

Gjoa Haven Water Supply (Licence NWB-3GJO-0409)

Intake pipe line section between pumphouse and water intake point at Swan Lake

- A heat trace line inside the insulated intake pipe line (insulated pipe partly under water).
- Temperature maintains about 10⁰C at the entry point and flows inside pumphouse line 3-5 ⁰C
- A control valve at pumps level helps in keeping water inside and from issues of air entrap inside when idle, also helps in easy suction of water without major head loss and energy loss.

6-inch (150 mm) HDPE insulated buried line with 2-inch (50 mm) re-circle line inside

- Two (2) re-heat stations in between the section of 2.3 km buried line from pumphouse to treatment plant, with booster of flow-rate and re-heat for continuity of water flow to treatment plant.
- Water boost-up and re-heat as required in flowing continuity onto treatment plant.
- During idle time when pumps are not running, water keeps circulating using 2 inch re-circulating line inside the 6 inch line, maintains water temperature up-to fluidity and above freezing point.
- Continuity of re-heated water flow helps the buried line workable whenever requires for intake.

Monitoring Records:

Following information is for your acknowledgement please:

- Peak hour Flow-Rate of water at entry to treatment plant: 8 L/sec. (Liters per second)
- Hour of duration for pump running in filling Storage Tank: 7 h/day (hours per day)
- Capacity of Storage Tank at Treatment Plant: 385,000 L
- Pumps starts automatically when water emptied about half from Storage Tank
- Frequency of pump starts: at least 1 time daily
- Daily maximum water intake 200,000 L
- Water volume record from intake amount at treatment plant and from truck delivery
- Water Storage tank clean up annually: loss of water 200,000 L (max)
- Annual water quantity (volume) records from truck-fill delivery data and adding lump-sum losses due to time to time water discharge from transmission line during line freeze-up (happened last year unexpectedly) to continue the flow in line. This lump sum volume calculates from flow rate at that time and volume of water delivery through truck-fill, the difference.
- Water delivery: regular customer 5 d/week, hotel and important customer 6 d/week and also emergency delivery at any time. Future plan for delivery 7 d/week (may effective from Oct 2013)