SEELEY LAKE SEWER DISTRICT
MONTHLY BOARD MEETING
June 16, 2011

ROLL CALL

Glen Morin	President	PRESENT	Mike Lindemer	Director	PRESENT
Vacant	Vice-President	VACANT	Mike Boltz	Director	PRESENT
Bob Skiles	Director	PRESENT	Felicity Derry	Secretary	PRESENT
Craig Pozega	Engineer	PRESENT			

Public Attendance listed in Appendix A

OPENING:

The meeting was called to order at 5:22pm by President, Glen Morin at The Community Hall, located on Highway 83 N.

PUBLIC COMMENTS:

Harold Sheets asked how close the site was to the Nordic ski area. Glen Morin said that the proposed site was adjacent to the Nordic ski area. Bob Skiles said that it would not hurt it. Caroline Jenkins, Pathfinder, commented that Craig Pozega had previously said that the treatment method that the District was proposing had no real odor because it was contained in a building. Harold Sheets added that there were fans to ventilate the facility. Glen Morin said that there would be some odor. Mike Lindemer said that the picture Craig Pozega had used in that presentation showed the treatment plant contained in a green house. The District would choose a different kind of building.

Caroline Jenkins, Pathfinder, asked what the process was to fill the vacant Board position. Glen Morin said that the Board had been following procedure and were considering numerous candidates. No final decision had been made. He welcomed anybody that was interested in the position to come and talk to the Board. Caroline Jenkins, Pathfinder, asked what the deadline was. Glen Morin replied that he hoped to have the position filled by the next meeting.

CORRESPONDENCE:

County Commissioners

The County had been busy with area flooding. Also Dori Brownlow, County Attorney had been away from the office, as had Greg Robertson, Director of Public Works. Once they returned they would start to work on the inter-local agreement. Greg Robertson had planned to attend this meeting, but he had to go to Washington DC.

Beth Hutchinson Letter

Glen Morin said that he would like to set up a meeting with her to go through her extensive list of questions. Mike Boltz noted that she did not attend the last meeting because she was attending another meeting. Caroline Jenkins, Pathfinder, offered to sit in on the meeting and have the Pathfinder be a communication vehicle for any topic he thought was poignant.

MINUTES:

The minutes of May 19, 2011 Monthly Board Meeting and May 23, 2011 Special Board Meeting were presented to the Board.

Mike Lindemer moved to accept the minutes for May 19, 2011 Monthly Board Meeting as presented, Mike Boltz seconded. The motion was then passed.

Bob Skiles moved to accept the minutes for May 23, 2011 Special Board Meeting as presented, Mike Lindemer seconded. The motion was then passed.

FINANCIAL REPORTS:

Invoices

Glen Morin reviewed the June invoices.

Bob Skiles approved payment of all of the June invoices as presented, Mike Boltz seconded. The motion was then passed.

May Financial Report

Glen Morin reviewed the May financial reports.

Bob Skiles moved to approve the May financial reports as presented, Mike Boltz seconded. The motion was then passed.

Glen Morin noted that Jeff Seaton, Missoula County, was working on a website for the District that would have the financial reports and the PER available for public viewing.

Diane Braach questioned why only 22% of the fee assessment had been received. Glen Morin said that he would ask the County why the District had not received 50%.

Fee Assessment

Glen Morin said that once Missoula County was onboard he wanted to review the billing mechanism for the 2012 fee assessment to see if anything could be done for the people that were paying a large amount.

NEXT REGULARLY SCHEDULED MEETING: July 16, 2011

ADJOURNMENT OF MONTHLY BOARD MEETING:

Glen Morin adjourned that meeting at 5:40pm.

PRESENTATION:

Craig Pozega, Great West Engineering, gave his presentation on the treatment site. See Appendix B.

Caroline Jenkins, Pathfinder, asked who set the standards for the Biochemical Oxygen Demand (BOD) in the effluent. Craig Pozega replied that the level originated from the Clean Water Act. The State had primacy on groundwater and surface water discharge permits.

Harold Sheets asked if it was cheaper to inject the effluent in to the ground or to irrigate. Craig Pozega said that he would get to that a little late in the presentation. The lagoon system was the first preferred alternative in the original Preliminary Engineering Report (PER). One of the reasons was that the Operation & Maintenance (O&M) was a considerably less expensive than for a more advanced treatment system. The cost of O&M was one of the ongoing hurdles. Grants could not be used to pay for O&M. A downfall with the storage and irrigation system was that it required a large area. The capital cost to build a storage and irrigation system was often about the same as to build a mechanical plant. The big difference was the O&M cost. Glen Morin said that the Board had been looking at 160 acres for the lagoon system. Could a smaller property be considered for that? Craig Pozega replied that it could not.

Craig Pozega said that a lagoon system was the minimum treatment required. An advanced treatment system should not be put in if it was not needed due to the high cost. Lagoons were great if the effluent was used to irrigate. Seeley Lake would have irrigated trees. Almost 20 acres were needed for the treatment lagoons and 130 acres for irrigation. A buffer area was needed for public health and safety issues. That was one of the reasons 160 acres was needed. To ascertain this number three things were considered:

1. How much water does it take to grow trees?
2. How much crop does it take to burnt up the nutrient?
3. How much water could be put on the soil before it became a problem?

From these three criteria the biggest number was taken and used for the size of the area needed. The land would have to be relatively level and several sites were identified. DNRC did not think that a wastewater treatment site was the best use of their land. There were many discussions with US Forest Service and their land was pursued. There were numerous reasons why that US Forest Service site did not work out. Caroline Jenkins, Pathfinder, asked if that site was the same as the current proposed location. Craig Pozega replied that it was not, it was closer to the airport. Caroline Jenkins, Pathfinder, asked if there were other sites that could have been considered for the lagoon system. Craig Pozega replied that there were no other feasible alternative sites. Glen Morin added that there were others that needed a great deal of excavation that would have raised the cost too much. Craig Pozega reviewed the numerous issues with the lagoon site.

Harold Sheets asked when they were originally talking to DNRC were they proposing a lagoon system. Craig Pozega replied that they were. Harold Sheets asked if they could talk to DNRC about a mechanical plant. Craig Pozega replied that they could.

Craig Pozega said that a good site could not be found for storage and irrigation. The next best alternative was to discharge to groundwater. He then reviewed the requirements for groundwater discharge.

Caroline Jenkins , Pathfinder, questioned if nitrogen was indicative of human waste. Cr aig Pozega replied that it was. Caroline Jenkins, Pathfinder, questioned the source of phosphorus. Craig Pozega said that one of the sources was detergent.

Dave Whitesitt asked if the District had the groundwater permit. Craig Pozega said that to date the District did not have the groundwater discharge permit. It was required that the monitoring wells be studied for three quarters. Glen Morin added that was what the District was currently doing. Craig Pozega said that the three quarters had to include the high groundwater season. After this current quarter the District would have enough information to apply for the groundwater permit. The District would have to meet the State requirement at the end of the mixing zone. This requirement would be met when the effluent entered the ground whereby avoiding the need for a mixing zone. This was a very conservative approach and would mean that the permit would be easier to obtain.

Glen Morin questioned that a nitrate level of 7mg/l would be the limit allowed. Craig Pozega replied that would be the maximum that they would want to ever come out at the end of the pipe. The plant would treat to 5-6 mg/l. Glen Morin asked how long it would take for the ground to lower that level. Craig Pozega replied that it depended on the hydrogeology of the area. Glen Morin said that the when they began monitoring the wells around downtown the nitrogen level was 5mg/l and it had risen to 12mg/l. Craig Pozega said a new septic system functioning properly discharged nitrogen at 50mg/l. A level two septic system with more advanced treatment discharged nitrogen at 24 mg/l. Caroline Jenkins, Pathfinder, noted that the level two systems were required by the Health Department in certain areas of town because of the high nitrogen levels.

Craig Pozega said that the Sequencing Batch Reactor (SBR) treated to the level required to discharge to groundwater, whereby the District should not have any permit issues. An SBR was very easily automated. It was a mechanical plant, but it was simpler to run than some others. It was easily expanded, and had a small footprint. Compared to other mechanical treatment options it had a lower capital cost. The District would build the treatment plant in two phases. The first phase would handle half of the flow, and the second phase would cover everything else that was planned.

At this point the District had sent out a Request for Proposals (RFP) for treatment alternatives and received three SBR treatment proposals from the three main manufacturers in the US. Those now have to be scored. He then explained how the SBR worked.

Caroline Jenkins, Pathfinder, asked what caused the variation in the level of nitrates in the effluent. Craig Pozega replied that getting the plant dialed in had a lot to do with it. Caroline Jenkins, Pathfinder, asked if that was just when the plant was started up or did it always fluctuate. Craig Pozega said that there would be variations, especially going from low to high populations as happened in Seeley Lake during the summer. The plant would transition over time. Caroline Jenkins, Pathfinder, asked if the effluent had a nitrogen level of 7mg/l how quickly could the plant be adjusted to get that level down to 6mg/l. Craig Pozega replied that sampling would be done so you would know what was happening with the treatment. There were indicators that could be monitored and the flow would be taken in to consideration. The plant was easily automated and had systems that could monitor the flow. SBR plants had been around for a long time and the automation could handle issues such as that. Caroline Jenkins, Pathfinder, asked where the parallel redundancy was. Craig Pozega replied that the parallel

redundancy was on the back end of the plant.

Harold Sheets asked because the plant was mechanical would it break down. Craig Pozega replied that there was redundancy so that would not happen. There was double everything so that the plant would not totally fail. Also for crucial elements there would be a spare on the shelf. Caroline Jenkins asked if there was also a backup computer that could calculate the levels. Craig Pozega said that once the cycle times were pinned down it would run really well by itself. As a backup the plant could be run manually. Caroline Jenkins, Pathfinder, noted that was one of the questions that had come up. Total plant failure causing sewage to pour in to the creek was a legitimate concern of the public. It was important for the community to know that these parallel backups would be in place, whereby preventing sewage from running in to the creeks. Craig Pozega said that was his concern, as well as the Board's. DEQ also reviewed those kinds of issues very thoroughly.

Dave Whitesitt asked what the minimum input temperature of the sewage was. During the winter the city water comes out of the faucet at around 40°F/4°C. The sewage would probably not be much warmer than that. Craig Pozega replied that the minimum temperature where problems started to happen was less than 45°F/7°C. That should not be an issue. He was not aware of any similar plant having an issue with temperature. It would be reviewed during design.

Craig then showed a schematic of the plant and explained how it worked.

Caroline Jenkins, Pathfinder, asked if because of the heat would there be fans to pump air out and would that have odor. Craig Pozega replied that there was odor associated with everything; he did not think it was bad. The treatment plant in Rey was surrounded by homes and they had not received any complaints that he knew of.

Craig Pozega explained that the sludge/biosolids were pumped out in an SBR. In a lagoon system it sat in the bottom of the lagoon and was dredged out every 20 years. Sludge could be taken to a landfill, it could be added to field like fertilizer, it could be used as compost, or it could be incinerated. Seeley Lake would take the sludge to the landfill, partly due to the climate.

Diane Braach asked how many households the Rey treatment plant served. Craig Pozega said that he was not sure. The treatment plant's flow was approximately 120,000 gallons per day. Caroline Jenkins, Pathfinder asked, what the flow would be in Seeley Lake. Craig Pozega replied that the flow for phase I would be approximately 93,000 gallons per day. When all phases were built out the flow would be 330,000 gallons per day.

Dave Guelff asked how much sludge would be produced per year and how much would it cost to haul it to Missoula. Craig Pozega said that he did not have that number in his head. The sludge would probably have to be hauled once a week.

There were many different methods to dry the sludge, which all dried to approximately 20% solids and 80% water. A polymer could help the sludge dry. In East Helena the sludge was pumped to drying beds, and then it was loaded on to a truck and hauled away.

All of these options had to be considered when finding a site. The lagoon system and the land negotiations all came to a standstill in 2008. At that point we had to take a step back and in

conjuncture with the District started to look for a new site. In 2010 the District and their manager worked very hard trying to identify a site. Great West Engineering reviewed landownership, topography, the collection system and groundwater. There needed to be a minimum 4 feet of separation between groundwater and discharge. The further away the treatment site was from the collection system the more expensive it would be.

Harold Sheets asked if the District had to be as big as it was. Mike Lindemer said that the bigger the District the less expensive it would be for everybody. Craig Pozega added that the more people there were in a high density would be the best situation for cost share.

The District would be discharging the effluent to groundwater. Therefore soil parameters had to be considered. For the infiltration test the soil was saturated before beginning the data collection. This test was similar to a percolation test for a drain field.

Dave Guelff asked how many acres the District was looking at. Craig Pozega replied that the site was approximately 25 acres. It would be dependent on how the US Forest Service wanted to sell the land. Diane Braach asked if the US Forest Service had given the District a cost estimate. Craig Pozega replied that the property would cost fare market value.

The availability of land was a big problem. The District identified the Town Site Act as a mechanism for land acquisition. The Town Site Act enabled a community to put in infrastructure and use US Forest Service land. It was not used very often. The land the District was pursing met the criteria of the Town Site Act. Caroline Jenkins, Pathfinder, asked what the advantage of the Town Site Act was. Craig Pozega replied that the District could get the land. Usually the US Forest Service did not sell land. Harold Sheets questioned the possibility of State land. Craig Pozega said that to this point the State had not wanted the District to use their land for a treatment plant. They could be approached again. Currently US Forest Service had accepted the application for the proposed site using the Town Site Act. The US Forest Service environmental process had started. Dave Guelff asked who paid for US Forest Service work. Craig Pozega said that the District did. US Forest Service was writing the scope and nothing was on the clock until after that was finished and they met with the District.

Three test wells were installed on the site and flooded basin tests were performed. Great West Engineering gathered the data for these tests and then analyzed it. There had been a lot of concern that the area was saturated, which were very valid concerns. Using the information that was gathered on site GWE determined the capacity of the soil. Several tests were performed and they used the most conservative test. Only 10% of that capacity was used for sizing the area of disposal. The effluent would be disposed via pressured lines to infiltration galleries. This would be 5,180 square feet and approximately 18,000 square feet after total build out.

Craig Pozega said that the wells were still being monitored. This quarter's samples were just completed. He then reviewed the map of the proposed site.

Caroline Jenkins, Pathfinder said that DEQ had written a letter expressing concerns over the proposed site. Bob Skiles said that every site has potential problems and DEQ wanted to make sure that the site was thoroughly investigated. Craig Pozega said that DEQ was concerned that the District might have been getting ahead of itself and wanted to make sure that everything was being done to investigate the site. Bob Skiles said that DEQ wanted the District to have a

site before they started spending certain grant funds. They did not say there was a problem with the site. They only said that there was a problem with the site because the District did not have the funds. Glen Morin said that the site would not be their choice because it was close to the lake. DEQ wrote the letter so that the District did everything that they could to make sure that it was a good site. DEQ had said that it was basically a form letter.

Dave Guelff asked where this would be 20 years down the road. According to the Seeley Lake land-use plan he alone could put 700 houses on his property. Could the treatment plant handle that? Craig Pozega said that there was room for expansion, but an additional 700 homes was a lot. From an economic aspect for Dave Guelff it might be cheaper to do something for 700 homes than to try to expand the sewer system. If the town was going to grow with that much density it might be better to look at another site that could handle the future expansion of the town. Glen Morin questioned if Dave Guelff meant 700 additional homes. Dave Guelff said that he owns 180 acres, which was slated for 4 houses per acre. If other properties around there did the same thing the population could be doubled and tripled. Craig Pozega said that there was room for extra capacity in disposal and adding extra capacity to the treatment plant would be simple. For that kind of growth the plant could be expanded and then the effluent could be pumped to another site.

Craig Pozega said that as far as expansion and growth Seeley Lake could benefit from the mistakes that were made in Bozeman and the Flathead. Communities that felt they were going to expand rapidly built the infrastructure to accommodate the growth. The people that are there were now are paying for that infrastructure and will continue to do so until the growth happens. The best-case scenario was that the growth does happen and the implementation of an impact fee would then reimburse the community for the cost of the infrastructure. The worst thing would be that the growth does happen and they are saddled with that cost forever.

Caroline Jenkins, Pathfinder, noted that Dave Guelff was not suggesting that the plant be expanded, but if the growth came could the plant be expanded on this site. Craig Pozega said that they looked in to the future 20 years. The map was the District's vision of 20 years down the road. Adding four phases was aggressive growth. Growth could happen, but in a different way and not how they had envisioned it. Maybe Phase IV was not ready to go, but another area was. Phase IV could be moved to where the growth was. Everything was in place to handle 328,000 gallons per day and there were expansion options beyond that. The hard part was the disposal site.

The next step was geotechnical evaluation and then the final design. Patrick Constantinides asked if the cost was still $10-18 million. Glen Morin said that it was more like $10-12 million.

NEXT REGULARLY SCHEDULED MEETING: July 21, 2011

ADJOURNMENT OF THE PRESENTATION:

Glen Morin adjourned the presentation at 7:12pm.

A trip to the proposed site followed.

Attest:

Glen Morin, President

Felicity Derry, Secretary

APPENDIX A

SEELEY LAKE – MISSOULA COUNTY SEWER DISTRICT
Monthly Board Meeting, Community Hall
June 16, 2011

NAME	ADDRESS/EMAIL	PHONE #
Diane Braack	SLK2354@blackfoot.net	677-2354
Hal Spitts	B. 357 Seeley	677-3108
Curt Winther	POB 1070 SEELEY	677 3199

APPENDIX B

SEELEY LAKE SEWER DISTRICT

Wastewater System Improvements

June 16, 2011

Presented by:

Craig Pozega, PE

GreatWest engineering

WASTEWATER TREATMENT SITE SELECTION

- Site selection is dependent on several things:
  - Method of Discharge
  - Level of Treatment
  - Type of Treatment
- Seeley Lake Alternatives:
  - Lagoon Treatment – Storage & Irrigation
  - Biological Nutrient Removal – SBR
- What has been done for Seeley's site selection so far?

Effluent Has Only Two Places To Go: Surface Water and/or Groundwater

- What we do with the treated wastewater defines what's needed for treatment
  - Surface Water Discharges
  - Reuse
  - Groundwater Discharges
- Biosolids Treatment requirements are defined similarly

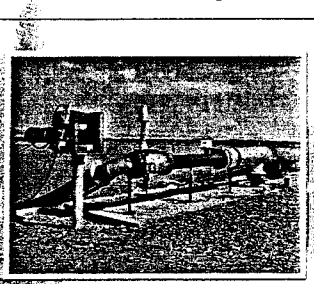
Planning to Meet Effluent Limits Drives Level of Treatment

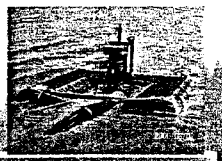
- Treating to the appropriate level is important
- Over treating can result in additional costs for no benefit
- Determining the desired effluent level of BOD, TSS, TN, and TP will allow cost optimization for the rate-payers

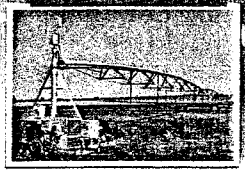
Lagoon Treatment Storage & Irrigation

- Lagoon Treatment
  - Medium space
  - Medium capital cost
  - Low O&M cost
  - Simple O&M
  - Not viable for groundwater and surface water disposal because of low & variable treatment performance
  - Irrigation & evaporation disposal only

Storage & Irrigation







Storage & Irrigation

- Preliminary analysis:
  - 20 acres for treatment and storage ponds
  - 130 acres for irrigation
  - Slopes <1% preferable, but 2-4% is acceptable
  - Lagoons should not be near occupied residences and/or businesses
- Two feasible sites identified:
  - DNRC
  - USFS

Storage & Irrigation Treatment Sites

- State Lands
  - DNRC Nov. 7, 2005 letter states they "don't believe that DNRC land is best suited for this use".
- Forest Service & Private Lands
  - Steep Slope
  - Bull Trout, Grizzly Bears
  - Pumping distance
  - Winter access
  - Snowmobile trail
  - High ground water (4 feet)
  - Close to surface water
  - Large land area required

Groundwater Permit

- Total Nitrogen
  - Phase 1: 7.5 mg/L
  - All Phases: 7.5 mg/L
- Total Phosphorus
  - Phase 1: 2.0 mg/L
  - All Phases: 0.58 mg/L
- BOD_5 & TSS
  - Phase 1: 10 mg/L
  - All Phases: 10 mg/L

Wastewater Technologies

Treatment type	Attainable Wastewater Quality
Total Retention Lagoons (evaporation)	Non-Discharging
Facultative Lagoon with Irrigation	Non-Discharging
Mechanically aerated lagoon with irrigation	Non-Discharging
Activated sludge mechanical plant with irrigation	Nondischarging
NITROGEN REMOVING TECHNOLOGY-BIOLOGICAL NUTRIENT REMOVAL (BNR)	
Oxidation ditch mechanical plant	8-10 mg/l - Total Nitrogen
Biotac (proprietary) activated sludge process	10-15 mg/l – Total Nitrogen
Fixed film Activated Sludge	10 mg/l Total Nitrogen
Sequencing batch reactor mechanical plant (SBR)	5-6 mg/l Total Nitrogen
Orbi/Aerobic advanced treatment plant	3-5 mg/l Total Nitrogen
Membrane Bioreactor (MBR)	3-5 mg/l Total Nitrogen (Excellent BOD and TSS Removal)
Wetland ponds/Floating Islands	Winter limitations

There are many types of fixed film systems, including rotating biological contractor, trickling filters, etc.

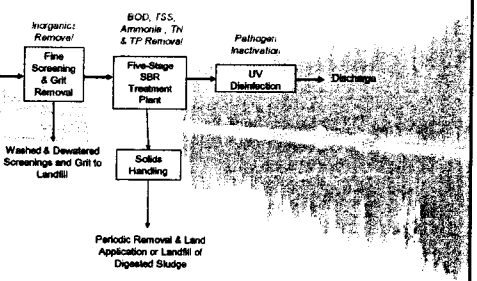
Preferred Alternative-SBR

- Sequencing Batch Reactors (SBR)
  - Low Space Requirement
  - Reliable Nitrogen Removal – 5-7 mg/l
  - Easily Automated
  - Relatively Simple O&M
  - Expandable
  - Lower O&M Cost Than Most Mechanical Plants
  - Lower Capital Cost Than Most Mechanical Plants

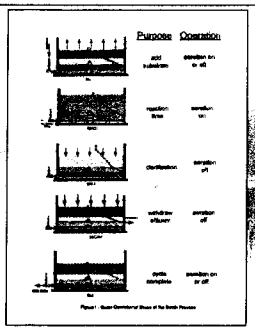
Preferred Alternative-SBR

- Sequencing Batch Reactor
  - Phased Approach
  - Request For Proposal
    - 3 Proposals Were Submitted
      - Aqua-Aerobic Systems, Inc.
      - Siemens
      - ITT Solutions
    - Currently in The Process of Scoring Proposals

Sequencing Batch Reactor (SBR)



PREFERRED ALTERNATIVE-SBR



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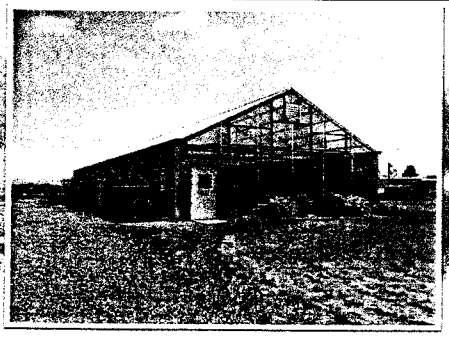
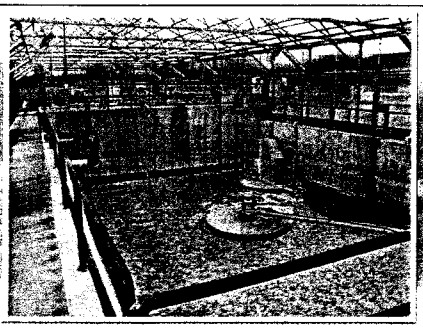


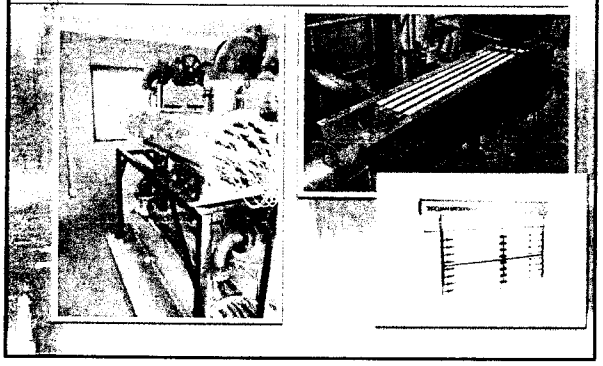
Screening & Grit Removal

Screening & Grit Removal

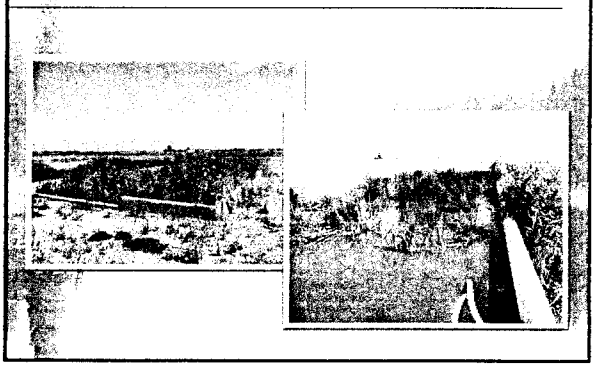
Sequencing Batch Reactor Basins



U.V. DISINFECTION



Biosolids Treatment



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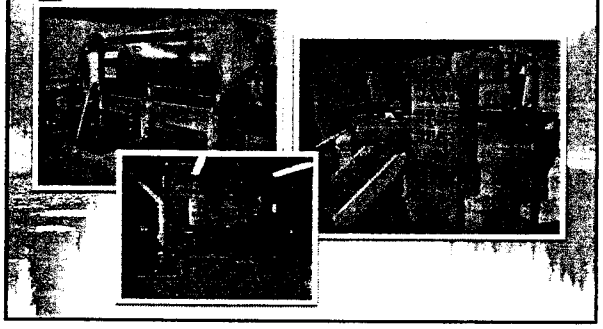
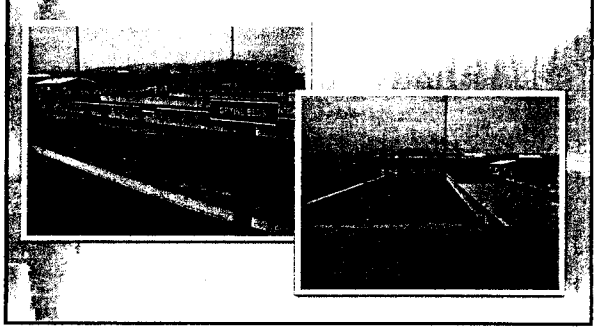
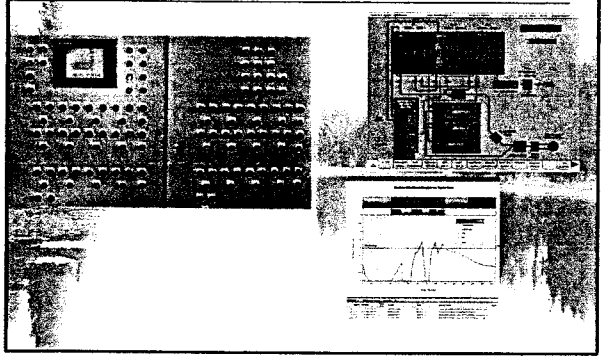


Biosolids Treatment

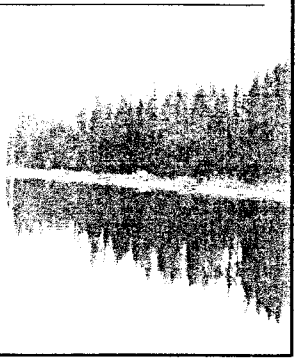


Treatment Plant Controls

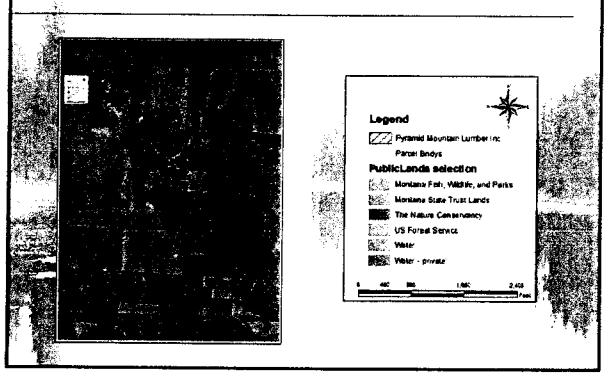


Some Criteria to Identify Treatment & Disposal Sites

- Land use
- Land ownership
- Wastewater type
- Population density
- Daily flow
- Lay of the land
- Environmental concerns
- Historical sites
- Wetlands
- Endangered species
- Constructability
- Aesthetics
- Ordinances
- Available utilities
- Rights-of-way
- Groundwater quality
- Depth to groundwater
- Soil conditions
- District priorities
- Public opinion
- Topography
- Slope



Land Ownership Maps



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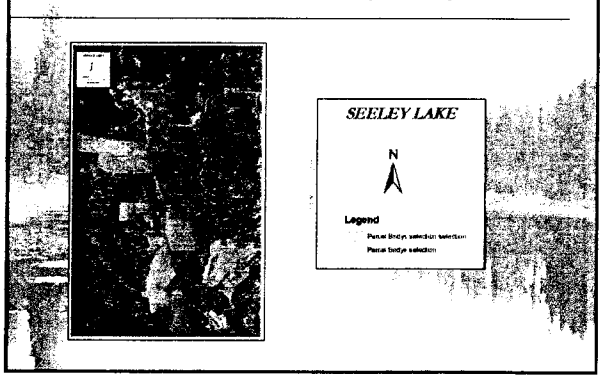
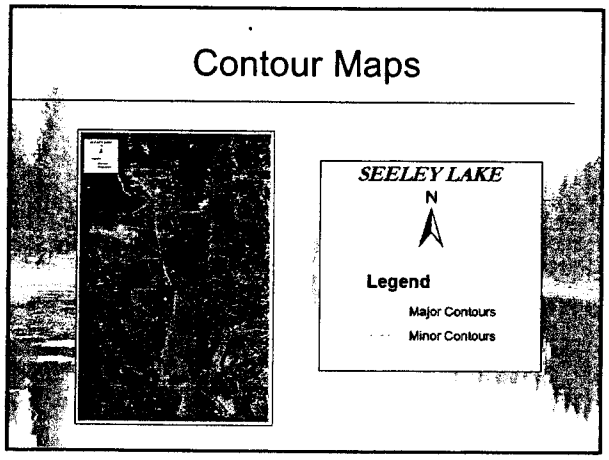


Contour Maps



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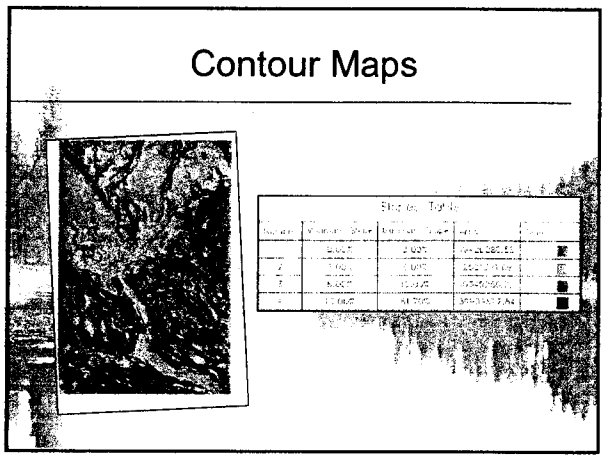
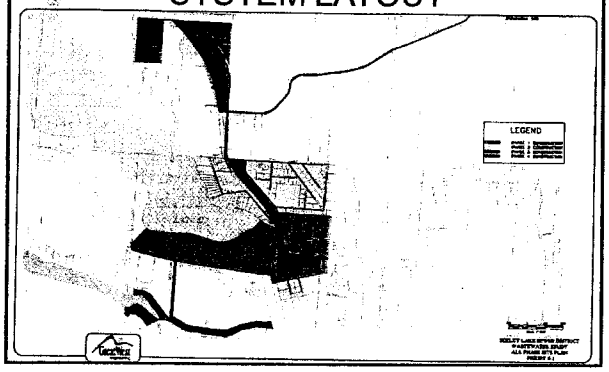


PROPOSED COLLECTION SYSTEM LAYOUT



Definitions

Infiltration - The downward entry of water into the immediate surface of soil or other materials.

Infiltration Capacity- The maximum rate at which water can infiltrate into a soil under a given set of conditions.

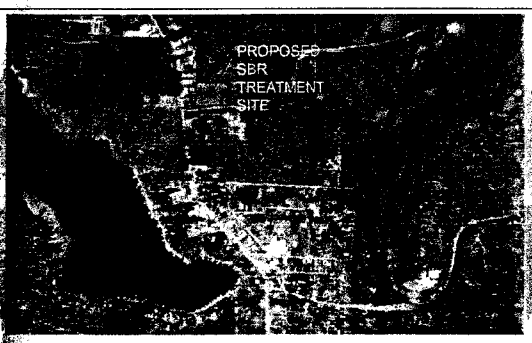
Infiltration Rate- The rate at which water penetrates the surface of the soil and expressed in cm/hr, mm/hr, or inches/hr. The rate of infiltration is limited by the capacity of the soil and rate at which water is applied to the surface. This is a volume flux of water flowing into the profile per unit of soil surface area (expressed as a velocity).

Percolation -Vertical and **Lateral** Movement of water through the soil by gravity.

Infiltration Rate and Capacity

- Soil Factors that Control Infiltration Rate:
  - Vegetative Cover, Root Development and Organic Content
  - Moisture Content
  - Soil Texture and Structure
  - Porosity and Permeability
  - Soil Compaction
  - Slope
  - Topography

TREATMENT SYSTEM LOCATION



Townsite Act

- National Forest System lands may be set aside and designated for townsite purposes, based on a qualified application from a community.
- The policy weighs the conveyance of forest land against the community's capability of meeting the needs by other means or acquisition of other available land (private, local government, State, or other Federal).
- Seeley Lake application submitted in December, 2010 has been accepted.

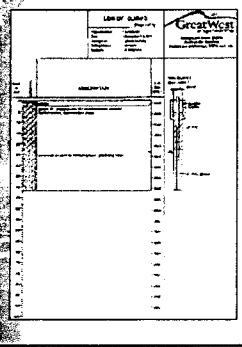
Proposed Treatment Site Infiltration Rate and Capacity

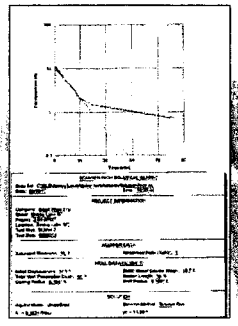
- Phase I Design Flow
  - 93,000 gallons per day
- All Phases Design Flow
  - 328,000 gallons per day
- Flooded Basin Tests
  - Between 0.200 in/min and 0.283 in/min infiltration rate
- Design for 10% of infiltration capacity
  - Between 0.0200 in/min and 0.0283 in/min
- Area required for Phase 1
  - 5,180 sf (based on lowest infiltration rate)
- Area required for All Phases
  - 18,270 sf (based on lowest infiltration rate)

Ongoing Groundwater Monitoring

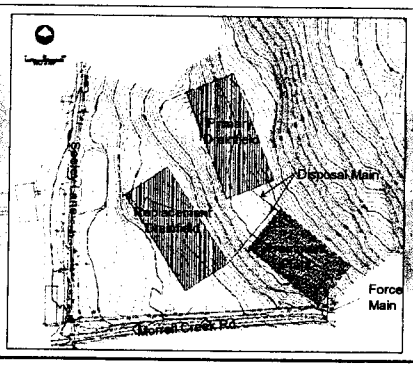
- Depth to Groundwater
  - Monitoring Well #1: 81-90 ft (Dec. 2010 – Jun. 2011)
  - Monitoring Well #2: 18-21 ft (Dec. 2010 – Jun. 2011)
  - Monitoring Well #3: 18-26.5 ft (Dec. 2010 – Jun. 2011)
- Monitoring Parameters
  - Chloride
  - Fecal Coliform
  - Conductivity
  - Nitrate + Nitrite, Total
  - TOC
  - pH
  - TDS
  - TKN

Ongoing Groundwater Monitoring





Proposed Site Plan



Site Evaluation Process

- **Step 1: Desktop Assessment - GIS**
  - Review published data related to soils, geology, hydrology
- **Step 2: Characterize the Hydrological Setting**
- **Step 3: On-Site Assessment**
  - Monitoring well installation
  - Pump testing for aquifer characteristics
  - Flooded Basin Testing
- **Step 4: Engineering Review and Evaluation**
- **Step 5: Additional Infiltration or On-site Testing**
- **Step 6: Final Design**

THANK YOU FOR YOUR TIME

QUESTIONS?

GreatWest engineering