Hydraulic Model Data Summary

Brief Description of Project: _____
_____
_____
_____

Hydraulic Model Input Summary:

- ☐ Entire distribution system is modeled
- ☐ Part of the distribution system is modeled
- ☐ Node map is provided

If only part of the distribution is modeled, what is the basis for model development:

- ☐ Hydrant flow test: _____ gpm @ _____ psi residual pressure
- ☐ Gravity from storage tank: water surface elevation _____ feet
- ☐ Other: _____
_____
_____

Residential Water Demand: Q = _____ gpd per household
Based Upon ☐ Census data x ____ gpcd
☐ Historical Usage Data
☐ Other: _____
_____

Commercial and Industrial Demand: _____ gpd, or _____gpm

Total Demand: Q_{avg} = _____ gpm

Maximum Day Demand: Q_{avg} x _____ peak factor = _____ gpm
Based Upon: ☐ 2.0 peaking factor
☐ Other: _____
_____

Peak Hour Demand: Q_{avg} x _____ peak factor = _____ gpm
Based Upon: ☐ 4.0 peaking factor
☐ Other: _____
_____

Is fire protection included in the project: ☐ Yes ☐ No
If Yes, Design fire flow and duration: _____ gpm for _____ hours

Does the project include gravity storage? ☐ Yes ☐ No
(If more than one tank is included in the model, provide additional tank information on attached sheets.)

If Yes,	Storage tank nominal capacity:	_____ gallons
	Tank overflow elevation:	_____ feet
	Tank base elevation:	_____ feet
	Typical tank control low elevation:	_____ feet
	Typical tank control high elevation:	_____ feet

Does the project include pumps? ☐ Yes ☐ No
(If more than one pumping station is included in the model, provide additional tank information on attached sheets.)

If Yes,	Number of pumps provided:	_____
	Single pump capacity:	_____ gpm @ _____feet TDH
	Combined pump capacity:	_____ gpm @ _____feet TDH

Has the model been calibrated based on actual hydrant testing? ☐ Yes ☐ No
Pipe material: _____
Pipe Roughness Coefficient: C = _____

Hydraulic Model Output Summary:

Peak Flow Evaluation:

The model output must demonstrate that a 20 psi minimum pressure can be maintained at all locations during peak hour demand or maximum day demand plus a simultaneous fire flow event, whichever is greater. Typically, the starting tank elevation should be the normal low tank level. The model should perform an extended period simulation to run through the entire designated fire flow event (i.e., 500 gpm for 2-hours) during max day demand. A simple snap shot of max day + fire flow at the beginning of the fire duration may be appropriate in simple models. Model must also assign a node and appropriate demand at the highest elevation.

Reports submitted:

- ☐ Junction Report for Max Day + Fire Flow (or peak hour if greater)
- ☐ Pipe Report for Max Day + Fire Flow (or peak hour if greater)
- ☐ Tank Report, as needed
- ☐ Pump Report, as needed
- ☐ Fire Flow Report (in lieu of Junction Report)

Critical Node Output:

Node Identification: _____ Node Elevation: _____
Flow: _____ Pressure: _____

Effective Storage Evaluation:

Available effective storage is determined based on the minimum storage tank water surface elevation necessary to maintain a minimum pressure of 20 psi at all locations in the distribution system during maximum day flow.

Reports submitted:
- ☐ Junction Report for Max Day
- ☐ Pipe Report for Max Day
- ☐ Tank Report
- ☐ Pump Report, as needed

Critical Node Output:

Node Identification: _____ Node Elevation: _____
Flow: _____ Pressure: _____

Storage Tank Identification: _____
(If more than one tank is included in the model, provide additional tank information on attached sheets.)
Minimum elevation necessary under maximum day domestic flow: _____ feet
Overflow elevation: _____ feet
Tank bottom elevation: _____ feet
Effective storage volume: _____ gallons