

The following Q&A were prepared in advance of the September 18, 2017 presentation to Council to provide responses to questions received during and following the July 24, 2017 Council meeting. These responses were presented at the September 18, 2017 Committee of the Whole meeting where further discussion and questions were received.

No.	Question	Response
1	What other ways can existing residents obtain water without relying on development?	Implementation of water extension to existing neighbourhoods can occur with or without future development, provided sufficient supply is available and neighbourhood support exists. If a neighbourhood has expressed a desire for water servicing extension, grant funding, as well as payment of costs by existing residents are potential options. Ultimately, each neighbourhood will need to consider their level of support for the costs and potential trade-offs for water servicing specific to their neighbourhood. Grant funding can and should be pursued for any neighbourhood considering water extension.
2	What are the economics for fire protection?	Public input was gathered on whether fire protection is desirable. However, the Water Master Plan recommendations do not recommend water service extension specifically for the purpose of fire protection. It is one of several benefits to community water extension. While there may be some savings on annual insurance where properties have access to fire hydrants, this would vary based on each property, different insurance providers, and market-driven forces that can't be predicted. For that reason, potential insurance cost savings aren't considered in the Water Master Plan recommendations. When neighbourhoods are considering moving forward with water service extension and formation of a Local Area Service, this is something individual residents could explore with their insurance providers to help with individual decision-making.
3	Should the Water Service Area be removed and/or adjusted? Should servicing be allowed for people on both sides of the road where services do or will exist?	The Water Service Area (WSA) is identified in the 2005 OCP and generally includes all commercial, industrial, residential, and estate residential properties within the District. Rural properties and resource lands, including agricultural properties are outside the WSA. An issue that has been identified is that some properties outside the WSA may desire or need community water for domestic use due to water quality or quantity concerns. In some of these locations, an existing or future water main might pass in front of their property, but being outside the WSA limits opportunity to connect. Consideration may be warranted for removing or adjusting the Water Service Area boundary to provide more flexibility for domestic connections, understanding that connection to community water service does not affect land use designation or ability to rezone. Currently the draft includes recommendation to maintain the Water Service Area, but during revisions, it may warrant changing to consider adjustment of the existing Water Service Area. If Water Service Area adjustment is considered, it would require change to the existing OCP, and potentially approval by the RDN.

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4	Why doesn't Lantzville proceed directly with servicing some/all existing residents who desire water?	Calculations in the Draft Water Master Plan, based on the spring 2017 well field testing, indicated there may be sufficient existing supply to extend servicing to some, but not all, existing neighbourhoods that identified a potential desire for water service. The neighbourhoods that indicated a potential desire for water servicing were the Clark Drive Area, Fernmar Rd Area, and Winds Residential Area. The draft water budgets indicated there may be sufficient supply to service Clark and Fernmar, but not all of the Winds. As mentioned in the presentation, the draft plan also recommended that the water budget numbers be reviewed after dry weather testing of the wells was completed. Once the testing reports are complete, the water budget numbers will be updated to confirm supply potential. If supply is sufficient, extension to some neighbourhoods may warrant consideration as soon as the community decides to proceed and neighbourhoods agree to pay their share.
5	Why does the Water Master Plan recommend pursuing a new Groundwater Source if a low growth rate for Lantzville is desired?	The Water Master Plan looks far into the future to allow the community to be prepared for a wide range of potential scenarios. Water infrastructure lasts for many decades, some of it up to 100 years. It is efficient and important to plan and size infrastructure replacements and additions to accommodate the long-term future, even when it cannot be fully known today. It is important to secure water for the existing and future residents, including back-up supply should unforeseen changes affect the existing supply. Water Master Plans typically consider the buildout of the OCP and far beyond when attempting to plan a sustainable water supply. Pursuing ground water sources is an additional way to ensure the District's future needs are met. Sources can be secured, but kept in reserve until when or if they are needed. It's better to have too much water, rather than not enough.
6	How are operating costs, which may affect taxes, considered?	Typically community water supply and distribution systems are funded using full-cost accounting ensuring that revenue streams from water rates and taxes generate sufficient future water revenue to match maintenance and infrastructure replacement costs. To that end, the District is undertaking Asset Management Planning to understand replacement costs, and with that information, will be able to review and update rates and taxes regularly to ensure sufficient revenue is being generated to manage renewal over time.

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7	<p>Survey results may be interpreted in different ways. For example, if one considered how many people supported Option A (no water) + Option B (water, but not supporting new development) that would indicate a lack of support for development to obtain water.</p>	<p>The survey asked residents to identify their support based on full costs with no development and reduced costs if development potentially occurred to consider possibly foreseeable scenarios. This information is helpful to understand the level of investment residents in different neighbourhoods may be willing to make and potential timing of extension. The recommendations in the Water Master Plan are focused on whether or not a neighbourhood is supportive of water extension. If there is support for extension, regardless of whether development occurs or not, this is an indication that further exploration of options and potential funding sources are warranted for that neighbourhood. Decisions on whether or not that neighbourhood should or will develop will be made by Council through planning processes with the community.</p>
8	<p>People should be aware that costs for water also include individual costs such as water connection fees and on-lot connections, in addition to neighbourhood infrastructure costs.</p>	<p>The draft Water Master Plan discusses all the costs for water servicing on p. 25, but these are details that may get missed by the community. It will be important for the draft plan, along with future communications, to continue to reiterate that in addition to the cost of extending infrastructure to a neighbourhood, there are also costs for connection fees and on-lot connection costs to build a connection from the property line to an individual’s house, which will vary by property. If people are considering whether or not to support creation of a Local Area Service in their neighbourhood, it is recommended that they obtain an estimate from a contractor on how much it will cost for private works, so they have a full understanding of all potential costs when making a decision.</p>
9	<p>It is important to acknowledge that options for expansion may occur in a different order to respond to opportunities and/or public need.</p>	<p>Like any long-range planning document, the Water Master Plan provides recommended directions for the community to consider over the coming years, based on the information we know today. Unforeseen changes or opportunities could occur in the community, and the Water Master Plan outlines an adaptive management approach as indicated in Recommendation 6 on p. 54 to address future changes as they occur. This means ongoing assessment of water supply and demands and regular updates to the Water Master Plan to refine or redirect recommendations to meet the current needs of the community.</p>
10	<p>Why does the Water Master Plan use the scenario approach to the water budget models, rather than determining future potential land use and density for all areas and planning to secure the required volume of water required accordingly?</p>	<p>Many Water Master Plans are based on ultimate community build-out. They look to potential growth projections and plan to obtain water supply to meet this potential growth, whether it happens or not. Lantzville is unique in that water supply has long been a limitation for water extension. Rather than addressing the ultimate only, Chapter 6 of the Water Master Plan considers how various supply sources – including existing groundwater supply (Scenario A), addition of the City of Nanaimo water supply (Scenario B), and addition of further potential supply (Scenario C) affect water servicing extension options. Ultimately, Scenario C is aligned with the more typical approach of planning for the extents of potential build-out. The other scenarios provide an opportunity to look at how extension could be affected by various supply limitations.</p>

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11	Why are water reservoir recommendations and pressure zones continuing to evolve during this process?	The Water Master Plan is a long-term, high-level planning document. It is not intended that the document provide detailed design guidance, rather it should identify where and generally how water service extension could occur, with further design development to focus each project. As projects are implemented, conceptual directions will evolve based on a range of variables such as design parameters, current agreements, development patterns, and detailed costs.
12	What is the relationship between the Foothills development and the proposed reservoir shown in the Water Master Plan? Why is reservoir planning in the Foothills already underway?	It's been known for many years that the Aulds Rd reservoir will require replacement due to age and insufficient capacity and the concept of a new reservoir that is set at a higher elevation has been evolving since 2005. Negotiations with the Foothills on the reservoir have been occurring since the development planning stages were initiated. The Water Master Plan recognizes and incorporates this infrastructure, but will not determine the specific design criteria for it. This is done at the detailed design stage based on site context and known requirements. The new reservoir will service the District of Lantzville, replacing the existing Aulds Rd facility. Foothills is building another reservoir that will accommodate their own development needs using their well supply.
13	Why is a dual cell reservoir recommended and what will each chamber serve?	Dual cell reservoirs are recommended for all new concrete reservoirs to for maintenance. The two cells allow one side to be drained for maintenance, while the other cell remains operational. The Ware Road reservoir, built in 2006, is a dual cell reservoir.
14	Why is relocation of the PRV (Pressure Reducing Valve) on Ware Road recommended?	At the present location, the pressures on the inlet (high pressure) side of the PRV exceed the maximum allowable water main pressure. Currently this does not pose an operational issue as the supply main has a higher pressure rating and there are no direct connections to this section of high pressure pipe. If, in the future, adjacent lands on the east and west side of Ware Rd were to develop and connect directly to the supply main on Ware Rd, then some of the northerly properties with lower elevations, would experience pressures that exceed the maximum pressure rating. Therefore, previous studies have recommended that, as a condition of future development in this area, the PRV be relocated so that lots serviced from the upstream side of the inlet are within allowable pressure tolerances. Location of proposed distribution piping would affect the new PRV location, so the final recommended location would not occur until such a time detailed design of that development occurs. At that time, moving the PRV would be funded by development.
15	Is looping water mains per Capital Recommendation 5.2 feasible if there are three different pressure zones?	Looping is possible among different pressure zones through the use of PRVs if needed. As much as possible, looping is recommended as a best practice to reduce the number of dead-end lines within the system, which improves water quality and fire flow protection. Where and when looping can occur is site specific and would be designed and funded alongside future development.

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16	How were costs to extend infrastructure to existing neighbourhoods calculated and will detailed calculations be provided?	Costs to extend infrastructure to existing neighbourhoods are a high-level planning estimate based on a mathematical calculation of approximate required infrastructure and unit costs from previous experience. These estimates are Class “D” order of magnitude estimates and include contingency to help manage unknown factors such as specific site context, limitations, or changing market rates. Further design development would refine costs at the time. Typically, these high-level detailed cost calculations are not distributed with the risk of being interpreted out of context and the substantial level of effort it would take to explain the professional assumptions used to determine the numbers.
17	Will future development pay for some of the Asbestos Cement Main replacements noted in Recommendation 5.1?	Potentially future development could pay for some of these costs, although many of the replacements will occur in previously developed residential neighbourhoods where development is unlikely. Where applicable, this would be part of development negotiations.
18	Analysis identified a large storage capacity deficiency in the Aulds Rd reservoir and a small deficiency in the Ware Rd reservoir. If a new reservoir replaces the Aulds Rd reservoir, can it compensate for the slight deficiency at the Ware Rd reservoir?	Yes, design of a new reservoir would consider existing storage deficiencies.