Public Consultation Summary

SANDWICK WATER WORKS CONVERSION STUDY

JUNE, 2016

The public consultation strategy for the Sandwick Waterworks Conversion Study included:

- An information package (see Appendix A) including a newsletter, feedback form and covering letter from Trustees outlining their most significant challenges. The package was mailed to all households (approximately 420) that will remain within the Sandwick after the systems are severed. It was also emailed to approximately 260 of Sandwick's e-newsletter subscribers, and posted on the SWWD's website.

- A community open house held Tuesday, June 7th at the Huband Elementary School.

The open house was well-attended by approximately 120 residents. All Sandwick Trustees were in attendance, along with representatives from the following partner organizations:

Comox Valley Regional District – Mike Herschmiller, Manager of Water Services; James Warren, General Manager of Corporate Services and Kris LaRose, Senior Manager of Water / Wastewater Services.

Vancouver Island Health Authority – Emily Woodrow, Environmental Health Officer and Gary Anderson, Land Use / Water Consultant

City of Courtenay – Lesley Hatch, Director of Engineering Services

Phil Ellis addresses the community during the Open House on Tuesday, June 7th.

Sandwick's Vice Chairperson, Phil Ellis, opened the evening with an overview of the Improvement District's current situation and key challenges. A community question and answer period followed, beginning at approximately 7:30pm and lasting through until 9:00pm. The Trustees and representatives from the CVRD, VIHA and the City of Courtenay worked collaboratively to respond to questions as appropriate. This approach was beneficial in the sense that questions could be directed to the appropriate authority, and the information provided was complete and accurate.

Residents asked a broad range of questions – from technical enquiries about the Sandwick and CVRD water systems, to how the cost estimates were derived, to water sustainability and the impacts of climate change, to the timeline for decision-making and next steps in the conversion study process. The majority of questions were directed at the CVRD, including how the regional district plans to address the frequent boil water advisories (Mr. Herschmiller discussed the planned upgrades and timelines, costs

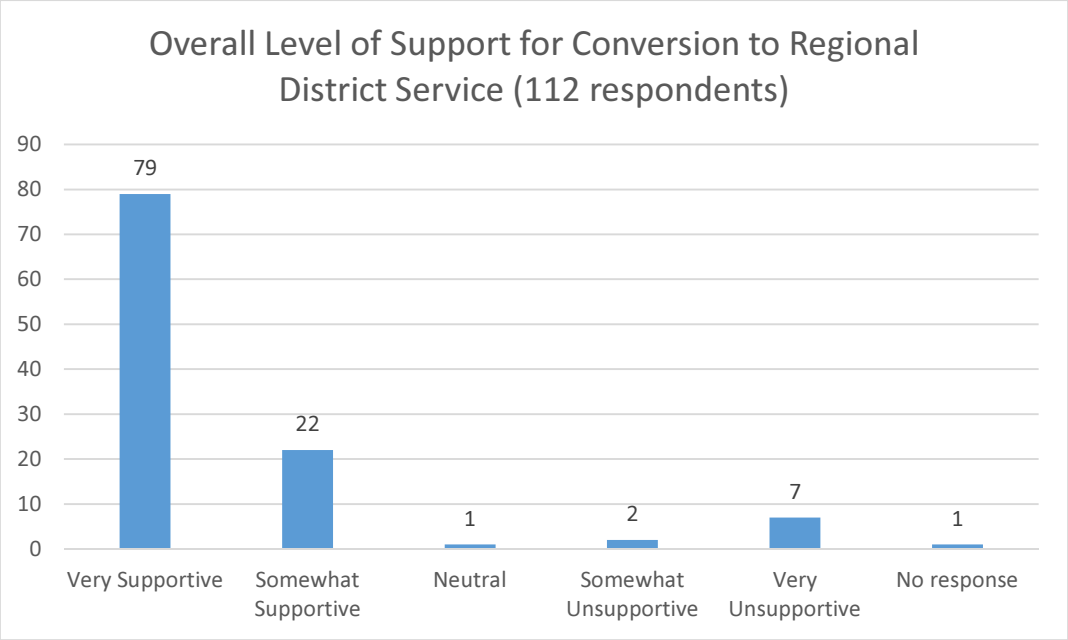
and funding strategy for implementing water filtration), how fees are determined, collected and allocated, details around the Area B Community Works Funds that would be made available to pay for the system modifications, and possible related funding opportunities for water meters.

Generally, the open house audience appeared to be cautiously supportive of conversion. At the end of the evening, audience members were reminded to complete the feedback form, the results of which would be used to help the SWWD Board of Trustees to make a decision (by the end of June) about whether or not to proceed with conversion to a regional district service.

Feedback Form Results

A total of 112 feedback forms were received – assuming one form was completed per household, this represents a response rate of approximately 26%. Blanket distribution (as opposed to a random sample survey) can result in a self-selection bias, which arises when individuals select themselves into a group – bias occurs when the characteristics that cause these individuals to self-select creates abnormal conditions in the group. While it is important to keep this in mind, the priority for Sandwick Trustees was to provide as many residents as possible with an opportunity to share their thoughts, comments and feedback. Blanket distribution was therefore selected as the preferred method of delivery.

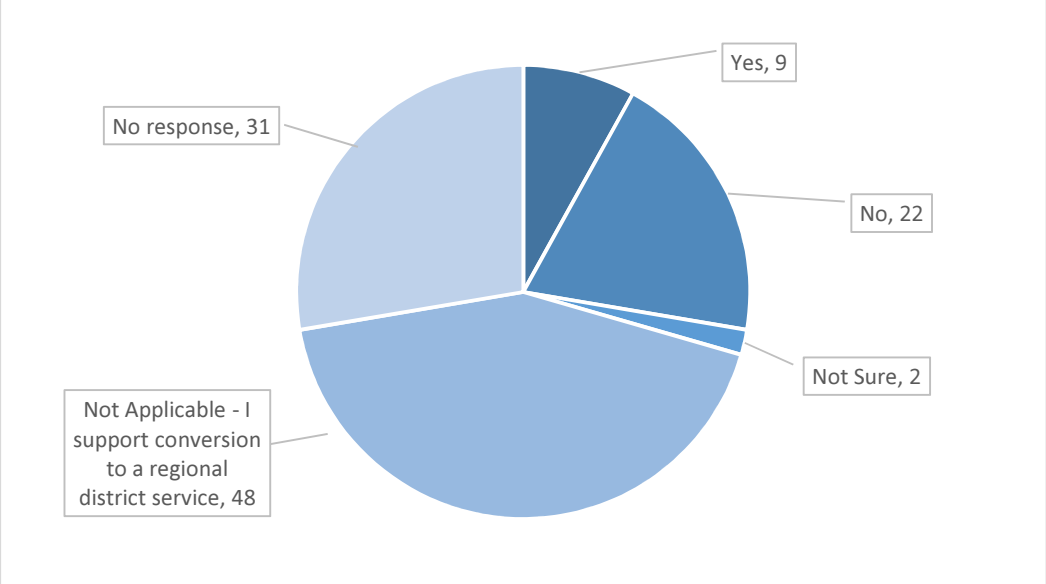
Of 112 respondents, the majority (90.2%) were very or somewhat supportive of conversion to a regional district service. Affordability, drinking water sustainability and feeling that there is no other alternative were among supporters' top reasons for their response. Conversely, those who were somewhat or very unsupportive cited concerns regarding the cost estimates and water metering, as well as some general distrust of government as being among the top reasons for their response. Full text answers are attached in Appendix B.



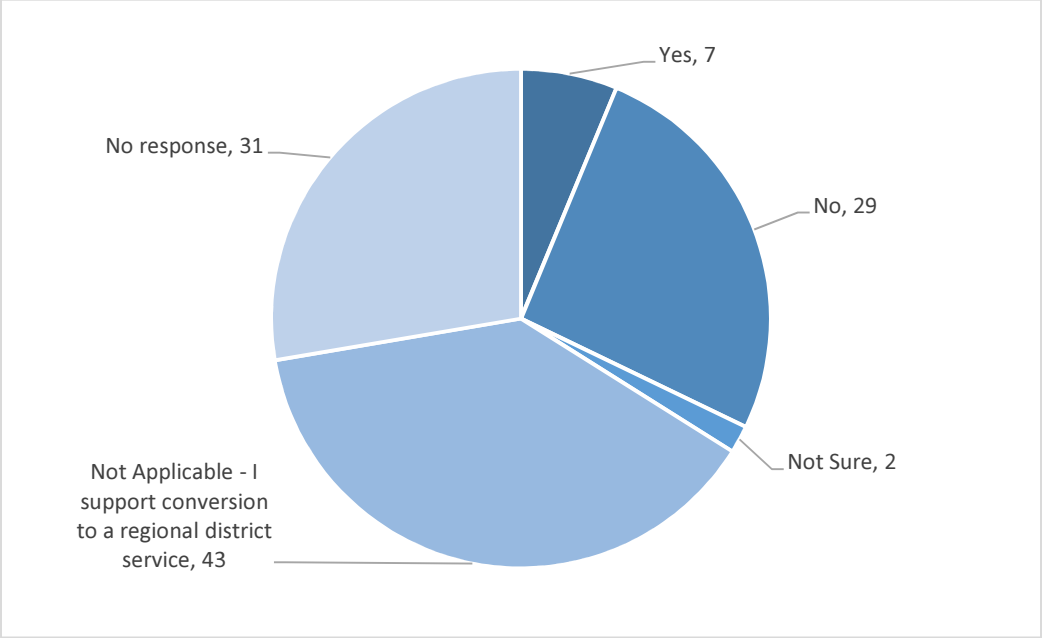
The respondents also expressed very little willingness to allow the SWWD to test for water and potentially establish a well on their properties, along with very little interest in stepping forward to serve as a volunteer Trustee.

Feedback form question: If you would prefer Sandwick to remain an independent improvement district:

a) Do you own property that you would be willing to allow the SWWD to test for water and potentially establish a well?



b) Would you or an eligible member of your household be willing to serve (volunteer) as a Trustee in the future?



The final question asked respondents if they had any other feedback for the Sandwick Trustees – full text answers are attached in Appendix B. Many offered no comment, others voiced accolades and

gratitude towards the Trustees for their service. Some concern and confusion was expressed regarding the cost estimates and allocation of Sandwick's capital reserve – when preparing materials to communicate the Trustees' decision regarding whether or not to proceed with conversion, it may be advisable for Sandwick to clarify a) how any remaining reserve funds are likely to be split with residents that have contributed to the reserve but will be switched to City of Courtenay water and b) that even if the area remaining within Sandwick converts to a regional district service, the remaining portion of reserve funds (if any) that are turned over to the CVRD can only be used for capital upgrades/replacements within the Sandwick local water service area. Similarly, there may be other comments contained within the full text answers (see Appendix B) that Trustees may wish to address in follow-up communications with residents.

Conclusion and Next Steps

Based on the responses to the feedback form and the overall content and tone of the discussion at the community open house, it would appear that there is a sufficient level of support in the community for the Trustees to consider proceeding with conversion to a regional district service.

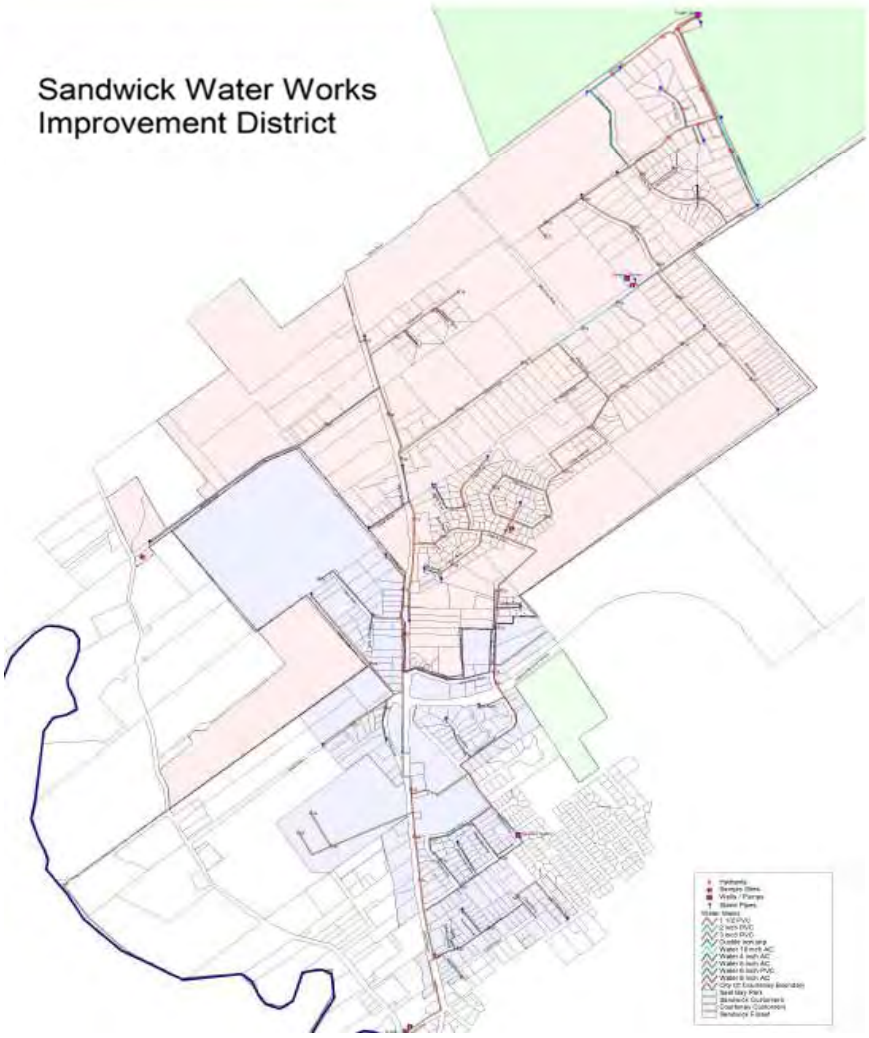
It is anticipated that the Trustees will render their decision before the end of June, 2016. Should the Trustees decide to proceed with conversion, implementation would require the regional district to pass a *service area establishment bylaw*. According to the Province of BC's Improvement District Conversion Guide, the regional district can choose from two options for when this bylaw may be passed.

> *Option 1: The regional board can pass the service area establishment bylaw prior to the Cabinet order that dissolves the improvement district and transfers responsibility for its services to the regional district. The service area establishment bylaw must receive the assent of the electors either by a petition, alternative approval process, or a referendum.*
>
> *This option is typically used when the construction and financing for a capital project to upgrade the service infrastructure forms part of the conversion proposal. Since elector assent is required under this option, it gives more certainty to the decision to convert. Further information about this process can be found in Appendix A.*
>
> *Option 2: The regional board can pass a service area establishment bylaw after the Cabinet order has been passed that dissolves the improvement district and transfers responsibility for its services to the regional district. In this case, the Cabinet order can exempt the service area establishment bylaw from elector assent.*
>
> *Option 2 is typically used when there has been a good public consultation process and the owners/residents affected have indicated strong support for the conversion.*

Ministry staff would be consulted to determine the most appropriate approach given the community consultation that has occurred, and the results. It is anticipated that conversion, if approved, would occur on January 1, 2017.

Appendix A – Information Package

IMPORTANT: Drinking Water Update
Sandwick Water Works District



Important Decisions Ahead for Sandwick

In 2002, the City of Courtenay expanded its municipal boundaries to include a portion of the Sandwick Improvement District (see blue shaded area in map above). This area now needs to be separated from the Sandwick water system and switched to the City's municipal drinking water system. In order to separate the system, the Sandwick Board of Trustees needs to make some critical decisions about the future of the Sandwick water system, which is facing some significant challenges. Please take the time to review this newsletter and share your thoughts and opinions.

We Want to Hear From You!

Is your home in the area that will remain within the Sandwick Water Works District? (the pink shaded area on the map shown left) If so, how your drinking water is obtained, treated and delivered to your taps is about to change in the months ahead. It is important to us that you take part in the conversation that will inform the Trustees' decision.

- ✓ We invite you to complete the enclosed **Feedback Form** and return it by **Friday, June 10th, 2016**
- ✓ Plan to attend our **Community Open House** on Tuesday, June 7th at Huband Elementary School (7:00 – 9:00 p.m.)
- ✓ Send us an email to swwdist@telus.net or a letter to 801 Dingwall Road, Courtenay. B.C. V9N 3S4

Your Water. Your Community. Have your say!

THE DECISION: The Sandwick Board of Trustees must decide whether to remain an independent improvement district or convert to a regional district service and connect to the Comox Valley regional water supply system.

Formed in 1960, the Sandwick Water Works District (SWWD) has a long history of successful water management in the community. Recently, however, several major challenges have arisen that may ultimately make it impossible to remain an independent improvement district. The three most critical questions that must be answered if the SWWD is to remain independent are as follows:

1. **Where would our water come from?** The system currently draws water from two wells and one river intake. The river intake is failing and, in order to comply with Island Health's surface water treatment requirements, would require significant repairs and costly upgrades before 2018, likely at a cost of several million dollars. This is not an affordable option for Sandwick, and therefore if the SWWD is to remain independent, it will need to rely on wells. At least one, but more likely two (or more) new wells will be required. New wells cost an estimated $300,000 - $600,000 each, including testing, permits, construction, control systems and any onsite treatment required. There are very few options for new well locations – to date, private landowners have been unwilling to allow the SWWD to drill on their land, and public land options have been exhausted.

2. **Could we afford to remain independent?** The increase to annual fees is difficult to estimate without having secured and prepared estimates for new well water sources – at a minimum, fees will need to increase 67% to make up for the loss of 282 connections affected by the city switchover (424 will remain within Sandwick). **A 67% increase to the current (2016) single family water rate of $505 is $841. The cost of establishing new wells will mean further increases.** In the longer term, Sandwick's distribution mains will need to be replaced beginning in 2026. The medium term costs (10-20 years) are estimated at $4.1 million, and the longer term costs (20-40 years) are estimated at an additional $2.2 million. The SWWD is not eligible to apply for infrastructure grants, and its ability to borrow for large capital costs is limited.

3. **Who would manage the system?** The SWWD relies heavily on the contributions of volunteer Trustees to manage the water system. According to SWWD bylaws, Trustees must reside in the Improvement District. Several of the current Trustees do not reside in the area that is to remain within Sandwick, and are therefore ineligible to continue their service. Others have served multiple terms, and have indicated they do not intend to continue. Unless several eligible community members come forward to serve as Trustees, the SWWD will not have enough volunteers to continue functioning as an independent improvement district.

Don't forget to complete the enclosed **Feedback Form** and return it by Friday, June 10th, 2016. A **Community Open House** is scheduled for Tuesday, June 7th at Huband Elementary School (7:00 – 9:00p.m.)

Your Water. Your Community. Have your say!

Converting to a Regional District Service

If Sandwick Trustees decide to convert to a regional district service the area remaining within Sandwick would convert to a Comox Valley Regional District (CVRD) "water local service area", and Sandwick's existing water distribution system would be connected to the Comox Valley regional water supply system. The SWWD would be dissolved, and the CVRD would become responsible for managing and operating the Sandwick distribution system as part of the regional water supply system.

The **key advantages** of converting to a regional district service are:

- ✓ Connection to the regional water supply system eliminates the need to establish new wells;
- ✓ The CVRD employs certified, full-time staff to operate and manage water systems, eliminating the need to find new volunteers to serve as Trustees;
- ✓ Regional districts are able to access more funding tools, including government grants and favourable borrowing terms/interest rates through the Municipal Finance Authority of BC;
- ✓ CVRD Board of Directors recently voted in favour of contributing a portion of Area B's gas tax funding to help pay for the infrastructure system changes and construction within Sandwick, if Trustees choose to convert to a regional district service;
- ✓ Although Sandwick residents would continue to be financially responsible for maintenance and replacement of the distribution system within Sandwick, the cost of common infrastructure that serves the regional water supply system (e.g. reservoirs, treatment plants, treatment systems etc.) is shared on a regional basis.

What Happens Next?

Community input will be reviewed following the June 10th survey deadline, and the Trustees hope to make a decision on the future of the Sandwick water system by the end of June, 2016. That decision will be communicated with Sandwick ratepayers shortly thereafter. If converting to a regional district service is ultimately the preferred option, Trustees would work with the CVRD to complete the formal transfer requirements and establish the new regional district service, which would not likely take effect until January 1, 2017. In the interim, the Sandwick Water Works District will be working closely with the City of Courtenay and the CVRD to ensure uninterrupted delivery of safe drinking water to all Sandwick residents.

Questions?

Please contact us at swwdist@telus.net or 250-338-1092

Be sure to fill out your feedback form and return it by **Friday, June 10, 2016.**

Community Open House – Tuesday, June 7th at Huband Elementary School library
5120 Mottishaw Rd 7:00p.m. – 9:00 p.m.

Is your home in the area that will be converted to municipal (City of Courtenay) water? If you have questions or require additional information, please contact Lesley Hatch, Director of Engineering Services at 250-334-4441 or engineering@courtenay.ca.

Your Water. Your Community. Have your say!

Q&A: Converting to a Regional District Service

Where would our water come from?

The regional water supply comes from the Puntledge River, and the origin is Comox Lake. Treatment is centralized at the existing Comox Valley water system regional chlorination facility. The CVRD is exploring options for the construction of a new water filtration plant, which will significantly reduce, if not eliminate, the boil water advisories within the regional system.

What would conversion cost?

The total cost of conversion includes the physical system modifications required to connect to the regional water supply system, as well as the cost of water meters (mandatory for all rural properties connected to the regional water system) and the CVRD's one-time capital improvement connection charge.

	Conversion Costs	Cost per connection (single family residential)
System Modifications*	307,000	725
Water Meters (424)	508,000	1,200
Connection Charge (residential)	1,565,946	3,702
Total	**$2,380,946**	**$5,627**

**The total estimated cost of the required system modifications is $672,000. The City of Courtenay would be responsible for all works within its boundaries (approximately $365,000), and the SWWD would be responsible for all works within the area remaining in Sandwick (approximately $307,000).*

Who would pay for conversion?

System Changes / Construction:
At their meeting of April 26, 2016 the CVRD board of directors voted in favour of contributing a portion of Area B's gas tax funding (up to $307,000) for the infrastructure system changes within Sandwick, if Trustees choose to convert.

Water Meters & Connection Charge:
Property owners would be responsible for the cost of water meters (unless additional grant funding can be sourced through the CVRD) and the one-time connection charge. The CVRD board of directors has supported an option that would allow property owners to pay the remaining balance over 10 years – this option may be subject to approval by the provincial government (Ministry of Community, Sport & Cultural Development).

What would our annual water fees be?

Sandwick's exact rates would depend on full assessment of the revenue required for the service. Using the residential rate for other CVRD water service areas, the base rate is currently is $287.40 per year, which includes 15 cubic meters of water per month. Tiered rates are applied thereafter. Properties connected to the regional water supply system also pay an annual parcel tax to help with maintenance, renewal and upgrade of water infrastructure within the local distribution system, such as water main replacements. For Sandwick, it is estimated that this tax would be approximately $250/year.

Sandwick Water Works District

Community Feedback Form - 2016

In 2002, the City of Courtenay expanded its municipal boundaries to include a portion of the Sandwick Improvement District (see blue shaded area in map above). This area now needs to be separated from the Sandwick water system and switched to the City's municipal drinking water system. In order to separate the system, the Sandwick Board of Trustees needs to make some critical decisions about the future of the Sandwick water system, which is facing some significant challenges. Please take the time to review the enclosed newsletter and share your thoughts and opinions.

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1. So that we may focus our community consultation efforts on the area that is to remain within Sandwick (refer to the map in the newsletter), please indicate on which street you reside or own property.

   _____

   (street NAME only)

2. As outlined in the newsletter, remaining an independent improvement district may not be a feasible option for Sandwick. On a scale of 1 to 5, please describe your overall level of support for converting to a regional district service with connection to the Comox Valley regional water system (circle the appropriate number):

Very unsupportive	Somewhat unsupportive	Neutral	Somewhat Supportive	Very Supportive
1	2	3	4	5

3. Please share with us the main reasons for your answer to question 2. If you **do not** support conversion, please be sure to tell us why – what are your concerns?

_____
_____
_____
_____
_____

4. If you would prefer Sandwick to remain an independent improvement district:

   a) Do you own property that you would be willing to allow the SWWD to test for water and potentially establish a well?

      - ☐ Yes
      - ☐ No
      - ☐ Not sure
      - ☐ Not Applicable - I support conversion to a regional district service.

   b) Would you or an eligible member of your household be willing to serve (volunteer) as a Trustee in the future?

      - ☐ Yes
      - ☐ No
      - ☐ Not sure
      - ☐ Not applicable – I support conversion to a regional district service.

5. Is there anything else that you think the Sandwick Trustees should consider regarding the future of the Sandwick water system?

_____
_____
_____
_____
_____
_____
_____
_____

Thank you for taking the time to provide comments!

Please ensure your submissions are received by no later than June 10, 2016.

Additional forms may be requested from the Sandwick office at 250-338-1092

Completed forms may be submitted at the Community Open House on Tuesday, June 7th at the Huband Elementary School library from 7:00 – 9:00 pm; dropped off or mailed to the Sandwick Water Works office (801 Dingwall Road, Courtenay. B.C. V9N 3S4) or emailed to swwdist@telus.net (scan or snap a photo with your Smartphone). If you require additional assistance, please call 250-338-1092.

Dear Customers,

Thank you for taking the time to review the information provided in this newsletter. As outlined, we have a very important decision to make in the coming months – whether to:

1. remain an independent improvement district, or
2. dissolve the Sandwick Water Works District, convert to a regional district service and connect to the Comox Valley regional water system.

Your involvement and input is much appreciated as we work through the process to determine the future of the Sandwick water system.

As Trustees, our foremost consideration is always the continued supply of safe, clean water to your taps. The reality is that it is becoming increasingly difficult to do so as an independent improvement district. We have many concerns about the long-term sustainability of the Sandwick Water Works District, which we wish to share and discuss openly throughout our decision-making process.

Our most immediate concern has to do with water sources. As outlined in the newsletter, the river intake is failing and cannot be used past 2017. To remain independent, we would need to secure and construct at least one but more likely two (or more) groundwater wells. At this point, we have tested what we feel to be our last feasible option on publicly owned land, and it is only capable of producing approximately one-third of the water we require to meet the community's needs. Privately owned locations would need to be explored if Sandwick is to remain an independent improvement district and landowners within the District, to date, have been unwilling to allow the SWWD to test and drill on property.

Even if we are able to secure new sources, financing the new wells, continued operations and long-term replacement of aging infrastructure will be an ongoing and significant challenge. This is not only due to the loss of 40% of our ratepayer base to the City, but also our limited ability to borrow and the fact that improvement districts are ineligible for government infrastructure grants.

Another challenge we face is that the provincial regulations pertaining to the treatment and delivery of drinking water are becoming increasingly complex, often requiring the professional skills and expertise of outside consultants, which is very costly. Liability concerns with respect to water supply and quality are also a growing challenge for small improvement districts. Requirements related to water treatment infrastructure continue to intensify in both scale and cost, which is challenging the financial resources of small communities all throughout BC and Canada.

Finally, we rely very heavily on the contributions of our volunteer Trustees, many of whom are nearing the end of their terms. Several have served the community for numerous years over multiple terms, and many are not eligible to continue due to the fact that they do not reside in the area that is to remain within Sandwick. Unless new volunteers from within the Sandwick community are willing to step forward, the improvement district will soon be facing a critical volunteer shortage, and will not be able to meet its legal obligations to continue functioning according to its governing bylaws.

These are some of the key challenges and concerns that we must carefully consider as part of our decision-making process. We want to know what you think – please be sure to return your feedback form by June 10, 2016, and plan to attend our Community Open House on Tuesday, June 7th at the Huband Elementary School library (5210 Mottishaw Rd) from 7:00pm – 9:00 pm.

All community input will be reviewed following the survey deadline, and it is our goal to make a decision about the future of the Sandwick water system by the end of June, 2016. Thank you very much for your consideration and participation in this important conversation.

Sincerely,

Original Signed By

Mike Butler, Chairperson

Original Signed By

Phil Ellis, Vice Chairperson

Original Signed By

Dave Robinson, Trustee

Original Signed By

Neil Black, Trustee

Original Signed By

Bill Campbell, Trustee

Appendix B – Feedback Form Full Text Responses

Note: The answers in this section are exactly as submitted by the survey respondents, no editing has been undertaken.

Please share with us Please share with us the main reasons for your answer to question 2. If you **do not** support conversion, please be sure to tell us why – what are your concerns?
Too expensive to hook up. Not as good water. Don't want anything to do with Courtenay and its Council.
The City of Courtenay took 1/2 our customers. I'd rather do business with the City of Courtenay rather than the CVRD which is nothing but an institution that keeps on putting up water rates. Down with the CVRD!
I am aware of the issues associated with our system but have a lot of concern about the capacity for the Regional District to manage our system. This is based on the number of boil water advisories and the source of the water.
My concern is that it will open the door for the City of Courtenay to take over the remainder of the District, raise taxes and give nothing in return as promised.
Government rules & regulations.
Professional water management; access to more or increased funding sources.
Our water doesn't come downstream from heavy use recreational and commercially used water. City of Courtenay is a bully and cannot be trusted. We like independence. We are realistic and can see only one direction, hooking up to CVRD. We should not be classified as rural property.
The price that the CVRD is asking for hookup is prohibitive, they say the money is going into a pot for future capital costs, etc. We know about pots and promises especially from the CVRD. It was quite evident that the CVRD puts a low priority on our water problems when the Director of Area B arrives, over an hour late for a very important meeting.
I am somewhat supportive because although I am sure the SWWD Trustees have done an excellent job over the years, the ongoing financial commitments will never become less. I'm sure the budgetary fare costs are to the best of the SWWD ability, but past experience tells me there are always surprises or costs that were not planned.
Our biggest concern is the COST. I would need more assurances of the estimates being respected. We are retired and on a limited budget. What exactly makes up this HUGE connection charge. I would need estimates from several Co's. And not just take the word of local governments. We don't want the overruns that governments seem to accept these days!
My age is my reason and I trust the persons when myself is not above ground.
Our system is unique and affordable. We are 89 and 86 years old and are not enthusiastic about any changes.
The cost is a concern and so is the metering.
I don't like or trust the Regional Distict but it sounds like it's the cheapest way.

Please share with us Please share with us the main reasons for your answer to question 2. If you **do not** support conversion, please be sure to tell us why – what are your concerns?
Financial reasons - However the data provided in package is somewhat limited and very confusing. No financial report. No details of current staff - their pay and responsibility. No discussion of 40% less consumption(??) as result of 40% from customers. Package received too late to attend 7 June meeting.
It appears that we have no alternative. SWWD cannot afford to remain independent. The conversion cost is very concerning and will be difficult to manage.
I believe it will be impossible to maintain a water system that will need wells, volunteers, and infrastructure with so few having to bear the costs and time.
Affordability; Sustainability.
The infrastructure that needs to be replaced; the length of time to replace. Will this be just a money grab and we won't see any improvements?
Considering low water level (drought), failing water intake and costly repairs ahead it may be in everyone's best interest to switch now instead of later.
Drilling wells not the future. Let's get on with the plan for the future which is joining Comox Regional Water.
Certainty of maintenance. Not dependent on volunteers. District Expertise. Access to water supply.
It makes fiscal sense to do this; access to their expertise; access to provincial & federal funding; won't have to rely on volunteers.
Don't see any other viable option
Using the 90 million gallons annually and assuming 706 lots, I have calculated that the average user will be likely have to pay around $100 to $200 extra for the four month periods that cover the summer, whilst I realize that there are a few farms and agriculture business and Huband school included, are they already metered under the current system? If they are and figures are available I could recalculaate, but then the results would probably not work in our favour due to the number of smaller lots in Sandwick. I do appreciate that metering everybody has great advantages for leak detection and will make most consumers seriously think about their water usage once they start getting billed for what they use. I have been told by a Black Creek resident that went on to mains water from a well that their first bill, I believe they said it was bi-monthly was a few hundred dollars, so they reverted back to the well for watering the garden. I do appreciate that they are on a different tariff to most users. Will we be on the main tariff? We currently don't have that option of a well should the bills get rather high in the summer months, we would have to look towards capturing rain water and possibly look towards seeing if there is a chance that we can find a water source on the property. Sample bills from current CVRD customers with around an acre would give us some warning as to whether we need to look at obtaining an extra supply for the garden.
Sandwick water tastes better. Concern over cost to convert.

Please share with us Please share with us the main reasons for your answer to question 2. If you **do not** support conversion, please be sure to tell us why – what are your concerns?
Continuing with the Sandwick System is not feasible. The cost would be rising every year, there will not be enough water available and will be progressively worsening every year. We woulld not be able to get help financially and would not be eligible for grants.
Better service & fewer water restrictions; salaried staff (not volunteer).
Other option not really feasible 0 fhort term fix!
Mr. Ellis said costs of meter could vary greatly depending on access etc in installations. I would like to know more about this and why there could be such a discrepancy as he mentioned in June 7 meeting.
It seems inevitable that we will join at some time - this is probably the cheapest time.
It's not as if we have much choice, but the reason I am only somewhat supportive is that we lose local control of the CVRD a body that is not well known for sound financial decisions. I'd feel a lot better if there was some guarantee that the water taxes we will be paying would be invested straight back into water infrastructure rather than ending up in a mutil-million dollar "reserve fund".
It would seem there is little choice. One of us is somewhat supportive, the other very supportive.
No comment
This choice makes the most financial sense going forward. Integrating the systems seems to be unavoidable in the future. Laying the ground work now seems to be a good choice.
The cost of providing new wells for Sandwick water district.
Eventually it will come to this anyway. May as well do it now while cotss are (probably lower).
Sandwick Waterworks is not sustainable. Escalating costs as well as the need for contining education and a lack of trustees present insurmountable issues.
Need to bite the bullet and change over to the regional district for all the reasons you have made in your newsletter & Open House presentation. We simply can't carry on as we have been.
Other options do not appear to be viable. Will force people to conserve water with meters. The larger user bases reduces the overall impact across the district. A full-time, paid staff versus a volunteer board is more engaged in dealing with the broader range of issues and their qualification, given the environmental and operational considerations are important - perhaps essential in this day and age.
Assured supply of water - New infrastructure serving on line - Access to grant funds - Large tax base/revenue base - Managed and cared for by full-time personnel.
No real alternative
Happy with service, quality of water - have not been interferred by boil water advisory as has Courtenay & Comox, especially for length of time for advisory.
I want safe, reliable drinking water.

Please share with us Please share with us the main reasons for your answer to question 2. If you **do not** support conversion, please be sure to tell us why – what are your concerns?
Reasonable assurance of water supply - Possibility of future annexation not an issue - Likely less costly over longer term - Management, administration, compliance with provincial regulatory requirements in place and secure in future.
Same reasons as outlined in the Drinking Water Update Newsletter sent out by Sandwick. It seems to be the only feasible solution (connecting to CVRD water system) for residents in the Sandwick Water District area, as well as for Sandwick Waterworks itself.
Too costly to drill new wells - May be in same situation ten yars from now - May not get qualified volunteers or Trustees to manage the water system.
Positive - Long term security of supply & treatment. Positive - Improved quality of water ie: less minerals. Negative - Stand alone entity or SWWD at considerable financial risk when faced with infrastructure upgrades & maintenance with stagnant number of ratepayers.
Facts say Sandwick water cannot and will not support the water needs now & in the future. Also, there will not be enough interest for volunteers.
Sandwick's system is too old and not keeping up with future growth is also a big concern and I am not willing to serve on a board to support running this system.
Unknown future costs if we stay Sandwick Water District.
I have to filter my water - filter changes once a month - (rusty pipes?)
Pro - Financial stability in CVRD but future costs unknown in SWWD. Pro- Technical experience & staffing in CVRD - unknown in SWWD. Pro - water supply better in CVRD - unknown for future in SWWD. Pro - Water quality - unknown for future in SWWD. Pro - Metering - household will pay more if they use more = fairer.
The only way to control the amount of water being used in this neighbourhood is meters. Even after being warned of low water levels there are neighbours that water their lawns and shrubs daily and more above ground pools have been installed.
It makes sense to join CVRD water system.
Regional District will be able to apply for infrastructure grants which present Sandwick cannot. Regional District have full-time water management staff. Under Regional, hopefully we'd have greater water pressure (and more water) to fight fires.
It seems to be the only reliable viable choice - either choice will cost the Sandwick district residents money but staying independent is a huge question. So much input from volunteers, a place for wells, much more investment. It's time to centralize our water systems. We do hope that the conversion costs to each household can be spread over the 10 years to make it possible to afford the costs on top of property tax.
Secure water supply.
Looking at the loss of revenue to Sandwick, in the long term it only makes sense to join the municipal system.
I don't want to have to keep worrying about whether or not we will have enough water and it doesn't look as though we will have it. We have to depend on wells. I say let's go to a reliable source and if that means converting to the CVRD, then I'm for it.

Please share with us Please share with us the main reasons for your answer to question 2. If you **do not** support conversion, please be sure to tell us why – what are your concerns?
Expansion of the population of this area will eventually force connection to the Comox Valley water system. Additions of the hospital will necessitate joining the CV Water System.
Realize the greater ability to capitalize needed system repairs and improvements; add to population base for getting a new deep water intake at Comox Lake for the whole of the valley, plus political clout to create a protected water supply area.
Water quality will be better; staying with Sandwick is too costly.
There does not seem to be an option.
Best solution for our future water supply & treatment needs. Trustees commended for your historical efforts and (??) of our situation.
Trust in the experts.
Appears costs and need for new source of water leads to conversion.
Our main concern is that most of our street has been annexed into the City of Courtenay. If our property is annexed do we have to pay for the $5627 and have to pay again to the City of Courtenay when wer're annexed. It seems redundant to stay with Sandwick and spend all that money for new wells, etc. when it's only a short time before we get annexed.
We are new residents and being welcomed with a $5K bill is not very timely or "welcoming". It seems we (Sandrick) are past the point of no return. However, for the inevitable future, we feel there is little choice other than to join the RD.
Cost of new wells, other infrastructure of meeting government regulations. Finding volunteers.
I believe that with only 424 homes left after the take over by the City of Courtenay of 282 homes. A third. And with the costs of the new up(??) it's time to move into a larger pool to allow for a financially feasible solution for all.
Its common sense - will be cheaper, better and more reliable for water we can drink with proper technicians in charge.
The present system is not sustainable.
Too small a customer base to carry on. Many thaks to all the volunteers over the years, especially Mike Butler!!
No viable alternative.
Too many challenges as outlined in newsletter to remain with Sandwick. Convert to Regional water.
Affordability for future; more dependable water source; professionally maintained.
Better water quality; fire protection; water pressure increase; certified waterworks crew; funding accessibility.
Willing to pay the money now, when the option for later will cost a lot more money.
It seems like the best option - makes the most sense.
Larger more stable organization.
Seems like the only sensible option.

Please share with us Please share with us the main reasons for your answer to question 2. If you **do not** support conversion, please be sure to tell us why – what are your concerns?
Reliable, sustainable water supply.
Lower long term costs; consist/reliable water source; fire protection; more flexibility with water schedule.
Willing to pay money now, when the option for later will cost a lot more money.
Seems cheaper in the long run, simpler too.
Regional District has large financial resources. They also have the 'ear' of larger government (Federal & Provincial) for grants.
Knowing a date the office is moving would be useful. Conversion can't happen soon enough as far as I'm concerned. Water quality has gotten worse over the years. I've ruined several loads of laundry because the stains from the water will not wash out! SWWD has out-lived it's usefulness!!
The CVRD has the expertise & resources to maintain the system. The new deep lake intake will provide a sustainable supply of water & the injection of gas tax funds will help with infrastructue changes. I am a little worried about the filtration treatment costs that the CVRD is currently working through. I honestly believe the Sandwick Trustees have done a good job, but with changes in regulations & climate change, we need to look at a regional approach.
It's the only real option. Cost seems reasonable if they are as stated.
Cost and future service.

Is there anything else that you think the Sandwick Trustees should consider regarding the future of the Sandwick water system?

According to my figures supplied by Sandwick Water District once the Courtenay residents are off the system there is more than enough water to supply the remainder of Sandwick District. Another thing that we could do is put in water meters to at least monitor the amount consumed. To be more financially feasible, with Courtenay residents off the line, is to have everyone pay for each connection rather than discounting for multiple dwellings on each property. When I look at Sandwick water rates, I see a huge discrepancy in rate. A single dwelling is paying almost twice the amount as each connection at the trailer park. CVRD will end that. Why don't we? The money is there we're just not charging everyone uniformily. Water meters alone will cut consumption and water use by an estimated 30%. Just by using less water the reservoir will maintain higher levels in summer. 3 things Sandwick can do to stay viable; 1) get those Courtenay addresses off our system; 2) meter the water; 3) charge for all hook-ups.
Apathy of users to be involved in function & operation of SWWD.
As you say the RD has the staff to do testing etc. I find our water is dirty a lot of the time and we need a reliable source for fire protection. Water sediment has damaged our appliances.
Because most properties in our area are over 30 years of age and the life expectancy of septic fields is approximatley 20-40 years I think the area should consider becoming part of Courtenay. Although the cost for being hooked up to both water and sewer would be substantial, most of us will soon face considerable expenses repairing or replacing our existing septic fields. I believe further that it is only a matter of time until the City of Courtenay will need to expand. I would like to see a meeting held with the city to re-examine these issues.
Cannot see that there is anything else to consider except: the best way to use the $300,000 left in the pot? Either each household should receive back equal shares of the 2/3 remaining or if it goes to the CVRD then it should be applied to the conversion costs thereby lowering the amount each household will pay. I believe that prior to the above an honorarium should be given to Mike Butler and Phil Ellis in recognition of all they have done over the years. I will suggest this at the next meeting so make sure there is one before you give it away.
Congratulations to the trustees for a very complete explanation to a complex issue.
Conversion to the regional district service supply source would reduce demand on the Quadra Aquifer, important to those dependant on private wells for agricultural supply.
Ensure all cost related to options are current & correct so people can make an informed decision.
Follow the Royston procedure in converting over. Make sure the people that work for Sandwick gets absorbed into the CVRD so they don't lose their jobs.
From the short time we have lived here and just having my first attendance of SWWD meeting last year, I have greatly appreciated Phil Ellis' knowledge on the water system. I think that the move to CVRD water system will be in everybody's interest in the long term.
Has the CVRD given any consideration to providing incentives ($) towards the purchase of rainwater collection/storage or other water conservation measures, especially once we are on water meters?
I believe we should do our damned best to salvage the SWWS Even if it requires us to have meters and a substantial raise in rates.

Is there anything else that you think the Sandwick Trustees should consider regarding the future of the Sandwick water system?

I feel that eventually we will be swallowed up by Courtenay anyway - so we are flogging a dead horse.
I hope the CVRD connection will be before our own treatment plant so we will not have the boil water advisories the CVRD has had the last few years.
I question the matter of water meters - cost and continual maintennce.
I tried to email the completed PDF - failure.
I understand the costs as ouitlined, however, I've had to explain the costs to other area residents who did read the info, but did not correctly calculate costs. A brief email that clearly showed costs of remaining vs. costs of converting to regional would help folks see that SWWD must convert to be affordable, viable, and is the correct decision short & long term. Also, property owners are questioning what happens to costs if they sell at various stages of the process. Thank you for your work as Trustees.
I was comforted that the Trustees were so well informed and on top of issues confronting the system. Our diminishing numbers and the increasing pressure on the resource and aging infrastructure, tell me that its time has come and passed. We do appreciate the efforts of management, support staff, and most of all - the Trustees over the years - our humble thanks.
I would like to thank Mr. Butler for this long time commitment on the Sandwick Water District Board and Mr. Ellis as well. Would be nice if we could be given a grant for our meters if we were to switch and as with all bureaucracy request for grants have to worded extremely carefully - possible Mike & Phil would know & help with the correct wording for such a grant.
If there are big repairs needed or call out for volunteers to help at the time of work would be be great. I would be happy to help dig or wheelbarrow or whatever work is needed.
In my opinion - less costly now to tie into CVRD than wait. In my opinion - the monies acquired by SWWD should be allocated to the conversion costs for the residents that will require water meters.
In some ways I would like to stay with Sandwick but costs associated with the expansion of the water system is a cost I am sure most residents would not accept.
Installing water meters in each household would likely reduce consumption enough to allow us to continue with the system for a couple of years, but that would only delay the change and make the cost of the move considerbly higher. Please let's do it NOW.
Investigate the conversion of other (previous) improvement districts for lessons learned. Investigate the reduction of the "ill-named" connection charge. New construction/subdivisions must pay this. It seems peculiar to charge established lot owners the same just for joining the RD.
Is there any commercial value to the existing wells/land? Can this offset costs? Thanks for everybody's efforts on this and all the work done in the past. We wouldn't have bought our house without piped water.
It seems to me that cost may be something to ask more questions about. I feel that it would be helpful for us as users to fully understand the financial aspects and the potential impact that either of these decisions will have on us. Has a financial study been done? Has a capacity analysis been done on the Regional District capacity?
Just want to thank all the Sandwick Trustees that have given their time (for all those years) and their expertise in the past. It was all very much appreciated!
Make a decision soon.

Is there anything else that you think the Sandwick Trustees should consider regarding the future of the Sandwick water system?

Maybe finding a buyer such as the property owner where or near our wells, if they wish to remain on well water. Maybe.
No
No - have done great valuable service to reach this point. Thanks.
No. I would like to take this opportunity though, to thank the staff and trustees for their years of dedication and commitment to providing we residents with a safe and clean water supply. Too often it can be easy to take such efforts for granted, but I would like them to know that we in this household are very grateful for their time and efforts toward our welfare. Kudos!
Not at this time.
Our water is often very dirty! And I mean black. We are looking at replacing them as some stains won't come off. Also bad tasting. We also can see the "writing on the wall". The longer we wait the more it will cost. Look at the astrinomical "connection charge" now.
Please answer questions to all of us via email or newsletter. Why did this become an issue so quickly. Communication about these isssues was poor.Does Sandwick have any other assets - ie land that may increase its net work. I remember a few yrs ago it handed sone land over to the city. Does it own more land? Who owns the well site lands? Please apply Sandwiks Reserve Fund to the conversion costs not to the parcel tax fund for future maintenance, renewal and main replacement. Why do the Sandwick users now in the city have to convert to the city now?? Why all of a sudden? Is the city trying to amalgamate all the rest of Sandwick? Is this the 1st step? Thanks to all the Trustees.
Please post results of feedback form.
Something should be in place to make sure the infrastructure will be maintained.
Thank you for all your hard work - we feel the time has come to move on. Believe every household should be metered - maybe this would cut down on people sprinkling lawns in the heat of the day.
Thank you for all your support & hard work over the years - much appreciated and thank you for your straight forward comments & information at the meeting.
Thank you to all the volunteers who over the years have maintained a safe, viable, waterworks system.
The Sandwick Trustees have always been diligent in providing the best service for money ratio - they should be commended. I do believe that more lots will be serviced in the future as sewage concerns are met. The regional district is well known for their stalling and fence sitting tactics though, so those projected serviced lots are a ways into the future.
The Trustees have done a wonderful job over the years - but things are getting drier and I think if we try to remain dependent on wells we'll be in trouble. Regional connection is the way to go. And if it means installing water meters - good. Less waste watering vast expanses of lawn.
We just want to acknowledge the many years of service our volunteers have put in and express our gratitude. We have had excellent service and we will miss the personal touch.
Would prefer to see the surplus applied to the connect charge, cost of system mods(sp?) or water meter to help reduce costs to the residents. Notwithstanding our comments about the need for a professional full-time paid staff (CVRD), the service of the current trustees is commendable and appreciated.

Is there anything else that you think the Sandwick Trustees should consider regarding the future of the Sandwick water system?
Yes, we believe that the assets should be reserved and cash be given back to the members of the Sandwick Water System instead of giving everything to the Regional District. This would help those residents who paid this money in the first place, say for the future water supply connection.
You are too young to retire Mike Butler! We need you for another 40 years!

Comox Valley
REGIONAL DISTRICT

COMOX VALLEY WATER SYSTEM

SANDWICK WATERWORKS DISTRICT WATER SYSTEM ASSESSMENT

FINAL REPORT

February 2016

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& ASSOCIATES
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Consulting Engineers

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February 2, 2016
1556- 01 (Final Report)

Comox Valley Regional District
Engineering Services Branch
600 Comox Road
Courtenay, B.C. V9N 3P6

Attention: **Mr. Dave Leitch, AScT**
Senior Manager of Water/Wastewater Services

Re: Sandwick Waterworks District Water System Assessment - FINAL REPORT

We are pleased to submit three bound copies and a digital pdf copy of the final report entitled "Comox Valley Water System, Sandwick Waterworks District Water System Assessment."

This report presents: a brief history the water system; the properties it services; the current operation and maintenance status; a review of the condition of the various components of the water distribution system; a comparison of the water system construction to the CVRD design standards, and recommended upgrading works for short and long term design horizons.

The cost of short-term upgrading works total $2,417,666 plus GST, including a 30% allowance for engineering and contingencies. This includes a one-time capital improvement charge per connection to join the Comox Valley Water System, two bulk water meters, individual service connections and the replacement of the 150 watermain on Virginia Drive southeast of Meadowbrook which is necessary to provide residual pressures throughout the system.

The cost of the long-term upgrading work, consisting of watermain replacement due to age, which would include the upgrading of the existing hydrants and isolation valves to meet current design standards, totals $6,265,795 plus GST, including a 30% allowance for engineering and contingencies.

We thank you for the opportunity to be of service the Comox Valley Regional District on this interesting assignment. We have enjoyed working with you and your staff and would be pleased to assist in implementation of the report's recommendations.

Please do not hesitate to contact us to discuss the findings in greater detail and we look forward to your response.

Yours truly,

KOERS & ASSOCIATES ENGINEERING LTD.

Mitchell Brook, P.Eng
Project Engineer

Chris Downey P.Eng
Project Manager

SANDWICK WATER SYSTEM
ASSESSMENT REPORT

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APPENDICIES

1 INTRODUCTION

1.1 AUTHORIZATION

In August 2015, the Comox Valley Regional District (CVRD) authorized Koers & Associates Engineering Ltd. to complete an assessment of the current condition of the Sandwick Water System for the areas located outside the City of Courtenay municipal boundary.

The study was authorized in response to residences of Sandwick asking the CVRD to consider taking over the water system.

1.2 STUDY OBJECTIVES

The objectives of the study are:

- review the current condition of the water system,
- assess operational and maintenance history and ongoing needs, and
- identify upgrading works, if any, and the estimated cost of the works to meet Island Health and CVRD water system operation requirements.

1.3 SCOPE OF WORK

To meet the study objectives, the following scope of work was adopted:

Task 1 – Obtain Existing Information & Review

- Upon award Koers will:
  - Review Sandwick Waterworks District (SWWD) drawings and documentation to review system history, system design and operation information.

Task 2 – Review the Water System and provide an Asset Table with Cost Estimates

- Prepare a detailed list of the works required to connect to the Comox Valley Water System and meet CVRD standards and prepare Class D cost estimates.
- Provide a listing of pipelines, pump stations, reservoirs, check valve stations, metering stations, and miscellaneous appurtenances would be prepared. For each item, a life cycle will be estimated, with anticipated remaining period to replacement, repair, or where applicable large maintenance expenditure such as reservoir repainting. Cost estimates will be provided in a tabular summary. This will also assist in assessing insurance coverage needs. From this data, a second summary table will be prepared, listing projected year of expenditure, resulting in a total cost estimate on a year to year basis.

Task 3 - Prepare Draft Report

- Findings will be presented in a bound report.
- The report will include figures, cost estimates, and appendices.
- The report will include a detailed summary of the report findings with recommendations.
- An electronic pdf copy of the draft report will be submitted to the CVRD for review and comments.

Task 4 –Draft Report Review with Client

- Koers will meet with CVRD staff to review the report and discuss the findings in detail.

Task 5 – Prepare & Submit Final Report

- Upon receipt of CVRD comments the report will be finalized.
- Three bound copies will be provided to the CVRD along with an electronic pdf copy and digital (AutoCAD) copy of the system plan drawing.

1.4 ACKNOWLEDGEMENTS

Koers & Associates acknowledges, with thanks, the assistance provided by the following CVRD staff in the preparation of this report:

- Dave Leitch, AScT, Senior Manager of Water/Wastewater Services
- Mike Herschmiller, Manager of Water Services

2 BACKGROUND INFORMATION

2.1 SANDWICK WATER SYSTEM OVERVIEW

2.1.2 Water Source

The SWWD obtains water from three sources; a surface water supply from the Courtenay River through an infiltration gallery at Lewis Park, a groundwater located on Mitchell Road adjacent to the existing Sandwick reservoir and a groundwater well on Dingwall Road (located within the City of Courtenay).

Until recently, the SWWD operated a third groundwater well; the Huband Road well located near Hwy 19A but it is no longer in use due to water quality issues. The well pump and electrical controls have been removed and the BC Hydro power service disconnected. The concrete block building is still in place.

2.1.3 Pressure Zones

The SWWD consists of two pressure zones; the 87 m pressure zone established by the top water level of the Mitchell Road reservoir; and the 110 m pressure zone created by the booster pump station at the reservoir servicing the higher elevation areas around it. There are check valves between the two zones, which permit feeding from the 87 m zone into the 110, in the event of failure of the booster pump station.

2.1.4 Distribution System

The entire SWWD supply and distribution system consists of 25 kilometres of mains, of which approximately 10 kms (42%) are located within the City of Courtenay. The lengths of each diameter and material type located within the SWWD are presented in Table 1.

Table 1 – SWWD Pipe Materials, Diameters & Lengths

Pipe Material & Diameter [1]	**Length [1] (m)**
Asbestos Cement (AC)	
100 mm	1,650
150 mm	10,530
200 mm	1,210
Total AC	13,890
Poly Vinyl Chloride (PVC)	
250 mm	1,455
Total PVC	1,455
Combined Total	**14,845**

Note:
1 Derived from SWWD water maps.

2.2 WATER DEMANDS

In evaluating the capacity of a water supply and distribution system, three types of water demands are normally considered. These are:

Average Day Demand = $\frac{\text{Total annual consumption.}}{365 \text{ days}}$

Maximum Day Demand = Day with highest demand for the year.

Peak Hour Demand = Highest flow rate maintained for one hour (generally occurring on maximum day of the year).

The SWWD bulk meter flow records for total annual and maximum month usage for the most current six years of record (2007 to 2012) were reviewed. These are presented below in Table 2.

Table 2 – SWWD Annual Usage

Year	Annual Usage	
	Lps	igpm
2007	11.8	156
2008	12.5	165
2009	11.1	146
2010	12.0	158
2011	13.5	178
2012	12.8	169
Average	**12.3**	**162**

SWWD Maximum Day and Peak Hour usage were not available. To estimates these, a peaking typical in the Comox Valley Water System where more frequent meter reading is available, were applied to the average and maximum month usages; respectively. The actual average day, and estimated maximum day, and estimated peak hour design demands are presented in Table 3.

Table 3 – Average Day, Maximum Day, and Peak Hour Design Demands

Service Area	Bulk Metered Ave. Day (lps)	Estimated Max. Day [2] (lps)	Estimated Peak Hour [3] (lps)
Within City [1]	4.9	11.8	18.8
Within Sandwick [1]	7.4	17.8	28.4
Combined Total:	12.3	29.6	47.2

Notes:

1 The demands for each service area have been estimated by the ratio of service connections. The SWWD is reported to service 657 lots, for which there are an estimated 706 service connections. Of these, 282 connections (40% of the total) are within the City of Courtenay.

2 The Maximum Day Demand is estimated by multiplying the average day demand by 2.4.

3 The Peak Hour Demand is estimated by multiplying the estimated maximum day by 1.6.

2.3 OPERATION & MAINTENANCE

The existing water system is operated and maintained by the SWWD. The SWWD completes regular monthly water quality testing in the distribution system as well as yearly full spectrum testing of the source water. As noted on the SWWD website there have been no failed tests in the past 15 months.

Prior to the switch over the CVRD should request and review all maintenance records for the applicable areas of the SWWD as well as any planned improvements.

2.4 DRAWINGS

The following drawings have been reviewed:

- Willis Cunliff Tait Water Study Drawings CR 5123-02 to 04 dated 1979
- McElhanney Drawings 24364 W 10 and 11 dated 1983 for the 200 mm dia. main on Wentworth and 250 mm dia. main on Huband from Childs to Willis Way

Copies of each are located in Appendix A.

3 SYSTEM REVIEW

3.0 WELLS & RIVER INTAKE

As part of the system switch over, the two operating wells and the river intake will be decommissioned and abandoned.

3.1 STORAGE RESERVOIR

The existing SWWD system storage consists of a 908 m^3 (200,000 igal) bolted steel reservoir located near the intersection of Mitchell and Elmo roads with a top water level of 87 m geodetic.

With the connection to the CVRD water system the storage for the SWWD will be provided by the East Courtenay Reservoirs which have a top water level of 120 m. With the increase in the HGL of the SWWD the existing reservoir will need to be abandoned.

A detailed review of the condition of the existing tank should be completed to determine if the tank is in suitable condition to be sold as a water storage facility or if the tank should be sold for scrap.

3.2 MITCHELL ROAD PUMP STATION

As part of this review no detailed drawings or photos of the existing pump station were provided. Based on a review of the existing water model with the proposed connections to the CVRD water system and the updated demands the resulting minimum peak hour pressure in the system is approximately 40 psi. As the peak hour pressure meets the minimum pressure requirements, the pump station is no longer required and can be abandoned. The closed valves and the check valves located throughout the system can be opened or removed to eliminate the pumped zone.

It should be noted that if the demands in the distribution system increase above 30 lps, future works may be required to maintain the required 40 psi pressure. The CVRD should monitor the flows through the bulk flow meter and record the pressure along Elmo Road during peak demand periods.

3.3 METERING

There is bulk water meters located at the three sources. The daily and monthly usage is recorded for information purposes. The SWWD does not have residential metering and the users are billed on a fixed rate structure. As part of the service switchover the existing bulk meters will be abandoned.

Two new bulk meter stations will be required at the connection point to the Comox Valley Water System on Wentworth Road and Highway 19A near Cotton Road.

3.4 DISTRIBUTION SYSTEM

Mains, Valves, Hydrants and Stand Pipes

The majority of the watermains in the SWWD are asbestos cement. It has been assumed for the purposes of this study that all the asbestos cement piping in the SWWD is class 150. We do not suspect that there is any class 100 AC pipe in system; however should any be found below the 50 m contour, it will need to be replaced.

Based on a review of the available drawings there are approximately 26 fire hydrants located in the SWWD. The fire hydrants should be reviewed on an individual basis to determine the condition, manufacturer and style of the hydrant. It should be noted that a detailed review of the hydrant spacing has not been completed. It is recommended that as the existing watermains are replaced that the hydrant spacing be reviewed and additional hydrants be added to the water system as required.

There are approximately 50 isolation valves in the system and the current configuration should be reviewed in order to determine the valve closures required to isolate sections of the distribution system in the event of a main break or yearly flushing. It is recommended that the valve locations be reviewed as the existing watermains are replaced and additional valves be added as required.

There are 18 standpipes located on dead-end sections of watermain throughout the distribution system; however there are several dead-ends that do not have a standpipe or flushout specifically:

1) Fredrick Place
2) Veronica Place
3) Lillian Place
4) Short Place

Service Connections

The SWWD is reported to service 657 lots, for which there are an estimated 706 service connections. Of these, 424 connections (60% of the total) are located outside the City of Courtenay municipal boundary and will be part of the CVWS local service area.

There are four lots located on Wentworth Road, near Highway 19A, that are currently serviced by a 100 mm dia. watermain that is located within the City of Courtenay Municipal Boundary. It is recommended that these lots remain connected to this existing watermain in place of constructing approximately 150 m of watermain to service the affected lots. Individual meters would be required for these lots for billing purposes.

3.5 ALTERNATIVE SUPPLY OPTIONS

As part of this review we have considered three options for supply to the Sandwick service area rather than a direct connection to the 200 mm dia main on Wentworth Road and the 150 mm dia main crossing Hwy 19 A north of Cotton Road. These options are detailed below and shown on Figure 1.

Option 1 – Supply from CVRD 750 mm dia main on Lerwick at Mission Road

- 300 mm dia main on Veterans Memorial Parkway from Mission Road to Wentworth and a 200 mm main from Wentworth to Hwy 19A.

Option 2 – Supply from CVRD Dingwall Pump Station

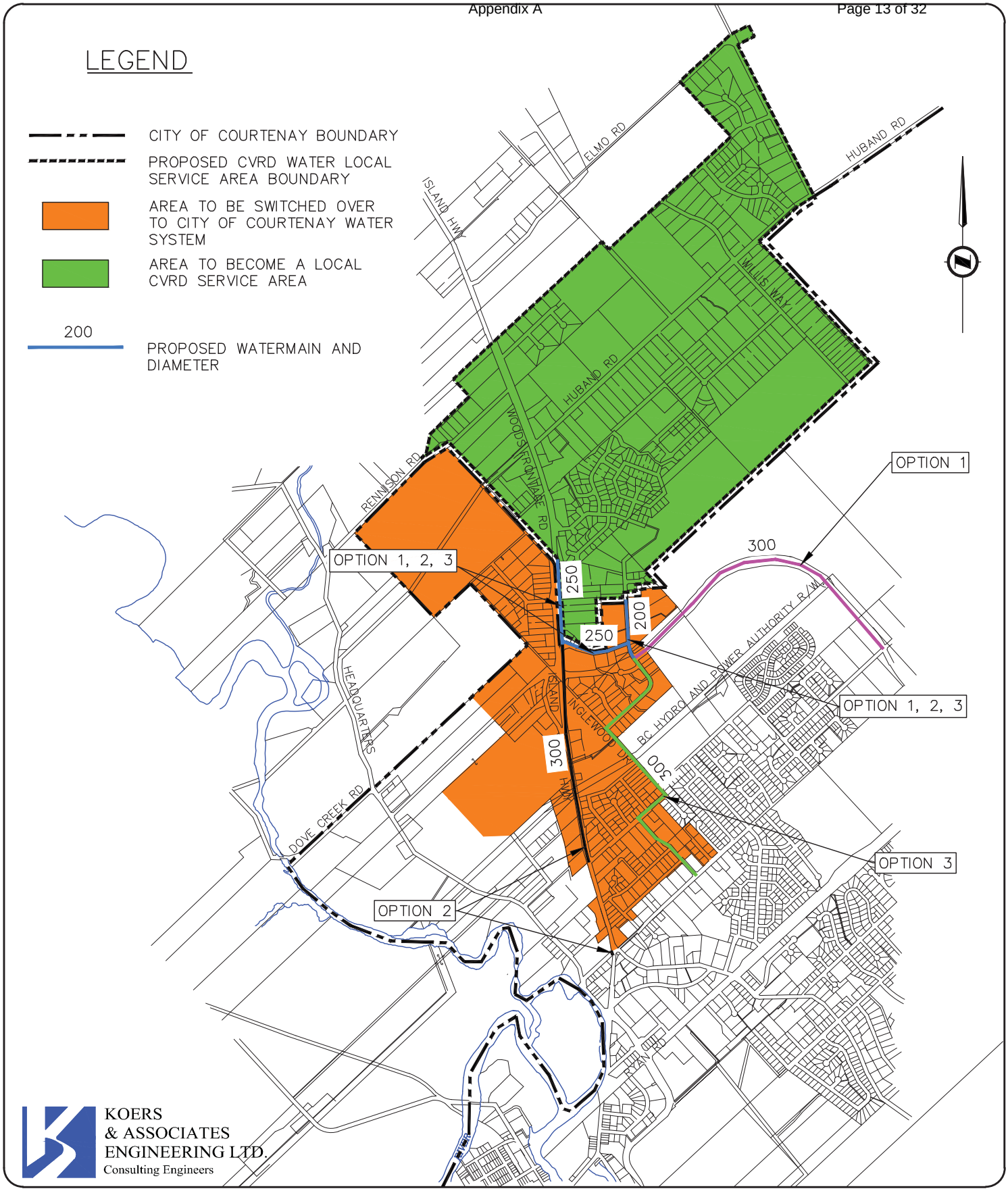
- 250 mm connection from Dingwall Pump Station to 250 mm dia main on Dingwall Road.
- 300 mm dia main on Highway 19A from Muir Road to Wentworth and a 200 mm dia main on Wentworth Road.

Option 3 – Supply from 600 mm dia CVRD main on Dingwall Road

- 300 mm dia main on Inglewood and Muir from Dingwall to Wentworth and a 200 mm dia main on Wentworth Road.

3.6 FIRE FLOWS

In order to meet the current MMCD design fire flows the following watermains as shown on **Figure 2** on the following page will need replaced. This will involve approximately 600 of 150 mm dia., 3,100 m of 200 mm dia., and 2,050 m of 250 mm dia watermains.

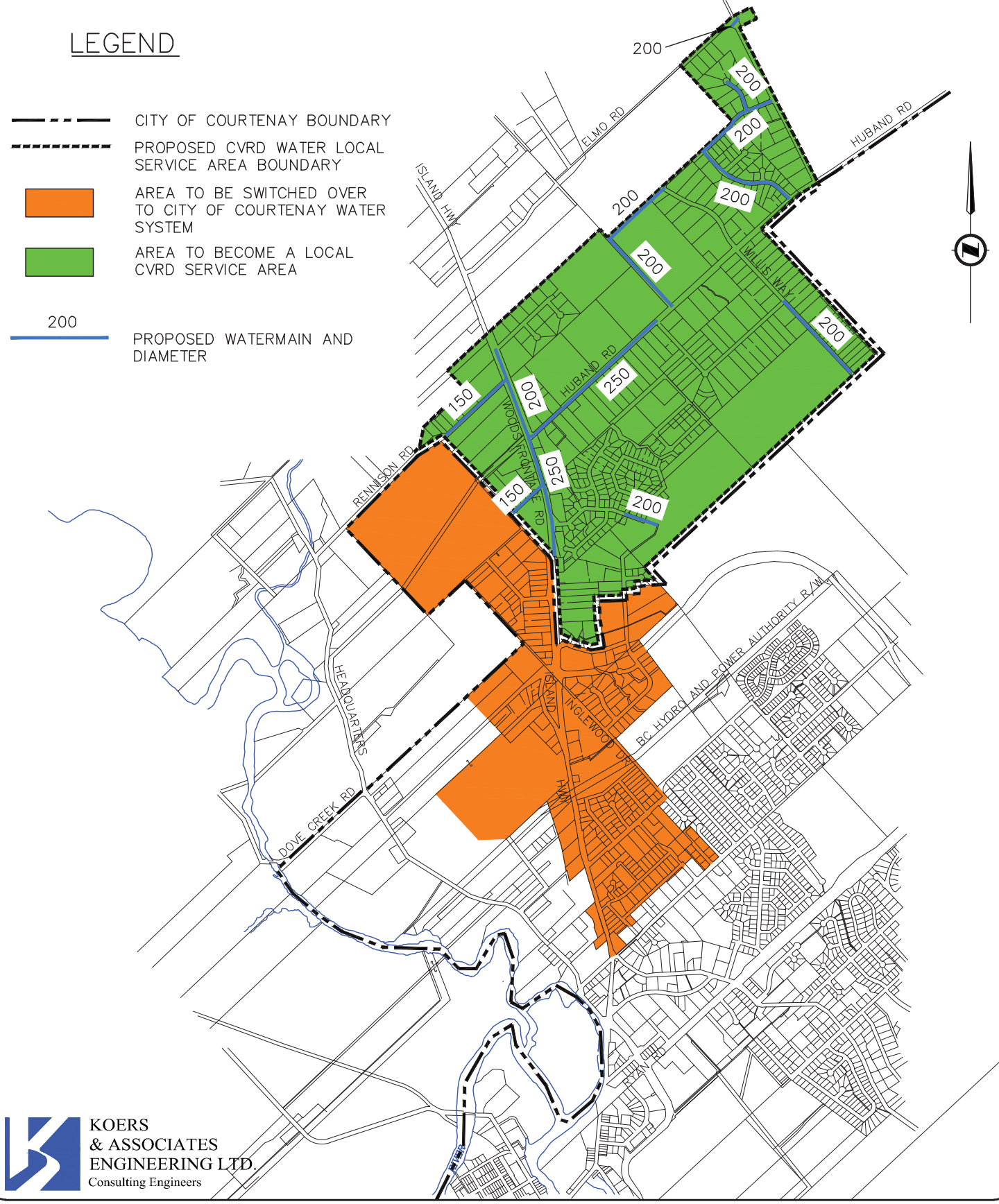


CLIENT
COMOX VALLEY REGIONAL DISTRICT

PROJECT SANDWICK WATERWORKS DISTRICT SYSTEM ASSESSMENT STUDY

TITLE
ALTERNATIVE SUPPLY OPTIONS

PROJECT #	1556		SCALE	1:25,000	DATE AUG 2015
DRAWN	MB	DESIGNED	DWG No.	Figure 1	REV. —
CHECKED		APPROVED			SHEET 1/3



KOERS & ASSOCIATES ENGINEERING LTD.
Consulting Engineers

CLIENT
COMOX VALLEY REGIONAL DISTRICT

PROJECT SANDWICK WATERWORKS DISTRICT SYSTEM ASSESSMENT STUDY

TITLE IMPROVEMENTS REQUIRED TO MEET MMCD DESIGN FIRE FLOWS

PROJECT #	1556		SCALE	1:25,000	DATE AUG 2015
DRAWN	MB	DESIGNED	DWG No.	Figure 2	REV. —
CHECKED		APPROVED			SHEET 2/3

4 UPGRADES

4.1 CAPITAL IMPROVEMENT COST CHARGE

If the Sandwick Waterworks District joins the Comox Valley Water System then a Capital Improvement Cost Charge would be assessed as follows:

Type of property	Capital improvement cost charge
Single family residential	$3,702 per parcel
Multi-family residential	$3,086 per dwelling unit
Congregate care facility	$1,543 per unit
Commercial/institutional	$10.80 per square metre of gross building area
Industrial/public utility	$37,027 per hectare of lot area under development

There are 424 connections outside the City of Courtenay. The information available at the time of the study is that 423 are single family residential and 1 connection is institutional (Huband Park School). The gross building area of the institutional building is unknown at this time and has been estimated at 3,400 m^2 for the purposes of this report and will need to be verified. Therefore the estimated capital charges for the remaining Sandwick Waterworks District to join the CWVS is $1,565,946 for the 423 single family connections and $36,720 for institutional building.

4.2 SYSTEM IMPROVEMENTS

If the CVRD is to take over the operation and maintenance of the system, the following improvements will be required over the short term (0-5 years) and the long term (>10 years).

4.3 SHORT-TERM UPGRADES

Required Distribution System Improvements

The following improvements as listed below and shown on **Figure 3** are required for SWWD to convert to a CVRD Water Local Service Area:

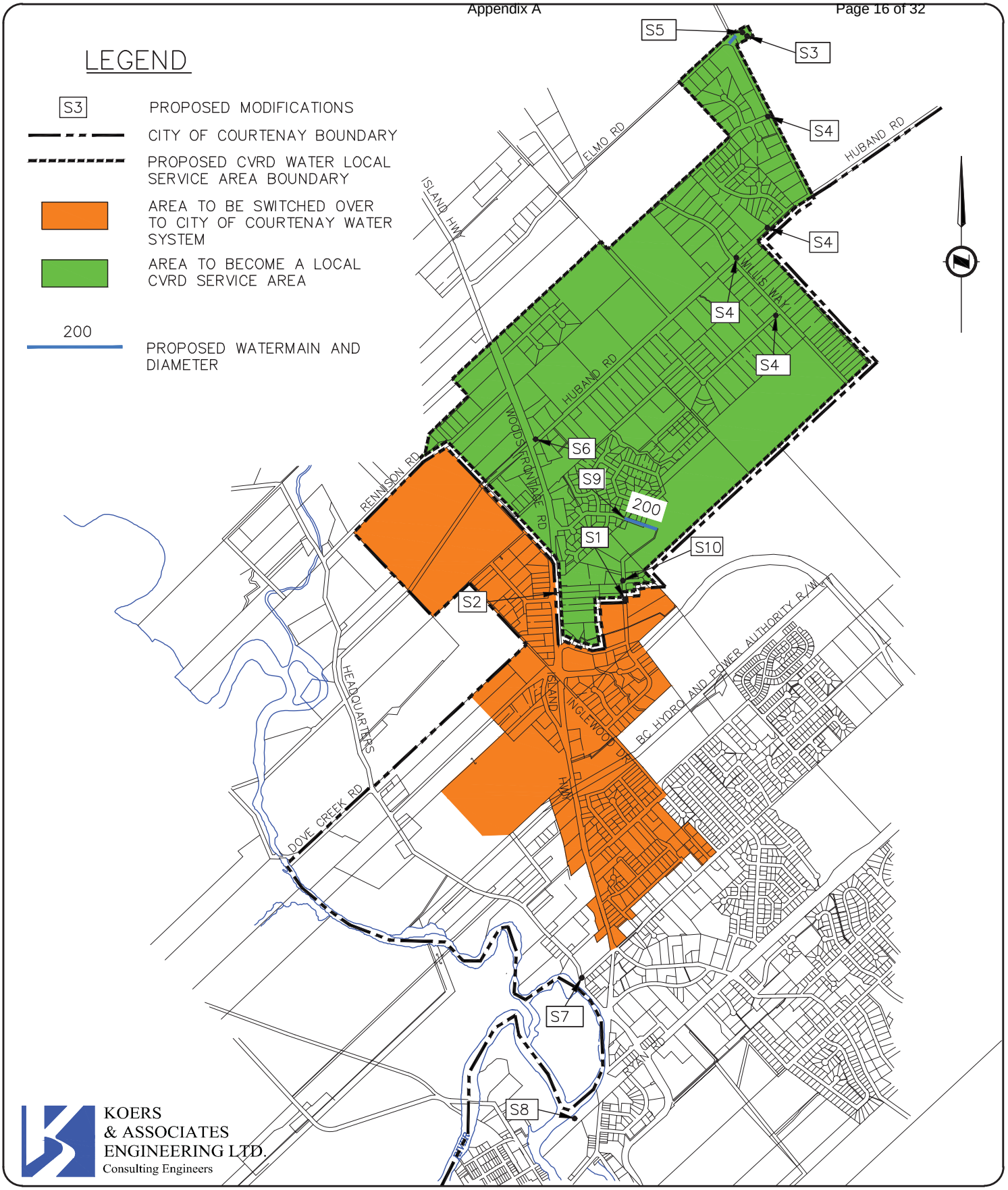
S1 Install a bulk flow meter on the 200 mm dia. main on Wentworth Road, south of Exeter, at the City Boundary. *(To provide service to a CVRD Water Local Service Area)*

S2 Install a bulk flow meter on the 150 mm main crossing Highway 19 A near Cotton Road. *(To provide service to a CVRD Water Local Service Area)*

S3 Decommission Mitchell Road reservoir and pump station.

S4 Remove the existing check valves and open closed valves that formed the pressure zone boundary between PZ 87 and PZ 110. *(To service area from the 120 m HGL)*

S5 Decommission Mitchell Road well. (*To switch over to the Comox Valley Water System source*)



CLIENT
COMOX VALLEY REGIONAL DISTRICT

PROJECT SANDWICK WATERWORKS DISTRICT SYSTEM ASSESSMENT STUDY

TITLE
PROPOSED IMPROVEMENTS

PROJECT #	1556		SCALE	1: 25,000	DATE AUG 2015
DRAWN	MB	DESIGNED	DWG No.	Figure 3	REV. —
CHECKED		APPROVED			SHEET 3/3

S6 Decommission Huband Road well. (*To switch over to the Comox Valley Water System source*)

S7 Decommission Dingwall Road well. (*To switch over to the Comox Valley Water System source*)

S8 Decommission Courtenay River intake pump station and install a cap on the 250 main. (*To switch over to the Comox Valley Water System the section of 250 main between the pump station and project S1 at the intersection of 19A and Suffield Rd would transfer to the City. The main runs along Headquarters Rd, Dingwall Rd {Headquarters Rd to Hwy 19 A}, and Hwy 19A {Dingwall to Suffield}*)

S9 Upgrade the existing 150 mm dia. AC watermain on Virginia Drive from Meadowbrook Crescent 150 m southeast to 200 mm dia. *(The velocity in the existing 150 mm dia. watermain is greater than 1.5m/s under peak hour conditions. In order to reduce the velocity and headloss the watermain requires upgrading to 200 mm dia.)*

S10 Cap the existing 100 mm dia. AC watermain on Wentworth Road, south of Exeter Place, at the SWWD boundary and connect the existing watermain on Exeter Place to the existing 200 mm dia. watermain on Wentworth Road.

S11 Install individual meters on each service connection.

Resulting Pressure Changes

With the above noted changes, the CVRD Water Local Service Area would be fed from the East Courtenay reservoirs (HGL of 120 m). Static pressures in the former 87 m pressure zone and 110 m pressure zones would increase by 323 kPa (46 psi) and 98 kPa (14 psi); respectively.

The increase in pressure should be completed over a four week period by installing a temporary PRV between hydrants on Wentworth Road and incrementally increasing the pressure. The CVRD should be prepared to address some watermain breaks due to the increase in pressure.

Bulk Metering Station

The proposed bulk meter stations for the connections to the SWWD on Wentworth Road and Hwy 19A near Cotton Road will require a check valve and a flow meter at each location housed in a heated kiosk or below ground chamber.

Water Distribution System

It is recommended that for flushing purposes a below or above ground flushout be installed at the following locations:

1) Fredrick Place
2) Veronica Place
3) Lillian Place
4) Short Place

4.4 LONG-TERM UPGRADES

1. Establish a watermain replacement program for the existing watermains. A detailed asset plan of the existing watermains is included in Appendix B.
2. Replace watermains to meet design fire flow requirements as identified on **Figure 2.**
3. Review and install additional isolation valves as part of future watermain projects.
4. Review the existing hydrant spacing and install additional hydrants as part of future watermain projects.

5 COST ESTIMATES

Table 4 and 5 lists the recommended upgrading works, in order of priority, to complete the switch over of the SWWD system as well as other short term and long term project required for the water system.

The cost estimates with exception of the capital cost charges are order of magnitude (Class 'D'), made without preliminary design input. The estimates include a 30% allowance for engineering and contingencies. No allowance has been made for legal, financial or administration costs. The estimates are exclusive of 5% GST.

Table 4 – Cost Estimates Short Term Improvements

Project No. & Location	Project [1]	Length (m)	Cost ($)
S1 Wentworth Rd	Install a bulk flow meter and check valve on 200 mm dia. main at the City boundary south of Exeter Place	n/a	75,000
S2 Highway 19A	Install a bulk flow meter and check on 150 mm dia main crossing Hwy 19A just north of Cotton Rd	n/a	75,000
S3 Mitchell Rd	Abandon bolted steel reservoir and Mitchell Rd booster pump station	n/a	5,000
S4 Multiple Locations	Remove check valves and open closed valves	n/a	5,000
S5 Mitchell Rd	Decommission Mitchell Road well and remove building	n/a	10,000
S6 Huband Rd	Decommission Huband Road well and remove building	n/a	7,000
S7 Dingwall Rd	Decommission Dingwall Road well and remove building	n/a	15,000
S8 Lewis Park	Decommission Courtenay River Intake Pump Station and remove building	n/a	30,000
S9 Virginia Drive	Upgrade the existing 150 mm dia. watermain southeast of Meadowbrook Cres to 200 mm dia.	150	60,000
S10 Wentworth Road	Cap existing 100 mm dia. AC watermain and connect the watermain on Exeter Place to the 200 mm dia. watermain on Wentworth Road	n/a	25,000
S11	Service Connection Meters (424)	$1,200/ea	508,000
S12	CIC Charge (423 residential)	$3,702/ea	1,565,946
	CIC Charge (3,400 m^2 School)	$10.80/$m^2$	36,720
		Total Estimated Cost:	**$2,417,666**

Note:

1 A description of the work included in each estimate is presented under section 4.2 Short-Term Upgrades.

Table 5 - Cost Estimates Long Term Improvements

Item No.	Description	Year Installed *	Replacement Year (1)	Length (m)	Dia. (mm)	Unit Price	Extension
1	# Rennison Road	1966	2026	480	**150**	$380	$182,400
2	# Island Highway (Huband to Cotton)	1966	2026	790	**250**	$445	$351,550
3	# Island Highway (Huband to Parker)	1966	2026	450	**200**	$390	$175,500
4	Virginia Drive (Hwy to Meadowbrook)	1967	2027	545	150	$380	$207,100
5	Short Place	1967	2027	39	100	$355	$13,845
6	Lillian Place	1967	2027	40	100	$355	$14,200
7	O'Brian Road #	1967	2027	195	150	$380	$74,100
8	Gile Road	1967	2027	52	100	$355	$18,460
9	Meadowbrook Cres	1968	2028	165	150	$380	$62,700
10	Gail Cres	1969	2029	730	150	$380	$277,400
11	# Huband Road (Hwy to Childs)	1971	2031	840	**250**	$390	$327,600
12	Childs Road	1972	2032	335	150	$380	$127,300
13	Parker Road	1973	2033	475	150	$380	$180,500
14	Veronica Place	1973	2033	85	100	$355	$30,175
15	Fredrick Place	1973	2033	75	100	$355	$26,625
16	Gibson Road	1973	2033	486	150	$380	$184,680
17	Willis Way NW of Gibson	1973	2033	330	150	$380	$125,400
18	# Willis Way SE of Gibson	1976	2036	476	**200**	$390	$185,640
19	# Venture Road	1976	2036	487	**200**	$390	$189,930
20	# Barbara Road	1976	2036	388	**200**	$390	$151,320
21	Huband Road (Willis Way to Mitchell)	1976	2036	510	150	$380	$193,800
22	Mitchell Road	1976	2036	885	150	$380	$336,300
23	Mitchell Road (Barbara to Elmo)	1976	2036	475	200	$390	$185,250
24	Elmo Road	1976	2036	280	150	$380	$106,400
25	Demarais Place	1976	2036	135	150	$380	$51,300
26	Cooper Place	1976	2036	58	100	$355	$20,590
27	Rook Road	1976	2036	77	100	$355	$27,335
28	# Raven Road	1976	2036	192	**200**	$390	$74,880
29	Paula Place	1976	2036	330	150	$380	$125,400
30	Adrian Road	1976	2036	195	100	$355	$69,225
31	Willis Way NW of Huband Road	1977	2037	470	150	$380	$178,600
32	Exeter Place	1977	2037	97	100	$355	$34,435
33	Tatton Road	1977	2037	304	150	$380	$115,520
34	Mitchell Way to Reservoir Site	1978	2038	95	150	$380	$36,100
35	ROW (Gibson to Cathy)	1979	2039	163	150	$380	$61,940
36	Cathy Cres	1979	2039	150	200	$390	$58,500
37	Cathy Cres	1979	2039	551	150	$380	$209,380
38	ROW (Gail Cres to Cathy Cres)	1979	2039	108	150	$380	$41,040
39	ROW Wentworth Road to Virginia Drive	1979	2039	284	200	$390	$110,760
40	ROW from Willis Way to Venture Road	1980	2040	200	150	$380	$76,000
41	Huband Road (Childs to Mitchell) **	1983	2068	1,025	250	$445	$456,125
42	Wentworth Road **	1983	2068	300	200	$390	$117,000
43	Mitchell Road (Huband to Barbara) **	1985	2070	430	250	$445	$191,350

Item No.	Description	Year Installed *	Replacement Year (1)	Length (m)	Dia. (mm)	Unit Price	Extension
System Improvements							
44	26 Hydrants					$5,000	$130,000
45	Add Isolation Valves					Allowance	$30,000
46	Loop main from Huband to Willis Way			826	200	$390	$322,140
						Subtotal	**$6,265,795**

* Assumed based on registration of legal plans.

** Installation year based on record drawing information.

upgrade required to meet MMCD design fire flows with diameter in **red.**

(1) Replacement year based on a service life of 60 years for AC watermains and 85 years for PVC watermains. A detailed asset plan is included in Appendix B

6 CONCLUSIONS & RECOMMENDATIONS

6.1 CONCLUSIONS

Based on the findings of this report, the following conclusions are made:

1 SWWD requested that the CVRD consider creating a local service area that would take over the service connections located outside the City of Courtenay which is supplied by the Comox Valley Water System (CVWS).

2 Joining the CVWS will require the SWWD to pay a Capital Improvement Charge for each service connection.

3 The average day demands for the last 8 years is 12.3 lps for the entire SWWD of that 7.4 lps will be taken over by the CVRD.

4 Maximum day and peak hour demands are based on peaking factors derived from the previous CVRD report.

5 The existing 150 mm dia. watermain on Virginia Drive from Meadowbrook Crescent southeast has a velocity > 1.5 m/s under peak hour demands.

6 The existing water sources for the SWWD will need to be abandoned as part of the service switchover.

7 The existing Mitchell Road reservoir and pump station will need to be abandoned as part of the service switchover.

8 The existing closed valves and check valves will need to be opened / removed to create one pressure zone.

9 The existing hydrant spacing should be reviewed and additional hydrants installed when the future watermain replacements occur.

10 There are several dead ends that do not have standpipes for flushing.

11 Additional line valves should be installed to improve the ability to isolate the system when the future watermain replacements occur.

12 There have been no water quality issues in the distribution system based on the results of the SWWD testing program.

13 The SWWD has completed a flushing program however the frequency is not known.

14 Approximately 60% of the SWWD is located outside of the City of Courtenay.

6.2 RECOMMENDATIONS

Based on the conclusions listed in this report, the following recommendations are made:

<u>Short-Term Upgrades</u>

1 Review the operational and maintenance records of the SWWD.
2 Implement the items listed in Section 4.3.

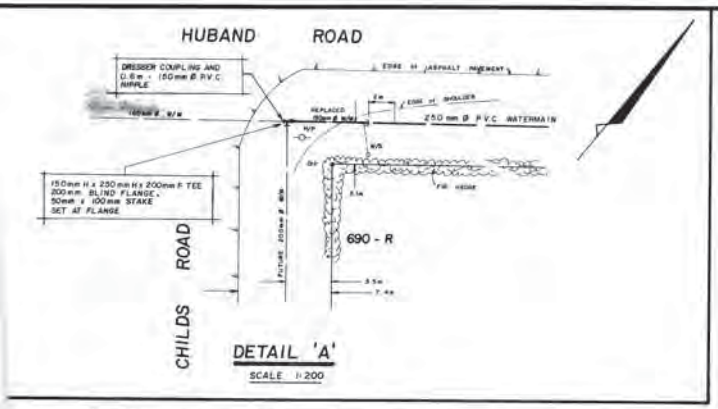
Long-Term Upgrades

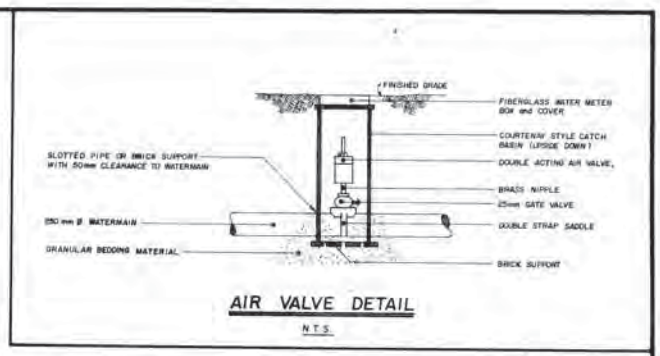
3 Upgrade existing watermains as shown on Figure 3 to meet MMCD design fire flow requirements.

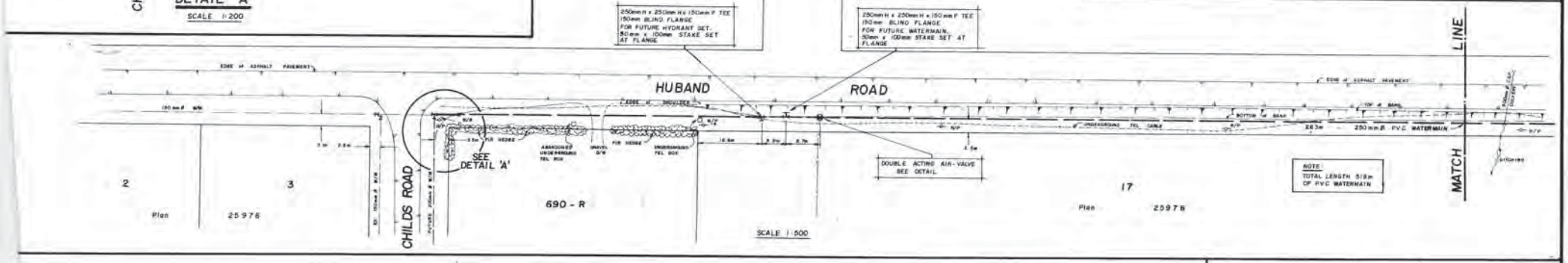
4 Establish a watermain replacement program based on the watermain material service life as shown on Table 5.

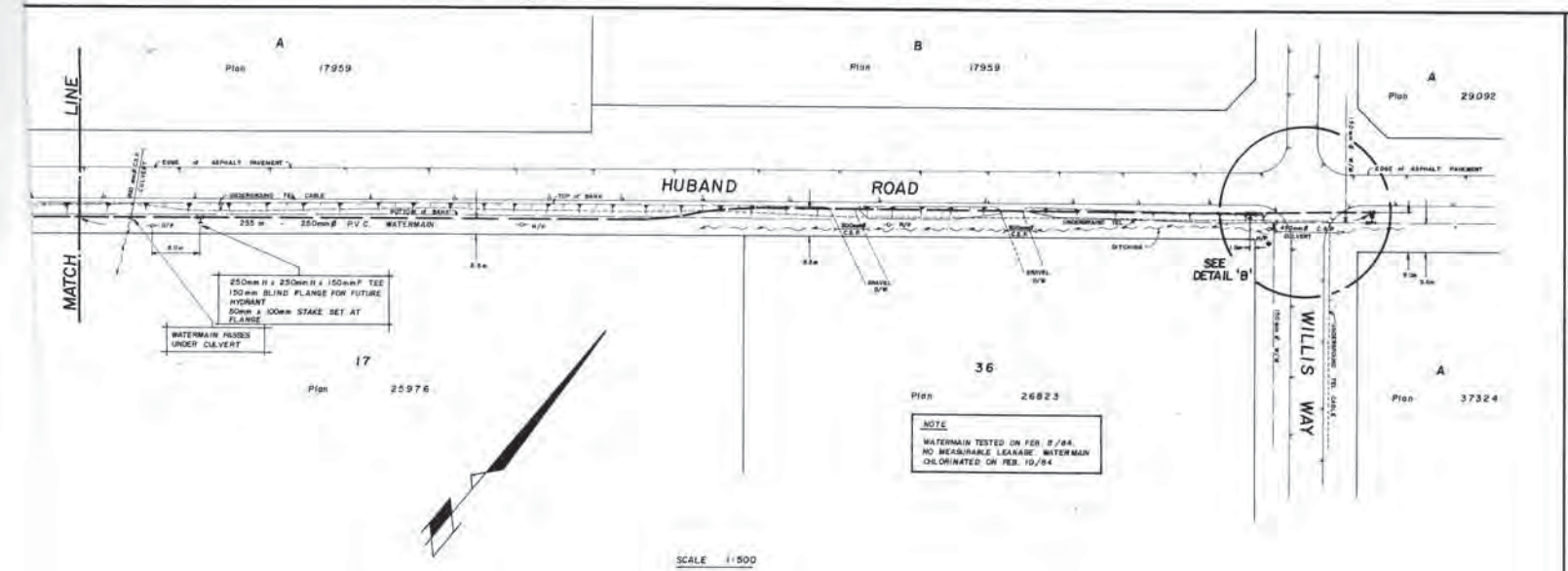
5 Improve hydrant spacing and isolation valve placement with future improvement projects.

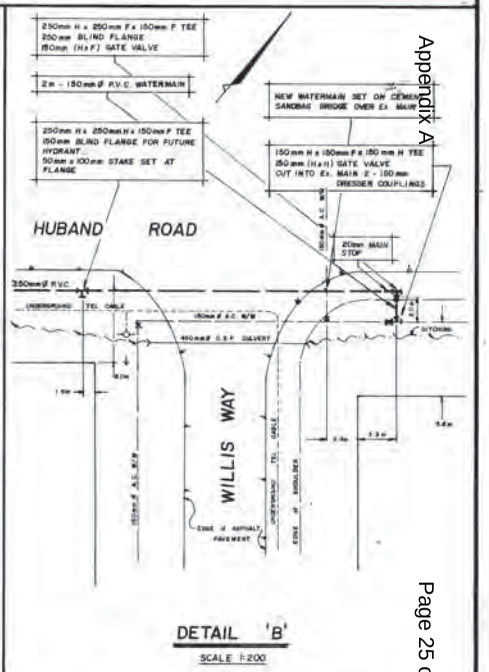
APPENDIX A
DRAWINGS











Appendix A

AS - CONSTRUCTED	MH	FWD	
Revision	Dr.	Ch.	

McElhanney Surveying & Engineering Ltd.
495 Sixth Street, Courtenay, B.C. V9N 6V4 Telephone 338-5495

McElhanney

SANDWICK WATERWORKS DISTRICT

WATERMAIN - HUBAND ROAD

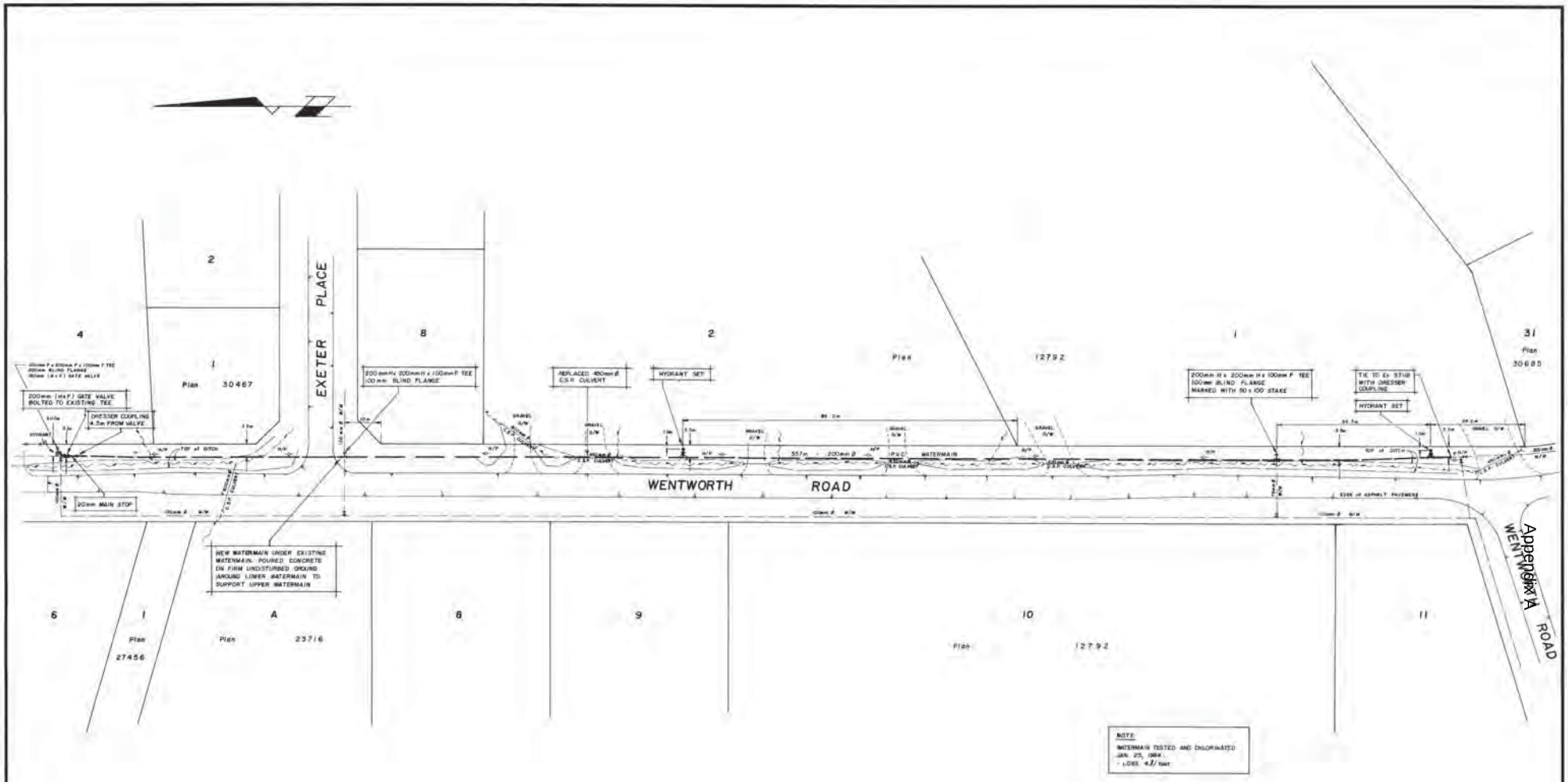
1983/84 WATER IMPROVEMENTS PROGRAM

COURTENAY, B.C.

Designed	CBS	Job No.	24364
Drawn	FWD	Scale	AS NOTED
Checked	FWD	Date	NOVEMBER, 1983
Approved		Revision	1

Drawing No. W-11 of 11

Destroy all prints bearing previous number



Job No. 24364 - W-10

No.	Date	Revision	Dr.	Ch.
1	FEB./84	AS CONSTRUCTED	CBS	FWD

McElhanney Surveying & Engineering Ltd.
495 Sixth Street, Courtenay, B.C. V9N 6V4 Telephone 338-5495

McElhanney

SANDWICK WATERWORKS DISTRICT

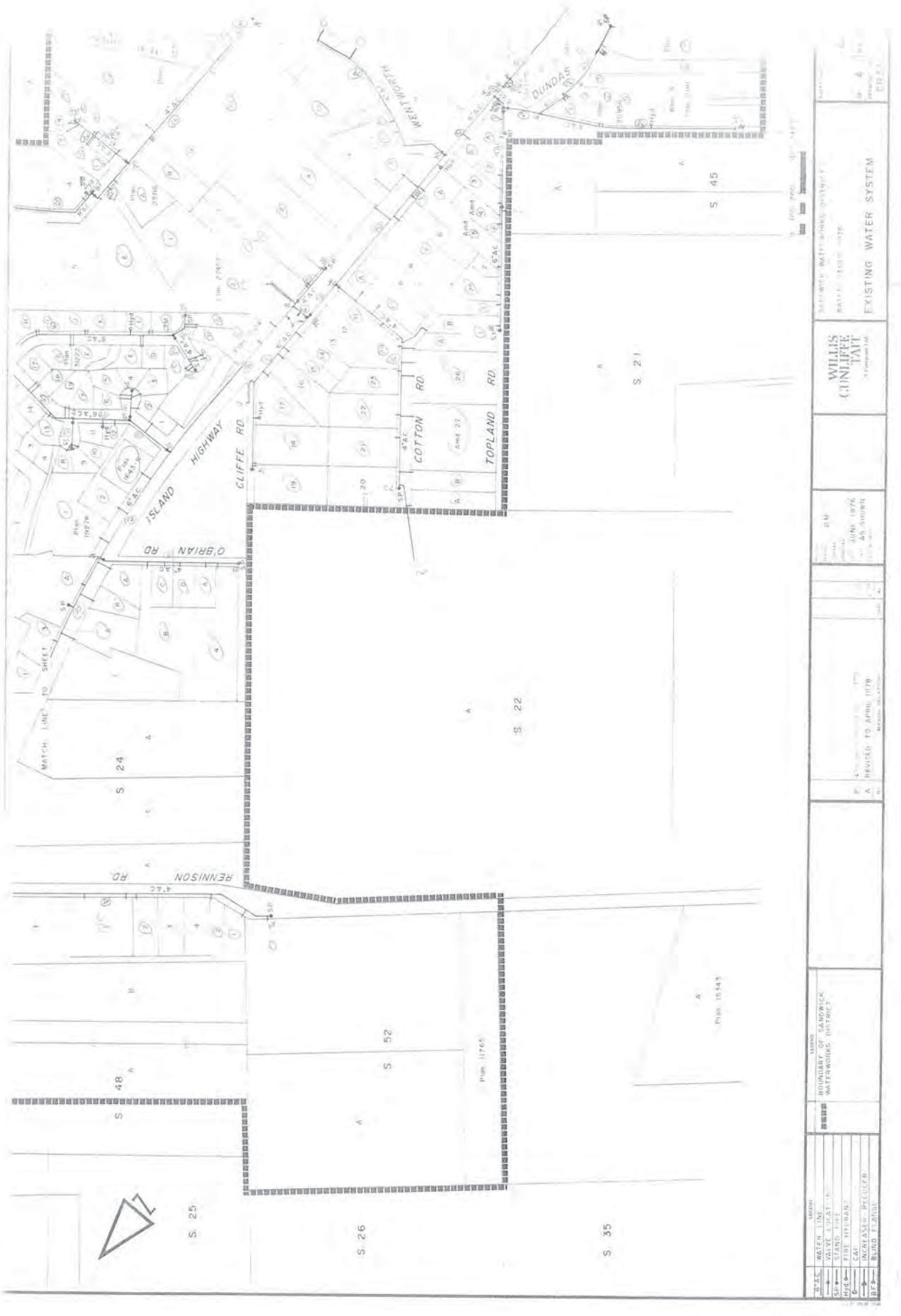
WATERMAIN - WENTWORTH ROAD

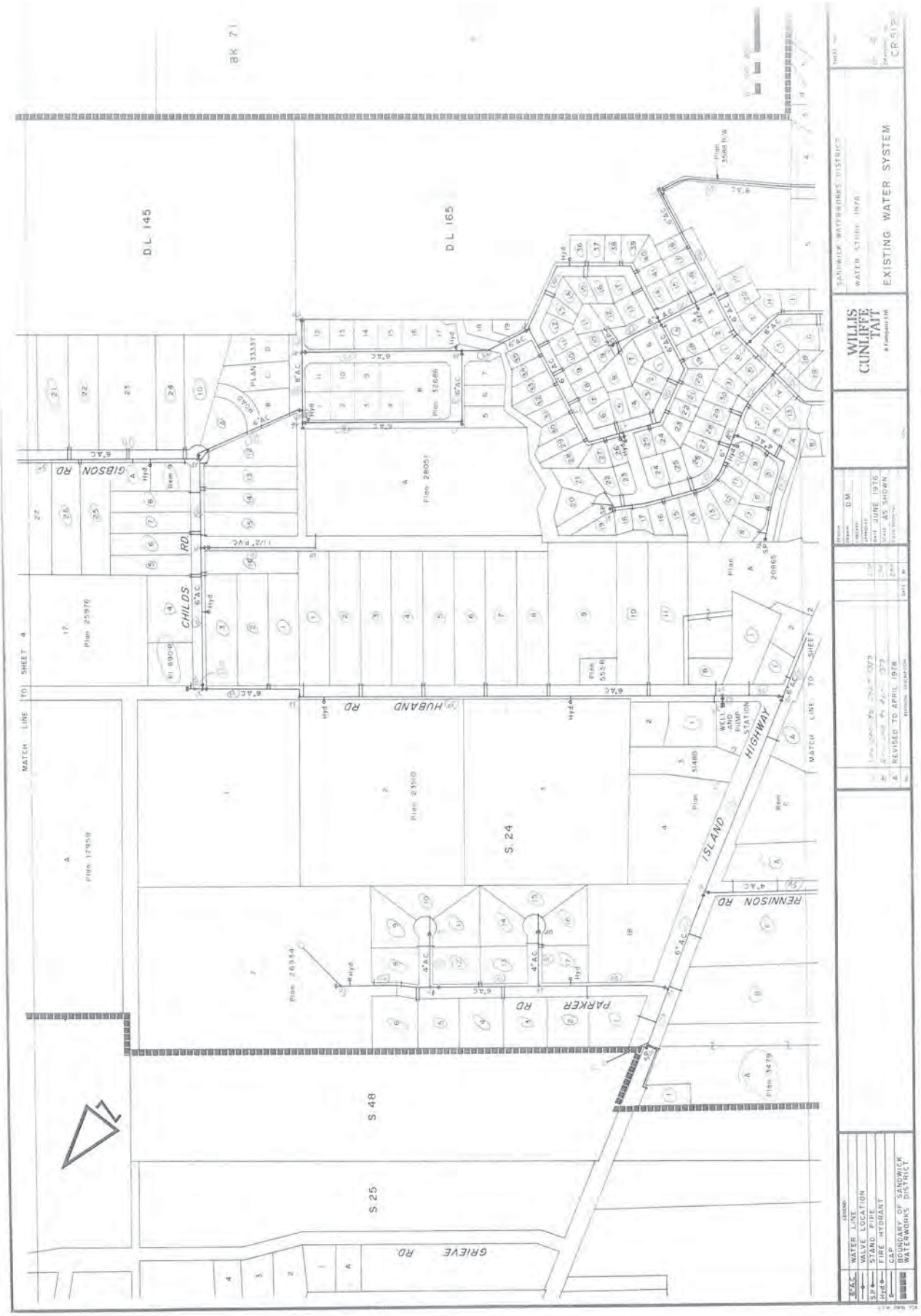
1983/84 WATER IMPROVEMENT PROGRAM
COURTENAY, B.C.

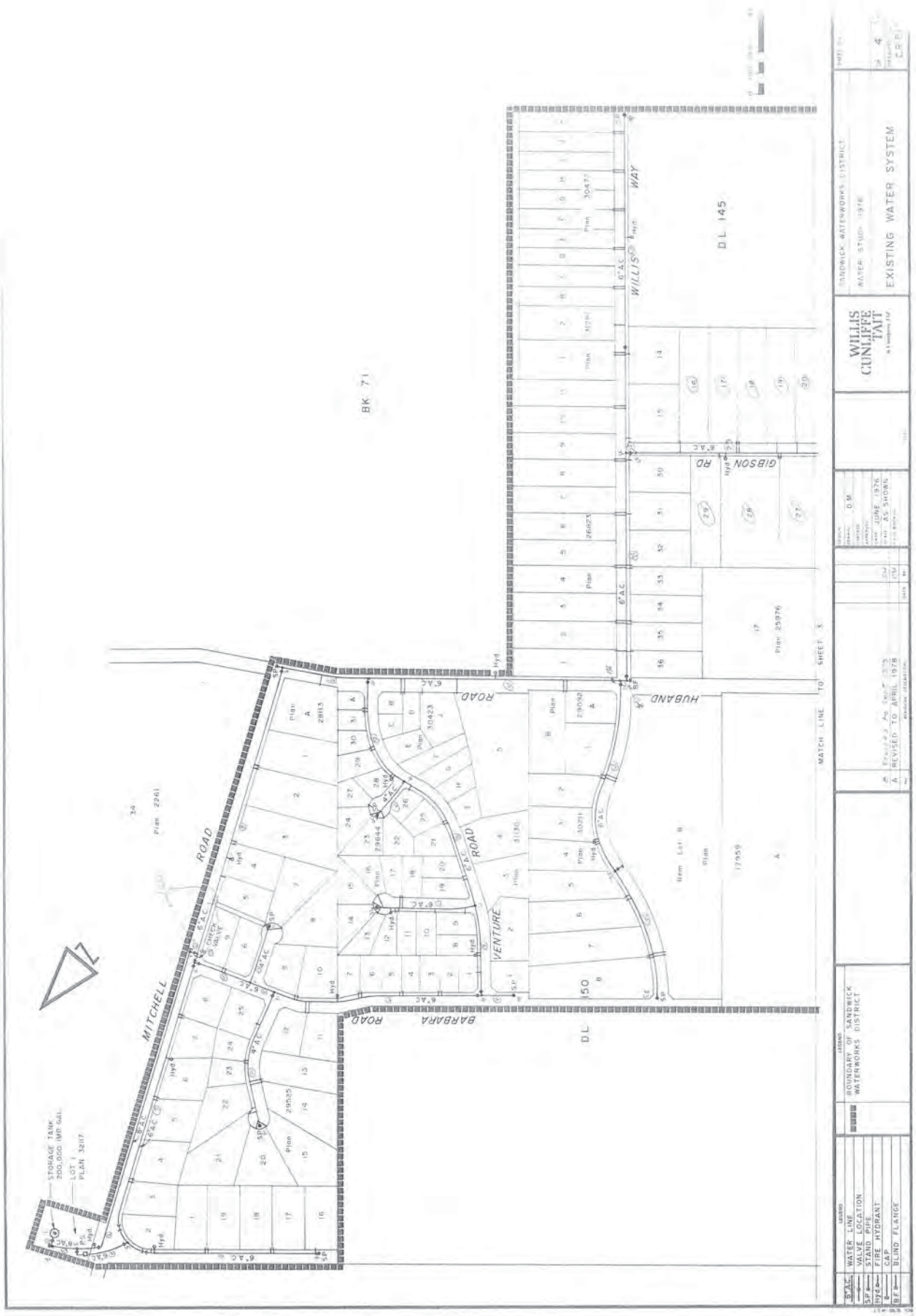
Designed	CBS	Job No.	24364
Drawn	FWD	Scale	1:500
Checked	FWD	Date	NOVEMBER, 1983
Approved		Revision	1

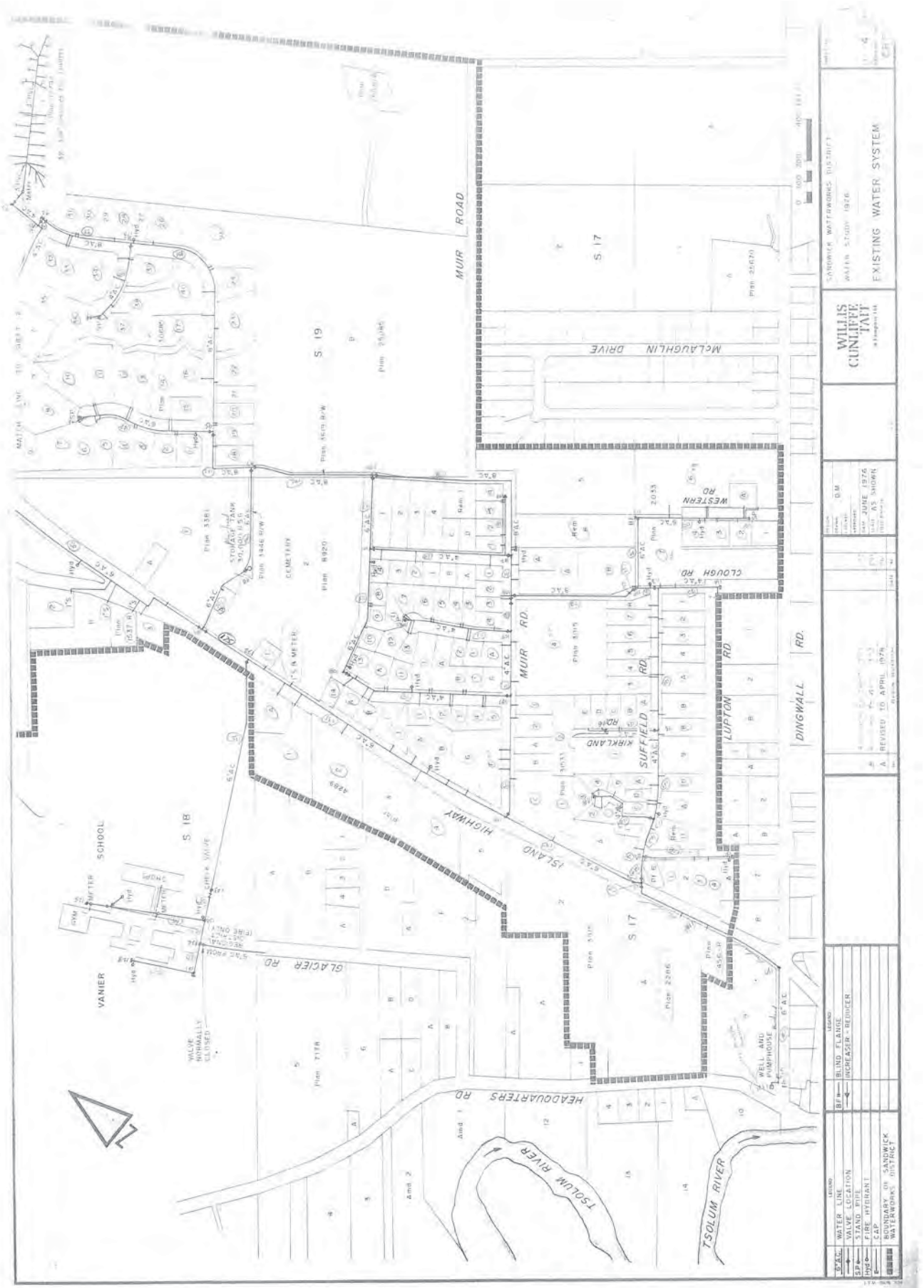
Drawing No. W-10 of 11

Destroy all prints bearing previous number


DUNDAS
MACQUARIE
ISLAND HIGHWAY
CLIFFE RD
COTTON RD
TOPLAND RD
O'BRIAN RD
RENNISON RD
MATCH LINE
SHEET 2
S 21
S 22
S 24
S 25
S 26
S 35
S 45
S 48
S 52
Plan 11765
Plan 15141
WILLS CUNLIFFE TAIT
EXISTING WATER SYSTEM
BOUNDARY OF SANDWICK WATERWORKS DISTRICT
WATER LINE
VALVE & PIT
FIRE HYDRANT
CAP
INCREASER REDUCER
BLIND FLANGE


SANDWICK WATERWORKS DISTRICT
WATER STUDY 1976
EXISTING WATER SYSTEM
WILLIS CUNLIFFE TAIT
DATE JUNE 1976
SCALE AS SHOWN
REVISED TO APRIL 1978
DRAWING NO. CR 612
WATER LINE
VALVE LOCATION
STAND PIPE
FIRE HYDRANT
BOUNDARY OF SANDWICK WATERWORKS DISTRICT
D.L. 145
D.L. 165
BK 71
GIBSON RD
CHILDS RD
HUBAND RD
PARKER RD
GRIEVE RD
RENNISON RD
ISLAND HIGHWAY
WELL AND PUMP STATION
MATCH LINE TO SHEET 4
MATCH LINE TO SHEET 5
S 24
S 48
S 25


EXISTING WATER SYSTEM
SANDWICK WATERWORKS DISTRICT
WATER STUDY 1978
WILLIS GUNLIFFE TAIT
REVISED TO APRIL 1978
WILLIS WAY
GIBSON RD
HUBAND ROAD
VENTURE ROAD
BARBARA ROAD
MITCHELL ROAD
DL 145
DL 150
BK 71
MATCH LINE TO SHEET 3
STORAGE TANK 200,000 IMP GAL.
LOT 1 PLAN 3217
WATER LINE
VALVE
FIRE HYDRANT
CAP
BLIND FLANGE
BOUNDARY OF SANDWICK WATERWORKS DISTRICT


MUIR ROAD
MCLAUGHLIN DRIVE
WESTERN RD.
CLOUGH RD.
MUIR RD.
SUFFIELD RD.
KIRKLAND RD.
LUPTON RD.
DINGWALL RD.
ISLAND HIGHWAY
GLACIER RD.
HEADQUARTERS RD.
SCHOOL
VANIER
CEMETERY
STORAGE TANK
TSOLUM RIVER
WELL AND PUMPHOUSE
S 17
S 18
S 19
WILLIS CUNLIFFE TAIT
SANDWICK WATERWORKS DISTRICT
WATER STUDY 1976
EXISTING WATER SYSTEM
REVISED TO APRIL 1978
WATER LINE
VALVE LOCATION
STANDPIPE
FIRE HYDRANT
CAP
BOUNDARY OF SANDWICK WATERWORKS DISTRICT
BLIND FLANGE
INCREASER - REDUCER

APPENDIX B
ASSET TABLE

Sandwick Water System - Replacement Costs for Works Located Outside the City of Courtenay Municipal Boundary

Item No.	Description	Year Constructed *	Age (years)	Life Cycle (years)	Replacement Year	Service Life Remaining	Existing			Proposed		Unit Price	Extension
							Dia	Material	Length	Dia	Material		
1	Rennison Road	1966	49	60	2026	11	100	AC	480	150	PVC	$380	$182,400
2	Island Highway (Hubband to Rennison)	1966	49	60	2026	11	150	AC	790	250	PVC	$445	$351,550
3	Island Highway (Hubband to Parker)	1966	49	60	2026	11	150	AC	450	200	PVC	$390	$175,500
4	Virginia Drive	1967	48	60	2027	12	150	AC	545	150	PVC	$380	$207,100
5	Short Place	1967	48	60	2027	12	100	AC	39	100	PVC	$355	$13,845
6	Lillian Place	1967	48	60	2027	12	100	AC	40	100	PVC	$355	$14,200
7	O'Brian Road	1967	48	60	2027	12	100	AC	195	150	PVC	$380	$74,100
8	Gile Road	1967	48	60	2027	12	100	AC	52	100	PVC	$355	$18,460
9	Meadowbrook Cres	1968	47	60	2028	13	150	AC	165	150	PVC	$380	$62,700
10	Gail Cres	1969	46	60	2029	14	150	AC	730	150	PVC	$380	$277,400
11	Huband Road	1971	44	60	2031	16	150	AC	840	200	PVC	$390	$327,600
12	Childs Road	1972	43	60	2032	17	150	AC	335	150	PVC	$380	$127,300
13	Parker Road	1973	42	60	2033	18	150	AC	475	150	PVC	$380	$180,500
14	Veronica Place	1973	42	60	2033	18	100	AC	85	100	PVC	$355	$30,175
15	Fredrick Place	1973	42	60	2033	18	100	AC	75	100	PVC	$355	$26,625
16	Gibson Road	1973	42	60	2033	18	150	AC	486	150	PVC	$380	$184,680
17	Willis Way NW	1973	42	60	2033	18	150	AC	330	150	PVC	$380	$125,400
18	Willis Way SE	1976	39	60	2036	21	150	AC	476	200	PVC	$390	$185,640
19	Venture Road	1976	39	60	2036	21	150	AC	487	200	PVC	$390	$189,930
20	Barbara Road	1976	39	60	2036	21	150	AC	388	200	PVC	$390	$151,320
21	Huband Road (Willis Way to Mitchell)	1976	39	60	2036	21	150	AC	510	150	PVC	$380	$193,800
22	Mitchell Road	1976	39	60	2036	21	150	AC	885	150	PVC	$380	$336,300
23	Mitchell Road (Barbara to Elmo)	1976	39	60	2036	21	200	AC	475	200	PVC	$390	$185,250
24	Elmo Road	1976	39	60	2036	21	150	AC	280	150	PVC	$380	$106,400
25	Demarais Place	1976	39	60	2036	21	150	AC	135	150	PVC	$380	$51,300
26	Cooper Place	1976	39	60	2036	21	100	AC	58	100	PVC	$355	$20,590
27	Rook Road	1976	39	60	2036	21	100	AC	77	100	PVC	$355	$27,335
28	Raven Road	1976	39	60	2036	21	100	AC	192	200	PVC	$390	$74,880
29	Paula Place	1976	39	60	2036	21	150	AC	330	150	PVC	$380	$125,400
30	Adrian Road	1976	39	60	2036	21	100	AC	195	100	PVC	$355	$69,225
31	Willis Way NW of Huband Road	1977	38	60	2037	22	150	AC	470	150	PVC	$380	$178,600
32	Exeter Place	1977	38	60	2037	22	100	AC	97	100	PVC	$355	$34,435
33	Tatton Road	1977	38	60	2037	22	150	AC	304	150	PVC	$380	$115,520
34	Mitchell Way to Reservoir Site	1978	37	60	2038	23	150	AC	95	150	PVC	$380	$36,100
35	ROW (Gibson to Cathy)	1979	36	60	2039	24	150	AC	163	150	PVC	$380	$61,940
36	Cathy Cres	1979	36	60	2039	24	200	AC	150	200	PVC	$390	$58,500
37	Cathy Cres	1979	36	60	2039	24	150	AC	551	150	PVC	$380	$209,380
38	ROW (Gail Cres to Cathy Cres)	1979	36	60	2039	24	150	AC	108	150	PVC	$380	$41,040
39	ROW Wentworth Road to Virginia Drive	1979	36	60	2039	24	200	AC	284	200	PVC	$390	$110,760
40	ROW from Willis Way to Venture Road	1980	35	60	2040	25	150	AC	200	150	PVC	$380	$76,000
41	Huband Road (Childs Road to Mitchell Road) **	1983	32	85	2068	53	250	PVC	1,025	250	PVC	$445	$456,125
42	Wentworth Road **	1983	32	85	2068	53	200	PVC	300	200	PVC	$390	$117,000
43	Mitchell Road (Huband Road to Barbara Road) **	1985	30	85	2070	55	250	PVC	430	250	PVC	$445	$191,350

* Assumed based on registration of legal plans

** Installation year based on record drawing information

Sandwick Waterworks District
Consolidated Financial Statements
December 31, 2014

MNP LLP

Sandwick Waterworks District

Contents

For the year ended December 31, 2014

Page

Management's Responsibility

To the Board of Trustees of Sandwick Waterworks District:

Management is responsible for the preparation and presentation of the accompanying consolidated financial statements, including responsibility for significant accounting judgments and estimates in accordance with Canadian public sector accounting standards and ensuring that all information in the annual report is consistent with the statements. This responsibility includes selecting appropriate accounting principles and methods, and making decisions affecting the measurement of transactions in which objective judgment is required.

In discharging its responsibilities for the integrity and fairness of the consolidated financial statements, management designs and maintains the necessary accounting systems and related internal controls to provide reasonable assurance that transactions are authorized, assets are safeguarded and financial records are properly maintained to provide reliable information for the preparation of financial statements.

The Board of Trustees is composed primarily of Trustees who are neither management nor employees of the District. The Board is responsible for overseeing management in the performance of its financial reporting responsibilities, and for approving the financial information included in the annual report. The Board fulfils these responsibilities by reviewing the financial information prepared by management and discussing relevant matters with management and external auditors.

MNP LLP, an independent firm of Chartered Professional Accountants, is appointed by the Board to audit the consolidated financial statements and report directly to them; their report follows. The external auditors have full and free access to, and meet periodically and separately with, both the Board and management to discuss their audit findings.

October 19, 2015

Administrator

Independent Auditors' Report

To the Board of Trustees of Sandwick Waterworks District:

We have audited the accompanying consolidated financial statements of Sandwick Waterworks District, which comprise the consolidated statement of financial position as at December 31, 2014, and the consolidated statements of operations, accumulated surplus, change in net financial assets and cash flows and the related schedule for the year then ended, and a summary of significant accounting policies and other explanatory information.

Management's Responsibility for the Financial Statements
Management is responsible for the preparation and fair presentation of these consolidated financial statements in accordance with Canadian public sector accounting standards, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility
Our responsibility is to express an opinion on these consolidated financial statements based on our audit. We conducted our audit in accordance with Canadian generally accepted auditing standards. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements.

We believe that the audit evidence we have obtained in our audit is sufficient and appropriate to provide a basis for our qualified audit opinion.

Basis for Qualified Opinion
During the year the District received a donation of tangible capital assets from a developer which was recorded in the amount of $116,192. The District was unable to obtain documentation supporting the recorded amount and we were unable to determine if adjustments to tangible capital assets, accumulated surplus, donated tangible capital asset revenue, amortization expense or annual surplus might be necessary.

Qualified Opinion
In our opinion, except for the effects of the matters described in the Basis for Qualified Opinion paragraph, the consolidated financial statements present fairly, in all material respects, the financial position of Sandwick Waterworks District as at December 31, 2014 and the results of its operations, changes in net financial assets and its cash flows for the year then ended in accordance with Canadian public sector accounting standards.

Nanaimo, British Columbia

October 19, 2015

MNP LLP

Chartered Professional Accountants

Sandwick Waterworks District

Consolidated Statement of Financial Position

As at December 31, 2014

	2014	2013
Financial Assets		
Cash *(Note 3)*	**179,894**	74,634
Temporary investments	**117,142**	114,842
Accounts receivable *(Note 4)*	**46,118**	64,933
	343,154	254,409
Financial Liabilities		
Accounts payable and accrued liabilities	**20,109**	20,782
Net Financial Assets	**323,045**	233,627
Non-Financial Assets		
Prepaid expenses	**7,913**	7,642
Inventory	**4,743**	4,743
Tangible capital assets *(Note 5, Schedule 1)*	**733,029**	655,818
	745,685	668,203
Accumulated Surplus *(Note 9)*	**1,068,730**	901,830

Approved on behalf of the Board

M. Bentley
Trustee

Trustee

The accompanying notes are an integral part of these financial statements

MNP LLP

Sandwick Waterworks District
Consolidated Statement of Operations
For the year ended December 31, 2014

	2014 Budget (Note 10)	2014	2013
Revenue			
Water tolls	**328,283**	**315,614**	275,762
Donated tangible capital assets	**-**	**116,192**	-
Interest and investment income	**-**	**10,171**	2,699
Connection fees	**-**	**475**	-
	328,283	**442,452**	278,461
Expenses			
Administrative services			
Advertising	**450**	**587**	975
Amortization	**-**	**6,890**	5,781
Honoraria	**7,000**	**5,350**	4,550
Insurance	**11,000**	**9,914**	11,068
Interest and bank charges	**600**	**1,707**	625
Office, licences and travel	**19,050**	**17,536**	15,121
Professional fees	**14,000**	**14,468**	12,803
Rent	**8,500**	**8,160**	7,232
Salaries and benefits *(Note 11)*	**52,500**	**92,129**	87,766
Sub-contractors	**-**	**2,428**	6,821
Telephone	**6,500**	**5,688**	5,902
	119,600	**164,857**	158,644
Water services			
Amortization	**-**	**43,396**	45,146
Power	**35,000**	**28,884**	25,660
Repairs and maintenance	**76,500**	**38,415**	21,024
Salaries and benefits	**60,000**	**-**	-
	171,500	**110,695**	91,830
Total expenses	**291,100**	**275,552**	250,474
Annual surplus	**37,183**	**166,900**	27,987

The accompanying notes are an integral part of these financial statements

MNP LLP

Sandwick Waterworks District

Consolidated Statement of Accumulated Surplus

For the year ended December 31, 2014

	2014	*2013*
Accumulated surplus, beginning of year	**901,830**	873,843
Annual surplus	**166,900**	27,987
Accumulated surplus, end of year	**1,068,730**	901,830

The accompanying notes are an integral part of these financial statements

Sandwick Waterworks District

Consolidated Statement of Change in Net Financial Assets

For the year ended December 31, 2014

	2014 *Budget (Note 10)*	***2014***	*2013*
Annual surplus	**37,183**	**166,900**	27,987
Acquisition of tangible capital assets	**(6,000)**	**(127,497)**	(6,227)
Amortization of tangible capital assets	-	**50,286**	50,929
Decrease in prepaid expenses	-	**(271)**	1,036
Change in net financial assets	**31,183**	**89,418**	73,725
Net financial assets, beginning of year	**233,627**	**233,627**	159,902
Net financial assets, end of year	**264,810**	**323,045**	233,627

The accompanying notes are an integral part of these financial statements

Sandwick Waterworks District
Consolidated Statement of Cash Flows
For the year ended December 31, 2014

	2014	*2013*
Cash provided by (used for) the following activities		
Operating activities		
Annual surplus	**166,900**	27,987
Amortization	**50,286**	50,929
Contributed tangible capital assets	**(116,192)**	-
Changes in working capital		
Accounts receivable	**18,815**	(29,877)
Prepaid expenses	**(271)**	1,036
Accounts payable and accrued liabilities	**(673)**	2,470
Deferred revenue	**-**	(3,795)
	118,865	48,750
Investing activities		
Acquisition of tangible capital assets	**(11,305)**	(6,227)
Financing activities		
Purchase of temporary investments	**(117,142)**	(114,842)
Redemption of temporary investments	**114,842**	112,543
	(2,300)	(2,299)
Increase in cash resources	**105,260**	40,224
Cash resources, beginning of year	**74,634**	34,410
Cash resources, end of year	**179,894**	74,634

The accompanying notes are an integral part of these financial statements

Sandwick Waterworks District
Notes to the Consolidated Financial Statements
For the year ended December 31, 2014

1. Incorporation and operations

The District was incorporated on April 29, 1969 and is subject to the provisions contained in the *Local Government Act*, a statute of the British Columbia provincial government. The principal activities of the District are to provide water service to the residents of the Sandwick Waterworks District and to maintain and repair all wells and water lines associated with that service.

2. Significant accounting policies

Basis of presentation

The financial statements have been prepared in accordance with the recommendations of the Public Sector Accounting Board of CPA Canada. In accordance with these recommendations, the District has implemented the consolidation of all funds. The consolidated financial statements reflect the removal of internal transactions and balances.

Temporary investments

Temporary investments are comprised of various guaranteed investment certificates. They are valued at cost.

Inventory

Inventory of supplies are recorded at the lower of cost and replacement costs. Cost is determined using the specific identification method.

Tangible capital assets

Tangible capital assets are recorded at cost which includes all amounts that are directly attributable to acquisition, construction, development or betterment of the asset. The cost, less residual value, of the tangible capital assets are amortized on a straight-line basis over their estimated useful life as follows:

Automotive	6 years
Buildings	50 years
Computer equipment	5 years
Computer software	2 years
Equipment	5 years
Water pumping stations and reservoirs	20 to 60 years
Water system network	40 to 80 years

Tangible capital assets received as contributions are recorded at their fair value at the date of receipt. In the year of acquisition, amortization is taken at one half of the above rates. Land is not amortized.

Revenue recognition

Water toll revenues are recognized on a quarterly basis once service has been provided. Discounts on water toll revenues are recognized on a cash basis depending on when water tolls are paid. Connection fees revenue are recognized when the water is connected. Interest and investment income is recognized as revenue as earned on an accrual basis.

Sandwick Waterworks District
Notes to the Consolidated Financial Statements
For the year ended December 31, 2014

2. Significant accounting policies *(Continued from previous page)*

Measurement uncertainty

The preparation of financial statements in conformity with Canadian public sector accounting standards requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenses during the reporting period.

Accounts receivable are stated after evaluation as to their collectability and an appropriate allowance for doubtful accounts is provided where considered necessary. Provisions are made for slow moving and obsolete inventory when considered necessary. Amortization is based on the estimated useful lives of tangible capital assets.

These estimates and assumptions are reviewed periodically and, as adjustments become necessary they are reported in annual surplus (deficit) in the periods in which they become known.

Recent accounting pronouncements

Liability for contaminated sites
In June 2010, the Public Sector Accounting Board (PSAB) issued PS 3260 *Liability for Contaminated Sites* to establish recognition, measurement and disclosure standards for liabilities associated with the remediation of contaminated sites. The new section defines activities included in a liability for remediation, establishes when to recognize and how to measure a liability for remediation, and provides the related financial statement presentation and disclosure requirements.

PS 3260 is effective for fiscal years beginning on or after April 1, 2014. The District has not yet determined the impact that adoption will have on its financial statements.

3. Cash

	2014	*2013*
Operating Fund		
Cash	**169,378**	74,621
Capital Development Fund		
Cash	**10,516**	13
	179,894	74,634

4. Accounts receivable

	2014	*2013*
Trade accounts receivable	**50,879**	67,019
Goods and services tax receivable	**3,780**	17,887
Allowance for doubtful accounts	**(8,541)**	(19,973)
	46,118	64,933

Sandwick Waterworks District
Notes to the Consolidated Financial Statements
For the year ended December 31, 2014

5. Tangible capital assets

	Cost	Accumulated amortization	2014 Net book value	2013 Net book value
Land	**2,906**	**-**	**2,906**	2,906
Automotive	**13,654**	**3,756**	**9,898**	319
Buildings	**56,181**	**23,582**	**32,599**	33,661
Computer equipment	**5,288**	**4,530**	**758**	975
Computer software	**3,047**	**2,285**	**762**	2,285
Equipment	**41,650**	**37,740**	**3,910**	6,273
Water pumping stations and reservoirs	**412,629**	**161,485**	**251,144**	230,964
Water system network	**1,823,706**	**1,392,654**	**431,052**	378,435
	2,359,061	**1,626,032**	**733,029**	655,818

During the year, the District received donated tangible capital assets valued at $116,192 (2013 - nil).

For additional information, see the Consolidated Schedule of Tangible Capital Assets (Schedule 1).

6. Financial instruments

The District as part of its operations carries a number of financial instruments. The District's financial instruments consist of cash, temporary investments, accounts receivable and accounts payable and accrued liabilities. It is management's opinion that the District is not exposed to significant interest, currency or credit risks arising from these financial instruments.

7. Annexation of Water District

During 2004, approximately 33% of the customers of Sandwick Waterworks District were annexed into the City of Courtenay.The District continues to negotiate with the City of Courtenay for the District to provide water services to these residents. It is the District's opinion that if the City of Courtenay takes over taxation authority when the agreement expires, there will be significant change to the structure of the District and its operations. Management does not expect any progress on annexation in 2015.

8. Environmental liabilities

The District makes every reasonable effort to comply with all environmental regulations that apply to its operations. These regulations may require future expenditures to meet applicable standards. Amounts required to meet these obligations will be charged to operations or set aside as future reserves when they can be reasonably estimated.

Sandwick Waterworks District
Notes to the Consolidated Financial Statements
For the year ended December 31, 2014

9. Accumulated surplus

The District follows the normal practice for improvement district accounting according to the principles of fund accounting. Funds are segregated for the purpose of carrying on specific activities or attaining certain objectives in accordance with special regulations, restrictions or limitations.

The Operating Fund is used to account for all revenues and expenses related to general operations of the District.

The Capital Development Fund is used to account for deposits made by developers. These funds will be used at a later date in time to service these developments.

The Capital Fund is used to account for all tangible capital assets of the District and to present the flow of funds related to their acquisition and disposal, unexpended capital resources and debt commitments.

	2014	*2013*
Fund balances		
Operating Fund	**330,699**	241,010
Capital Development Fund	**5,002**	5,002
Total fund balances	**335,701**	246,012
Capital Fund	**733,029**	655,818
	1,068,730	901,830

10. Budget information

The District approved its operating budget based on planned expenses relating to the current year funding on January 22, 2014. The Bylaw for approving water rate revenue was approved January 22, 2014. Budgeted expenditures include additional expenditures not reported on the Consolidated Statement of Operations. The reconciliation of total budgeted surplus is as follows:

Annual surplus	**37,183**
Tangible capital asset purchases	**(6,000)**
Surplus per approved budget	**31,183**

11. Related party transactions

During the year a total of $17,086 was paid to two members of the Board as wages for employment with the Sandwick Waterworks District (2013 - $23,443).

Sandwick Waterworks District

Consolidated Schedule of Tangible Capital Assets

For the year ended December 31, 2014

Schedule 1

	General						Infrastructure		Totals	
	Land	Automotive	Buildings	Computer equipment	Computer software	Equipment	Water pumping stations and reservoirs	Water system network	***2014***	*2013*
Cost										
Balance, beginning of year	2,906	2,857	56,181	5,288	3,047	41,142	381,620	1,738,523	**2,231,564**	2,225,337
Add:										
Additions during the year	-	10,797	-	-	-	508	31,009	85,183	**127,497**	6,227
Less:										
Disposals during the year	-	-	-	-	-	-	-	-	**-**	-
Balance, end of year	**2,906**	**13,654**	**56,181**	**5,288**	**3,047**	**41,650**	**412,629**	**1,823,706**	**2,359,061**	2,231,564
Accumulated amortization										
Balance, beginning of year	-	2,538	22,520	4,313	762	34,869	150,656	1,360,088	**1,575,746**	1,524,817
Add:										
Amortization	-	1,218	1,062	217	1,523	2,871	10,829	32,566	**50,286**	50,929
Less:										
Accumulated amortization on disposals	-	-	-	-	-	-	-	-	**-**	-
Balance, end of year	**-**	**3,756**	**23,582**	**4,530**	**2,285**	**37,740**	**161,485**	**1,392,654**	**1,626,032**	1,575,746
Net book value of tangible capital assets	**2,906**	**9,898**	**32,599**	**758**	**762**	**3,910**	**251,144**	**431,052**	**733,029**	655,818

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Toll free: 1-800-331-6007
www.comoxvalleyrd.ca

Comox Valley REGIONAL DISTRICT

File: 0470-20 / Sandwick

November 16, 2015

Sent vial email to: swwdist@telus.net

Sandwick Waterworks District
140B Headquarters Rd.
Courtenay, BC V9N 3S2

Attention: Mike Butler, Chairperson

Dear Mr. Butler:

Re: Support for water service conversion

On November 10, 2015 the Comox Valley water committee adopted the following motion:

> THAT the Sandwick Waterworks Improvement District be advised that the Comox Valley water committee support, in principle, the conversion of the improvement district to a regional district service for the purposes of supplying water from the Comox Valley water supply system to Sandwick properties based on the options matrix (appendix 'A' to staff report dated November 4, 2015);
>
> AND FURTHER THAT the City of Courtenay, Island Health and Ministry of Community, Sport and Cultural Development be advised of the support for the conversion.

Please be advised that Sarah Morden of Defro-West Local Government Consulting will work with the Sandwick Waterworks Improvement District to assist with engaging Sandwick property owners and we look forward to hearing further from you with regards to proceeding with the conversion or not. Attached to this letter is the November 4, 2015 CVRD staff report that describes the options developed for this project. Part of the report is the Koers infrastructure assessment that identifies the capital and operating condition of the Sandwick system, which is important information for all parties to have.

Please feel free to contact me with any questions at 250-334-6007 or via email to jwarren@comoxvalleyrd.ca.

Sincerely,

J. Warren

James Warren
Corporate Legislative Services Officer

Enclosure

McElhanney

May 31, 2016

Our File: 2211-47330-01

Mr. Phillip Ellis
Sandwick Water Works District
801 Dingwall Road
Courtenay, BC V9N 3S4

Dear Mr. Ellis,

SANDWICK WATER WORKS DISTRICT –NEW SOURCE SUPPLY CAPACITY AND SYSTEM IMPROVEMENTS REQUIRED TO REMAIN AN INDEPENDENT WATER PURVEYOR

INTRODUCTION

The City of Courtenay is planning to separate that portion of Sandwick Water Works District's (SWWD) distribution system which is within City boundaries. The process of separating the two systems will disconnect the Dingwall Road well and the Courtenay River Intake, and two of SWWD's main raw water supplies, from the SWWD system. Concurrent with the City separation, SWWD has a choice to remain an independent water purveyor or become a Comox Valley Regional District (CVRD) Local 'Water' Service Area (LSA).

Previous reports completed by Koers Engineering in 2103 and 2016 have provided an assessment of the SWWD system and costs estimates for:

- The City to physically separate the two systems.
- Connections to CVRD supply mains and required upgrades to meet CVRD requirements of becoming a LSA, and;
- SWWD to remain independent by constructing a new main re-connecting Dingwall Road well and Courtenay River intake to the SWWD system.

The Courtenay River intake requires costly upgrades to meet Island Health's new surface water requirements. Additionally, a new main re-connecting Dingwall Road well and Courtenay River intake poses significant financial implications. As an alternative, SWWD has drilled an exploratory well near the Mitchell Road reservoir. A new groundwater source supply within SWWD boundaries could eliminate the dependence of the Dingwall Road well and the Courtenay River intake, making it feasible for Sandwick to remain independent.

To allow SWWD to make an informed decision on whether to remain separate, an estimate of cost is required for an alternative source supply and associated system upgrades. Drawing upon the work previously completed by Koers, this report assesses the required source supply

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capacity of new wells and associated system improvements required to remain separate, and provides cost estimates for same.

This report is strictly an estimate of costs and does not include analysis of the distribution system, discussions on reduction of usage through metering, and education or discussions on governance.

BACKGROUND DOCUMENT REVIEW

The following reports have been reviewed and cited in the preparation of this document:

- 2013 Koers & Associates Engineering Ltd. – City of Courtenay, Sandwick Water Works District System Integration Study – Draft Report.
- 2016 Koers & Associates Engineering Ltd. – Comox Valley Water System, Sandwick Water Works District Water System Assessment – Final Report.

Required system demands, system improvements and associated costs for SWWD to remain independent, provided from the above noted reports, have been cited in herein.

DEMAND

Three types of residential demands are considered when evaluating a water supply system:

Average annual Daily Demand (**ADD**): Bulk annual demand/ 365 days
Maximum Day Demand (**MDD**): Maximum one day usage
Peak Hour Demand (**PHD**): Maximum one hour usage

Summarized below are Koers findings with respect to system demand:

- 60% of service connections are in SWWD, with 40% in the City of Courtenay.
- ADD is estimated at 7.4 lps, based on bulk metered flow for the most current six years of record (2007 to 2012).
- Peaking factors derived from the Comox Valley Water System usage records were used to estimate Maximum Day Demand and Peak Hour Demand.

Table 1 below summarizes Koers estimated demands for SWWD.

Table 1 – Sandwick Water Demand

Bulk Ave. Day (lps)	Estimated Max. Day [2.4 x Ave. Day] (lps)	Estimated Peak Hour [1.6 x Max. Day] (Lps)
7.4	17.8	28.4

Table 1 adapted from: 2016 Koers & Associates Engineering Ltd. – Comox Valley Water System, Sandwick Water Works District Water System Assessment – Final Report

SWWD's mandate does not currently include fire protection, therefore fire demands have not been assessed. However, based on a Max Day Demand of 17.8 lps and the Design Guidelines for Rural Residential Community Water Systems, the Mitchell Road storage reservoir has a fire storage capacity of 340 cubic metres.

SUPPLY

Separation of the SWWD system from the City will require the river intake and the Dingwall Road well to be decommissioned. The remaining raw water supply will be limited to the Mitchell Road well, which is currently pumped at 5.8 lps. SWWD has proposed to supplement the Mitchell Road well and any additional well(s) yet to be commissioned. To better understand available ground water capacity, SWWD has recently drilled an exploratory well near the intersection of Mitchell and Huband Roads. The exploratory well has an estimated supply capacity of 3.2 lps (estimate provided by drilling company). The estimated capacity of the new well, combined with the Mitchell Road well capacity of 5.8 lps, yields a combined total supply capacity of 9.0 lps.

The Design Guidelines for Rural Residential Community Water Systems (RRCWS) document recommends a minimum well yield equal to MDD or 17.8 lps. Based on the combined estimated well yields of 9.0 lps, additional supply of 8.8 lps is required to meet RRCWS guidelines. Based on the estimated capacity of the exploratory well, a total of three additional wells of this size would be required to supplement the Mitchell Road well.

The long term yield of each well has not yet been determined through testing. An assessment of (proposed) well capacity by a qualified hydrogeologist is strongly recommended, prior to any decision making. A proper determination of existing well capacity and robustness of the local aquifer is required to accurately predict the required number and special separation of new wells. Furthermore, SWWD will need confirmation that adequate groundwater supply is available along Mitchell Road before a decision can be made to remain independent.

SYSTEM IMPROVEMENTS

In general, system improvements consist of separating that portion of the distribution system within the City of Courtenay boundaries and developing additional supply wells, treatment and pumping as required to service SWWD users. Costs associated with separating the distribution system from the City are assumed to be incurred by the City and are not included herein. Additionally, required system improvements for SWWD to remain independent do not include allowances for residential metering, CVRD Capital Cost Charges or upgrades to allow for the provision of sufficient fire flows.

Short Term:

The following short term system improvements required to remain independent have been extracted from Koers 2016 report:

1. Decommission Dingwall Road well.
2. Decommission Courtenay Review intake pump station and install a cap on the 250 main.

In addition to Koers' reports, the following changes are also required to maintain service to remaining SWWD rate payers, and provide adequate water supply from new sources.

3. Extend a 150 mm dia. main on Hwy 19A near Cotton Road, south along Hwy 19A to Wentworth Road then east along Wentworth Road to the end of Sandwick's boundary (approximately 420m). Relocate any service connections along Hwy 19A and Wentworth Road (assumes City will take ownership of existing 100 mm dia. main along Wentworth Road).
4. Develop three new supply wells along Mitchell Road.
5. Commission new control room complete with chlorine treatment and connection to existing system (assumes only chlorine disinfection will be required to meet Island Health regulations).

Long Term

Long term system upgrades noted herein include a watermain replacement program only. Upgrades to meet fire flow requirements, including installation of additional hydrants, has not been included, as it is not currently within the SWWD mandate to provide fire flows.

COST ESTIMATES

Cost estimates provided herein are Class D, and have been compiled without the benefit of detailed design. All estimates include 30% allowance for engineering and contingency. No allowance has been made for land acquisition, legal, financial or administration fees. Short term items 1 and 2 and unit prices for item 3 are from Koers' 2016 report. Cost estimates are based

on the assumption that adequate groundwater supply, required to service SWWD, is available along Mitchell Road.

Long term pipe replacement costs are also from Koers' 2016 report, however, replacement pipe sizes have not been upsized to allow for fire flow.

Detailed cost breakouts for Short Term items 4 and 5 are attached. Note all costs are in 2016 dollars.

Table 2 – Cost Estimates: Short Term Improvements

Project #	Project Description	Cost
1	Decommission Dingwall Road well.	$15,000
2	Decommission Courtenay Review intake pump station and install a cap on the 250 main.	$30,000
3	Extend a 150 mm dia. main from the 150 mm dia. main on Hwy 19A near Cotton Road, south along Hwy 19A to Wentworth Road then east along Wentworth Road to the end of Sandwick's boundary (approximately 420). Relocate any service connections along Hwy 19A and Wentworth Road. (Assumes City will take ownership of existing 100 mm dia. main along Wentworth Road).	$160,000
4	Develop three new supply wells along Mitchell Road.	$300,000
5	Commission new control room complete with chlorine treatment and tie new wells into existing system.	$200,000
	Total Estimated Cost:	**$705,000**

Table 3 – Cost Estimates: Long Term Improvements

Item No.	Description	Year Installed*	Replacement Year[(1)]	Length (m)	Dia. (mm)	Unit Price	Extension
1	Rennison Road	1966	2026	480	100	$355	$170,400
2	Island Hwy(Huband to Cotton)	1966	2026	790	150	$380	$300,200
3	Island Hwy (Huband to Parker)	1966	2026	450	150	$380	$171,000
4	Virginia Drive (Hwy to Meadowbrook)	1967	2027	545	150	$380	$207,100
5	Short Place	1967	2027	39	100	$355	$13,845
6	Lilian Place	1967	2027	40	100	$355	$14,200
7	O'Brian Road	1967	2027	195	150	$380	$74,100
8	Gile Road	1967	2027	52	100	$355	$18,460
9	Meadowbrook Cres	1968	2028	165	150	$380	$62,700
10	Gail Cres	1969	2029	730	150	$380	$277,400
11	Huband Road (Hwy to Childs)	1971	2031	840	150	$380	$319,200
12	Childs Road	1972	2032	335	150	$380	$127,300
13	Parker Road	1973	2033	475	150	$380	$180,500
14	Veronica Place	1973	2033	85	100	$355	$30,175
15	Fredrick Place	1973	2033	75	100	$355	$26,625
16	Gibson Road	1973	2033	486	150	$380	$184,680
17	Willis Way NW of Gibson	1973	2033	330	150	$380	$125,400
18	Willis Way SE of Gibson	1976	2036	476	150	$380	$180,880
19	Venture Road	1976	2036	487	150	$380	$185,060
20	Barbara Road	1976	2036	388	150	$380	$147,440
21	Huband Road (Willis Way to Mitchell)	1976	2036	510	150	$380	$193,800
22	Mitchell Road	1976	2036	885	150	$380	$336,300
23	Mitchell Road (Barbara to Elmo)	1976	2036	475	200	$390	$185,250
24	Elmo Road	1976	2036	280	150	$380	$106,400
25	Desmarais Place	1976	2036	135	150	$380	$51,300
26	Cooper Place	1976	2036	58	100	$355	$20,590
27	Rook Road	1976	2036	77	100	$355	$27,335
28	Raven Road	1976	2036	192	100	$355	$68,160
29	Paula Place	1976	2036	330	150	$380	$125,400
30	Adrian Road	1976	2036	195	100	$355	$69,225
31	Willis Way NW of Huband Road	1977	2037	470	150	$380	$178,600
32	Exeter Place	1977	2037	97	100	$355	$34,435
33	Tatton Road	1977	2037	304	150	$380	$115,520
34	Mitchell Way to Reservoir Site	1978	2038	95	150	$380	$36,100
35	ROW (Gibson to Cathy)	1979	2039	163	150	$380	$61,940
36	Cathy Cres	1979	2039	150	200	$390	$58,500
37	Cathy Cres	1979	2039	551	150	$380	$209,380
38	ROW (Gail Cres to Cathy Cres)	1979	2039	108	150	$380	$41,040
39	ROW Wentworth Road to Virginia Drive	1979	2039	284	200	$390	$110,760
40	ROW from Willis Way to Venture Road	1980	2040	200	150	$380	$76,000
41	Huband Road (Childs to Mitchel)**	1983	2068	1025	250	$445	$456,125
42	Wentworth Road**	1983	2068	300	200	$390	$117,000
43	Mitchell Road (Huband to Barbara)**	1985	2070	430	250	$445	$191,350
						Total Replacement Costs:	**$5,687,17**

* Assumed based on registration of legal plans.

** Installation year based on record drawing information.

[(1)] Replacement year based on service life of 60 years for AC watermains and 85 years for PVC watermains.

Table 3 adapted from: 2016 Koers & Associates Engineering Ltd. – Comox Valley Water System, Sandwick Water Works District Water System Assessment – Final Report

CONCLUSIONS

- SWWD has requested an outline of infrastructure and supply wells, and associated cost estimates, required to remain independent once the City separates and the Dingwall Road well and Courtenay River intake are no longer connected to the system.
- It is assumed that the City will incur all costs associated with separating the system.
- New mains along Hwy 19A and Wentworth Road are required to maintain service when the City separates.
- Hydraulic analysis of the upgraded distribution system has not been completed (at the direction of SWWD).
- Fire flows have not been considered for the SWWD system.
- Average Day Demand (ADD) is 7.4 lps for the remainder of SWWD once the City separates its residents/users as determined by Koers.
- Max Day Demand (MDD) and Peak Hour Demand (PHD), determined by Koers based on CVRD usage rates, are 17.8 and 28.4 lps, respectively.
- The Design Guidelines for Rural Residential Community Water Systems (RRCWS) recommends a minimum well yield equal to MDD or 17.8 lps.
- Capacity of the Mitchell Road well is estimated at 5.8 lps.
- Capacity of the new exploratory well is estimated at 3.2 lps.
- Based on a capacity of 3.2 lps for the new exploratory well, a total of three additional source supply wells is required to replace Dingwall Road well and Courtenay River intake (assuming similar capacity can be obtained in new wells).
- Long term system upgrades include a watermain replacement program only, with no consideration of upsizing existing mains to increase fire flows.

RECOMMENDATIONS

- Procure a qualified hydrogeologist and complete a pump test on both the Mitchell Road well and new exploratory well to:
    - Confirm adequate groundwater supply to service SWWD,
    - Accurately predict the long term yield of each well,
    - Provide an estimate yield for additional wells,
    - Determine the required spatial separation of new wells, and;
    - Amend existing groundwater source licence to allow for extraction of required volume.

- Model proposed system to identify if any further (capacity driven) upgrades are required.

CLOSURE

We trust the information provided herein is as required at this time. Please do not hesitate to contact the undersigned at your convenience, if you have any questions or wish to discuss further.

Yours truly,

McELHANNEY CONSULTING SERVICES LTD.

Chris Durupt, P.Eng.
Project Engineer

Bob Hudson, P.Eng.
Branch Manager

CD:njg

Enclosures

cc: Sandwick Improvement District, Yvonne Laviolette

REVISION HISTORY

Date	Status	Revision	Author
May 31, 2016	Final	Rev. 0	CD

LIMITATION

This report has been prepared for the exclusive use of the Sandwick Water Works District. The material in it reflects the best judgement of the Consultant in light of the information available to the Consultant at the time of preparation. As such, McElhanney, it employees, sub-consultants and agents will not be liable for any losses or other consequences resulting from the use or reliance on the report by any third party.

SWWD

CLASS D CAPITAL COST ESTIMATE

SUPPLY SYSTEM UPGRADE

MCSL File: 2211-47330-1
Prepared by CD
Reviewed by BH

PROJECT: ***SWWD Supply System Upgrade*** ***PROJECT #:*** ***47330-1***
DATE: ***5/18/2016*** ***OWNER:*** ***SWWD***

SUPPLY SYSTEM UPGRADE - CAPITAL COST

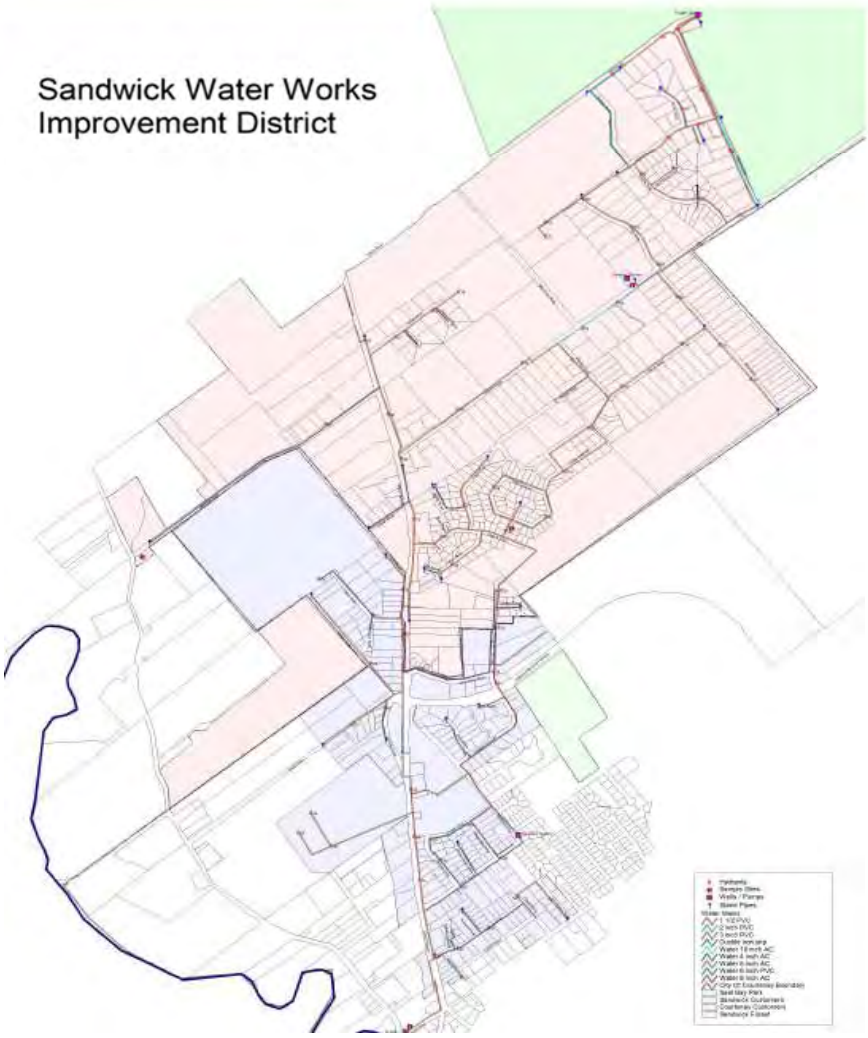
Description	*Unit*	*Qty*	*Unit Price*	*Sub total*	*Total*
NEW 8" WELLS					
Drilling	***ea.***	***3***	***$ 30,000***	***$ 90,000***	
Development and testing	***ea.***	***3***	***$ 20,000***	***$ 60,000***	
Approvals	***ea.***	***3***	***$ 10,000***	***$ 30,000***	
Pump and electrical installation	***ea.***	***3***	***$ 15,000***	***$ 45,000***	
Subtotal					***$ 225,000***
Engineering and Contingency (30% of Subtotal)					***$ 67,500***
TOTAL(ROUNDED)					***$ 300,000***
CONTROL ROOM					
Concrete block building	***ea.***	***1***	***$ 75,000***	***$ 75,000***	
Plumbing	***ea.***	***1***	***$ 40,000***	***$ 40,000***	
Electrical	***ea.***	***1***	***$ 35,000***	***$ 35,000***	
Chlorine	***ea.***	***1***	***$ 5,000***	***$ 5,000***	
Subtotal					***$ 155,000***
Engineering and Contingency (30% of Subtotal)					***$ 46,500***
TOTAL(ROUNDED)					***$ 200,000***

Notes:

1) Class D cost estimated compiled without the benefit of detailed design.

2) No allowance has been made for land acquisition, legal, financial or administration fees.

IMPORTANT: Drinking Water Update
Sandwick Water Works District



Important Decisions Ahead for Sandwick

In 2002, the City of Courtenay expanded its municipal boundaries to include a portion of the Sandwick Improvement District (see blue shaded area in map above). This area now needs to be separated from the Sandwick water system and switched to the City's municipal drinking water system. In order to separate the system, the Sandwick Board of Trustees needs to make some critical decisions about the future of the Sandwick water system, which is facing some significant challenges. Please take the time to review this newsletter and share your thoughts and opinions.

We Want to Hear From You!

Is your home in the area that will remain within the Sandwick Water Works District? (the pink shaded area on the map shown left) If so, how your drinking water is obtained, treated and delivered to your taps is about to change in the months ahead. It is important to us that you take part in the conversation that will inform the Trustees' decision.

- ✓ We invite you to complete the enclosed **Feedback Form** and return it by **Friday, June 10th, 2016**
- ✓ Plan to attend our **Community Open House** on Tuesday, June 7th at Huband Elementary School (7:00 – 9:00 p.m.)
- ✓ Send us an email to swwdist@telus.net or a letter to 801 Dingwall Road, Courtenay. B.C. V9N 3S4

Your Water. Your Community. Have your say!

THE DECISION: The Sandwick Board of Trustees must decide whether to remain an independent improvement district or convert to a regional district service and connect to the Comox Valley regional water supply system.

Formed in 1960, the Sandwick Water Works District (SWWD) has a long history of successful water management in the community. Recently, however, several major challenges have arisen that may ultimately make it impossible to remain an independent improvement district. The three most critical questions that must be answered if the SWWD is to remain independent are as follows:

1. **Where would our water come from?** The system currently draws water from two wells and one river intake. The river intake is failing and, in order to comply with Island Health's surface water treatment requirements, would require significant repairs and costly upgrades before 2018, likely at a cost of several million dollars. This is not an affordable option for Sandwick, and therefore if the SWWD is to remain independent, it will need to rely on wells. At least one, but more likely two (or more) new wells will be required. New wells cost an estimated $300,000 - $600,000 each, including testing, permits, construction, control systems and any onsite treatment required. There are very few options for new well locations – to date, private landowners have been unwilling to allow the SWWD to drill on their land, and public land options have been exhausted.

2. **Could we afford to remain independent?** The increase to annual fees is difficult to estimate without having secured and prepared estimates for new well water sources – at a minimum, fees will need to increase 67% to make up for the loss of 282 connections affected by the city switchover (424 will remain within Sandwick). **A 67% increase to the current (2016) single family water rate of $505 is $841. The cost of establishing new wells will mean further increases.** In the longer term, Sandwick's distribution mains will need to be replaced beginning in 2026. The medium term costs (10-20 years) are estimated at $4.1 million, and the longer term costs (20-40 years) are estimated at an additional $2.2 million. The SWWD is not eligible to apply for infrastructure grants, and its ability to borrow for large capital costs is limited.

3. **Who would manage the system?** The SWWD relies heavily on the contributions of volunteer Trustees to manage the water system. According to SWWD bylaws, Trustees must reside in the Improvement District. Several of the current Trustees do not reside in the area that is to remain within Sandwick, and are therefore ineligible to continue their service. Others have served multiple terms, and have indicated they do not intend to continue. Unless several eligible community members come forward to serve as Trustees, the SWWD will not have enough volunteers to continue functioning as an independent improvement district.

Don't forget to complete the enclosed **Feedback Form** and return it by Friday, June 10th, 2016. A **Community Open House** is scheduled for Tuesday, June 7th at Huband Elementary School (7:00 – 9:00p.m.)

Your Water. Your Community. Have your say!

Converting to a Regional District Service

If Sandwick Trustees decide to convert to a regional district service the area remaining within Sandwick would convert to a Comox Valley Regional District (CVRD) "water local service area", and Sandwick's existing water distribution system would be connected to the Comox Valley regional water supply system. The SWWD would be dissolved, and the CVRD would become responsible for managing and operating the Sandwick distribution system as part of the regional water supply system.

The **key advantages** of converting to a regional district service are:

- ✓ Connection to the regional water supply system eliminates the need to establish new wells;
- ✓ The CVRD employs certified, full-time staff to operate and manage water systems, eliminating the need to find new volunteers to serve as Trustees;
- ✓ Regional districts are able to access more funding tools, including government grants and favourable borrowing terms/interest rates through the Municipal Finance Authority of BC;
- ✓ CVRD Board of Directors recently voted in favour of contributing a portion of Area B's gas tax funding to help pay for the infrastructure system changes and construction within Sandwick, if Trustees choose to convert to a regional district service;
- ✓ Although Sandwick residents would continue to be financially responsible for maintenance and replacement of the distribution system within Sandwick, the cost of common infrastructure that serves the regional water supply system (e.g. reservoirs, treatment plants, treatment systems etc.) is shared on a regional basis.

What Happens Next?

Community input will be reviewed following the June 10th survey deadline, and the Trustees hope to make a decision on the future of the Sandwick water system by the end of June, 2016. That decision will be communicated with Sandwick ratepayers shortly thereafter. If converting to a regional district service is ultimately the preferred option, Trustees would work with the CVRD to complete the formal transfer requirements and establish the new regional district service, which would not likely take effect until January 1, 2017. In the interim, the Sandwick Water Works District will be working closely with the City of Courtenay and the CVRD to ensure uninterrupted delivery of safe drinking water to all Sandwick residents.

Questions?

Please contact us at swwdist@telus.net or 250-338-1092

Be sure to fill out your feedback form and return it by **Friday, June 10, 2016.**

Community Open House – Tuesday, June 7th at Huband Elementary School library
5120 Mottishaw Rd 7:00p.m. – 9:00 p.m.

Is your home in the area that will be converted to municipal (City of Courtenay) water? If you have questions or require additional information, please contact Lesley Hatch, Director of Engineering Services at 250-334-4441 or engineering@courtenay.ca.

Your Water. Your Community. Have your say!

Q&A: Converting to a Regional District Service

Where would our water come from?

The regional water supply comes from the Puntledge River, and the origin is Comox Lake. Treatment is centralized at the existing Comox Valley water system regional chlorination facility. The CVRD is exploring options for the construction of a new water filtration plant, which will significantly reduce, if not eliminate, the boil water advisories within the regional system.

What would conversion cost?

The total cost of conversion includes the physical system modifications required to connect to the regional water supply system, as well as the cost of water meters (mandatory for all rural properties connected to the regional water system) and the CVRD's one-time capital improvement connection charge.

	Conversion Costs	Cost per connection (single family residential)
System Modifications*	307,000	725
Water Meters (424)	508,000	1,200
Connection Charge (residential)	1,565,946	3,702
Total	**$2,380,946**	**$5,627**

**The total estimated cost of the required system modifications is $672,000. The City of Courtenay would be responsible for all works within its boundaries (approximately $365,000), and the SWWD would be responsible for all works within the area remaining in Sandwick (approximately $307,000).*

Who would pay for conversion?

System Changes / Construction:
At their meeting of April 26, 2016 the CVRD board of directors voted in favour of contributing a portion of Area B's gas tax funding (up to $307,000) for the infrastructure system changes within Sandwick, if Trustees choose to convert.

Water Meters & Connection Charge:
Property owners would be responsible for the cost of water meters (unless additional grant funding can be sourced through the CVRD) and the one-time connection charge. The CVRD board of directors has supported an option that would allow property owners to pay the remaining balance over 10 years – this option may be subject to approval by the provincial government (Ministry of Community, Sport & Cultural Development).

What would our annual water fees be?

Sandwick's exact rates would depend on full assessment of the revenue required for the service. Using the residential rate for other CVRD water service areas, the base rate is currently is $287.40 per year, which includes 15 cubic meters of water per month. Tiered rates are applied thereafter. Properties connected to the regional water supply system also pay an annual parcel tax to help with maintenance, renewal and upgrade of water infrastructure within the local distribution system, such as water main replacements. For Sandwick, it is estimated that this tax would be approximately $250/year.

Dear Customers,

Thank you for taking the time to review the information provided in this newsletter. As outlined, we have a very important decision to make in the coming months – whether to:

1. remain an independent improvement district, or
2. dissolve the Sandwick Water Works District, convert to a regional district service and connect to the Comox Valley regional water system.

Your involvement and input is much appreciated as we work through the process to determine the future of the Sandwick water system.

As Trustees, our foremost consideration is always the continued supply of safe, clean water to your taps. The reality is that it is becoming increasingly difficult to do so as an independent improvement district. We have many concerns about the long-term sustainability of the Sandwick Water Works District, which we wish to share and discuss openly throughout our decision-making process.

Our most immediate concern has to do with water sources. As outlined in the newsletter, the river intake is failing and cannot be used past 2017. To remain independent, we would need to secure and construct at least one but more likely two (or more) groundwater wells. At this point, we have tested what we feel to be our last feasible option on publicly owned land, and it is only capable of producing approximately one-third of the water we require to meet the community's needs. Privately owned locations would need to be explored if Sandwick is to remain an independent improvement district and landowners within the District, to date, have been unwilling to allow the SWWD to test and drill on property.

Even if we are able to secure new sources, financing the new wells, continued operations and long-term replacement of aging infrastructure will be an ongoing and significant challenge. This is not only due to the loss of 40% of our ratepayer base to the City, but also our limited ability to borrow and the fact that improvement districts are ineligible for government infrastructure grants.

Another challenge we face is that the provincial regulations pertaining to the treatment and delivery of drinking water are becoming increasingly complex, often requiring the professional skills and expertise of outside consultants, which is very costly. Liability concerns with respect to water supply and quality are also a growing challenge for small improvement districts. Requirements related to water treatment infrastructure continue to intensify in both scale and cost, which is challenging the financial resources of small communities all throughout BC and Canada.

Finally, we rely very heavily on the contributions of our volunteer Trustees, many of whom are nearing the end of their terms. Several have served the community for numerous years over multiple terms, and many are not eligible to continue due to the fact that they do not reside in the area that is to remain within Sandwick. Unless new volunteers from within the Sandwick community are willing to step forward, the improvement district will soon be facing a critical volunteer shortage, and will not be able to meet its legal obligations to continue functioning according to its governing bylaws.

These are some of the key challenges and concerns that we must carefully consider as part of our decision-making process. We want to know what you think – please be sure to return your feedback form by June 10, 2016, and plan to attend our Community Open House on Tuesday, June 7th at the Huband Elementary School library (5210 Mottishaw Rd) from 7:00pm – 9:00 pm.

All community input will be reviewed following the survey deadline, and it is our goal to make a decision about the future of the Sandwick water system by the end of June, 2016. Thank you very much for your consideration and participation in this important conversation.

Sincerely,

Original Signed By

Mike Butler, Chairperson

Original Signed By

Phil Ellis, Vice Chairperson

Original Signed By

Dave Robinson, Trustee

Original Signed By

Neil Black, Trustee

Original Signed By

Bill Campbell, Trustee

Sandwick Water Works District

Community Feedback Form - 2016

In 2002, the City of Courtenay expanded its municipal boundaries to include a portion of the Sandwick Improvement District (see blue shaded area in map above). This area now needs to be separated from the Sandwick water system and switched to the City's municipal drinking water system. In order to separate the system, the Sandwick Board of Trustees needs to make some critical decisions about the future of the Sandwick water system, which is facing some significant challenges. Please take the time to review the enclosed newsletter and share your thoughts and opinions.

---

1. So that we may focus our community consultation efforts on the area that is to remain within Sandwick (refer to the map in the newsletter), please indicate on which street you reside or own property.

   _____

   (street NAME only)

2. As outlined in the newsletter, remaining an independent improvement district may not be a feasible option for Sandwick. On a scale of 1 to 5, please describe your overall level of support for converting to a regional district service with connection to the Comox Valley regional water system (circle the appropriate number):

Very unsupportive	Somewhat unsupportive	Neutral	Somewhat Supportive	Very Supportive
1	2	3	4	5

3. Please share with us the main reasons for your answer to question 2. If you **do not** support conversion, please be sure to tell us why – what are your concerns?

_____
_____
_____
_____
_____

4. If you would prefer Sandwick to remain an independent improvement district:

   a) Do you own property that you would be willing to allow the SWWD to test for water and potentially establish a well?

      ☐ Yes
      ☐ No
      ☐ Not sure
      ☐ Not Applicable - I support conversion to a regional district service.

   b) Would you or an eligible member of your household be willing to serve (volunteer) as a Trustee in the future?

      ☐ Yes
      ☐ No
      ☐ Not sure
      ☐ Not applicable – I support conversion to a regional district service.

5. Is there anything else that you think the Sandwick Trustees should consider regarding the future of the Sandwick water system?

_____
_____
_____
_____
_____
_____
_____
_____

Thank you for taking the time to provide comments!

Please ensure your submissions are received by no later than June 10, 2016.

Additional forms may be requested from the Sandwick office at 250-338-1092

Completed forms may be submitted at the Community Open House on Tuesday, June 7th at the Huband Elementary School library from 7:00 – 9:00 pm; dropped off or mailed to the Sandwick Water Works office (801 Dingwall Road, Courtenay. B.C. V9N 3S4) or emailed to swwdist@telus.net (scan or snap a photo with your Smartphone). If you require additional assistance, please call 250-338-1092.

Appendix F – Feedback Form Full Text Responses

Note: The answers in this section are exactly as submitted by the survey respondents, no editing has been undertaken.

Public Consultation Summary

SANDWICK WATER WORKS CONVERSION STUDY

JUNE, 2016

Please share with us Please share with us the main reasons for your answer to question 2. If you **do not** support conversion, please be sure to tell us why – what are your concerns?
Too expensive to hook up. Not as good water. Don't want anything to do with Courtenay and its Council.
The City of Courtenay took 1/2 our customers. I'd rather do business with the City of Courtenay rather than the CVRD which is nothing but an institution that keeps on putting up water rates. Down with the CVRD!
I am aware of the issues associated with our system but have a lot of concern about the capacity for the Regional District to manage our system. This is based on the number of boil water advisories and the source of the water.
My concern is that it will open the door for the City of Courtenay to take over the remainder of the District, raise taxes and give nothing in return as promised.
Government rules & regulations.
Professional water management; access to more or increased funding sources.
Our water doesn't come downstream from heavy use recreational and commercially used water. City of Courtenay is a bully and cannot be trusted. We like independence. We are realistic and can see only one direction, hooking up to CVRD. We should not be classified as rural property.
The price that the CVRD is asking for hookup is prohibitive, they say the money is going into a pot for future capital costs, etc. We know about pots and promises especially from the CVRD. It was quite evident that the CVRD puts a low priority on our water problems when the Director of Area B arrives, over an hour late for a very important meeting.
I am somewhat supportive because although I am sure the SWWD Trustees have done an excellent job over the years, the ongoing financial commitments will never become less. I'm sure the budgetary fare costs are to the best of the SWWD ability, but past experience tells me there are always surprises or costs that were not planned.
Our biggest concern is the COST. I would need more assurances of the estimates being respected. We are retired and on a limited budget. What exactly makes up this HUGE connection charge. I would need estimates from several Co's. And not just take the word of local governments. We don't want the overruns that governments seem to accept these days!
My age is my reason and I trust the persons when myself is not above ground.
Our system is unique and affordable. We are 89 and 86 years old and are not enthusiastic about any changes.
The cost is a concern and so is the metering.
I don't like or trust the Regional Distict but it sounds like it's the cheapest way.

Please share with us Please share with us the main reasons for your answer to question 2. If you **do not** support conversion, please be sure to tell us why – what are your concerns?
Financial reasons - However the data provided in package is somewhat limited and very confusing. No financial report. No details of current staff - their pay and responsibility. No discussion of 40% less consumption(??) as result of 40% from customers. Package received too late to attend 7 June meeting.
It appears that we have no alternative. SWWD cannot afford to remain independent. The conversion cost is very concerning and will be difficult to manage.
I believe it will be impossible to maintain a water system that will need wells, volunteers, and infrastructure with so few having to bear the costs and time.
Affordability; Sustainability.
The infrastructure that needs to be replaced; the length of time to replace. Will this be just a money grab and we won't see any improvements?
Considering low water level (drought), failing water intake and costly repairs ahead it may be in everyone's best interest to switch now instead of later.
Drilling wells not the future. Let's get on with the plan for the future which is joining Comox Regional Water.
Certainty of maintenance. Not dependent on volunteers. District Expertise. Access to water supply.
It makes fiscal sense to do this; access to their expertise; access to provincial & federal funding; won't have to rely on volunteers.
Don't see any other viable option
Using the 90 million gallons annually and assuming 706 lots, I have calculated that the average user will be likely have to pay around $100 to $200 extra for the four month periods that cover the summer, whilst I realize that there are a few farms and agriculture business and Huband school included, are they already metered under the current system? If they are and figures are available I could recalculaate, but then the results would probably not work in our favour due to the number of smaller lots in Sandwick. I do appreciate that metering everybody has great advantages for leak detection and will make most consumers seriously think about their water usage once they start getting billed for what they use. I have been told by a Black Creek resident that went on to mains water from a well that their first bill, I believe they said it was bi-monthly was a few hundred dollars, so they reverted back to the well for watering the garden. I do appreciate that they are on a different tariff to most users. Will we be on the main tariff? We currently don't have that option of a well should the bills get rather high in the summer months, we would have to look towards capturing rain water and possibly look towards seeing if there is a chance that we can find a water source on the property. Sample bills from current CVRD customers with around an acre would give us some warning as to whether we need to look at obtaining an extra supply for the garden.
Sandwick water tastes better. Concern over cost to convert.

Please share with us Please share with us the main reasons for your answer to question 2. If you **do not** support conversion, please be sure to tell us why – what are your concerns?
Continuing with the Sandwick System is not feasible. The cost would be rising every year, there will not be enough water available and will be progressively worsening every year. We woulld not be able to get help financially and would not be eligible for grants.
Better service & fewer water restrictions; salaried staff (not volunteer).
Other option not really feasible 0 fhort term fix!
Mr. Ellis said costs of meter could vary greatly depending on access etc in installations. I would like to know more about this and why there could be such a discrepancy as he mentioned in June 7 meeting.
It seems inevitable that we will join at some time - this is probably the cheapest time.
It's not as if we have much choice, but the reason I am only somewhat supportive is that we lose local control of the CVRD a body that is not well known for sound financial decisions. I'd feel a lot better if there was some guarantee that the water taxes we will be paying would be invested straight back into water infrastructure rather than ending up in a mutil-million dollar "reserve fund".
It would seem there is little choice. One of us is somewhat supportive, the other very supportive.
No comment
This choice makes the most financial sense going forward. Integrating the systems seems to be unavoidable in the future. Laying the ground work now seems to be a good choice.
The cost of providing new wells for Sandwick water district.
Eventually it will come to this anyway. May as well do it now while cotss are (probably lower).
Sandwick Waterworks is not sustainable. Escalating costs as well as the need for contining education and a lack of trustees present insurmountable issues.
Need to bite the bullet and change over to the regional district for all the reasons you have made in your newsletter & Open House presentation. We simply can't carry on as we have been.
Other options do not appear to be viable. Will force people to conserve water with meters. The larger user bases reduces the overall impact across the district. A full-time, paid staff versus a volunteer board is more engaged in dealing with the broader range of issues and their qualification, given the environmental and operational considerations are important - perhaps essential in this day and age.
Assured supply of water - New infrastructure serving on line - Access to grant funds - Large tax base/revenue base - Managed and cared for by full-time personnel.
No real alternative
Happy with service, quality of water - have not been interferred by boil water advisory as has Courtenay & Comox, especially for length of time for advisory.
I want safe, reliable drinking water.

Please share with us Please share with us the main reasons for your answer to question 2. If you **do not** support conversion, please be sure to tell us why – what are your concerns?
Reasonable assurance of water supply - Possibility of future annexation not an issue - Likely less costly over longer term - Management, administration, compliance with provincial regulatory requirements in place and secure in future.
Same reasons as outlined in the Drinking Water Update Newsletter sent out by Sandwick. It seems to be the only feasible solution (connecting to CVRD water system) for residents in the Sandwick Water District area, as well as for Sandwick Waterworks itself.
Too costly to drill new wells - May be in same situation ten yars from now - May not get qualified volunteers or Trustees to manage the water system.
Positive - Long term security of supply & treatment. Positive - Improved quality of water ie: less minerals. Negative - Stand alone entity or SWWD at considerable financial risk when faced with infrastructure upgrades & maintenance with stagnant number of ratepayers.
Facts say Sandwick water cannot and will not support the water needs now & in the future. Also, there will not be enough interest for volunteers.
Sandwick's system is too old and not keeping up with future growth is also a big concern and I am not willing to serve on a board to support running this system.
Unknown future costs if we stay Sandwick Water District.
I have to filter my water - filter changes once a month - (rusty pipes?)
Pro - Financial stability in CVRD but future costs unknown in SWWD. Pro- Technical experience & staffing in CVRD - unknown in SWWD. Pro - water supply better in CVRD - unknown for future in SWWD. Pro - Water quality - unknown for future in SWWD. Pro - Metering - household will pay more if they use more = fairer.
The only way to control the amount of water being used in this neighbourhood is meters. Even after being warned of low water levels there are neighbours that water their lawns and shrubs daily and more above ground pools have been installed.
It makes sense to join CVRD water system.
Regional District will be able to apply for infrastructure grants which present Sandwick cannot. Regional District have full-time water management staff. Under Regional, hopefully we'd have greater water pressure (and more water) to fight fires.
It seems to be the only reliable viable choice - either choice will cost the Sandwick district residents money but staying independent is a huge question. So much input from volunteers, a place for wells, much more investment. It's time to centralize our water systems. We do hope that the conversion costs to each household can be spread over the 10 years to make it possible to afford the costs on top of property tax.
Secure water supply.
Looking at the loss of revenue to Sandwick, in the long term it only makes sense to join the municipal system.
I don't want to have to keep worrying about whether or not we will have enough water and it doesn't look as though we will have it. We have to depend on wells. I say let's go to a reliable source and if that means converting to the CVRD, then I'm for it.

Please share with us Please share with us the main reasons for your answer to question 2. If you **do not** support conversion, please be sure to tell us why – what are your concerns?
Expansion of the population of this area will eventually force connection to the Comox Valley water system. Additions of the hospital will necessitate joining the CV Water System.
Realize the greater ability to capitalize needed system repairs and improvements; add to population base for getting a new deep water intake at Comox Lake for the whole of the valley, plus political clout to create a protected water supply area.
Water quality will be better; staying with Sandwick is too costly.
There does not seem to be an option.
Best solution for our future water supply & treatment needs. Trustees commended for your historical efforts and (??) of our situation.
Trust in the experts.
Appears costs and need for new source of water leads to conversion.
Our main concern is that most of our street has been annexed into the City of Courtenay. If our property is annexed do we have to pay for the $5627 and have to pay again to the City of Courtenay when wer're annexed. It seems redundant to stay with Sandwick and spend all that money for new wells, etc. when it's only a short time before we get annexed.
We are new residents and being welcomed with a $5K bill is not very timely or "welcoming". It seems we (Sandrick) are past the point of no return. However, for the inevitable future, we feel there is little choice other than to join the RD.
Cost of new wells, other infrastructure of meeting government regulations. Finding volunteers.
I believe that with only 424 homes left after the take over by the City of Courtenay of 282 homes. A third. And with the costs of the new up(??) it's time to move into a larger pool to allow for a financially feasible solution for all.
Its common sense - will be cheaper, better and more reliable for water we can drink with proper technicians in charge.
The present system is not sustainable.
Too small a customer base to carry on. Many thaks to all the volunteers over the years, especially Mike Butler!!
No viable alternative.
Too many challenges as outlined in newsletter to remain with Sandwick. Convert to Regional water.
Affordability for future; more dependable water source; professionally maintained.
Better water quality; fire protection; water pressure increase; certified waterworks crew; funding accessibility.
Willing to pay the money now, when the option for later will cost a lot more money.
It seems like the best option - makes the most sense.
Larger more stable organization.
Seems like the only sensible option.

Please share with us Please share with us the main reasons for your answer to question 2. If you **do not** support conversion, please be sure to tell us why – what are your concerns?
Reliable, sustainable water supply.
Lower long term costs; consist/reliable water source; fire protection; more flexibility with water schedule.
Willing to pay money now, when the option for later will cost a lot more money.
Seems cheaper in the long run, simpler too.
Regional District has large financial resources. They also have the 'ear' of larger government (Federal & Provincial) for grants.
Knowing a date the office is moving would be useful. Conversion can't happen soon enough as far as I'm concerned. Water quality has gotten worse over the years. I've ruined several loads of laundry because the stains from the water will not wash out! SWWD has out-lived it's usefulness!!
The CVRD has the expertise & resources to maintain the system. The new deep lake intake will provide a sustainable supply of water & the injection of gas tax funds will help with infrastructue changes. I am a little worried about the filtration treatment costs that the CVRD is currently working through. I honestly believe the Sandwick Trustees have done a good job, but with changes in regulations & climate change, we need to look at a regional approach.
It's the only real option. Cost seems reasonable if they are as stated.
Cost and future service.

Is there anything else that you think the Sandwick Trustees should consider regarding the future of the Sandwick water system?

According to my figures supplied by Sandwick Water District once the Courtenay residents are off the system there is more than enough water to supply the remainder of Sandwick District. Another thing that we could do is put in water meters to at least monitor the amount consumed. To be more financially feasible, with Courtenay residents off the line, is to have everyone pay for each connection rather than discounting for multiple dwellings on each property. When I look at Sandwick water rates, I see a huge discrepancy in rate. A single dwelling is paying almost twice the amount as each connection at the trailer park. CVRD will end that. Why don't we? The money is there we're just not charging everyone uniformily. Water meters alone will cut consumption and water use by an estimated 30%. Just by using less water the reservoir will maintain higher levels in summer. 3 things Sandwick can do to stay viable; 1) get those Courtenay addresses off our system; 2) meter the water; 3) charge for all hook-ups.
Apathy of users to be involved in function & operation of SWWD.
As you say the RD has the staff to do testing etc. I find our water is dirty a lot of the time and we need a reliable source for fire protection. Water sediment has damaged our appliances.
Because most properties in our area are over 30 years of age and the life expectancy of septic fields is approximatley 20-40 years I think the area should consider becoming part of Courtenay. Although the cost for being hooked up to both water and sewer would be substantial, most of us will soon face considerable expenses repairing or replacing our existing septic fields. I believe further that it is only a matter of time until the City of Courtenay will need to expand. I would like to see a meeting held with the city to re-examine these issues.
Cannot see that there is anything else to consider except: the best way to use the $300,000 left in the pot? Either each household should receive back equal shares of the 2/3 remaining or if it goes to the CVRD then it should be applied to the conversion costs thereby lowering the amount each household will pay. I believe that prior to the above an honorarium should be given to Mike Butler and Phil Ellis in recognition of all they have done over the years. I will suggest this at the next meeting so make sure there is one before you give it away.
Congratulations to the trustees for a very complete explanation to a complex issue.
Conversion to the regional district service supply source would reduce demand on the Quadra Aquifer, important to those dependant on private wells for agricultural supply.
Ensure all cost related to options are current & correct so people can make an informed decision.
Follow the Royston procedure in converting over. Make sure the people that work for Sandwick gets absorbed into the CVRD so they don't lose their jobs.
From the short time we have lived here and just having my first attendance of SWWD meeting last year, I have greatly appreciated Phil Ellis' knowledge on the water system. I think that the move to CVRD water system will be in everybody's interest in the long term.
Has the CVRD given any consideration to providing incentives ($) towards the purchase of rainwater collection/storage or other water conservation measures, especially once we are on water meters?
I believe we should do our damned best to salvage the SWWS Even if it requires us to have meters and a substantial raise in rates.

Is there anything else that you think the Sandwick Trustees should consider regarding the future of the Sandwick water system?

I feel that eventually we will be swallowed up by Courtenay anyway - so we are flogging a dead horse.
I hope the CVRD connection will be before our own treatment plant so we will not have the boil water advisories the CVRD has had the last few years.
I question the matter of water meters - cost and continual maintennce.
I tried to email the completed PDF - failure.
I understand the costs as ouitlined, however, I've had to explain the costs to other area residents who did read the info, but did not correctly calculate costs. A brief email that clearly showed costs of remaining vs. costs of converting to regional would help folks see that SWWD must convert to be affordable, viable, and is the correct decision short & long term. Also, property owners are questioning what happens to costs if they sell at various stages of the process. Thank you for your work as Trustees.
I was comforted that the Trustees were so well informed and on top of issues confronting the system. Our diminishing numbers and the increasing pressure on the resource and aging infrastructure, tell me that its time has come and passed. We do appreciate the efforts of management, support staff, and most of all - the Trustees over the years - our humble thanks.
I would like to thank Mr. Butler for this long time commitment on the Sandwick Water District Board and Mr. Ellis as well. Would be nice if we could be given a grant for our meters if we were to switch and as with all bureaucracy request for grants have to worded extremely carefully - possible Mike & Phil would know & help with the correct wording for such a grant.
If there are big repairs needed or call out for volunteers to help at the time of work would be be great. I would be happy to help dig or wheelbarrow or whatever work is needed.
In my opinion - less costly now to tie into CVRD than wait. In my opinion - the monies acquired by SWWD should be allocated to the conversion costs for the residents that will require water meters.
In some ways I would like to stay with Sandwick but costs associated with the expansion of the water system is a cost I am sure most residents would not accept.
Installing water meters in each household would likely reduce consumption enough to allow us to continue with the system for a couple of years, but that would only delay the change and make the cost of the move considerbly higher. Please let's do it NOW.
Investigate the conversion of other (previous) improvement districts for lessons learned. Investigate the reduction of the "ill-named" connection charge. New construction/subdivisions must pay this. It seems peculiar to charge established lot owners the same just for joining the RD.
Is there any commercial value to the existing wells/land? Can this offset costs? Thanks for everybody's efforts on this and all the work done in the past. We wouldn't have bought our house without piped water.
It seems to me that cost may be something to ask more questions about. I feel that it would be helpful for us as users to fully understand the financial aspects and the potential impact that either of these decisions will have on us. Has a financial study been done? Has a capacity analysis been done on the Regional District capacity?
Just want to thank all the Sandwick Trustees that have given their time (for all those years) and their expertise in the past. It was all very much appreciated!
Make a decision soon.

Is there anything else that you think the Sandwick Trustees should consider regarding the future of the Sandwick water system?

Maybe finding a buyer such as the property owner where or near our wells, if they wish to remain on well water. Maybe.
No
No - have done great valuable service to reach this point. Thanks.
No. I would like to take this opportunity though, to thank the staff and trustees for their years of dedication and commitment to providing we residents with a safe and clean water supply. Too often it can be easy to take such efforts for granted, but I would like them to know that we in this household are very grateful for their time and efforts toward our welfare. Kudos!
Not at this time.
Our water is often very dirty! And I mean black. We are looking at replacing them as some stains won't come off. Also bad tasting. We also can see the "writing on the wall". The longer we wait the more it will cost. Look at the astrinomical "connection charge" now.
Please answer questions to all of us via email or newsletter. Why did this become an issue so quickly. Communication about these isssues was poor.Does Sandwick have any other assets - ie land that may increase its net work. I remember a few yrs ago it handed sone land over to the city. Does it own more land? Who owns the well site lands? Please apply Sandwiks Reserve Fund to the conversion costs not to the parcel tax fund for future maintenance, renewal and main replacement. Why do the Sandwick users now in the city have to convert to the city now?? Why all of a sudden? Is the city trying to amalgamate all the rest of Sandwick? Is this the 1st step? Thanks to all the Trustees.
Please post results of feedback form.
Something should be in place to make sure the infrastructure will be maintained.
Thank you for all your hard work - we feel the time has come to move on. Believe every household should be metered - maybe this would cut down on people sprinkling lawns in the heat of the day.
Thank you for all your support & hard work over the years - much appreciated and thank you for your straight forward comments & information at the meeting.
Thank you to all the volunteers who over the years have maintained a safe, viable, waterworks system.
The Sandwick Trustees have always been diligent in providing the best service for money ratio - they should be commended. I do believe that more lots will be serviced in the future as sewage concerns are met. The regional district is well known for their stalling and fence sitting tactics though, so those projected serviced lots are a ways into the future.
The Trustees have done a wonderful job over the years - but things are getting drier and I think if we try to remain dependent on wells we'll be in trouble. Regional connection is the way to go. And if it means installing water meters - good. Less waste watering vast expanses of lawn.
We just want to acknowledge the many years of service our volunteers have put in and express our gratitude. We have had excellent service and we will miss the personal touch.
Would prefer to see the surplus applied to the connect charge, cost of system mods(sp?) or water meter to help reduce costs to the residents. Notwithstanding our comments about the need for a professional full-time paid staff (CVRD), the service of the current trustees is commendable and appreciated.

Is there anything else that you think the Sandwick Trustees should consider regarding the future of the Sandwick water system?
Yes, we believe that the assets should be reserved and cash be given back to the members of the Sandwick Water System instead of giving everything to the Regional District. This would help those residents who paid this money in the first place, say for the future water supply connection.
You are too young to retire Mike Butler! We need you for another 40 years!