

IRRIGATION WATER PRESSURE CALCULATIONS
ELEMENTARY SCHOOL STATION A10

IRrigation Pressure Calculation
Static Pressure: 50.00
Max. GPM Demand: 375.00

Units Size	Type	Description	GPM	Unit PSI Loss	
1	4"	Disc	Water Meter	375.00	13.00
1	6"	Ductile Iron	RP BFP	375.00	09.00
1	3"	Brass	Master Valve	188.00	03.70
1	2"	Plastic	Flow Sensor	188.00	02.00
1210	4"	CI 315	Mainline	171.60	11.13
4	4"	Iron	Gate Valve	171.60	04.00
1	3"	Brass	RCV	171.60	01.76
50	1-1/2"	Sch. 40	Lateral Line	14.30	00.61
50	1-1/2"	Sch. 40	Lateral Line	28.60	01.04
35	2"	Sch. 40	Lateral Line	42.90	00.46
45	3"	Sch. 40	Lateral Line	85.80	00.31
165	4"	Sch. 40	Lateral Line	171.60	01.19
Misc		Fittings Allowance		01.00	01.00
		Component Losses:		49.20	

Station #: #A10
Min. Req'd by Head: 50.00
6.9' Elevation Gain: -42.98
Total Pressure Req'd: 96.22
Residual Pressure: -46.22

IRRIGATION WATER PRESSURE CALCULATIONS
MIDDLE SCHOOL STATION B9

IRrigation Pressure Calculation
Static Pressure: 50.00
Max. GPM Demand: 375.00

Units Size	Type	Description	GPM	Unit PSI Loss	
1	4"	Disc	Water Meter	375.00	13.00
1	6"	Ductile Iron	RP BFP	375.00	09.00
1	3"	Brass	Master Valve	188.00	03.70
1	2"	Plastic	Flow Sensor	188.00	02.00
1665	4"	CI 315	Mainline	143.00	10.83
4	4"	Iron	Gate Valve	143.00	01.00
1	2-1/2"	Brass	RCV	143.00	03.00
50	1-1/2"	Sch. 40	Lateral Line	14.30	00.61
50	1-1/2"	Sch. 40	Lateral Line	28.60	01.04
35	2"	Sch. 40	Lateral Line	42.90	00.46
75	4"	Sch. 40	Main Line	143.00	00.36
Misc		Fittings Allowance		143.00	46.00
		Component Losses:		46.00	

Station #: #B9
Min. Req'd by Head: 50.00
6.9' Elevation Gain: -42.98
Total Pressure Req'd: 93.02
Residual Pressure: -45.02

IRRIGATION WATER PRESSURE CALCULATIONS
MIDDLE SCHOOL STATION B32

IRrigation Pressure Calculation
Static Pressure: 50.00
Max. GPM Demand: 375.00

Units Size	Type	Description	GPM	Unit PSI Loss	
1	4"	Disc	Water Meter	375.00	13.00
1	6"	Ductile Iron	RP BFP	375.00	09.00
1	3"	Brass	Master Valve	188.00	03.70
1	2"	Plastic	Flow Sensor	188.00	02.00
2210	4"	CI 315	Main Line	143.00	13.34
4	4"	Iron	Gate Valve	143.00	01.00
1	2-1/2"	Brass	RCV	143.00	03.00
50	1-1/2"	Sch. 40	Lateral Line	14.30	00.61
50	1-1/2"	Sch. 40	Lateral Line	28.60	01.04
50	2"	Sch. 40	Lateral Line	42.90	00.66
50	2-1/2"	Sch. 40	Lateral Line	57.20	00.47
50	3"	Sch. 40	Lateral Line	71.50	00.25
15	4"	Sch. 40	Lateral Line	143.00	00.10
Misc		Fittings Allowance		09.29	09.29
		Component Losses:		51.46	

Station #: #B32
Min. Req'd by Head: 50.00
8.1' Elevation Gain: -43.50
Total Pressure Req'd: 98.56
Residual Pressure: -48.56

IRRIGATION WATER PRESSURE CALCULATIONS
MIDDLE SCHOOL STATION B38

IRrigation Pressure Calculation
Static Pressure: 50.00
Max. GPM Demand: 375.00

Units Size	Type	Description	GPM	Unit PSI Loss	
1	4"	Disc	Water Meter	375.00	13.00
1	6"	Ductile Iron	RP BFP	375.00	09.00
1	3"	Brass	Master Valve	188.00	03.70
1	2"	Plastic	Flow Sensor	188.00	02.00
2580	4"	CI 315	Main Line	114.40	10.30
11	4"	Iron	Gate Valve	114.40	11.00
1	2-1/2"	Brass	RCV	114.40	02.45
50	1-1/2"	Sch. 40	Lateral Line	14.30	00.61
50	1-1/2"	Sch. 40	Lateral Line	28.60	01.04
50	2"	Sch. 40	Lateral Line	42.90	00.66
50	2-1/2"	Sch. 40	Lateral Line	57.20	00.47
50	4"	Sch. 40	Lateral Line	114.40	00.17
Misc		Fittings Allowance		02.65	02.65
		Component Losses:		57.05	

Station #: #B38
Min. Req'd by Head: 50.00
6.9' Elevation Gain: -42.99
Total Pressure Req'd: 104.06
Residual Pressure: -54.06

PLOT TIME: 11:13 AM
PLOT DATE: 1/26/20
PLOT PATHNAME: G:\Users\1201-1250\20101244\DWG\CD1244-BLDG-P1384-QUAD E CLASSROOM-CD.jgh

ELEMENTARY SCHOOL
WATER USE CALCULATIONS

Maximum Applied Water Allowance Calculations for New and Rehabilitated Landscapes

Enter value in Pale Blue Cells	Enter value in Pale Blue Cells	Name of City
ET ₀ of City from Appendix A	52.40	ET ₀ (inches/year)
Special Landscape Area	384,143.00	SLA (ft ²)
Enter Effective Precipitation	0.00	Eppt (in/y)
Results:		
MAVA = (ET ₀ × SLA) × (0.82) × (0.7) × LAH(0.3 × SLA)	13,916,521.49	Gallons
	1,890,547.77	Cubic Feet
	18,603,481	HCF
	42.71	Acres-foot
	13.92	Millions of Gallons

MAVA calculation incorporating Effective Precipitation (Optional)
ET₀ of City from Appendix A: 52.40
Landscape Area: 447,262.00
Special Landscape Area: 384,143.00
Enter Effective Precipitation: 0.00

Estimated Total Water Use

Equation: ETWU = (ET₀ × SLA) × (0.82) × (PF × HAVI) + SLA

ETWU = 13,916,521

Plant Water Use Type	Plant Factor	Hydrozone Area (HA)	PF × HA (ft ²)
Low	0.3	19,000	11,400
Medium	0.6	3,225	1,935
High	1.0	40,894	40,894
SLA			384,143
Sum			24,957

ETWU complies with MAVA

MIDDLE SCHOOL
WATER USE CALCULATIONS

Maximum Applied Water Allowance Calculations for New and Rehabilitated Landscapes

Enter value in Pale Blue Cells	Enter value in Pale Blue Cells	Name of City
ET ₀ of City from Appendix A	52.40	ET ₀ (inches/year)
Special Landscape Area	489,857.00	SLA (ft ²)
Enter Effective Precipitation	0.00	Eppt (in/y)
Results:		
MAVA = (ET ₀ × SLA) × (0.82) × (0.7) × LAH(0.3 × SLA)	17,806,529.18	Gallons
	2,394,405.09	Cubic Feet
	23,944,059	HCF
	54.74	Acres-foot
	17.84	Millions of Gallons

MAVA calculation incorporating Effective Precipitation (Optional)
ET₀ of City from Appendix A: 52.40
Landscape Area: 592,993.00
Special Landscape Area: 489,857.00
Enter Effective Precipitation: 0.00

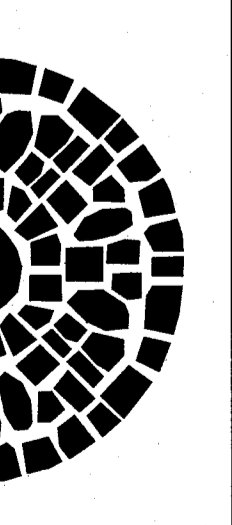
Estimated Total Water Use

Equation: ETWU = (ET₀ × SLA) × (0.82) × (PF × HAVI) + SLA

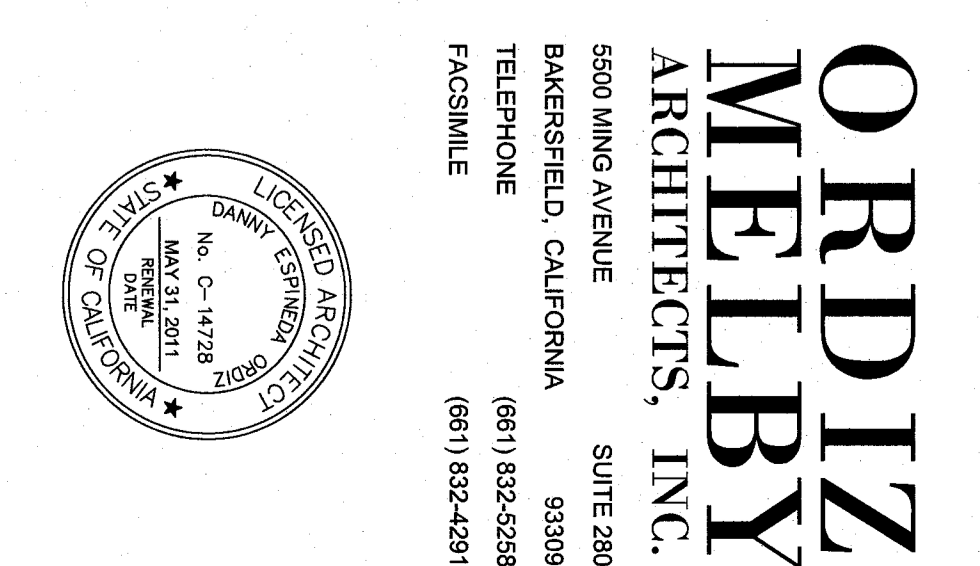
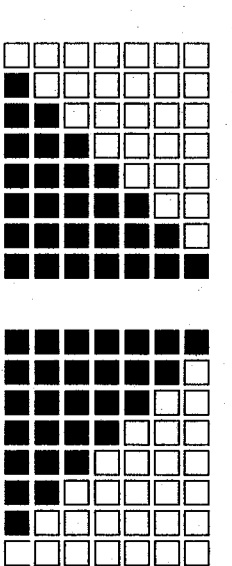
ETWU = 17,806,529

Plant Water Use Type	Plant Factor	Hydrozone Area (HA)	PF × HA (ft ²)
Low	0.3	45,890	27,534
Medium	0.6	4,475	2,685
High	1.0	62,961	62,961
SLA			489,857
Sum			489,857

ETWU complies with MAVA



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NEW ELEMENTARY SCHOOL
9801 HIGHLAND KNOLLS DR
CALIFORNIA 93306

NEW MIDDLE SCHOOL
4115 TINELAND ROAD
BAKERSFIELD
CALIFORNIA 93306

FOR:
BAKERSFIELD CITY SCHOOL DISTRICT
1300 BAKER STREET
BAKERSFIELD CALIFORNIA 93305

DATE: 1/26/20
PROJECT: IRRIGATION CALCULATIONS
SHEET TITLE: IRRIGATION CALCULATIONS
SHEET IDENTIFICATION NUMBER: L14

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