Montana Department of
ENVIRONMENTAL QUALITY

Brian Schweitzer, Governor
Richard H. Opper, Director

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

July 1, 2011

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

RE: Montana WPCSRF Project
C302225
Butte, Montana

Dear Mr. Dennehy:

Enclosed is a copy of the Finding of No Significant Impact (FONSI) and Environmental Assessment (EA) for the Butte-Silver Bow (BSB) Metro Wastewater Treatment Plant Upgrade Preliminary Engineering Report (Phase 1A Change Order project only). 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. 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
Bruce Evans, Butte-Silver Bow
Leena Worrell, Butte-Silver Bow
Elizabeth Erickson, WET, Butte

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July 1, 2011

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 Metro Wastewater Treatment Plant Upgrade, Phase 1A Change Order
Location	Butte, Montana
Project Number	C302225
Total Cost	$1,040,000

The Butte-Silver Bow (BSB) Public Works Department, through a 2009 preliminary engineering report (PER),determined the need to upgrade its wastewater treatment system in several phases. During Phase 1 construction it was discovered that construction dewatering was negatively affecting remediation efforts at the nearby Montana Pole and Treating Plant (MPTP) Superfund Site, where pentachlorophenol (PCP) is the principal contaminant of concern.

The proposed Phase 1A Change Order project consists of structurally strengthening four basins at the WWTP. Construction dewatering is needed to complete these improvements. As a result of this project, four wastewater treatment plant basins will be able to withstand hydrostatic groundwater pressure, thus eliminating the need to dewater whenever these basins are emptied for maintenance.

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 1A Change Order
ENVIRONMENTAL ASSESSMENT

I. COVER SHEET

A. PROJECT IDENTIFICATION

Name of Project:	Wastewater Treatment Plant Upgrade Phase 1A Change Order
Applicant:	City and County of Butte-Silver Bow
Address:	126 West Granite Street Butte, MT 59701
Project Number:	C302225

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. 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. This process resulted in the establishment of lower nitrogen and phosphorus limits in the BSB wastewater treatment plant (WWTP) discharge permit. These new limits went into effect on January 1, 2009.

The existing activated sludge plant is not capable of meeting the more stringent nutrient limits. In May 2008 the Montana Department of Environmental Quality (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. In addition to permit issues, the PER identified capacity and on-going maintenance concerns. Based on the priority of the needed improvements and the desire of BSB to spread out the capital outlays necessary to construct the required facilities, two compliance phases were established.

Phase 1 improvements were completed in May 2010. During Phase 1 construction it was discovered that dewatering needed to relieve groundwater pressure on the emptied below-ground concrete basins (to protect them from hydrostatic uplift and damage) was negatively affecting remediation efforts at the nearby Montana Pole and Treating Plant (MPTP) Superfund Site, where pentachlorophenol (PCP) is the principal contaminant of concern.

A Phase 1A project was developed and awarded in October 2010 in order to keep WWTP improvements progressing until dewatering issues are resolved. This project required no dewatering and included the following upgrades: new aerobic digester blower, influent Parshall flume, two new vertical turbine effluent pumps, conversion of existing 4160V electrical feed to 480V, and modifications to the existing SCADA system.

The proposed Phase 1A Change Order project consists of strengthening several of the basins at the WWTP through installation of helical piers in one bioreactor basin and two aerobic digester basins, and pouring a 12-inch concrete slab over the existing floor of the UV building. Dewatering is needed to complete these improvements. Structural strengthening of all WWTP basins against hydrostatic uplift was chosen by BSB as the approach to address groundwater contamination issues during dewatering at the WWTP. The Phase 1A Change Order project is the first step in achieving this.

The Phase 1A Change Order project will be fully financed by a Montana Water Pollution Control State Revolving Fund (WPCSRF) Program loan in the amount of $1,040,000, which includes $177,000 of principal forgiveness. All rates and charges are in place for the proposed improvements.

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 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, the DEQ may loan money to municipalities for construction of public sewage systems.

All proposed improvements would 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. A Stormwater Discharge General Permit from the DEQ may be required prior to construction. 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.

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 City of Butte is located on the western edge of the Continental Divide in southwestern Montana (see Figure 1). The Butte-Silver Bow (BSB) Metro Wastewater Treatment Plant (WWTP) can be found on the west-central side of the city, just north of combined Interstate 15/90 (see Figure 2). The wastewater study area is bounded by I-15 on the east, the Berkeley pit to the north, the Bert Mooney Silver Bow County Airport to the south, and the intersection of I-90 with the I-15/I-90 business loop to the west. The actual area served by the BSB Metro WWTP is a subset of the larger study area and is shown in Figure 2.

The BSB Metro WWTP was first built in 1968 as a 7.0 MGD conventional activated sludge plant. Major upgrades to the WWTP were made in 1977 and 1996, expanding the plant capacity to 8.5 MGD. 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 to help control excessive algal growth in the river. To date, the WWTP has not completed all improvements necessary to meet the stricter nutrient limits in its permit.

In May 2008 the Montana Department of Environmental Quality (DEQ) issued an Administrative Order on Consent (AOC) to Butte-Silver Bow Metro, with the purpose of establishing a schedule for BSB to come into compliance with certain effluent limits in its MPDES permit. A preliminary engineering report was completed in 2009. Based on the priority of the needed improvements and the desire of BSB to spread out the capital outlays necessary to complete the required facilities, two phases were established.

Phase 1 improvements were completed in May 2010. During Phase 1 construction it was discovered that the dewatering needed to relieve groundwater pressure on the emptied below-ground concrete basins (to protect them from hydrostatic uplift and damage) was affecting remediation efforts at the nearby Montana Pole and Treating Plant (MPTP) Superfund Site to contain and treat pentachlorophenol (PCP). Figure 4 illustrates the proximity of the WWTP to the MPTP site. Details regarding WWTP dewatering and resulting impacts at the MPTP with respect to groundwater flow, contaminant transport, and remedy operations are discussed in a report titled "Information Summary, Conceptual Model, and Groundwater Modeling Report: Butte Metro Sewer Treatment Plant Dewatering" (Tetra Tech, November 2010) which included a summary of groundwater modeling performed as part of that effort. Phase 1 WWTP dewatering negatively impacted the capture zone of the MPTP extraction system which, in the absence of such off-site interference, appears to provide adequate hydraulic containment for the groundwater plume at the MPTP site. Investigations conducted as a result of the WWTP dewatering determined that PCP concentrations in groundwater currently extend north of Silver Bow Creek and the

Hydraulic Control Channel (HCC). Surface water concentrations in Silver Bow Creek remain below standards.

Startup of Phase 2 construction has been delayed until the MDEQ can complete its assessment of the impacts of dewatering at the WWTP on MPTP cleanup activities and accepts the dewatering plan proposed for the Phase 2 project. Following recommendations in the 2009 PER, a Phase 1A project was developed in order to keep WWTP improvements progressing while dewatering issues were resolved. This project required no dewatering.

BSB intends to conduct a dewatering pilot demonstration study in the summer of 2011 to assess future groundwater responses to the dewatering necessary for construction and maintenance of facilities at the WWTP site. This study will be coordinated with MDEQ personnel managing the MPTP Superfund site. Since the Phase 1 dewatering occurred, MDEQ has modified the MPTP groundwater recovery system to allow for increased extraction rates in its Near Creek Recovery Trench (NCRT). For BSB's pilot demonstration study, MDEQ has agreed to increase the pumping rate from the NCRT by 75 to 100 gpm. This increase in extraction would be expected to counteract the WWTP dewatering activities to some degree and thus minimize the spread of the PCP plume farther north of Silver Bow Creek that could result from the WWTP dewatering. BSB will make every effort to minimize both the rate of dewatering necessary and the length of time needed to undertake the Phase 1A Change Order modifications described in this document.

Pre-design work for Phase 2 treatment process improvements suggests that the best long-term solution to the problematic dewatering issues confronting BSB at the WWTP is to structurally strengthen all existing below-grade basins so that future dewatering for maintenance purposes is no longer necessary. BSB is proposing this change order to incorporate basin structural support work into its Phase 1A project during the time that the dewatering pilot demonstration study is being conducted. In doing so, BSB can take advantage of the dewatered subsurface zone around its basins in order to dewater four of them and complete their structural strengthening. This will shorten the duration of dewatering required during the upcoming Phase 2 construction project.

III. ALTERNATIVES INCLUDING THE PROPOSED ACTION

One bioreactor basin, two aerobic digester basins, and the UV building were selected to be structurally strengthened as Phase 1A Change Order project while the dewatering pilot demonstration study is underway. The implementation of structural improvements at that time takes advantage of a lowered groundwater table to allow safe emptying of the basins to allow work inside of them. Two structural alternatives were analyzed in a Technical Memorandum entitled "Groundwater Structural Modifications Analysis." These alternatives, as well as the no action alternative, are summarized below.

A. Alternative 1 – No Action

If no action is taken to permanently strengthen any below-ground basins at the BSB WWTP (even during Phase 2), dewatering will be necessary whenever any of those structures need to be emptied for maintenance purposes during their useful lives. These dewatering events will continue to negatively impact efforts at

the MPTP Superfund Site. If strengthening of all basins is delayed until Phase 2 construction, the period of dewatering for Phase 2 construction will be extended.

B. Alternative 2 – Incorporation of Helical Piers with Reinforced Concrete Slabs
The bioreactor basin and the two aerobic digester basins would be emptied and helical piers would be installed into cored openings on a 6-foot grid spacing to counterbalance the buoyant forces caused by the groundwater. The helical piers would extend 15 to 20 feet into the soil. A new 8-inch reinforced concrete slab would be laid over the top of the existing floor in order to integrate the helical piers. Reinforcement of the UV basin would be accomplished by drilling steel dowels into the existing basin floor and pouring a 12-inch reinforced concrete slab over the top. These structural modifications would take about one month per basin, but could be completed concurrently with each other, depending on contractor resources and the utilization of basins by WWTP staff.

C. Alternative 3 – Thickening of the Floor Slabs
Alternative 3 entails the pouring of thicker (2 to 3 feet) concrete floors in the aeration basins, secondary clarifiers, and aerobic digester tanks to counteract buoyant forces. Existing basin floors would need to be removed with the thicker foundations set at a lower depth in order not to relinquish treatment volume to accommodate the thicker foundations. These structural modifications would take about two months per basin, but could be completed concurrently with each other, depending on contractor resources and the utilization of basins by WWTP staff.

IV. COST COMPARISON FOR ALTERNATIVES USING PRESENT WORTH ANALYSIS

A comparison of capital costs is provided in Table 1. Construction costs are based on anticipated dollars and include labor, materials, equipment, bonds and insurance, mobilization/demobilization, contractor's overhead and profit, and contingencies. A present worth analysis is not presented since there would be no operation and maintenance costs associated with alternatives #2 and #3 and the cost for operation and maintenance with the no action alternative has not been defined. If no action is taken, operation and maintenance costs would entail the costs associated with dewatering at the WWTP site in order to perform maintenance on subsurface tanks and basins. Salvage values were considered to be inconsequential and are therefore not presented.

TABLE 1 – CAPITAL COST COMPARISON OF STRUCTURAL ALTERNATIVES

Structures	Alternative 1 (No action)	Alternative 2 (Helical Piers)	Alternative 3 (Thickening of Floors)
Aeration Basins (2)	$0	$410,000	$870,000
Secondary Clarifiers (2)	$0	$620,000	$1,180,000
UV Building	$0	$80,000	$80,000
Aerobic Digesters (2)	$0	$580,000	$1,310,000

V. BASIS OF SELECTION OF PREFERRED ALTERNATIVE

The no action alternative is not viable. Maintenance in basins at the WWTP requires that they be emptied. Because the basins were not designed to withstand hydrostatic pressure exerted from the groundwater on their outside walls and floors, the area surrounding a basin must be dewatered before the basin can be emptied. Based on information obtained during the Phase 1 construction dewatering activities, dewatering activities for future construction and operation and maintenance activities at the WWTP are likely to adversely affect containment of the Montana Pole and Treating Plant (MPTP) groundwater plume. Minimization or elimination of dewatering at the WWTP in the future is the path chosen by BSB.

The selected alternative for the structural improvements to the basins is to use helical piers in combination with new reinforced concrete slab floors. As can be seen from Table 1, the costs are significantly lower for this alternative. Construction time is also much less than that associated with thickening the basin floors. Table 2 summarizes the costs associated with the Phase 1A Change Order project. The structures chosen for strengthening under the Phase 1A Change Order project are one bioreactor basin, two aerobic digesters, and the UV building.

TABLE 2 – BUTTE PHASE 1A CHANGE ORDER PROJECT PRELIMINARY BUDGET

Project Component	Estimated Construction Cost
Structural Modifications to One Bioreactor Basin	$210,000
Structural Modifications to Two Aerobic Digesters	$580,000
Structural Modifications to UV Building	$80,000
Design and Construction Engineering Services	$160,000
Bond Counsel and Related Costs	$10,000
TOTAL	**$1,040,000**

The total construction cost of the proposed Phase 1A Change Order project is estimated to be $1,040,000.00. This amount includes the capital cost of $870,000.00 (itemized above), $160,000 for design and construction engineering services, and $10,000 in bond counsel fees. (The reserve account, administrative duties and associated costs will be handled by the City.) The $1,040,000 in project costs will be funded entirely with a WPCSRF loan that has a principal forgiveness portion of $177,000. The remaining $863,000 will be financed with an interest rate of 3.75%

The financial impact of this project is supported by the existing city wastewater structure and no rate increases are anticipated. The current average monthly residential sewer rate in Butte is $13.50. Based on the Environmental Protection Agency guidance for project affordability, the existing monthly sewer fee per household is approximately 0.4 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

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 bounded by I-15 on the east and the Berkeley pit on the north. The southern boundary is the Bert Mooney Silver Bow County Airport. The boundary on the west runs north-south at approximately the intersection of I-90 with the I-15/I-90 Business loop. The actual area served by the Butte-Silver Bow (BSB) wastewater treatment plant (WWTP) is a subset of the larger study area (Figure 2) and is generally located north of Interstate 90 in the Butte, east Butte, and Walkerville areas.

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)

B. POPULATION

According to the Department of Commerce, the Butte-Silver Bow area is the fifth highest populated area in the state. The area has seen some slight population decline since 2000; however, the last couple of years have shown some signs of growth. The current number of service connections on the BSB wastewater treatment system is approximately 12,742, including 11,242 residential connections. Assuming 2.4 people per home, as documented in the 2010 Census, the total estimated wastewater service population is 27,000.

Population projections in the Preliminary Engineering Report (PER) were based on a 24-year design period ending in 2030. The 2030 design population was calculated using the high growth rate of 12 percent cited in a recent BSB Transportation Plan Update document for the period through 2025, and then proportioning this rate through the years 2025 to 2030. This amounts to an anticipated design wastewater service population of approximately 30,600 in 2030.

C. FLOW PROJECTIONS

The BSB WWTP currently serves 27,000 people (based on 2010 census data and households served) and treated an average daily flow of approximately 3.92 MGD in 2010. Using these values, the current per capita average daily wastewater flow is 140 gpd/capita (gpcd), which is indicative of a community that does not have excessive inflow/infiltration into the sewer mains. It is estimated that a design year population of 30,600 will generate an average daily flow of 4.2 MGD, with a maximum daily flow of 5.5 MGD. The system components associated with the Phase 1A Change Order improvements will be sized to handle these flows. Approximately 0.5 MGD of the system flow is contributed by industrial users.

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.

Silver Bow County currently has two federal Superfund sites, one of which is a 24-mile stretch of Silver Bow Creek and is named the Silver Bow Creek/Butte Area. 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 2006 303(d) list. According to this list, the creek cannot support agriculture, aquatic life, warm or cold water fisheries, drinking water, industrial, or primary contact recreation uses. The probable cause of these impairments are heavy metals from abandoned mine lands. The wastewater treatment plant is not listed as a probable source of these impairments.

The Montana Pole and Treating Plant (MPTP) Superfund site is located to the southeast, within 1,000 feet of the BSB WWTP (Figure 4). 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.

E. MAPS

Figure 1 shows the general location of the City of Butte-Silver Bow (BSB) within the state of Montana. Figure 2 shows the wastewater service area for BSB Metro. The existing treatment facility is shown in Figure 3. Figure 4 is an aerial photograph showing the proximity of the BSB WWTP to the Montana Pole and Treating Plant Superfund site.

VII. ENVIRONMENTAL IMPACTS OF PROPOSED PROJECT

A. DIRECT AND INDIRECT ENVIRONMENTAL IMPACTS

1. Land Use – The proposed Phase IA Change Order 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.

2. Floodplain – The WWTP is located in a Zone C floodplain of Silver Bow Creek 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 not impact the100-year (Zone A) floodplain.

3. Wetlands – The proposed improvements will not impact any known wetlands, since all improvements will occur within the immediate vicinity of the existing WWTP.

4. 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.

5. 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.

6. Fish and Wildlife –The segment of Silver Bow Creek (SBC) below the WWTP is listed as impaired on Montana's 2006 303(d) list. According to this list, the creek cannot support aquatic life, and warm or cold water fisheries. The probable cause of these impairments are heavy metals from abandoned mine lands. The wastewater treatment plant is not listed as a probable source of these impairments. 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 Corporation (ARCO) ponds. Discharge to Silver Bow Creek from the ponds is regulated by Superfund policy. The chronic aquatic life standard for PCP is 4 µg/l. Limited sampling while Phase 1 dewatering was underway showed low levels of PCP (up to 1.7 µg/l) where the ARCO ponds discharge to SBC. PCP concentrations are typically less than 1 µg/l downstream of both the BSB WWTP's discharge and the ARCP ponds' discharge. The low levels of PCP that reach Silver Bow Creek are naturally attenuated by dilution.

7. Water Quality – Groundwater below the BSB WWTP is generally 4 to 6 feet below the ground surface. In order to relieve hydrostatic pressure on the basins to be strengthened during the Phase 1A Change Order project, the groundwater table must be lowered to below the bottom of the basins. The pumping rate from the two dewatering manholes at the WWTP will generally be between 200 and 300 gpm.

   The dewatering discharge during the Phase 1A Change Order 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 the Butte Treatment Lagoons, where chemical lime is added to remove any metals before ultimate discharge to Silver Bow Creek. The ponds do not treat for PCP or PAHs. Since these ponds are part of an ongoing Superfund site, a Montana Pollutant Discharge Elimination System (MPDES) permit is not required for the discharge from the ponds.

   Any dewatering discharge would need to be authorized under the Water Quality Act.

8. 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.

9. Public Health – This Phase 1A Change Order project will not adversely affect BSB's ability to discharge treated wastewater effluent meeting requirements set by the Department in its MPDES permit, and as amended by the Administrative Order on Consent.

10. Energy – A direct short-term impact of energy resources will be consumed during the construction phase. In the long-term, less energy will be consumed to perform maintenance in the basins that are structurally reinforced during this project since the energy required for dewatering pumps will be saved.

11. 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.

12. Sludge Disposal – Any sludge removed from the BSB WWTP during the Phase 1A Change Order project will be deposited in the local landfill, in accordance with EPA's 503 regulations.

13. Growth – The 2030 design population is conservatively based on a high growth rate of 12 percent cited in a recent BSB Transportation Plan Update document for the period through 2025, and adjusted accordingly. 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.

14. Cumulative Effects – While short-term impacts may occur as a result of the effect of the WWTP's dewatering on the MPTP plume, no long-term environmental impacts are expected, as the low levels of contaminant that may be affected by the dewatering will be naturally attenuated.

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.

Short-term impacts may occur as a result of the dewatering's impact on the MPTP plume, but no long-term environmental impacts are expected, as the low levels of contaminant that may be affected by the dewatering will be naturally attenuated.

Dewatering activities during this Phase 1A Change Order project will be closely coordinated with the DEQ Remediation Division so as to minimize any negative impacts to Superfund cleanup efforts at the MPTP site. By strengthening WWTP basins to resist hydrostatic groundwater pressure when these structures are emptied, the need for dewatering in the future to operate and maintain these basins is eliminated.

VIII. PUBLIC PARTICIPATION

The Butte-Silver Bow Council of Commissioners held a public meeting for the proposed 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 1 project were explained. Public comments were solicited through March 27, 2009. There were no opponents to the project.

IX. 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, Montana Metro Wastewater Treatment Plant Upgrade Facility Plan Update and Basis of Design Report, prepared by Morrison-Maierle, Inc., Helena, Montana, February 2009, with updated final versions of the technical memorandums through March 5, 2009.
2. DWSRF and WPCSRF Project Priority List Survey.
3. Administrative Order on Consent (Docket No. WQ-07 – 07) issued to the City and County of Butte-Silver Bow from the Department of Environmental Quality.
4. Butte-Silver Bow Wastewater Utility Facility Plan Update and Project Status, slide presentation by Scott Murphy, Morrison-Maierle, Inc., presented at the Butte Courthouse Building, February 25, 2009.
5. Groundwater Structural Modifications Analysis, prepared by Morrison-Maierle, Inc., Helena, Montana, June 1, 2011.
6. Information Summary, Conceptual Model, and Groundwater Modeling Report: Butte Metro Sewer Treatment Plant Dewatering, prepared by Tetra Tech, November 23, 2010.

X. AGENCIES CONSULTED

The following agencies have been contacted regarding the Butte-Silver Bow, Montana Metro Wastewater Treatment Plant Upgrade Facility Plan Update and Basis of Design Report, which determined the basis for the proposed Phase 1A Change Order wastewater improvements project. Comments received from agencies during the environmental review process for Butte's 2009 Phase 1 WWTP improvements project are still considered applicable to this Phase 1A project. Comments from The Montana Department of Fish Wildlife and Parks were resolicited, however, in order to allow the agency to comment on any possible impacts to the

local fisheries given knowledge of the dewatering impacts on the MPTP site. This information is new since the time of FWP's first review and is not expected to influence other agency comments. Input from the MDEQ Remediation Division was included directly into this EA, due to the established impact of the dewatering operations at the Butte WWTP on MPTP remediation activities.

1. The Montana Department of Fish, Wildlife and Parks (FWP). FWP commented that PCPs are 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 monitoring for PCP in the creek concurrently with construction.

2. The United States Fish and Wildlife Service (FWS). There was a response from the agency simply stating that 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 has 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). No comments were received from the DNRC. However, a 2006 response from the DNRC Floodplain Administrator suggested that the local floodplain administrator be contacted for exact floodplain delineation in the area.

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.

7. Montana Department of Environmental Quality Remediation Division. Dewatering by BSB will be closely coordinated with Lisa DeWitt, who manages the MPTP Superfund site for the DEQ. Her comments have been incorporated into this EA. The Remediation Division realizes that dewatering during the Phase 1A Change Order project will impact the PCP groundwater plume from the MPTP site. However, it realizes that these improvements work towards the long-term benefit of no dewatering at the WWTP in the future for the maintenance of treatment basins.

Recommendation for Further Environmental Analysis:

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

Rationale for Recommendation: Through the Butte-Silver Bow, Montana Metro Wastewater Treatment Plant Upgrade Facility Plan Update and Basis of Design Report, and the more recent Groundwater Structural Modifications Analysis, both 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 — July 1, 2011

Michele Marsh, P.E. Date

EA Approved by:

Paul LaVigne — 7/1/11

Paul LaVigne, P.E. Date

CANADA
Cranbrook
Bonners Ferry
Eureka
GLACIER NATIONAL PARK
Cut Bank
Shelby
Browning
Havre
Scobey
NORTH DAKOTA
Sandpoint
Libby
Kalispell
Malta
Glasgow
Williston
Coeur d'Alene
Thompson Falls
Flathead Lake
Fort Peck
Wolf Point
Choteau
Fort Peck Lake
Sidney
Kellogg
Polson
Fort Benton
Great Falls
IDAHO
Jordan
Glendive
Missoula
Lewistown
Beach
Canyon Ferry Lake
White Sulphur Springs
Helena
Orofino
Harlowton
Miles City
Roundup
Baker
Hamilton
Bowman
Grangeville
Anaconda
Butte
Yellowstone River
SOUTH DAKOTA
Laurel
Billings
Hardin
Buffalo
BUTTE
Bozeman
Livingston
Broadus
Big Horn Lake
0
40 mi
Red Lodge
Dillon
McCall
WYOMING
Sheridan
Belle Fourche
YELLOWSTONE NATIONAL PARK
Lovell
Cascade
Challis
West Yellowstone
Cody
Sundance
Spearfish
Lead
Buffalo
Gillette
Yellowstone Lake
Newcastle

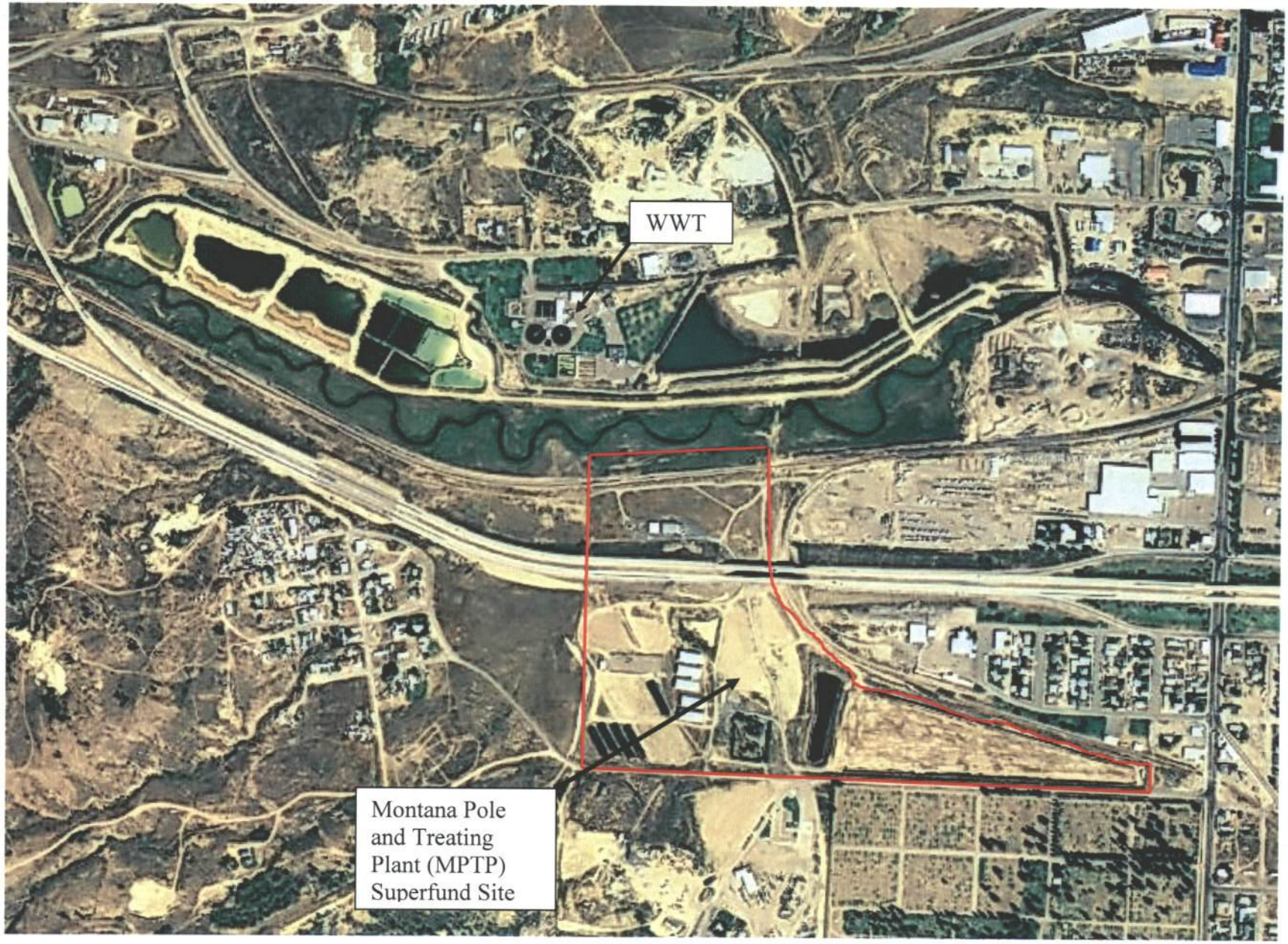
FIGURE 1

N

FIGURE 2

CENTENNIAL AVENUE
SITE ACCESS ROAD
32" SILVER LAKE PROCESS WATER
EXISTING HIGH PRESSURE GAS LINE
PROPERTY LINE
NEW BLOWER BUILDING
BIOREACTOR NO. 3
BIOREACTOR NO. 4
BIOREACTOR NO. 1
BIOREACTOR NO. 2
DIVERSION STRUCTURE NO. 1
RAS METERING VAULT
MAIN BUILDING
SLUDGE THICKENER (ABANDONED)
GARAGE
STORAGE GARAGE
SEPTAGE DUMP STATION
HEADROOM BUILDING
BLOWER BUILDING
DIVERSION STRUCTURE NO. 2
SECONDARY CLARIFIER NO. 2
SECONDARY CLARIFIER NO. 1
CHLORINE CONTACT BASIN NO. 1
INFLUENT PARSHALL FLUME
DIVERSION STRUCTURE
NEW CHEMICAL FEED BUILDING
RELOCATED GAS LINE
SOLIDS PROCESSING BUILDING
ARCO PROPERTY
PROPERTY LINE
FENCELINE
TO EFFLUENT REUSE AREA
ARCO PROPERTY (LAO REMEDIATION AREA)
RELOCATED HIGH PRESSURE GAS LINE
OUTFALL STRUCTURE
NEW UV FILTER PUMP STATION BUILDING
NEW FILTER BUILDING
AEROBIC DIGESTER NO. 2
AEROBIC DIGESTER NO. 1
AEROBIC DIGESTERS BLOWERS
HYDRAULIC CONTROL CHANNEL
FLOW STREAM IDENTIFICATION
ALP AIR - LOW PRESSURE
DS DIGESTED SLUDGE
FM SANITARY SEWER - FORCE MAIN
ML MIXED LIQUOR
PLE PLANT EFFLUENT
RAS RETURN ACTIVATED SLUDGE
SE SECONDARY EFFLUENT
SI SECONDARY INFLUENT
SS SANITARY SEWER - GRAVITY
SSM SECONDARY SCUM
WAS WASTE ACTIVATED SLUDGE
COLOR LEGEND
PHASE 1
PHASE 2
PHASE 3
SCALE IN FEET
MORRISON MAIERLE, INC.
BUTTE - SILVER BOW METRO WWTP UPGRADE
BUTTE
MONTANA
WWTP SITE PLAN - PHASE 1, 2, & 3
FIG. 15-2

FIGURE 3



Scale 1: 10,011

FIGURE 4

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over