

5.1 Future Water Demand

The potential South Lillooet service area encompasses the properties within the District boundary on Roshard Drive, Texas Creek Road and Cook Road. Currently, 21 homes exist in this area. An additional 20 vacant lots also border on these roadways.

The land use is primarily rural residential and agricultural. Future maximum day water demands can be estimated based on North Lillooet's rural water usage per lot, as follows:

- Future potential build-out = 41 residences
- North Lillooet Maximum Day Demand = 3300 Igal/lot
- Future Maximum Day Demand (South Lillooet) = $41 \times 3300 = 135,300$ Igal
say 135,000 Igal

5.2 Water Supply and Treatment Options

Water supply, distribution and storage components are shown schematically on *Figure 24*. These components are described in the following sections.

Groundwater capacity potential has not been determined in the South Lillooet area. We assume that the most likely area to construct a production well would be on the lower bench. The upper reaches of the service area rise steeply from the valley floor.

Costs for drilling and completion of a 100 Igpm well are estimated as follows:

Order of Magnitude Cost: Source Option '1' – Groundwater Wells

1.1 Construct 150mm dia. well including screens, casing and yield testing -	
L.S. =	\$60,000
1.2 Complete well including pump, discharge piping and pitless adapter -	
L.S. =	\$40,000

1.3 Construct pump control building including mechanical and electrical -

L.S. = \$50,000

Subtotal Construction = \$150,000

Contingencies & Engineering (25%) = \$50,000

Total South Lillooet Source Option '1' Cost = \$200,000

It is assumed that no additional water treatment would be required beyond chlorination for the purpose of maintaining residual. Completion of a groundwater potential investigation prior to well drilling will be necessary to determine the feasibility of this source.

If the results of a groundwater supply investigation conclude that the potential for a production well in South Lillooet is low, the District will have to consider supplying water from Central Lillooet via a watermain interconnect. Costs associated with such a supply main are estimated as follows.

Order of Magnitude Cost: Source Option '2' – Supply from Central Lillooet

2.1 Construct 200mm dia. supply watermain including road repair -

2100m @ \$175/m = \$367,500

2.2 Construct Seton River bridge crossing including 200mm dia. insulation watermain and bridge anchors/hangers –

60m @ \$1500/m = \$90,000

2.3 Construct augered railway crossing complete with 200mm dia. in 350mm dia. casing pipe -

65m @ \$1000/m = \$65,000

2.4 Construct watermain tie-ins at Main Street –

L.S. = \$10,000

2.5 Construct 125 Igpm booster station on Roshard Road -

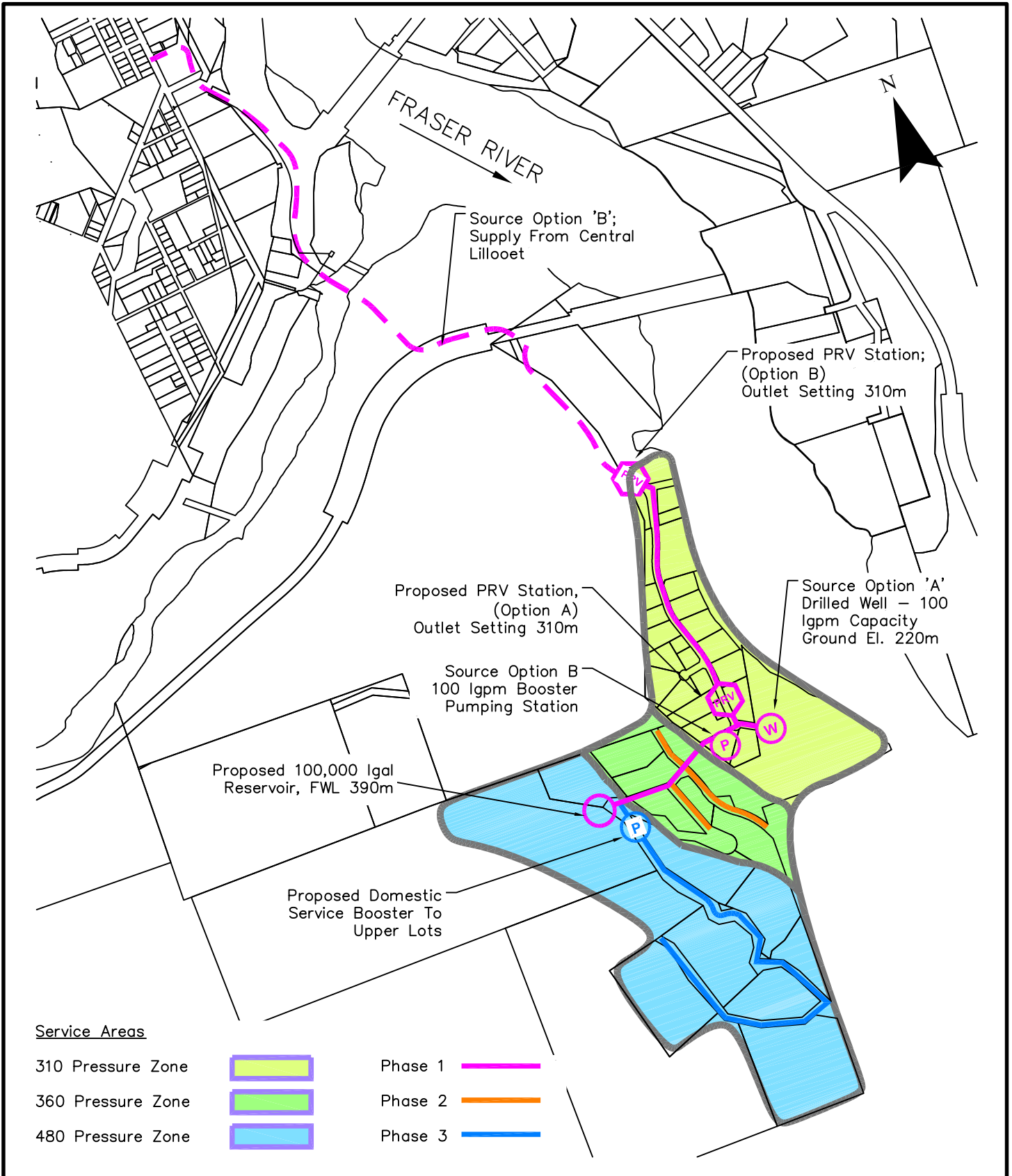
L.S. = \$75,000

2.6 Watermain appurtenances (fittings, bends, valves) say \$35,000

Subtotal Construction = \$642,500

Contingencies & Engineering (25%) = \$157,500

Total South Lillooet Source Option #2 Cost = \$800,000



Service Areas

- | | | | |
|-------------------|---|---------|---|
| 310 Pressure Zone |  | Phase 1 |  |
| 360 Pressure Zone |  | Phase 2 |  |
| 480 Pressure Zone |  | Phase 3 |  |

South Lillooet
Water Servicing Concept Plan
 District of Lillooet
 Master Water Plan



DWN. BY: DL
 DATE: Sept 2006

DSGN. BY: SW	
SCALE: 1:15000	
DWG. NO.:	REV.:
534-071	
Figure 24	

5.3 Water Storage and Distribution

Topographically, South Lillooet consists of a flat bench surrounding Roshard Drive and a steep hillside above it. Servicing to this area would occur through creation of several pressure zones. The majority of the serviceable lots are contained in the lower zones, as shown on *Figure 24*. It may be financially viable to then supply these lower lots with both domestic service and fire protection.

However, the sparse lots in the upper zone would likely be provided with domestic service only through the use of a booster pump.

Construction of this infrastructure could occur in phases in order to spread out initial capital costs. Costs associated with this servicing infrastructure are estimated as follows.

Order of Magnitude Cost: South Lillooet Storage and Distribution

Phase 1 – Supply to Reservoir, Servicing of Roshard Drive

1.1 Construct 150mm dia. supply watermain from Roshard Drive (well) to reservoir -	
600m @ \$150/m =	\$90,000
1.2 Construct 100,000 Igal cost-in-place concrete storage reservoir -	
100,000 Igal @ \$1.75/Igal =	\$175,000
1.3 Construct PRV station to Roshard Drive -	
L.S. =	\$40,000
1.4 Construct 150mm dia. distribution main on Roshard Drive -	
600m @ \$150/m =	\$105,000
1.5 Watermain appurtenances (bends, fittings, valves, hydrants) -	say \$20,000
1.6 Construct watermain services (saddle, corp, curb, piping) –	
25 ea. @ \$1000 ea.=	<u>\$25,000</u>
	Subtotal Phase 1 = \$455,000
	Contingencies & Engineering (25%) = <u>\$145,00</u>
	South Lillooet Phase 1 Cost = \$600,000

Phase 2 – Texas Creek Road Servicing

2.1 Construct 150mm dia. distribution watermain on Texas Creek Road -	
600m @ \$150/m =	\$90,000
2.2 Tie-in to supply main -	
L.S. =	\$5,000
2.3 Watermain appurtenances (fittings, bends, valves, hydrants) -	say \$10,000
2.4 Construct watermain services (saddle, corp, curb, piping) –	
5 ea. @ \$1000 ea. =	<u>\$5,000</u>
	Subtotal Phase 2 = \$105,000
	Contingencies & Engineering (25%) = <u>\$25,000</u>
	South Lillooet Phase 2 Cost = \$130,000

Phase 3 – Upper Cook Road Servicing

3.1 Construct 50 Igpm domestic service booster station -	
L.S. =	\$25,000
3.2 Construct 150mm dia. watermain on upper Cook Road -	
1500m @ \$150/m =	\$225,000
3.3 Tie-in to reservoir -	
L.S. =	\$10,000
3.4 Watermain appurtenances (fittings, bends, valves,) -	say \$20,000
3.5 Construct watermain services (saddle, corp, curb, piping) –	
10 ea. @ \$1000 ea. =	<u>\$10,000</u>
	Subtotal Phase 3 = \$290,000
	Contingencies & Engineering (25%) = <u>\$80,000</u>
	South Lillooet Phase 3 Cost = \$370,000

5.4 Summary

Servicing costs to supply existing residential demands and provide distribution piping for future residences within the South Lillooet area was detailed in previous sections. Costs associated with this infrastructure are summarized in Table 23.

Table 23: South Lillooet Servicing Costs

<i>Phase</i>	<i>Description</i>	<i>Capital Cost</i>
1	Supply main to reservoir and distribution/ servicing on Roshard Drive.	\$570,000
2	Distribution and servicing on Texas Creek Road.	\$130,000
3	Distribution and servicing on upper Cook Road.	\$365,000
Source Option 'A'	South Lillooet Well	\$200,000
Source Option 'B'	Central Lillooet Interconnect	\$800,000

Unlike East Lillooet, the South Lillooet system would likely be confined to servicing the properties surrounding relatively few roads. The bulk of the primary supply infrastructure would also comprise the distribution system which is the reason that distribution and servicing costs for all properties have been included in the costs shown.