

# IRRIGATION WATER SERVICE CALCULATIONS

PROJECT: **FERRO - RONCONI PROPERTY**

PROJECT NO.: **1155 PC**

DATE: **12/9/13**

## Plant Factors

COOL SEASON GRASS	80	%
"HIGH" TREES, SHRUBS, & GC	80	%
"MEDIUM" TREES, SHRUBS, & GC	50	%
"LOW" TREES, SHRUBS, & GC	20	%

Min. Allowable Irrigation System Efficiency 71.0 %

Highest Monthly Ref. Evapotranspiration Rate 7.90  
 FROM "C.I.M.I.S." DATA FOR THE CITY OF: \*\*  
 MONTH OF: **JULY**

## Notes regarding these calculations:

\*\* JULY ET<sub>o</sub> IS FROM EXHIBIT 'B' OF MUNICIPAL CODE CHAPTER 17.630, ADOPTED 12/22/92 (AB325). 17.630 HAS BEEN UPDATED TO COMPLY WITH AB1881, BUT CONTAINS NO ET<sub>o</sub> INFO.

### AREA 1 -- PERIMETER LMD AREAS

Hours per Day Available to Irrigate	8
Days per Week Available to Irrigate	6

## Hydrozone Parameters to be Entered:

HYDROZONE AREA (square feet)  
 or HYDROZONE AREA (acres)  
PLANT FACTOR %  
IRRIGATION EFFICIENCY %

**AVERAGE GALLONS PER MINUTE**

Max. # of stations available for controllers 36

Max. # of sta.'s chart label: 36 valves max.

### 1 COOL SEASON GRASS

	S.F.
	ac.
80	%
71.0	%
G.P.M.	

### 2 "HIGH" TREES, SHRUBS, & GROUNDCOVER

	S.F.
	ac.
80	%
71.0	%
G.P.M.	

### 3 "MED." TREES, SHRUBS, & GROUNDCOVER

146,874	S.F.
3.37	ac.
50	%
71.0	%
41.3 G.P.M.	

### 4 "LOW" TREES, SHRUBS, & GROUNDCOVER

	S.F.
	ac.
20	%
71.0	%
G.P.M.	

146,874	S.F.	TOTAL
3.37	ac.	TOTAL

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### AREA 1 -- PERIMETER LMD AREAS

Hours per Day Available to Irrigate	<b>8</b>
Days per Week Available to Irrigate	<b>6</b>

TOTAL Minimum Average Gallons per Minute Needed to Irrigate within Time Allowed

**41.3** AVE. G.P.M. for **AREA 1**

Precip. Rate	# VALVES
0.25	10
0.50	19
0.75	28
1.00	37
1.25	47
1.50	56
1.75	65

TOTAL Number of Valves Required at Selected Precipitation Rates for the Ave. G.P.M.

SELECT the following System Parameter:

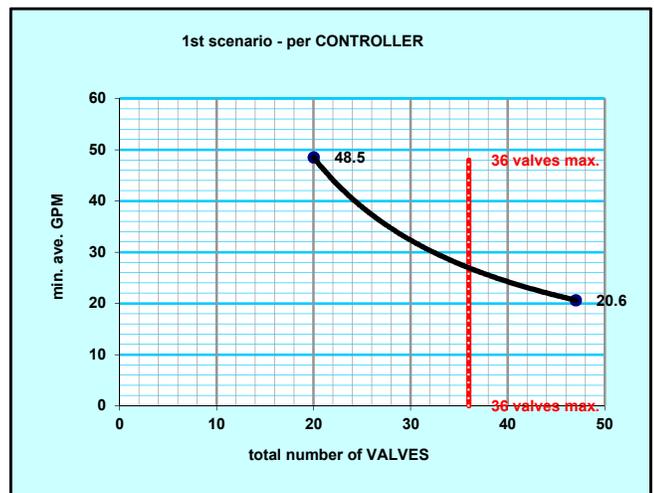
NUMBER OF VALVES DESIRED per CONTROLLER **20**

RESULTING AVERAGE G.P.M. per AREA at Selected Precipitation Rates

Precip. Rate	# VALVES		AVE. G.P.M.
0.25	10	WILL NEED	41.3
0.50	19	WILL NEED	41.3
0.75	20	WILL NEED	57.8
1.00	20	WILL NEED	76.3
1.25	20	WILL NEED	97.0
1.50	20	WILL NEED	115.6
1.75	20	WILL NEED	134.1

SELECT the following System Parameter:

NUMBER OF CONTROLLERS DESIRED **2**



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### AWWA RECOMMENDED FLOWS FOR VARIOUS SIZE WATER METERS

Size	MAXIMUM (100%)	AVERAGE (50%)	PEAK (75%)
5/8"	20	10	15
3/4"	30	15	22
1"	50	25	37
1-1/2"	100	50	75
2"	160	80	120
3"	300	150	225
4"	500	250	375

SELECT the following System Parameter:

EXPECTED PRECIP. RATE: **1.25**

### NUMBER OF WATER METERS NEEDED at AWWA RECOMMENDED FLOWS

Size	AVE. G.P.M.	50% FLOW	AVE. / METER
5/8"	<b>97.0</b>	10	9.7
3/4"		7	13.9
1"		4	24.3
1-1/2"		2	48.5
2"		2	48.5
3"		1	97.0
4"		1	97.0

### NUMBER OF WATER METERS NEEDED per FLOW IN COPPER SERVICE LINES

Size	5 FT. per SEC.	7 FT. per SEC.	9 FT. per SEC.
3/4"	17	11	9
1"	9	6	5
1-1/2"	4	3	3
2"	3	2	2
3"	1	1	1

### IN AWWA C900 CL. 200 SERVICE LINES

Size	5 FT. per SEC.	7 FT. per SEC.	9 FT. per SEC.
4"	1	1	1
6"	1	1	1

### 1st scenario - per CONTROLLER

