"Healthy environment, healthy people"

Montana Department of
ENVIRONMENTAL QUALITY

Steve Bullock, Governor
Tracy Stone-Manning, Director

P. O. Box 200901 • Helena, MT 59620-0901 • (406) 444-2544 • Website: www.deq.mt.gov

June 5, 2013

Dan Dennehy, Public Works Director
126 W. Granite Street
Butte, MT 59701

RE: Montana WPCSRF Project C301193, Butte-Silver Bow County Wastewater Treatment Plant, Phase 2 Membrane Bioreactor Upgrades, Amended EA and FONSI

Dear Mr. Dennehy:

Enclosed is a copy of an amended Finding of No Significant Impact (FONSI) and amended Environmental Assessment (EA) for the Butte-Silver Bow (BSB) Metro Wastewater Treatment Plant Phase 2 Membrane Bioreactor Upgrades project. Please print the FONSI letter in one publication of your local paper under legal advertising and return the proof of advertising. You do not have to print the EA. Please have the notice, the amended EA, the 2011 basis of Design Technical Memoranda, and the February 2013 EA and FONSI documents available for public review at your office. We recommend that you advertise this as soon as possible to allow for a 30-day comment period. We have distributed these documents to the enclosed list of agencies.

If you have any questions, please do not hesitate to contact me at (406) 444-5322.

Sincerely,

Michele Marsh

Michele Marsh, P.E.
Environmental Engineer
Technical & Financial Assistance Bureau

Encl.

cc (via e-mail): Scott Murphy, P.E., Morrison-Maierle, Inc.
Jeremy Perlinsky, P.E., Morrison-Maierle, Inc.
Rick Larson, Butte- Silver Bow
Frank Shields, Butte-Silver Bow

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AMENDED FINDING OF NO SIGNIFICANT IMPACT

TO ALL INTERESTED GOVERNMENTAL AGENCIES AND PUBLIC GROUPS

As required by state and federal rules for determining whether an Environmental Impact Statement is necessary, an environmental review has been performed on the proposed action below:

Project	Butte-Silver Bow Wastewater Treatment Plant Phase 2 Membrane Bioreactor (MBR) Upgrades
Location	Butte, Montana
Project Number	C301193
Total Cost	$27,250,000

The Butte-Silver Bow (BSB) Public Works Department, through a 2009 preliminary engineering report (PER),determined the need to upgrade its wastewater treatment facility. This PER was updated through three technical memoranda in 2012 to reflect and incorporate new information and findings, resulting in a new recommended engineering solution. The Phase 2 MBR Upgrades project includes the following improvements:

- modifications to convert an existing clarifier into an equalization basin;
- modifications to two existing aeration basins to create four bioreactor trains, including building new basins to connect the two existing structures;
- addition of a fine screening and bioreactor turbo compressor facility;
- addition of a septage receiving station ;
- construction of a new administration building;
- construction of a membrane and chemical feed facility;
- installation of a non-potable water pumping station and distribution piping;
- modification to the existing scum pump station;
- installation of photoionization odor control units;
- modification to and addition of yard piping;
- demolition of miscellaneous structures and equipment;
- electrical switchgear, standby generators, and distribution; and
- site modifications and landscaping

An Environmental Assessment (EA) for the BSB MBR Upgrades project was prepared this past February and a Finding of No Significant Impact (FONSI) was issued by DEQ on February 7, 2013. That EA has been amended, resulting in the issuance of this new

FONSI. There are no significant differences between the original EA and the amended one with respect to the chosen treatment alternative or the scope of the project. Amendment of the EA was prompted by the recent realization by BSB that sewer rates would need to be increased in order to fund the project. The original EA had stated that no rate increase was necessary. The amended EA identifies a monthly sewer rate increase to $28.50 from the current $20.25. The EA was also amended to reflect EPA's interest and involvement with the dewatering process necessary to complete construction. Except for these minor changes, all aspects and conclusions made in the February 2013 EA remain accurate.

Federal and State grant/loan programs will fund the project. Environmentally sensitive characteristics such as wetlands, floodplains, threatened or endangered species, and historical sites are not expected to be adversely impacted as a result of the proposed project. Public participation during the planning process demonstrated support for the selected alternative. No significant long-term environmental impacts were identified. An environmental assessment (EA), which describes the project and analyzes the impacts in more detail, is available for public scrutiny on the DEQ web site (http://www.deq.mt.gov/ea.asp) and at the following locations:

Department of Environmental Quality
1520 East Sixth Avenue
P.O. Box 200901
Helena, MT 59620-0901
mmarsh@mt.gov

Butte-Silver Bow Metro Public Works Department
126 West Granite Street
Butte, MT 59701

Butte-Silver Bow County Courthouse
155 West Granite Street
Butte, MT 59701

Comments on the EA may be submitted to the Department of Environmental Quality at the above address. After evaluating comments received, the department will revise the environmental assessment or determine if an environmental impact statement is necessary. If no substantive comments are received during the comment period, or if substantive comments are received and evaluated and the environmental impacts are still determined to be non-significant, the agency will make a final decision. No administrative action will be taken on the project for at least 30 calendar days after release of the Finding of No Significant Impact.

Sincerely,

Todd Teegarden

Todd Teegarden, Bureau Chief
Technical and Financial Assistance Bureau
Planning, Prevention & Assistance Division

BUTTE - SILVER BOW METRO
WASTEWATER TREATMENT PLANT UPGRADE PHASE 2
MEMBRANE BIOREACTOR (MBR) UPGRADES
AMENDED ENVIRONMENTAL ASSESSMENT

I. COVER SHEET

A. PROJECT IDENTIFICATION

Name of Project:	Butte-Silver Bow Wastewater Treatment Plant Phase 2 Membrane Bioreactor (MBR) Upgrades
Applicant:	City and County of Butte-Silver Bow
Address:	126 West Granite Street Butte, MT 59701
Project Number:	C301193

B. CONTACT PERSON

Name:	Dan Dennehy, Public Works Director
Address:	126 W. Granite Street Butte, MT 59701
Telephone:	(406) 497-6515

C. ABSTRACT

The Butte-Silver Bow (BSB) Public Works Department, through a 2009 preliminary engineering report (PER),determined the need to upgrade its wastewater treatment system. This PER was updated through three technical memoranda in 2012 to reflect and incorporate new information and findings, resulting in a new recommended engineering solution. As a major point source discharger in the Clark Fork River watershed, BSB took part in the Clark Fork Voluntary Nutrient Reduction Program (VNRP) process to help control excessive algal growth in the river. The VNRP agreement was subsequently approved as a Total Maximum Daily Load (TMDL) by the Montana Department of Environmental Quality (DEQ) and the Environmental Protection Agency (EPA), resulting in the establishment of lower nitrogen and phosphorus limits in the BSB wastewater treatment plant (WWTP) discharge permit, effective January 1, 2009. The current Montana Pollutant Discharge Elimination System (MPDES) permit went into effect on April 1, 2012 and contains the nitrogen and phosphorus limits established as a result of the VNRP process.

The existing activated sludge plant is not capable of meeting the more stringent nutrient limits or new MPDES effluent limits for four metals (cadmium, copper, mercury, zinc) and total ammonia. In May 2008, DEQ issued an Administrative Order on Consent (AOC) for the purpose of setting a schedule for the BSB to come into compliance with its nutrient limits. The AOC has been amended four times to address unforeseen implementation and scheduling issues. The primary issue affecting the AOC schedule was the discovery that the required Phase 1 construction dewatering at the BSB WWTP influenced the plume of pentachlorophenol (PCP) – contaminated groundwater originating at the Montana Pole and Treating Plant (MPTP) Superfund

site to the south of the WWTP (Figure 4). The current AOC schedule and compliance requirements supersede any related requirements in the current MPDES permit.

A series of smaller projects were accomplished over the last several years to build towards completion of the proposed Phase 2 Membrane Bioreactor (MBR) upgrade project. These smaller projects included a new ultraviolet (UV) disinfection system, improvements in the headworks building, installation of new influent and effluent flow measuring structures, structural modifications to existing basins, and energy efficiency and electrical improvements. The Phase 2 MBR Upgrades project includes the following improvements:

- modifications to convert an existing clarifier into an equalization basin;
- modifications to two existing aeration basins to create four bioreactor trains, including building new basins to connect the two existing structures;
- addition of a fine screening and bioreactor turbo compressor facility;
- addition of a septage receiving station ;
- construction of a new administration building;
- construction of a membrane and chemical feed facility;
- installation of a non-potable water pumping station and distribution piping;
- modification to the existing scum pump station;
- installation of photoionization odor control units;
- modification to and addition of yard piping;
- demolition of miscellaneous structures and equipment;
- electrical switchgear, standby generators, and distribution; and
- site modifications and landscaping

Construction of Phase 2 is the last and largest of projects in allowing the facility to meet the permit limits that resulted from the VNRP process and will significantly improve the operability, reliability, and treatment capability of the BSB wastewater treatment facilities. The project includes remaining structural improvements to eliminate the need to dewater below-grade basins in the future for routine maintenance purposes. As a result, the potential for migration of PCP-contaminated groundwater from the MPTP Superfund site due to BSB WWTP activities will be eliminated.

The Phase 2 project will be fully financed by a Montana Water Pollution Control State Revolving Fund (WPCSRF) Program loan in the amount of $24,452,000. Butte-Silver Bow Metro Treatment Division intends to raise user rates incrementally over the next four years in order to meet WPCSRF debt service requirements.

Environmentally sensitive characteristics such as wetlands, floodplains, threatened or endangered species and historical sites are not expected to be adversely impacted as a result of the proposed project. Additional environmental impacts related to land use, water quality, air quality, public health, energy, noise, and growth were also assessed. While short-term impacts may occur as a result of the dewatering's impact on the Montana Pole and Treating Plant (MPTP) groundwater contaminant plume, no significant long-term environmental impacts are expected, as the low levels of contaminant that may be affected by the dewatering will be naturally attenuated.

Under Montana law, (75-6-112, MCA), no person may construct, extend, or use a public sewage system until the DEQ has reviewed and approved the plans and

specifications for the project. Under the Montana WPCSRF Act, DEQ may loan money to municipalities for construction of public sewage systems.

The DEQ Technical and Financial Assistance (TFA) Bureau, has prepared this Environmental Assessment (EA) to satisfy the requirements of the National Environmental Policy Act (NEPA) and the Montana Environmental Policy Act (MEPA).

D. COMMENT PERIOD

Thirty (30) calendar days.

II. PURPOSE OF AND NEED FOR ACTION

The BSB Metro WWTP was first built in 1968 as a 7.0 MGD conventional activated sludge plant and has undergone three major upgrades since that time. The major upgrades to the WWTP in 1977 and 1996 expanded the plant capacity to 8.5 MGD and improved treatment capability. The most recent upgrades began in 2009, and were spread over four smaller projects (Phase 1, Phase 1A, Phase 1A Change Order, and Phase 2 Headworks and Digester Upgrades). The upgrades included a new ultraviolet (UV) disinfection system, improvements in the headworks building, installation of new influent and effluent flow-measuring structures, structural modifications to existing basins, and energy efficiency and electrical improvements.

BSB Metro is authorized to discharge to Silver Bow Creek, a tributary of the Clark Fork River, under Montana Pollutant Discharge Elimination System (MPDES) Permit No. MT-0022012. As a major point source discharger in the Clark Fork River watershed, the BSB took part in the Clark Fork Voluntary Nutrient Reduction Program (VNRP) process in the early 1990s to help control excessive algal growth in the river. The VNRP agreement was subsequently approved as a Total Maximum Daily Load (TMDL) by the DEQ and EPA, resulting in the establishment of lower nitrogen and phosphorus limits in the BSB WWTP discharge permit, effective January 1, 2009. The current Montana Pollutant Discharge Elimination System (MPDES) permit went into effect on April 1, 2012, and contains the nitrogen and phosphorus limits established as a result of the VNRP process. To date, the WWTP has not completed all improvements necessary to meet the stricter nutrient limits or new MPDES effluent limits in the BSB permit for four metals (cadmium, copper, mercury, zinc) and total ammonia.

In May 2008 the Montana Department of Environmental Quality (MDEQ) issued an Administrative Order on Consent (AOC) for the purpose of setting a schedule for the BSB to come into compliance with its nutrient limits. The AOC schedule and compliance requirements supersede any related requirements in the MPDES permit. The AOC has been amended four times to address unforeseen implementation and scheduling issues. The primary issue affecting the AOC schedule was the discovery that dewatering activities during Phase 1 construction at the BSB WWTP in 2009 and 2010 influenced the plume of pentachlorophenol (PCP) – contaminated groundwater originating at the Montana Pole and Treating Plant (MPTP) Superfund site to the south of the WWTP. Maintenance in basins at the WWTP requires that they be emptied. Since that time, BSB and the DEQ have been working cooperatively to minimize PCP migration from the MPTP site during construction dewatering activities at the WWTP,

but this has caused delays and changes in design and construction. Figure 4 illustrates the proximity of the WWTP to the MPTP site.

The Phase 2 MBR Upgrades project entails modifications of, and additions to, the entire secondary treatment system, including:

- modifications to convert an existing clarifier into an equalization basin;
- modifications to two existing aeration basins to create four bioreactor trains, including building new basins to connect the two existing structures;
- addition of a fine screening and bioreactor turbo compressor facility;
- addition of a septage receiving station ;
- construction of a new administration building;
- construction of a membrane and chemical feed facility;
- installation of a non-potable water pumping station and distribution piping;
- modification to the existing scum pump station;
- installation of photoionization odor control units;
- modification to and addition of yard piping;
- demolition of miscellaneous structures and equipment;
- electrical switchgear, standby generators, and distribution; and
- site modifications and landscaping

III. ALTERNATIVES INCLUDING THE PROPOSED ACTION

Four scenarios were developed and analyzed, with three of these scenarios addressing groundwater issues at the wastewater treatment plant (WWTP) using different methods These alternatives, as well as the no-action alternative, are summarized below.

A. Alternative 1A – Expansion of Existing WWTP to 5-Stage Biological Nutrient Removal (BNR) with Tertiary Filtration (Base Case)
This alternative entails expansion of the existing WWTP to a 5-stage, 4-train biological nutrient removal (BNR) process with tertiary filtration. A new bioreactor basin, new secondary clarifier, and a new filter and pump station building would be constructed. The existing bioreactor basin would be modified. Outdated equipment and equipment not sized to handle future design flows would be replaced or rehabilitated. This alternative would require dewatering for up to 18 months and does not address pentachlorophenol (PCP) groundwater issues.

B. Alternative 1B – Base Case with Groundwater Treatment
This alternative is the same as the base case above, but also includes additional improvements that would extend the service life of selected equipment and improve plant performance, (i.e., replacement of the backup aerobic digester blower, replacement of the ½-inch influent screen with a ¼-inch screen, and rehabilitation of the influent pump station). This alternative addresses the PCP groundwater contamination issue by adding temporary groundwater treatment during construction and a permanent groundwater treatment facility for future dewatering needs.

C. Alternative 1C – Base Case with Groundwater Mitigation
This alternative is the same as the base case above, but groundwater issues are mitigated by reinforcing all existing below-grade structures to be able to withstand the hydrostatic pressures of the groundwater when empty.

D. Alternative 2 – Existing WWTP MBR Upgrade with Groundwater Treatment
This alternative proposes to upgrade the BSB WWTP at its existing site with a membrane bioreactor (MBR) treatment system and was developed in consideration of local groundwater contamination and dewatering issues. The existing aeration basins would be reused as four biological treatment trains and membranes would be installed within the footprint of one of the existing secondary clarifiers. This scenario includes construction of a permanent groundwater treatment facility which would be operated whenever dewatering was needed to empty WWTP basins.

E. Alternative 3 – Existing WWTP MBR Upgrade with Groundwater Mitigation
This alternative is the same as Alternative 2 except instead of installing a permanent groundwater treatment facility, existing basins would be structurally reinforced to resist external hydrostatic pressure. As a result, dewatering would not be required when any of the existing basins were emptied for future maintenance reasons.

F. Alternative 4 – New Wastewater Treatment Plant at the Sod Farm
This alternative consists of constructing an entirely new WWTP, similar to the one described in Alternative 1, at the site of the BSB sod farm, located southwest of the intersection of Interstate 90 and Interstate 15. While other locations could have been considered, the sod farm was chosen because of BSB ownership, current land use, and relative proximity to Silver Bow Creek. This alternative would abandon the existing WWTP and would require construction of a new pump station at the site of the existing WWTP and sewer piping from there to the sod farm.

G. No Action
If no action is taken to upgrade the existing WWTP, the immediate result is that conditions of the Administrative Order on Consent issued by the DEQ will not be met. Without upgrading its WWTP, BSB cannot meet the effluent limits in its Montana Pollutant Discharge Elimination System (MPDES) permit, which will lead to permit violations, and subsequent fines and penalties.

IV. COST COMPARISON FOR ALTERNATIVES USING PRESENT WORTH ANALYSIS

Comparison of the cost effectiveness of engineering alternatives is generally based on a present worth analysis, which considers the capital cost, salvage value, and the long-term operation and maintenance costs of each alternative. Because the alternatives have similar treatment elements comprised of concrete and mechanical work and alternatives 1A though 3 utilize many of the same existing wastewater treatment plant (WWTP) components, salvage values were not used as a basis of cost comparison. Additionally, the proposed alternatives all have similar labor and maintenance requirements associated with them, and therefore these costs were not used in the present worth analysis. Power and chemical costs for 5-stage biological

nutrient removal (BNR) and membrane bioreactor (MBR) facilities were estimated and found to be very similar. Operational costs with respect to groundwater treatment and mitigation were not considered to be adequately quantified to include as a measure of comparison between alternatives. As a result of the above reasoning, a comparison of cost effectiveness of the alternatives was based strictly on capital costs in the 2011 Basis of Design Report for the Butte-Silver Bow (BSB) Wastewater Treatment Plant (WWTP) and is provided in Table 1, without concern of overlooking significant long-term costs.

TABLE 1 – CAPITAL COST COMPARISON OF PHASE 2 ALTERNATIVES

Alternative	**Total Capital Cost**
Alternative 1A – Existing WWTP Base Case	$18,590,000
Alternative 1B – Base Case with Groundwater (GW)Treatment	$21,260,000
Alternative 1C – Base Case with GW Mitigation	$22,000,000
Alternative 2 – Existing WWTP MBR Upgrade with GW Treatment	$24,950,000
Alternative 3 – Existing WWTP MBR Upgrade with GW Mitigation	$25,460,000
Alternative 4 - New WWTP at Sod Farm Site	$80,540,000

V. BASIS OF SELECTION OF PREFERRED ALTERNATIVE

Alternatives 1A, 4, and the no-action alternative are eliminated from further consideration as viable alternatives. Alternative 1A is eliminated because it does not address dewatering and associated pentachlorophenol (PCP) contamination. Alternative 4 is much more costly than the other alternatives and essentially abandons Butte-Silver Bow (BSB) County's substantial investment in its existing WWTP. The no-action alternative is also not acceptable since Butte has signed a DEQ Administrative Order on Consent that requires it to complete necessary WWTP improvements to bring it into compliance with its Montana Pollutant Discharge Elimination System (MPDES) permit.

Although cost is usually the most important basis of comparison in alternatives analysis, other important factors often come into play, such as future flexibility, ease of operation and environmental concerns. For this particular BSB Phase 2 project, selection of the best alternative considered groundwater mitigation strategy, operational differences, and phasing considerations, in addition to cost.

Two different groundwater contamination mitigation strategies were developed in the alternatives: (1) treatment of dewatering discharge for metals and pentachlorophenol (PCP) during near-term construction activities and long-term maintenance, and (2) treatment of dewatering discharge for metals and PCP during Phase 2 construction and structural modifications to eliminate the need for future dewatering during maintenance events at the WWTP. The latter structural approach is preferred by BSB because it eliminates the potential for migration of the PCP plume and associated risk to BSB.

Operational differences between a biological nutrient removal (BNR) system and a membrane bioreactor (MBR) facility were weighed into alternative selection. One particular operational consideration is sludge settleability. With a BNR system, sludge settleability in the clarifiers must be monitored closely to maintain good performance and high effluent quality. With an MBR facility, sludge settleability is not an operational concern since gravity settling is substituted with membrane filtration for liquid/solids separation.

Alternatives 2 and 3 provide equalization of wastewater, i.e., attenuation of peak diurnal flows and loads, resulting in more uniform wastewater flow to the MBR facility. This simplifies process control and improves treatment reliability and performance. Alternatives 1B and 1C do not have equalization built into them, which is a disadvantage.

A change to either a BNR or an MBR facility requires a higher level of process control and presents greater complexity than the current BSB WWTP activated sludge process. However, alternatives 1B and 1C (the BNR alternatives) result in a less radical change in equipment and maintenance functions. On the basis of equipment familiarity, alternatives 1B and 1C are favored.

Another maintenance consideration is winter working environment. Alternatives 1B and 1C retain the situation of treatment basins and clarifiers outdoors. With conversion to an MBR plant (alternatives 2 and 3), the clarifiers are eliminated and the membranes are located in a new building. Maintenance on the membranes can be conducted inside, providing greater operator comfort and protection.

Consideration was also given to the ability to phase in treatment units and equipment as future growth is realized. The 20-year projection used as a basis of design included servicing the South Butte and the Tax Increment Financing Industrial District (TFID)/Rocker areas. For alternatives 1B and 1C, a portion of the aeration, mixing, recycle pumping equipment, and tertiary filters could be deferred to a future time. For alternatives 2 and 3, a portion of aeration, pumping equipment, and membranes could be installed as needed. While all four alternatives are conducive to phased installations, alternatives 2 and 3 provide a greater potential cost deferral.

Much discussion and consideration was given to the selection of alternatives by BSB and its engineering consultant, in conjunction with input from the MDEQ. While there were many factors to be considered in alternative selection, mitigation of the effects of groundwater dewatering during the Phase 2 projects and future WWTP maintenance operations, was the looming factor. As a result, Alternative 3, Existing WWTP MBR Upgrade with GW Mitigation, was selected. This approach offered the shortest duration of Phase 2 construction dewatering and the least risk and concern over future groundwater dewatering, for a marginal increase in construction costs, when compared to the other alternatives. Listed in Table 2 are the major components of the selected BSB Phase 2 MBR Upgrades project. Because membrane design and equipment are very unique to each manufacturer, traditional design/bid/build documents are not conducive to allowing a wide range of membranes to be considered in the bidding process. To overcome this problem, a pre-selection process was used for the membrane equipment, thus helping to identify an MBR equipment supplier that would provide the highest value for the Phase 2 project.

TABLE 2 – BSB PHASE 2 MBR UPGRADES PROJECT PRELIMINARY BUDGET

Project Component	Estimated Construction Cost
Flow Equalization/Influent Pump Station	$1,140,000
Bioreactors/Structural Modifications	$3,720,000
Blower and Fine Screen Building	$2,820,000
Membrane/Chemical Building	$10,402,000
Septage/Site Work	$1,580,000
Administration Building	$340,000
Electrical/Instrumentation and Controls	$4,450,000
Total Construction Cost (Projected to 2013)	$24,452,000*
Construction and Post-Construction Engineering	$2,800,000
TOTAL Phase 2 Activities Cost (Rounded)	**$27,250,000**

*This cost does not include the cost of headworks and digester upgrades which were completed within the last year. Those costs were considered in the alternative analysis.

The total construction cost of the proposed Butte Phase 2 MBR Upgrades project is estimated to be $27,250,000.00. This amount includes the capital cost of $24,452,000.00 (itemized above), and $2,800,000 for construction and post-construction engineering services. Administrative and legal costs are not included in the estimate. The $24,452,000 in construction costs will be funded entirely with a Water Pollution Control State Revolving Fund (WPCSRF) 20-year loan at an interest rate of 3.00%.

The Butte - Silver Bow Metro Treatment Division intends to raise user rates incrementally over the next four years in order to make WPCSRF loan repayment. The current average monthly residential sewer rate in Butte is $20.25, which is 0.8 percent of the monthly median household income ($2,543). The rate would increase to $28.50 per month at the end of four years. Based on the Environmental Protection Agency guidance for project affordability, the increased monthly sewer fee per household is approximately 1.1 percent of the monthly median household income and is therefore not expected to impose an economic hardship for Metro users.

VI. AFFECTED ENVIRONMENT

A. PLANNING AREA/MAPS

The City of Butte is located in Silver-Bow County in southwestern Montana near the intersection of I-15 and I-90 (see Figure 1). The wastewater study area is comprised of the current Butte service area (Butte, east Butte, and Walkerville), as well as three major areas surrounding Butte (South Butte, Rocker, and the Tax Increment Financing Industrial District (TIFID)) identified for future sewer extensions. These areas are illustrated on Figure 2. South Butte comprises an area with approximately 500 existing households with on-site wastewater systems, with a projected additional growth of another 500 homes. Rocker is a residential and commercial community located approximately 3 miles west of Butte along Highway 90 and is currently served by its own public wastewater treatment system, which discharges to Silver Bow Creek. The TIFID site is located about 3 miles farther west than Rocker, with respect to Butte, and

is located south of Interstate 90. There are currently four major wastewater generators in the TIFID area, all of which utilize on-site wastewater systems.

The BSB Metro Wastewater Treatment Plant (WWTP) can be found on the west-central side of the city (Township 3 North, Range 8 West, Section 23). It is bounded by Centennial Avenue on the north and Atlantic Richfield (ARCO) property on the remaining three sides. (Figure 2)

Figure 1 shows the general location of the City of Butte-Silver Bow (BSB) within the state of Montana. Figure 2 shows the current, and potential or future, wastewater service areas for BSB Metro. Figure 3 illustrates the proposed BSB wastewater treatment plant (WWTP) membrane bioreactor (MBR) upgrades. Figure 4 is an aerial photograph showing the proximity of the BSB WWTP to the Montana Pole and Treating Plant Superfund site.

B. POPULATION

According to the Department of Commerce, the Butte-Silver Bow (BSB) area is the fifth highest populated area in the state. Census data indicates that the population of Silver Bow County has been relatively stable over the past 20 years, showing a slight growth overall. The BSB wastewater service area currently comprises approximately 80 percent of the total Silver Bow County population. The current number of service connections on the BSB wastewater treatment system is approximately 12,742, including 11,242 residential ones. Assuming 2.4 people per home, as documented in the 2010 Census, the total current estimated wastewater service population is 27,000.

Population projections in the Basis of Design Report (2011) were based on a 24-year design period ending in 2035. The 2035 design population for the community of Butte was calculated using a moderate to high growth rate factor of 10 percent. This amounts to an anticipated design wastewater service population of approximately 29,600 in 2035. The addition of South Butte would contribute another 2,400 people. Population numbers for the Rocker and Tax Increment Financing Industrial District (TFID) were not generated. Their effects on the 2035 WWTP design were based on flow and loading.

C. FLOW PROJECTIONS

The BSB WWTP currently serves 27,000 people (based on 2010 census data and households served) and the average annual flow for the current period of record is 3.64 million gallons per day (mgd). Current per capita average daily wastewater flow is estimated at140 gallons per capita per day (gpcd), which is indicative of a community with inflow/infiltration into the sewer mains. Rehabilitation and replacement of Butte's sewer mains is not within the scope of this project, but will be addressed in the future. It is estimated that a design year population of 29,600 will generate an average daily flow of 4.2 MGD, with a maximum monthly flow of 4.6 MGD. Incorporation of South Butte, Rocker, and the TFID site into the BSB WWTP service area would increase the projected average annual flow to 5.5 mgd and the projected maximum monthly flow to 6.2 mgd.

D. NATURAL FEATURES

The City of Butte-Silver Bow (BSB) is located on the western edge of the Continental Divide in southwestern Montana (see Figure 1). As a result, the topography in Butte generally drops in elevation as you go westward. The elevation of Butte ranges between 5400 and 6000 feet. Because Butte was an old mining town, there are abandoned mines and headframes scattered throughout town. The old Berkeley mine pit is the dominant feature on the northeastern side of the city.

The BSB WWTP discharges to Silver Bow Creek, which is in the Upper Clark Fork River drainage basin. In the area of the treatment plant, Silver Bow Creek is classified as an I-Class stream according to ARM 17.30.607(1)(a)(iii). The goal for "I" classified streams is full support of drinking, culinary, and food processing after conventional treatment; bathing, swimming, and recreation; growth and propagation of fishes and associated aquatic life, waterfowl, and furbearers; and agricultural and industrial water supply. This segment of Silver Bow Creek is listed as impaired on Montana's 2012 303(d) list. According to this list, the creek cannot support agriculture, aquatic life, drinking water, or primary contact recreation uses. The probable causes of these impairments are listed as impacts from abandoned mine lands, site clearance, and loss of riparian habitat. The wastewater treatment plant is not listed as a probable source of these impairments.

VII. ENVIRONMENTAL IMPACTS OF PROPOSED PROJECT

A. DIRECT AND INDIRECT ENVIRONMENTAL IMPACTS

1. Land Use – The proposed Phase 2 improvements will occur within the footprint of the existing Butte-Silver Bow (BSB) wastewater treatment plant (WWTP) and are therefore consistent with existing land use. No new land needs to be acquired. Prime farmland will not be impacted.

2. Floodplain – The WWTP is located in a Zone C floodplain of Silver Bow Creek (SBC) and is east and north of Zone A floodplain sections. The proposed improvements are located in the immediate area of the existing WWTP components and will be constructed above the100-year (Zone A) floodplain. The Department of Natural Resources has been notified of this project and asked to reply with any concerns. See *Section X Agencies Consulted* of this report for a summary of their comments.

2. Wetlands – The proposed improvements will not impact any known wetlands, since all improvements will occur within the immediate vicinity of the existing WWTP. The Army Corps of Engineers has been notified of this project and asked to reply with any concerns. See *Section X Agencies Consulted* of this report for a summary of their comments.

3. Vegetation – The proposed improvements will not impact vegetation, since all improvements will occur within the immediate vicinity of the existing WWTP. Any vegetation disturbed during construction will be reseeded.

4. Cultural Resources – The proposed project will not alter or affect structures of a cultural or historic nature. The project is restricted to the existing WWTP site. The State Historic Preservation Office (SHPO) has reviewed the proposed project. See *Section X Agencies Consulted* of this report for a summary of their comments.

5. Fish and Wildlife – Since the construction improvements will be contained within the existing WWTP site, the proposed treatment plant improvements will not directly impact unique, fragile, or endangered species. Although Superfund remediation work has improved the overall quality of SBC, it remains an I-class stream at this time. SBC is considered to be a rapidly recovering fishery by the Montana Department of Fish Wildlife and Parks, regardless of the stream classification.

BSB plans to send its dewatering discharge through the nearby Atlantic Richfield Company (ARCO) Butte Treatment Lagoons. This discharge contains metals and pentachlorophenol (PCP) present in the underlying groundwater. Discharge to SBC from the lagoons is regulated by Superfund policy. The chronic aquatic life standard for PCP is 4 µg/l. Data collected during demonstration pilot testing in the summer and fall of 2011 demonstrated that PCP concentrations at the outflow to SBC from the lagoons were significantly below 1 µg/l (the human health standard for surface water) while dewatering activities and pumping rates were coordinated between BSB and the MDEQ. These low levels of PCP that reach SBC are naturally attenuated by dilution. PCP levels and groundwater pumping rates during Phase 2 construction will be monitored to provide protection to the SBC fishery from contaminants.

Once completed, the new WWTP will meet the limits in its Montana Pollutant Discharge Elimination System (MPDES) permit, thereby reducing the load of nutrients and metals to SBC and protecting fish habitat. Water quality improvements resulting from the project may have direct or indirect effects on unique or endangered fish species such as Arctic Grayling, Cutthroat Trout, and Bull Trout. The Montana Department of Fish, Wildlife, and Parks and the U.S. Fish and Wildlife Service have been notified of this project and asked to reply with any concerns. See *Section X Agencies Consulted* of this report for a summary of their comments.

Water Quality – The segment of Silver Bow Creek (SBC) below the WWTP is listed as impaired on Montana's 2012 303(d) list. According to this list, the creek cannot support aquatic life. Probable causes of the impairment are metals (aluminum, arsenic, copper, iron, lead manganese, silver, and zinc), nitrates, physical substrate habitat alterations, and sedimentation/siltation. The wastewater treatment plant is not listed as a probable source of these impairments. The presence of metals is attributed to impacts from abandoned mine lands. Site clearance (land development and redevelopment) and loss of riparian habitat are the probable causes of physical substrate habitat alterations and sedimentation/siltation. The presence of nitrates is attributed to site clearance.

Silver Bow County currently has two federal Superfund sites. The BSB wastewater treatment plant (WWTP) is located within the Butte Priority Soils Operable Unit of the Silver Bow Creek/Butte Area National Priority List site. Cleanup of Silver Bow Creek in the area of the BSB WWTP has been ongoing since 1999 as part of Superfund remedial action coordinated by DEQ, in consultation with the United States Environmental Protection Agency. In 2000 the Natural Resource Damage Program formed a partnership with DEQ, adding restoration efforts to the ongoing remediation.

The Montana Pole and Treating Plant (MPTP) Superfund site, which is the second federal Superfund site in Silver Bow County, is located approximately1,000 feet southeast of the BSB WWTP. Groundwater flow in the vicinity of the MPTP is to the

northwest, i.e., toward the BSB WWTP. The primary contaminant of concern (COC) at the site is pentachlorophenol (PCP) associated with wood-treating operations at the former plant. Other COCs for groundwater include chlorinated phenols, polycyclic aromatic hydrocarbons (PAHs), polychlorinated dibenzofurans (furans), and polychlorinated dibenzo-p-dioxins (dioxins). There is a known contaminated groundwater plume associated with this site, with PCP as the principal COC. The BSB WWTP is located immediately downgradient, at the toe of the groundwater contaminant plume.

Groundwater below the BSB WWTP is generally 4 to 6 feet below the ground surface. In order to relieve hydrostatic pressure on below-grade basins during the Phase 2 project, the groundwater table must be lowered to below the bottom of the existing basins for a period of about 6 months. The groundwater is known to be contaminated with heavy metals related to past mining activities that are leached from the underlying soils at the WWTP and with PCP related to the MPTP Superfund site to the southeast of the WWTP. Two Phase 2 construction dewatering events are anticipated to be required – 6 months beginning in the second half of 2013 and 2 months during the summer and fall of 2014. BSB will work closely with DEQ/MPTP, the Atlantic Richfield Company (ARCO), and the (EPA) during implementation of dewatering, in order to minimize impacts to the PCP plume originating at the Montana Pole and Treating Plant (MPTP) site. The dewatering discharge during the Phase 2 construction period will be pumped to a pond at the Butte Reduction Works (BRW) site directly east of the WWTP, from which it will be discharged to the Hydraulic Control Channel. This water will then flow to ARCO's Butte Treatment Lagoons, where chemical lime is added to remove any metals before ultimate discharge to Silver Bow Creek. A Demonstration Pilot Study conducted in 2011-2012 by BSB and its contractor showed that coordination with DEQ's MPTP operations to increase the pumping rate in the Near Creek Recovery Trench at the MPTP site during BSB's dewatering activities served to significantly reduce the extent to which the MPTP plume could be drawn into the dewatering area and showed that PCP concentrations in the discharge from the Butte Treatment Lagoons to Silver Bow Creek were significantly below the standard of 1ug/L. Since these ponds are part of an ongoing Superfund site, an MPDES permit is not required for the discharge from the ponds.

Water quality in Silver Bow Creek will improve as a result of BSB completing the improvements necessary to meet its MPDES discharge limits. The Butte WWTP will have a design capacity of 20 years and will no longer have to dewater groundwater for routine maintenance purposes due to strengthening of the WWTP basins.

6. Air Quality – Short-term negative impacts on air quality will occur during construction in the form of dust and fumes from heavy equipment. These impacts will be concentrated at the treatment plant, where employees and construction workers can use face masks to protect themselves, if necessary. Proper construction practices, such as watering of the soils, will minimize the problem. The contractor will be responsible for dust control throughout the project.

7. Public Health – This Phase 2 project will improve the efficiency of treatment at the BSB WWTP and discharge effluent meeting the requirements of the MPDES permit, thereby providing a beneficial effect on human health and safety.

8. Energy – A direct short-term impact of energy resources will be consumed during the construction phase. As a result of the project, older pumping and aeration equipment at the WWTP will be replaced with modern, energy-efficient equipment. Buildings will be constructed in accordance with MDEQ energy code requirements.

9. Noise – There will be some noise from the heavy equipment during construction. However, since the treatment plant does not have close residential neighbors, this is a minimal concern. BSB WWTP employees and the construction workers can use ear protection during the construction period, if necessary. Construction will be limited to normal daytime hours to avoid early morning or late evening construction disturbances. No new noises are expected as a result of the WWTP improvements.

10. Sludge Disposal - The WWTP utilizes aerobic digesters to treat and stabilize sludge. The existing digesters and sludge dewatering equipment have adequate capacity to handle the sludge that will be produced as a result of the WWTP improvements. All sludge generated at this facility will continue to be disposed of in an approved Class II landfill in accordance with EPA's 258 Regulations *Criteria for Municipal Solid Waste Landfills.* Any sludge removed from the BSB WWTP during the Phase 2 project will also be deposited in the local approved Class II landfill.

    The discharge from construction dewatering will flow to ARCO's Butte Treatment Lagoons, where chemical lime is added to remove any metals before ultimate discharge to Silver Bow Creek. Addition of the Phase 2 project's dewatering discharge to the ARCO ponds is not expected to cause the lime sludge to be classified as anything other than solid waste, thus allowing its continued disposal at the current Butte Priority Soils Operable Unit Mine Waste Repository.

11. Growth – The 2035 design population of 29,600 reflects a moderate to high growth factor of 10 percent. The addition of existing and future homes in South Butte was evaluated separately from the current wastewater service area. A doubling of the number of South Butte homes from 500 to 1,000 was conservatively assumed for the planning period, with a resulting design population of 2,400 for this area. Improvements to the WWTP will be a positive feature for the community.

    Improvements to the WWTP may result in secondary impacts that are associated with the growth of the community. This project would allow the City to manage its growth in a proactive manner and promote urbanization within its service area. The anticipated increase in population and development in the service area would result in increased flows to the WWTP. Secondary impacts may include impacts to housing, commercial development, agricultural lands, solid waste, transportation, and utilities.

12. Environmental Justice – Environmental Justice Executive Order 12898: The proposed project will not result in disproportionately high or adverse human health or environmental effects on minority or low income populations. The financial impact of this project is supported by the existing city sewer rate structure and no rate increases are anticipated. No disproportionate effects among any portion of the community would be expected.

13. Cumulative Effects - The increased treatment capacity at the wastewater treatment plant may result in secondary and/or cumulative impacts due to growth of the community and expansion of the service area. Secondary impacts associated with

housing, commercial development, solid waste, transportation, utilities, air quality, water utilization, and possible loss of agricultural and rural lands may occur. These secondary impacts are uncertain at this time and therefore cannot be directly addressed in the EA. However, these impacts will need to be managed and minimized as much as possible through proper community planning. There are several existing city, county and state regulations already in place (i.e., zoning regulations, comprehensive planning, subdivision laws, etc.) that control the density and development of property with regard to water supply, sewage disposal, solid waste disposal, transportation, and storm drainage.

While short-term impacts may occur as a result of the effect of the WWTP's dewatering on the MPTP plume, such impacts will be minimized by increased pumping at the MPTP through coordination with DEQ, and no long-term environmental impacts are expected, as the low levels of contaminant that may be affected by the dewatering will be naturally attenuated. A positive long-term effect is that groundwater dewatering will not be necessary in the future when below-grade treatment basins are emptied for maintenance.

B. UNAVOIDABLE ADVERSE IMPACTS

Short-term construction-related impacts (i.e., noise, dust, etc.) will occur, but will be minimized through proper construction management. Energy consumption during construction cannot be avoided.

Dewatering activities during this Phase 2 project will result in a discharge of groundwater contaminated with metals and pentachlorophenol (PCP) to the ARCO Butte Treatment Lagoons. Dewatering activities will be closely coordinated with the DEQ Remediation Division so as to minimize any negative impacts to Superfund cleanup efforts at the MPTP site and to minimize the extent to which the PCP plume may be drawn into the dewatering area. Recommendations from the Demonstration Pilot Test that was conducted in July through October 2011 will be implemented. This Phase 2 Upgrade project includes reinforcement of existing basins that were not structurally reinforced during the BSB Phase 1A project. As a result, BSB will be able to draw down or completely dewater any of the structures for maintenance without having to perform any groundwater dewatering in the future.

VIII. PUBLIC PARTICIPATION

The Butte-Silver Bow Council of Commissioners held a public meeting for the proposed wastewater treatment plant (WWTP) project on February 25, 2009 in the Courthouse Building. A representative from Morrison-Maierle, the city's engineering consultant, presented slides on the (1) wastewater utility background, (2) new discharge regulations and planning scenarios, (3) design concepts considered for wastewater upgrades, (4) alternatives comparison for wastewater treatment, and (5) the wastewater utility implementation plan. Conditions of the current Administrative Order on Consent and the need for implementing this Phase 2 project were explained. Public comments were solicited through March 27, 2009. There were no opponents to the project.

On August 3, 2011, a general overview of the on-going WWTP efforts was presented to the public and BSB Commissioners, with emphasis on the revised recommendations associated with the membrane bioreactor (MBR) treatment system and new considerations for groundwater dewatering.

IX. AGENCY ACTION, APPLICABLE REGULATIONS AND PERMITTING AUTHORITIES

All proposed improvements will be designed to meet state standards in accordance with Circular DEQ-2 and will be constructed using standard construction methods. Best management practices will be implemented to minimize or eliminate pollutants during construction. No additional permits will be required from the State Revolving Fund (SRF) section of the DEQ for this project after the review and approval of the submitted plans and specifications. However, coverage under the storm water general discharge permit and groundwater dewatering discharge permit, are required from the DEQ Water Protection Bureau prior to the beginning of construction. A 124 Permit from the Department of Fish, Wildlife and Parks, a 404 Permit from the U.S. Corps of Engineers, and a 318 Authorization from the Department of Environment Quality will be required for any work that occurs in a streambed or wetland, and will be obtained if necessary. If BSB sent the dewatering discharge directly to Silver Bow Creek, a discharge permit from the Montana DEQ would be necessary and treatment of the water would likely be required. However, BSB has an agreement with the Atlantic Richfield Company (ARCO) allowing it to send its dewatering water through the ARCO treatment pond system with final discharge to Silver Bow Creek. The ARCO ponds use lime addition to remove metals prior to discharge. This discharge does not require a Montana Pollutant Discharge Elimination System permit since it is part of a Superfund site.

X. REFERENCE DOCUMENTS

The following documents were utilized in the environmental review of this project and are considered to be part of the project file:

1. Butte-Silver Bow Wastewater Treatment Plant Phase 2 Upgrade Facility Plan Update (Technical Memorandums 2-4); prepared by Morrison-Maierle, Inc.; Helena, Montana; August 2012.
2. Administrative Order on Consent (Docket No. WQ-07 – 07), with amendments; issued to the City and County of Butte-Silver Bow from the Department of Environmental Quality.
3. Authorization to Discharge Under the Montana Pollutant Discharge Elimination System, Butte-Silver Bow City/County, Permit No. MT0022012; effective April 1, 2012 and expiring March 31, 2017; Montana Department of Environmental Quality.
4. Montana Discharge Elimination System (MPDES) Permit Fact Sheet, Butte-Silver Bow City/County; November, 2011; Montana Department of Environmental Quality Permitting and Compliance Division.
5. Technical Memorandum B, MPTP Mitigation Strategies for PCP Plume Containment, Butte-Silver Bow Wastewater Treatment Plant Phase 2 Upgrade; prepared by Elizabeth Erickson, Water & Environmental Technologies; June 1, 2011.
6. Uniform Environmental Checklist; prepared by Scott Murphy, PE, Morrison-Maierle; November, 2012.

XI. AGENCIES CONSULTED

The following agencies have been contacted regarding the Butte-Silver Bow Wastewater Treatment Plant Phase 2 Upgrade Facilities Plan Update, Technical Memorandums 2-4 (August 2012), which determined the basis for the proposed Phase 2 wastewater improvements project. Comments received from agencies during the environmental review process for Butte's 2009 Phase 1 and Phase 1A wastewater treatment plant (WWTP) improvements projects are still considered applicable to this Phase 2 project. Input from the MDEQ Remediation Division's Montana Pole and Treating Plant (MPTP) and Streamside Tailings/Silver Bow Creek Superfund project officers was solicited for this specific Phase 2 project, due to the established impact of the dewatering operations at the Butte WWTP on MPTP remediation activities and concern about impacts of the WWTP discharge on the Silver Bow Creek fishery.

1. The Montana Department of Fish Wildlife and Parks (FWP). FWP commented that pentachlorophenol (PCP) is highly toxic to fish and noted that the chronic aquatic standard is 4 µg/l. FWP considers Silver Bow Creek (SBC) to be a rapidly recovering fishery that should be considered a viable fishery regardless of classification. The agency recognizes that any engineering and treatment that would reduce the concentration of metals, nutrients, and PCP from entering SBC is clearly the best choice. FWP supports any monitoring for PCP in the creek concurrent with construction.

2. The United States Fish and Wildlife Service (FWS). There was a response from the agency stating the agency had no comments.

3. Montana State Historic Preservation Office (SHPO). The recommendation from SHPO is that a cultural resource inventory is unwarranted. As long as there is no disturbance or alteration to structures over fifty years of age, there is a low chance of impact to cultural properties.

4. The United States Army Corps of Engineers (COE). The COE prepared a full environmental assessment, as a result of its partially funding the Phase 1 project with a Water Resources Development Act (WRDA) grant. A 2006 response from the COE indicated no comments.

5. Department of Natural Resources and Conservation (DNRC). A 2006 response from the DNRC Floodplain Administrator suggested that the local floodplain office be contacted for exact floodplain delineation in the area. The Butte-Silver Bow (BSB) Floodplain Administrator was contacted in early 2012 with a request for any updated and available floodplain information for Silver Bow Creek (SBC) in the area of the WWTP. There is not a representative Flood Insurance Rate Map for the current conditions along SBC. However, stream flow and flood information has been gathered by consultants while reclamation of SBC has been underway and the BSB Floodplain Administrator recommended use of these sources. This information indicates that the WWTP is protected from flooding by the nearby Flood Control Dike and that the 100-year floodplain level is now lower than it previously was. According to the Uniform Environmental Checklist included in the Preliminary Engineering Report, the proposed improvements will be located above the 100-year floodplain.

6. Environmental Protection Agency (EPA). There was a response from the National Pollutant Discharge Elimination System Program during the Phase 1 environmental review process simply stating that the agency had no comments. In spring 2013, EPA's Region 8 Montana Office Superfund Program and DEQ discussed more extensively the disposal of the dewatering discharge to the ARCO Butte Treatment Lagoons. BSB will work closely with the DEQ, the Atlantic Richfield Company (ARCO), and the (EPA) during implementation of dewatering, in order to minimize impacts to the PCP plume originating at the Montana Pole and Treating Plant (MPTP) site. A Demonstration Pilot Study conducted in 2011-2012 by BSB and its contractor showed that coordination with DEQ's MPTP operations to increase the pumping rate in the Near Creek Recovery Trench at the MPTP site during BSB's dewatering activities served to significantly reduce the extent to which the MPTP plume could be drawn into the dewatering area and showed that PCP concentrations in the discharge from the Butte Treatment Lagoons to Silver Bow Creek were significantly below the standard of 1ug/L. Additional sampling being conducted during a two-week maintenance dewatering exercise in May-June 2013 will help to verify or clarify the results of the Pilot Study before the longer-term (six-month and two-month) dewatering activities will be conducted.

7. Montana Department of Environmental Quality Remediation Division. Comments were solicited from the MDEQ Remediation Division's Montana Pole and Treating Plant (MPTP) and Streamside Tailings/Silver Bow Creek Superfund project officers in November 2012. As was the policy during the Phase 1A Change Order project, completed during the summer and fall months of 2011, dewatering by BSB will be closely coordinated with Lisa DeWitt, who manages the MPTP Superfund site for DEQ. The Remediation Division recognizes the potential for dewatering during the Phase 2 project to impact the PCP groundwater plume from the MPTP site. Coordination of activities between the DEQ and Butte-Silver Bow is critical to minimizing negative effects on the PCP plume, as well as the BSB WWTP. The Remediation Division realizes that the Phase 2 improvements work towards the long-term benefit of no dewatering at the WWTP in the future for the maintenance of treatment basins. As stressed in the report on the Demonstration Pilot Test conducted in July through October 2011 while the Phase 1A Change Order project was underway at the BSB WWTP, continued close cooperation between the DEQ and BSB while dewatering during Phase 2 MBR construction at the WWTP is necessary.

Recommendation for Further Environmental Analysis:

[ ] EIS [ ] More Detailed EA [X] No Further Analysis

Rationale for Recommendation: Through the Butte-Silver Bow Wastewater Treatment Plant Phase 2 Upgrade Facilities Plan Update, Technical Memorandums 2-4 (August 2012), prepared by Morrison-Maierle, Inc., and the public process involved, the City and County of Butte-Silver Bow determined that the preferred wastewater improvement alternatives will improve the operation and maintenance capabilities of their existing wastewater treatment plant. Through this EA, the MDEQ has verified that none of the adverse impacts of the proposed wastewater treatment facility upgrades are significant; therefore an environmental impact statement is not required. The environmental review was conducted in accordance with the Administrative Rules of Montana (ARM) 17.4.607, 17.4.608, 17.4.609 and 17.4.610. This EA is the appropriate level of analysis because none of the adverse effects of the

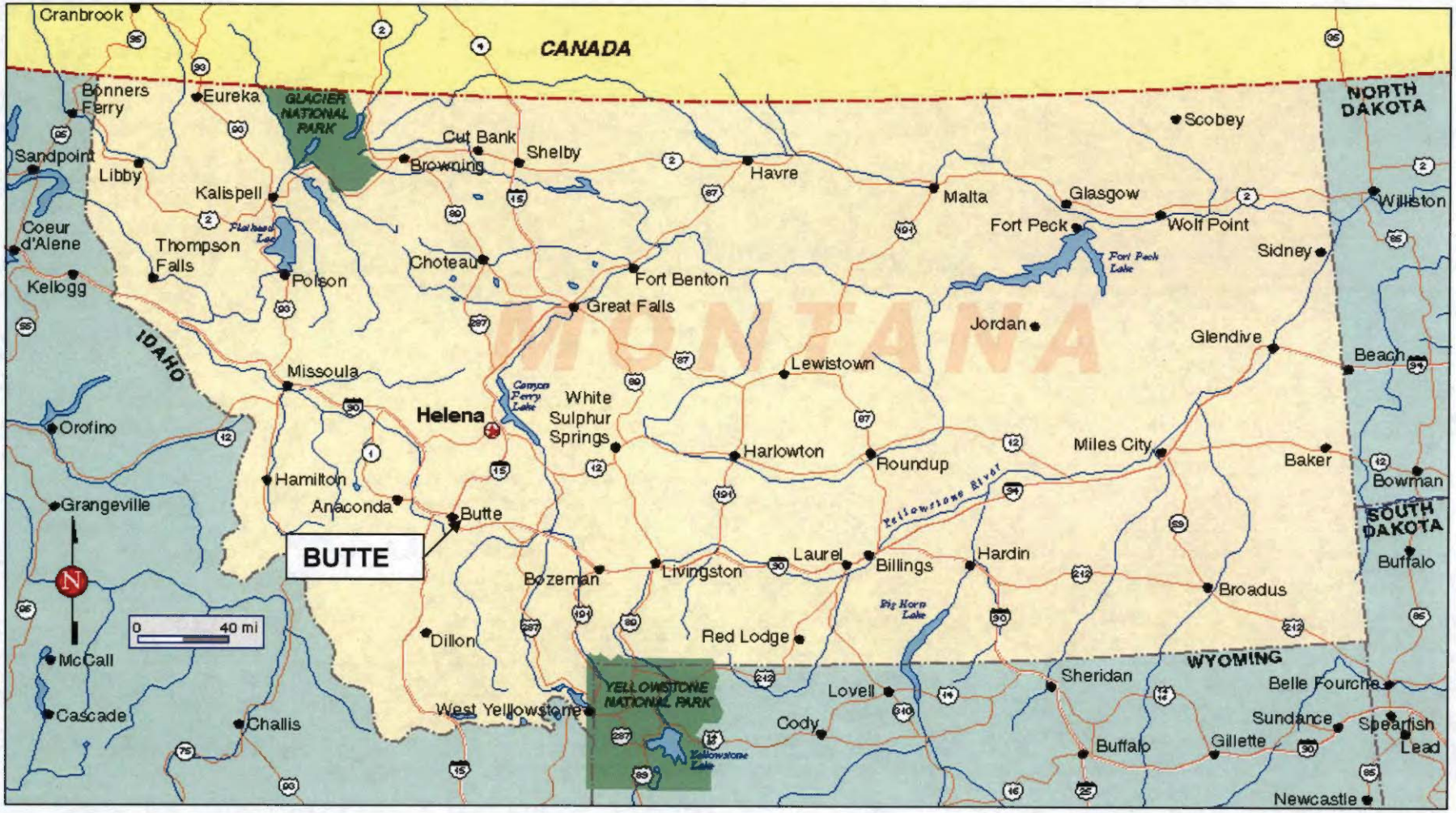
impacts are significant.] A Finding of No Significant Impact (FONSI) will be issued and legally advertised in the local newspaper and distributed to a list of interested agencies. Comments regarding the project will be received for 30 days before final approval is granted.

EA Prepared by:

Michele Marsh, P.E. — Date: 6/4/13

EA Approved by:

Mike Abrahamson, P.E. — Date: 6/4/13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BUTTE
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Bonners Ferry
Eureka
GLACIER NATIONAL PARK
Sandpoint
Libby
Kalispell
Coeur d'Alene
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Kellogg
Polson
IDAHO
Orofino
Grangeville
McCall
Cascade
Challis
Missoula
Hamilton
Anaconda
Butte
Helena
Cut Bank
Browning
Shelby
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Fort Peck
Wolf Point
Sidney
Williston
NORTH DAKOTA
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White Sulphur Springs
Harlowton
Roundup
Miles City
Baker
Bowman
SOUTH DAKOTA
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Laurel
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Bozeman
Dillon
Red Lodge
YELLOWSTONE NATIONAL PARK
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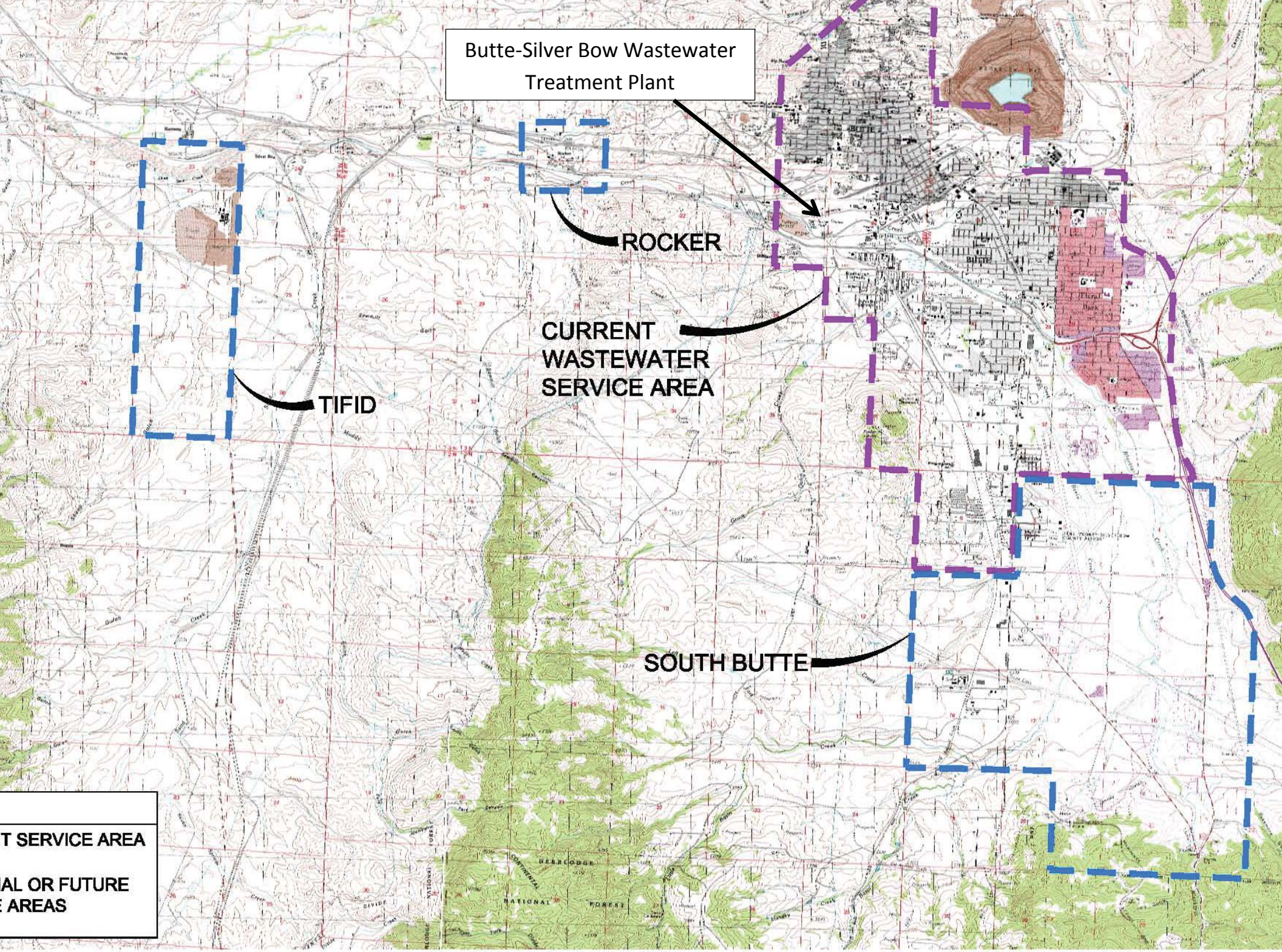
FIGURE 1


Butte-Silver Bow Wastewater Treatment Plant
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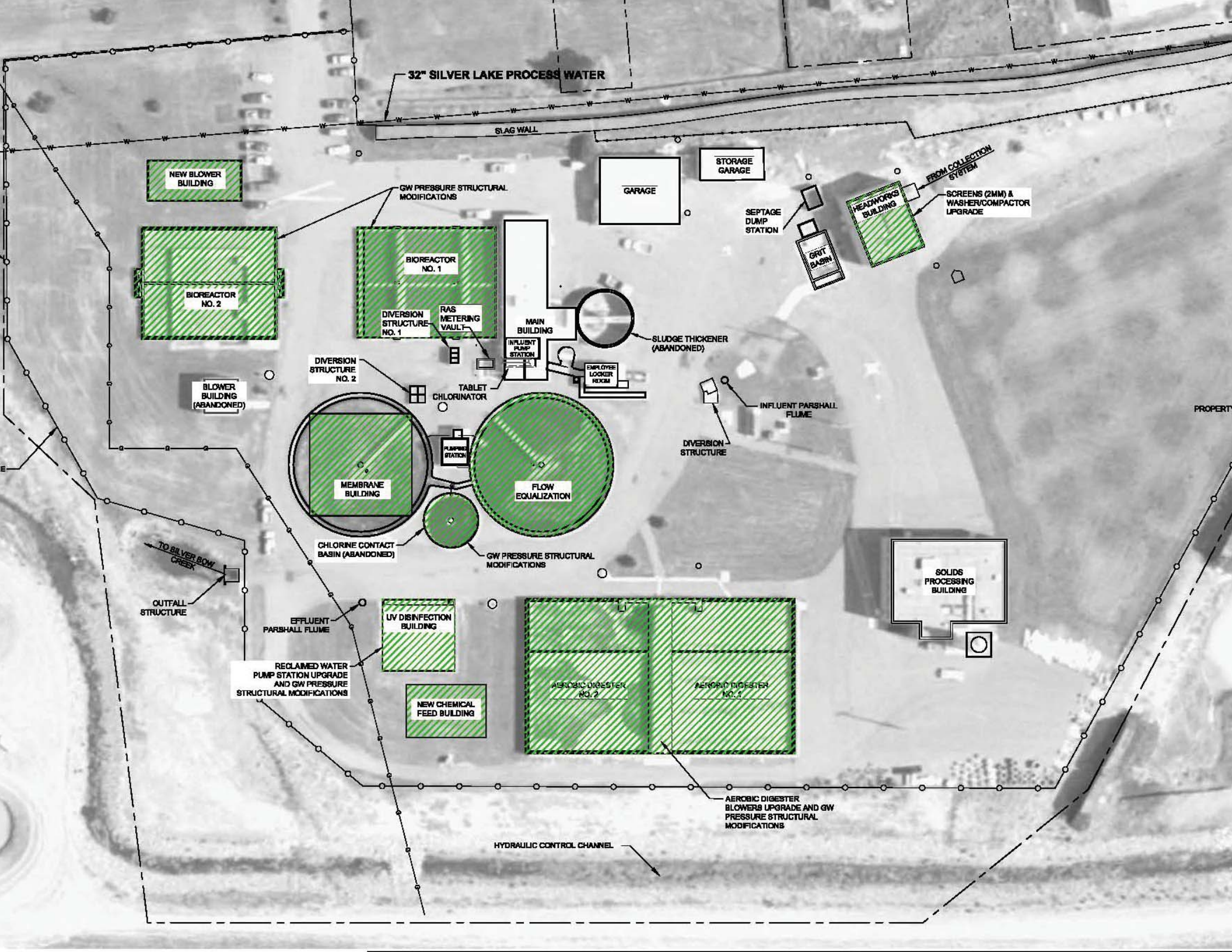
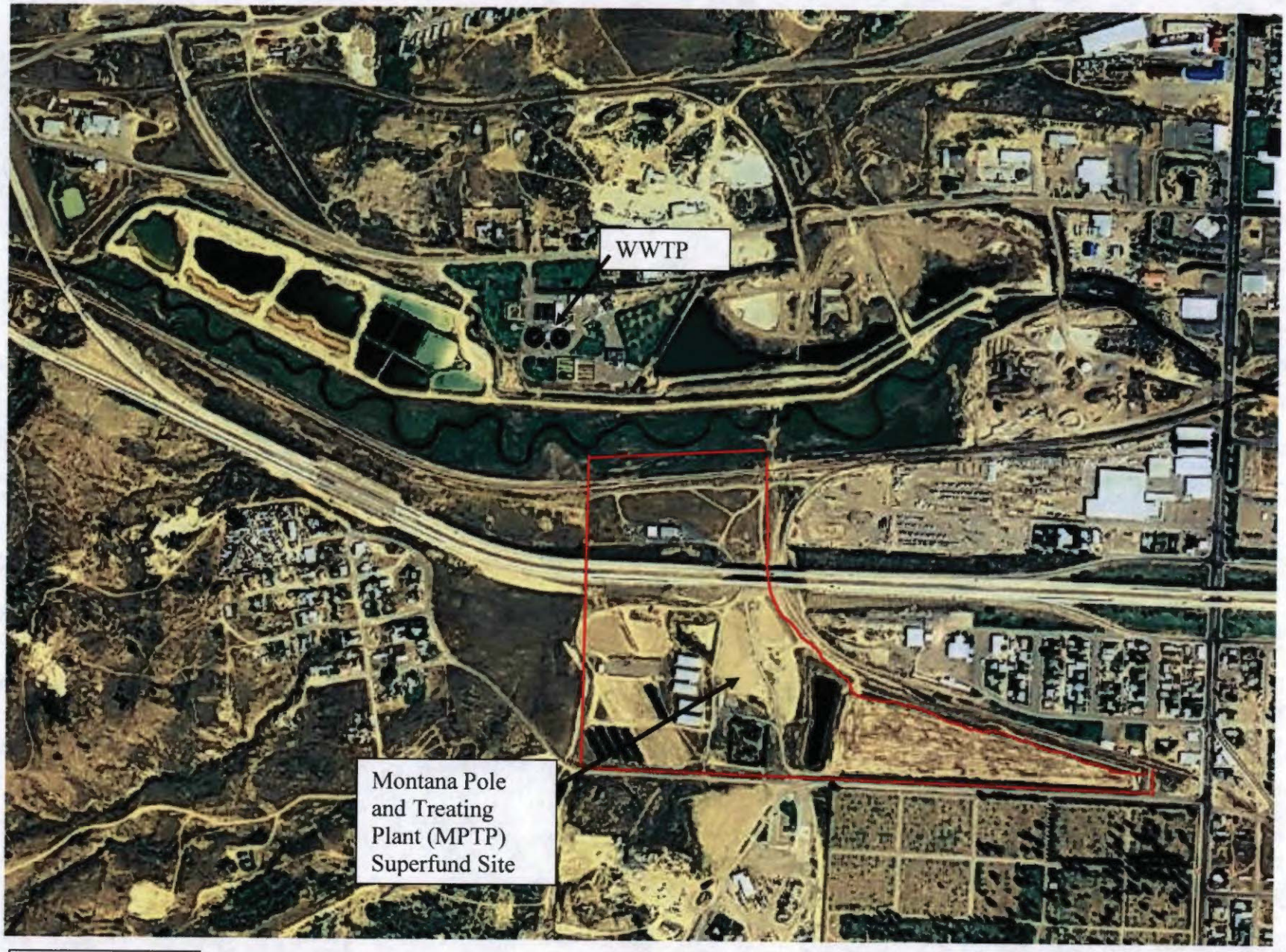

32" SILVER LAKE PROCESS WATER
SLAG WALL
NEW BLOWER BUILDING
GW PRESSURE STRUCTURAL MODIFICATONS
GARAGE
STORAGE GARAGE
FROM COLLECTION SYSTEM
SCREENS (2MM) & WASHER/COMPACTOR UPGRADE
HEADWORKS BUILDING
SEPTAGE DUMP STATION
GRIT BASIN
BIOREACTOR NO. 2
BIOREACTOR NO. 1
DIVERSION STRUCTURE NO. 1
RAS METERING VAULT
MAIN BUILDING
INFLUENT PUMP STATION
EMPLOYEE LOCKER ROOM
SLUDGE THICKENER (ABANDONED)
DIVERSION STRUCTURE NO. 2
TABLET CHLORINATOR
BLOWER BUILDING (ABANDONED)
INFLUENT PARSHALL FLUME
DIVERSION STRUCTURE
PROPERTY
PUMPING STATION
MEMBRANE BUILDING
FLOW EQUALIZATION
CHLORINE CONTACT BASIN (ABANDONED)
GW PRESSURE STRUCTURAL MODIFICATIONS
TO SILVER BOW CREEK
OUTFALL STRUCTURE
SOLIDS PROCESSING BUILDING
EFFLUENT PARSHALL FLUME
UV DISINFECTION BUILDING
RECLAIMED WATER PUMP STATION UPGRADE AND GW PRESSURE STRUCTURAL MODIFICATIONS
NEW CHEMICAL FEED BUILDING
AEROBIC DIGESTER NO. 2
AEROBIC DIGESTER NO. 1
AEROBIC DIGESTER BLOWERS UPGRADE AND GW PRESSURE STRUCTURAL MODIFICATIONS
HYDRAULIC CONTROL CHANNEL



Scale 1: 10,011

FIGURE 4