DEQ
Montana Department of Environmental Quality

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LEGISLATIVE ENVIRONMENTAL POLICY OFFICE

August 21, 2015

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	City of Polson Wastewater Treatment Plant Improvements
Location	Polson, Montana
Project Number	C302200
Total Cost	$16,807,444

The City of Polson, through its April 2014 Wastewater System Preliminary Engineering Report (PER), and Addendum #1 (dated March, 2015), both prepared by DOWL HKM, has identified the need to construct a new wastewater treatment plant (WWTP) in order to achieve compliance with current and anticipated limits in the city's National Pollutant Discharge Elimination System (NPDES) permit.

The city has exceeded wastewater discharge limits for Biochemical Oxygen Demand (BOD_5), BOD_5 percent removal, and pH at various times. Due to these exceedances and a series of monitoring violations of the 2001 and 2007 NPDES permits, the US EPA issued an Administrative Order for Compliance (AOC) to the City of Polson in September, 2008. As a result of the resolution process, a civil penalty was paid. In addition, the current permit contains a compliance schedule for the installation of treatment adequate to meet the *E. coli* limits by July 1, 2017.

In addition to complying with the disinfection requirement in its current permit, the City of Polson recognizes the need to address both long-standing NPDES compliance challenges and also anticipated nutrient requirements. The lack of disinfection and frequent permit violations create a health risk to those coming into contact with the inadequately treated and disinfected wastewater. In order to address treatment system deficiencies and meet the NPDES compliance schedule, the city will construct a new mechanical treatment plant within the footprint of existing lagoon cell 1. Major components of the treatment facility will consist of:

- A headworks screening and grit removal facility.
- A sequencing batch reactor (SBR).
- A building for administration, laboratory, electrical equipment, blowers, and chemical storage.
- Aerobic digesters.
- A solids handling and dewatering equipment building.
- An ultraviolet disinfection (UV) process.

Once the new facility is complete the remaining lagoon cells will be reclaimed through grading and seeding. The new WWTP will enable the facility to meet all current permit requirements, provide operational flexibility to meet pending discharge water quality limits, and provide a sound design for future water reuse. The proposed improvements will also significantly improve the operability, reliability, and treatment capacity of the Polson WWTP.

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

City of Polson
106 1st Street East
Polson, MT 59860

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

CITY OF POLSON

WASTEWATER TREATMENT SYSTEM IMPROVEMENTS

ENVIRONMENTAL ASSESSMENT

I. COVER SHEET

A. PROJECT IDENTIFICATION

Applicant:	City of Polson
Address:	106 1st Street East Polson, MT 59860
Project Number:	C302200

B. CONTACT PERSON

Name:	Tony Porrazzo, Water/Sewer Superintendent
Address:	106 1st Street East Polson, MT 59860
Telephone:	(406) 883-8215

C. ABSTRACT

The City of Polson, through its April 2014 Wastewater System Preliminary Engineering Report (PER), and Addendum #1 (dated March, 2015), both prepared by DOWL HKM, has identified the need to construct a new wastewater treatment plant (WWTP) in order to achieve compliance with current and anticipated limits in the city's National Pollutant Discharge Elimination System (NPDES) permit.

The city's WWTP was originally constructed in 1950 and currently consists of a four-cell aerated lagoon with discharge to the Flathead River, just downstream of Flathead Lake in a highly recreational area. Since the city's wastewater discharge is located within the Flathead Reservation of the Confederated Salish and Kootenai Tribes (CSKT), the tribe's effluent regulations govern. These standards are incorporated into the NPDES permit issued for the WWTP by the US Environmental Protection Agency (EPA). The current permit expires on December 31, 2017 and contains a compliance schedule for the installation of treatment adequate to meet the *E. coli* limits by July 1, 2017.

The city has exceeded wastewater discharge limits for Biochemical Oxygen Demand (BOD_5), BOD_5 percent removal, and pH at various times. Due to these exceedances and

a series of monitoring violations of the 2001 and 2007 NPDES permits, the US EPA issued an Administrative Order for Compliance (AOC) to the City of Polson in September, 2008. As a result of the resolution process with EPA, a civil penalty was paid by the city.

In addition to complying with the disinfection requirement in its current permit, the City of Polson recognizes the need to address both long-standing NPDES compliance challenges and also anticipated water quality requirements with respect to nutrients. The lack of disinfection and frequent permit violations create a health risk to those who come into contact with the inadequately treated and disinfected wastewater. In order to address treatment system deficiencies and meet the NPDES compliance schedule, the city will construct a new mechanical treatment plant within the footprint of existing lagoon cell 1, which is currently being drained and reclaimed. The new treatment facility will consist of:

- A headworks screening and grit removal facility.
- An influent lift station and emergency storage pond.
- A sequencing batch reactor (SBR).
- A post-equalization basin.
- A building for administration, laboratory, electrical equipment, blowers, and chemical storage.
- Aerobic digesters.
- A solids handling and dewatering equipment building.
- An ultraviolet disinfection (UV) process.

Once the new facility is complete, the remaining lagoon cells will be progressively emptied, the surrounding dikes will be removed, and the entire site will be naturally regraded, reseeded, and reclaimed. The accumulated sludge will be allowed to dry out for a period not to exceed two years prior to incorporation into the soils at the reclaimed lagoon site or on nearby agricultural lands at allowable agronomic rates. The new treatment plant will enable the facility to meet all current permit requirements and will provide operational flexibility to meet future discharge water quality limits, including those for nitrogen and phosphorous. The proposed improvements will also significantly improve the operability, reliability, and treatment capacity of the Polson WWTP.

Federal and State grant/loan programs will fund the project. The estimated administration, engineering, and construction costs for the project total $14,796,040. The city will fund the project through a $12,221,040 low interest loan (2.50%; 20-year term) obtained from the Water Pollution Control State Revolving Fund (WPCSRF) Program; a $750,000 grant from the Treasure State Endowment Program (TSEP); a $450,000 grant from the Community Development Block Grant (CDBG) Program; a $125,000 grant from the Department of Natural Resources and Conservation; and $1,250,000 in local funds.

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. 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 DEQ, Technical and Financial Assistance Bureau, has prepared this Environmental Assessment 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 Polson's first wastewater treatment plant (WWTP) was a facultative lagoon discharging into the Flathead River, constructed in 1950. This WWTP was replaced with an aerated lagoon system in 1981, located just north of the old facility. Updates to the WWTP were completed in 2001, resulting in the four-cell, aerated lagoon system that Polson has today. The WWTP's design capacity is 0.65 million gallons per day (mgd), which is adequately sized for the current average wastewater flow of 0.46 mgd, but not for the 2036 design average flow of 0.95 mgd.

The wastewater discharge point is approximately 1/3 of the way across the Flathead River, just downstream of Flathead Lake. Recreational water activities such as water skiing, boating and swimming occur immediately downstream. Because of a lack of disinfection and frequent permit violations, there is opportunity for the public to come into contact with inadequately treated and disinfected wastewater.

The city's wastewater discharge is located within the Flathead Reservation of the Confederated Salish and Kootenai Tribes (CSKT). Therefore, governing effluent regulations are those of the Tribe and are incorporated into the National Pollutant Discharge Elimination System (NPDES) permit issued for the WWTP discharge by the US Environmental Protection Agency (EPA). The current permit expires on December 31, 2017 and contains a compliance schedule for the installation of treatment adequate to meet the *E. coli* limits written into the NPDES permit. Treatment must be installed by July 1, 2017 and must comply with the *E. coli* limits six months after that.

The US EPA issued an Administrative Order for Compliance (AOC) to the City of Polson on September 30, 2008. The AOC was issued due to the city's alleged failure to monitor its wastewater discharge; report wastewater discharge monitoring results; and for permit exceedances of Biochemical Oxygen Demand (BOD_5), BOD_5 percent removal, and pH. A civil administrative penalty was assessed against the City of Polson on September 25, 2012, resulting in a Consent Agreement signed between the City of Polson and the EPA on April 10, 2013, with the city agreeing to pay a civil penalty in the amount of $40,200.

The proposed wastewater treatment plant improvements will address both long-standing NPDES compliance challenges and also anticipated stricter water quality requirements, including nutrient removal. For design purposes the City of Polson will use Montana's variance criteria for Total Nitrogen (TN) and Total Phosphorus (TP) as guidance, with potential tightening of the criteria over a 20-year period. Table 1 lists these TN and TP limits as well as the goals for BOD_5 and Total Suspended Solids (TSS). Should the City of Polson choose to use wastewater effluent for Class A reuse on the golf course or public parks, filtration must be added to the treatment train to achieve the required 5 mg/l level of Total Nitrogen (TN). Design considerations allow for treatment to this lower level of TN as well as a TP level as low as 0.15 mg/l without major changes to the infrastructure of the facility. Biochemical Oxygen Demand (BOD_5) and Total Suspended Solis (TSS) levels of 10 mg/l or less are recommended for higher levels of reuse.

Table 1 - DESIGN EFFLUENT TREATMENT LIMITS

Parameter	Effluent Limit
Biochemical Oxygen Demand	10 mg/l
Total Suspended Solids	10 mg/l
Total Nitrogen	8 mg/l
Total Phosphorus	1.5 mg/l

In addition to abandonment and reclamation of the existing lagoon system, the proposed Polson wastewater treatment plant project entails construction of:

- A headworks screening and grit removal facility.
- An influent lift station and emergency storage pond.
- A sequencing batch reactor (SBR).
- A post-equalization basin.
- A building for administration, laboratory, electrical equipment, blowers, and chemical storage.
- Aerobic digesters.
- Solids handling and dewatering equipment building.
- Ultraviolet disinfection (UV) process.

III. ALTERNATIVES INCLUDING THE PROPOSED ACTION

All WWTP alternatives, except for BWWT 9 (spray irrigation) assume continued disposal of effluent into the Flathead River at the same discharge point. Total retention lagoon cells and groundwater discharge are not viable options because of the large volume of wastewater generated by the City of Polson. Future effluent limits for discharge to the Flathead River are expected to become much more stringent, requiring a high level of treatment, including filtration. Reuse of effluent for irrigation in unrestricted public areas also requires a very high level of treatment, and would provide the added benefits of reduction of demand on the public water system and a reduction of pollutant loading to the Flathead River.

The following paragraphs discuss design considerations and treatment components

presented in the Preliminary Engineering Report (PER) that are common to all alternatives.

The proposed wastewater treatment plant will be located in the footprint of Cell 1, thus reducing the acreage utilized for wastewater treatment from 12 acres to less than 3 acres. Reuse of the Cell 1 area minimizes the impact to the overall City-owned land parcel and preserves future uses of the property remaining to the north and west. The remaining ponds will be progressively emptied, with the surrounding dikes removed and natural grading restored to the area. Sludge will be removed to unfilled Cell 5 for storage and drying. Geotechnical investigation will be conducted in the bottom of Cell 1 to identify soil conditions and collect information for the design of foundations for the new wastewater treatment plant (WWTP) structures.

A headworks building with screening and grit removal is needed for all treatment alternatives. In a technical memorandum, various techniques for screenings and grit removal were presented and compared. The headworks equipment chosen for pre-procurement are two internally-fed rotary drum screens or step screens and one vortex or stacked tray grit removal system.

All of the flow to the wastewater treatment plant (WWTP) comes directly through the sewer system's four final lift stations (DuCharme Park, Riverside Park, 7th Avenue, and Rio) to the junction manhole at the WWTP. If the force main from the Riverside Park lift station to the WWTP is increased to 14 inches as a proposed future improvement, the design peak storm flow to the WWTP (all lift station pumps operating) is estimated to be 4,550 gallons per minute (gpm). In comparison, typical flow when only one pump in each lift station is operating is 3,199 gpm. An overflow storage pond would be built to receive wastewater exceeding the design capacity of the treatment facility.

Solids handling is required with any of the mechanical treatment plant alternatives since they all produce waste solids which must be stabilized to prevent odors and reduce vector attraction. Biosolids stabilization alternatives considered in the PER are aerobic digestion, anaerobic digestion, lime stabilization, autothermophilic digestion (ATAD), composting, and solids holding:

- Aerobic digestion is a process where the waste activated sludge (WAS) is pumped to an oxygen-rich holding tank where bacteria break down and digest the waste through natural biological degradation and purification processes.
- In direct contrast to aerobic digestion, anaerobic digestion occurs in a heated tank where there is no air. Methane gas is produced and may be used to heat the digester.
- Lime stabilization involves the addition of lime or other alkaline chemical to untreated, dewatered sludge before storage. By raising and holding the pH of the sludge to 12, microbes responsible for odor attraction and vector attraction are inhibited.
- The ATAD process is essentially aerobic digestion in enclosed, insulated reactors to minimize heat loss and provide operating temperatures of 40 to 80 degrees C.
- Composting is the process where dewatered WAS is biologically degraded to

produce a stable end product. A bulking agent such as wood chips or saw dust is added to ensure optimal microbial growth conditions. The final product meets Class A biosolids criteria and may be sold.

- WAS sent to holding ponds is allowed to settle out, with overflow water directed back to the head of the plant. Settled sludge is removed by lowering the water level in one of the ponds and pumping the sludge out.

Of the six stabilization processes listed and briefly described above, aerobic digestion is the one that stands out as the best choice for the City of Polson's purposes and will be incorporated into the WWTP's total design. Anaerobic digestion was eliminated from further consideration due to higher initial capital cost, greater safety and operational concerns, and the aesthetic concerns with the gas flare. Lime addition was considered an unnecessary additional step, when considering the volume of lime required and the mechanical process requirements. ATAD was not considered further due to its higher complexity, greater risk for odors and process upsets, and an excessive level of treatment for Polson's biosolids. Composting is not considered a good choice for Polson due to its potential for odors and the maintenance challenges associated with it. Lastly, the potential odors associated with the solids holding ponds exclude it as a solution, given the close proximity of residences.

Following stabilization, dewatering allows for a further reduction in volatile suspended solids and pathogens, and reduces the volume of biosolids for hauling. Dewatering alternatives considered in the PER are the belt filter press, a centrifuge, a screw press, a dewatering trailer, and sand drying beds. The screw press is the recommended alternative in the PER because it is relatively simple when compared to the other mechanical processes, is one of the least expensive methods, and provides some flexibility in operation.

Disposal alternatives for the dewatered biosolids were presented in the PER as either transport to a licensed landfill or land application. Since the Lake County landfill is scheduled for closure within the next few years, transport of biosolids there is not a feasible long-term option. Preliminary investigation shows that there is enough agricultural land available nearby for the application of biosolids. As the project develops, landowner agreements will be pursued. Biosolids for land application would be thickened before transport to approximately 20 percent solids.

The PER provided a discussion of tertiary filtration techniques and narrowed the selection down to the two that could provide both nitrogen and phosphorus reduction – (1) continuous backwash filters, as manufactured by Blue NITE™, and (2) deep bed media filtration, as manufactured by either Severn Trent or Xylem/Leopold. The Blue NITE™ filter is an 80-inch bed of sand with influent introduced at the bottom of the filter along with a carbon source to facilitate denitrification. Continuous backwashing with air recycles the media to the top of the bed and scours the media of excess biomass. The Severn Trent and Xylem/Leopold designs are deep beds of coated sand, with methanol added to enhance denitrification. Influent flows downward in the filter at a rate twice that used with the Blue NITE™ system. Backwash is generally with both air and water and occurs on an intermittent basis. Given the simpler construction, operation, and controls and less mechanical equipment, the continuous backwash filter is incorporated into

alternative evaluation.

Ultraviolet (UV) disinfection is the final treatment stage proposed for any alternative and its installation will allow the City of Polson to meet *E. coli* limits in its current NPDES permit. Ultraviolet disinfection was chosen over chlorination/dechlorination treatment because it is more efficient, less expensive, and more operator friendly. Additionally, concern about the potential discharge of chlorine and dechlorination chemical residuals into the Flathead River makes UV the more obvious choice. The compliance schedule in the current NPDES permit requires that treatment for E. coli be installed by July 1, 2017.

A. TREATMENT ALTERNATIVES

Nine biological wastewater treatment alternatives, as well as the No-Action and Regionalization options, were evaluated in the Preliminary Engineering Report (PER):

- BWWT 0 - No Action
- BWWT 1 – Conventional Activated Sludge
- BWWT 2 – Oxidation Ditch
- BWWT 3 – Sequencing Batch Reactor
- BWWT 4 – Intermittent Cycle Extended Aeration System (ICEAS)
- BWWT 5 – BioWheel™ or STM Aerator™
- BWWT 6 – Biolac™ Treatment Process
- BWWT 7 – Membrane Bioreactor (MBR)
- BWWT 8 – Integrated Fixed Film Activated Sludge (IFAS) & Moving Bed Bioreactor (MBBR)
- BWWT 9 – Aerated Lagoons, Effluent Storage and Land Application

BWWT 0 NO ACTION - The no-action alternative considered making no improvements to the existing wastewater treatment plant (WWTP). The current WWTP discharges poorly-treated, non-disinfected wastewater directly into a highly recreational section of the Flathead River. The city's four-cell, aerated lagoon has been out of compliance with its NPDES discharge permit. The frequency and extent of violations led the EPA to issue an Administrative Order for Compliance (AOC) to the City of Polson, resulting in a significant civil penalty. In order to avoid future penalties and meet the disinfection deadline in its permit, the City of Polson must proceed with WWTP improvements. Therefore, the no-action alternative was not considered to be a viable option, and was not given further consideration.

BWWT 1 CONVENTIONAL ACTIVATED SLUDGE – A 5-stage Bardenpho biological nutrient removal (BNR) system was evaluated due to the high level of nutrient removal needed. The process would have two treatment trains, each with anaerobic, anoxic, and aerated zones. The anaerobic zone is critical to total phosphorus (TP) removal and the two anoxic zones are critical to total nitrogen (TN) removal. The two aerobic zones are needed for removal of Biochemical Oxygen Demand (BOD_5), TN, and TP.

Two clarifiers would follow the BNR process in order to separate the suspended solids from the effluent and to return activated sludge to the biological process.

BWWT 2 OXIDATION DITCH - This alternative consists of constructing an oxidation ditch (bioreactor) and secondary clarifiers to provide biological treatment of the wastewater. The bioreactor is an oval- shaped concrete structure that contains sequential aerobic and anoxic zones for the biological removal of carbon, nitrogen, and phosphorous. An anaerobic zone preceding the ditch is critical to phosphorus removal. Oxygen, to promote biological activity would be provided to the bioreactor through the use of paddle wheel or brush aeration rotor partially submerged. The anaerobic zone will allow for biological phosphorous reduction. Secondary clarifiers allow solids to settle out of the wastewater prior to disinfection.

BWWT 3 SEQUENCING BATCH REACTOR (SBR) - This alternative consists of constructing two Sequencing Batch Reactor (SBR) basins to provide biological treatment. An SBR is a fill and draw activated sludge wastewater treatment system that utilizes a single basin for treatment and clarification, resulting in a smaller "footprint" than typically needed for a conventional activated sludge facility. SBRs generally contain the sequential phases of fill, react, settle, decant, and idle, which provide anaerobic, aerobic, and anoxic conditions needed to remove BOD, nitrogen, and phosphorous. The settling phase accomplishes the work that a secondary clarifier normally would and therefore eliminates the need for an additional basin. Since the decant rate can be very high in comparison to facility design flows, a post equalization basin with pumps is necessary to regulate the flow to the disinfection equipment.

BWWT 4 INTERMITTENT CYCLE EXTENDED AERATION SYSTEM (ICEAS) – This process is very similar to the SBR system, with the difference that flow is never stopped to the treatment basins. Another slight design variance is that a separate internal fill zone is provided at the front end of the biological process tank. Aeration and mixing systems operate intermittently to provide for anaerobic, anoxic, and aerobic zones within the same basin. As with the SBR system, a post equalization basin with pumps is necessary to regulate the flow to the disinfection equipment. The settling phase accomplishes the work of a clarifier.

BWWT 5 BIOWHEEL™ OR STM AERATOR™ – These proprietary processes are fixed film biological systems in reactor tanks that utilize slowly-rotating discs designed to promote biofilm growth. These rotating wheels allow for efficient aeration in lieu of the typical diffusers, air piping, or blowers used in standard BNR aerated basins. The biological treatment basins are followed by clarifiers for solids separation. The anaerobic and anoxic basins are similar to those used in a conventional BNR process. Advantages of either the BioWheel™ or STM Aerator™ process are a

small footprint and a simplified aeration process. Covers or heating will be required to prevent icing of the mechanical components during cold winter months.

BWWT 6 BIOLAC™ TREATMENT PROCESS - This proprietary process mimics the activated sludge process using aerated, lined lagoon cells and secondary clarifiers. Aeration is provided through fine bubble diffusers connected to floating aeration chains, which are accessed by boat for maintenance. Anoxic and anaerobic zones can be added through minor modifications. Similar to the activated sludge process, there are both return activated sludge (RAS) and waste activated sludge (WAS) lines. Advantages of this system are a relatively small footprint, high level of treatment, and relatively simple operation.

BWWT 7 MEMBRANE BIOREACTOR (MBR) – An MBR utilizes activated sludge in a bioreactor with separate anaerobic, anoxic, and aerobic zones to promote biological nutrient removal, followed by a membrane filtration process. The membranes (either flat sheet or hollow fiber) are submerged directly in mixed liquor tanks and replace clarifiers as the means to remove solids. Mixed liquor suspended solids concentrations are kept high in the bioreactor, thereby reducing the required volume in the basin. Fine screens are needed ahead of the membranes to protect them from damage and reduce their chances of fouling. MBRs are commonly used where land space is limited and a high level of treatment is required, either for reuse or to meet stringent discharge standards. This process is recommended for detailed evaluation in the PER.

BWWT 8 INTEGRATED FIXED FILM ACTIVATED SLUDGE (IFAS) AND MOVING BED BIOREACTOR (MBBR) – The IFAS and MBBR systems consist of suspended or buoyant media in a process tank, and are most commonly used to expand the capacity of an activated sludge process. The biofilm grows on the media, which provides a considerable amount of area for attachment. The high-density bacteria population can provide nitrification, denitrification, and phosphorus removal. Secondary clarification follows the biological treatment process.

BWWT 9 AERATED LAGOONS, EFFLUENT STORAGE, AND LAND APPLICATION – This alternative would eliminate surface water discharge to the Flathead River, and thereby also greatly lessen the required degree of treatment of Polson's wastewater. Treated wastewater would be stored in ponds over the winter months and sprayed over ranch fields during summer months. Generally spray irrigation is only practical and cost-effective for wastewater systems of a much smaller scale than that needed to handle Polson's current and projected flows. Sites for the aerated ponds, storage ponds, and approximately 500 acres of irrigated land are limited in the Polson area. The city would need to purchase the land for irrigation, or enter into a long-term lease (20 years minimum) with the landowner of the irrigation site. The challenge of finding adequate

area, as well as the high associated costs, do not make the spray irrigation alternative a viable alternative for the City of Polson. This alternative will not be considered further.

The City of Polson had requested its engineer to narrow the possible wastewater treatment plant options down to two. The key factors considered in doing this were (1) the city's desire not to have secondary clarifiers due to added capital, operational, and maintenance costs; and (2) the feasibility of adding tertiary filtration in the future if necessary to meet Montana's stringent effluent reuse criteria and future NPDES nutrient limits. Except for BWWT 3 (SBR), BWWT 4 (ICEAS), and BWWT 7 (MBR), all other WWTP alternatives require clarifiers and will not be considered further. One important distinction between the SBR and ICEAS processes and the MBR process is that tertiary filtration could be phased onto the SBR and ICEAS systems when stricter effluent standards were in place or unrestricted reuse was desired. The MBR system inherently provides this level of filtration.

Post-equalization is proposed following either the SBR or ICEAS process to allow a constant flow rate to downstream disinfection and future filtration equipment. The decant flow from the SBR and ICEAS processes can be several times higher than the influent flow, requiring either upsizing of the downstream pumps and processes or flow equalization. In contrast, the MBR processes flow at the WWTP's incoming flow rate.

Alternative BWWT 3 (SBR) with effluent filtration and Alternative BWWT 7 (MBR) were selected as the two biological treatment alternatives deserving detailed review in the April 2014 PER. The presumption is that NPDES permit limits may become stringent enough within five years to warrant filtration in the wastewater treatment process.

B. COST COMPARISON - PRESENT WORTH ANALYSIS

The present worth analysis is a means of comparing alternatives in present day dollars and can be used to determine the most cost-effective alternative(s). An alternative with low initial capital cost may not be the most cost-efficient project if high operation and maintenance costs occur over the life of the alternative. An interest rate of 6.0% over the 20-year planning period was used in the City of Polson's analysis.

Alternative BWWT 3 (SBR) with effluent filtration and Alternative BWWT 7 (MBR) were selected as the two biological treatment alternatives deserving detailed review in the April 2014 PER. Therefore, only costs for these two alternatives were compared in that PER. In March of 2015, an addendum to the PER was written with the primary purpose of revising the selected wastewater alternative from an MBR to an SBR system. This Addendum #1 presented present worth costs for the SBR, SBR with filtration, and MBR options. These costs are all shown below in Table 2.

Table 2 – SUMMARY OF ALTERNATIVE LIFE CYCLE COSTS

Alternative Number	Alternative	Capital Cost[1]	Annual O&M	20-Yr Salvage Value	Total Present Worth
BWWT 3	Sequencing Batch Reactor (SBR)	$14,796,040	$340,610	$2,017,743	$18,740,000
BWWT 3 w/ Filtration	SBR with Filtration	$16,360,860	$407,977	$2,209,599	$21,150,000
BWWT 7	Membrane Bioreactor (MBR)	$19,332,000	$433,544	$2,413,508	$24,400,000

[1]Capital costs include engineering, administration, and construction costs.

C. BASIS OF SELECTION OF PREFERRED ALTERNATIVE

In a qualitative ranking process presented in the 2014 Preliminary Engineering Report (PER), the MBR process received 95.0 points and the SBR with filtration received 79.5 points. Based on its higher ranking system and discussion in city council, the MBR system was unanimously selected for the new WWTP design at that time, despite its higher cost. MBR benefits particularly noted in the selection process were the discharge of very high quality water to the Flathead River and minimization of future changes in the treatment process as regulations become more stringent.

Addendum #1 to the April 2014 PER was written with the primary purpose of revising the selected wastewater alternative from an MBR to an SBR system. The addendum was triggered by public resistance to the significant project cost and by a decreased urgency to design for such low effluent limits. According to the addendum, neither the EPA nor the Confederated Salish and Kootenai Tribes (CSKT) could give any indication as to their intentions to implement numeric nutrient criteria similar to what the State of Montana has developed. Given that filtration would likely not be necessary for 15 to 20 years, rather than the 5 to 10 years initially thought, construction of the SBR without filtration was considered the sound approach at this time. The City officially decided to move towards design of an SBR at its November 17, 2014 meeting.

Addendum #1 expanded the qualitative ranking table from the PER to include the SBR option without the effluent filtration component, as shown in Table 3 below. The value/weight of each category is based upon the relative importance of that criterion to the project. For each alternative a maximum of 5 points is given. Category points are calculated by dividing each score by 5 and then multiplying by the criterion weight. With respect to providing the highest effluent quality, only the MBR received the maximum points since it provides the tightest barrier to total suspended solids (TSS). The MBR also received the full 5.0 points for regulatory issues because its inherent process stability helps to assure permit

compliance. Maximum points were also awarded to the MBR in the third category because it has the smallest overall footprint. The SBR alternatives fared better than the MBR with respect to mechanical complexity because of the extra pumps, mixers, and process control associated with the MBR process. The MBR received the maximum points for operation and maintenance because its integral filtration process allows it to handle significant flows and loading to the plant with negligible short-term effect on effluent quality.

Table 3 – WASTEWATER TREATMENT ALTERNATIVES RANKING

Criterion	Criterion Weight	SBR		SBR w/ filtration		MBR	
		Score	Points	Score	Points	Score	Points
Treatment process performance, stability	20	3.5	14.0	4.0	16.0	5.0	20.0
Regulatory issues, current and future	20	4.0	16.0	4.5	18.0	5.0	20.0
Overall facility footprint & required unit processes	20	4.0	16.0	3.5	14.0	5.0	20.0
Mechanical complexity (equipment, instrumentation)	15	5.0	15.0	4.5	13.5	4.0	12.0
Operation & Maintenance (operator attention and skill)	15	4.5	13.5	4.0	12.0	5.0	15.0
Construction phasing opportunity	10	4.0	8.0	3.0	6.0	4.0	8.0
TOTAL SCORE	**100**		**82.5**		**79.5**		**95.0**

Even though the MBR process received the most points in the qualitative analysis, the City of Polson has elected to build an SBR facility to treat its wastewater, for the reasons discussed above. The total project capital and operation and maintenance (O&M) costs are broken down into the four major components in Table 4. The estimated capital costs take into account recent bid openings and adjusted unit prices, etc. such that the estimated costs are now higher than what was presented in the PER.

Table 4 - ESTIMATED PREFERRED ALTERNATIVE COSTS - SBR

Components	Estimated Costs	Annual O & M Increase
Headworks, EQ System, & Overflow Pond	$2,915,003	$54,776
SBR Treatment System	$7,071,700	$197,675
Solids/Admin/Control Bldg	$5,226,269	$78,385
UV Disinfection	$1,194,472	$9,774
Total Project Cost	**$16,407,444**	**$340,610**

The estimated project cost (including administration, engineering, and construction) is $16,407,444 and the required loan reserve is $400,000. The city will fund these project costs through a total of $14,732,444 in Water Pollution Control State Revolving Fund (WPCSRF) loans, with $400,000 forgiven and the remaining $14,332,444 in a low interest loan at 2.50% with a 30-year term; a $750,000 grant from the Treasure State Endowment Program (TSEP); a $125,000 grant from the Department of Natural Resources and Conservation; and $1,200,000 in local funds.

The current average sewer rate is $28.75 and the projected user rate upon project completion will be $65.26 per month, based on the above funding package, which is an increase of 227 percent. The financial impact of this project on the system users is shown in Table 5. Based on the EPA guidance for project affordability, the proposed project will result in a monthly sewer cost per household that is greater than 2% of the monthly median household income, and therefore may impose a substantial economic hardship on households. While $65.26 is the best estimate at this time, the end user rate will depend upon the final funding package and contractor's construction bid.

Table 5 - PROJECT AFFORDABILITY

Monthly user cost[1]	$65.26
Monthly median household income (mMHI)[2]	$2,568.75
User rate as a percentage of mMHI	2.5 %

[1] Table 10-5A from PER Addendum #1
[2] Based on 2010 census data

IV. AFFECTED ENVIRONMENT

A. PLANNING AREA / MAPS

The City of Polson is located at the southern end of Flathead Lake, along US Highway 93, on the Confederated Salish and Kootenai Tribes Flathead Indian Reservation (see Figure 1). It is the Lake County seat and a trading center for one of Montana's most fertile farming areas, particularly known for cherry production. The planning area encompasses the incorporated boundary of the City of Polson as well as adjacent areas that may be developed in the near future. The city boundary and planning area are shown in Figure 2.The existing wastewater treatment facility for the City of Polson is shown in Figure 3. The new wastewater treatment plant (WWTP) will be constructed within the footprint of existing lagoon cell #1 and involves construction of a headworks facility, a sequencing batch reactor wastewater treatment plant, post-equalization basin, aerobic digesters, solids handling and dewatering equipment (see Figure 4).

B. FLOW PROJECTIONS

All of the flow to the wastewater treatment plant (WWTP) comes directly through the sewer system's four final lift stations (DuCharme Park, Riverside Park, 7th Avenue, and Rio) to the junction manhole at the WWTP. The 2014 PER

presented wastewater flows based on pump run times at the four lift stations. It was decided that this information was much more accurate than using weekly, attenuated readings from the effluent weir at the lagoon. In November of 2013, the City of Polson installed flow monitoring equipment at the four final lift stations to provide more accurate data than could be derived from pump run times. This new flow data is considered good and was used as the basis from which to make flow projections.

Increased wastewater flows are a result from either extension of sewer to existing homes within the planning area or actual growth in the population of the planning area. The 2036 design average daily flow presented in the 2014 PER was estimated to be 998,737 gallons per day (gpd) using limited flow data collected from November 2013 to March of 2014 and a projected annual growth rate of 2 percent. The growth projection includes 1,205 people currently living in the planning area with on-site wastewater systems presumed to be added to the Polson WWTP by sewer extension within the next 20 years.

Flow monitoring data for 2014 determined an average daily flow of approximately 458,962 gpd. Assuming an adjusted growth rate of 2.15 percent and connection of existing homes with on-site wastewater systems, the projected 2036 design average daily flow is 896,251 gpd.

Table 6 – EXISTING AND PROJECTED POPULATION AND WASTEWATER FLOWS

Year	Population	Average Daily Flow (gal/day)
2014	4,641	458,962
2036	8,616[1]	896,251

[1] Assumed 2.15% growth annually and connection of existing homes.

C. NATURAL FEATURES

With its location at the southern end of Flathead Lake, Polson has elevations ranging between 2,900 and 3,420 feet. Land adjacent to US Highway 93 and west to the wastewater treatment plant (WWTP) is relatively flat, which is consistent with the glaciofluvial deposits, glacial till, and glaciolacustrine deposits that characterize the planning area. Soils in the area are generally gravelly loam, loam, and silty loam. These soils have slow to moderate permeability.

Groundwater resources within the planning area are highly variable and groundwater levels can fluctuate significantly throughout the year depending on the time and location within the planning boundary. There are some wetlands south of the proposed new WWTP site, indicating that this area is saturated with water, either permanently or seasonally.

The dominant surface water feature within the planning area is Flathead Lake, with the City of Polson situated along its southern shore. The lake's outlet is the Flathead River, located at the southwest corner of the lake. Polson's wastewater treatment plant discharges into the south side of the river at a point just

downstream of the Highway 93 bridge. The lake and river are both high quality with large recreational value. The water levels in Flathead Lake and the Flathead River are regulated by Kerr Dam, located about four miles downstream of Flathead Lake.

The climate in Polson is typical of western Montana and is heavily influenced by the predominant mid-latitude westerly flow aloft. The weather is wetter, but with milder temperatures, than the eastern side of the Continental Divide. Cold Arctic winds from the north occasionally occur during the winter, bringing freezing temperatures. May and June are typically the wettest months. The Mission Mountains to the east of Polson often receive over 50 inches per year while the adjacent valleys receive half that amount.

V. ENVIRONMENTAL IMPACTS OF PROPOSED PROJECT

A. DIRECT AND INDIRECT ENVIRONMENTAL IMPACTS

1. Land Use/Prime Farmland – Construction of the new mechanical wastewater treatment plant will take place almost entirely within the footprint of existing lagoon Cell 1 and will therefore not affect any agricultural lands. Completion of a Farmland Protection Policy Act (FPPA) Project screening sheet provided by the Montana Natural Resources and Conservation Service verifies that FPPA does not apply and no further inquiry is needed. No land designated as prime farmland will be impacted by this project.

2. Floodplains – Based on the Federal Emergency Management Agency (FEMA) flood hazard map for the area, none of the planning area, which includes the city's new wastewater treatment facility, is subject to inundation by the 100-year flood event.

3. Wetlands – Wetlands mapping developed by the Montana Natural Heritage Program shows freshwater emergent wetlands along the south side of the Polson wastewater lagoon outside the fence. The contractor will be made aware that the ditch to the south must be maintained as it is and there is no need to impact it. All construction staging will occur north of the existing treatment ponds and this area is high and dry. No wetlands will be impacted by this project.

4. Cultural Resources – No impacts to cultural resources are anticipated. All construction activity will occur almost entirely within the footprint of previously disturbed Lagoon Cell 1. No structures will be impacted. The State Historical Preservation Office was contacted regarding the proposed improvements and their comments are summarized in *Section X* of this report.

5. Fish and Wildlife – The Montana Natural Heritage Program indicated that

the great blue heron, bald eagle, Westslope cutthroat trout, pygmy whitefish, bull trout, and lake trout are species of concern in the Polson area. No impacts to habitat or wildlife are anticipated as the entire project will be constructed almost entirely within the footprint of Cell 1, which is located in the southeast corner of the existing Polson lagoon system. Construction of the new facility will require that fill material and concrete structures be placed on this land. The improved water quality that will be discharged from the new treatment facility will likely be beneficial to fish, wildlife, and habitat resources in the Flathead River. The US Fish and Wildlife Services and Montana Fish Wildlife and Parks were contacted regarding the proposed improvements and their comments are summarized in *Section X* of this report.

6. Water Quality – The governing water quality criteria for Polson's wastewater discharge are those of the Flathead Reservation of the Confederated Salish and Kootenai Tribes (CSKT) since the wastewater discharge point is located within reservation boundaries. The CSKT has adopted its own water quality standards and non-degradation policies to protect and restore waters, with specific discharge water quality criteria as a function of the stream classification. The Flathead River is classified as B-1 at the point of Polson's discharge, which means that the waters must be maintained suitable for drinking and culinary and food processing purposes after conventional treatment; bathing, swimming, and recreation; wildlife (birds, mammals, amphibians, and reptiles); the growth and population of salmonid fishes and associated aquatic life; and agricultural and industrial water supply purposes.

The Environmental Protection Agency (EPA) issues the National Pollutant Discharge Elimination System (NPDES) permit for Polson's wastewater treatment plant (WWTP) in conjunction with Tribal review and approval. The current permit specifies that disinfection be provided in order to meet Tribal *E. coli* limits which are year round. The only other effluent quality parameters in the current NPDES permit are Biochemical Oxygen Demand (BOD_5), total suspended solids (TSS), oil and grease, and pH. Ammonia was not included in the current Polson NPDES permit since the high dilution ratio at the point of discharge makes it unlikely that the discharge would cause an exceedance in the river. Compliance with a nitrite/nitrate water quality standard should also not be an issue for the same reason.

Polson's wastewater discharge permit prior to the 2007 to 2012 cycle included estimates of the allowable loads for nutrients, BOD_5, and TSS based on the WWTP's flows and loads at that time. Adhering to these non-degradation loads requires improved treatment so that the concentrations of nutrients, BOD_5, and TSS in the effluent go down as population grows and wastewater flows go up.

The proposed new WWTP will be designed to meet current permit

discharge limits, as well as provide for nutrient removal. The CSKT do not have any numeric nutrient criteria in place and Montana's recently developed numeric nutrient and variance criteria have limited applicability to Polson given Tribal jurisdiction at the WWTP's discharge point. Therefore, for design purposes the City of Polson decided to use Montana's variance criteria for nitrogen and phosphorus as targets for the minimum level of treatment.

A Total Maximum Daily Load (TMDL) is the maximum amount of a pollutant a water body can receive and still meet water quality standards. Where developed in Montana, this information has been used to require further reductions of a particular pollutant in permits depending on potential river impairment. Since the CSKT have not listed water bodies as impaired and developed a 303(d) list to require TMDLs, the effluent water quality design criteria for the new WWTP project are not based on any TMDL limitations.

The proposed project may improve groundwater quality in the area as well. While actual leakage of untreated wastewater from the existing lagoon has not been documented, it is suspected. The new facility will be constructed with watertight basins, thereby ensuring that there will be no impacts to groundwater.

Impacts to the nearby Flathead River associated with storm water runoff during construction will have to be mitigated with appropriate best management practices and carefully maintained during construction.

7. Air Quality - Short-term negative impacts on air quality are expected to occur during construction from heavy equipment in the form of dust and exhaust fumes. Proper construction practices will minimize this problem with the project specifications requiring dust control. The new facility will produce some odors associated with the wastewater treatment process, but these will be reduced as much as possible through the use of aeration equipment and are expected to be less than those generated by the existing lagoon facility.

8. Public Health - Public health will be improved by the proposed project. Any leakage currently occurring through the existing lagoon system will cease when it is abandoned, thereby eliminating the release of inadequately treated wastewater into the underlying aquifer. The new mechanical wastewater facility will provide a higher level of treatment and reduce the amount of pathogens and nutrients discharged to the scenic and popular Flathead River. As a result, there will be better water quality downstream of the wastewater treatment plant's discharge point. This section of the river is highly recreational with direct public contact probable.

9. Energy – An increase in energy consumption will occur after the new

treatment plant is constructed, due largely to the number of blowers and mechanical equipment. Energy consumption will be minimized as much as possible through the use of energy efficient equipment (pumps, aeration equipment, lighting, etc.).

The consumption of energy resources directly associated with construction of the recommended improvements is unavoidable, but will be a short-term commitment.

10. Noise - Short-term impacts from excessive noise levels may occur during construction activities. The construction period will be limited to normal daytime hours to avoid early morning or late evening construction disturbances. The headworks equipment will be housed in a building and no significant or noticeable long-term impacts from noise will occur.

11. Sludge Disposal – With existing Lagoon Cell #1 as the footprint for the proposed wastewater treatment plant (WWTP), the City of Polson has been in the process of dewatering the cell and storing the sludge in abandoned Cell #5 just north of the existing lagoon system. This operation is being conducted in close coordination with the Environmental Protection Agency (EPA). Abandonment of Cells, 2, 3, and 4 will involve breaching of the dikes between the cells and removal of sludge to abandoned Cell 5 for temporary storage and drying. The dikes around these three cells will be reseeded and reclaimed. Sludge removed and stored in Cell #5 will be incorporated into the abandoned cells at allowable agronomic rates, with the balance hauled away and land applied/ incorporated at a site yet to be determined.

The Code of Federal Register (CFR) 40 Part 503, the State of Montana sludge disposal permit (MTG650000) and/or the general permit for Indian country (MTG651000) include the applicable regulations for the handling of biosolids removed from the existing lagoon cells and generated at the proposed Polson mechanical WWTP.

The new mechanical treatment plant will generate waste activated sludge that must be removed regularly from the biological treatment system. The proposed method of treatment for these biosolids is aerobic digestion, which will allow the biosolids to meet Class B standards for volatile solids and pathogen reduction. The solids from the digesters will be furthered processed through a mechanical screw press to reduce the solids content to approximately 20% by weight. Final disposal will be application at agronomic rates on nearby agricultural land as a soil conditioner and fertilizer. A few miles south of Polson's WWTP site, there is agricultural land already used for application of septic tank sludge and hundreds of acres that can be pursued by the city for sludge disposal.

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. No disproportionate effects among any portion of the community would be expected.

13. Wild and Scenic River Act – The proposed project will not impact any rivers designated as wild and scenic by Congress or the Secretary of the Interior.

14. Growth – An increase in flow to the wastewater treatment plant during the 20-year planning period is expected due to extension of public sewer to existing homes within the planning area, as well as an anticipated 2.15 percent growth in the planning area population. (As of 2010, the projected sewer service area included 1,205 people not connected to the public wastewater system.) The resulting 2036 design population is 8,616 and will result in increased flows to the WWTP. Improvements to the WWTP will be a positive feature for the community providing additional treatment capacity that will eliminate some on-site wastewater systems and allow the city to manage its growth in a proactive manner.

15. 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 regards to water supply, sewage disposal, solid waste disposal, transportation, and storm drainage.

B. UNAVOIDABLE ADVERSE IMPACTS

Short-term construction related impacts (i.e., noise, dust, etc.) will occur, but should be minimized through proper construction management. Energy consumption during construction and energy for operation of the new mechanical treatment plant cannot be avoided.

VI. PUBLIC PARTICIPATION

Problems with Polson's wastewater system have been discussed at numerous council meetings over the years. At its March 18, 2013 meeting, the City Council initiated a Request for Proposals (RFP) to procure an engineer for preparation of a preliminary engineering report (PER) on the wastewater system. One year later (March 17, 2014), there was a City Council presentation on the status of the wastewater improvements

project and the estimated costs. Public meetings on April 7, 14, and 21 of 2014 were held to present the PER and alternatives for wastewater system improvements, select the preferred alternative, and adopt the PER, respectively. A membrane bioreactor (MBR) was the treatment alternative chosen at this time.

At the July 7, 2014 public hearing, the wastewater treatment plant (WWTP) project was reviewed and updated. This meeting was an open public hearing designed to take public comment on the proposed monthly residential average rate increases of $3.00 for water service and $22.00 for sewer service. Over 120 Polson residents attended this meeting, largely asking that the Commission further consider the WWTP alternatives in order to keep the sewer rate at a reasonable level.

In August of 2014 the city hosted a meeting with EPA and CSKT to discuss the status and pending changes to water quality criteria affecting their National Pollutant Discharge Elimination System (NPDES) permit. No clarity on the implementation of numeric nutrient and Total Maximum Daily Load (TMDL) by the CSKT was achieved at this meeting and the urgency to design for the lowest effluent limits appeared significantly reduced from what it seemed during the PER planning process.

The Commission meeting on November 3, 2014 included a review and update on the proposed wastewater project. Two weeks later, as a result of the public hearing and the discussions with EPA and CSKT during the summer, the City Council changed from MBR to sequencing batch reactor (SBR) without tertiary filtration as its WWTP design alternative.

VII. AGENCY ACTION, APPLICABLE REGULATIONS AND PERMITTING AUTHORITIES

All proposed improvements will be designed to meet state standards in accordance with Design Standards for Public Sewage Systems (Circular DEQ-2), and will be constructed using standard construction methods. Best management practices will be implemented to minimize or eliminate pollutants from leaving the construction site. 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 is required from the DEQ Water Protection Bureau prior to the beginning of construction. A Department of the Army (DA) permit is required if dredged or fill material will be discharged in waters of the US. A 124 Permit from the Department of Fish, Wildlife and Parks and a 318 Authorization from the Department of Environment Quality will be required for any work that will impact surface water and will be obtained if necessary.

VIII. RECOMMENDATION FOR FURTHER ENVIRONMENTAL ANALYSIS

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

Rationale for Recommendation: Through this EA, the DEQ has verified that none of the adverse impacts of the proposed Polson Wastewater Treatment Plant Improvements project 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. The EA is the appropriate level of analysis because none of the adverse effects of the impacts are significant.

IX. REFERENCE DOCUMENTS

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

1. City of Polson Wastewater Preliminary Engineering Report, April 2014, prepared by DOWL HKM.
2. City of Polson Wastewater Preliminary Engineering Report – Addendum #1, March 2015, prepared by DOWL HKM.
3. Uniform Application Form for Montana Public Facility Projects, March 2015, prepared by City of Polson.
4. Letter from Kevin Johnson of DOWL to Tony Porrazzo of the City of Polson; dated April 9, 2015; with Predesign Report Excerpt: Headworks Equipment Sizing.
5. City of Polson, MT Water Resource Recovery Facility Draft Pre-Design Report, June 2015, Prepared by DOWL.
6. Email from Kevin Johnson of DOWL to Michele Marsh, MDEQ; dated July 26, 2015; with attached Cost Tables for the EA.

X. AGENCIES CONSULTED

The following agencies have been contacted in regard to the proposed construction of this project:

1. The U.S. Fish and Wildlife Service (USFWS) responded that they do not anticipate adverse effects to threatened, endangered, or candidate species or critical habitat to result from the proposed project. They are not aware of any bald eagle or golden eagle nests within one mile of the proposed project site.

2. The Montana Department of Natural Resources and Conservation (DNRC) reviewed the proposed project map to determine if any of the construction would fall within the 100-year floodplain. It was determined that the new wastewater treatment plant with lift station and force main are located outside the 100-year floodplain. Although the wastewater discharge point is within the floodplain, no construction is proposed to this pipe and a floodplain permit is therefore not required.

3. The Montana Historical Society's State Historic Preservation Office (SHPO) reviewed the proposed project. According to their records, there have been a few previously recorded sites and a few cultural resource inventories done within the designated search locales. SHPO stated that if any structure over 50 years old is to be altered, it is recommended that it be recorded and a determination of its eligibility for listing on the National Register of Historic Places be made. They indicated that "as long as there will be no disturbance or alteration to structures

over fifty years of age we feel that there is a low likelihood cultural properties will be impacted". They felt that a cultural resource inventory is unwarranted at this time, but should structures need to be altered or if cultural materials are inadvertently discovered during this project, their office must be contacted and the site investigated.

4. The U.S. Department of the Army Corps of Engineers (USCOE) reviewed the proposed project. The USCOE is responsible for administering Section 404 of the Clean Water Act, which regulates the excavation or placement of dredged or fill material below the ordinary high water mark of our nation's rivers, streams, lakes or in wetlands. The USCOE stated that the presence of wetlands and waters of the US within the project area should be evaluated and that the wetland delineation report and mapping should be prepared in accordance with the USCOE Wetland Delineation Checklist. USCOE also noted that the project is located adjacent to the Flathead River, which is designated critical habitat for the federally listed threatened bull trout. A Department of the Army (DA) permit needs to be obtained if dredged or fill material will be discharged in waters of the US.

5. The Montana Department of Fish, Wildlife and Parks (FWP) reviewed the proposed project. They commented that any force main construction under the Flathead River should include a shut-off valve on each side of the new pipe and have adequate depth below the river.

6. The Montana Department of Transportation (MDT) reviewed the proposed project and noted that a portion of the construction lies within MDT right-of-way. A Utility Occupancy and Location Agreement and Environmental Checklist must be completed and submitted to the MDT by the City of Polson. MDT requirements for construction projects within their right-of-way were listed in the MDT response.

7. The Montana Natural Heritage Program reviewed the proposed project and provided nine species occurrence reports for six animals of concern (great blue heron, bald eagle, westslope cutthroat trout, pygmy whitefish, bull trout, and lake trout) and a map depicting species of concern and wetland locations.

8. The United States Department of Agriculture (USDA), Montana Natural Resources and Conservation Service (NRCS) reviewed the proposed project as it pertains to the Federal Farmland Protection Policy Act requirements. The NRCS sent a screening sheet to the City of Polson for completion to determine if any action was required to minimize impacts to important farmland.

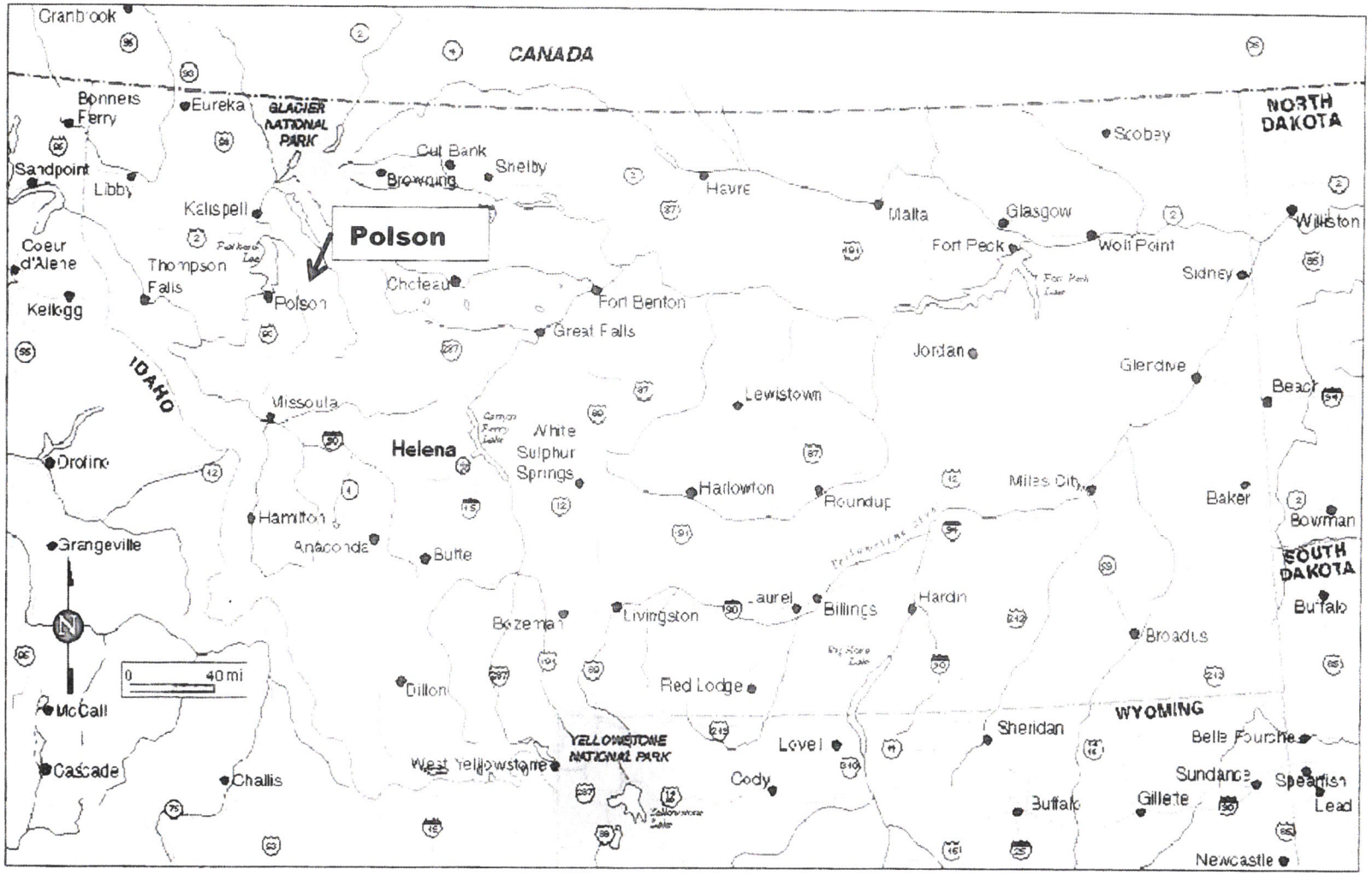
9. The Confederated Salish and Kootenai Tribes (CSKT) were contacted on January 28, 2014 with a request for comments and information on the proposed project. No comments were received by the CSKT in direct response to that letter. However, the CSKT has actively participated in discussions with the City of Polson and the Environmental Protection Agency (EPA) with respect to water quality criteria for discharges into the Flathead River within the reservation.

EA Prepared by:

Michele Marsh, P.E. — 8-21-15 Date

EA Reviewed by:

Mike Abrahamson, P.E. — 8/21/15 Date


Polson
CANADA
NORTH DAKOTA
SOUTH DAKOTA
WYOMING
IDAHO
GLACIER NATIONAL PARK
YELLOWSTONE NATIONAL PARK
Cranbrook
Bonners Ferry
Eureka
Sandpoint
Libby
Kalispell
Coeur d'Alene
Kellogg
Thompson Falls
Polson
Cut Bank
Shelby
Browning
Havre
Malta
Glasgow
Scobey
Fort Peck
Wolf Point
Williston
Sidney
Choteau
Fort Benton
Great Falls
Jordan
Glendive
Beach
Missoula
Helena
White Sulphur Springs
Lewistown
Drofino
Hamilton
Anaconda
Butte
Harlowton
Roundup
Miles City
Baker
Bowman
Grangeville
Bozeman
Livingston
Laurel
Billings
Hardin
Buffalo
Broadus
Dillon
Red Lodge
McCall
Cascade
Challis
West Yellowstone
Cody
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Sheridan
Buffalo
Gillette
Bell Fourche
Sundance
Spearfish
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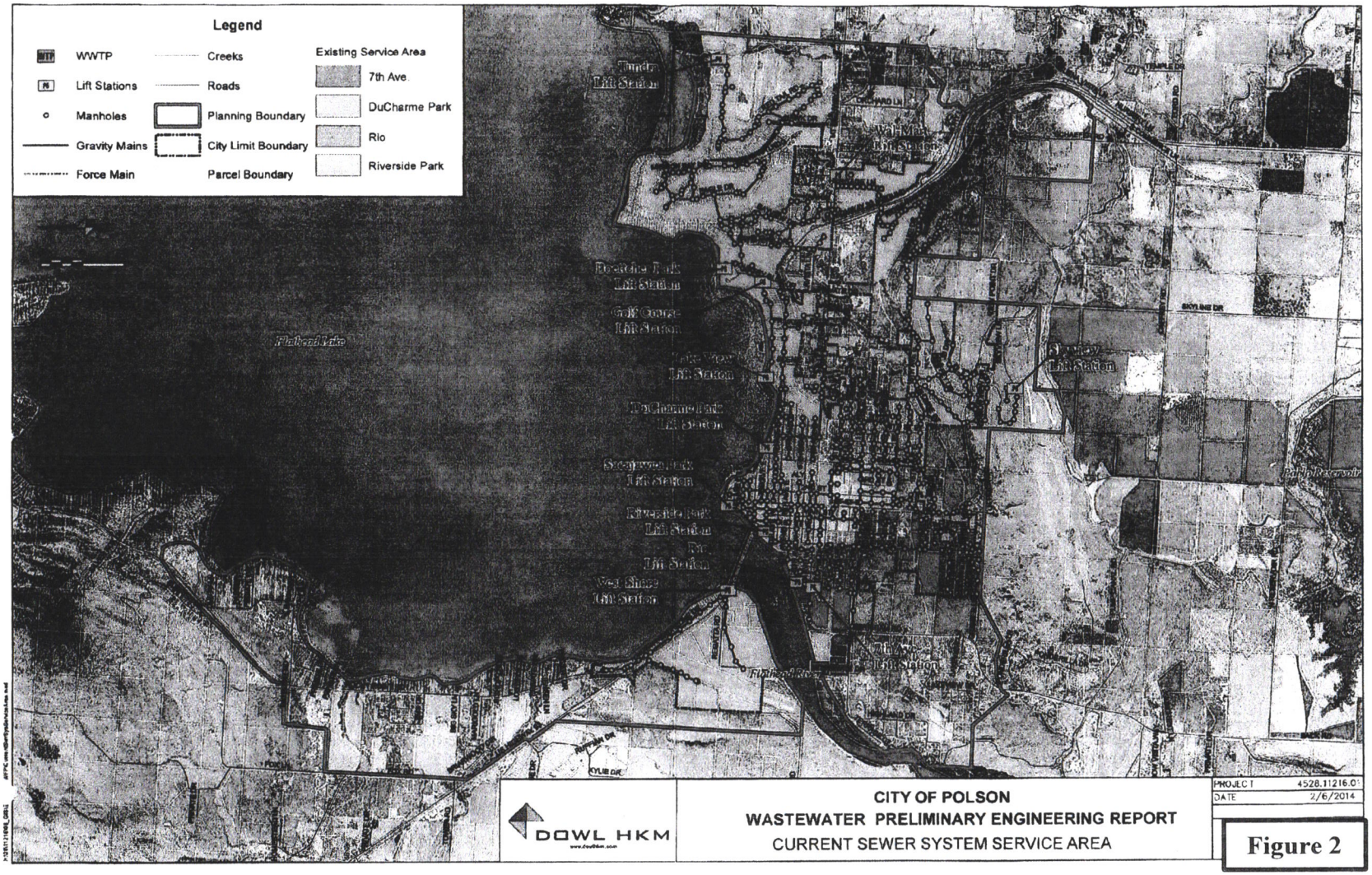
Figure 1

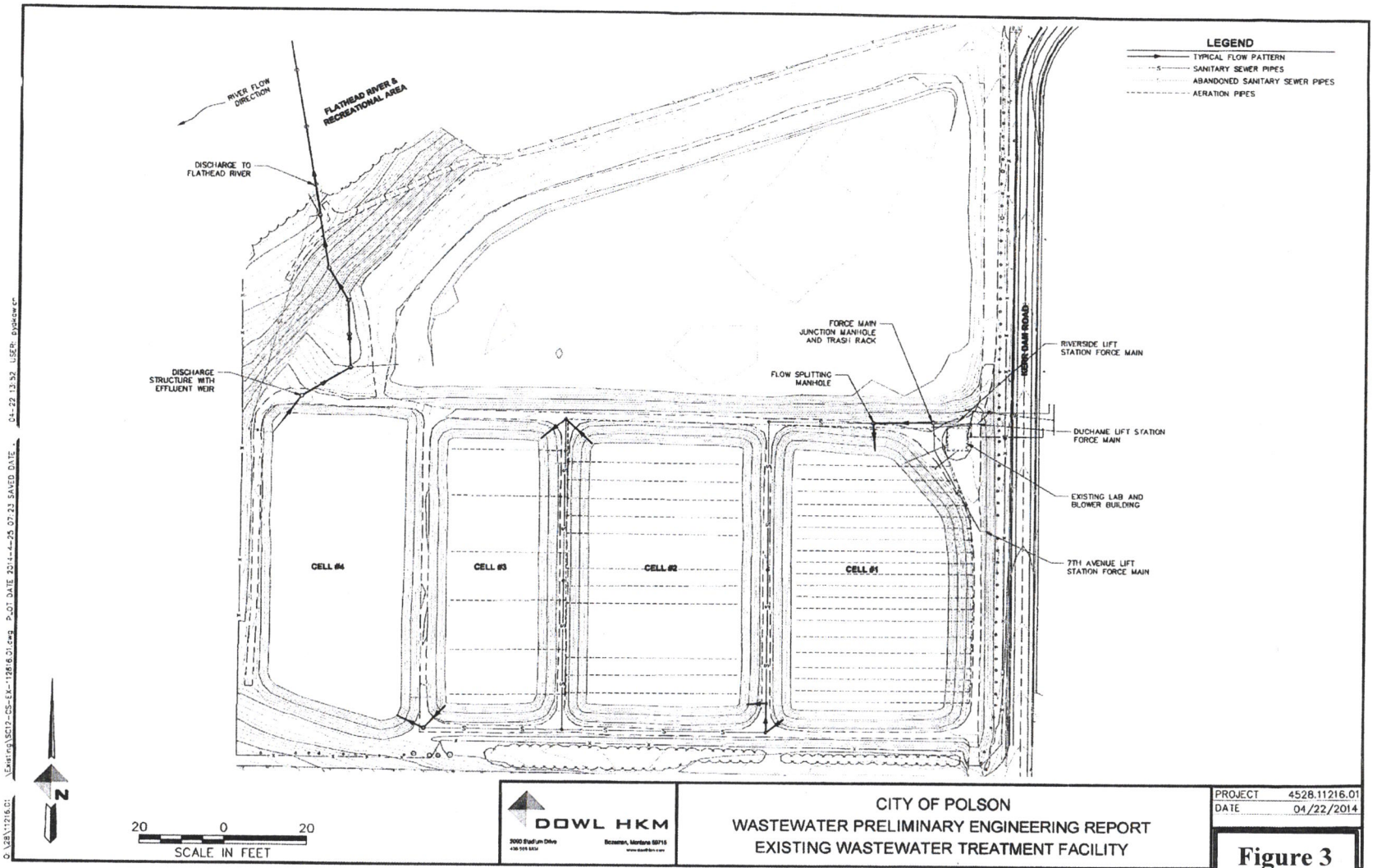


DOWL HKM

CITY OF POLSON
WASTEWATER PRELIMINARY ENGINEERING REPORT
CURRENT SEWER SYSTEM SERVICE AREA

PROJECT 4528.11216.01
DATE 2/6/2014

Figure 2



DOWL HKM
3990 Stadium Drive
Bozeman, Montana 59715
406 585 6434
www.dowlhkm.com

CITY OF POLSON
WASTEWATER PRELIMINARY ENGINEERING REPORT
EXISTING WASTEWATER TREATMENT FACILITY

PROJECT 4528.11216.01
DATE 04/22/2014

Figure 3

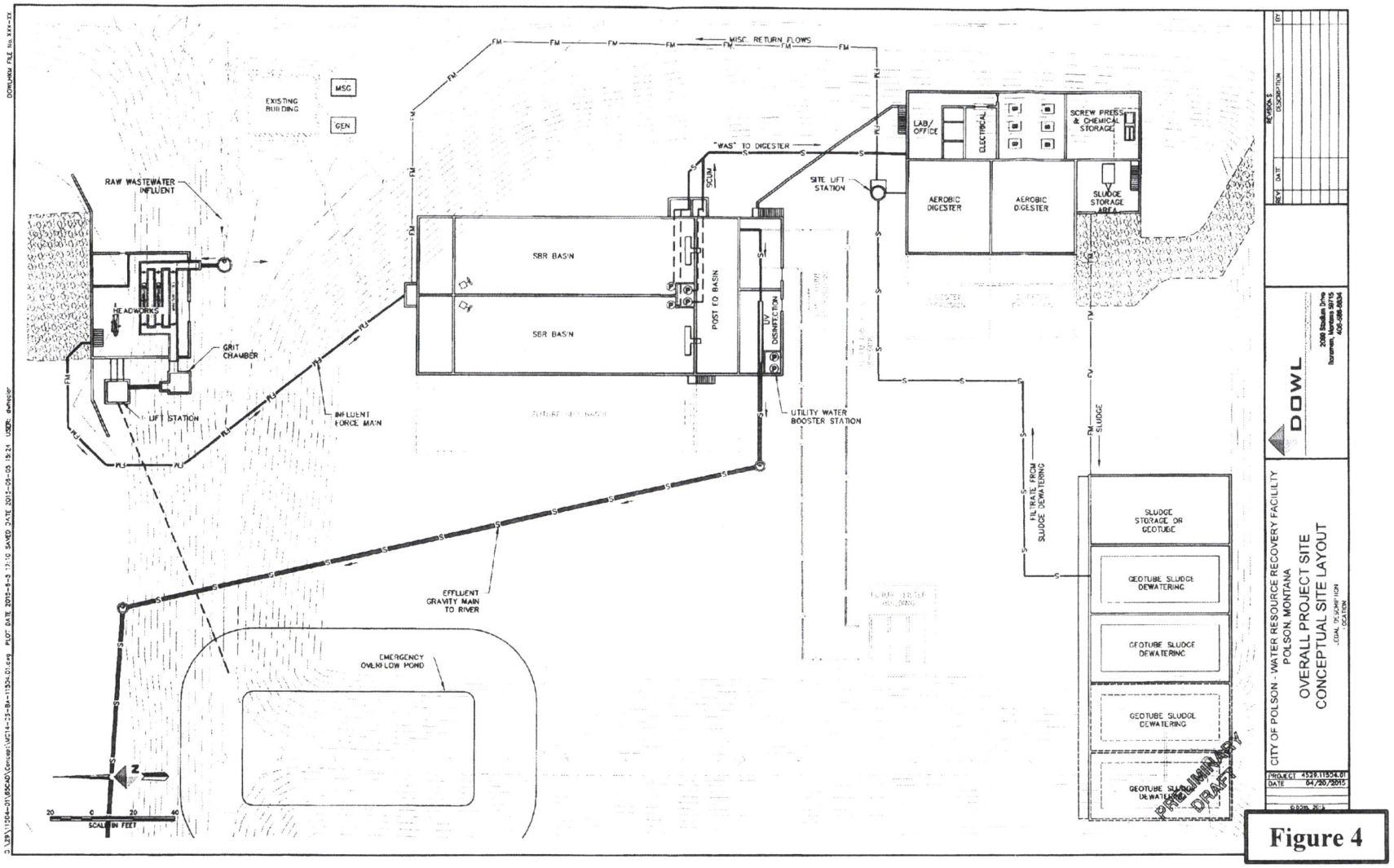

MISC. RETURN FLOWS
EXISTING BUILDING
MSC
GEN
RAW WASTEWATER INFLUENT
HEADWORKS
GRIT CHAMBER
LIFT STATION
INFLUENT FORCE MAIN
SBR BASIN
SBR BASIN
SCUM
POST EQ BASIN
UV DISINFECTION
UTILITY WATER BOOSTER STATION
"WAS" TO DIGESTER
SITE LIFT STATION
LAB/ OFFICE
ELECTRICAL
SCREW PRESS & CHEMICAL STORAGE
AEROBIC DIGESTER
AEROBIC DIGESTER
SLUDGE STORAGE AREA
SLUDGE
FILTRATE FROM SLUDGE DEWATERING
SLUDGE STORAGE OR GEOTUBE
GEOTUBE SLUDGE DEWATERING
GEOTUBE SLUDGE DEWATERING
GEOTUBE SLUDGE DEWATERING
GEOTUBE SLUDGE DEWATERING
EFFLUENT GRAVITY MAIN TO RIVER
EMERGENCY OVERFLOW POND
SCALE IN FEET
PRELIMINARY DRAFT
DOWL
CITY OF POLSON - WATER RESOURCE RECOVERY FACILITY
POLSON, MONTANA
OVERALL PROJECT SITE
CONCEPTUAL SITE LAYOUT
PROJECT 4529.11534.01
DATE 04/30/2015

Figure 4