FAYETTEVILLE PUBLIC WORKS COMMISSION
WATER RESOURCES ENGINEERING DEPARTMENT

HYDRAULIC CALCULATIONS SUMMARY EXHIBIT

A hydrant flow test may be scheduled by completing the Fire Hydrant Flow Test Application found at https://faypwc.geocivix.com/.

1. Project Information

a. Project Name:	
b. Project Owner/Developer:	
c. Site Address:	
d. PIN(s) or REID(s):	

2. Hydrant Flow Test Results

a. Date of test		
b. Static pressure noted at the residual hydrant during test	psi at	0 gpm
c. Flow rate and residual pressure noted at residual hydrant during test	psi at	gpm

3. Building Code Requirements

a. Proposed Building Construction Type per NC Building Code		
b. Proposed building area to be protected by fire flow		SqFt
c. Minimum required fire flow per NC Building Code and required duration	gpm	hrs
d. ☐ Building is equipped with a fire suppression sprinkler system: Sprinkler design flow	gpm	hrs

4. Design Flows

a. ADD: Average Day Demand (daily usage on an average day)		gpd
b. MDD: Maximum Day Demand (daily usage on the maximum usage day of the year)		gpd
c. PHF: Peak Hourly Flow (flow during the peak hour of the max usage day of the year)		gpm
d. Maximum Metered Flow, including irrigation (calculated via fixture count or similar method)		gpm
e. ☐ Project includes irrigation: Irrigation demand and duration	gpm	hrs

5. Hydraulic Calculations

a. Metered Flow: ***Calculations are required for Metered Flow.*** Calculated minimum pressure at total Maximum Metered Flow, including irrigation	psi at	gpm
b. Fire Flow: Calculated minimum pressure at fire flow + Peak Hourly Flow **OR** Calculated available fire flow at 20psi	psi at	gpm

6. Required Attachments

Indicate that the following documents are attached to this Exhibit:

a. ☐ The hydrant flow test report

b. ☐ The overall utility plan for the project which shows the approved hydrant(s)

c. ☐ Hydraulic calculations **required** for: ADD, MDD, PHF, Max Metered Flow, and Metered Flows and pressures.

d. Hydraulic calculations/model results for Fire Flow may be required – ***Indicate either i. or ii.***

- ☐ i. Fire flow calculations are required and attached **OR**
- ☐ ii. Fire flow calculations are not required and the following conditions have been met
  1. ☐ The gage hydrant for the flow test is the same hydrant that has been approved by the Fire Marshal to provide flow protection for the project; **AND**
  2. ☐ The flow rate observed during the hydrant flow test exceeds the minimum required fire flow; **AND**
  3. ☐ This is NOT a water main extension project

7. Engineer Certification

a. Engineer's Name:	
b. Firm:	
c. Phone:	d. E-mail:

Seal and Signature

Summary of Model results shall include

a. Report tables for all nodes including elevation, demand, and pressure.
b. Report tables for all pipes including diameter, start and stop nodes, length, friction factors, flow rates, and head loss.
c. Report tables for pumps including pump curve, elevation, calculated flow, and calculated head.
d. Report tables for reservoirs/tanks including elevation and flow.
e. Map or schematic of model with all components clearly identified.