

# Lake Chelan Reclamation District

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## Northshore Sewer Interceptor Preferred Alternative

The Facilities Plan for the Northshore Sewer Interceptor is nearly done and ready for adoption. The plan has a final recommended alternative that was determined to best meet the criteria of capacity, capital cost, odor control, reliability, O&M costs, environmental impacts and regulatory constraints and permitting. This preferred alternative is the so called "high-pressure route" that will upsize the sewer lift station at Madeline Road and SR 150 to pump sewage from Manson directly to the discharge point near Golf Course Road in Chelan through a dual force main system. The other three lift stations will be reconfigured to either pump back to the Madeline Road lift station or to inject the locally collected sewage directly into the new dual force main.

The existing force main will be replaced with two high-pressure pipes that can better accommodate the seasonal wastewater flows that are indicative of the Chelan Basin. In addition, low-pressure force mains will be added parallel to the new high-pressure pipes to provide reliable low-pressure service connections for existing and future customers.

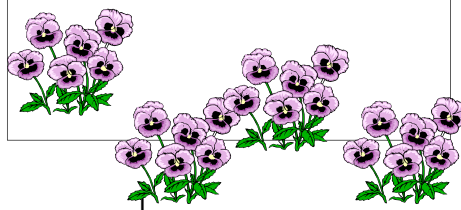
The project will meet the projected demands for the next 20-year growth cycle. It is consistent in size and scope with the improvements outlined by the City of Chelan for the Wastewater Treatment Plant.

## Watershed health

A healthy watershed is one that is in harmony with the needs of people, the land, and natural resources. We give back to the land by managing the soil, water, air, plants, and animals so that our watersheds



will sustain us for generations to come. Healthy watersheds can provide for stable local economies that enable people to enjoy a quality life and a quality environment. Caring for the world around us is everyone's responsibility. Whether you live in a city or on a farm, what you do can keep water clean and soil from washing away. The delicate balance of nature depends on you to keep it in harmony.

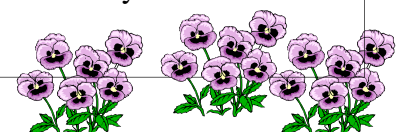


## Consumer Confidence Report

This newsletter contains an insert known as a Consumer Confidence Report. This report contains information about all the testing that is required of our drinking water. You will find that the drinking water from the Lake Chelan Reclamation District is very clean and healthy. Nevertheless, our federal and state governments want us to convey to you the actual amounts of various detected compounds in our water. If you have a n y

*“drinking water  
from the LCRD  
is very clean*

questions or concerns about what you read in this report please let us know. We want you to have as much confidence in your drinking water as we do. If we can answer a n y



## Global Positioning Systems – Harnessing the Satellites in the Sky



The District is developing a geographic information system (GIS) for the District that will help us on a number of projects including facilities management, hydraulic modeling, assessment role preparation and water spreading. One of the keys to getting the various pieces of information properly accounted for is to physically reference the huge number of monuments, valves, manholes, hydrants and meters on the irrigation, domestic and sewer systems. The plan is to do this reference work with a resource grade global positioning system (GPS). GPS units are sophisticated receivers that use signals from various special satellites in orbit around the earth to calculate your position on the earth. Resource grade GPS units can provide reliable sub-meter positional accuracy that can also be mathematically improved to even closer tolerances. Not every physical feature will need to be referenced, but enough features will need to be identified to properly orient our maps and facilities with the aerial photography that was done last fall. The GIS will then correlate the electronic database of customer information we have accumulated with a map object. The ability to query various parameters at one time is the strength of a GIS system.

If you see someone from the District out on the project with a yellow backpack and what looks like a Frisbee on a pole, you will know we are not looking for gold or witching for water. We are using some of the latest GPS technology to work harder for you. When all of the data comes together we will become much more capable of managing your accounts, managing your facilities and providing you a higher level of customer service.

## WASTEWATER TREATMENT PLANT UPGRADE

The City of Chelan is nearing completion of construction on an upgrade to the Wastewater Treatment Plant located near the Chelan Dam and also at Chelan Falls. This upgrade will do a number of things for the community in preparation for additional growth and to meet new water quality discharge standards for the Columbia River. The present wastewater treatment plant is divided into two parts and is physically located in two locations. The primary treatment is done near the Chelan Dam adjacent to a portion of the Chelan Gorge. The partially treated effluent is then pumped over the hill to the secondary treatment plant near Chelan Falls. At the secondary plant, the sewage is treated to state standards, chlorinated, and discharged to the Columbia River. The capacity of the existing plants is 1.47 million gallons per day (mgd).

The proposed wastewater treatment plant upgrade is being planned in two stages. The first stage, being completed this summer, will increase the capacity to 1.77 mgd. The project includes a new primary clarifier, an upgrade to the transfer lift station, two new secondary clarifiers, another train of rotating biological contactors and a replacement of the chlorine disinfection system with an ozone treatment system. The cost of the first stage is \$5.63 million dollars. The second phase will be done in approximately the year 2010 at a cost of \$5.86 million dollars. The second phase will increase the capacity to 2.66 mgd.

Some of the benefits of this first stage upgrade will be a reduced odor at the primary treatment plant. People have complained about the odors in the vicinity of the baseball fields for years. This upgrade will move most of the processes to the secondary plant location and all but eliminate those odors. Another important aspect of the upgrade is reducing the risk of discharges in the Columbia River to endangered or threatened species. The switch from chlorine disinfection to ozone disinfection will eliminate the potential of chlorine disinfection compounds from hurting fish. Finally, the first stage improvement will allow for additional capacity in the system without ever facing a moratorium against growth.

So, what is the bad news? The bad news is that the Lake Chelan Reclamation District is responsible to pay for approximately 25% of the costs. This will be in the form of a cash payment of \$175,000 and debt service over 20 years for the balance of \$992,000. The debt service will be part of a Public Works Trust Fund loan at 0.5%. These improvements, along with the Northshore Sewer Interceptor Replacement Project are why sewer rates will increase a few dollars per month over the next several years.

# CONSUMER CONFIDENCE REPORT

The Lake Chelan Reclamation District has been in the domestic drinking water business since 1922. The service area originally included only the downtown area of Manson and the Hyacinth Road with service to a couple hundred people. Now the District serves as many as 6,000 people in an area from Loop Avenue to Rocky Point. The LCRD is governed by a five-person Board of Directors that meets the second Tuesday of every month at 8:00 a.m. at the District offices at 80 Wapato Way in Manson.

The LCRD diverts water directly out of Lake Chelan at two locations. The Manson Intake extends 100 feet out into Lake Chelan and pumps water out of Manson Bay. The Lakeshore Intake is located approximately 2 miles uplake from Manson and was started originally as an irrigation intake which was later converted to a domestic intake in 1974. With the construction of the Water Treatment Plant in 1998, the system was changed and both intakes were piped to send lake water to the Water Treatment Plant to prior to distribution in the system.

Este informe contiene informaci3n muy importante sobre su agua beber. Trad3zcalo 3 hable con alguien que lo entienda bien.

This report contains important information about your drinking water. Last year, as in years past, your tap water met all EPA and state drinking water health standards. The LCRD vigilantly safeguards its water supplies and once again we are pleased to report that our system has never violated a maximum contaminant level or any other water quality standard. This bulletin is a snapshot of last year's water quality. Included are details of where your water comes from, what compounds were detected in the water, and how those detected compounds compare to EPA and state standards. If you have any questions about this report please contact Paul Cross at 509.687.3548.

The source of drinking water for our system is Lake Chelan. Contaminants that may be present in the source water include:

- Microbial contaminants, such as viruses and bacteria, which may come from human wastes, septic systems, livestock and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban stormwater runoff, industrial or domestic waste, mining or forestry.
- Pesticides and herbicides, which may come from a variety of sources such as lawn applications, orchards and stormwater runoff.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industry and petroleum, and come from gas stations, urban stormwater runoff, septic systems, boats and personal watercraft.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (1.800.426.4791).

Some people may be more vulnerable to contaminants in drinking water than the general population. Immune-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (1.800.426.4791).



## Manson Lakes Water Quality Assessment



Wapato, Roses and Dry Lakes are the subject of a study being done this summer and next by the District. Roses Lake is listed by the Washington State Department of Ecology as water quality impaired. The state's 303 (d) list of impaired water bodies shows Roses Lake as having fish containing the pesticide residual 4,4' - DDE, which is one of the byproducts of the DDT. DDT was used as a pesticide in apple orchards between 1948 and 1972 and remains persistent in the environment. There is also a concern that Wapato, Roses and Dry Lakes contribute significant amounts of phosphorus to Lake Chelan. Phosphorus is the limiting nutrient in Lake Chelan that if added to the lake in large quantities, would significantly reduce the lake clarity.

The District wants to know about the distribution and extent of 4,4'- DDE and phosphorus in the Wapato, Roses and Dry Lake systems. We are also studying the effects of using submerged aquatic vegetation (SAV) filters to remove phosphorus from the water. With the generosity of John Pickens and family, we have built a three chamber pilot project to test the removal phosphorus efficiency of SAV filters at different flow rates. The preliminary results are encouraging and we hope to apply the concept on a full-scale project in the near future. This is another pro-active project the Board of Directors is doing to improve water quality in Lake Chelan. The ultimate goal of the studies is to develop lake management plans for Wapato, Roses and Dry Lakes that will protect and enhance their intended uses.

## Alternatives to Pesticides and Chemicals

When used incorrectly, pesticides can pollute water. They also kill beneficial as well as harmful insects. Natural alternatives prevent both of these events from occurring and save you money. Consider using natural alternatives for chemical pesticides: Non-detergent insecticidal soaps, garlic, hot pepper sprays, 1 teaspoon of liquid soap in a gallon of water, used dishwasher, or forceful stream of water to dislodge insects.

### PEST

Ant  
Aphids  
Bean Leaf Beetle  
Codling Moth  
Colorado Potato Bug  
Cucumber Beetle  
Flea Beetle  
Imported Cabbage Worm  
Japanese Beetle  
Leaf Hopper  
Mexican Bean Beetle  
Mice  
Root Knot Nematodes  
Slugs  
Spider Mites Squash Bug  
Squash Bugs  
Stink bug  
Thrips  
Tomato Hornworm  
Whitefly

### PLANT REPELLENT

mint, tansy, pennyroyal  
mint, garlic, chives, coriander, anise  
potato, onion, turnip  
common oleander  
green beans, coriander, nasturtium  
radish, tansy  
garlic, onion, mint  
mint, sage rosemary, hyssop  
garlic, larkspur, tansy, rue, geranium  
geranium, petunia  
potato, onion, garlic, radish, petunia, marigolds  
onion  
French marigolds  
prostrate rosemary, wormwood  
onion, garlic, cloves, chives  
radish, marigolds, tansy, nasturtium  
radish  
marigolds  
marigolds, sage, borage  
marigolds, nasturtium





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Reclamation District  
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In This Issue...

2002 Consumers Confidence Report

## Irrigation Water Orders

It is that time again when water orders are critical to the successful operation of the irrigation system. We would like everyone to order their water both on and off. When you call in we would like the name, turnout, the gallons per minute or cubic feet per minute and the expected date when you will be done. The gallons per minute or cubic feet per minute is fairly easy to determine. Simply turn on the water you want to run and observe the flow meter in the turnout. The flow rate can be calculated by counting the number of revolutions the register turns in one minute. For a two inch and smaller this count equals the number of cubic feet per minute. For a three or four inch meter, multiply the count by ten for the number of cubic feet per minute. Six inch meters must be multiplied by 100. Once you have the

flow rate in cubic feet per minute you can call in and order your water. If you want to know how many gallons per minute that flow equals, simply multiply your cubic feet per minute by 7.5.

More people regularly ordered their water in 2001 than did not. When combined with rationing the net result was that the entire system never shut down from over use. It was a very smooth year of operations. Your cooperation has worked to make the system work better. Keep it up! Rationing at ten gallons per minute per acre is in effect now. Rationing at eight gallons per minute per acre on the upper systems will likely begin about the first of July. Keep in

