



The Corporation of the District of Peachland

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6th Avenue Tree Clearing - Trepanier Interconnect Project Notes

Background

The Trepanier Interconnect will connect the Peachland Creek and the Trepanier Creek water systems, allowing for filtered water to be piped to every serviced lot in the District. The project will consist of approximately 2.5km of water main (ranging from 16 – 20” in diameter), 2 new pressure reducing stations and upgrades within the Cousins Rd reservoir. It was initially scheduled to be completed in 2023-24 (as per the Water Master Plan) but this delayed timeline did not sit well with Council, staff or Interior Health.

In 2018, after preliminary Water Treatment Plant (WTP) design had already started, we were successful in obtaining a grant covering 100% of the cost (\$4.9M) of the Interconnect project and it was tacked onto the WTP project in relatively short order. Preliminary design for the Interconnect started in 2019 and has since progressed with design and obtaining statutory right-of-ways (SRW's) through both Crown and private land. On or about March 23/2020, the tree clearing limits required to facilitate the installation were surveyed and staked.

- The alignment for the water line was determined by the design team, consisting of professional engineers from Urban Systems, an environmental consulting company and District staff.
 - o Northland Environmental (Graeme Hayward)
 - Over 15 years of environmental management experience in the private and public sectors. He holds a Masters degree in natural resource management and holds the designations of Professional Agrologist, Environmental Professional, and Certified Environmental Site Assessor.

Why in the park instead of on the road (6th Ave)?

- The initial connection where the existing 20” line ends is immovable, located at the intersection of Ponderosa Drive and Ponderosa Place.
 - o The route through the park allows for less cost, disruption and statutory right-of-way (SRW) difficulties as compared to running it down 6th Avenue.
 - The line being run in an unpaved area precludes the need for re-installed gravels, asphalt, landscaping, etc. which drops the cost considerably
 - The line being run in the existing alignment will cause less disruption with traffic control and safety issues (leaving open holes in the roadway overnight, etc). This also results in a lower cost due to a reduced need for traffic control.
 - It was extremely time consuming to establish the SRW's for the existing alignment. Adding an additional SRW between two homes on 6th Ave to get back to the original alignment would have been extremely difficult. It likely would have been a situation where a property would have had to be

purchased to run that line through. This would increase costs and potentially push the District outside of the grant schedule.

- During design, it was understood that there would be disruption of natural habitat by installing in the alignment through the park, but its placement in the park was carefully considered by the design team to minimize the environmental impact.
 - In general, the alignment selected maximizes the footprint of the project in previously disturbed areas and avoids further habitat fragmentation that would occur with an alignment running further to the north. The proposed alignment runs parallel to an existing natural gas SRW, north of the properties on 6th Ave.
 - Leaving a narrow strip of forest bordered by two cleared SRW's would increase "edge effects" which results in increased predation on mammals and birds, an influx of weedy sun-loving vegetation and changes in microclimate (wind intensity, temperature, moisture).
 - Keeping the SRW clearings adjacent to one another allows for greater landscape connectivity. These physical and functional connections are necessary to support biodiversity which further supports ecosystem services and animal movement across the landscape.
 - The designed alignment will also serve as a more effective fire break. Two contiguous cleared areas are far more effective than having a cleared area (existing gas line SRW) - a strip of forest – another cleared area and then into the parkland.
 - As the alignment travels down the slope towards Trepanier Creek, there was some concern about slope stability as well as the riparian area around the watercourse.
 - The slope was analyzed by a geotechnical engineer and in a sealed memo, it was noted that the future stability of the hillside should not be affected negatively by the installation of the water main.
 - To mitigate concerns around the Trepanier Creek watercourse, the water line will be installed via a "trenchless" method, whereas there will be no excavation inside the sensitive area.
 - One of the most important sections of the environmental assessment (EA) speaks to habitat restoration. Some brief notes on the requirements are below.
 - For every plant disturbed, restoration planting will occur to ensure there is no net loss of habitat capacity.
 - The EA notes that for every shrub and tree (with DBH – diameter breast height greater than 18") removed, 3 will be planted in their place. For every tree removed with a DBH of less than 18", 2 will be planted in their place. Recommended species are listed within the EA.
 - All disturbed areas are to be hydro-seeded with an appropriate native seed mix (suitable for upland Okanagan habitat).
 - The restoration planting includes a 2m wide section along the northern edge of the alignment. This planting will minimize the

edge species (often non-native) from encroaching and offer wind resistance, combat heat and moisture losses and provide a source of wildlife trees for the future.

- Vegetation disturbance is targeted to be outside of the regional nesting period (between mid March and mid August). If work has to occur within this period, a qualified professional will complete a nesting survey to ensure no active nests are disturbed.
 - Any noted active nests will have a “no work zone” buffer implemented. A site specific plan will be put into place by the qualified professional which will include buffer width, marking, mitigation measures, etc.
 - The EA also notes the requirement for a detailed site assessment to take place prior to work beginning on the project. This additional assessment will afford the consulting engineers, environmental consultant, the contractor and District staff an opportunity to walk the alignment and look for opportunities where mature trees could potentially be spared.
- Financial Considerations
 - The project is currently out for tender and slated to close on July 10th. A new alignment approach will result in increased costs and delay the start of the project. A rough estimate from our engineering consultant notes a cost increase of anywhere from \$45,000 - \$105,000.

Tentative Project Dates

Tender close: July 10th

Tender review and award: 13-17th

Construction starts: July 20-24th

Construction ends: Nov 30th

Grant deadline: Dec 31st

If you have any questions on the Interconnect project,
please call the Public Works Office at (250) 767-2108

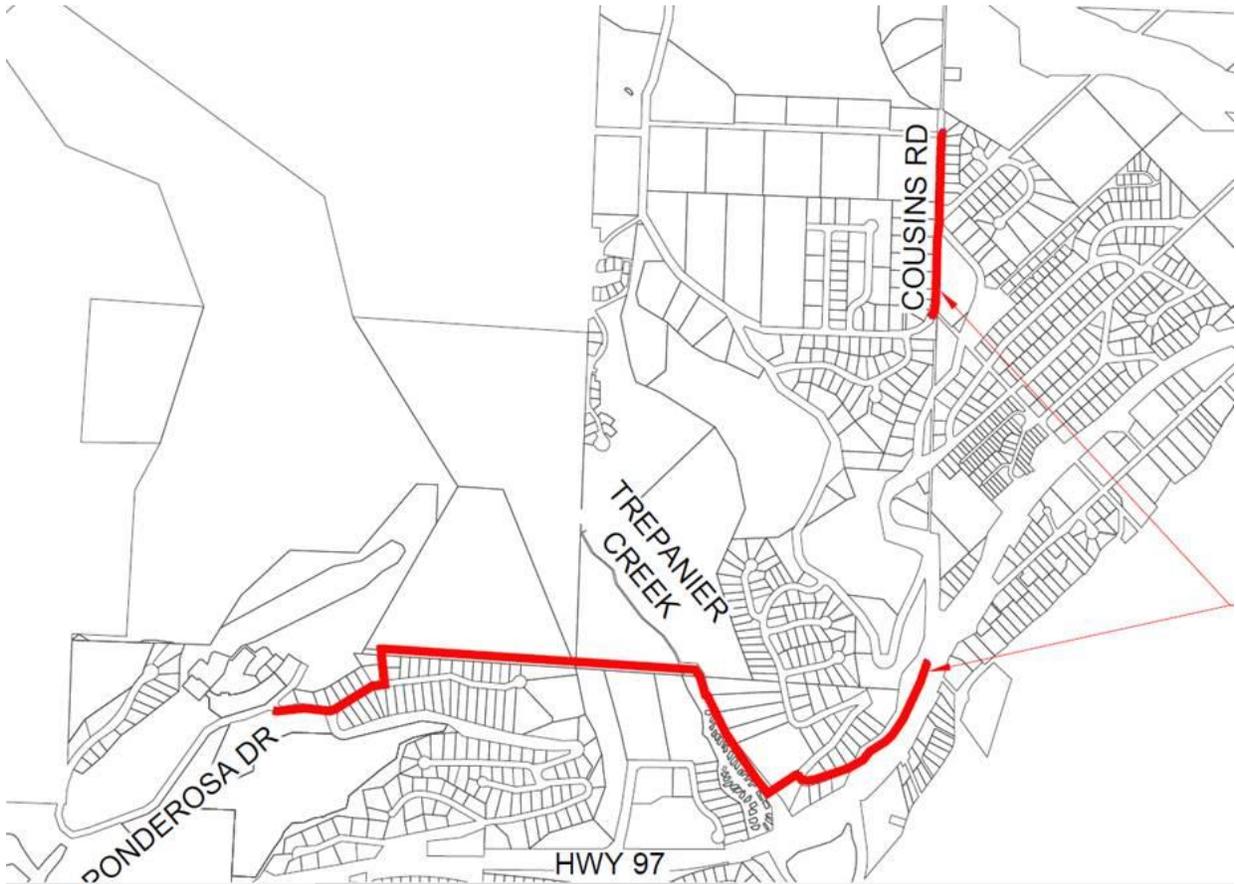


Figure I – Approximate location of works for Trepanier Interconnect Project

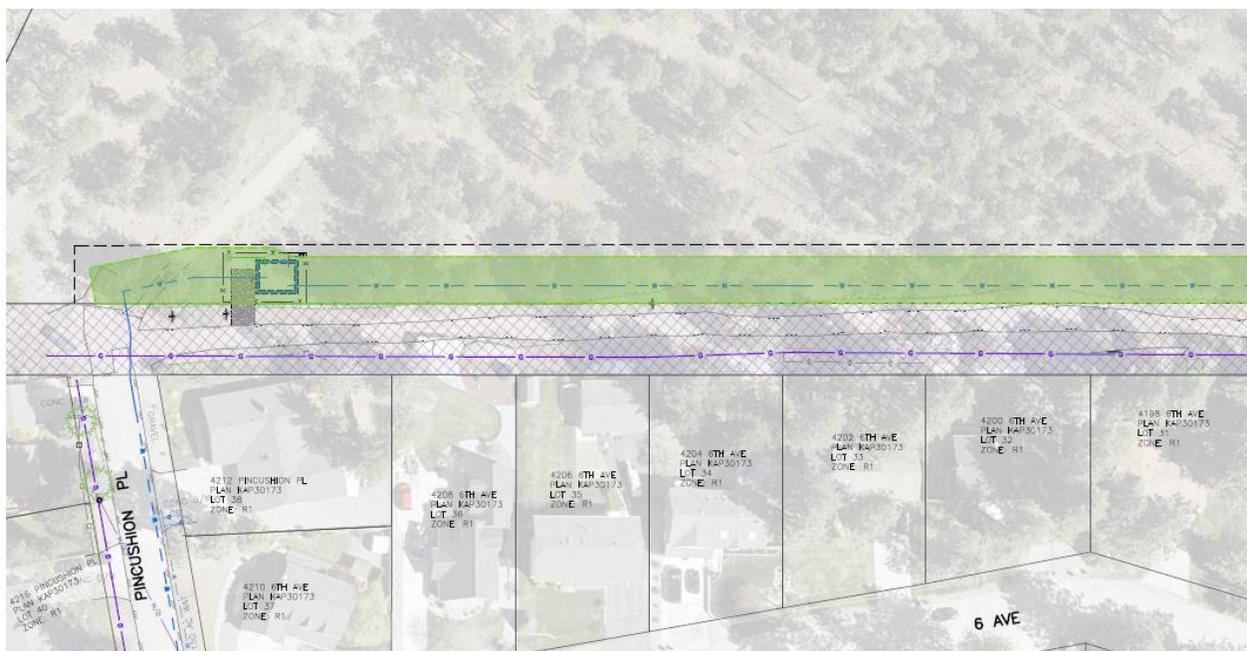


Figure II – Clearing limits for water line installation (purple hatched area is existing Fortis SRW)



Figure III – Clearing limits, continued.