

# Public Private Partnership ( PPP )

Ministry Guide for Local Government:

- various PPP options

1. **Operation & Maintenance**
2. **Design-Build**
3. **Turnkey Operation**
4. **Wrap Around Addition**
5. **Lease-Purchase**
6. **Temporary Privatization**
7. **Lease-Develop-Operate**
8. **Buy-Develop-Operate**
9. **Build-Transfer-Operate**
10. **Build-Own-Operate-Transfer**
11. **Build-Own-Operate**

**Advantages /Disadvantages of each noted  
(Not done for most GVRD communications)**

**[www.marh.gov.bc.ca/LGPOLICY/MAR/PPP](http://www.marh.gov.bc.ca/LGPOLICY/MAR/PPP)**

# Potential Problems

- **Contract must sufficiently address all future eventualities (particularly wrt NAFTA)**
- **Facility running costs may increase sharply as contract ends**
- **Potential difficulties in switching from private to public operation**
- **Reduced local government control over facility**
- **Financial risks for public**
- **Complexity of agreement**
- **Limited flexibility to change standards**

# Reasons to Privatize

- Save money

# Reasons Not to Privatize

- Profits stay in area
- Flexibility
- Total infrastructure sell-out
- Peace of mind
- Public desire ← N.B.

**If must do then note that 20 Year contract far too long – 5 year & renewal option is norm.**

**Note:** 10-20 % saving in filtration plant translates to only about 3-7% saving at out tap since filtration costs account only for 1/3 of total water fee.

**Urge rejection of Design/Build/Operate if majority of public so desires. They are not stupid!**

# Filtration Concerns

- **Do health concerns justify filtration?**
- **Improving delivery infrastructure may be more cost effective.**
- **Turbidity improvements by filtering may be largely negated by bad piping**
- **History has shown that most pathogen outbreaks have occurred in systems which were filtered!**
- **Filtration plant would increase pressure to “open” the watersheds**

# **A 5 Barrier Quality System**

- 1. Watershed Protection**
- 2. Coagulant with Dissolved Air Flootation.**
- 3. Ozonation**
- 4. Activated Carbon filtration**
- 5. UV and Chlorine**

## **Other Considerations**

- **Is membrane filtration a viable option?  
(seems not...)**
- **What are cost estimates for Capilano to  
Seymour tunnels? (80m\$)**
- **What will be impact on residential  
areas in Capilano of removing  
200,000cubic-metres?**
- **Filtration + Ozonation/UV ?**

## Water Safety and measurable parameters

“It has become very evident that in the absence of a mechanism to measure the primary outcome of interest (human health) with at least some degree of sensitivity and accuracy, it is virtually impossible to assess the “purity” or “safety” of drinking water using available water parameter measuring devices. A turbidity reading of 0.05 or 0.1 nephelometric turbidity units (NTU), or the detection of 1 *Cryptosporidium* oocyst/1000L of water has very little public health meaning if incidences of waterborne infections among individuals consuming the water are unknown. It is only when levels of human illness are associated with various water quality parameters or water treatment characteristics, that it will be possible to make significant advances in reducing waterborne disease.” –

[http://www.hc-sc.gc.ca/ehp/ehd/catalogue/bch\\_pubs/gvdr-a.pdf](http://www.hc-sc.gc.ca/ehp/ehd/catalogue/bch_pubs/gvdr-a.pdf)

**Drinking Water Quality and Health Care Utilization for Gastrointestinal Illness in Greater Vancouver – Oct 30/2000**

“(1) significant levels of endemic (day-to-day) gastroenteritis events are potentially waterborne in nature,  
(2) watershed protection together with chlorination may not adequately protect against the waterborne transmission of enteric pathogens, and  
(3) turbidity appears to be a valuable water quality indicator.” –

[Drinking Water Quality and Health Care Utilization for Gastrointestinal Illness in Greater Vancouver](#)

A good summary which indicates gastroenteritis is related to turbidity in Greater Vancouver can be found at

[www.hc-sc.gc.ca/hpb/lcdc/publicat/ccdr/00vol26/dr2624ec.html](http://www.hc-sc.gc.ca/hpb/lcdc/publicat/ccdr/00vol26/dr2624ec.html)



# Filtration Plant Parameters and Concerns

- Should meet ISO 9002 certification for a Drinking Water Quality Management System
- Consideration should be given to impact on environment and receiving waters
- Residual Aluminum levels – should be less than Health Canada Guidelines of 0.1mg/Litre
- Statement on current and proposed mg/Litre hardness
- What are the typical and maximum detected Giardia and Cryptosporidium counts/100L?
- By what factor (log) will they be reduced by the proposed filtration?
- What is the anticipated average and maximum NTU coming from plant?
- What are the numbers expected coming out of our taps?
- Should meet Canadian Guidelines – [http://www.hc-sc.gc.ca/main/hc/web/ehp/ehd/catalogue/bch\\_pubs/summary.pdf](http://www.hc-sc.gc.ca/main/hc/web/ehp/ehd/catalogue/bch_pubs/summary.pdf)
- Negative impact on adjacent residents of tunneled material being trucked up “mainline” Rd. in Capilano.
- Are the cost increases of filtration in line with US EPA estimated that “Surface Water Treatment Rule” will cost the vast majority less than \$1/month/household extra – Source: EPA 815-F-98-009  
<http://www.epa.gov/OGWDW/mdbp/ieswtr.html>

## Summary:

- There are many technical concerns that need to be addressed.
- Technical specifications on proposal and of the before/after water quality are sorely lacking.
- Design-Build-Operate should be dropped or at very least the 20 year option reduced to 5 years.
- Design-Build option must be carefully specified to ensure that increased operating/maintenance costs do not negate lower capital costs.
- Maintain open lines of communication with public.
- Contracting out rating scales should not over-emphasize “Bigger is Better”.
- Ozonation with possible UV treatment is highly desirable.
- Primary goal should be to retain all three reservoirs exclusively for drinking water. Time for healing is on our side.
- *“Good water for a large city such as Greater Vancouver is more important than Winter Olympic Games”* – North Vancouver District Mayor Ron Andrews – **May 28/1969**
- DNV Council – **May 2/1994** – *“That the GVRD be advised that Council strongly supports the use of filtration with ozonation and biological filtration as primary water treatment..”*