



**MINUTES OF THE REGULAR MEETING OF THE
ENGLISHMAN RIVER WATER SERVICE (ERWS) MANAGEMENT BOARD
HELD ON THURSDAY, JUNE 6, 2013
Immediately following the AWS Management Board Meeting
IN THE PARKSVILLE FORUM**

Present:

Director J. Stanhope, Chair	Regional District of Nanaimo
Director G. Holme	Regional District of Nanaimo (alternate)
Councillor M. Lefebvre	City of Parksville
Mayor C. Burger	City of Parksville

Also in Attendance:

P. Thorkelsson	Regional District of Nanaimo
M. Donnelly	Regional District of Nanaimo
W. Idema	Regional District of Nanaimo
F. Manson	City of Parksville
M. Squire	City of Parksville
S. Tanner	Town of Qualicum Beach
B. Weir	Town of Qualicum Beach
R. Graves	Recording Secretary

Regrets:

M. Brown	Town of Qualicum Beach
J. Marsh	Town of Qualicum Beach

CALL TO ORDER

Chair Stanhope called the meeting to order at 2:15 PM.

DELEGATIONS

MINUTES

MOVED Director Holme, SECONDED Director Lefebvre, that the minutes from the regular meeting of the Englishman River Water Service Management Board held December 10, 2012, be adopted.

CARRIED

BUSINESS ARISING FROM THE MINUTES

COMMUNICATIONS/CORRESPONDENCE

REPORTS

ASR Project Update D. Lowen, Lowen Hydrogeology (Powerpoint Presentation)

D. Lowen reviewed the slides and provided the members with an update on the ASR Project.

Recently a review had been done on existing data to identify the target areas south of Parksville for suitable sites for the ASR wells. The assumed ASR well average rating from what was seen in our exploration program is that 9-10 litre per second (L/s) is feasible and this amount could potentially supply 300 houses. Eight wells at 9L per second per well are proposed for the first phase ASR well field. Five test wells have been drilled, 3 of the wells were outside the high capacity aquifer and two were inside. A well report was completed for the ASR test well that was drilled on RDN owned land on Kaye Road. Aquifer delineation work to date indicates that there are 39 potential ASR well sites in the study area.

D. Lowen discussed the work schedule and it is expected that they will be finished construction of the 12-inch diameter cycle testing well by the end of June and equip the well early July. At that time injecting the water will start and possibly have water into the ground by mid-July. It is expected that at the end of October we can start producing from the well for at least 3 months until end of January. Analyzing the water at that time, will tell if there are any chemical issues, water quality issues or production issues. It is a short production period but it will allow us to see how the water is reacting. If this schedule is maintained the entire Total Storage Volume (TSV) for a single well will be injected and 70% recovered.

MOVED Director Lefebvre, SECONDED Director Burger that the verbal and visual reports be received.

CARRIED

ERWS Joint Venture Draft Financial Statement – McGorman Maclean – M. Lefebvre

F. Manson reviewed the Draft Financial Statement with the members as there was no representative available from McGorman Maclean. M. Lefebvre read the opinion from the Auditor's report.

MOVED Director Lefebvre, SECONDED Director Holme, the Draft Financial Statement year ending December 2012 be approved.

CARRIED

Information Report re French Creek Bulk Water Service Area - M. Donnelly

M. Donnelly summarized the report in regards to the French Creek Resident's Association having requested that their bulk water service area be removed from the Englishman River Water Service joint venture agreement. Removal from the agreement allows the Nanoose Bulk Water Service Area to receive the 9.3% allocated to the French Creek Bulk Water Service Area .

1. MOVED Director Holme, SECONDED Director Lefebvre, that the Englishman River Water Service First Amendment Agreement be approved.
CARRIED

2. MOVED Director Lefebvre, SECONDED Director Burger, that the Bylaw to Amend the French Creek Bulk Water Supply Local Service Area Establishment Bylaw No. 1050, 1996 Amendment Bylaw No. 1050-06 2013 be approved.
CARRIED

3. MOVED Director Burger, SECONDED Director Lefebvre, that the Bylaw to Amend the Regional District of Nanaimo French Creek Bulk Water Local Service Area Development Cost Charge Bylaw No. 1089, 1997 Amendment Bylaw No. 1089-04 2013 be approved.
CARRIED

Consultant Selection for Next Phases – M. Squire

Mike Squire read the report summary to the Board. (Report is attached).

MOVED Director Holme, SECONDED Director Burger that the verbal report be received.

CARRIED

ADDENDUM

BUSINESS ARISING FROM DELEGATIONS OR COMMUNICATIONS

NEW BUSINESS

OTHER

IN CAMERA

NEXT MEETING will be at the discretion of staff.

ADJOURNMENT

The meeting was adjourned at 3:40 PM.

J. Stanhope, CHAIRPERSON

QUESTIONS

The Chair opened the floor to questions from the audience.

Charlie Stone, Parksville, BC

Mr. Stone questioned if there was a chance that the supplemental part of the procurement budget could be moved to some other organization such as the province?

Mike Squire responded that currently part of this report is that the consultant would help us through any procurement problems.

Elaine Hofer, Parksville, BC

Ms. Hofer enquired as to when the ASR Project presentation would be available to view on the ERWS website?

M. Squire replied that the Lowen Hydrogeology presentation should be available within the week.

Al Pasters, Parksville, BC

Mr. Pasters noted that ERWS has budgeted and now approved close to \$ 1 Million without approval from Department of Fisheries and Oceans to move the intake. Mr. Pasters also noted his concern regarding the removal of water from the ASR storage site by neighboring properties.

Mike Squire replied that the location of the intake has been approved. M. Squire added that one of the major determining factors of those thirteen aquifers was in finding an area that wasn't densely populated and staying away from agricultural areas.

Counsellor Bill Neufeld, Parksville, BC

Mr. Neufeld questioned the comments Dennis Lowen made about the various problems/issues that had come up at other ASR sites. The questions he wanted addressed were: what were those problems/issues? How were they remediated? and at what cost?

Mr. Lowen replied that one issue was the high arsenic levels that were found in produced water in the Florida bedrock aquifer (limestone) wells. The solution was to provide a larger buffer zone between the recovered and native water zones. Most water quality issues are prevented with a suitably sized buffer zone. Additionally the arsenic issue decreased with successive cycle tests of the wells.

Another issue was well screen bio-fouling and loss of well capacity. The solution here is to provide a trickle flow (low volume flow) of chlorinated water while the well is in the storage mode.

Well plugging with suspended solids. This is solved by re-developing the well and generally is prevented by periodically backwashing the well during the recharge mode.

Another issue can be the concentration of disinfection by-products that is the mixing of chlorine with natural organics to produce carcinogenic compounds (THM and HAA). It was found that THM and HAA were naturally reduced with storage time in the aquifer, as little as 3 days retention time was sufficient in some cases.

Iron concentrations in recovered water have also been a problem. This problem was solved by recharging water with an adjusted pH level. This solved the issue after several cycles.

All the solutions above added some time and effort to the ASR program but they involved only a very marginal cost impact.

Mr. Neufeld's final question dealt with the regulatory concerns and the water flow rate. His concern was with the fact that at 69.5 l./sec this is about 7% below the regulatory requirement of 75 l./sec; and if that is the case is there a distinct possibility of going over limit, and then why not submit to a full assessment, as it may well be required anyway?

Mike Squire noted that currently ASR is only a small part of our overall future water supply plans but if determined to be feasible it can present itself as a major water management strategy.

On October 18, 2012 ERWS staff met with;

- the Ministry of Forests Lands, Natural Resources and Operations,
- the Ministry of Environment,
- the Vancouver Island Health Authority,
- and the Environmental Assessment Office (EAO).

The purpose of this meeting was to discuss the Aquifer Storage and Recovery (ASR) process, the proposed working program and to determine if the project would trigger a full Provincial / Federal Environment Assessment. The ASR process and program was explained to the EAO indicating that there would be no net loss to the native groundwater in the region as the only quantity of water that would be extracted would be the drinking water that was previously injected. In fact, there would be a net gain to the native groundwater as a result of providing an additional storage buffer of 30 % of the total storage volume. The EAO formally responded to this by indicating that under the current EAO Act there is lack of definitions to accompany our project, in particular there is no definition of "Aquifer Storage and Recovery". Given this, the EAO considers that once potable licensed drinking water is injected into an aquifer they would consider it as "groundwater" and would therefore require a full environmental review of the entire project (water intake, treatment and ASR) if extraction were to be greater than 75 liters per second. In summary, no regulations exist for injection of potable drinking water into an aquifer but regulations do exist for extraction of groundwater over 75 liters per second.

On December 10, 2012 a program update was prepared to the ERWS Board indicating that if 75 liters per second extraction was exceeded, the project would be considered reviewable. A full review would consist of an additional 2-5 years of work. This would significantly impact the budget, implementation plan and defer the Vancouver Island Health Authority water treatment deadline and therefore put the entire project in jeopardy. As an option, it was stated that a reduced scope of work be reviewed by the consulting team to determine if ASR would be still feasible if we extracted a rate less than 75 liters per second. This determination will be available after the first ASR test cycle is complete by Spring 2014.

Being that we are the first in BC to explore this technology it is understood that there is a lack of regulation in both the Environmental Assessment Act and the Provincial Water Act. Knowing this, it is prudent that we step slowly through this process in an effort to fully demonstrate this project so we can further gain confidence and understanding of this technology from all branches of senior government. Through the ASR pilot and a phased approach it is hoped that we can exhibit environmental compliance which will help us work alongside provincial regulators to include definitions

like “Aquifer Storage and Recovery” are defined in future Provincial Acts and ensure proper licensed regulation of groundwater extraction. By doing this it will not only benefit our future regional water supply system but also help other water purveyors in the Province properly manage water supply sources.

ASR is a technology we embarked on to help us further manage our future water supply that fits well with our approach of providing a triple bottom line balance of environment enhancements, economic and social welfare. The benefits of Aquifer Storage and Recovery are:

- Provides a third water source
- Reduces water treatment plant size
- Provides cooler water to consumers in the summer
- More feasible than conventional above ground potable water storage
- Allows a balanced water supply (water harvesting – store abundant water from winter for use in summer during peak domestic demands)
- Will allow more water for fish during critical summer months in the Englishman River
- Defer or reduce infrastructure expansion

Mr. Lowen commented that it is our opinion that the EAO will not require a review of the first phase ERWS-ASR project as long as we can rate the system capacity below 75 L/s. EAO is not looking for projects to review and will not have any justification for a review that does not fit their criteria. There is no possibility that the system we build will go over limit (>75 L/s) in Phase One. The hydro-geologist can use discretion in this regard.

Dwayne Round, Parksville, BC

Mr. Round questioned what consideration, if any, has been given to contamination of Martindale area wells from chlorinated water injected into the ground. He commented that he was concerned with the plan to come in under 75 l/sec to avoid having an environmental assessment and he suggested the EAO review be carried out first. Mr. Round also inquired if a monitoring well could be installed in the Martindale area and asked how ERWS was going to ensure that the ASR project does not affect the Martindale wells?

Mike Squire replied that it is the drinking water being injected into a confined aquifer on Kaye Road and it is a different aquifer than the Martindale aquifer. As far as the assessment this is new to BC, so there is a lack of regulations because it is still in pilot stage.