITY: GLENNS FERRY, CITY OF
LOCATION: 901 SOUTH MARTELL DRIVE
GLENNS FERRY, ID 83623

ATTN: JEFF COOK, PUBLIC WORK SUPER

ID0022004	001-A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	05/01/2013	TO	05/31/2013

DMR Mailing ZIP CODE: 83623
MINOR $
(SUBR 02)

External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
BOD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	5.4	******		******	5	******		0	01/30	Comp8
00310 1 0 Effluent Gross	PERMIT REQUIREMENT	125 MO AVG	******	lb/d	******	30 MO AVG	******	mg/L		Monthly	COMP-8
BOD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	******	******	******	******	184	******		0	01/30	Comp8
00310 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	******	******	******	******	Req. Mon. MO AVG	******	mg/L		Monthly	COMP-8
BOD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	5.4	******		******	5	******		0	01/30	Comp8
00310 W 0 See Comments	PERMIT REQUIREMENT	188 WKLY AVG	******	lb/d	******	45 WKLY AVG	******	mg/L		Monthly	COMP-8
pH	SAMPLE MEASUREMENT	******	******	******	6.9	******	7.8		0	01/07	GR
00400 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	6.5 INST MIN	******	9 INST MAX	SU		Weekly	GRAB
Solids, total suspended	SAMPLE MEASUREMENT	8.67	******		******	8	******		0	01/30	Comp8
00530 1 0 Effluent Gross	PERMIT REQUIREMENT	125 MO AVG	******	lb/d	******	30 MO AVG	******	mg/L		Monthly	COMP-8
Solids, total suspended	SAMPLE MEASUREMENT	******	******	******	******	242	******		0	01/30	Comp8
00530 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	******	******	******	******	Req. Mon. MO AVG	******	mg/L		Monthly	COMP-8
Solids, total suspended	SAMPLE MEASUREMENT	8.67	******		******	8	******		0	01/30	Comp8
00530 W 0 See Comments	PERMIT REQUIREMENT	188 WKLY AVG	******	lb/d	******	45 WKLY AVG	******	mg/L		Monthly	COMP-8

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
Joanne Langham Mayor	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	Joanne Langham	208-366-7416		06/20/2013
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
W=WEEKLY LIMITS

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

NAME: GLENNS FERRY, CITY OF
ADDRESS: P.O. BOX 910
GLENNS FERRY, ID 83623

FACILITY: GLENNS FERRY, CITY OF
LOCATION: 901 SOUTH MARTELL DRIVE
GLENNS FERRY, ID 83623

ATTN: JEFF COOK, PUBLIC WORK SUPER

ID0022004	001-A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	05/01/2013	TO	05/31/2013

DMR Mailing ZIP CODE: 83623
MINOR $
(SUBR 02)

External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
BOD, 5-day, percent removal	SAMPLE MEASUREMENT	******	******	******	97	******	******		0	01/30	C
81010 K 0 Percent Removal	PERMIT REQUIREMENT	******	******	******	85 MO MIN	******	******	%		Monthly	CALCTD
Solids, suspended percent removal	SAMPLE MEASUREMENT	******	******	******	96	******	******		0	01/30	C
81011 K 0 Percent Removal	PERMIT REQUIREMENT	******	******	******	85 MO MIN	******	******	%		Monthly	CALCTD
Oil and grease visual	SAMPLE MEASUREMENT	******	0		******	******	******	******	0	WD	V
84066 1 0 Effluent Gross	PERMIT REQUIREMENT	******	0 MO MAX	Y=1;N=0	******	******	******	******		When Discharging	VISUAL

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
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TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
W=WEEKLY LIMITS

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

NAME: GLENNS FERRY, CITY OF
ADDRESS: P.O. BOX 910
GLENNS FERRY, ID 83623
FACILITY: GLENNS FERRY, CITY OF
LOCATION: 901 SOUTH MARTELL DRIVE
GLENNS FERRY, ID 83623

ATTN: JEFF COOK, PUBLIC WORK SUPER

ID0022004	001-A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD		
	MM/DD/YYYY	MM/DD/YYYY
FROM	04/01/2013	TO 04/30/2013

DMR Mailing ZIP CODE: 83623
MINOR $
(SUBR 02)

External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
BOD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	13.76	******		******	15	******		0	01/30	Comp 8
00310 1 0 Effluent Gross	PERMIT REQUIREMENT	125 MO AVG	******	lb/d	******	30 MO AVG	******	mg/L		Monthly	COMP-8
BOD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	******	******	******	******	159	******		0	01/30	Comp 8
00310 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	******	******	******	******	Req. Mon. MO AVG	******	mg/L		Monthly	COMP-8
BOD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	13.76	******		******	15	******		0	01/30	Comp 8
00310 W 0 See Comments	PERMIT REQUIREMENT	188 WKLY AVG	******	lb/d	******	45 WKLY AVG	******	mg/L		Monthly	COMP-8
pH	SAMPLE MEASUREMENT	******	******	******	7.3	******	7.6		0	01/07	GR
00400 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	6.5 INST MIN	******	9 INST MAX	SU		Weekly	GRAB
Solids, total suspended	SAMPLE MEASUREMENT	6.42	******		******	7	******		0	01/30	Comp 8
00530 1 0 Effluent Gross	PERMIT REQUIREMENT	125 MO AVG	******	lb/d	******	30 MO AVG	******	mg/L		Monthly	COMP-8
Solids, total suspended	SAMPLE MEASUREMENT	******	******	******	******	214	******		0	01/30	Comp 8
00530 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	******	******	******	******	Req. Mon. MO AVG	******	mg/L		Monthly	COMP-8
Solids, total suspended	SAMPLE MEASUREMENT	6.42	******		******	7	******		0	01/30	Comp 8
00530 W 0 See Comments	PERMIT REQUIREMENT	188 WKLY AVG	******	lb/d	******	45 WKLY AVG	******	mg/L		Monthly	COMP-8

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
Joanne Lanham Mayor	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	Joanne Lanham	208-366-7418		05/16/2013
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
W=WEEKLY LIMITS

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

NAME: GLENNS FERRY, CITY OF
ADDRESS: P.O. BOX 910
GLENNS FERRY, ID 83623
FACILITY: GLENNS FERRY, CITY OF
LOCATION: 901 SOUTH MARTELL DRIVE
GLENNS FERRY, ID 83623

ATTN: JEFF COOK, PUBLIC WORK SUPER

ID0022004	001-A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	04/01/2013	TO	04/30/2013

DMR Mailing ZIP CODE: 83623
MINOR $
(SUBR 02)

External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Nitrogen, ammonia total (as N)	SAMPLE MEASUREMENT	******	******	******	******	******	.60		0	01/30	Comp8
00610 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. MO MAX	mg/L		Monthly	COMP-8
Phosphorus, total (as P)	SAMPLE MEASUREMENT	2.49	******		******	2.72	2.72		0	01/30	Comp 8
00665 1 0 Effluent Gross	PERMIT REQUIREMENT	25.6 MO AVG	******	lb/d	******	6.1 MO AVG	Req. Mon. MO MAX	mg/L		Monthly	COMP-8
Phosphorus, total (as P)	SAMPLE MEASUREMENT	2.49	******		******	******	2.72		0	01/30	Comp 8
00665 W 0 See Comments	PERMIT REQUIREMENT	38.4 WKLY AVG	******	lb/d	******	******	Req. Mon. MO MAX	mg/L		Monthly	COMP-8
E. coli, MTEC-MF	SAMPLE MEASUREMENT	******	******	******	******	2	35		0	05/30	GR
31648 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	126 MO GEOMN	406 INST MAX	#/100mL		5 Times Every Month	GRAB
Floating solids or visible foam-visual	SAMPLE MEASUREMENT	******	0	N=0	******	******	******	******	0	WD	V
45613 1 0 Effluent Gross	PERMIT REQUIREMENT	******	0 MO MAX	Y=1;N=0	******	******	******	******		When Discharging	VISUAL
Flow, in conduit or thru treatment plant	SAMPLE MEASUREMENT	******	.10		******	******	******	******	0	W	EST
50050 1 0 Effluent Gross	PERMIT REQUIREMENT	******	Req. Mon. MO MAX	MGD	******	******	******	******		Weekly	ESTIMA
Flow, in conduit or thru treatment plant	SAMPLE MEASUREMENT	******	.11		******	******	******	******	0	99/99	RC
50050 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	******	Req. Mon. MO MAX	MGD	******	******	******	******		Continuous	RCORDR

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
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TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
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NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

NAME: GLENNS FERRY, CITY OF
ADDRESS: P.O. BOX 910
GLENNS FERRY, ID 83623
FACILITY: GLENNS FERRY, CITY OF
LOCATION: 901 SOUTH MARTELL DRIVE
GLENNS FERRY, ID 83623

ATTN: JEFF COOK, PUBLIC WORK SUPER

ID0022004	001-A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	04/01/2013	TO	04/30/2013

DMR Mailing ZIP CODE: 83623
MINOR $
(SUBR 02)

External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
BOD, 5-day, percent removal	SAMPLE MEASUREMENT	******	******	******	90	******	******		0	01/30	C
81010 K 0 Percent Removal	PERMIT REQUIREMENT	******	******	******	85 MO MIN	******	******	%		Monthly	CALCTD
Solids, suspended percent removal	SAMPLE MEASUREMENT	******	******	******	96	******	******		0	01/30	C
81011 K 0 Percent Removal	PERMIT REQUIREMENT	******	******	******	85 MO MIN	******	******	%		Monthly	CALCTD
Oil and grease visual	SAMPLE MEASUREMENT	******	0	N=0	******	******	******	******	0	WD	V
84066 1 0 Effluent Gross	PERMIT REQUIREMENT	******	0 MO MAX	Y=1;N=0	******	******	******	******		When Discharging	VISUAL

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
JoAnne Lanham Mayor	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	JoAnne Lanham	208	366-7418	05/16/2013
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
W=WEEKLY LIMITS

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

NAME: GLENNS FERRY, CITY OF
ADDRESS: P.O. BOX 910
GLENNS FERRY, ID 83623
FACILITY: GLENNS FERRY, CITY OF
LOCATION: 901 SOUTH MARTELL DRIVE
GLENNS FERRY, ID 83623

ATTN: JEFF COOK, PUBLIC WORK SUPER

ID0022004	001-A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	03/01/2013	TO	03/31/2013

DMR Mailing ZIP CODE: 83623
MINOR $
(SUBR 02)

External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
BOD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	8	******		******	8	******		0	01/30	Comp 8
00310 1 0 Effluent Gross	PERMIT REQUIREMENT	125 MO AVG	******	lb/d	******	30 MO AVG	******	mg/L		Monthly	COMP-8
BOD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	******	******	******	******	178	******		0	01/30	Comp 8
00310 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	******	******	******	******	Req. Mon. MO AVG	******	mg/L		Monthly	COMP-8
BOD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	8	******		******	8	******		0	01/30	Comp 8
00310 W 0 See Comments	PERMIT REQUIREMENT	188 WKLY AVG	******	lb/d	******	45 WKLY AVG	******	mg/L		Monthly	COMP-8
pH	SAMPLE MEASUREMENT	******	******	******	7.5	******	7.6		0	01/07	GR
00400 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	6.5 INST MIN	******	9 INST MAX	SU		Weekly	GRAB
Solids, total suspended	SAMPLE MEASUREMENT	9	******		******	9	******		0	01/30	Comp 8
00530 1 0 Effluent Gross	PERMIT REQUIREMENT	125 MO AVG	******	lb/d	******	30 MO AVG	******	mg/L		Monthly	COMP-8
Solids, total suspended	SAMPLE MEASUREMENT	******	******	******	******	160	******		0	01/30	Comp 8
00530 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	******	******	******	******	Req. Mon. MO AVG	******	mg/L		Monthly	COMP-8
Solids, total suspended	SAMPLE MEASUREMENT	9	******		******	9	******		0	01/30	Comp 8
00530 W 0 See Comments	PERMIT REQUIREMENT	188 WKLY AVG	******	lb/d	******	45 WKLY AVG	******	mg/L		Monthly	COMP-8

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
JoAnne Lanham Mayor	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations	JoAnne Lanham	208-366-7418		04/09/2013
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
W=WEEKLY LIMITS

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

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GLENNS FERRY, ID 83623
FACILITY: GLENNS FERRY, CITY OF
LOCATION: 901 SOUTH MARTELL DRIVE
GLENNS FERRY, ID 83623

ATTN: JEFF COOK, PUBLIC WORK SUPER

ID0022004	001-A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	03/01/2013	TO	03/31/2013

DMR Mailing ZIP CODE: 83623
MINOR $
(SUBR 02)

External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Nitrogen, ammonia total (as N)	SAMPLE MEASUREMENT	******	******	******	******	******	2.09		0	01/30	comp8
00610 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. MO MAX	mg/L		Monthly	COMP-8
Phosphorus, total (as P)	SAMPLE MEASUREMENT	1.55	******		******	1.55	1.55		0	01/30	comp8
00665 1 0 Effluent Gross	PERMIT REQUIREMENT	25.6 MO AVG	******	lb/d	******	6.1 MO AVG	Req. Mon. MO MAX	mg/L		Monthly	COMP-8
Phosphorus, total (as P)	SAMPLE MEASUREMENT	1.55	******		******	******	1.55		0	01/30	comp8
00665 W 0 See Comments	PERMIT REQUIREMENT	38.4 WKLY AVG	******	lb/d	******	******	Req. Mon. MO MAX	mg/L		Monthly	COMP-8
E. coli, MTEC-MF	SAMPLE MEASUREMENT	******	******	******	******	3	8		0	05/30	GR
31648 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	126 MO GEOMN	406 INST MAX	#/100mL		5 Times Every Month	GRAB
Floating solids or visible foam-visual	SAMPLE MEASUREMENT	******	0		******	******	******	******	0	WD	V
45613 1 0 Effluent Gross	PERMIT REQUIREMENT	******	0 MO MAX	Y=1;N=0	******	******	******	******		When Discharging	VISUAL
Flow, in conduit or thru treatment plant	SAMPLE MEASUREMENT	******	.17		******	******	******	******	0	W	EST
50050 1 0 Effluent Gross	PERMIT REQUIREMENT	******	Req. Mon. MO MAX	MGD	******	******	******	******		Weekly	ESTIMA
Flow, in conduit or thru treatment plant	SAMPLE MEASUREMENT	******	.12		******	******	******	******	0	99/99	RC
50050 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	******	Req. Mon. MO MAX	MGD	******	******	******	******		Continuous	RCORDR

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		TELEPHONE		DATE
JoAnne Lanham Mayor	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations	208-366-7918		09/09/2013
TYPED OR PRINTED	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
W=WEEKLY LIMITS

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

NAME: GLENNS FERRY, CITY OF
ADDRESS: P.O. BOX 910
GLENNS FERRY, ID 83623
FACILITY: GLENNS FERRY, CITY OF
LOCATION: 901 SOUTH MARTELL DRIVE
GLENNS FERRY, ID 83623

ATTN: JEFF COOK, PUBLIC WORK SUPER

ID0022004	001-A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	03/01/2013	TO	03/31/2013

DMR Mailing ZIP CODE: 83623
MINOR $
(SUBR 02)

External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
BOD, 5-day, percent removal	SAMPLE MEASUREMENT	******	******	******	95	******	******		C	01/30	C
81010 K 0 Percent Removal	PERMIT REQUIREMENT	******	******	******	85 MO MIN	******	******	%		Monthly	CALCTD
Solids, suspended percent removal	SAMPLE MEASUREMENT	******	******	******	94	******	******		0	01/30	C
81011 K 0 Percent Removal	PERMIT REQUIREMENT	******	******	******	85 MO MIN	******	******	%		Monthly	CALCTD
Oil and grease visual	SAMPLE MEASUREMENT	******	0		******	******	******	******	0	WD	V
84066 1 0 Effluent Gross	PERMIT REQUIREMENT	******	0 MO MAX	Y=1;N=0	******	******	******	******		When Discharging	VISUAL

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
JoAnne Lanham Mayor	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations	JoAnne Lanham	208-366-7415		04/04/2013
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
W=WEEKLY LIMITS

EPA Form 3320-1 (Rev.01/06) Previous editions may be used.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

NAME: GLENNS FERRY, CITY OF
ADDRESS: P.O. BOX 910
GLENNS FERRY, ID 83623
FACILITY: GLENNS FERRY, CITY OF
LOCATION: 901 SOUTH MARTELL DRIVE
GLENNS FERRY, ID 83623

ATTN: JEFF COOK, PUBLIC WORK SUPER

ID0022004	001-A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	02/01/2013	TO	02/28/2013

DMR Mailing ZIP CODE: 83623
MINOR $
(SUBR 02)

External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
BOD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	8	******		******	8	******		0	01/30	Comp 8
00310 1 0 Effluent Gross	PERMIT REQUIREMENT	125 MO AVG	******	lb/d	******	30 MO AVG	******	mg/L		Monthly	COMP-8
BOD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	******	******	******	******	199	******		0	01/30	Comp 8
00310 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	******	******	******	******	Req. Mon. MO AVG	******	mg/L		Monthly	COMP-8
BOD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	8	******		******	8	******		0	01/30	Comp 8
00310 W 0 See Comments	PERMIT REQUIREMENT	188 WKLY AVG	******	lb/d	******	45 WKLY AVG	******	mg/L		Monthly	COMP-8
pH	SAMPLE MEASUREMENT	******	******	******	7.5	******	7.7		0	01/07	GR
00400 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	6.5 INST MIN	******	9 INST MAX	SU		Weekly	GRAB
Solids, total suspended	SAMPLE MEASUREMENT	11	******		******	11	******		0	01/30	Comp 8
00530 1 0 Effluent Gross	PERMIT REQUIREMENT	125 MO AVG	******	lb/d	******	30 MO AVG	******	mg/L		Monthly	COMP-8
Solids, total suspended	SAMPLE MEASUREMENT	******	******	******	******	248	******		0	01/30	Comp 8
00530 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	******	******	******	******	Req. Mon. MO AVG	******	mg/L		Monthly	COMP-8
Solids, total suspended	SAMPLE MEASUREMENT	11	******		******	11	******		0	01/30	Comp 8
00530 W 0 See Comments	PERMIT REQUIREMENT	188 WKLY AVG	******	lb/d	******	45 WKLY AVG	******	mg/L		Monthly	COMP-8

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
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TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
W=WEEKLY LIMITS

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

NAME: GLENNS FERRY, CITY OF
ADDRESS: P.O. BOX 910
GLENNS FERRY, ID 83623
FACILITY: GLENNS FERRY, CITY OF
LOCATION: 901 SOUTH MARTELL DRIVE
GLENNS FERRY, ID 83623

ATTN: JEFF COOK, PUBLIC WORK SUPER

PERMIT NUMBER	DISCHARGE NUMBER
ID0022004	001-A

MONITORING PERIOD		
	MM/DD/YYYY	MM/DD/YYYY
FROM	02/01/2013	TO 02/28/2013

DMR Mailing ZIP CODE: 83623
MINOR $
(SUBR 02)

External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Nitrogen, ammonia total (as N)	SAMPLE MEASUREMENT	******	******	******	******	******	.91		0	01/30	COMP 8
00610 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. MO MAX	mg/L		Monthly	COMP-8
Phosphorus, total (as P)	SAMPLE MEASUREMENT	1.31	******		******	1.31	1.31		0	01/30	COMP 8
00665 1 0 Effluent Gross	PERMIT REQUIREMENT	25.6 MO AVG	******	lb/d	******	6.1 MO AVG	Req. Mon. MO MAX	mg/L		Monthly	COMP-8
Phosphorus, total (as P)	SAMPLE MEASUREMENT	1.31	******		******	******	1.31		0	01/30	COMP 8
00665 W 0 See Comments	PERMIT REQUIREMENT	38.4 WKLY AVG	******	lb/d	******	******	Req. Mon. MO MAX	mg/L		Monthly	COMP-8
E. coli, MTEC-MF	SAMPLE MEASUREMENT	******	******	******	******	2.35	4		0	05/30	GR
31648 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	126 MO GEOMN	406 INST MAX	#/100mL		5 Times Every Month	GRAB
Floating solids or visible foam-visual	SAMPLE MEASUREMENT	******	0	N=0	******	******	******	******	0	W0	V
45613 1 0 Effluent Gross	PERMIT REQUIREMENT	******	0 MO MAX	Y=1;N=0	******	******	******	******		When Discharging	VISUAL
Flow, in conduit or thru treatment plant	SAMPLE MEASUREMENT	******	.11		******	******	******	******	0	W	EST
50050 1 0 Effluent Gross	PERMIT REQUIREMENT	******	Req. Mon. MO MAX	MGD	******	******	******	******		Weekly	ESTIMA
Flow, in conduit or thru treatment plant	SAMPLE MEASUREMENT	******	.12		******	******	******	******	0	99/99	RC
50050 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	******	Req. Mon. MO MAX	MGD	******	******	******	******		Continuous	RCORDR

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
JoAnne Lanham Mayor	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	JoAnne Lanham	208-366-2418		02/27/2013
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
W=WEEKLY LIMITS

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

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NAME: GLENNS FERRY, CITY OF
ADDRESS: P.O. BOX 910
GLENNS FERRY, ID 83623
FACILITY: GLENNS FERRY, CITY OF
LOCATION: 901 SOUTH MARTELL DRIVE
GLENNS FERRY, ID 83623

ATTN: JEFF COOK, PUBLIC WORK SUPER

ID0022004	001-A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	02/01/2013	TO	02/28/2013

DMR Mailing ZIP CODE: 83623
MINOR $
(SUBR 02)

External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
BOD, 5-day, percent removal	SAMPLE MEASUREMENT	******	******	******	95	******	******		0	01/30	C
81010 K 0 Percent Removal	PERMIT REQUIREMENT	******	******	******	85 MO MIN	******	******	%		Monthly	CALCTD
Solids, suspended percent removal	SAMPLE MEASUREMENT	******	******	******	95	******	******		0	01/30	C
81011 K 0 Percent Removal	PERMIT REQUIREMENT	******	******	******	85 MO MIN	******	******	%		Monthly	CALCTD
Oil and grease visual	SAMPLE MEASUREMENT	******	0	N=0	******	******	******	******	0	WD	V
84066 1 0 Effluent Gross	PERMIT REQUIREMENT	******	0 MO MAX	Y=1;N=0	******	******	******	******		When Discharging	VISUAL

We Switched to Analytical Laboratories as Alchem closed its doors the end of January. Analytical has Lower detection Limits for Ecoli, so we have been seeing Lower Numbers on our results.

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
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TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
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NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

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FACILITY: GLENNS FERRY, CITY OF
LOCATION: 901 SOUTH MARTELL DRIVE
GLENNS FERRY, ID 83623

ATTN: JEFF COOK, PUBLIC WORK SUPER

ID0022004	001-A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	01/01/2013	TO	01/31/2013

DMR Mailing ZIP CODE: 83623
MINOR $
(SUBR 02)

External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
BOD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	9.34	******		******	8	******		0	01/30	comp 8
00310 1 0 Effluent Gross	PERMIT REQUIREMENT	125 MO AVG	******	lb/d	******	30 MO AVG	******	mg/L		Monthly	COMP-8
BOD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	******	******	******	******	86	******		0	01/30	comp 8
00310 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	******	******	******	******	Req. Mon. MO AVG	******	mg/L		Monthly	COMP-8
BOD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	9.34	******		******	8	******		0	01/30	comp 8
00310 W 0 See Comments	PERMIT REQUIREMENT	188 WKLY AVG	******	lb/d	******	45 WKLY AVG	******	mg/L		Monthly	COMP-8
pH	SAMPLE MEASUREMENT	******	******	******	7.7	******	7.5		0	01/07	GR
00400 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	6.5 INST MIN	******	9 INST MAX	SU		Weekly	GRAB
Solids, total suspended	SAMPLE MEASUREMENT	22.15	******		******	19	******		0	01/30	comp 8
00530 1 0 Effluent Gross	PERMIT REQUIREMENT	125 MO AVG	******	lb/d	******	30 MO AVG	******	mg/L		Monthly	COMP-8
Solids, total suspended	SAMPLE MEASUREMENT	******	******	******	******	112	******		0	01/30	comp 8
00530 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	******	******	******	******	Req. Mon. MO AVG	******	mg/L		Monthly	COMP-8
Solids, total suspended	SAMPLE MEASUREMENT	22.15	******		******	19	******		0	01/30	comp 8
00530 W 0 See Comments	PERMIT REQUIREMENT	188 WKLY AVG	******	lb/d	******	45 WKLY AVG	******	mg/L		Monthly	COMP-8

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
Joann Landon Mayor	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	Jo Anne Landon	208-366-2415		02/07/2013
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
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NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

NAME: GLENNS FERRY, CITY OF
ADDRESS: P.O. BOX 910
GLENNS FERRY, ID 83623
FACILITY: GLENNS FERRY, CITY OF
LOCATION: 901 SOUTH MARTELL DRIVE
GLENNS FERRY, ID 83623

ATTN: JEFF COOK, PUBLIC WORK SUPER

ID0022004	001-A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	01/01/2013	TO	01/31/2013

DMR Mailing ZIP CODE: 83623
MINOR $
(SUBR 02)

External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Nitrogen, ammonia total (as N)	SAMPLE MEASUREMENT	******	******	******	******	******	.79		0	01/30	comp 8
00610 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. MO MAX	mg/L		Monthly	COMP-8
Phosphorus, total (as P)	SAMPLE MEASUREMENT	1.45	******		******	1.25	1.25		0	01/30	comp 8
00665 1 0 Effluent Gross	PERMIT REQUIREMENT	25.6 MO AVG	******	lb/d	******	6.1 MO AVG	Req. Mon. MO MAX	mg/L		Monthly	COMP-8
Phosphorus, total (as P)	SAMPLE MEASUREMENT	1.45	******		******	******	1.25		0	01/30	comp 8
00665 W 0 See Comments	PERMIT REQUIREMENT	38.4 WKLY AVG	******	lb/d	******	******	Req. Mon. MO MAX	mg/L		Monthly	COMP-8
E. coli, MTEC-MF	SAMPLE MEASUREMENT	******	******	******	******	15.84	100		0	03/30	GR
31648 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	126 MO GEOMN	406 INST MAX	#/100mL		5 Times Every Month	GRAB
Floating solids or visible foam-visual	SAMPLE MEASUREMENT	******	0		******	******	******	******	0	WD	V
45613 1 0 Effluent Gross	PERMIT REQUIREMENT	******	0 MO MAX	Y=1;N=0	******	******	******	******		When Discharging	VISUAL
Flow, in conduit or thru treatment plant	SAMPLE MEASUREMENT	******	.14		******	******	******	******	0	W	24T
50050 1 0 Effluent Gross	PERMIT REQUIREMENT	******	Req. Mon. MO MAX	MGD	******	******	******	******		Weekly	ESTIMA
Flow, in conduit or thru treatment plant	SAMPLE MEASUREMENT	******	.12		******	******	******	******	0	99/99	RC
50050 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	******	Req. Mon. MO MAX	MGD	******	******	******	******		Continuous	RCORDR

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE		DATE
Joanne Loudon Mayor	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	Jo Anne Loudon	208-366-7413		03/03/2013
TYPED OR PRINTED			AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
W=WEEKLY LIMITS

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

NAME: GLENNS FERRY, CITY OF
ADDRESS: P.O. BOX 910
GLENNS FERRY, ID 83623
FACILITY: GLENNS FERRY, CITY OF
LOCATION: 901 SOUTH MARTELL DRIVE
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ATTN: JEFF COOK, PUBLIC WORK SUPER

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MINOR $
(SUBR 02)

External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
BOD, 5-day, percent removal	SAMPLE MEASUREMENT	******	******	******	90	******	******		0	01/30	C
81010 K 0 Percent Removal	PERMIT REQUIREMENT	******	******	******	85 MO MIN	******	******	%		Monthly	CALCTD
Solids, suspended percent removal	SAMPLE MEASUREMENT	******	******	******	83	******	******		1	01/30	C
81011 K 0 Percent Removal	PERMIT REQUIREMENT	******	******	******	85 MO MIN	******	******	%		Monthly	CALCTD
Oil and grease visual	SAMPLE MEASUREMENT	******	0	N	******	******	******	******	0	WD	V
84066 1 0 Effluent Gross	PERMIT REQUIREMENT	******	0 MO MAX	Y=1;N=0	******	******	******	******		When Discharging	VISUAL

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE		DATE
Johnie Lawson Mayor	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	Johnie Lawson	208-366-7415		02/01/2013
TYPED OR PRINTED			AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
W=WEEKLY LIMITS