

Workshop

PLANNING GUIDE

INSTALLING AN IRRIGATION SYSTEM

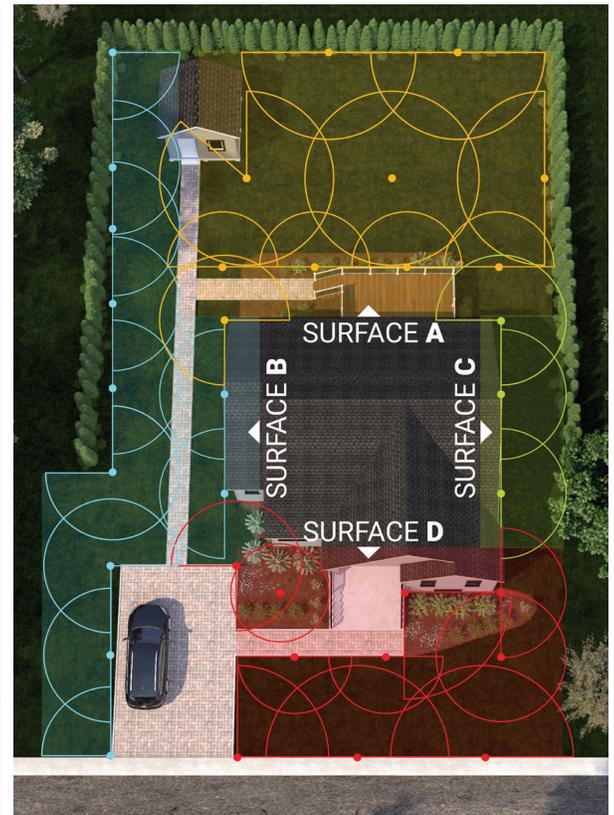


INSTALLING AN IRRIGATION SYSTEM

You can quite easily and affordably install a watering (irrigation) system for your lawn, trees and plant beds. The many advantages are well worth the installation effort: no need to deploy and store hoses and sprinklers, move them around to cover all watering zones, or time their operation. Entirely automated and autonomous, this system uses a timer that ensures adequate watering according to the various zones and plant types, while saving water. This type of system will also prevent yellow stains from being left by hoses and sprinklers forgotten on the lawn for several days... Follow this preparatory guide before starting your project.

MAKE A LAYOUT PLAN

- 1 Measure all surfaces and structures on your property: house, garden sheds, pool, deck, walkways, lawn, hedges, flowerbeds, etc.
- 2 Note these measurements on the scale drawing of your property.
- 3 Include rose gardens, lawn, container plants, trees, shrubs, or vegetable garden in your drawing.
- 4 Divide the property into square or rectangular areas, each as large as possible. Identify each area with a letter: A, B, C, D, etc.
- 5 Position the sprinklers starting with one in each corner of your property. Use a compass to draw the coverage area for each sprinkler.
 - > **Large** surface areas more than 25' x 25': spaced 15' to 45' apart
 - > **Medium-sized** surface areas less than 25' x 25': spaced 10' to 15' apart
 - > **Small** areas with low vegetation: spaced 3' to 5' apart
- 6 Continue placing sprinklers until the entire property area is covered. Coverage areas must overlap.



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CALCULATE THE NUMBER OF WATERING ZONES REQUIRED

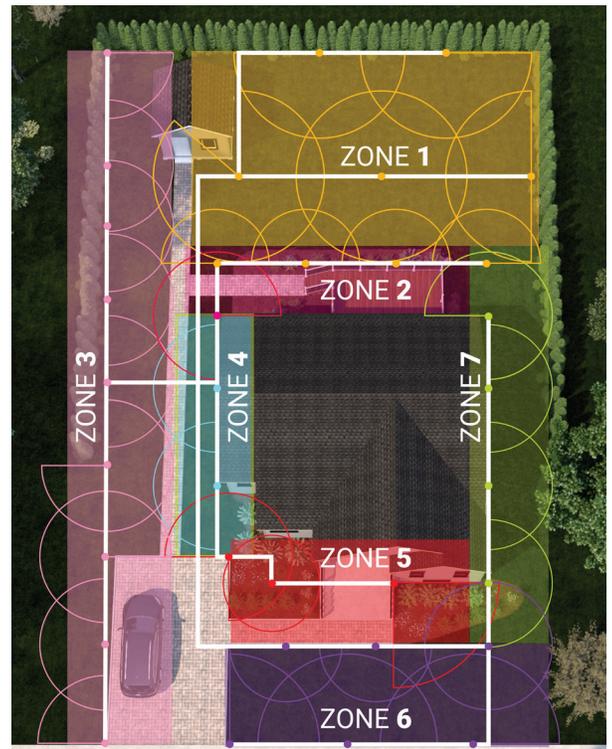
- 1 For each sprinkler, determine the water flow (GPM = gallons per minute) by referring to the manufacturer's performance table
- 2 For each surface area, calculate the GPM and include the result in the table
- 3 Calculate the number of watering zones for each surface area. Note that your system must be able to operate sprinklers simultaneously. Do not exceed the maximum allowable sprinklers per area.
- 4 Number the zones and enter the numbers on your plan.

Area	Total GPM for an area		System design capacity (gallons per minute)		Number of zones (round up)
A		÷		=	
B		÷		=	
C		÷		=	
D		÷		=	



LOCATE THE PIPES AND CONNECTIONS

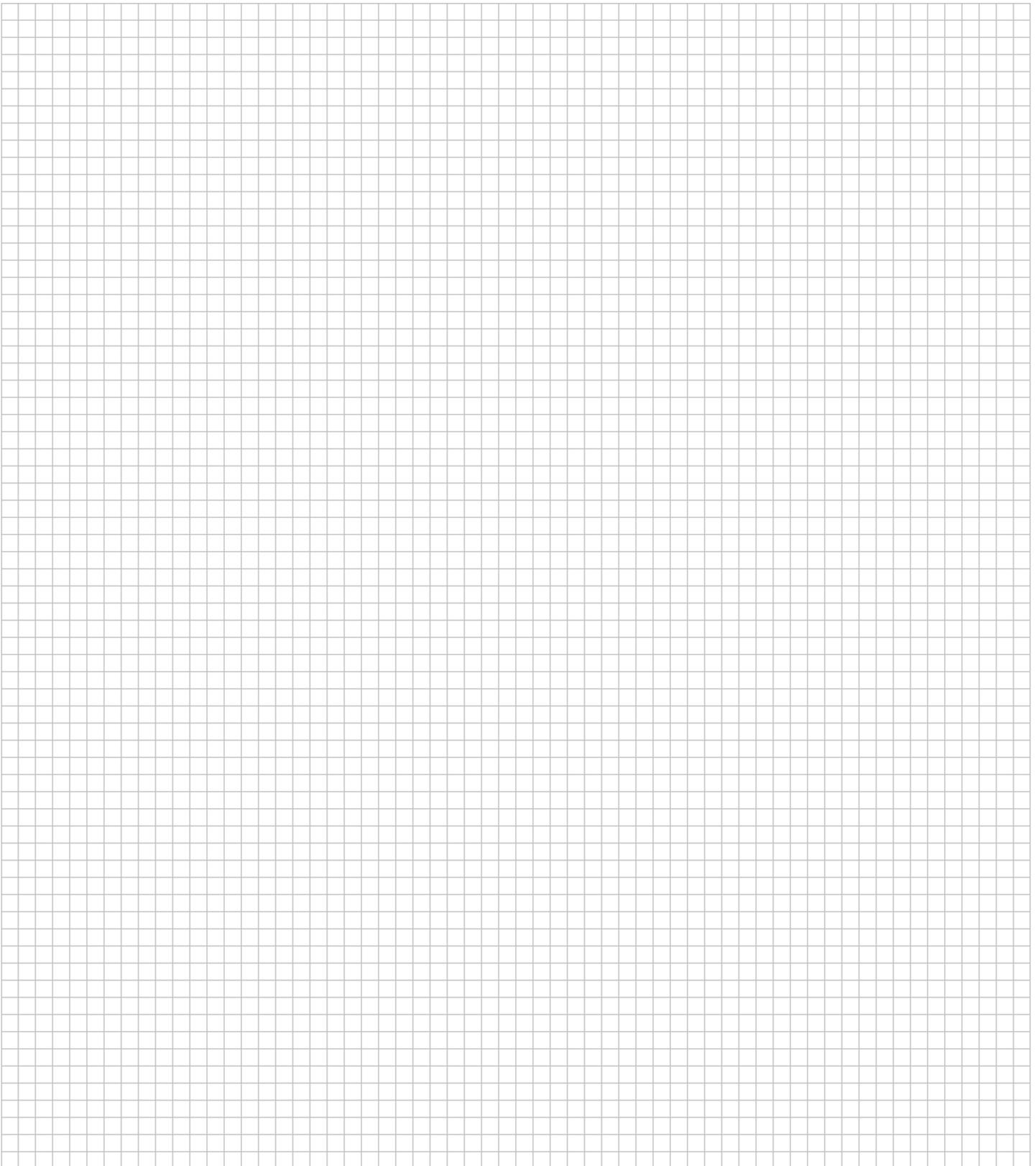
- 1 On your layout plan, locate your current water supply outlet, or the location where you intend to connect the system to your household water supply.
- 2 Locate the valve manifolds. If there are two manifolds, one should be located in the front yard and the other in the back yard.
- 3 Draw locations for the main water service lines between the connection to the household supply and the manifolds.
- 4 Determine the location for the timer, close to a power source and where it can be connected to the manifolds.
- 5 Draw the lines for the subsurface electrical wiring connecting the timer to the manifolds.
- 6 Draw locations for the header lines.
- 7 Draw locations for the lateral lines that will carry water to the sprinkler heads in each watering zone.



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DRAFT THE LAYOUT PLAN

Scale: 1 unit = 1 foot (30.5 cm)



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CHOOSING YOUR MATERIALS

Note: The following list is generic. Certain items may not apply or may not be included as each manufacturer has its own system and installation methods, plumbing concepts and connection accessories.

QUANTITY	ITEM	MODEL
	Pipes (headers) Diameter:	
	Pipes (lateral lines) Diameter:	
	Elbows for headers	
	Elbows for lateral lines	
	Straight connectors for headers	
	Straight connectors for lateral lines	
	T-connectors for headers	
	T-connectors for lateral lines	
	X-connectors for headers	
	X-connectors for lateral lines	
	End caps for headers	
	End caps for lateral lines	
	Automatic drain valves (purges)	
	Main valve	
	Backflow preventer	
	Large-area sprinklers	
	Medium-area sprinklers	
	Small-area sprinklers	
	Micro sprinklers – drip emitters - bubblers	
	Risers (connections for sprinklers)	
	Collectors	
	Controller	
	Valve protection boxes	
	Electrical wiring – controller power	
	Electrical wiring – controller to collectors	
	PVC glue (if PVC is used)	
	Teflon tape	
	Marking paint	
	Stake flags	