

# **ARE YOU MAKING MILLION DOLLAR DECISIONS BASED ON FLAWED HYDRAULIC MODELS?**

**DO NOT WASTE ANOTHER DOLLAR ON MODELING  
UNTIL YOU'VE READ THIS CHECKLIST\*!**

2010 GeoAdvice Engineering Inc.

\* Incomplete Checklist. Contact GeoAdvice for complete Checklist!



# MODEL QUALITY CHECKLIST

- ✓ Check K coefficient are assigned to PRVs
- ✓ Check model for data discrepancies with GIS
- ✓ Check convention discrepancies within model (e.g. ID prefix, scenario naming convention)

Contact GeoAdvice today!  
Call GeoAdvice for a detailed model review!

Tel (604) 931-0550  
[info@geoadvice.com](mailto:info@geoadvice.com)



# MODEL QUALITY CHECKLIST

- ✓ Check pattern multipliers always average to 1
- ✓ Check shutoff head on pump curve
- ✓ Check maximum flow on pump curve
- ✓ Check if pipe → auto-length option is on or off

Contact GeoAdvice today!  
Call GeoAdvice for a detailed model review!

Tel (604) 931-0550  
[info@geoadvice.com](mailto:info@geoadvice.com)



# MODEL QUALITY CHECKLIST

- ✓ Check network connectivity and identify potential issues:
  - Orphan nodes and pipes
  - Parallel pipes
  - Pipe crossing without connecting
  - Nodes in close proximity

Contact GeoAdvice today!  
Call GeoAdvice for a detailed model review!

Tel (604) 931-0550  
[info@geoadvice.com](mailto:info@geoadvice.com)



# MODEL QUALITY CHECKLIST

- ✓ Check for redundant and complex controls (PLC, controls and initial status)
- ✓ Check Constant Power Input pumps are not used in EPS Simulation
- ✓ Check PLC controls are not used with Steady-State Simulation

Contact GeoAdvice today!  
Call GeoAdvice for a detailed model review!

Tel (604) 931-0550  
[info@geoadvice.com](mailto:info@geoadvice.com)



# MODEL QUALITY CHECKLIST

- ✓ Check pump curve matches the latest energy pump test
- ✓ Check prefixes are used to label components
- ✓ Check Named View and Bookmarks are added for key components

Contact GeoAdvice today!  
Call GeoAdvice for a detailed model review!

Tel (604) 931-0550  
[info@geoadvice.com](mailto:info@geoadvice.com)



# MODEL QUALITY CHECKLIST

- ✓ Check level data are always relative to bottom elevation
- ✓ Check Pump Status = Open → Pump = ON  
Status = Closed → Pump = OFF
- ✓ Check Valve Status = Open → Valve = 100 %  
Open (Valve ≠ Active)

Contact GeoAdvice today!  
Call GeoAdvice for a detailed model review!

Tel (604) 931-0550  
[info@geoadvice.com](mailto:info@geoadvice.com)



# MODEL QUALITY CHECKLIST

- ✓ Check demand pattern is added in EPS model
- ✓ Check fire flow scenario setup with MDD
- ✓ Check HGL for wells is water depth at drawdown, not the static depth

Contact GeoAdvice today!  
Call GeoAdvice for a detailed model review!

Tel (604) 931-0550  
[info@geoadvice.com](mailto:info@geoadvice.com)





# MODEL QUALITY CHECKLIST

- ✓ Check data flagging system is used to ensure adequate data control as well as aid modelers
- ✓ Check Inference Tools (if available) are used to infer data to fill in the gaps where data is not available (e.g. C factors based on material and age)

Contact GeoAdvice today!  
Call GeoAdvice for a detailed model review!

Tel (604) 931-0550  
[info@geoadvice.com](mailto:info@geoadvice.com)



# MODEL QUALITY CHECKLIST (SEWER)

- ✓ Check Hazen Williams coefficients are used for Force Mains
- ✓ Check Manning coefficients are used for Gravity Mains

Contact GeoAdvice today!  
Call GeoAdvice for a detailed model review!

Tel (604) 931-0550  
[info@geoadvice.com](mailto:info@geoadvice.com)



# IMPACT OF INACCURATE DATA

- Junction
  - Elevation: Wrong elevation may cause pressure predictions too high or too low  
What is the elevation type (ground of pipe elevation)?

Contact GeoAdvice today!  
Call GeoAdvice for a detailed model review!

Tel (604) 931-0550  
[info@geoadvice.com](mailto:info@geoadvice.com)



# IMPACT OF INACCURATE DATA

- Pump
  - Diameter: Required for NPSH Calculation
- Valve
  - Pressure / Flow Setting: Critical as this is a boundary condition

Contact GeoAdvice today!  
Call GeoAdvice for a detailed model review!

Tel (604) 931-0550  
[info@geoadvice.com](mailto:info@geoadvice.com)



# IMPACT OF INACCURATE DATA

- Tank
  - Section: Can be easily verified in the field  
Wrong capacity may cause the tank to be empty or full

Contact GeoAdvice today!  
Call GeoAdvice for a detailed model review!

Tel (604) 931-0550  
[info@geoadvice.com](mailto:info@geoadvice.com)



# IMPACT OF INACCURATE DATA

- Pipe
  - Diameter: Critical as the headloss is a function of the internal diameter
  - C-Value: To be estimated during calibration.  
Not a unique solution

Contact GeoAdvice today!  
Call GeoAdvice for a detailed model review!

Tel (604) 931-0550  
[info@geoadvice.com](mailto:info@geoadvice.com)



GeoAdvice specializes in superior model building, optimal calibration and validation, sustainable network management, and cost-effective operational modeling.



For Complete Model Quality Check List and Model Review, Contact GeoAdvice Today!



Tel (604) 931-0550  
[info@geoadvice.com](mailto:info@geoadvice.com)