AGENDA FOR REGULAR MEETING OF THE WATER SUPPLY ADVISORY COMMITTEE
TO BE HELD ON WEDNESDAY, 2007-MAY-30, COMMENCING AT 3:30 P.M.
IN THE BOARD ROOM, CITY HALL, 455 WALLACE STREET, NANAIMO, B.C.

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1. **ADOPTION OF MINUTES:**

   (a) Minutes of the Water Supply Advisory Committee Meeting held 2006-Mar-09 at 3:00 p.m. in the Board Room. *Pg. 1-4*

2. **INTRODUCTION OF LATE ITEMS:**

3. **RECEIVING OF DELEGATIONS:**

4. **REPORTS:**

   (1) *Water Rates for Southwest Extension* ..... *Pg. 5*

5. **INFORMATION ONLY ITEMS:**

   (1) *Water Supply Projects Update* ..... *Pg. 6-7*

6. **CORRESPONDENCE:**

7. **CONSIDERATION OF LATE ITEMS / OTHER BUSINESS:**

8. **NEXT MEETING:**

   At the call of the chair.

9. **ADJOURNMENT:**

MINUTES OF THE REGULAR MEETING OF THE WATER SUPPLY ADVISORY COMMITTEE, HELD IN THE BOARD ROOM, CITY HALL, ON THURSDAY, 2006-MAR-09, COMMENCING AT 3:00 P.M.

PRESENT: Councillor L. D. McNabb, Chair

Members: Ms. E. Hamilton, S.W. Extension

Staff: K. M. MacKenzie
H. W. Hansen
B. Clemens
S. Perkins

1. STAFF REPORT(S):

(a) Water Supply Strategic Plan

In May of 2004 the board of the then Greater Nanaimo Water District directed staff to proceed with the preparation of a long term comprehensive water strategy that would guide and assist the Water Supply Advisory Committee and Council in determining how best to prepare for the challenges and demands of the future.

Staff solicited proposals from the engineering community and after a rigorous selection process determined that Associated Engineering's (AESL) proposal offered the best value and the most experienced personnel for the required study and the preparation of the strategic plan. Mr. J. Richard E Corbett, a Senior Vice President with AESL, was designated as Project Manager and has done an excellent job coordinating all of the various stakeholders involved and soliciting their positive input.

Some of these stakeholders are:

- Internal City of Nanaimo departments represented i.e.: Engineering, Public Works, Finance, Development Services
- Ministry of Environment
  - Water Management Branch
  - Fish and Wildlife
- Ministry of Forests
- Department of Fisheries and Oceans
- Island Timberlands
- Pope and Talbot
- Nanaimo Airport Commission
- Regional District of Nanaimo
- Regional District of Cowichan Valley
- Snuneymuxw First Nation
- Ministry of Community, Aboriginal and Women's Affairs
- Vancouver Island Health Authority

You have been given a copy of Draft #3 of the Strategic Plan. After reviewing Draft #3 we had intended to finalize the Plan and then embark on a series of activities over the next year that would ultimately allow the City to make final decisions on future water sources and water treatment. It became apparent that the Strategic Plan had three basic components:

1. Future Storage Requirements
   - Site location and construction of a new impoundment structure (dam).

2. Alternative Groundwater Sources
   - Investigation and selection of an alternate (if available) groundwater source i.e.: Cassidy Aquifer or North Nanaimo River.

3. Future Treatment Options
   - Investigation and selection of future treatment options i.e.: filtration, ultra violet, ozone.

It also became obvious that to prepare a comprehensive final draft of the Strategic Plan it would be necessary to perform the following tasks:

Groundwater Supply Study

This study would determine if a viable alternative to surface water actually exists. There are two aquifers that were originally considered. One is the Cassidy Aquifer and the other is situated on the north arm of the Nanaimo River below First Nanaimo Lakes. The Cassidy Aquifer has various problems i.e.: potential for contamination, many existing wells including Pope and Talbot's and concerns that drawing additional water from the aquifer may negatively impact the area.

The aquifer on the north arm of the Nanaimo River is not impacted by these concerns and is well situated to supplement our existing surface water supply. There is little information available on this site but it appears to warrant further investigation which would consist of the drilling of at least three test wells to determine the quantity, quality and the recovery rate of the aquifer to determine if it is suitable as a supplemental water source. I should point out that should this prove to be an adequate source it could forestall the necessity of constructing an additional impoundment structure for many decades and would be one-third of the cost of a new dam (20 million vs 60 million). It would also have much less of an impact on the environment.

The estimated cost of this study, including drilling and testing etc. is $100,000.

Watershed Yield Study

It is the consensus of all that although we may be able to forestall the construction of a new dam if an adequate groundwater supply is discovered, eventually it will be necessary to construct a dam. A site has been selected which is between the existing Jump Creek and South Fork dams. Site investigations and test drilling indicate that the soil conditions and topography would support a structure capable of increasing our storage capacity from 3.7 billion gallons to 8.3 billion gallons. A hydrology study is necessary to determine if the watershed can actually produce enough precipitation to meet these capacities. If not then the structure would be scaled back to suit which would have obvious cost savings but more importantly would make us consider supplementing more of our supply from the groundwater source.

The estimated cost of this study is $50,000.

Water Treatment Plant Site Location Study

This falls under the treatment options described earlier but is primarily about where will we treat and distribute our water from in the future. There are basically two choices:

- Treat the water at source.

The benefit would be that we could continue to take advantage of the existing gravity supply we now utilize which does not require pumping but would have horrific operating costs. We would have to install hydro and as our treatment processes became more sophisticated it would be necessary to man the facility 24/7.

- Treat the water within City.

An alternative that we need to investigate is the possibility of treating all of our water at the Number One Reservoir site on Nanaimo Lakes Road which would require pumping but we believe we can generate our own hydro and having the facility within City limits would greatly reduce operating costs.

The estimated cost of this study is $100,000.

The total cost of these three studies is $250,000. Staff budgeted $550,000 in the 2006 budget year to perform these studies and to perform other various tasks necessary to prepare and initiate a comprehensive long term Water Strategy Plan.

Should we proceed with these studies it will be necessary to meet and receive approval from Timber West whom own the property the North Nanaimo River Aquifer is situated on. We will also require reasonable assurances from the Department of Fisheries and Oceans, Fish and Wildlife, Water Management branch and Vancouver Island Health Authority that they will support these initiatives. To date they have been most supportive as all realize that this could be a win/win for Nanaimo, the environment and the fish and wildlife in the area. After receiving these approvals we anticipate that with the studies running concurrently we would have them completed within six months.

It is also staff's intention to have Associated Engineering and Mr. Corbett manage these studies, coordinate those involved which will include members of AESL's staff and Dr. Charles Howard, a Hydrologist familiar with our watershed and its unique complexities.

Recommendation: That the Water Supply Advisory Committee endorse staff's recommendation to proceed with these studies and forward to Council for their approval.

It was moved and seconded that the recommendation be adopted. The motion carried unanimously.

(b) Project Status - Chlorination Upgrade No. 1 Reservoir (Verbal Report)

The chlorination upgrade at No. 1 Reservoir is nearing completion. A concern was raised by the Chairman that recent disasters or emergencies have determined that not enough chlorine was stored to deal with the emergency.

Mr. W. Hansen provided the following update:

- Three tonnes of chlorine are kept on site which last 6 or 7 weeks.
- It takes 2 to 3 months for an order of chlorine to be supplied.
- Have enough drilling pieces and parts in stock to cover any replacements need for a period of three months.

(c) Project Status – South Nanaimo Reservoirs (Verbal Report)

Mr. W. Hansen provided the following update:

- Land Division is having discussions with Island Timberlands.
- There is quite a difference in prices.
- Haven't made a decision on the property issues.
- Working on land acquisition.

(d) Project Status – Pump Station at Madills (Verbal Report)

Mr. W. Hansen provided the following update:

- Looking at possible pump station at Madills on Labieux Road.
- Land Division is negotiating with Madills.
- Model shows changing location of pump station solves balance issue problem in north end.

(e) Project Status – Duke Point Watermain Part F & G (Verbal Report)

Mr. W. Hansen provided the following update:

- Tender is up for the last two phases of Duke Point Watermain.
- The initial tender will be for the first phase with an option to extend contract to do second phase. If the tender prices come in on budget we will complete both phases.

2. NEXT MEETING:

At the call of the Chair.

3. ADJOURNMENT:

It was moved and seconded at 3:25 p.m. that the meeting adjourn. The motion carried unanimously.

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CHAIR

REPORT TO THE WATER SUPPLY ADVISORY COMMITTEE

FROM B.E. CLEMENS, DIRECTOR OF FINANCE

RE: WATER RATES FOR SOUTHWEST EXTENSION

RECOMMENDATION:

That Council adopt a bylaw to establish the rate for bulk water supply to Southwest Extension at $1.31 per thousand gallons.

EXECUTIVE SUMMARY:

City staff have reviewed the bulk water rate charged to Southwest Extension and are recommending an increase of $.05 per 1,000 gallons. This is brought about by the extensive capital program that is being implemented to deal with the long term improvements required to the water supply system.

BACKGROUND:

As the Committee is aware, the City of Nanaimo has recently completed a water supply study that will require expensive improvements to the water supply and treatment systems for many years. As a result of this study, Council has approved a 5% increase in water rates in July 2007 and the five year Financial Plan includes an additional 5% increase every year.

As a member of the City's water supply function, Southwest Extension will benefit from many of these major capital improvements relating to existing dams, reservoirs and to enhanced water treatment. The bulk water rate charged to Southwest Extension has not changed since 2005.

Water rates charged to Southwest Extension are established by calculating the gross cost of water. Debt payments, capital, supply and distribution maintenance costs and administrative expenditures are used in determining the gross cost of water. The proposed cost per 1,000 gallons is $1.31 for 2007, which is an increase of $.05 (4%).

As with the City of Nanaimo, it is anticipated that there will be annual increases in rates charged to Southwest Extension for the foreseeable future.

Respectfully submitted,

Brian E. Clemens
Director of Finance

Douglas W. Holmes
General Manager of Corporate Services

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FOR INFORMATION ONLY

REPORT TO: WATER SUPPLY ADVISORY COMMITTEE

FROM: BILL SIMS, MANAGER, WATER RESOURCES

RE: WATER SUPPLY PROJECTS UPDATE

STAFF'S RECOMMENDATION:

That the Water Supply Advisory Committee receive this report for information.

EXECUTIVE SUMMARY:

The Water Supply Strategic Plan is now complete, along with its companion studies: Water Treatment Plant Siting Study, Cassidy Aquifer Water Balance Study and the Watershed Yield Study. Staff are proceeding to move to the next steps of implementing the Strategic Plan. This consists of moving forward with land acquisition for the future water treatment plant and approvals for the future water supply dam. In addition, staff are proceeding to implement other major projects in water supply.

BACKGROUND:

a) Water Supply Strategic Plan

The Water Supply Strategic Plan has highlighted three major goals for the long term security of water supply quality and quantity:

- Move towards constructing a water treatment plant.
- Begin negotiations and approvals to secure a third dam site on the South fork of the Nanaimo River.
- Continue to expand, upgrade and strengthen water supply mains, reservoirs and pump stations to promote stable and secure functioning of the water supply system.

Staff is continuing to work with Associated Engineering, the author of the Strategic Plan, to move forward on these major tasks. Their work now consists of:

- Further modelling and refinement of the water treatment plant location, in anticipation of land acquisition. The Water Treatment Plant Siting Study identified Crown Land as the most suitable location.
- Refinement of costs and selection of appropriate treatment technologies.
- Further discussions and meetings with stakeholders to prepare for a B.C. Environmental Assessment for South Fork II Dam. The Watershed Yield Study found that the South Fork Watershed will support growth far into the future.
- Determination of other long-term capacity upgrades, including required in-town reservoirs and pipelines.
- Looking for power generation opportunities.

- Hiring of consultants with expertise in dam building.

It is anticipated that the water treatment plant is a 5-8 year project, and the new dam is a 10-15 year project. Due to the senior governmental approvals processes, and the complex nature of these projects, staff believe it is critical to move now, so these facilities are ready when they are needed.

The Strategic Plan included a groundwater investigation component. The groundwater investigation in the North Nanaimo River valley proved there was insufficient quantity available. After detailed examination of the physical characteristics of the Cassidy aquifer, it was determined that there may be a limited opportunity for small quantities of new groundwater. The Strategy recommends further investigation of two specific sites near the Nanaimo River in North Cedar. This will continue to be investigated, albeit at a lower priority than the other efforts, due to the politically sensitive and complex nature of groundwater extraction outside the City.

b) Project Status - South Nanaimo Reservoirs

We have reopened land negotiations on a positive note with Island Timberlands. The City and Island Timberlands Limited Partnership are each having appraisals done based on the same Terms of Reference. It is anticipated final negotiations will occur in June/July, with property purchase and design to start in the fall. Construction of one of the two reservoirs is anticipated late 2008 - 2009.

c) Project Status - Labieux Booster Pump Station

Tenders have closed for the construction of this pump station that will improve flows and pressures to the north end of the City during periods of high demand. Contractor IDL Projects Ltd. submitted the low bid of $2,505,629, within the City's budget. Construction start is anticipated mid June, with commissioning of the station to occur in March 2008.

d) Project Status - Duke Point Watermain Rehab

The Duke Point watermain rehabilitation (Part F) was completed after 11 months of effort. The last stage (Part G) to the Duke Point reservoir has been scheduled for 2011, but may be deferred, depending on condition surveys.

Respectfully submitted,

Bill Sims
Manager, Water Resources

Mac MacKenzie, Director
Engineering & Public Works

g:Admin/WaterSupplyProjectsUpdate