Landscape Drip Application Guide

A Practical Guide for Designing and Installing Drip Irrigation Systems

The Intelligent Use of Water.™

The Efficiency of Drip, Engineered by Rain Bird®

The Rain Bird system is the most efficient way to water landscapes.

Over the last fifteen years, Rain Bird has been a leader in innovation advances that customers value. Earlier advances included the Xeri-Pop™, the first efficient low volume spray with a spray head that retracts out of sight, the self-cleaning back flush filter that reduces maintenance by automatically flushing out debris, and the PR Series Pressure Regulating Filter that combined the regulator and filter into one component reducing the potential for leaks.

Today, Rain Bird continues the tradition of innovation with the SQ Series Nozzle and the XF Series Dripline featured below. With the broadest product line, Rain Bird's systems can be designed to meet any site requirement providing unmatched quality, efficient water use, and ease of installation.

100% DRIP SYSTEM

- **Design flexibility**
- **Elimination of overspray and runoff**
- **High water efficiency**
- **Water is delivered at or near the plant root zone**
- **Plants stay healthier and live longer**

It is Rain Bird's long-standing commitment to engineering and quality excellence that sets our drip irrigation products apart.

Featured Rain Bird® Drip Products

SQ Series Nozzle

For irrigating small areas with dense plantings, the SQ Series Nozzle is the most precise and efficient nozzle available. With built-in pressure compensation and a unique square spraying pattern, the need for overlapping is greatly reduced. This means less overspray, overwatering, and runoff than traditional nozzles. It also means you need less nozzles, dramatically reducing your costs and installation time.

XF Series Dripline (XFD/XFCV/XFS)

The XF Series Dripline is the most flexible, pressure-compensating inline emitter tubing available. Its unique material offers significantly greater flexibility, allowing tighter turns with fewer elbows for easier installation. The dual-layered tubing (brown over black) provides unmatched resistance to chemicals, UV damage and algae growth.

Control Zone Kits

Control your zones with preassembled, compact Rain Bird Control Zone Kits. Two components (valve and pressure regulating filter) are combined to create a shorter kit, when compared with the competition. This allows you to fit more control zone kits in a single valve box without cramping the work space inside the box, saving you time and money.

Demonstrated Water Savings

Inland Empire Utilities Agency (IEUA) Building - Chino, CA

Solution: Rain Bird developed a comprehensible irrigation system for the IEUA site, including products.

Results: 73% less water used than a comparable facility. First public agency building to ahieve a LEED Platinum Rating.

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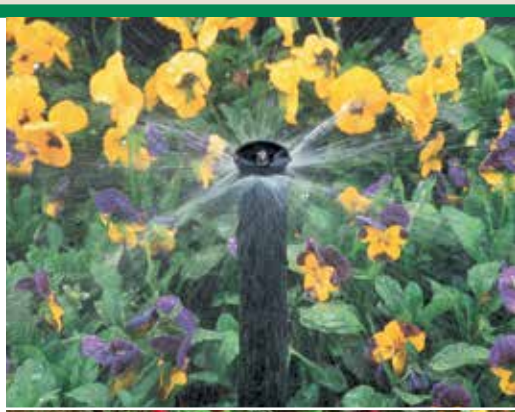


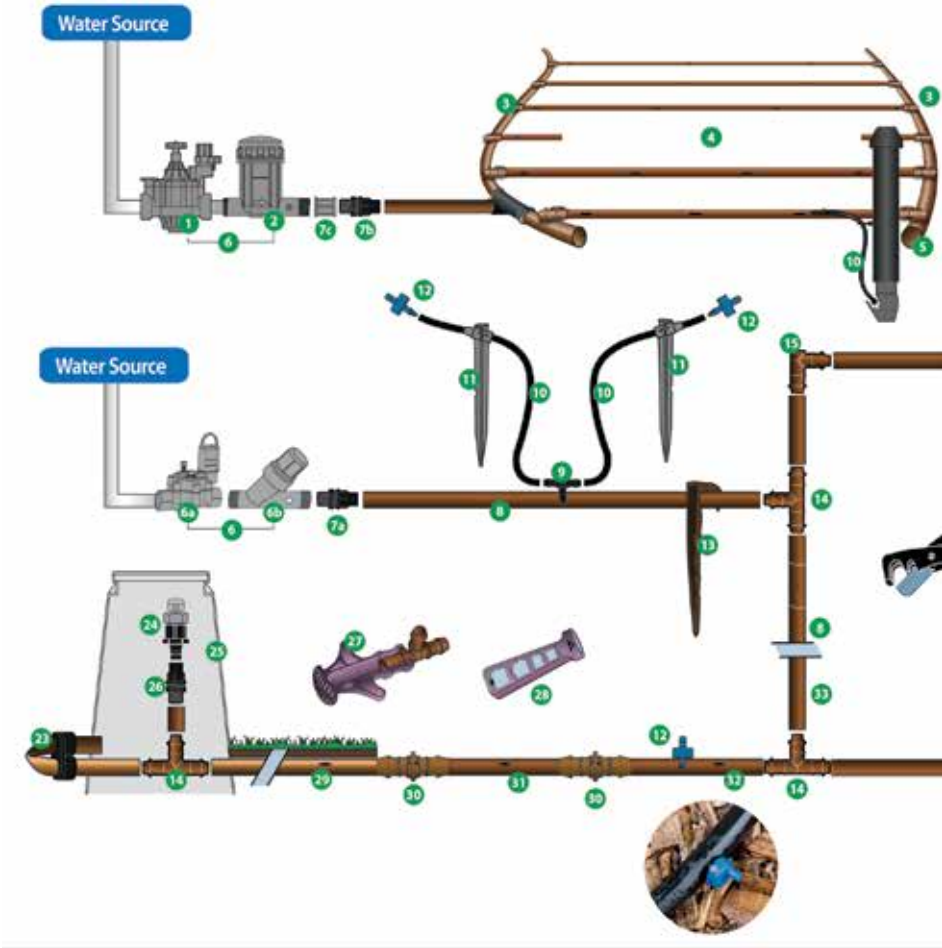
Landscape Drip System Overview

Broadest Product Line in the Industry

With over 150 products, Rain Bird has the products needed for your application. Systems can be designed to meet any site requirements and offer many exclusive Rain Bird advances including:

- Flexible XF Series dripline with advanced polymers that provide kink- resistance and reduced coil memory for easier installation
- Compact Control Zones with matched pressure regulator and filter to reduce parts, eliminate potential leak problems, and allow for fitting more Control Zones in a valve box
- Precision low volume SQ spray nozzles that offer a square wetting pattern and adjust to either 0,8 m or 2,5 m throw distances
- Point-source emitters that provide pressure compensation with a wide selection of flow rates and three inlet options (Barb)
- XFS dripline with Copper Shield Technology™ for use in sub-surface applications under turf or shrub and groundcover areas. The copper chip effectively protects the emitter from root intrusion.

Anatomy of a Landscape Drip System



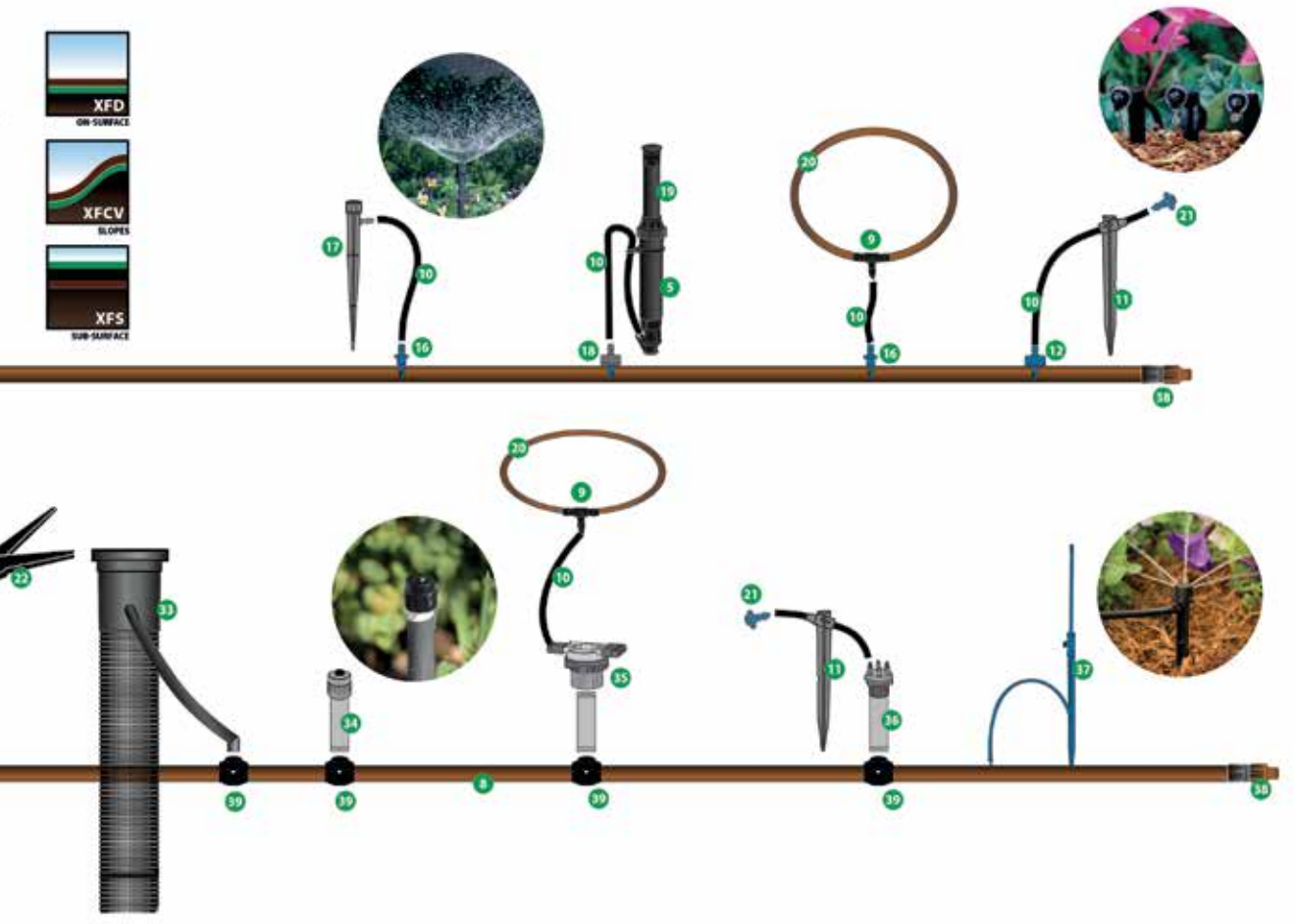
1. PGA valve
2. Basket filter
3. QF Header
4. XF Dripline (XFD / XFS / XFCV)
5. Xeri pop
6. Control zone kit
6a. DV drip
6b. Pressure regulating filter
7a. Lock fitting 16mm (BF-62-75)
7b. Lock fitting 16mm (BF-82-75)
7c. Union Coupling 1"Fx3/4 F
8. XF Blank Tubing
9. BF3 tee (4-6mm)
10. 4-6mmDistribution Tubing
11. TS-025 6mm tubing stake
12. XB PC emitter (2 , 4 , 8l/h)
13. Tie Down stake
14. XFF Tee

* **NOTE: Not all products listed in the Product Guide section are in the diagram above**

Targeted Watering with Landscape Drip

Rain Bird Landscape Drip products are made especially for low-volume irrigation systems. By delivering water at or near the plants' root zones, Rain Bird products offer targeted watering with the following advantages:

- Water conservation
- Greater efficiency (target each plant)
- Design flexibility; simple construction and easily expandable
- Healthier plants
- Reduced liability (e.g. no overspray, no runoff)
- Minimization of weed growth
- Cost savings



15 XFF elbow
16 BF1 union (4-6mm)
17 Micro spray on spike (SXB serie)
18 Self-piercing barb connector (SPB-025)
19 SQ serie nozzle
20 ¼" Dripline (4-6mm)
21 Diffuser bug cap
22 Tubing cutter (T135SS)
23 Tubing end closure (700CF-22)
24 ½" Vacuum breaker
25 Valve box
26 Lock fitting 16mm (BF62-50)
27 Tool for insert fitting (FitinsTool)
28 XM tool
29 XFS Dripline
30 XFF Coupling
31 XFD Dripline
32 XFCV Dripline
33 RWS series (root watering system)
34 PCT Serie (Pressure compensating bubbler)
35 6 outlet manifold
36 XB-10-6 – Multi outlet dripper (6X4l/h)
37 Jet spike
38 BF plug lock
39 Saddle tee

Xeri-Bug™ Emitters

Barb Inlet x Barb Outlet

Point-source low-flow emitters for watering the root zones of plants, trees, and container plants.

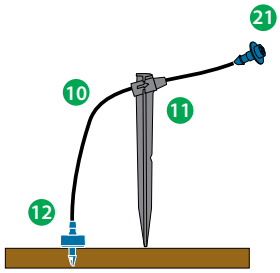
XB-05-PC
2 lph

XB-10-PC
4 lph

XB-20-PC
8 lph

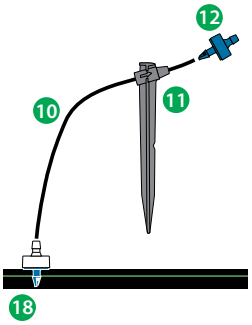
Installation Option 1

Using a Xeriman Tool, insert an emitter directly into drip tubing or between dripline emitters as needed.



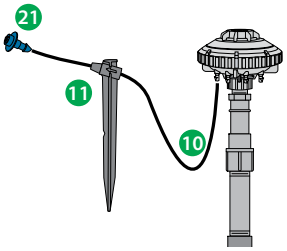
Installation Option 2

For more precise water placement, use ¼" distribution tubing, a ¼" tubing stake, and a bug cap.



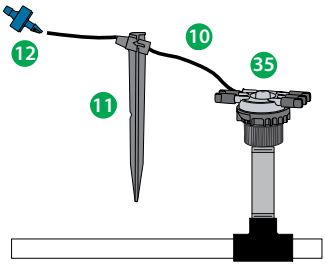
Installation Option 3

For precise water placement, a barbed connector can be punched into distribution tubing. The emitter is then placed at the end of the ¼" distribution tubing. NOTE: should the emitter become dislodged, unregulated flow will occur.



Installation Option 4

The Xeri-Bird 8 provides a centralized location for up to eight emitters. A mix of Xeri-Bug and/ or PC emitters can be used to provide the flow rates needed for different plant materials. Tentacles of ¼" distribution tubing, ¼" tubing stakes, and bug caps allow for precise water placement.



Installation Option 5

The 6 Outlet Manifold provides a centralized water distribution connection for up to six emission devices. Connect the ¼" distribution tubing to one of the outlets. Use a ¼" tubing stake to ensure precise water placement. The emitter is placed on the end of the 1/4" distribution tubing to regulate the water flow. NOTE: should the emitter become dislodged, unregulated flow will occur.

Drip Tip

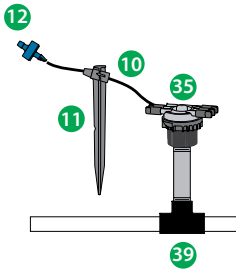
When using an emitter at the end of the 1/4" distribution tubing, should the emitter become dislodged (or the 1/4" tubing gets cut) unregulated flow will occur.

6 Outlet Manifold – EMT-6X

½" Inlet

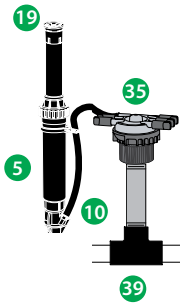
Six outlet manifold without pressure compensation. For use with Xeri-Bug or PC Module emitters, Xeri-Pops, bubblers, and micro-sprays.

EMT-6X



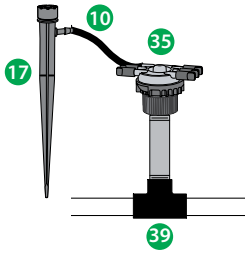
Installation Option 1

The 6 Outlet Manifold provides a centralized water distribution connection for up to six emission devices. Connect ¼" distribution tubing to one of the outlets. Use a ¼" tubing stake to ensure precise water placement. The emitter is placed on the end of the ¼" distribution tubing to regulate the water flow.



Installation Option 2

To incorporate spray heads into your drip system, connect the Xeri-Pop Micro-Spray to a multi-outlet manifold (EMT-6X) via ¼" distribution tubing.



Installation Option 3

To incorporate bubblers or micro-sprays into your drip system, connect the needed product to a multi-outlet manifold (EMT-6X) via ¼" distribution tubing.

Drip Tip

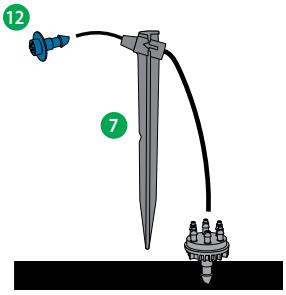
Be concious of your run times and application rates. Mixing products connected to the EMT-6X can lead to over or under watering.

Multi-Outlet Xeri-Bug™

Barb Inlet x Barb Outlet

Six outlet emitter with built-in pressure compensation. Use for watering the root zones of plants, trees, and container plants.

XB-10-6



Installation Option 1

The Multi-Outlet Xeri-Bug provides centralized water distribution for up to six plants. All six outlets have the same flow rate. Connect the ¼" distribution tubing to one of the outlets. Use a ¼" tubing stake to ensure precise water placement. Insert a bug cap at the end of the tubing.

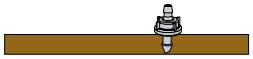
Pressure-Compensating Modules

Barb Inlet x Barb Outlet

Point-source medium-flow modules for watering larger shrubs and trees.

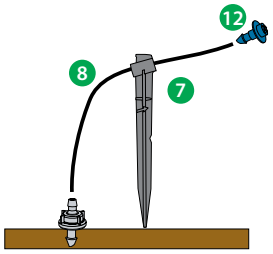
PC-12
45 lph

PC-18
63 lph



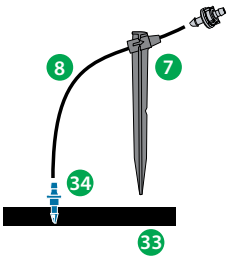
Installation Option 1

Using a Xeriman Tool, insert the PC Module directly into drip tubing or between dripline emitters as needed. Use a PC Diffuser Cap to eliminate squirting.



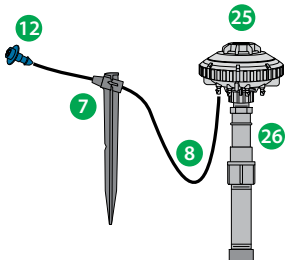
Installation Option 2

For more precise water placement, use ¼" distribution tubing, a ¼" tubing stake, and a bug cap.



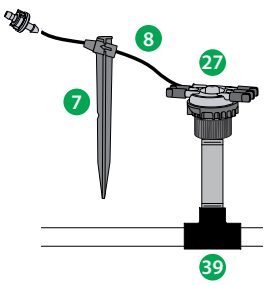
Installation Option 3

For precise water placement, a barbed connector can be punched into drip tubing. The PC Module is then placed at the end of the ¼" distribution tubing. NOTE: should the emitter become dislodged, unregulated flow will occur.



Installation Option 4

The Xeri-Bird 8 provides a centralized location for up to eight emitters. A mix of Xeri-Bug emitters and/ or PC Modules can be used to provide the flow rates needed for different plant materials. Tentacles of ¼" distribution tubing, ¼" tubing stakes, and bug caps allow for precise water placement.



Installation Option 5

The 6 Outlet Manifold provides a centralized water distribution connection for up to six emission devices. Connect ¼" distribution tubing to one of the outlets. Use a ¼" tubing stake to ensure precise water placement. The PC Module is placed on the end of the ¼" distribution tubing to regulate the water flow. NOTE: should the emitter become dislodged, unregulated flow will occur.

Drip Tip

When using an emitter at the end of the ¼" distribution tubing, should the emitter become dislodged (or the ¼" tubing gets cut) unregulated flow will occur.

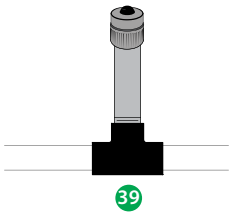
Pressure Compensating Threaded Bubblers

Rain Bird's new heavy-duty pressure compensating bubblers are designed for a rugged environment. Offered in 19 lph, 26 lph, and 38 lph models, the bubbler style outlet and medium-flow options provide more flexibility for landscape layout. Its heavy-duty design is perfect for commercial applications. The 1/2" threaded inlet makes these devices ideal for installations using a PE pipe and schedule 80 risers.

PCT-05 PCT-07 PCT-10

Installation Option 1

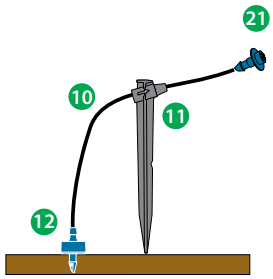
PCT Bubblers can be mounted on a ½" Saddle tee to connect to PE.



Diffuser Bug Cap

Prevents bugs and other debris from clogging 1/4" distribution tubing.

DBC-025



Installation Option 1

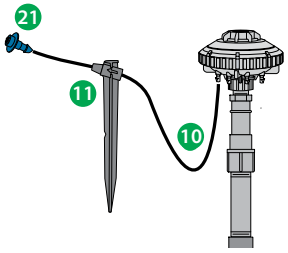
Use a Diffuser Bug Cap at the end of ¼" distribution tubing to prevent clogging caused by bugs and other debris.

Xeri-Bird™ 8 Multi-Outlet Emission Device

½" Inlet x Barb Outlet

The most flexible multi-outlet device. Contains eight ports that accept Xeri-Bug emitters or PC Modules for independent flows from 2 to 63 lph.

XBD-80



Installation Option 1

The Xeri-Bird 8 provides a centralized location for up to eight emitters. A mix of Xeri-Bug emitters and/ or PC Modules can be used to provide the flow rates needed for different plant materials. Tentacles of ¼" distribution tubing, ¼" tubing stakes, and bug caps allow for precise water placement.

NOTE: Always install the emitters with the pointed or threaded end UP.

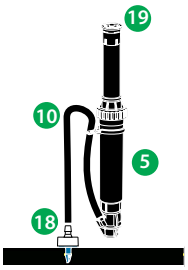
SQ Series Nozzles

The most precise and efficient, low-volume spray solution for irrigation of small areas with dense plantings.

SQ QTR
(Purple) Quarter Pattern

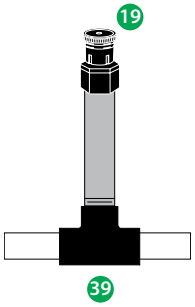
SQ HLF
(Brown) Half Pattern

SQ FUL
(Red) Full Pattern



Installation Option 1

The SQ can be installed on a Xeri-Pop Spray Head. The Xeri-Pop can be connected to PE. The Xeri-Pop can also be connected to drip or drip line tubing via ¼" tubing and a barb connector. NOTE: Use one of these configurations in each watering zone to provide a pop-up run indicator for your drip system.



Installation Option 3

The SQ can be attached to a schedule PE riser using a PA-8S Plastic Shrub Adapter.

Installation Option 2

The SQ can be installed on a Rain Bird 1800 Series Spray Head.

Drip Tip

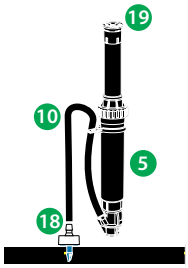
With a simple turn of the nozzle to the next preset stop, the SQ Series Nozzle adjusts from a 0,8 m throw to a 1,2 m throw.

Xeri-Pop™ Micro-Spray

½" Inlet x Barb Outlet

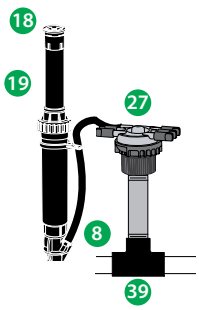
Pop-up spray for low-volume irrigation. Ideal for flower beds and vandal-prone areas.

XBT-400X
(10 cm pop-up)



Installation Option 1

The Xeri-Pop Micro-Spray allows you to incorporate spray heads into your drip system. Connect the Xeri-Pop Micro-Spray to drip tubing via ¼" distribution tubing and a barb connector.



Installation Option 2

Connect the Xeri-Pop Micro-Spray to a multi-outlet manifold (EMT-6X) via ¼" distribution tubing.

Drip Tip

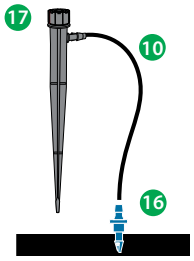
SQ Series, 5 Series MPR, 5 Series Plastic Bubblers, and 8 Series MPR (8H, 8T, and 8Q) nozzles can be installed on a Xeri-Pop Micro-Spay.

Xeri-Bubblers™

Spike

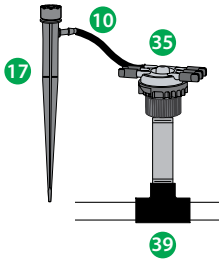
Emission device with adjustable flow and radius. Ideal for shrub plantings, trees, containers, and flower beds.

SXB-180-SPYK SXB-360-SPYK XS-360TS-SPYK



Installation Option 1

The Xeri-Bubbler Spike combines a bubbler with a ¼" tubing stake for precise water placement. Simply connect the Xeri-Bubbler Spike to drip tubing via a barb connector. NOTE: The Xeri-Bubbler Spike comes with its own barb connector.



Installation Option 2

Connect up to six Xeri-Bubbler Spikes via ¼" distribution tubing to a multi-outlet manifold (EMT-6X).

Xeri-Sprays™ and Misters

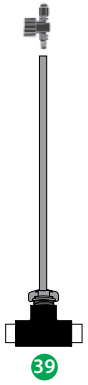
10-32 Thread

Sprays and misters with adjustable flow and radius. Ideal for ground cover, mass plantings, annual flower beds, and containers.

XS-090
Quarter Circle Spray

XS-180
Half Circle Spray

XS-360
Full Circle Spray



Installation Option 1

Use a 10-32 threaded spray or mister with a Riser Stake Assembly (PFR/RS) for point-source applications. Threaded emission devices on Riser Stake Assembly (PFR/RS) are great for high foot traffic areas.

Control Zone Kit and Components Selection Guide

Rain Bird Control Zone Kits provide all the components necessary for on/off control, filtration and pressure regulation of a low-volume irrigation zone, making them simpler to order and easier to install.

Control Zone Kits

45 - 1136 l/h
3/4"

XCZ-075-PRF
24V - 2 bar

ICZ-075-TBOS
9V - 2 bar

681 - 3407 l/h
1"

XCZ-100-PRF
24V - 2,8 bar

IXZ-100-TBOS
9V - 2,8 bar

1136 - 4542 l/h
1"

IXZ-100-LC
24V - 2,8 bar

Pressure Regulators and Filters

PRF-075-RBY
114-1136l/h - 2 bar
3/4"

PRF-100-RBY
681-3407l/h - 2,8 bar
1"

IPRB100
681-4542l/h - 2,8 bar
1"

PSI-M15 1 bar
PSI-M20 1,4 bar
PSI-M25 1,75 bar
PSI-M30 2,1 bar
PSI-M40 2,8 bar
PSI-M50 3,5 bar
3/4"

LARGE CAPACITY FILTERS

3/4"	X14608	X14609
1"	X14610	X14611
1,5"	X14612	X14613
2"	X14614	X14615

DV Drip Valves

LFV-075
24V
3/4"

LFV-075
9V
3/4"

Rain Bird XF Series

The most flexible, kink resistant pressure-comprensating in line emitter tubing.

That's intelligent.

ON-SURFACE APPLICATIONS

SLOPES
up to 2,5 m

SUB-SURFACE APPLICATIONS
Copper Shield™ Technology

- **Flexible** – Provides industry leading flexibility for fast and easy installation
- **Durable** – Dual-layered tubing: Resistant to chemicals, UV damage and algae growth
- **Efficient** – Low profile emitter design results in reduced friction loss, allowing longer lateral runs and more cost-effective system design
- **Reliable** – Clog-resistant design ensures that water will keep flowing to your plant material

RAIN BIRD®

www.rainbird.eu

Narrow Planting Bed Next To a Structure

Sparse Applications

Solution

Xeri-Bird 8 & Xeri-Bug Emitters on a PE Lateral

Advantages

- Up to 60% water savings
- No overspray damage to structures, fences or windows
- Targeted watering reduces weed growth
- Manifold design allows for increase/decrease in future plant water demands

XBD-80	Xeri-Bird 8 Outlet Manifold
XB XX*	Xeri-Bug Pressure Compensating Drip Emitters (2 to 8 lph)
PSI-M30	In-stem 2,10 bar Pressure Regulator
XQ-100	1/4" Distribution Tubing
TS-025	1/4" Tubing Stake
PE Misc	PE Laterals, Fittings
DBC-025	Diffuser Bug Cap

* Select appropriate emitter flow

XBD-80

XB XX

TO DO LIST :

- ❑ Trench, cut PE laterals.
- ❑ Connect lines to water source.
- ❑ Thread Xeri-Bird 8 Outlet Manifold onto in-stem 2.10 bar Pressure Regulator, then connect to PE.
- ❑ Attach 1/4" distribution tubing to outlets on Xeri-Bird 8 Outlet Manifold.
- ❑ Run 1/4" lines to sparse plantings, stake in place with a Diffuser Bug Cap on the end.
- ❑ Install the desired Xeri-Bug Emitter inside Xeri-Bird 8 Outlet Manifold.

TIME: *(approx.)*

1 hr/1 m
1 hr
5 min/Assembly

3 min/Xeri-Bird 8
8 min/Stake
2 min

INSTALLATION AND MAINTENANCE TIPS :

- Flush the zone after installation and 2-4 times per year.
- Install XB Emitters in Xeri-Bird 8 Outlet Manifold with self-piercing barb.
- Adjust watering time as seasons/weather changes.


WATER SOURCE
PE LATERAL
XBD-80
TUBING STAKE W/CAP

Narrow Planting Bed Next To a Structure

Dense Applications

Solution

XFD Dripline Grid

Advantages

- Up to 60% water savings due to zero wind loss
- No runoff = reduced liability in high traffic areas
- No overspray damage to structures, fences or windows
- XFD Dripline is easy to install, resulting in labor savings

Installation

XFD-2.3 lph	XFD Dripline 2.3 lph, 33 cm Spacing
XCZ-100-PRF	1" Control Zone Kit
XBER 12	½" Air Relief Valve
XFF Series	XFF Dripline 17 mm Insert Fittings
C12	Tie Down Stake

½" AIR RELIEF VALVE KIT

XFF FITTINGS

TO DO LIST :

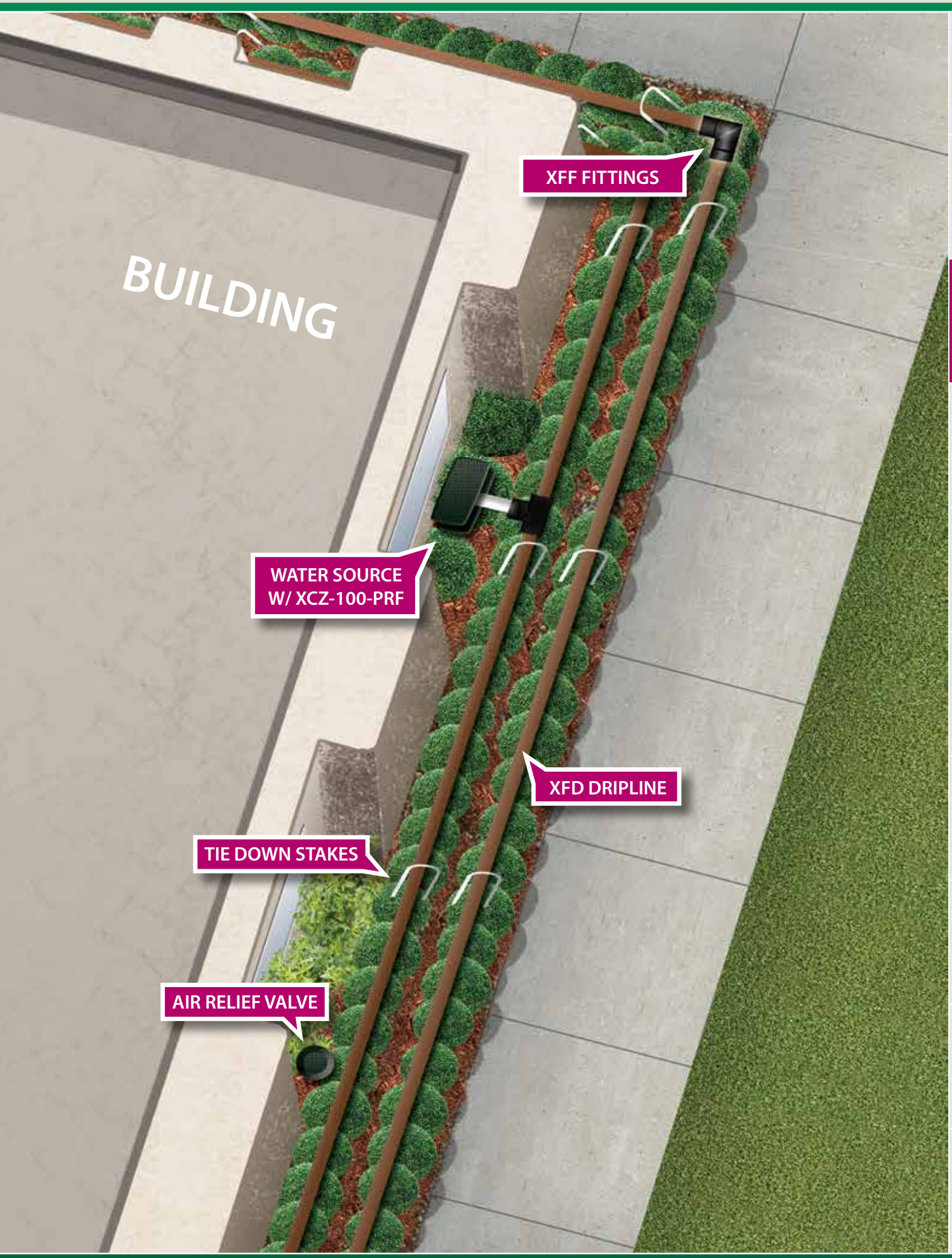
- ❑ Assemble Control Zone Kit and connect to water source.
- ❑ Cut lengths of XF Dripline to build grid in planting area.
- ❑ Connect lengths of XF Dripline to XFF Dripline Fittings to create grid.
  Add 1/2" Air Relief Valve kit to the zone.
- ❑ Connect to Control Zone Kit.
- ❑ Stake XF Dripline grid in place and flush until clean water flows.
- ❑ Install planting material.

TIME: *(approx.)*

1hr
10 min/2,5 m
25 min/2,5 m
5 min
5 min/2,5 m

INSTALLATION AND MAINTENANCE TIPS :

- Flush the zone after installation and 2-4 times per year.
- Install Air Relief Valve Kit at high point in the system.
- Leave XFD Dripline coil in the sun while preparing for installation.


BUILDING
XFF FITTINGS
WATER SOURCE
W/ XCZ-100-PRF
XFD DRIPLINE
TIE DOWN STAKES
AIR RELIEF VALVE

Narrow Planting Bed Next To a Structure

Dense Applications

Solution

SQ Series Nozzle

Advantages

- Precise square wetting pattern – reducing overspray, overwatering, and runoff
- Up to 65% water savings due to efficient control of water placement with pressure compensation
- Adjustable radius or throw in one unit makes design and installation simple
- Highest distribution uniformity in the industry for short radius nozzles

Installation

SQ–XXX*	SQ Series Nozzles
PA-8S	Plastic Shrub Adapter for use with Schedule 80 Risers
PFR/RS	Riser Stake Assembly
PE Misc	PE Laterals, Fittings

* Half, full, or quarter nozzles as needed for planting bed

SQ NOZZLES

TO DO LIST :

- ❑ Trench, cut PE laterals.
- ❑ Connect lines to water source.
- ❑ Install Xeri Pop

TIME: *(approx.)*

1 hr/1 m
1 hr
5 min/Assembly

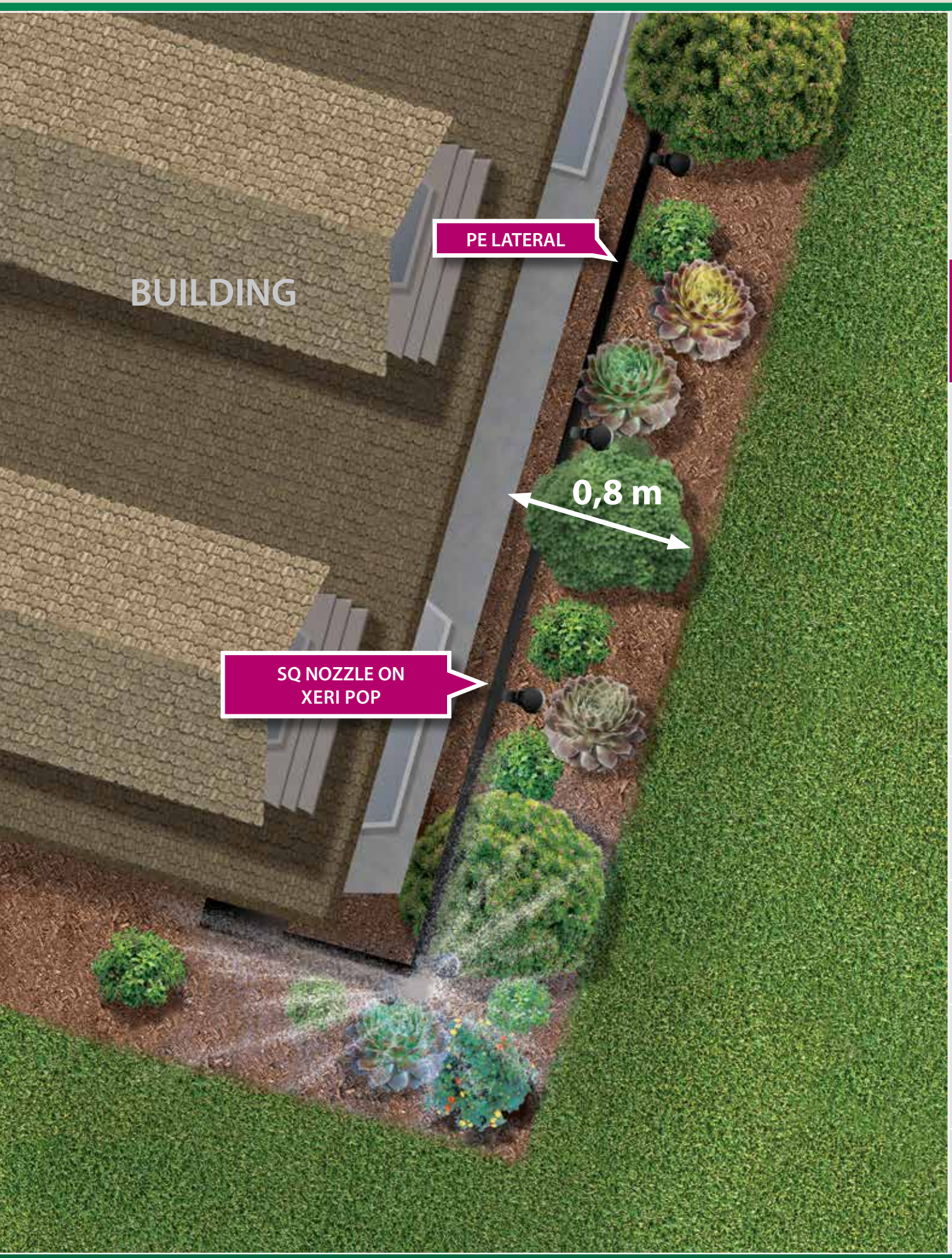
5 min/Assembly

INSTALLATION AND MAINTENANCE TIPS :

- Flush the zone after installation and 2-4 times per year.
- Adjust watering time as seasons/weather changes.
- Ensure that all SQ Series Nozzles are adjusted to the appropriate throw distance.

Drip Tip

All SQ Series Nozzles in the same zone should be adjusted to either 0,8 m or 1,2 m throw. DO NOT mix throw settings in the same zone.


BUILDING
PE LATERAL
0,8 m
SQ NOZZLE ON
XERI POP

Narrow Beds
Raised Beds

Solution
XFCV Dripline Grid

Advantages
- Up to 60% water savings due to zero wind loss
- Targeted watering helps reduce erosion of wall
- No runoff = reduced liability in high traffic areas
- XFCV Dripline is easy to install, resulting in labor savings

Installation

XFCV-2.3 lph	XFCV Dripline 2.3 lph, 33 cm spacing
XFF Series	XFF Dripline 17 mm Insert Fittings
C12	Tie Down Stake

XFF FITTINGS

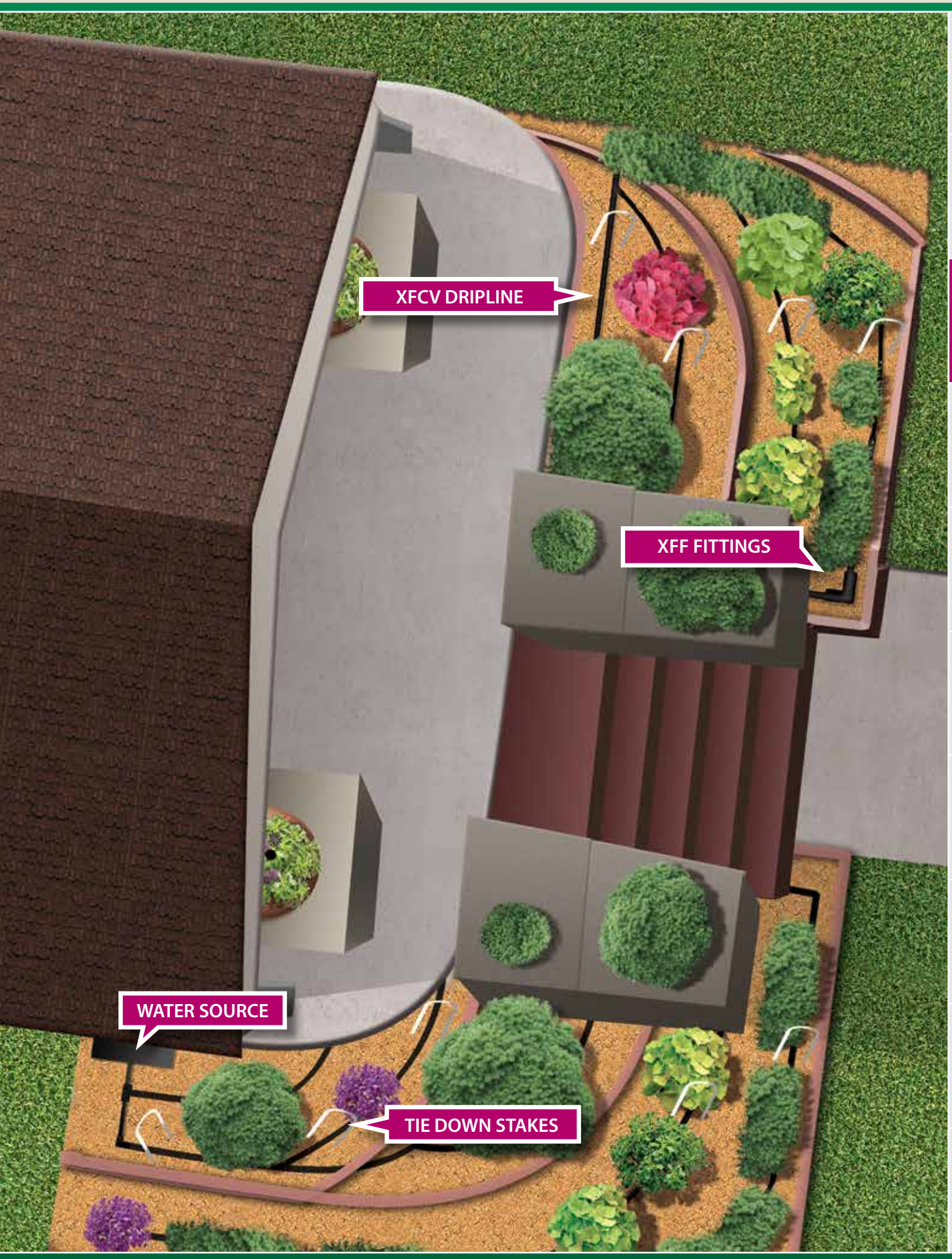
XFCV Dripline

TO DO LIST :

	TIME: *(approx.)*
❑ Assemble Control Zone Kit and connect to water source.	1 hr
❑ Cut lengths of XFCV Dripline to build grid in crib wall.	10 min/2,5 m
❑ Connect lengths of XF Series Dripline to XFF Dripline fittings to create grid. Connect to Control Zone Kit.	30 min/2,5 m
❑ Stake XF Series Dripline grid in place and flush until clean water flows.	5 min/0,5 m
❑ Install planting material.	

INSTALLATION AND MAINTENANCE TIPS :

- Flush the zone upon installation and 2-4 times per year.
- Leave XFCV Dripline coil in the sun while preparing for installation.
- Break up watering cycles to avoid run off or pooling of water in blocks.


XFCV DRIPLINE
XFF FITTINGS
WATER SOURCE
TIE DOWN STAKES

Narrow Planting Bed Next To a Structure

Combination Applications

Solution

XFD Dripline Grid with Xeri-Bug Emitters

Advantages

- Up to 60% water savings due to zero wind loss
- XFD Dripline is easy to install for labor savings
- No overspray damage to structures, fences or windows

Installation

XFD-2.3 lph	XFD Dripline 2.3 lph, 33 cm Spacing
XCZ-075-PRF	3/4" Xeri Control Zone Kit
XFF Series	XFF Dripline 17 mm Insert Fittings
C12	Tie Down Stake
XBER 12	1/2" Air Relief Valve
XB XX*	Xeri-Bug Pressure Compensating Drip Emitters (2 to 8 lph)
DT-025	1/4" Distribution Tubing
TS-025	1/4" Tubing Stake
DCB-025	Diffuser Bug Cap

* Select appropriate emitter flow rate

XFD

TS-025

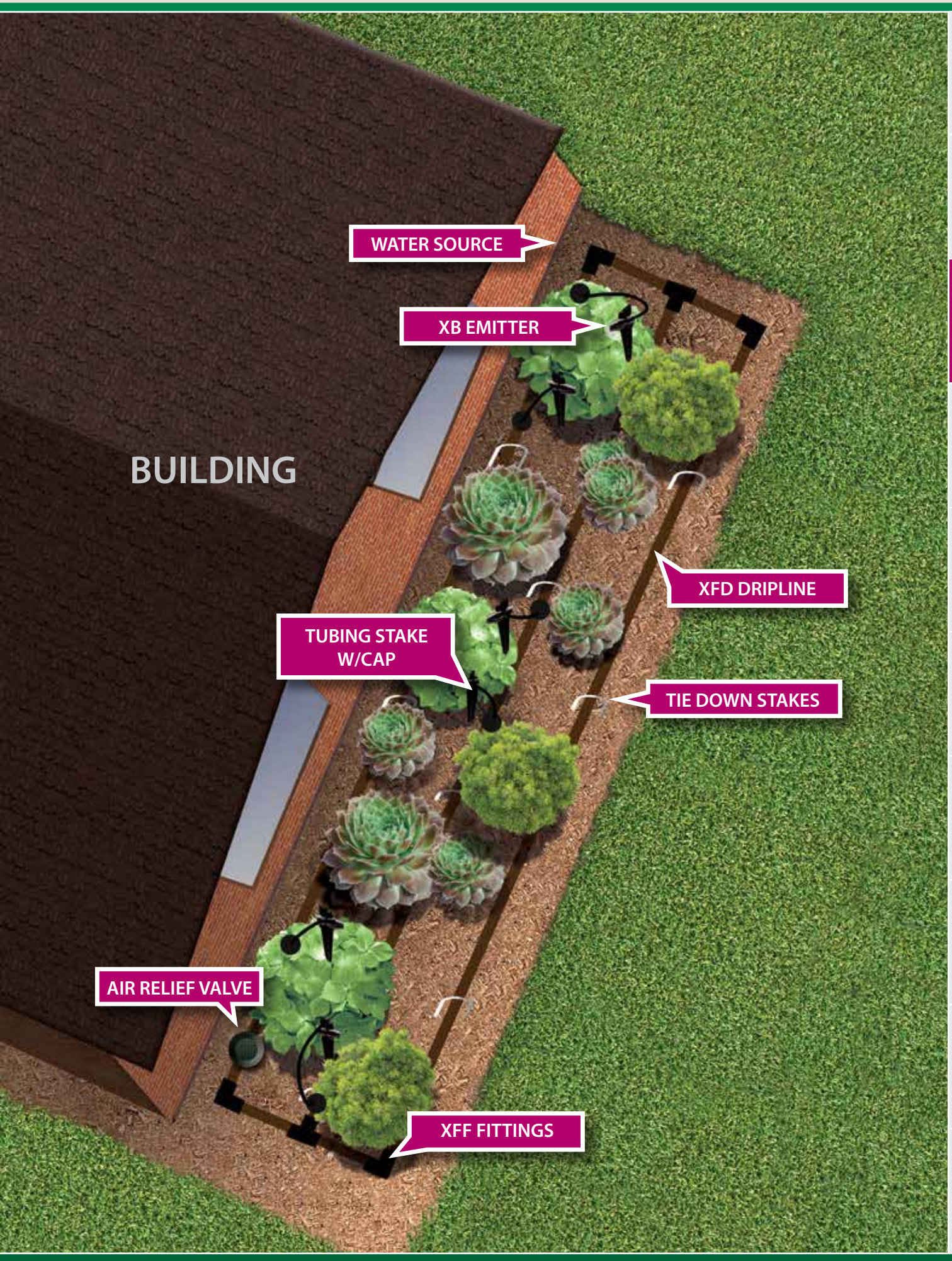
XB XX

TO DO LIST :

	TIME: *(approx.)*
❑ Assemble Control Zone Kit and connect to water source.	1 hr
❑ Cut lengths of XFD Dripline to build grid in planting area.	10 min /2,5 m
❑ Connect lengths of XF Series Dripline to XFF Dripline fittings to create grid, add Air Relief Valve.	20 min /2,5 m
❑ Connect to Control Zone Kit.	5 min
❑ Stake XF Series Dripline grid in place.	5 min/0,5 m
❑ Punch self-piercing barb inlet of Xeri-Bug Emitters into XF Series Dripline, connect 1/4" tubing to barb outlet and run 1/4" tubing to larger plant.	8 min/Emitter
❑ Stake tubing in place and attach Diffuser Bug Cap on the end.	3 min/Stake
❑ Flush system until clean water flows.	2 min
❑ Install planting material.	

INSTALLATION AND MAINTENANCE TIPS :

- Supplemental Xeri-Bug Emitters are placed next to larger plants with higher water requirements.
- Flush the zone upon installation and 2-4 times per year.
- Install Xeri-Bug Emitters with the Xeriman Tool (XM Tool) for 50% faster installation.
- Leave XF Series Dripline coil in the sun while preparing for installation.


WATER SOURCE
XB EMITTER
BUILDING
XFD DRIPLINE
TUBING STAKE W/CAP
TIE DOWN STAKES
AIR RELIEF VALVE
XFF FITTINGS

Narrow Planting Bed/Divider

Sparse Applications

Solution

Riser Stake Assembly (PFR/RS) with Xeri-Bug Drip Emitters on a PE Lateral

Advantages

- Up to 60% water savings
- No overspray damage to vehicles or parking lot
- Targeted watering reduces weed growth
- No runoff = reduced liability in high traffic areas

Installation

PFR/RS	Riser Stake Assembly
XB XX*	Xeri-Bug Pressure Compensating Drip Emitters 2 to 8 lph
PE Misc.	PE Laterals, Fittings
XCZ-075-PRF	3/4" Xeri Control Zone Kit

* Select appropriate emitter flow rate

XB-10-PC
4 lph

PFR/RS

TO DO LIST :

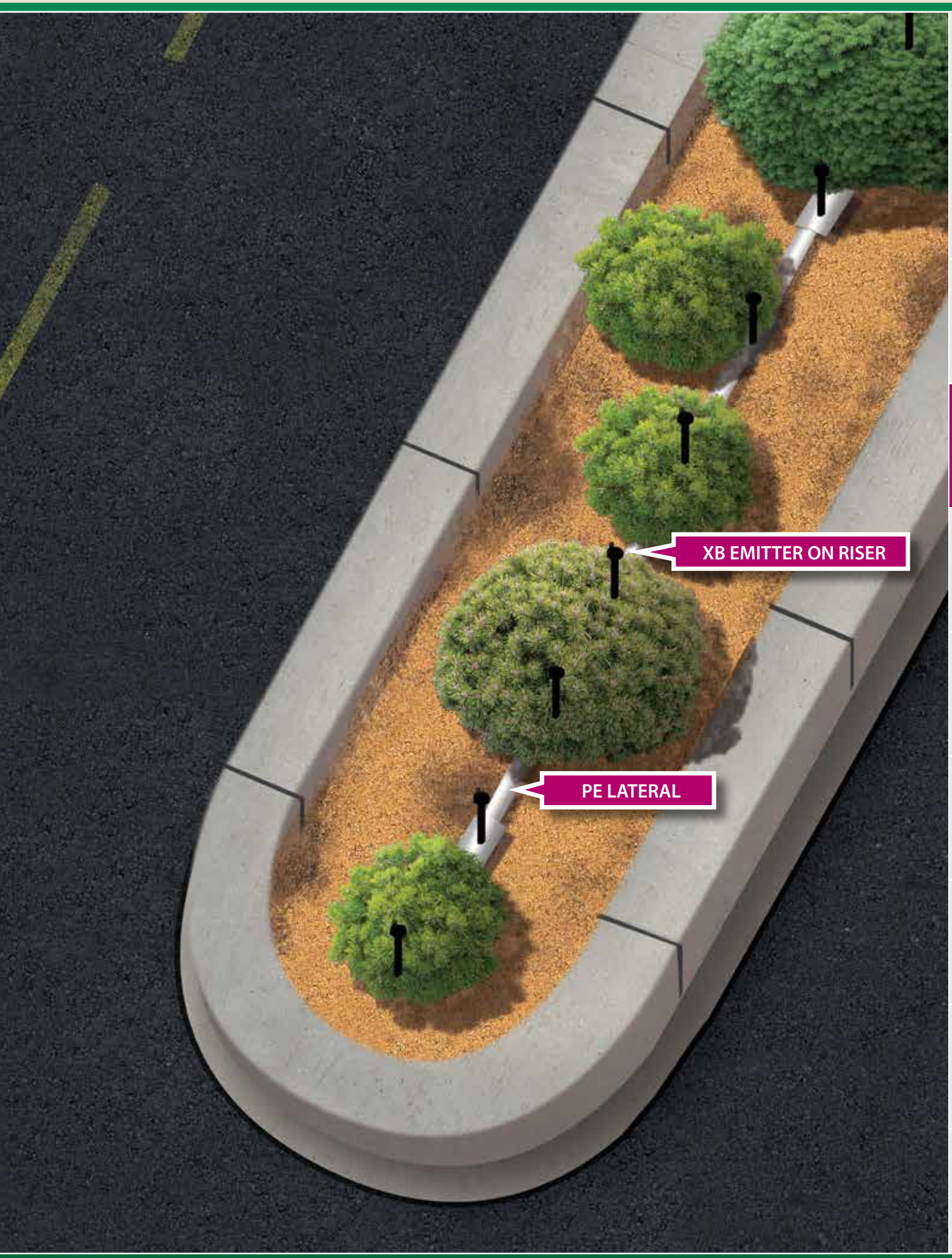
- ❑ Trench, cut PE laterals.
- ❑ Assemble Control Zone Kit and position in valve box.
- ❑ Connect Control Zone to water source and laterals.
- ❑ Install PFR/RS Riser into PE tubing.
- ❑ Install Xeri Bug Emitter into PFR/RS Riser.
- ❑ Flush system until clean water flows.
- ❑ Add planting material and mulch.

TIME: *(approx.)*

1 hr/1 m
1 hr
1 hr
5 min/Tee
5 min/PFR-RS
2 min

INSTALLATION AND MAINTENANCE TIPS :

- Flush the zone after installation and 2-4 times per year.
- For larger trees use higher flow PC Modules.
- Adjust watering time as seasons/weather changes.
- Cut Riser Stake Assembly (PFR/RS) slightly above grade (before installing the Xeri-Bug Emitters) for an "invisible" installation.


XB EMITTER ON RISER
PE LATERAL

Narrow Planting Bed/Divider

Dense & Combination Applications

Solution

XF Series Dripline Grid

Advantages

- Up to 60% water savings due to zero wind loss
- No overspray damage to vehicles
- No runoff = reduced liability in high traffic areas
- XF is easy to install, resulting in labor savings

Installation

XFD-2,3lph	XFD Dripline 2.3 lph, 33 cm Spacing
OR	
XFS-2,3 lph	Subsurface Dripline 2,3 lph, 33 cm Spacing
XCZ-100-PRF	1" Control Zone Kit
XBER 12	1/2" Air Relief Valve
XFF Series	XFF Dripline 17 mm Insert Fittings
C12	Tie Down Stake

TO DO LIST :

- ❑ Assemble Control Zone Kit and connect to water source. (1 hr)
- ❑ Connect to Control Zone Kit. (5 min)
- ❑ Cut lengths of XF Series Dripline to build grid in planting area. (10 min/2,5 m)
- ❑ Connect lengths of XFD Dripline to XFF Insert Fittings to create grid. Add Air Relief Valve Kit to the zone. (25 min/2,5 m)
- ❑ Stake XFD Dripline grid in place and flush until clean water flows. (5 min/0,5 m)
- ❑ Install planting material.

INSTALLATION AND MAINTENANCE TIPS :

- Flush the zone upon installation and 2-4 times per year.
- Install AR Valve Kit at high point in the system.
- Leave XF Dripline coil in the sun while preparing for installation.

Solution (Combination)

SQ Series Nozzle on 1800 Spray Heads with Swing Assembly on PE Lateral

Advantages

- Precise square wetting pattern reduces overspray, overwatering, and runoff = up to 65% water saving
- Adjustable radius in one unit makes design and installation simple
- Highest distribution uniformity in the industry for short radius nozzles

Installation

SQ–XXX*	SQ Series Nozzles
180X	1800 Series Spray Head with Desired Pop-up Height
SPX FLEX	Swing Assembly
PE Misc	PE Laterals, Fittings

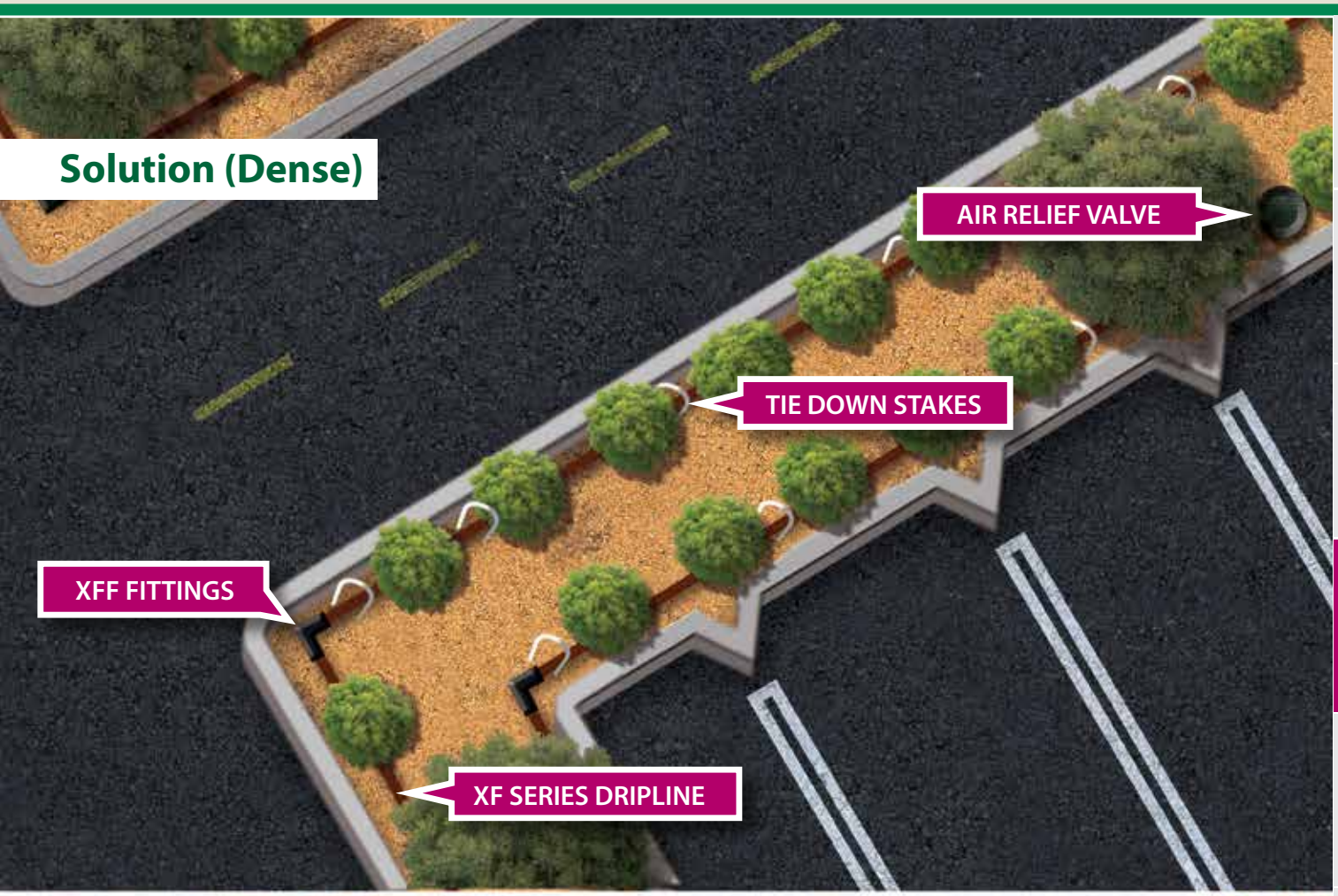
* Half, full, or quarter nozzles as needed for planting bed

TO DO LIST :

- ❑ Trench, cut PE laterals. (1 hr/1 m)
- ❑ Connect lines to water source. (1 hr)
- ❑ Thread 1800 Series Spray Head onto swing assembly then thread the swing assembly into Saddle tee.
- ❑ Flush system until water flows clear. (As needed)
- ❑ Install SQ Series nozzles on 1800 Spray Heads. (2 min/Nozzle)

INSTALLATION AND MAINTENANCE TIPS :

- Flush the zone after installation and 2-4 times per year.
- Adjust watering time as seasons/weather changes.
- Ensure that all SQ Series nozzles are adjusted to the appropriate throw distance.


Solution (Dense)
AIR RELIEF VALVE
TIE DOWN STAKES
XFF FITTINGS
XF SERIES DRIPLINE


Solution (Combination)
1800 SPRAY HEAD W/
SQ SERIES NOZZLE
PE LATERAL

Narrow Planting Bed/Divider

Combination Applications

Solution

XF Series Dripline Grid with Xeri-Bug Emitters

Advantages

- Up to 60% water savings due to zero wind loss
- No over spray damage to vehicles or parking lot
- XF Series Dripline is easy to install for labor savings

Installation

XFD-2,3 lph	XF Series Dripline 2,3 lph, 33 cm Spacing
XCZ-075-PRF	3/4" Xeri Control Zone Kit
XBER 12	½" Air Relief Valve
XFF Series	XFF Dripline 17 mm Insert Fittings
C12	Tie Down Stake
XB XX*	Xeri-Bug Pressure Compensating Drip Emitters 2 to 8 lph
XQ-100	1/4" Distribution Tubing
TS-025	1/4" Tubing Stake
DCB-025	Diffuser Bug Cap

* Select appropriate emitter flow rate and barbed connection

TS-025

XFD

XB XX

½" Air Relief Valve

TO DO LIST :

- ❑ Assemble Control Zone Kit and connect to water source.
- ❑ Connect to Control Zone Kit.
- ❑ Cut lengths of XF Series Dripline to build grid in planting area.
- ❑ Connect lengths of XF Series Dripline to XFF Insert Fittings to create grid. Add 1/2" Air Relief Valve Kit to the zone.
- ❑ Stake XF Series Dripline grid in place.
- ❑ Punch self-piercing barb inlet of Xeri-Bug Emitters into XF Series Dripline, connect 1/4" tubing to barb outlet and run 1/4" tubing to larger plant.
- ❑ Stake 1/4" tubing in place and attach bug cap on the end.
- ❑ Flush system until clean water flows.
- ❑ Install planting material.

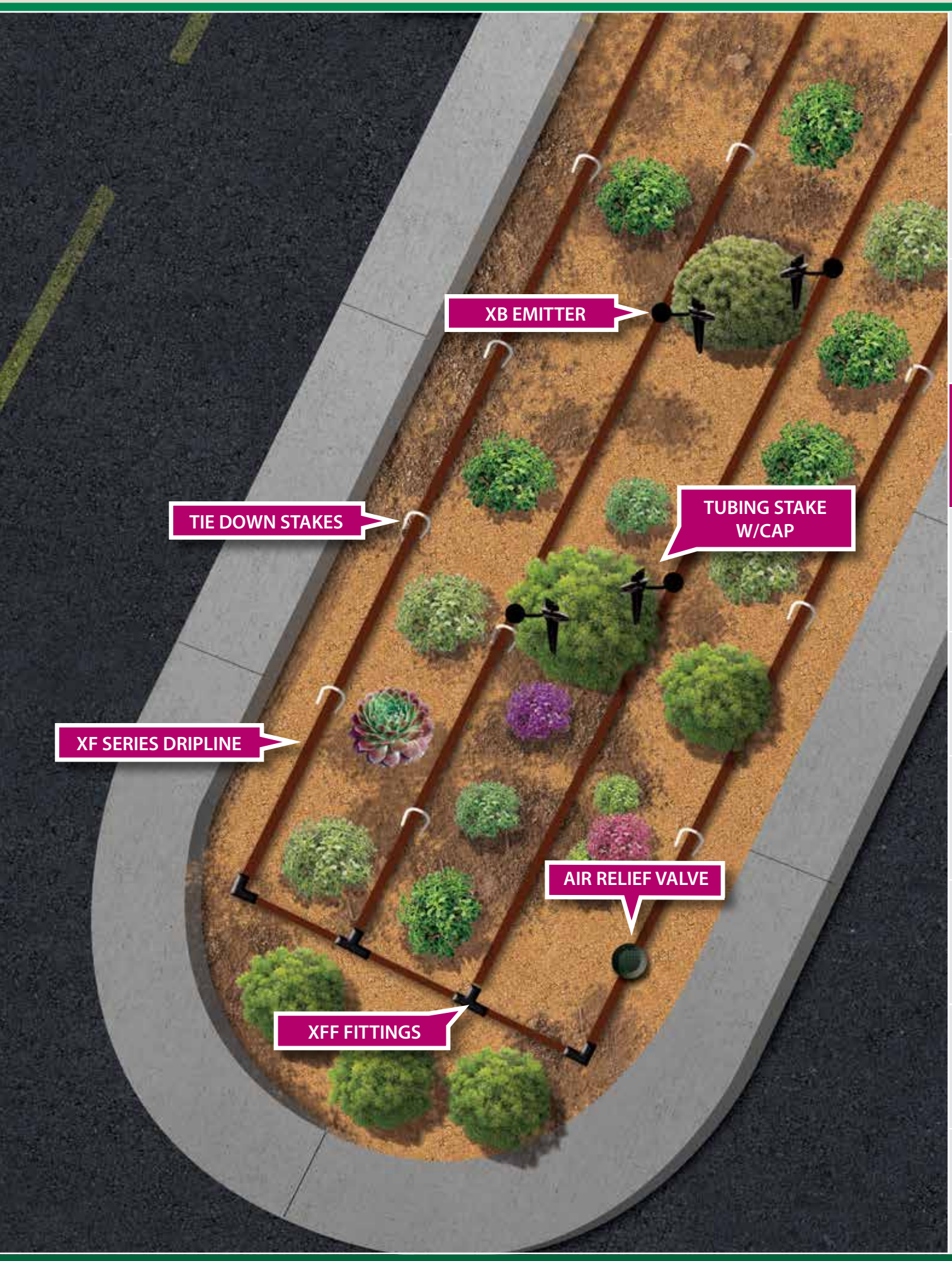
TIME: *(approx.)*

1 hr
5 min
10 min/2,5 m
20 min/2,5 m
5 min/0,5 m
5 min/Emitter

5 min/Stake
2 min

INSTALLATION AND MAINTENANCE TIPS :

- Supplemental Xeri-Bug Emitters are placed next to larger plants with higher water requirements.
- Flush the zone upon installation and 2-4 times per year.
- Install 1/2" Air Relief Valve Kit at high point in the system.
- Install Xeri-Bug Emitters with the Xeriman Tool (XM Tool) for 50% faster installation.
- Leave XF Series Dripline coil in the sun while preparing for installation.


XB EMITTER
TIE DOWN STAKES
TUBING STAKE W/CAP
XF SERIES DRIPLINE
AIR RELIEF VALVE
XFF FITTINGS

Parkway and Walkways
Dense Applications

Solution

Xeri-Pops & SQ Series Nozzles on a XF Blank Tubing Lateral

Advantages

- Precise square wetting pattern reduces overspray, overwatering, and runoff
- Up to 65% water savings due to efficient control of water placement with pressure compensation
- Adjustable radius in one unit makes design and installation simple
- Highest distribution uniformity in the industry for short radius nozzles

Installation

XCZ 075-PRF	3/4" Xeri Control Zone Kit
XP-400X	Desired Xeri-Pop Pop-up Height
SQ-XXX*	SQ Series Nozzles
XQ-100	1/4" Distribution Tubing
SPB-025	1/4" Self Piercing Barb Connector
XF BLANK	XF Blank Tubing

XP-400X

SQ NOZZLES

* Half, full, or quarter nozzles as needed for planting bed

TO-DO LIST: | **TIME:** *(approx.)*

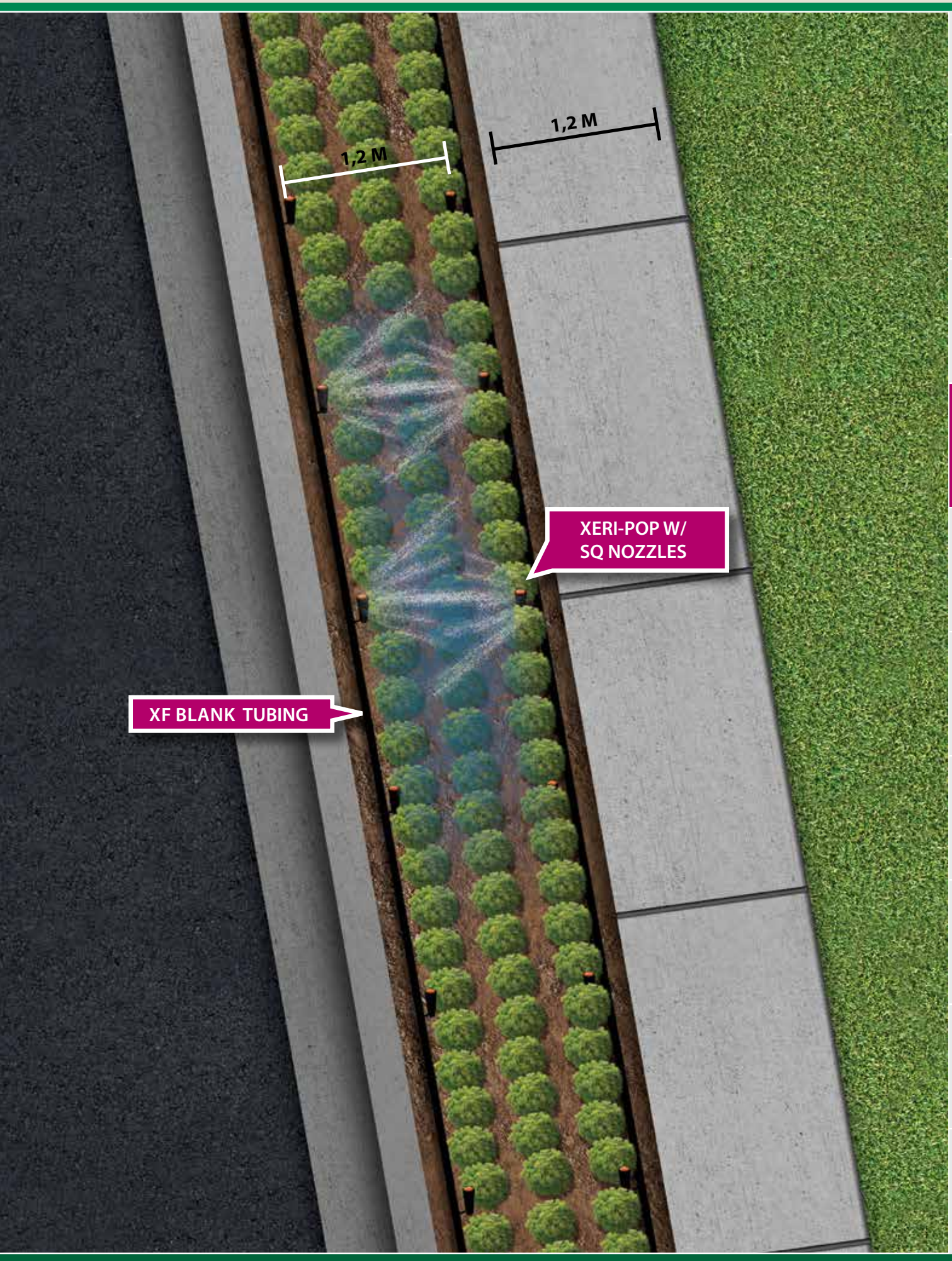
❑ Trench beds (5-15 cm deep), cut and lay out XF Blank Tubing.	30 min/2,5 m
❑ Punch 1/4" Self Piercing Barb Connector into XF Blank Tubing laterals. Attach 1/4" tubing to outlet barb and run 1/4" tubing to edge of bed.	10 min/1 m
❑ Connect 1/4" tubing to inlet barb on Xeri-Pop. Dig small hole (10 cm wide x pop up depth) for Xeri-Pop.	15 min/ Xeri-Pop
❑ Determine desired watering pattern and pick appropriate SQ Series Nozzle.	5 min/Nozzle
❑ Grasp orange pull ring on top of Xeri-Pop and pull stem up exposing thread area for nozzle. Drop 30-mesh screen into stem and thread nozzle onto stem.	3 min/Nozzle
❑ Drop Xeri-Pop into hole so the cap is at grade. Fill in dirt around Xeri-Pop so the body is supported in the soil and exit port for nozzle is in the correct position.	10 min/ Xeri-Pop
❑ Flush lines until clean water flows and install planting material.	2 min

INSTALLATION AND MAINTENANCE TIPS :

- For seasonal replanting, lift Xeri-Pops out of ground and lay aside.
- Do not disconnect the 1/4" tubing.
- After replanting, reinstall the Xeri-Pops in the planting area.
- Operate Xeri-Pops at 2,8 bar for optimal performance.

Drip Tip

With a simple turn of the nozzle to the next preset stop, the SQ Series Nozzle adjusts from a 0,8 m throw to a 1,2 m throw. All nozzles in the same zone must be adjusted to the same throw.


1,2 M
1,2 M
XERI-POP W/
SQ NOZZLES
XF BLANK TUBING

Patio Pots on Separate Zone

Solution

OPTION A: PE Tubing with Xeri-Bird 8 & Xeri-Bug Emitters

OPTION B: PE Tubing with 6 Outlet Manifold & 1/4" Landscape Dripline Loop

Advantages

- Up to 60% water savings
- Xeri-Bird 8 Manifold with PRS offers pressure regulation, filtration and controlled watering to multiple pots
- Manifold allows for increase/decrease in future plant requirements

Installation

Option A

XBD-80	Xeri-Bird 8 Outlet Manifold
XB XX*	Xeri-Bug Pressure Compensating Drip Emitters 2 to 8 lph
PSI-M30	In-stem 2,10 bar Pressure Regulator
XQ-100	1/4" Distribution Tubing
TS-025	1/4" Tubing Stake
DCB-025	Diffuser Bug Cap
PE Misc.	PE Laterals, Fittings

* Select appropriate emitter flow rate

TO-DO LIST:	**TIME A:**
❑ Trench (as needed), cut PE laterals.	1 hr/1 m
❑ Connect lines to water source.	1 hr
❑ Thread Xeri-Bird 8 Outlet Manifold onto in-stem 2,10 bar Pressure Regulator and connect to PE.	5 min
❑ Attach 1/4" distribution tubing to outlets on manifold.	2 min/ XBD-80
❑ Run 1/4" lines to Pots, stake in place with a bug cap on the end.	8 min/ Pot
❑ Install the desired Drip Emitter inside manifold.*	2 min

* Emitter varies by location (2 to 8 lph)

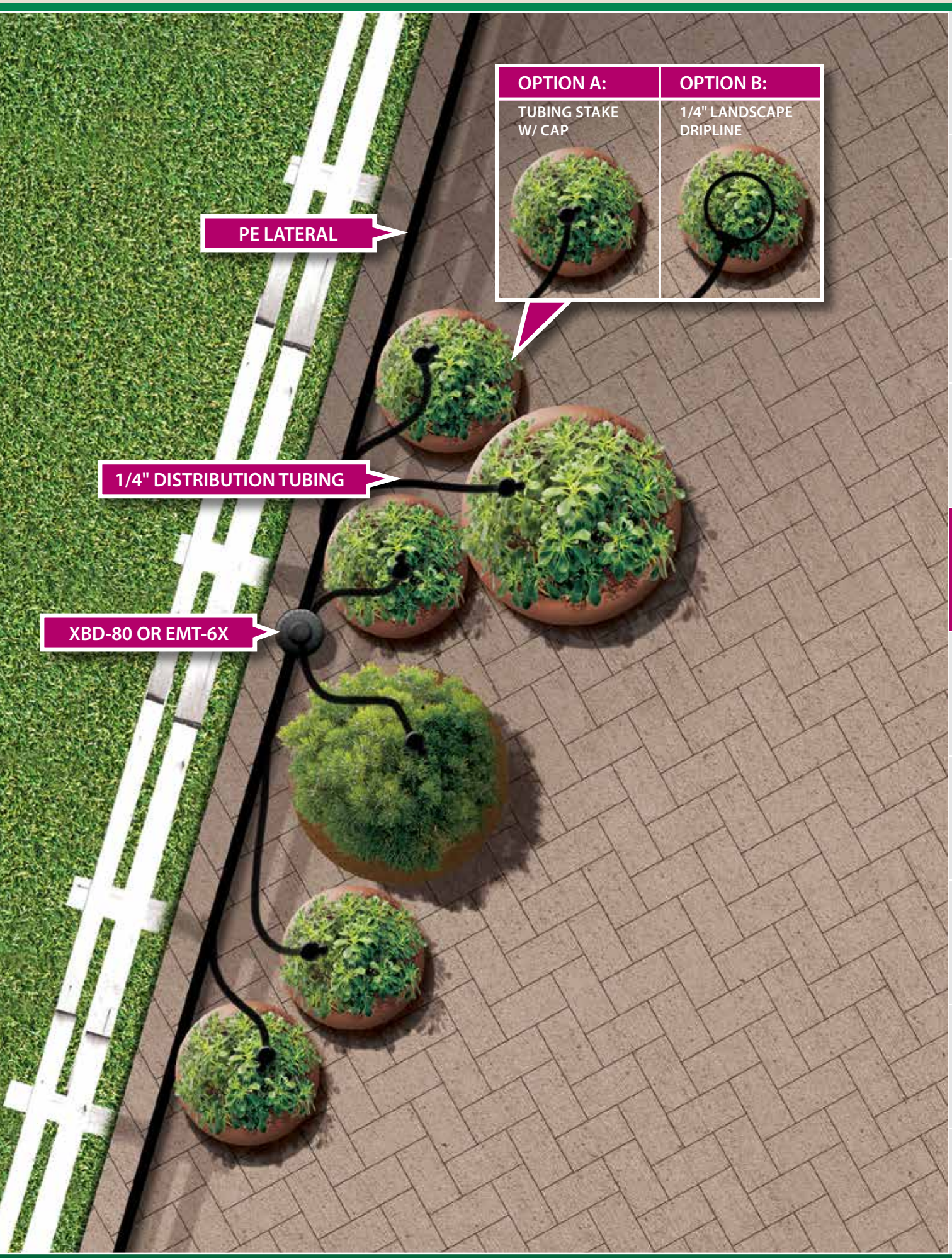
Option B

EMT-6X	6 Outlet Manifold
XQ-100	1/4" Distribution Tubing
BF3	1/4" Barb Tee
LDQ-08-06-100	1/4" Landscape Dripline (3 lph, 15 cm Spacing)
PE Misc.	PE Laterals, Fittings

TO-DO LIST:	**TIME B:**
❑ Trench (as needed), cut PE laterals.	1 hr/1 m
❑ Connect lines to water source.	1 hr
❑ Thread 6 Outlet Manifold onto riser, then connect to PE.	2 min/ EMT-6X
❑ Attach 1/4" distribution tubing to outlets on manifold.	2 min
❑ Run 1/4" lines to pots and connect tubing to barb tee. Then run 1/4" Landscape Dripline in a circle inside the pot and connect both ends to the barb tee.	8 min/Pot

INSTALLATION AND MAINTENANCE TIPS :

- Flush the zone after installation and 2-4 times per year.
- Adjust watering time as seasons/weather changes.


OPTION A:
TUBING STAKE W/ CAP
OPTION B:
1/4" LANDSCAPE DRIPLINE
PE LATERAL
1/4" DISTRIBUTION TUBING
XBD-80 OR EMT-6X

Patio Pots on Separate Zone

Solution

XF Blank Tubing Lateral with Multi-Outlet Xeri-Bug

Advantages

- Up to 60% water savings
- XF Blank Tubing flexible for odd shaped areas
- Multi-Outlet Xeri-Bug ensures even watering to multiple pots

Installation

XCZ-075-PRF	3/4" Xeri Control Zone Kit
XB-10-6	Multi-Outlet Xeri-Bug (6 Outlet PC Manifold w/ Barb Inlet)
XF BLANK	XF Blank Tubing
XQ-100	1/4" Distribution Tubing
TS-025	1/4" Tubing Stake
DCB-025	Diffuser Bug Cap

TS-025

XB-10-6

XF BLANK TUBING

TO DO LIST :

- ❑ Cut and lay out XF Blank Tubing.
- ❑ Assemble Control Zone Kit and connect to water source and XF Blank Tubing.
- ❑ Punch hole in XF Blank Tubing and insert XB-10-6 manifold.
- ❑ Connect 1/4" tubing to XB-10-6 barb outlets and run tubing to pots.
- ❑ Stake in place with a bug cap on the end.

TIME: *(approx.)*

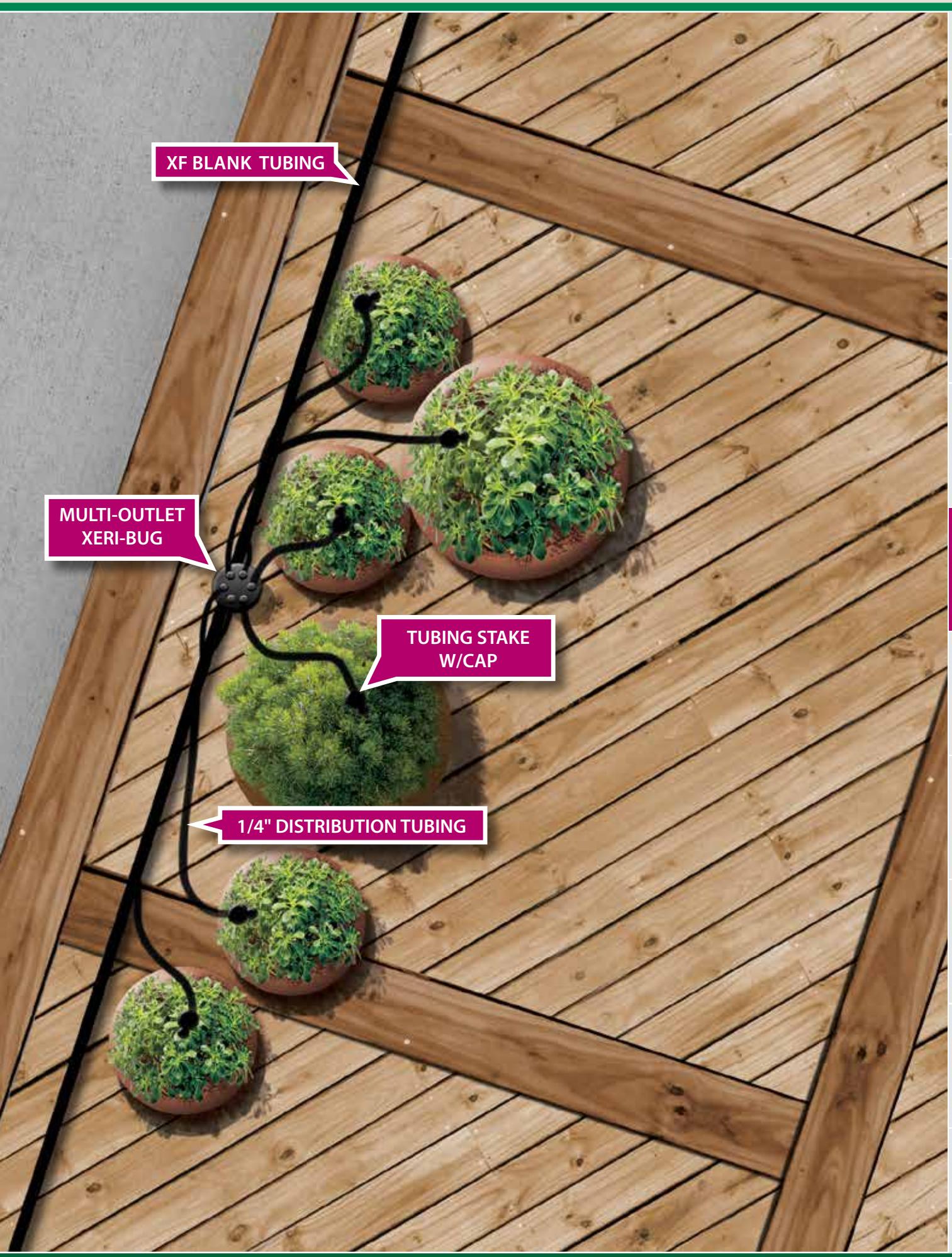
30 min/2,5 m
1 hr 15 min
3 min/XB-10-6
8 min/Pot
3 min/Pot

INSTALLATION AND MAINTENANCE TIPS :

- For invisible installation, run 1/4" tubing through the drain hole in the bottom of the pot prior to adding plant material.

Drip Tip

Do not run 1/4" tubing more than 12-20 cm from the XB emitter device.


XF BLANK TUBING
MULTI-OUTLET XERI-BUG
TUBING STAKE W/CAP
1/4" DISTRIBUTION TUBING

Patio Pots on Separate Zone

Solution

OPTION A: XF Blank Tubing Lateral with Xeri-Bug Barb Emitters

OPTION B: XF Blank Tubing Lateral with 1/4" Landscape Dripline Loop

Advantages

- Up to 60% water savings
- XF Blank Tubing flexible for odd shaped areas
- Xeri-Bug Emitters can accommodate the watering needs of a variety of potted plants

Installation

Option A

XCZ-075-PRF	3/4" Xeri Control Zone Kit
XF BLANK	XF Blank Tubing
XQ-100	1/4" Distribution Tubing
XB XX*	Xeri-Bug Pressure Compensating Drip Emitters (2 to 8 lph)
TS-025	1/4" Tubing Stake
DCB-025	Diffuser Bug Cap

* Select appropriate emitter flow rate

TO-DO LIST:	**TIME A:**
❑ Cut and lay out XF Blank Tubing.	30 min/2,5 m
❑ Assemble Control Zone Kit and connect to water source and XF Blank Tubing.	1 hr 15 min
❑ Use Xeri-Bug Emitters' self-piercing barb to connect XF Blank Tubing with 1/4" distribution tubes. Run 1/4" distribution tubes to pots.	8 min/Pot
❑ Connect distribution tubes to Tubing Stake with a bug cap on the end.	3 min/Pot

Option B

XCZ-075-PRF	3/4" Xeri Control Zone Kit
XF BLANK	XF Blank Tubing
XQ-100	1/4" Distribution Tubing
BF1	1/4" Barb Connector
BF3	1/4" Barb Tee
LDQ-08-06-100	1/4" Landscape Dripline

TO-DO LIST:	**TIME B:**
❑ Cut and lay out XF Blank Tubing.	30 min/2,5 m
❑ Assemble Control Zone Kit and connect to water source and XF Blank Tubing.	1 hr 15 min
❑ Insert 1/4" barb connector into XF Blank Tubing, connect 1/4" distribution tubing to barb connector, run 1/4" lines to pots and connect tubing to barb tee. Then create loop by running 1/4" Landscape Dripline in a circle inside the pot and connect both ends to the barb tee.	8 min/Pot

INSTALLATION AND MAINTENANCE TIPS :

- Do not run 1/4" tubing more than 12-20 cm from the XB emitter device.


OPTION A:
TUBING STAKE W/ CAP
OPTION B:
1/4" LANDSCAPE DRIPLINE
XF BLANK TUBING
1/4" DISTRIBUTION TUBING
XB EMITTER or BARB CONNECTOR

Hanging Baskets

Solution

OPTION A: XF Blank Tubing Lateral with Xeri-Bug Emitters
OPTION B: XF Blank Tubing Lateral with 1/4" Landscape Dripline Loop

Advantages

- Up to 60% water savings
- Targeted watering in baskets
- Eliminates hand watering
- Connect to irrigation timer for consistent automatic watering

Installation

Option A

XCZ-075-PRF	3/4" Control Zone with 2,8 bar Pressure Regulator
XF BLANK	XF Blank Tubing
XB XX*	Xeri-Bug Pressure Compensating Drip Emitters (2 to 8 lph)
XQ-100	1/4" Distribution Tubing
XM Tool	XM Installation Tool
TS-025	1/4" Tubing Stake
DCB-025	Diffuser Bug Cap

* Select appropriate emitter flow rate and barbed connection

TO-DO LIST:	**TIME A:**
❑ Assemble Control Zone Kit at water source and connect XF Blank Tubing laterals to edge of structure.	1 hr
❑ Elbow XF Blank Tubing lateral in vertical line up.	40 min/2,5 m
❑ Install XF Blank Tubing lateral.	
❑ Use XM Tool to punch Xeri-Bug Emitters into XF Blank Tubing lateral above baskets.	30 min/2,5 m
❑ Connect short length of 1/4" tubing to Xeri-Bug Emitters and stake in basket. Add bug caps to ends of 1/4" lines.	10 min/ Basket 8 min/Basket

Option B

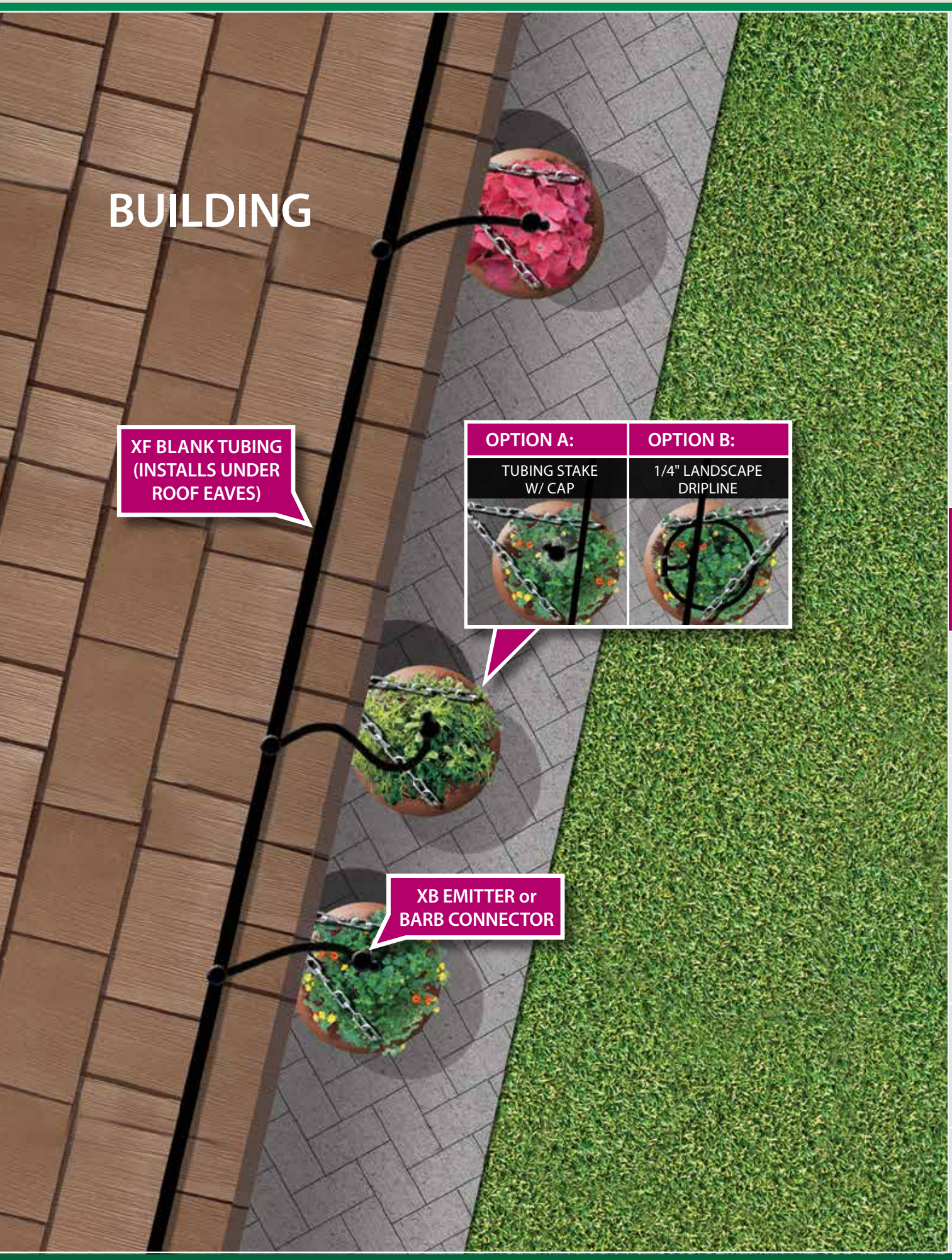
XCZ-075-PRF	3/4" Xeri Control Zone Kit
XF BLANK	XF Blank Tubing
XQ-100	1/4" Distribution Tubing
BF1	1/4" Barb Connector
BF3	1/4" Barb Tee
LDQ-08-06-100	1/4" Landscape Dripline

TO-DO LIST:	**TIME B:**
❑ Assemble Control Zone Kit at water source and connect XF Blank Tubing laterals to edge of structure.	1 hr
❑ Elbow XF Blank Tubing lateral in vertical line up structure to eaves. Staple XF Blank Tubing lateral to structure.	40 min/2,5 m
❑ Staple XF Blank Tubing lateral along underside of eaves.	30 min/2,5 m
❑ Use XM Tool to punch 1/4" barb connector into XF Blank Tubing lateral above baskets.	10 min/ Basket
❑ Insert 1/4" barb connector into XF Blank Tubing, connect 1/4" distribution tubing to barb connector, run 1/4" lines to baskets and connect tubing to barb tee. Then create loop by running 1/4" Landscape Dripline in a circle inside the basket and connect both ends to the barb tee.	8 min/Basket

INSTALLATION AND MAINTENANCE TIPS :

- Flush the zone after installation and 2-4 times per year.
- Use XM Tool for faster installation of Xeri-Bug Emitters and 1/4" barb connectors.
- Break up watering cycles to avoid excess drainage.

BUILDING


XF BLANK TUBING (INSTALLS UNDER ROOF EAVES)
OPTION A:
TUBING STAKE W/ CAP
OPTION B:
1/4" LANDSCAPE DRIPLINE
XB EMITTER or BARB CONNECTOR

Slopes
Sparse Applications

Solution

Xeri-Bird 8 & Xeri-Bug Emitters on a PE Lateral

Advantages

- Up to 65% water savings
- Xeri-Bird 8 manifold with PRS offers pressure regulation, filtration and controlled watering to multiple plants
- Manifold allows for increase/decrease in future plant water demands

Installation

XBD-80	Xeri-Bird 8 Outlet Manifold
XB XX*	Xeri-Bug Pressure Compensating Drip Emitters (2 to 8 lph)
PSI-M30	In-stem 2,10 bar Pressure Regulator
XQ-100	1/4" Distribution Tubing
TS-025	1/4" Tubing Stake
DCB-025	Diffuser Bug Caps
PE Misc.	PE Laterals, Fittings

* Select appropriate emitter flow rate and barbed or threaded connection

XBD-80

PSI-M30

XB XX

TO DO LIST :

- ❑ Trench, cut PE laterals.
- ❑ Connect lines to water source.
- ❑ Thread Xeri-Bird 8 Outlet Manifold onto PSI-M30 Pressure Regulator, then connect to PE.
- ❑ Attach 1/4" distribution tubing to outlets on Xeri-Bird 8 Outlet Manifold.
- ❑ Run 1/4" lines to plants, stake in place with a Diffuser Bug Cap on the end.
- ❑ Install the desired Xeri-Bug Emitter inside Xeri-Bird 8 Outlet Manifold.

TIME: *(approx.)*

1 hr/1 m
1 hr
5 min/Assembly

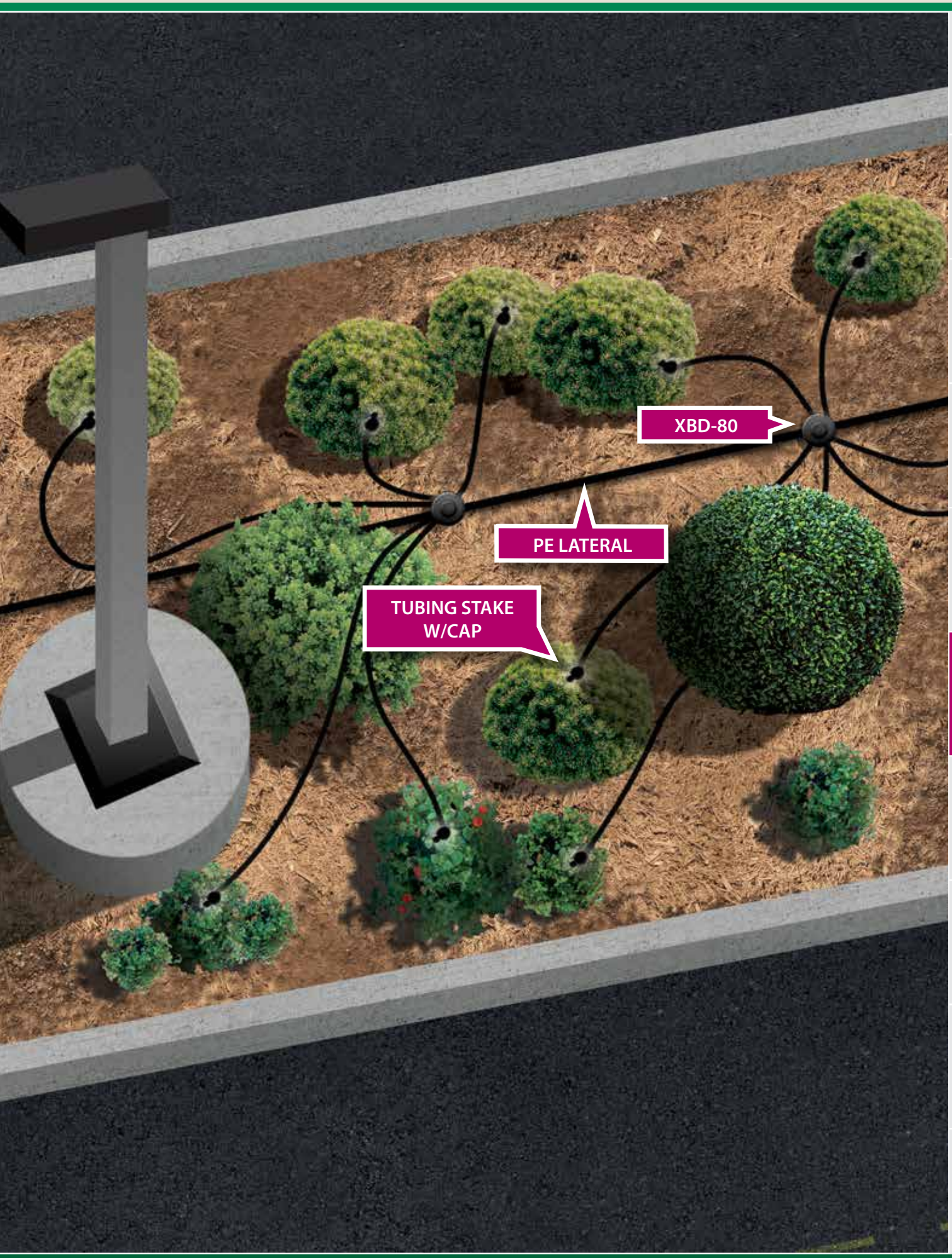
3 min/XBD-80
8 min/Stake
2 min

INSTALLATION AND MAINTENANCE TIPS :

- Flush the zone after installation and 2-4 times per year.
- Install Xeri-Bug Emitters in Xeri-Bird 8 Outlet Manifold with self-piercing barb or threaded end up.
- Leave 15 cm slack in 1/4" tubing next to manifold in case of unexpected maintenance.

Drip Tip

Do not run 1/4" tubing more than 12-20 cm from the XBD-80.


XBD-80
PE LATERAL
TUBING STAKE W/CAP

Slopes
Dense or Combination Applications

Solution
XF Series Dripline Grid with Xeri-Bug Emitters

Advantages
- Up to 60% water savings due to zero wind loss
- Low maintenance results in labor savings
- No runoff = reduced liability in high traffic areas
- XF Dripline is easy to install, resulting in labor savings

Installation

XFCV-2,3 lph	XFCV Dripline w/Heavy-Duty Check Valve (2,3 lph, 33 cm Spacing)
XCZ-100-PRF	1" Control Zone Kit
XBER12	½" Air Relief Valve
XFF Series	XF Dripline 17 mm Insert Fittings
XB XX*	Xeri-Bug Pressure Compensating Drip Emitters (2 to 8 lph)
XQ-100	1/4" Distribution Tubing
TS-025	1/4" Tubing Stake
C12	Tie Down Stake
XM Tool	Xeriman Installation Tool
DCB-025	Diffuser Bug Cap

* Select appropriate emitter flow rate

½" Air Relief Valve

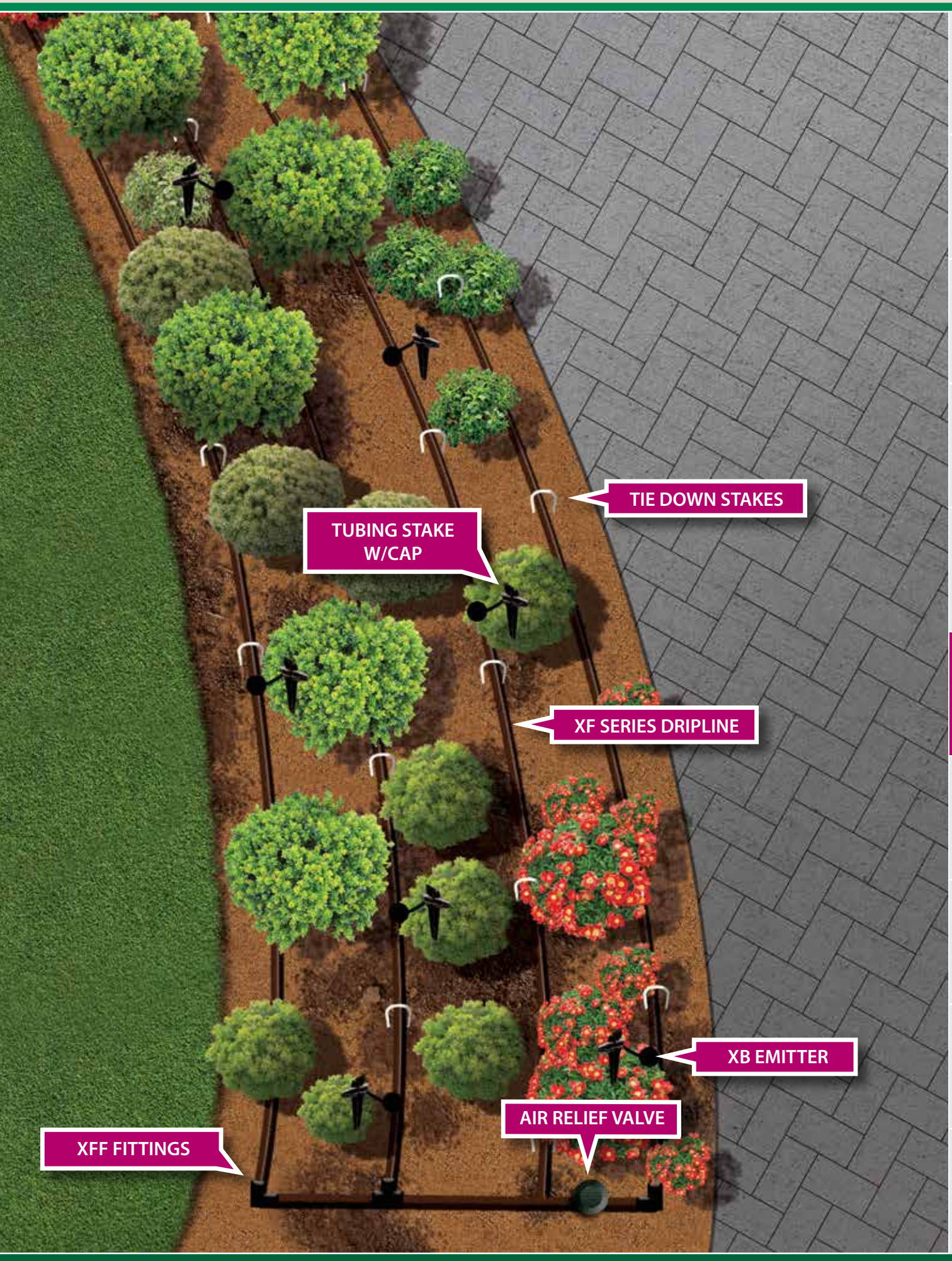
XFF FITTINGS

TO DO LIST :

	TIME: *(approx.)*
❑ Assemble Control Zone Kit and connect to water source.	1 hr
❑ Connect to Control Zone Kit.	5 min
❑ Cut lengths of XF Series Dripline to assemble grid in planting area.	10 min/2,5 m
❑ Connect lengths of XF Series Dripline to XF Dripline fittings. to create grid. Add 1/2" Air Relief Valve Kit to the zone.	25 min/2,5 m
❑ Insert Xeri-Bug Emitters into XF Series Dripline to provide supplemental watering for larger plants.	3 min/Emitter
❑ Stake XF Series Dripline grid in place and flush until clean water flows.	5 min/25,5 m
❑ Install planting material.	

INSTALLATION AND MAINTENANCE TIPS :

- Supplemental Xeri-Bug Emitters are placed next to larger plants with higher water requirements.
- Flush the zone upon installation and 2-4 times per year.
- Install 1/2" Air Relief Valve Kit at high point in the system.
- Leave XF Series Dripline coil in the sun while preparing for installation.
- Use the Xeriman Tool to install the emitters into XF Series Dripline.


TIE DOWN STAKES
TUBING STAKE W/CAP
XF SERIES DRIPLINE
XB EMITTER
AIR RELIEF VALVE
XFF FITTINGS

Slopes
Combination Applications

Solution
XFCV Dripline Grid with Xeri-Bug Emitters

Advantages
- Up to 60% water savings due to zero wind loss
- Low maintenance results in labor savings
- XF Dripline is easy to install, resulting in labor savings

Installation

XFCV-2,3 lph	XF Series Dripline 2,3 lph, 33 cm Spacing
XCZ-100-PRF	1" Control Zone Kit
XFF Series	XFF Dripline 17 mm Insert Fittings
XQ-100	1/4" Distribution Tubing
TS-025	1/4" Tubing Stake
TDS-050	Tie Down Stake
DCB-025	Diffuser Bug Cap

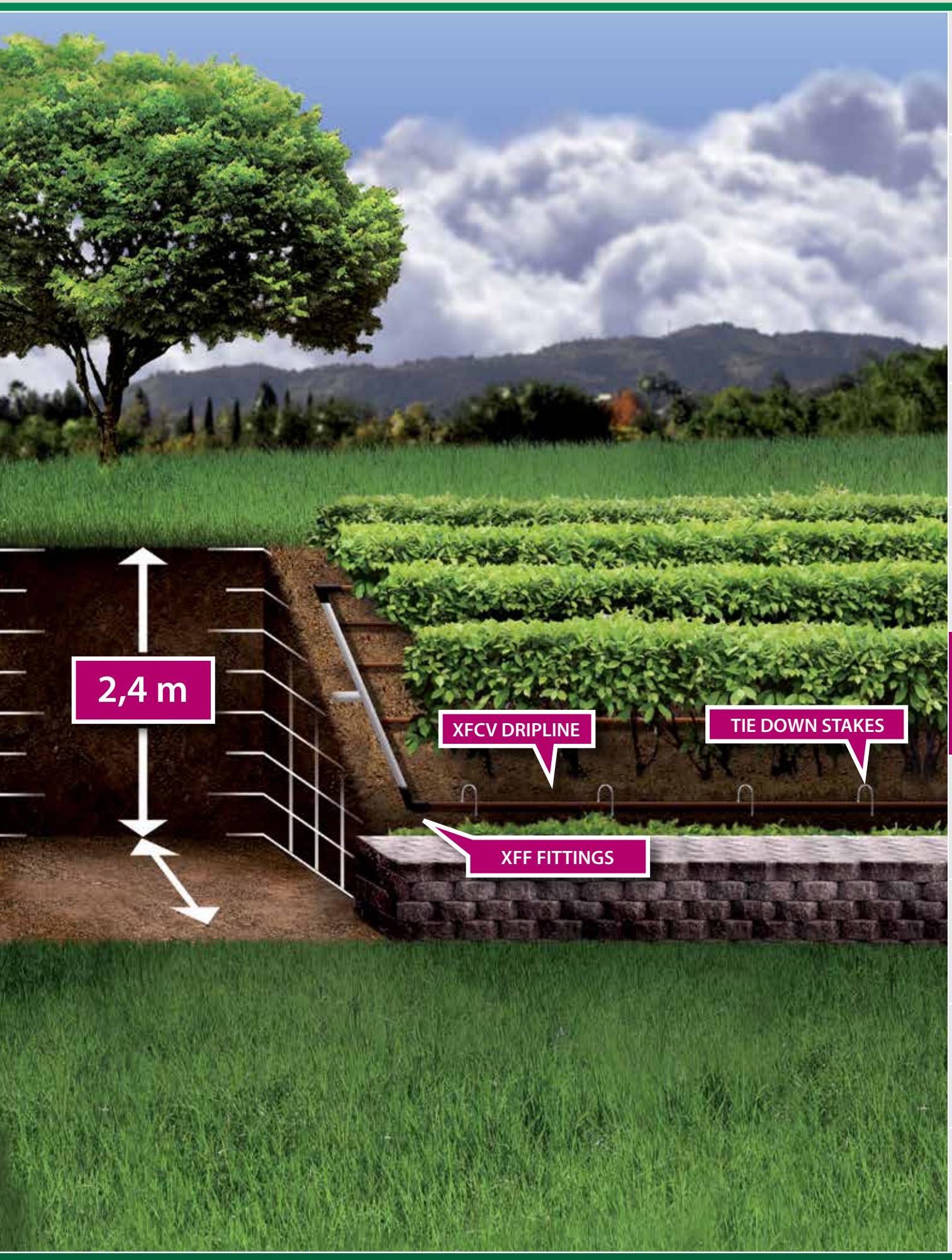
XFCV

TO DO LIST :

	TIME: *(approx.)*
❑ Assemble Control Zone Kit and connect to water source.	1 hr
❑ Connect to Control Zone Kit.	5 min/XCZ
❑ Cut lengths of XF Series Dripline to assemble grid in planting area.	10 min/2,5 m
❑ Use XFF Dripline fittings to create grid and stake in place. Insert Xeri-Bug Emitters into XF Series Dripline for supplemental watering.	1 hr 30 min
❑ Connect 1/4" tubing to Xeri-Bug Emitters, run lines and stake next to larger plants.	8 min/Stake
❑ Flush zones until clean water flows.	2 min
❑ Install planting material.	

INSTALLATION AND MAINTENANCE TIPS :

- Supplemental Xeri-Bug Emitters or Pressure Compensating Modules can be placed next to larger plants with higher water requirements.
- Flush the zone upon installation and 2-4 times per year.
- Leave XF Series Dripline coil in the sun while preparing for installation.


2,4 m
XFCV DRIPLINE
TIE DOWN STAKES
XFF FITTINGS

Street Medians

Sparse Applications

Solution

Riser Stake Assembly (PFR/RS) & Xeri-Bug Emitters on PE Lateral

Advantages

- Up to 60% water savings due to zero wind loss
- Targeted watering at plants reduces weed growth
- Pressure Compensating Emitters available from 2 to 63 lph for a variety of plant watering needs

Installation

PFR/RS	Riser Stake Assembly
XB XX*	Xeri-Bug Pressure Compensating Drip Emitters (2 to 8 lph)
PE Misc.	PE Laterals, Fittings

* Select appropriate emitter flow rate

PRF/RS

XB XX

TO DO LIST :

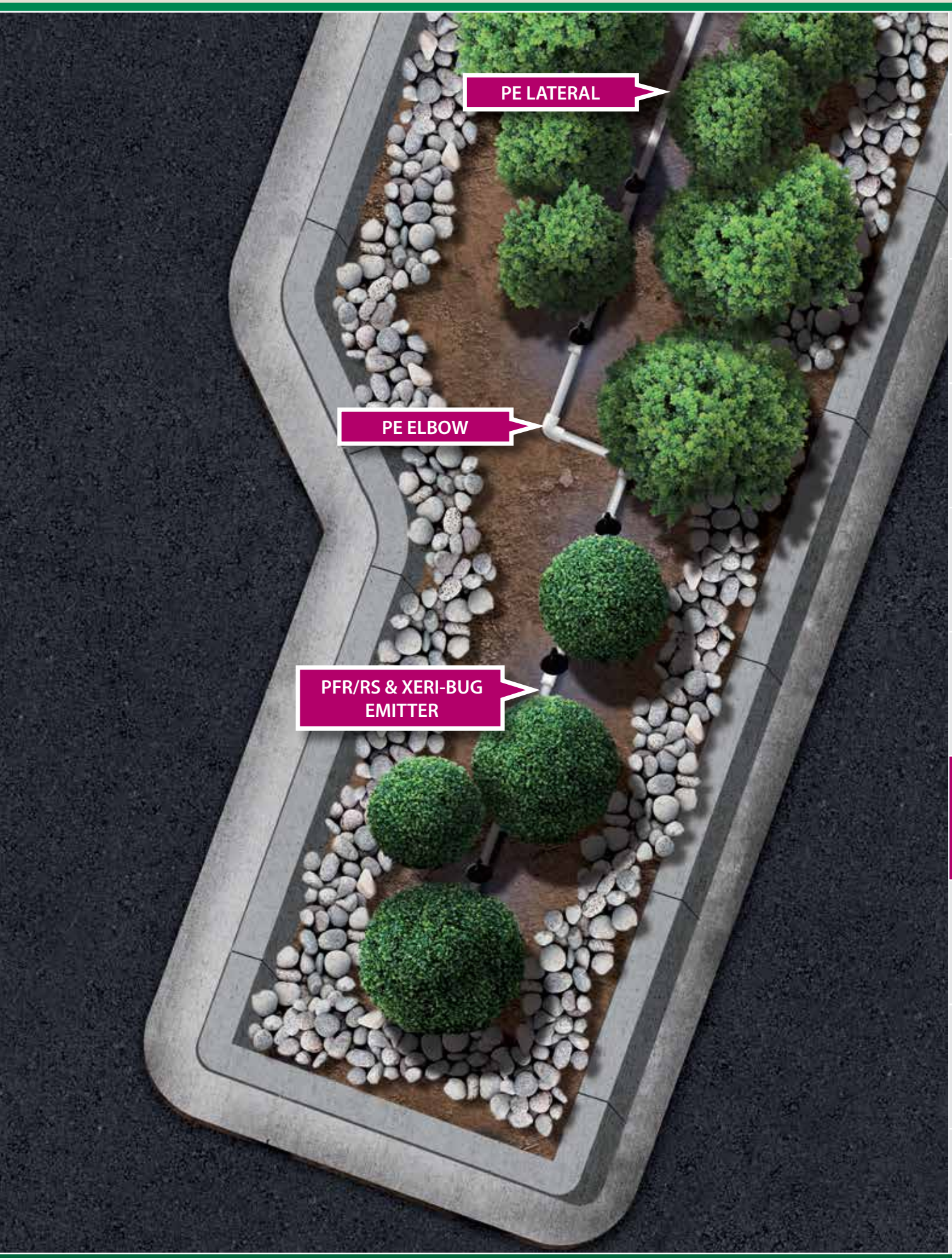
- ❑ Trench, cut PE laterals.
- ❑ Assemble Control Zone Kit and connect to water source and laterals.
- ❑ Thread PFR/FRA into PE.
- ❑ Thread Xeri-Bug Emitter into Riser Stake Assembly (PFR/RS).
- ❑ Flush system until clean water flows.
- ❑ Add planting material and mulch.

TIME: *(approx.)*

1 hr
1 hr
3 min/Tee
2 min/PFR-RS
2 min

INSTALLATION AND MAINTENANCE TIPS :

- Flush the zone after installation and 2-4 times per year.
- For larger trees use higher flow Pressure Compensating Modules and Diffuser Caps to avoid wash out.
- Adjust watering time as seasons/weather changes.
- Cut Riser Stake Assembly (PFR/RS) slightly above grade (before installing the Xeri-Bug Emitters) for an "invisible" installation.


PE LATERAL
PE ELBOW
PFR/RS & XERI-BUG EMITTER

Street Medians

Dense Applications

Solution

XF Series Dripline Grid

Advantages

- Up to 60% water savings due to zero wind loss
- No overspray damage to roadways and vehicles
- No runoff = reduced liability in high traffic areas
- XF Dripline is easy to install, resulting in labor savings

Installation

XFD-2,3 lph	XF Series Dripline 2,3 lph, 33 cm Spacing
XCZ-100-PRF	1" Control Zone Kit
XBER 12	1/2" Air Relief Valve
XFF Series	XFF Dripline 17 mm Insert Fittings
C12	Tie Down Stake
PE Misc.	PE Laterals and Fittings
XP400X	Xeri-Pop (optional)
SQ QTR	SQ Series Nozzle (optional)

XFD

XFF FITTINGS

TO DO LIST :

- ❑ Assemble Control Zone Kit and connect to water source.
- ❑ Cut lengths of XF Series Dripline to build grid in planting area.
- ❑ Connect lengths of XF Series Dripline to XF Dripline 17 mm fittings. to create grid (add Air Relief Valve Kit to the zone and connect to Control Zone Kit).
- ❑ Stake XF Series Dripline grid in place and flush until clean water flows.
- ❑ Install planting material.

TIME: *(approx.)*

1 hr
10 min/2,5 m
25 min/2,5 m

5 min/0,5 m

INSTALLATION AND MAINTENANCE TIPS :

- Flush the zone upon installation and 2-4 times per year.
- Install 1/2" Air Relief Valve Kit at high point in the system.
- Leave XF Series Dripline coil in the sun while preparing for installation.
- Use XFS Series Dripline to protect against root intrusion

Drip Tip

Add a Xeri-Bubbler Xeri-Pop with an XPCN Series Nozzle to the line nearest Control Zone/Valve box as an indicator for maintenance crews.


XFF FITTINGS
TIE DOWN STAKES
XF SERIES DRIPLINE

Street Medians

Dense Applications

Solution

SQ Series Nozzle on 1800 Spray Heads with Swing Assembly (SPX FLEX) on PE Lateral

Advantages

- Precise square wetting pattern reduces overspray, overwatering, and runoff
- Up to 65% water savings due to efficient control of water placement with pressure compensation
- Adjustable radius in one unit makes design and installation simple
- Highest distribution uniformity in the industry for short radius nozzles

Installation

SQ–XXX*	SQ Series Nozzles
18XX	1800 Series Spray Head with Desired Pop-up Height
SPX FLEX	Swing Assembly
PE Misc	PE Laterals, Fittings

* Half, full, or quarter nozzles as needed for planting bed

1806

SQ NOZZLES

TO DO LIST :

- ❑ Trench, cut, PE laterals.
- ❑ Connect lines to water source.
- ❑ Thread 1800 Series Spray Head onto swing assembly (SPX FLEX).
- ❑ Cut PE laterals.
- ❑ Flush system until water flows clear.
- ❑ Install SQ Series nozzles on 1800 Spray Heads.

TIME: *(approx.)*

1 hr/1 m
1 hr
5 min/Assembly

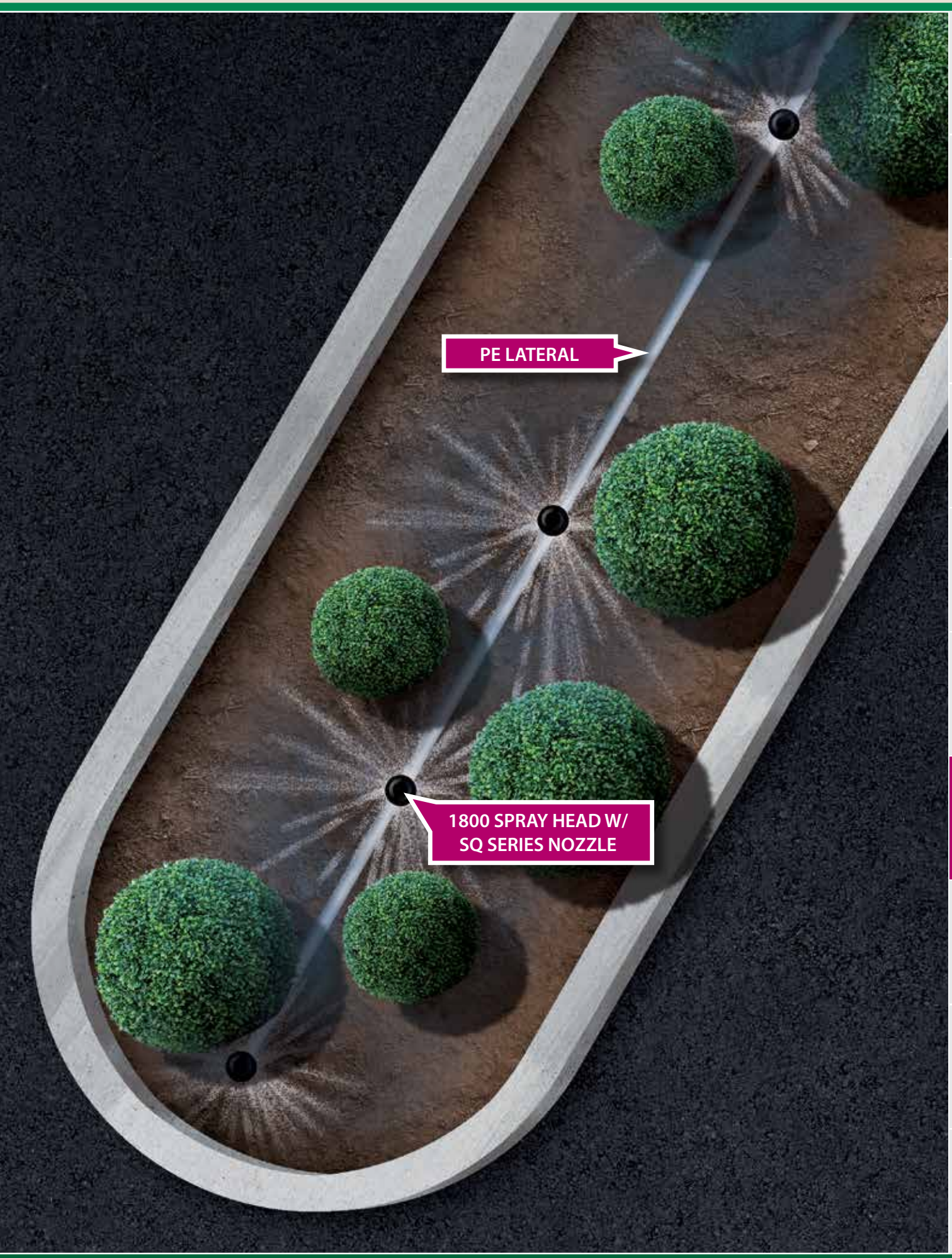
5 min/Tee
As needed
2 min/Nozzle

INSTALLATION AND MAINTENANCE TIPS :

- Flush the zone after installation and 2-4 times per year.
- Adjust watering time as seasons/weather changes.
- Ensure that all SQ Series Nozzles are adjusted to the appropriate throw distance.

Drip Tip

With a simple turn of the nozzle to the next preset stop, the SQ Series Nozzle adjusts from a 0,8 m throw to a 1,2 m throw. All nozzles in the same zone must be adjusted to the same throw.


PE LATERAL
1800 SPRAY HEAD W/
SQ SERIES NOZZLE

Street Medians

Combination Applications

Solution

XF Series Dripline Grid with Xeri-Bug Emitters

Advantages

- Up to 60% water savings due to zero wind loss
- No overspray damage to roadways and vehicles
- No runoff = reduced liability in high traffic areas
- Low maintenance results in labor savings
- XF Dripline is easy to install, resulting in labor savings

Installation

XFD-2,3 lph	XF Series Dripline 2,3 lph, 33 cm Spacing
XCZ-100-PRF	1" Control Zone Kit
XBER 12	1/2" Air Relief Valve
XFF Series	XF Dripline 17mm Insert Fittings
XB XX*	Xeri-Bug Pressure Compensating Drip Emitters (2 to 8 lph)
XQ-100	1/4" Distribution Tubing
TS-025	1/4" Tubing Stake
TDS-050	Tie Down Stake
DCB-025	Diffuser Bug Cap

* Select appropriate emitter flow rate

XFD

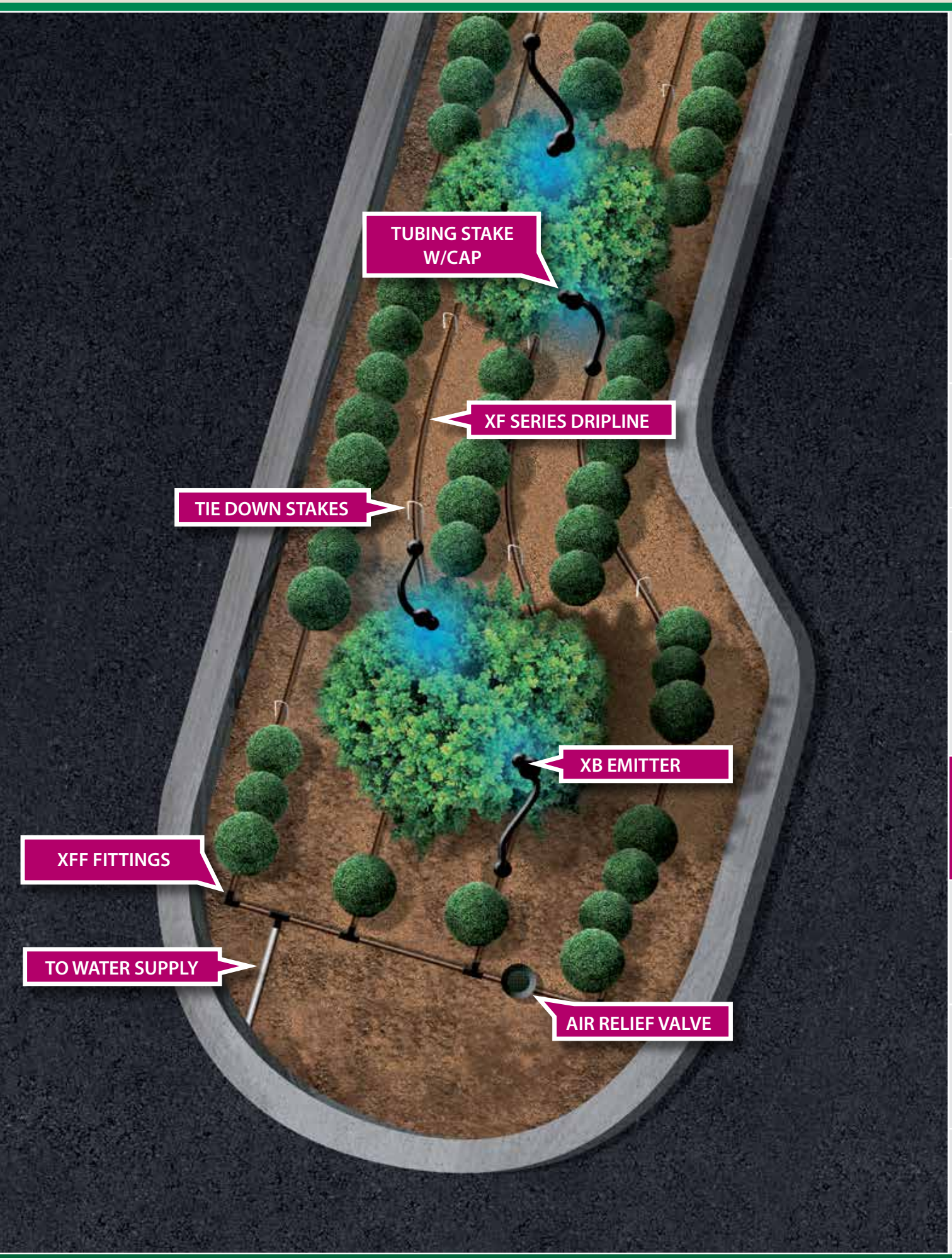
XFF FITTINGS

TO DO LIST :

	TIME: *(approx.)*
❑ Assemble Control Zone Kit and connect to water source.	1 hr
❑ Connect to Control Zone Kit.	5 min
❑ Cut lengths of XF Series Dripline to assemble grid in planting area.	10 min/2,5 m
❑ Use XFF Dripline fittings to create XF Series Dripline grid. Add 1/2" Air Relief Valve Kit and stake grid in place. Insert Xeri-Bug Emitters into XF Series Dripline for supplemental watering.	1 hr 30 min
❑ Connect 1/4" tubing to Xeri-Bug Emitters, run lines and stake next to larger plants.	8 min/Stake
❑ Flush zones until clean water flows.	2 min
❑ Install planting material.	

INSTALLATION AND MAINTENANCE TIPS :

- Flush the zone upon installation and 2-4 times per year.
- Install 1/2" Air Relief Valve Kit at high point in the system.
- Leave XF Series Dripline coil in the sun while preparing for installation.
- Supplemental Xeri-Bug Emitters or Pressure Compensating Modules are placed next to larger plants with higher water requirements.


TUBING STAKE W/CAP
XF SERIES DRIPLINE
TIE DOWN STAKES
XB EMITTER
XFF FITTINGS
TO WATER SUPPLY
AIR RELIEF VALVE

Walls

Retaining Walls

Solution

XF Series Dripline

Advantages

- Up to 60% water savings due to zero wind loss
- Targeted watering helps reduce erosion of wall
- No runoff = reduced liability in high traffic areas
- XF Dripline is easy to install, resulting in labor savings

Installation

XFD-2,3 lph	XF Series Dripline 2,3 lph, 33 cm Spacing
XCZ-100-PRF	1" Control Zone Kit
XBER 12	1/2" Air Relief Valve
XFF Series	XFF Dripline 17 mm Insert Fittings
C12	Tie Down Stake

XFD

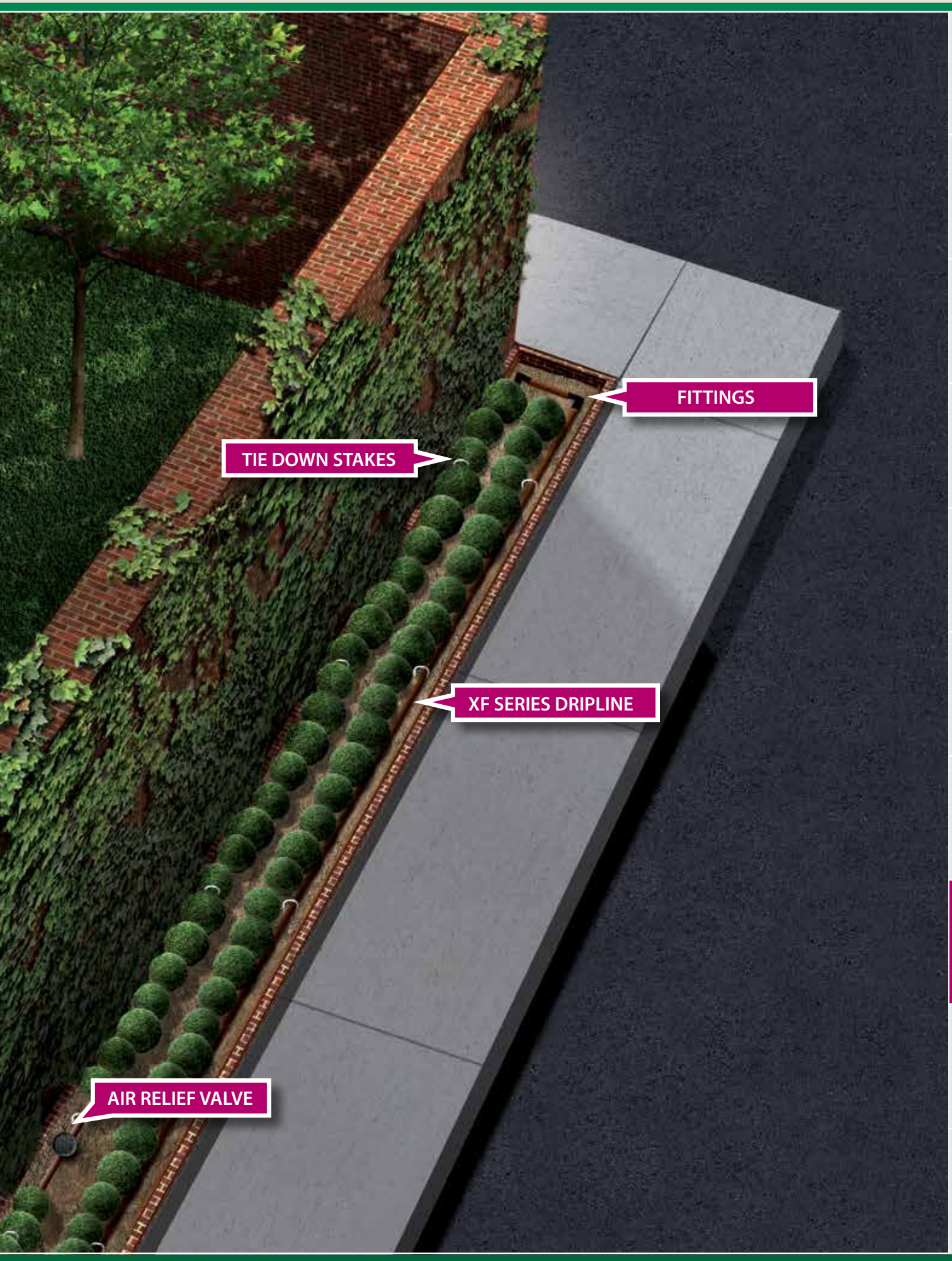
XFF FITTINGS

TO DO LIST :

	TIME: *(approx.)*
❑ Assemble Control Zone Kit and connect to water source.	1 hr
❑ Cut lengths of XF Series Dripline to lay laterally below retaining wall.	10 min/2,5 m
❑ Connect lengths of XF Series Dripline to Insert Barb Fittings, add 1/2" Air Relief Valve and add Flush Cap to end. Connect to Control Zone Kit.	30 min/2,5 m
❑ Stake XF Series Dripline in place and flush until clean water flows.	5 min/0,5 m
❑ Install planting material.	

INSTALLATION AND MAINTENANCE TIPS :

- Flush the zone upon installation and 2-4 times per year.
- Install 1/2" Air Relief Valve Kit at high point in the system.
- Leave XF Series Dripline coil in the sun while preparing for installation.
- Break up watering cycles to avoid run off or pooling of water in blocks.
- Use XFS Series Dripline to protect against root intrusion


FITTINGS
TIE DOWN STAKES
XF SERIES DRIPLINE
AIR RELIEF VALVE

Flower Bed
Combination Applications

Solution

- *XF Series Dripline Grid with Xeri-Bug Emitters*

Advantages

- Up to 60% water savings
- No unsightly run off in high visibility areas
- No damage to walls, entry way or cart paths from overspray
- XF Dripline is easy to install, resulting in labor savings

Installation

XFD-2,3 lph	XF Series Dripline 2,3 lph, 33 cm Spacing
XCZ-075-PRF	3/4" Xeri Control Zone Kit
XFF Series	XFF Dripline 17 mm Insert Fittings
XBER 12	1/2" Air Relief Valve
C12	Tie Down Stake
XB XX*	Xeri-Bug Pressure Compensating Drip Emitters (2 to 8 lph)
XQ-100	1/4" Distribution Tubing
TS-025	1/4" Tubing Stake
DCB-025	Diffuser Bug Cap

XFD

XM TOOL

XB XX

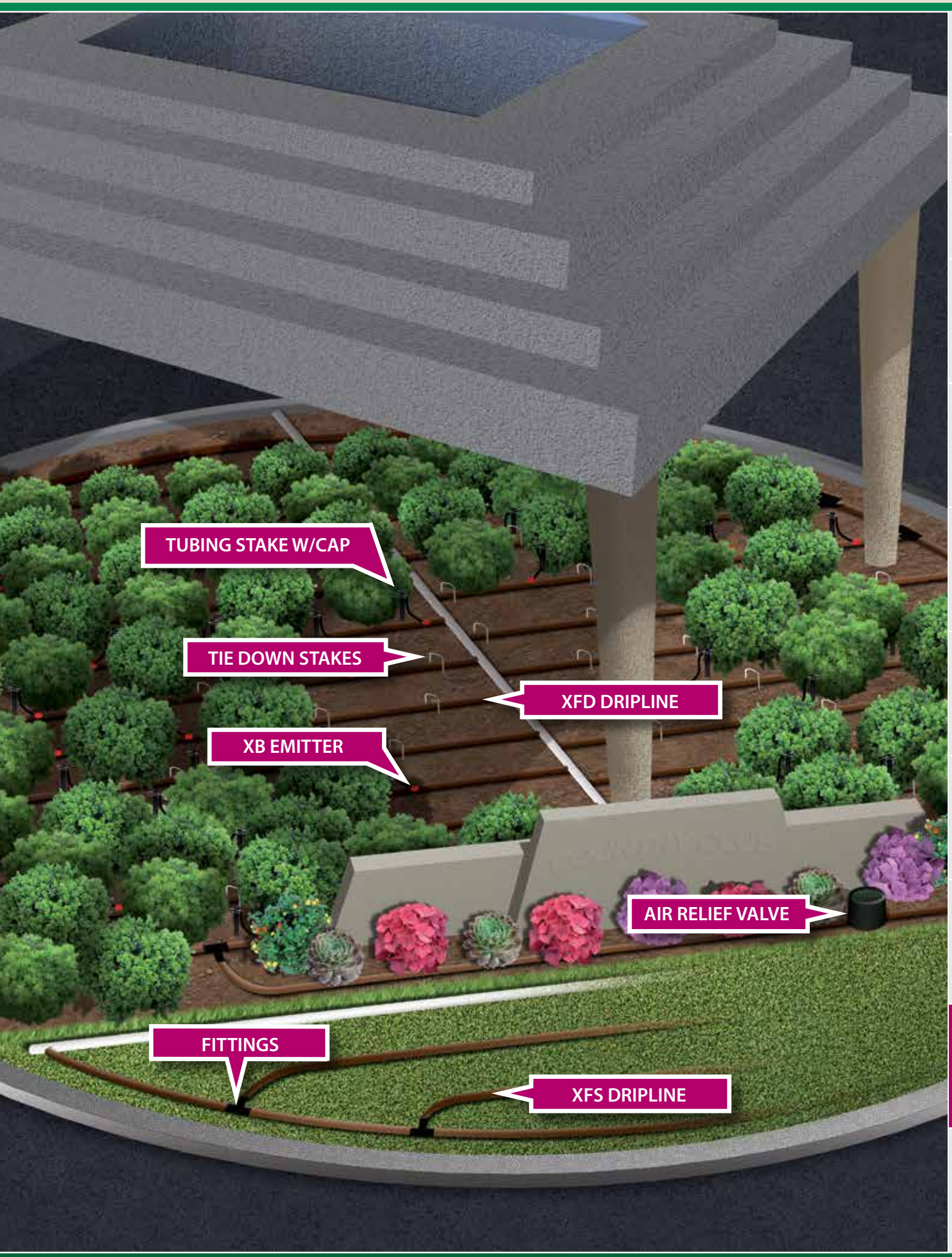
* Select appropriate emitter flow rate

TO DO LIST :

	TIME: *(approx.)*
❑ Assemble Control Zone Kit and connect to water source.	1 hr
❑ Cut lengths of XF Series Dripline to build grid in planting area.	10 min/2,5 m
❑ Connect lengths of XF Series Dripline to Insert Barb Fitting to create grid, add 1/2" Air Relief Valve.	20 min/2,5 m
❑ Connect to Control Zone Kit.	5 min
❑ Stake XF Series Dripline grid in place.	5 min/0,5 m
❑ Punch self-piercing barb inlet of Xeri-Bug Emitters into XF Series Dripline, connect 1/4" tubing to barb outlet and run 1/4" tubing to larger plant.	8 min/Emitter
❑ Stake tubing in place and attach Diffuser Bug Cap on the end.	3 min/Stake
❑ Flush system until clean water flows.	2 min
❑ Install planting material.	

INSTALLATION AND MAINTENANCE TIPS :

- Supplemental Xeri-Bug Emitters are placed next to larger plants with higher water requirements.
- Flush the zone upon installation and 2-4 times per year.
- Install Xeri-Bug Emitters with the Xeriman Tool (XM Tool) for 50% faster installation.
- Leave XF Series Dripline coil in the sun while preparing for installation.


TUBING STAKE W/CAP
TIE DOWN STAKES
XFD DRIPLINE
XB EMITTER
AIR RELIEF VALVE
FITTINGS
XFS DRIPLINE

Narrow Planting Bed Next to Clubhouse or Cart Path

Sparse Application

Solution

Xeri-Bird 8 & Xeri-Bug Emitters on a PE Lateral

Advantages

- Up to 60% water savings
- Xeri-Bird 8 Manifold with PRS offers pressure regulation, filtration and controlled watering to multiple plants
- Manifold allows for increase/decrease in future plant water demands

Installation

XBD-80	Xeri-Bird 8 Outlet Manifold
XB XX*	Xeri-Bug Pressure Compensating Drip Emitters (2 to 8 lph)
PSI-M30	In-stem 2,10 bar Pressure Regulator
XQ-100	1/4" Distribution Tubing
TS-025	1/4" Tubing Stake
DCB-025	Diffuser Bug Caps
PE Misc.	PE Laterals, Fittings

* Select appropriate emitter flow rate and barbed or threaded connection

XBD-80

PSI-M30

XB XX

TO DO LIST :

- ❑ Trench, cut PE laterals.
- ❑ Connect lines to water source.
- ❑ Thread Xeri-Bird 8 Outlet Manifold onto PSI-M30 Pressure Regulator, then connect to PE.
- ❑ Attach 1/4" distribution tubing to outlets on Xeri-Bird 8 Outlet Manifold.
- ❑ Run 1/4" lines to plants, stake in place with a Diffuser Bug Cap on the end.
- ❑ Install the desired Xeri-Bug Emitter inside Xeri-Bird 8 Outlet Manifold.

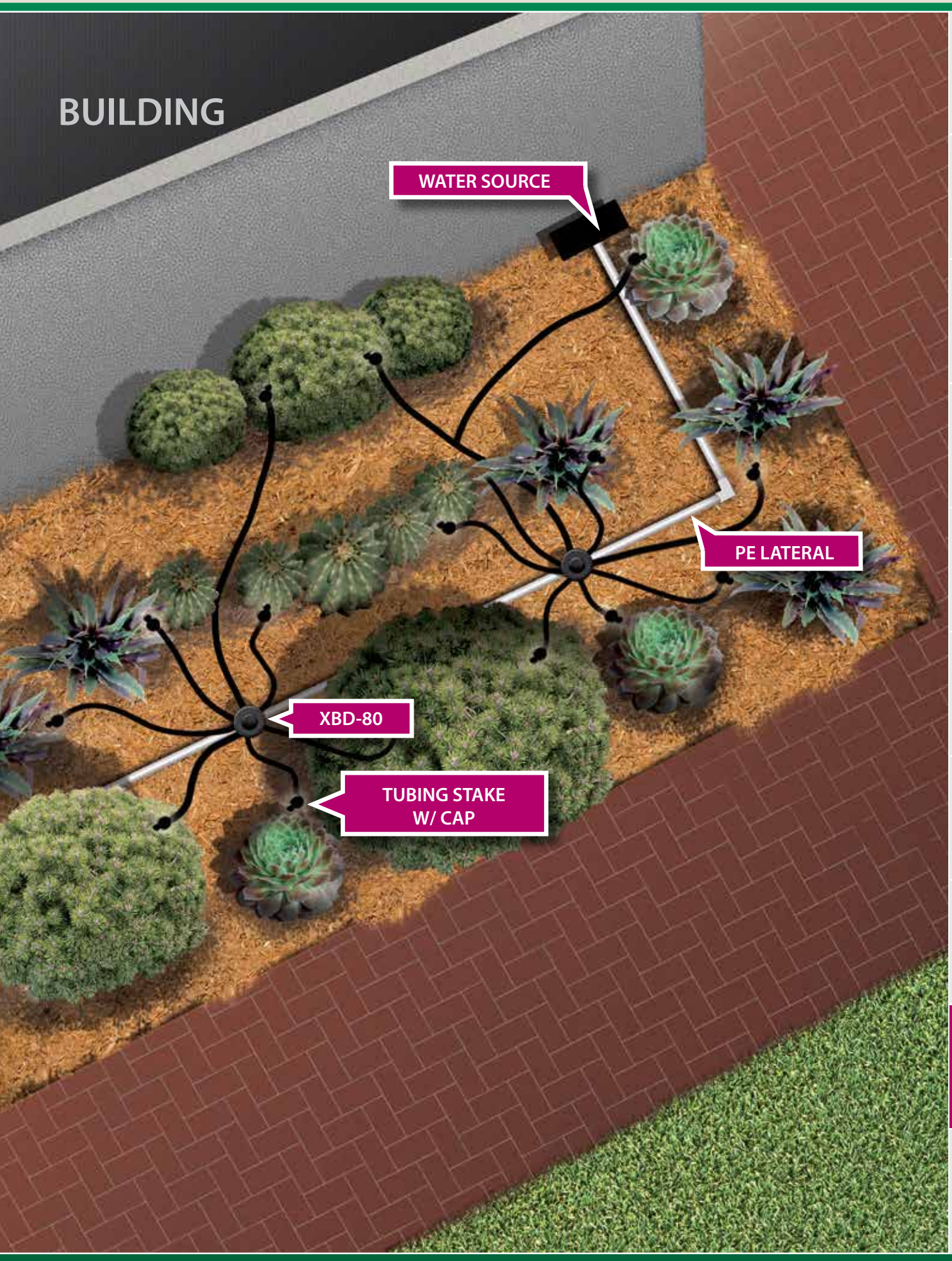
TIME: *(approx.)*

1 hr/1 m
1 hr
8 min/Assembly

5 min/XBD-80
8 min/Stake
3 min/XBD-80

INSTALLATION AND MAINTENANCE TIPS :

- Flush the zone after installation and 2-4 times per year.
- Install Xeri-Bug Emitters in Xeri-Bird 8 Outlet Manifold with self-piercing barb end up.
- Leave 15 cm slack in 1/4" tubing next to manifold in case of unexpected maintenance.


BUILDING
WATER SOURCE
PE LATERAL
XBD-80
TUBING STAKE
W/ CAP

Landscaped Areas on the Course Adjacent to Tee Box, Fairways or Greens

Solution

Pressure Compensating Multi-Outlet Xeri-Bug Device on a PE Lateral

Advantages

- Up to 60% water savings
- Durable installation in high maintenance areas
- Targeted watering reduces weed growth and extends life of mulch
- Native plant life helps reduce water usage

Installation

XB-10-6	4 lph Multi-Outlet Xeri-Bug Manifold
XQ-100	1/4" Distribution Tubing
TS-025	1/4" Tubing Stake
DCB-025	Diffuser Bug Cap
PE Misc.	PE Laterals, Fittings

XB-10-6

TS-025

TO DO LIST :

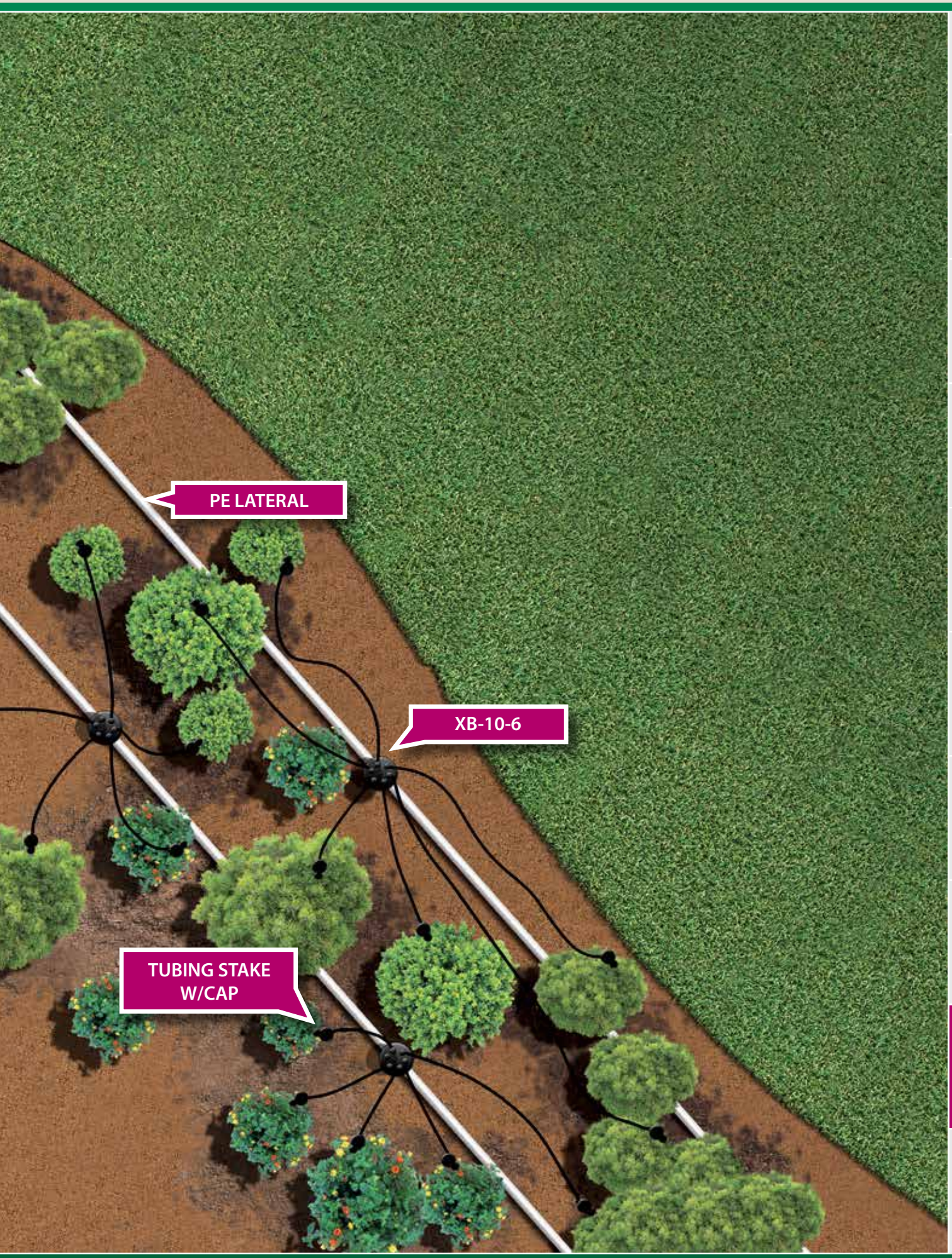
- ❑ Trench, cut PE laterals.
- ❑ Assemble Control Zone Kit and position in valve box.
- ❑ Connect Control Zone to water source and laterals.
- ❑ Install 4 lph Multi-Outlet Xeri-Bug Manifold into tubing.
- ❑ Connect 1/4" lines to manifold outlets and run to sparse plantings.
- ❑ Stake in place and add Diffuser Bug Cap to end of lines.
- ❑ Flush system until clean water flows.
- ❑ Add planting material and mulch.

TIME: *(approx.)*

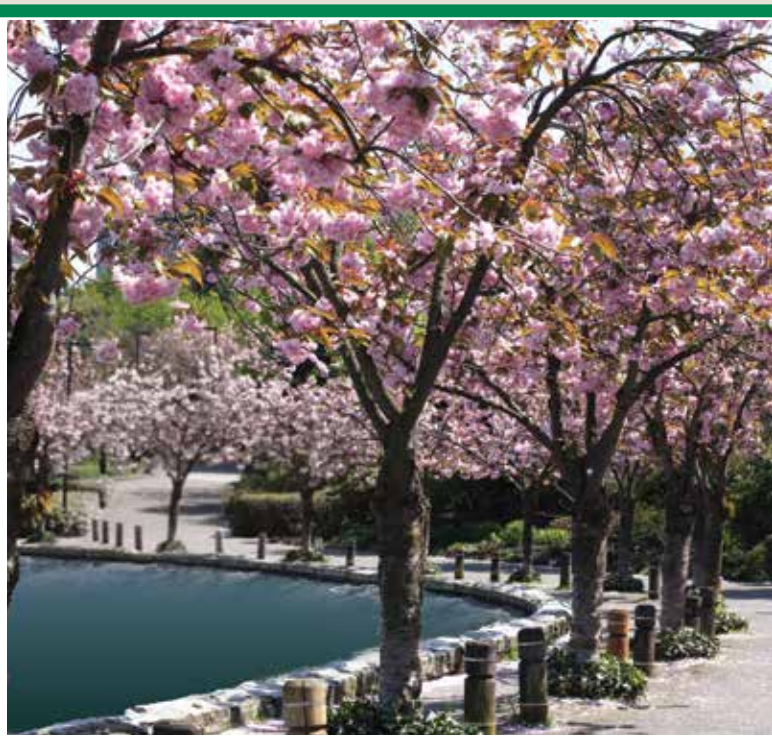
1 hr/1 m
20 min
1 hr
5 min/Assembly
5 min/Line
3 min/Stake
2 min

INSTALLATION AND MAINTENANCE TIPS :

- Flush the zone after installation and 2-4 times per year.
- Do not run 1/4" lines more than 12-20 cm from water source for optimal performance.
- Adjust watering time as seasons/weather changes.


PE LATERAL
XB-10-6
TUBING STAKE W/CAP

Trees
Combination Applications



Solution

Root Watering Series with XF Series Dripline Blank Tubing

Advantages

- Helps prevent damage to hardscapes from tree roots
- Promotes health in trees and shrubs
- Vandal resistant

Installation

XCZ-100-PRF	1" Control Zone Kit
RWS or RWS-M	RWS Root Watering Series
XF BLANK	XF Series Dripline Blank Tubing
SPB-025	1/4" Self Piercing Barb Connector
XQ-100	1/4" Distribution Tubing
XB XX*	Xeri-Bug Pressure Compensating
OR	Drip Emitters (2 to 8 lph)
PC-XX	Pressure Compensating Module

XF BLANK TUBING

RWS

Add other drip products as needed (optional)

* Select appropriate emitter flow rate

TO DO LIST :

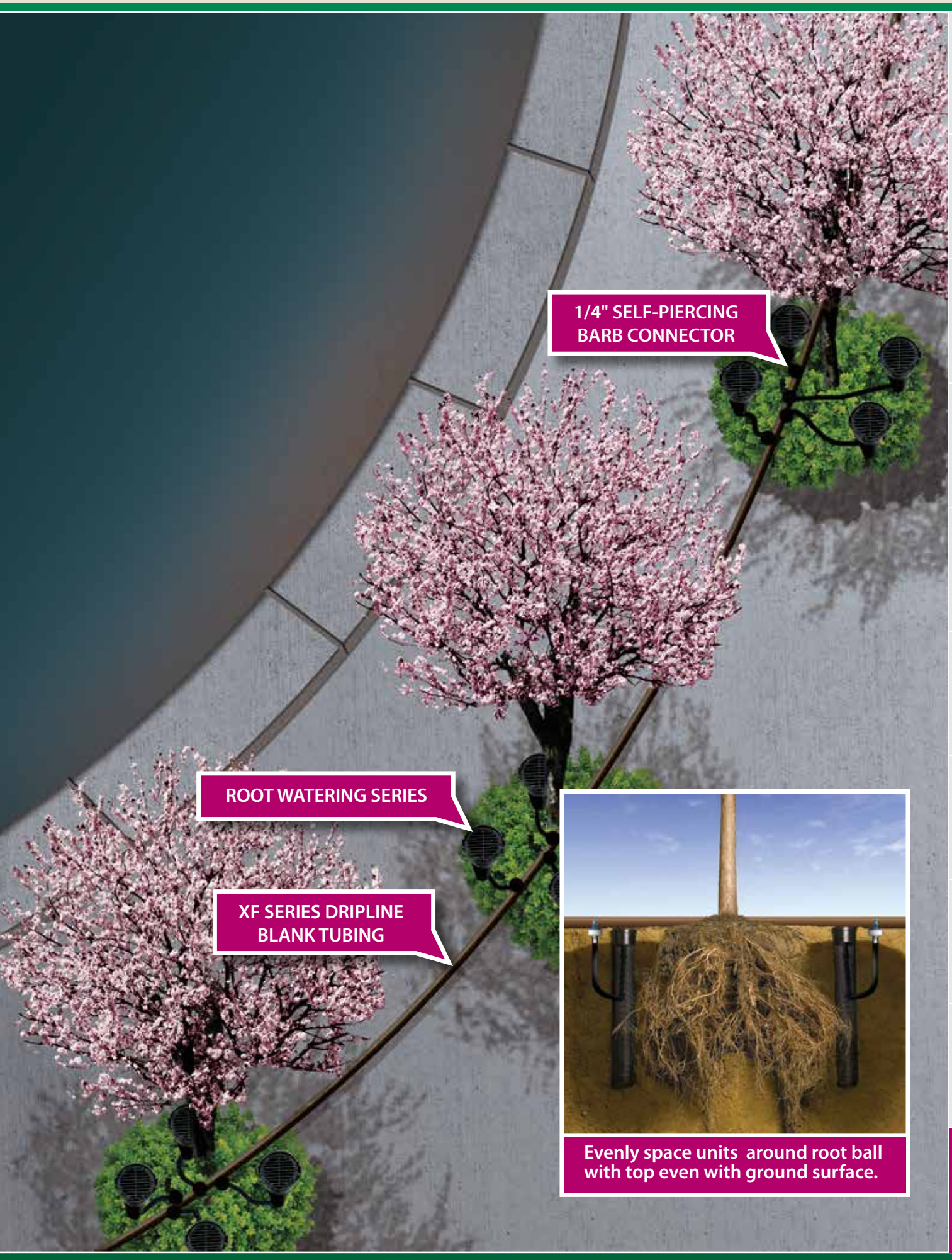
	TIME: *(approx.)*
❑ Assemble Control Zone Kit and connect to water source.	1 hr
❑ Connect lengths of XF Blank Tubing and insert two to four 1/4" Self Piercing Barb Connectors for each tree. Attach length of 1/4" distribution tubing to each barb connector.	10 min/2,5 m
❑ Thread the 1/4" distribution tubing through the hole in the side of the RWS Root Watering Series unit, secure the 1/4" distribution tubing in the 1/4" tubing support brackets at the top of the RWS and install the appropriate Xeri-Bug or PC Module at the end of the tubing.	10 min/RWS
❑ Install additional drip products as needed for other plant material (optional).	
❑ Flush system until water runs clear.	as needed

INSTALLATION AND MAINTENANCE TIPS :

- Flush the zone after installation and 2-4 times per year.
- Leave XF Series Dripline Blank Tubing coils in the sun while preparing for installation.
- Install emitters and 1/4" Self Piercing Barbs with a Xeriman Tool (XM Tool) for 50% faster installation.

Drip Tip

Use two RWS for young/newly planted trees.
Use three to four RWS for older/more mature trees.



Evenly space units around root ball with top even with ground surface.

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At Rain Bird®, we believe it is our responsibility to develop products and technologies that use water efficiently. Our commitment also extends to education, training and services for our industry and our communities.

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