March 30, 2009

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:	Columbia Falls Wastewater Treatment Plant Upgrade and Expansion Project
Location:	Columbia Falls, Montana
Project Number	C301200-01
Total Cost	$3,711,000

The City of Columbia Falls has proposed upgrades to the sanitary sewer treatment facility within the community. The overall project involves conversion of the existing treatment basin to an equalization basin, construction of a new partitioned basin to perform biological treatment and nutrient removal and replacement of the existing chlorine disinfection system with ultra-violet light disinfection equipment.

The State Revolving Fund loan program may provide partial funding for the proposed 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 generally demonstrated support for the selected alternative. No significant long-term environmental impacts were identified. An environmental assessment (EA), which describes the project and analyzes impacts in more detail, is available for public review at the following locations:

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

City of Columbia Falls
Office of City Manager
130 6th Street West
Columbia Falls, MT 59912

Comments supporting or disagreeing with this decision may be submitted for consideration by the Department of Environmental Quality. After evaluating the comments received, the agency will make a final decision. However, 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, Bureau Chief
Technical and Financial Assistance Bureau
Planning, Prevention & Assistance Division

CITY OF COLUMBIA FALLS
WASTEWATER TREATMENT FACILITY UPGRADE

ENVIRONMENTAL ASSESSMENT

I. PROJECT SUMMARY INFORMATION

A. PROJECT IDENTIFICATION

Name of Project:	Phase I Wastewater Treatment Facility (WWTF) Upgrade
Applicant:	City of Columbia Falls
Address:	130 6th Street West
	Columbia Falls, Montana 59912
DEQ Project Number:	C301200-01

B. CONTACT PERSON

Name:	William Shaw, City Manager
Address:	130 6th Street West
	Columbia Falls, Montana 59912
Telephone:	(406) 892-4391

C. ABSTRACT

The City of Columbia Falls (in a March 2006, Wastewater Utility Plan and an October 2008, Pre-Design Memoranda, prepared by HDR Engineering, Inc.) identified the need to upgrade their WWTF. Even though the existing WWTF is meeting current permit limits, the facility was not designed to operate as a nutrient removal facility. The proposed improvements are necessary to continue to meet nitrogen and phosphorus discharge limits and to allow for growth within the system. It is anticipated that once the Total Maximum Daily Load (TMDL) is assigned to the watershed, more restrictive phosphorus and additional total nitrogen and ammonia limits will be required by the Department. Improvements include conversion of the existing activated sludge plant to a biological nutrient removal facility with additional basin capacity to reliably achieve future permit compliance and to allow for anticipated growth within the community. Improvements will also address aging equipment and improve system reliability.

Major WWTF improvements include:

- Converting the existing bioreactor to a full time equalization basin.
- Construction of new aerobic, anaerobic and anoxic selector basins.
- Replacement of the existing chlorine disinfection system with new Ultraviolet (UV) disinfection equipment.
- Installation of new standby power generator.
- Upgrades to existing system components including, installation of new non-potable water system booster pump station, new soft start for turbine blower, installation of mixers within the sludge storage basin, new security fencing, modification of the existing Supervisory Control and Data Acquisition (SCADA) system and installation of a weather shelter over the existing contact basin.

The Nutrient Management Plan and Total Maximum Daily Load (TMDL) for Flathead Lake was finalized in December 2001 by the Montana Department of Environmental Quality (MDEQ) and approved in March 2002 by USEPA Region VIII. This TMDL established numeric water quality targets

for Flathead Lake which require a reduction in both nitrogen and phosphorus loads. Currently a 15 percent reduction in nitrogen and phosphorus loads, plus an additional 10 percent load reduction for a margin of safety are the TMDL for Flathead Lake. Implementation of the TMDL is anticipated when new point source discharge permits are issued for the basin. The proposed project will help the City of Columbia Falls improve treatment with respect to nutrient reduction. The proposed project will also significantly improve the operability, reliability, and treatment capability of the Columbia Falls WWTF. Future discharge permit limits may require operational changes and further upgrades to the secondary treatment system for additional removal of nutrients after the TMDL limits are allocated and implemented within a discharge permit. These alternatives would minimize the change that would be necessary to meet TMDL permit limits. All proposed improvements would be designed to meet state design standards in accordance with Circular DEQ-2.

The improvements proposed are estimated to cost approximately $3,711,000 and are supported within the current City sewer rate structure and available assets. Project components will be awarded commensurate with grants and loan provisions without further rate increase. It is anticipated that the project will be funded with a combination of City assets up to $1,154,000 from the sewer operating and sewer capital expansion funds, a $750,000 Treasure State Endowment grant, a $100,000 Renewable Resource grant, a $175,000 Water Resources Development Act grant and a low interest loan obtained from the State Revolving Fund (SRF) loan program.

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, growth, and biosolids disposal were also assessed. No significant long-term environmental impacts were identified.

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 Water Pollution Control State Revolving Fund Act, the DEQ may loan money to municipalities for construction of public sewage systems.

The MDEQ, Technical and Financial Assistance Bureau (Department), has prepared this Environmental Assessment (EA) because the Department received a Preliminary Engineering Report for its review and written approval and an application for a State Revolving Fund (SRF) loan for the project. The Department is currently reviewing this information. If complete, a written approval will be prepared and provided to the City. This EA has been prepared to satisfy the requirements of the Montana Environmental Policy Act (MEPA) and the National Environmental Policy Act (NEPA).

D. COMMENT PERIOD

Thirty (30) calendar days.

II. PURPOSE OF AND NEED FOR ACTION

The City of Columbia Falls is located in northwest Montana near the junction of US Highway 2 and State Route 206 (see Figure 1). The planning area includes the incorporated boundary and identified areas adjacent to the boundary where future growth may occur in the 20-year planning period (see Figure 2).

The Columbia Falls WWTF was originally constructed in 1983 as an extended air secondary treatment facility, with upgrades in 1987 to allow for chemical phosphorus removal and 2000 to enhance solids handling and treatment. The City of Columbia Falls is authorized to discharge to the Flathead River under Montana Pollution Discharge Elimination System (MPDES) Permit No. MT0020036. The

existing WWTF is capable of meeting current discharge permit limits. However, the Flathead Lake TMDL, once implemented, will result in significantly lower nutrient limits, which the existing facility will not be able to meet. The existing treatment facility does not exceed the current effluent nutrient limits, which are based on nondegradation allocated load limits.

In addition, much of the existing treatment facility's major process equipment is more than 20 years old and is at or near capacity. The aeration basin was constructed by placing reinforcing mesh and gunnite over a rectangular excavation with sloped sidewalls. Cracks within this basin have been observed leading to concerns with respect to leakage. The existing influent flow splitting and measurement chamber is undersized and may lead to an over-estimation of influent flows. Aeration basin turbine aerators are at the end of their useful life and the blowers that deliver air to these aerators are undersized and also at the end of their useful life. The final clarifier used for chemical phosphorus removal is currently at or slightly beyond projected capacity with respect to loading. The chlorine gas disinfection system poses a risk to the operations staff and a potential for chlorine discharge to the Flathead River. Dewatered biosolids storage is at or near capacity at present because the City must store biosolids for up to 120 days during the winter prior to land application.

In order to address aging equipment concerns and provide capacity for the design wastewater flows and loads through the planning period, the WWTF will need to be upgraded, expanded, and additional processes added. In addition, the current and anticipated discharge limitations will require that a more advanced treatment process capable of nutrient removal be incorporated into the WWTF design.

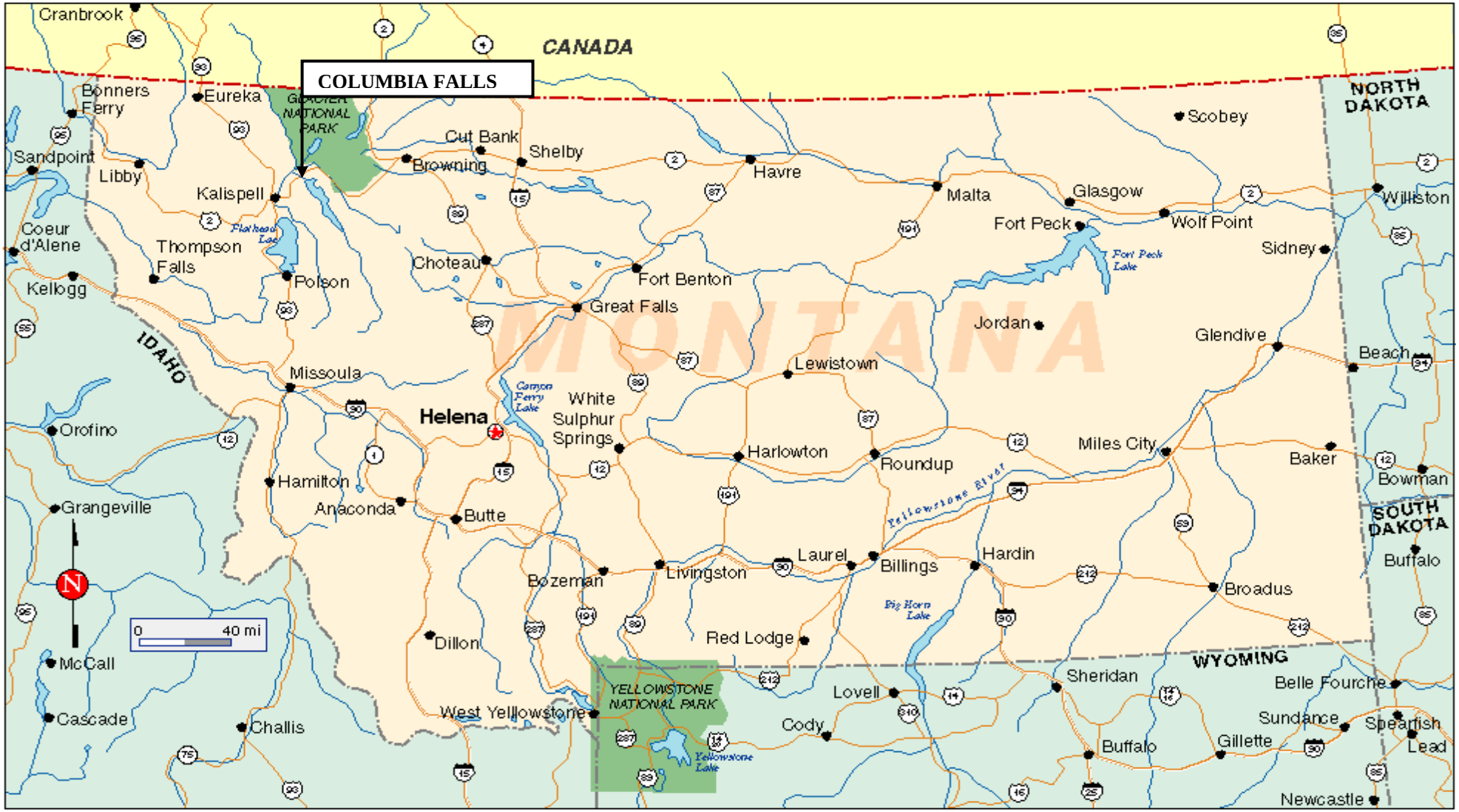


FIGURE 1
LOCATION MAP

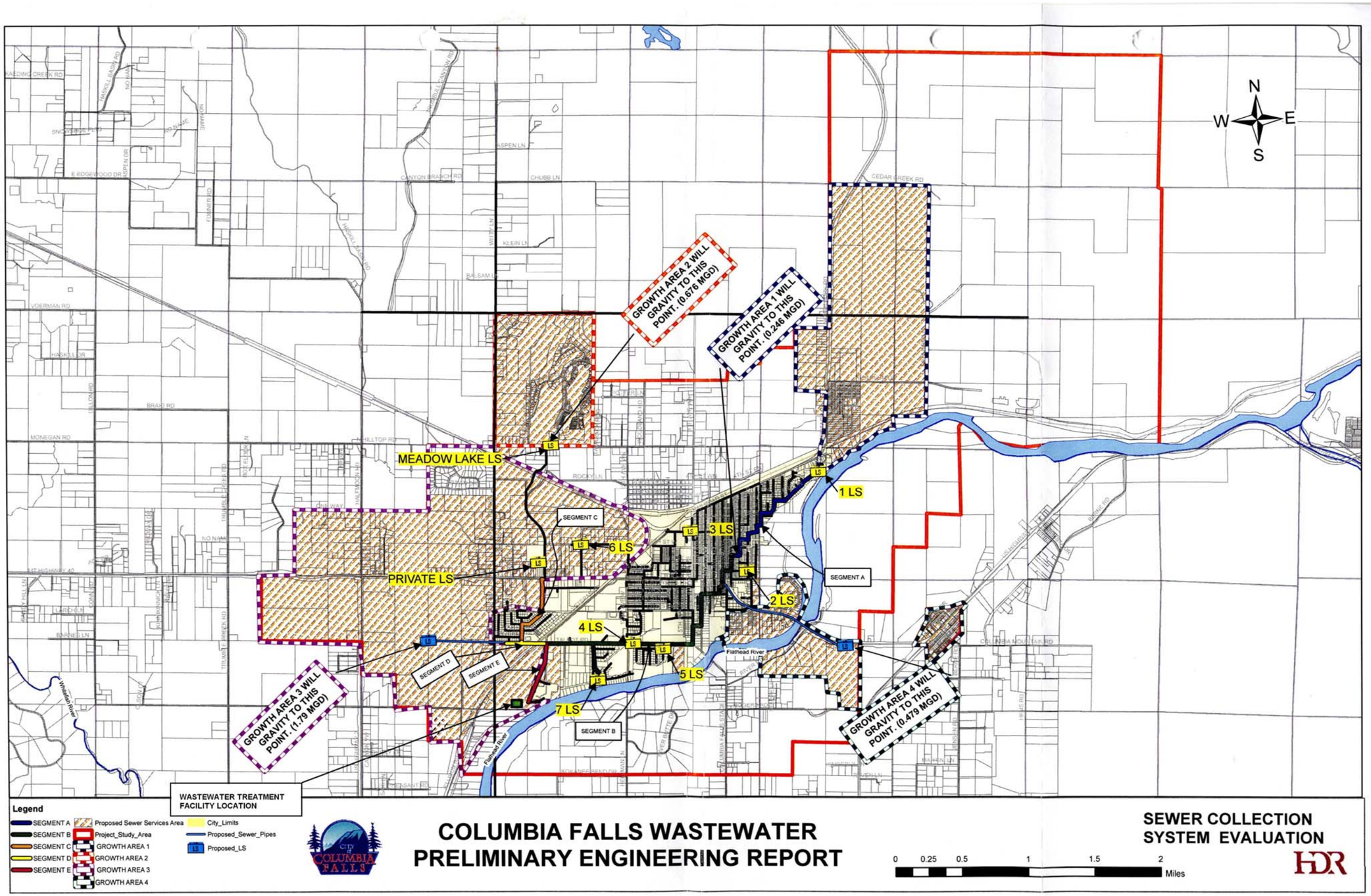
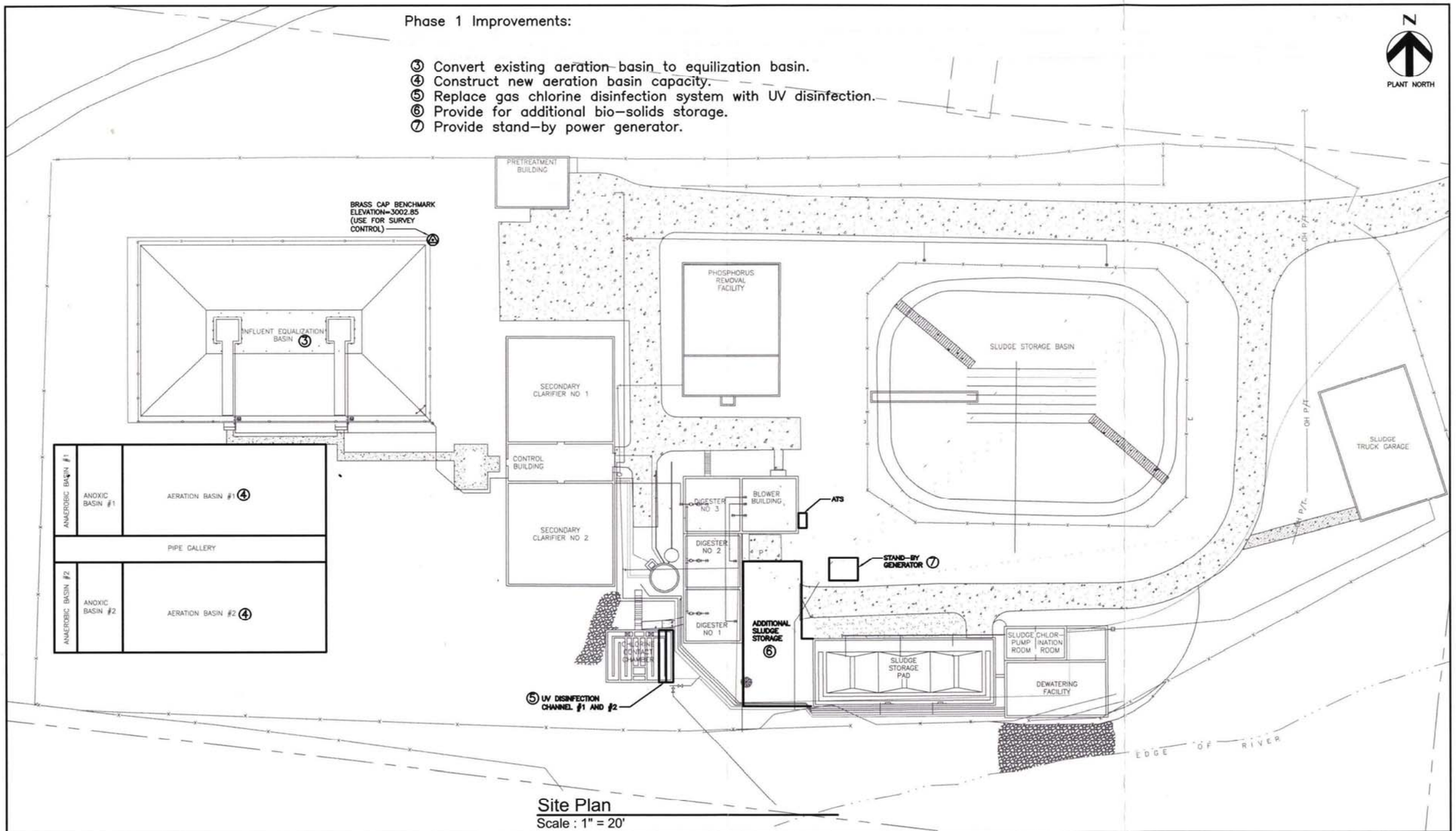


FIGURE 2
PLANNING AREA and LOCATION OF WWTP

Phase 1 Improvements:

③ Convert existing aeration basin to equilization basin.
④ Construct new aeration basin capacity.
⑤ Replace gas chlorine disinfection system with UV disinfection.
⑥ Provide for additional bio–solids storage.
⑦ Provide stand–by power generator.



Site Plan
Scale : 1" = 20'

COLUMBIA FALLS WASTEWATER UTILITY PLAN

Figure 5-1
Phase I Preliminary Site Layout

HDR

FIGURE 3
EXISTING WWTF WITH IMPROVEMENTS SHOWN BOLD

III. ALTERNATIVES INCLUDING THE PROPOSED ACTION

A. SECONDARY / ADVANCED TREATMENT TECHNOLOGIES

There were nine alternative treatment technologies and the "no action" alternative considered in the PER and Pre-Design Memorandum. The treatment alternatives evaluated included the following:

1. NO ACTION – The existing activated sludge treatment facility is at the end of its useful design life and can not meet predicted growth conditions, nor can it meet future nutrient removal requirements. Therefore, this alternative was not considered to be a viable alternative.

2. MEDIUM RATE ACTIVATED SLUDGE (MRAS) – This alternative would utilize a racetrack shaped ditch to achieve biological nitrogen and phosphorus removal. This alternative would not allow the facility to meet the phosphorus limits anticipated. Therefore, this alternative was not considered to be a viable alternative.

3. MEDIUM RATE ACTIVATED SLUDGE (MRAS) WITH CHEMICAL PHOSPHORUS REMOVAL – This alternative would utilize a racetrack shaped ditch to achieve biological nitrogen and phosphorus removal. Phosphorus removal would be further improved through the use of chemical precipitation. This alternative was further considered within the planning document.

4. STANDARD ACTIVATED SLUDGE WITH BIO N & P REMOVAL & CHEMICAL P REMOVAL – This alternative would convert the existing aeration basin to an equalization basin and add a new compartmentalized three stage biological nutrient removal facility to meet 20-year design life. Phosphorus removal would be further improved through chemical precipitation. This alternative was further considered within the planning document.

5. STANDARD ACTIVATED SLUDGE WITH BIO N & P REMOVAL & CHEMICAL P REMOVAL (PHASED APPROACH) - This alternative would convert the existing aeration basin to an equalization basin and add a new compartmentalized three stage biological nutrient removal facility to meet 10-year design life. Phosphorus removal would be further improved through chemical precipitation. This alternative was further considered within the planning document.

6. INTEGRATED FIXED FILM MEDIA IN ACTIVATED SLUDGE PROCESS – This alternative would utilize buoyant media which would be retained within the aeration basin to enhance biological activity creating micro zones for nitrification, denitrification and solids reduction. Phosphorus removal would be achieved through the use of chemical precipitation. This alternative is an enhancement to any of the other alternatives considered here, but is a high cost addition and is not further considered within the planning document.

7. EFFLUENT FILTERS – This alternative would provide for additional total suspended solids (TSS) removal and possibly enhanced nutrient reduction and is presented in the planning document as a supplemental treatment in addition to one of the other nutrient removal alternatives presented here. At this time it is not considered necessary to enhance treatment to this level but may be a technology to be considered during future improvements if necessary. Therefore, this alternative was not given further consideration.

8. ACTIFLO™ (EFFLUENT POLISHING FILTERS) – Actiflo™ is a proprietary three-step clarification process which uses chemical injection, flocculation and settling to provide for additional total suspended solids (TSS) removal and possibly enhanced nutrient reduction and is presented in the planning document as a supplemental treatment in addition to one of the other nutrient removal alternatives presented here. At this time it is not considered necessary to enhance treatment to this level but may be a technology to be considered during future improvements if necessary. Therefore, this alternative was not given further consideration.

9. BAFFLE EXISTING AERATION BASIN (NDN) – This alternative considered baffling the existing aeration basin to create more defined anaerobic and anoxic basins within the existing footprint. This approach would not allow the City to meet expected year 2015 growth and for this reason is not further considered.

B. DISINFECTION TECHNOLOGIES

Four alternative disinfection technologies were discussed in the PER. The disinfection alternatives considered included the following:

1. CHLORINE GAS (WITH DECHLORINATION) – Continued use of chlorine disinfection was evaluated, but conditions expected within next NPDES permit would require neutralization of the residual free chlorine prior to discharge. This technology was further considered within the planning document.

2. LIQUID CHLORINE (SODIUM HYPOCHLORITE) WITH DECHLORINATION – Would replace existing gas feed system with less hazardous liquid chlorine feed system, but would also result in having to use a chlorine neutralization technology in the future. This technology was further considered within the planning document.

3. OPEN CHANNEL Ultraviolet light (UV) DISINFECTION – Installation of Open Channel UV disinfection technology would utilize the existing chlorine contact basin and result in removal of hazardous chlorine gas from the day-to-day operations. This technology was further considered within the planning document.

4. CLOSED VESSEL ULTRAVIOLET LIGHT (UV) DISINFECTION – Installation of Closed Vessel UV disinfection technology would require building the UV station on effluent piping upstream of the existing chlorine contact basin. A vault would need to be constructed to house this installation and serviceability would be difficult. Therefore, this alternative was not given further consideration.

Disinfection would be common to all the treatment alternatives considered. Any of the disinfection alternatives would be capable of meeting the disinfection treatment goals and could provide the level of disinfection required in the MPDES permit. Alternative evaluations have consistently pointed out that UV disinfection is the preferred choice. Chlorine gas is a significant safety threat to the facility staff, the public and the environment. Moreover, chlorination of wastewater creates by-products that have been determined to be harmful to the environment and to humans. Because the UV disinfection alternative is practical in terms of cost, environmental, and regulatory considerations, the UV alternative was selected.

C. BACK-UP POWER SUPPLY

Two alternatives were discussed in the PER which included the following:

1. NO ACTION – The existing facility does not have back-up power. In the event of a power failure, treatment and disinfection is compromised. This alternative does not meet the Department design standards, so was not further considered.

2. BACK-UP GENERATOR – Installation of a back-up generator capable of keeping critical pumps, blowers and chemical feed systems, including disinfection running during a power outage. This alternative was selected as the preferred alternative.

D. MISCELLANEOUS UPGRADES

Eight separate upgrades to the existing system components are being proposed. These include:

1. Improvement to the non-potable water system used for spray water, seal water, chlorination make-up water, landscape irrigation and belt filter press supply.

2. Addition of a soft-start on the #2 turbine blower motor. This item is promoted to extend the blower motor life and to reduce the start-up line current demand.

3. Installation of two submersible mixers positioned within the sludge storage basin to improve circulation and aeration within the basin. Two existing Tornado mixers are currently used for this purpose, but were not designed for this type of environment, resulting in excessive corrosion and wear on seals and shafts. Installation of two new mixers designed for this corrosive environment will result in significant maintenance reduction and provide better reliability.

4. Installation of a potable water supply line into the dewatering building. Currently there is no potable water supplied to this building, making it difficult for staff to wash up after handing polymers and spillage.

5. Replacement of the existing perimeter fencing with new 8’ chain link security fence. The existing barbed wire fence requires nearly continuous maintenance due to rotted wooden posts. It also does not provide the level of security recommended for municipal projects.

6. Construction of an influent flow Equalization (EQ) basin installed in-line after screening and grit removal equipment. This would stabilize treatment processes by allowing the facility to absorb peak loads which currently can lead to treatment upsets and wash-out of the microbiology. It would also provide the more continuous discharge conditions necessary to improve function of the proposed UV system.

7. Installation of a carport style cover over the chlorine contact basin to provide better winter access and safety for maintenance staff. This is seen as a key alternative if the facility is retrofitted to UV disinfection in lieu of chlorination / dechlorination.

8. Improvement of the SCADA equipment within the WWTP to allow for tie in with the City water utility and to allow for better remote access to facility data, lift station and controls.

IV. COST COMPARISON FOR ALTERNATIVES USING PRESENT WORTH ANALYSIS

Present worth analysis is a method of comparing alternatives in present day dollars and is used to determine the most cost-effective alternative. An alternative with low initial capital cost may not be the most cost efficient project if high monthly operation and maintenance costs occur over the life of the alternative. Summaries of the present worth analyses for feasible treatment alternatives are provided in Table 1. Salvage values were determined to be inconsequential and therefore not presented. An interest rate of 4.0% over the 20-year planning period (Design Year 2025) was used in the analysis.

TABLE 1 - ECONOMIC EVALUATION OF TREATMENT ALTERNATIVES

Alternative Number (From Above)	**Alternative**	**Total Capital Cost For Treatment**	**Increase in Yearly O&M**	**Total Present Worth**
A.3	Medium Rate Activated Sludge (MRAS) with Chemical Phosphorus Removal	$4,400,000	NA *	$4,400,000
A.4	Standard Activated Sludge with bio N & P removal & Chemical P Removal	$3,800,000	NA *	$3,800,000
A.5	**Standard Activated Sludge with Bio N & P Removal & Chemical P Removal (Phased Approach)**	**$2,500,000**	**NA ***	**$2,500,000**
B.1	Chlorine gas (with dechlorination)	$236,000	$5,400	$309,000
B.2	Liquid chlorine (Sodium Hypochlorite) with dechlorination	$368,000	$6,200	$452,000
B.3	**Open Channel Ultraviolet light (UV) Disinfection**	**$298,000**	**$10,000**	**$434,000**
C.2	**Back-up Generator**	**$259,000**	**NA ****	**$259,000**
D.1	**Non-potable Water Supply**	**$94,000**	**NA ****	**$94,000**
D.2	**Soft Start on Blower**	**$15,000**	**NA ****	**$15,000**
D.3	**Sludge Storage Mixers**	**$108,000**	**NA ****	**$108,000**
D.4	**Potable Water Improvements**	**$17,000**	**NA ****	**$17,000**
D.5	**Perimeter Security Fence**	**$35,000**	**NA ****	**$35,000**
D.6	**Flow EQ Tank**	**$53,000**	**NA ****	**$53,000**
D.7	**UV Carport Type Cover**	**$38,000**	**NA ****	**$38,000**
D.8	**SCADA Improvements**	**$158,000**	**NA ****	**$158,000**

* Since the annual Operations and Maintenance (O&M) costs for these capital improvements are very nearly equal, no yearly increase in O&M cost was analyzed.

** No annual O&M costs for these capital improvements were presented within the report.

*** Bold items within table are proposed to be funded within the October 2008 Pre-Design Memoranda.

Costs for the proposed improvements are estimated to be $3,711,000. The City has obtained a grant for $750,000 from the Montana Department of Commerce Treasure State Endowment Program (TSEP) a grant in the amount of $100,000 from the Department of Natural Resources, RRGL program and a $175,000 direct appropriation from the Water Resources Development Act. The City proposes to contribute up to $1,154,000 in direct costs for the project and obtain a 20-year loan from the Montana State Revolving Fund program for the remainder.

The financial impact of this project is supported by the existing City wastewater rate structure and no rate increases are anticipated. Based on the EPA guidance for project affordability, the existing monthly cost per household is approximately 1.07% of the monthly median household income and is therefore not expected to impose an economic hardship on household income.

A. BASIS OF SELECTION OF PREFERED ALTERNATIVE

Selection of the preferred alternatives was based upon multiple criteria, both monetary and non-monetary. Ranking criteria are shown in Table 2 and Table 3. Alternatives for wastewater treatment and disinfection were compared relative to one another based on the following criteria: regulatory coordination, operations & technology requirements, compatibility or fit to existing site, implementation of project, environmental and community impacts, performance risk and present worth cost.

TABLE 2 BIOLOGICAL TREATMENT COMPARISON

Comparison Criteria	A.3 Medium Rate Activated Sludge (MRAS) with Chemical Phosphorus Removal	A.4 Standard Activated Sludge with bio N & P Removal & Chemical P Removal	**A.5 Standard Activated Sludge with Bio N & P Removal & Chemical P Removal (Phased Approach)** [1]
Regulatory Coordination	4	4	**4**
Operations / Technology	4	4	**4**
Compatibility with Site	4	4	**4**
Implementation	4	4	**4**
Community / Environmental	4	3	**3**
Risk	3	4	**4**
Cost	3	4	**4**
WEIGHTED SCORE TOTAL	26	27	**27**

1 Alternative A.5 provides the same treatment scheme as alternative A.4, but only for a 10-year design capacity. A second phase of construction will be necessary once the design capacity is reached. Alternatives A.3 & A.4 provide for a 20-year design capacity.

TABLE 3 DISINFECTION COMPARISON

Comparison Criteria	B.1 Chlorine Gas (with Dechlorination)	B.2 Liquid Chlorine (Sodium Hypochlorite) with Dechlorination	**B.3 Open Channel Ultraviolet Light (UV) Disinfection**
Regulatory Coordination	2	3	4
Operations / Technology	3	3	4
Compatibility with Site	4	3	3
Implementation	3	3	3
Community / Environmental	1	3	4
Risk	2	3	4
Cost	4	3	3
WEIGHTED SCORE TOTAL	19	21	**25**

B. SELECTED ALTERNATIVES

To meet anticipated future total nitrogen and phosphorus discharge limits and year-round disinfection requirements, the existing treatment facility needs to be upgraded to include more advanced treatment technology. As shown in the ranking Table 2, Alternative A.5 scored the highest primarily due the cost advantage and the lessened risk in meeting future permit limits. The selected alternative A.5 proposes

to convert the existing aeration basin to an equalization basin, add new selector tanks to perform aeration, anaerobic and anoxic functions, thus converting the existing facility to an advanced activated sludge facility with biological nitrogen and phosphorus and supplemental chemical phosphorus removal capabilities. This retrofit will allow reuse of the existing infrastructure to the maximum extent and for meeting the required 20-year design life in a phased approach, where a second train of treatment can be added later when growth demands.

As shown in the ranking Table 3, Alternative B.3 scores the highest due to regulatory concerns, operational considerations, safety of the public and risk with respect to permit compliance. Ultra Violet disinfection was chosen as the preferred alternative with respect to effluent disinfection over two separate chlorination approaches. UV equipment is proposed to be installed within the existing chlorine contact chamber which would reduce the capital cost of installation. UV disinfection is a more energy intensive approach, which will result in higher energy costs, but most of that increased energy cost is off-set by the reduced chemical costs. UV is also more protective of the operations staff and viewed as safer for the environment.

In addition to the above items, the following were supported as needed improvements within the existing facility to comply with MDEQ design standards and to enhance O&M:

- Back-up generator to support essential facilities during a power outage (DEQ requirement),
- Non-potable water supply to various facility locations for tank spray down, mechanical seals and chemical mixing (combination of DEQ requirements and O&M needs),
- Soft start on blower motor (O&M control),
- Install sludge storage mixers to replace existing mixers which were not designed for this type of environment (combination of DEQ requirements and O&M needs),
- Install potable water supply line into the dewatering building for staff and facility sanitary needs (combination of DEQ requirements and O&M needs),
- Replace existing perimeter fence with secure chain link fence (O&M needs),
- Conversion of the existing aeration basin to flow equalization at front end of treatment facility to control influent rates and quality (O&M needs),
- Installation of carport type cover over UV facility (combination of DEQ recommendation and O&M needs),
- Installation of new SCADA system for remote control access and call-out and tie-in with City water system SCADA to allow one system call-out capability (O&M needs).

V. AFFECTED ENVIRONMENT

A. PLANNING AREA

The City of Columbia Falls is located in Flathead County in northwest Montana along State Highway #2, approximately 15 miles southwest of Glacier National Park and 12 miles north of Kalispell, Montana (see Figure 1). The planning area boundary is shown in Figure 2 and includes the incorporated boundary of the City and adjacent parcels that will directly benefit from the project. The planning area includes residential homes, vacant lots, commercial businesses, and public entities. As shown in Figure 2, the WWTF is located along the southern boundary of the city and is included in the planning area. The proposed WWTF improvements are shown in Figure 3 and will occur within the boundaries of the existing WWTF. The duration of construction for the proposed new treatment facility should be approximately 18 months.

B. FLOW PROJECTIONS

Population data for Columbia Falls for the past several years indicates a moderate growth rate of 3% annually. Based on this growth rate the design population is expected to be 11,626. Based on this population, the projected flow rates to the WWTF will average 0.68 mgd. Peak hourly flows are predicted to be approximately 2.9 mgd. The average wastewater flow to the existing treatment facility is approximately 0.4 million gallons per day (mgd). Utilization of the existing aeration basin as an equalization basin will help reduce peak loads to the treatment facility and decrease the volume of treatment basins required to process daily flows.

The proposed WWTF will continue to discharge to the Flathead River under the existing discharge permit (MPDES permit # 0020036).

An assessment of non-degradation load limits were evaluated in the Columbia Falls WWTF's discharge permit. Taking into account current treatment levels the BOD load is only at 16% of the permissible non-degradation load limit, TSS is at 22% of the permissible load, TP is at 30% of the permissible load, and TN is at 6.5% of the permissible load. Therefore facility expansion should not result in any permit related issues.

C. NATURAL FEATURES

The existing WWTF consists of an activated sludge treatment facility that discharges to the main stem of the Flathead River. The Flathead River at the point of discharge is classified as a B-1 stream under Montana's stream classification standards. Final approval of the classification by the EPA is still pending. B-1 classified waters are suitable for drinking, culinary, and food processing purposes after conventional treatment; bathing, swimming, and recreation; growth and propagation of salmonid fishes and associated aquatic life, waterfowl, and furbearers; agricultural and industrial water supply.

Site topography is relatively flat within the footprint of the proposed project area. Approximately 50 feet south of the proposed improvements the topography drops off rapidly to the Flathead River. The elevation of Columbia Falls is approximately 3,000 feet above sea level. Soils within the project planning area are Mire series and are moderately deep, medium-textured lower subsoil and substratum, deposited during the retreat of glaciers; they have textures ranging from loamy, to sandy or gravelly. Groundwater within the planning area is heavily influenced by the Flathead River and its seasonal fluctuations. Due to increased rainfall and runoff from area mountains, most recharge within the basin occurs between April and July. Groundwater depths are between five and twenty feet within the planning area.

Environmental impacts anticipated from the construction of the new WWTF are expected to be minimal. The new treatment facility is not expected to affect natural features in the area.

VI. ENVIRONMENTAL IMPACTS OF PROPOSED PROJECT

A. DIRECT AND INDIRECT ENVIRONMENTAL IMPACTS

1. Land Use – The proposed improvements will be constructed within the footprint of the existing WWTF grounds and will re-use much of the existing infrastructure. The construction of this improved facility will provide for expected normal growth within the community and immediate surrounding area. The proposed facility will not impact prime farmland. The City owns the site where the existing WWTF is located and the site where the proposed facility will be located; therefore no additional land will be required for the proposed project.

2. Floodplain – The proposed project is located just outside of a delineated 100-year floodplain according to the FEMA Floodway Maps and State of Montana Department of Natural Resources and Conservation floodplain management section. Therefore, this project would not require a floodplain development permit.

3. Wetlands – No wetlands exist within the immediate area or adjacent areas. Therefore wetlands will not be affected by the proposed project.

4. Vegetation – Vegetation will not be significantly affected by the proposed project. The Montana Natural Heritage Program listed no plants of concern.

5. Cultural Resources – According to the Montana State Historic Preservation Office (SHPO), there appears to be no properties on or are eligible for the National Register of Historic Places within the project area.

6. Fish and Wildlife – The Montana Natural Heritage Program (MNHP) listed the bull trout, Spalding's campion, bald eagle, gray wolves, grizzly bear and Canada lynx as species of concern within the project planning area. The nearest known bald eagle nesting site is greater than the radius of concern from the project site. Aquatic and animal life will not be significantly affected by the proposed project. The project will not significantly affect any wildlife habitats and will provide water quality benefits that will protect and reduce the risk of harm to fisheries and other animals.

7. Water Quality – Water quality will improve due to the proposed project. The proposed project will prevent water quality standards violations and provide better treatment of the wastewater. Ammonia toxicity, nutrient loading and high fecal coliform numbers should not occur in the receiving stream due to the wastewater with the proposed system.

   A 15 percent reduction in man-caused nitrogen and phosphorus loads, plus a 10 percent margin of safety is the TMDL for Flathead Lake as defined within the "Nutrient Management Plan and Total Maximum Daily Load for Flathead Lake", dated December 28, 2001. The margin of safety has been included to account for projected future increases in point source loads attributable to increased wastewater flows and a continuing upward trend in population growth in the unincorporated areas of the basin. It is anticipated that all point source dischargers within the basin which ultimately reach Flathead Lake will be required to implement treatment alternatives to meet this TMDL goal. The proposed project would allow the City to reduce nutrient loads within the discharge by the TMDL designated percentages.

8. Air Quality – Short term negative impacts on air quality will occur during construction from heavy equipment in the form of dust and exhaust fumes. Proper construction practices will minimize this problem. Project specifications will require dust control.

9. Public Health – Public health impacts will be minimized with the proposed project. The proposed

UV disinfection system will adequately disinfect the treated effluent to a level safe for human contact in the receiving stream and will reduce the potential risk currently posed by the gas chlorine disinfection system used at the facility. Installation of back-up power will prevent the potential for the discharge of inadequately treated effluent, virtually eliminating any existing health threat.

10. Energy – A direct short-term impact of energy resources will be consumed during the construction phase. In the long-term, an increase in energy consumption will occur primarily due to the UV system. This increased energy consumption will be somewhat offset by a reduction in transportation energy as a result of no longer hauling chlorine tanks to and from the facility. Energy consumption will be minimized as much as possible through the use of energy efficient equipment (pumps, blowers, lighting, etc…).

11. Sludge Disposal – The sludge will be disposed of in accordance with EPA's 503 regulations. Disposal of the dried sludge from the proposed facility will include removal of the sludge from existing dewatering system and transportation to the landfill or to a land application site where it will be applied at EPA approved rates.

12. Noise – Short-term impacts from excessive noise levels may occur during the construction activities. Construction will be limited to normal day-time hours to avoid early morning or late evening construction disturbances. In the long-term, noise levels should be slightly reduced due to the proposed advancement in blower technology proposed at the treatment site. The new blowers and motors are an energy efficient design that operates at a substantially reduced noise level when compared to the existing blowers. Blowers will be installed in a building which will greatly reduce outside noise.

13. Growth – Growth within the City of Columbia Falls averaged 2.2% between 1990 and 2000. The study area population growth rate for this same period was 2.61%. It is estimated that the City of Columbia Falls experienced a 3% rate of growth between 2000 and 2003. Based on these past growth rates and the fact that the entire Tri-City area has similar growth, the City service population as it relates to the WWTF is expected to increase approximately 3 percent per year during the life of the improvements.

    Improvements to the WWTF will be a positive feature for the community. Improvements to the WWTF 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 WWTF. Secondary impacts may include impacts to: housing, commercial development, agriculture lands, solid waste, transportation, and utilities.

14. Cumulative Effects – No significant adverse impacts are anticipated.

B. UNAVOIDABLE ADVERSE IMPACTS

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

VII. PUBLIC PARTICIPATION

A presentation on the draft Preliminary Engineering Report (PER) was made to the City of Columbia Falls at their March 23, 2004 council meeting by the City's consulting engineers and a second public meeting was conducted on April 20, 2004 to discuss the recommendations in the PER. There was no opposition to the project documented within the public meeting process. The recommendation was to

improve grit washing and handling, upgrade the existing activated sludge treatment facility and add ultraviolet light disinfection. The 2006 Utility Plan was adopted by the city council on May 3, 2006.

VIII. REFERENCE DOCUMENTS

The following document has been utilized in the environmental review of this project and is considered to be part of the project file:

1. City of Columbia Falls Wastewater Utility Plan, prepared for the City of Columbia Falls, by HDR, Inc., Missoula, Montana, March 2006.
2. Phase I Wastewater Treatment Plant Upgrade and Expansion Project, prepared for the City of Columbia Falls, by HDR, Inc., Missoula, Montana, October 2008.
3. Uniform Application Form for Montana Public Facility Projects for the City of Columbia Falls Wastewater Facility Improvement, April 29, 2008.

IX. AGENCIES CONSULTED

The following agencies have been contacted in regard to the PER, which determined the basis for the proposed wastewater treatment and collection system project:

1. The Montana Department of Fish Wildlife and Parks (FWP) was consulted, but did not respond to requests for comment. It is concluded they do not foresee any impacts to listed species of wildlife, or to nongame species of special interest or concern.

2. The U. S. Fish and Wildlife Service (FWS) was consulted, but did not respond to requests for comment. It is concluded the proposed project would not negatively impact listed species, wetlands, or migratory birds and their habitats.

3. The Montana State Historic Preservation Office (SHPO) considered the impacts of the proposed project on historical sites and cultural resources and indicated there appears to be no properties on or are eligible for the National Register of Historic Places within the project area. The Montana State Historic Preservation Office asks to be contacted and the site investigated should cultural materials be inadvertently discovered during construction.

4. The U.S. Army Corps of Engineers (COE) reviewed the proposed project and responded that if construction activities includes the discharge of fill material, either permanently or temporarily into waters of the United State and lakes or ponds connected to the tributary system, and wetlands adjacent to these waters, then a Department of Army Section 404 permit may be required. This project is not anticipated to result in fill being placed into waters of the U.S.

5. Montana Natural Heritage Program website was consulted by the city engineers and the database did not locate any riparian wetlands that the project would impact.

6. Department of Natural Resources and Conservation (DNRC) reviewed the proposed project and determined that the project is not located in a designed 100-year floodplain and that the project will not have an impact on the 100-year floodplain for this area.

Recommendation for Further Environmental Analysis:

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

Rationale for Recommendation: Through the Utility Plan and Pre-design report, prepared by HDR, Inc. and the public process involved, the City of Columbia Falls determined the preferred wastewater treatment system alternative will improve the operation and maintenance capabilities of their system. Through this EA, the MDEQ has verified none of the adverse impacts of the proposed WWTF Upgrade 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 of the EA is granted.

EA Prepared By:

_____ _____

Terry Campbell, P.E. Date

Approved By:

_____ _____

Mike Abrahamson, P.E. Date