

Suggested Steps to a Proper Irrigation Design

When designing an irrigation system in Pro Contractor Studio™, you may follow virtually any order you desire to complete the design. The software does require that you perform some commands before completing others. However, in most instances you are free to follow your own design techniques. Below is a listing of the steps we recommend when performing an irrigation design.

1. Gather all site data for the project such as field dimensions, the water source location and size, service line type and size, static pressure readings, notation of elevation changes, electrical power locations, types of plant material to be irrigated, etc.
2. Draft the property using the commands available to you in Pro Contractor Studio™ making use of the different tools available such as those in the Draw menu, Edit menu and Layer Manager.
3. Place the water meter or pump station symbol on the drawing screen.
4. Place the sprinkler symbols on the drawing screen. Remember that the objective of any irrigation system is to distribute the water as evenly as possible. We recommend a "head to head" spacing, meaning that sprinkler symbols are spaced so that the radius of throw or wetting pattern of the sprinkler reaches from one sprinkler to the next sprinkler. It is also important to separate areas based on their water requirements. For example, you should irrigate shrub areas separately from turf areas. You should separate full sun areas from shady areas. The top of a slope generally needs more water than the bottom of a slope.
5. Once sprinklers are placed on the design, choose the Zoning command from the Irrigation menu to divide the system into the required number of zones.
6. Place a control valve on the screen for each zone and use the Zoning command to assign each control valve to a zone.
7. Use the Pipe placement command to draw the lateral line pipe between the sprinkler symbols in each zone.
8. Place a backflow device on the drawing screen.
9. Draw the mainline pipe from each control valve to the point of connection using the Pipe placement command. Be sure to stop at the backflow device if one exists on the drawing.
10. Size all pipe on the drawing screen with Pipe Sizing command.
11. Perform system hydraulic calculations to determine proper system performance. Make any design changes if necessary.
12. Place the desired irrigation controller on the drawing screen.
13. Place any accessory devices such as rain sensors or moisture sensors.
14. Draw control wire from the irrigation controller to the control valves.
15. Place the control valve notations on the drawing screen indicating each valve sequence on the controller, the flow and size.
16. Create the irrigation symbol legend.
17. Place the legend on the drawing screen. It may be necessary to create a separate page for the details and legends to prevent cluttering the drawing.
18. Add any notations as needed to the drawing screen such as "This drawing is diagrammatic and piping is shown in hardscape areas for clarity only", or "Place quick coupler valves every 100' O.C." using the Text command.
19. Print or plot the completed drawing and detail or legend page(s).
20. Prepare a material takeoff and/or estimate or proposal.