



MEMORANDUM

To: Temescal Valley Water District
 From: Kimley-Horn and Associates, Inc.
 Date: 12/04/2023
 Subject: Preliminary Water Demand Memo

The below Memorandum illustrates the process in which the overall water demand was determined for the Temescal Commercial Project:

The Temescal Commercial Project is comprised of a proposed Light Industrial/Commercial lot and two undeveloped areas that are designated as “Open Space.”

The Temescal Commercial calculates the overall water demand based on the Lee Lake Water District Water System Facilities Requirements, dated August 2008, Section III.A.3. The average day demand factor for Business Park/Industrial, Commercial, School, and Open Space is 2,500 GPD/AC (1.736 GPM/AC), and the average day demand factor for Residential is 650 GPD/DU (0.45GPM/DU). The Maximum Daily Demand is specified as 1.75 times the Average Daily Demand. The Peak Demand is specified as 3.4 times the Average Daily Demand. Per the Lee Lake Water District Water System Facilities Requirements, the proposed water system for the Temescal Commercial shall be analyzed for the Peak Demand Flow and the Maximum Day Demand plus the Fire Flow. The Fire Flow demand for this project is 2700 GPM. Based on surrounding acreage and known conditions of the Temescal Commercial Project, a maximum daily flow (GPM) is assumed to be approximately 445 GPM. Per the Water Demand table below the Maximum Daily Flow plus Fire Flow is approximately 3150 GPM.

Lot Number	PROPOSED DEVELOPMENT	LOT SIZE (AC)	AVG DAILY FLOW (GPM)	PEAK FLOW (GPM)	MAX DAILY FLOW (GPM)	MAX + FIRE (GPM)
4	LIGHT INDUSTRIAL	10.80	18.75	63.75	32.81	
6	OPEN SPACE	0.60	1.04	3.54	1.82	
B	OPEN SPACE	0.21	0.36	1.22	0.63	
5	*FUTURE DEVELOPMENT	-	-	-	280	
-	*INDUSTRIAL/SCHOOL FUTURE	-	-	-	120	
1,2,3	*COMMERCIAL FUTURE	-	-	-	10	
TOTAL					445.26	
						3150

*Potential future calculated per maximum allowable flow.

With the Maximum Daily Flow plus Fire Flow at 3150 GPM, the equivalent discharge is converted into 7.03 cubic feet per second. The Lee Lake Water District Water System Facilities Requirements, dated August 2008 allows the maximum velocity of flow to be 10 feet per second. Accounting for that design criteria, the area of the pipe is calculated to be 0.70 square feet (100.8 square inches). With an area of 100.8 square inches, the pipe radius is determined to be 5.66 inches, resulting in the use of a 12 inch water pipe for the Temescal Commercial Project.