



ECO-MESH Water Solution

Low Impact Development (LID)-Stormwater Management

AMPS-Arched Mesh Pipe Underground Irrigation And Drainage

Landscaping





AMPS-Arched Mesh Pipe Subsurface Irrigation and Drainage System

Landscaping Installation Steps

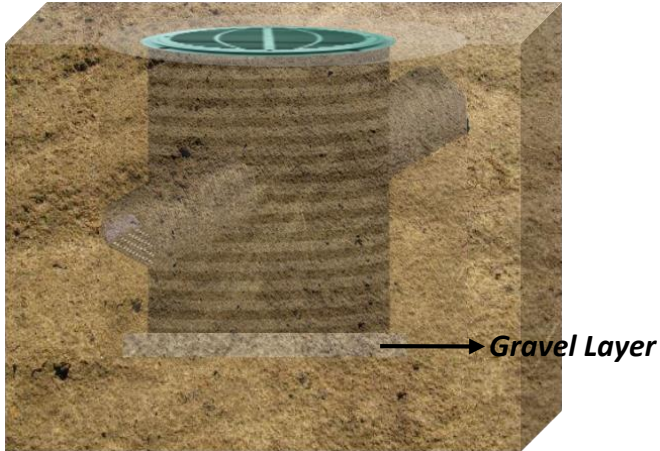




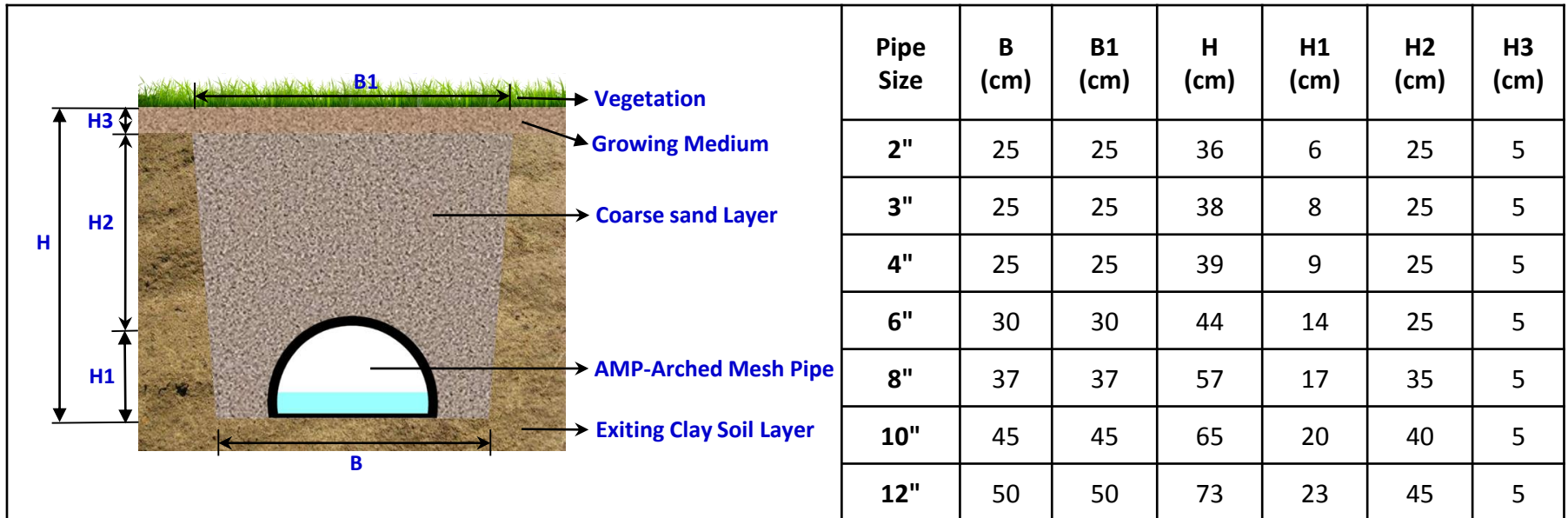
1. Position : measure the exact horizontal level and label the pipe laying locations in accordance with the construction plan indicated range.



2. Trenching: trench compact soil layer with, 10cm depth * 20cm width and spacing 250cm.



- 3. Irrigation and Drainage Well Installation**
lay 10 cm of gravel under the dry well location and press it tight.



4. Reference of AMP-Arched Mesh Pipe Underground Drainage Installation Design (Park)



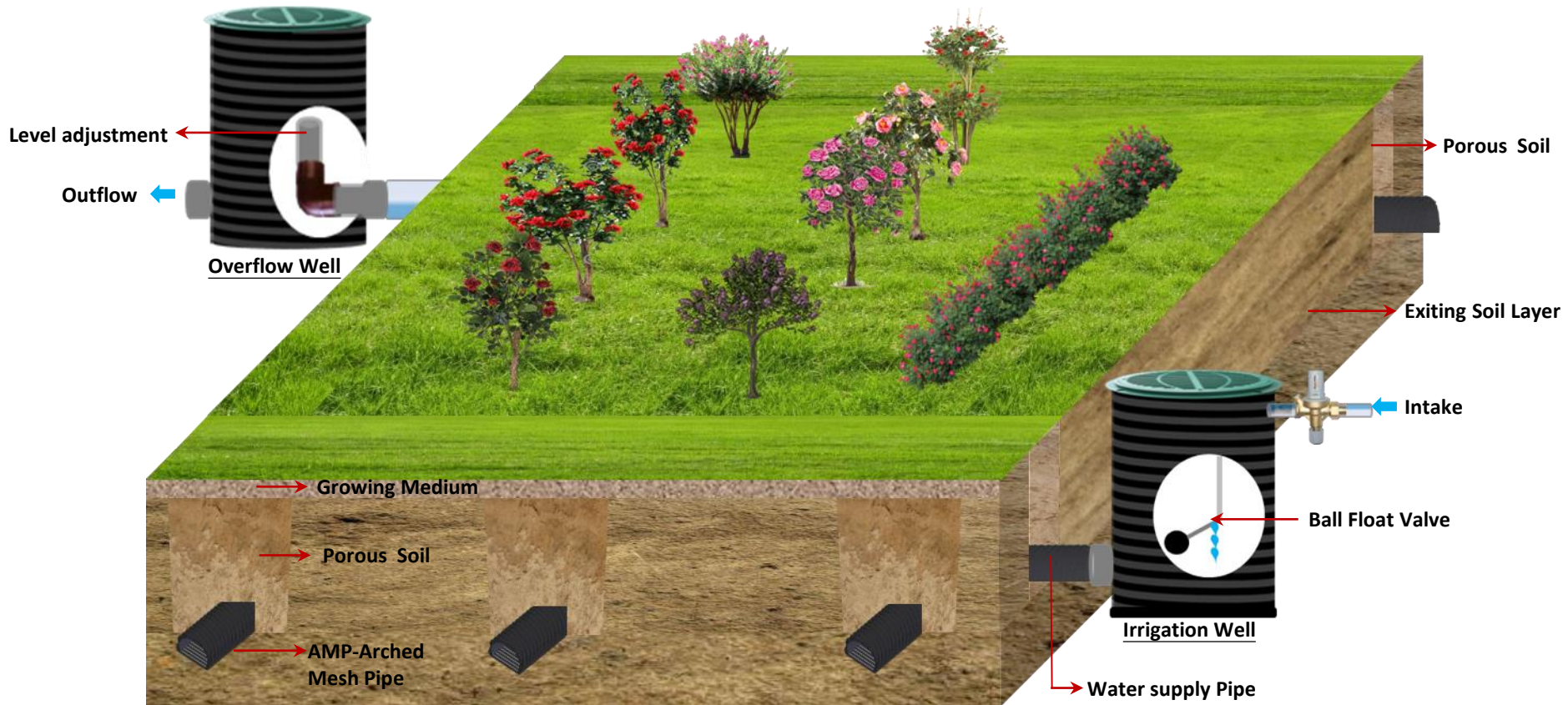
5. Installation of Arched Mesh Pipes and Dry Wells:

- A. Connect pipes and Dry Wells in the trench and backfill the soil.
- B. Lay AMP-Arched Mesh Pipe in the trench (flat part to the bottom).
- C. Use connectors to connect PVC pipes and AMP-Arched Mesh Pipes.
- D. Connect AMP-Arched Mesh Pipes and Dry Wells.



6. Put growing medium over the pipes and make the ground surface flat.

AMPS-Arched Mesh Pipe Water Irrigation and Drainage System-Installation Steps



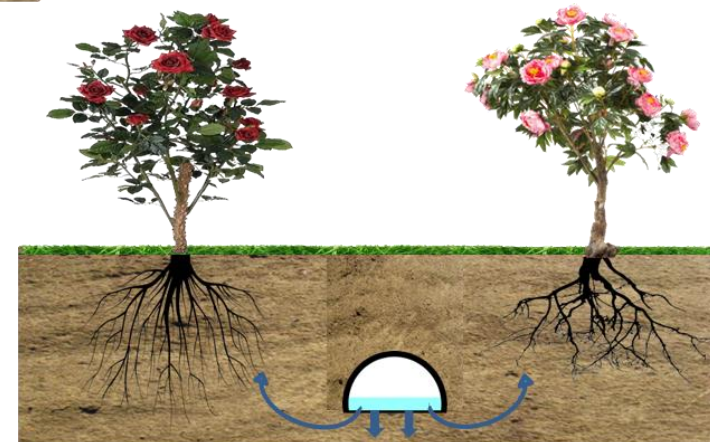
AMPS-AMPS-Arched Mesh Pipe Water Irrigation and Drainage System

7. Installation completed, Irrigation water supply from irrigation well and vegetation maintain.

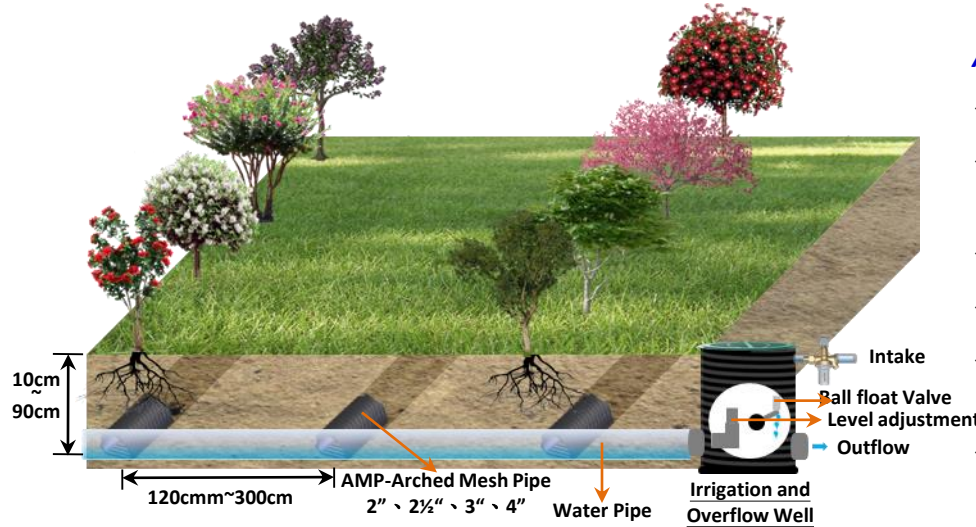


Irrigation water infiltrates to the subsoil and the water travel up to the root clusters by capillary action. It can save 50% of irrigation water, increase the effect of fertilizers by 40% and save 60 % of labor.

When the ground surface is dried, it is hard for weeds and bugs to grow. There is no sprinklers on the ground so it has more applications.

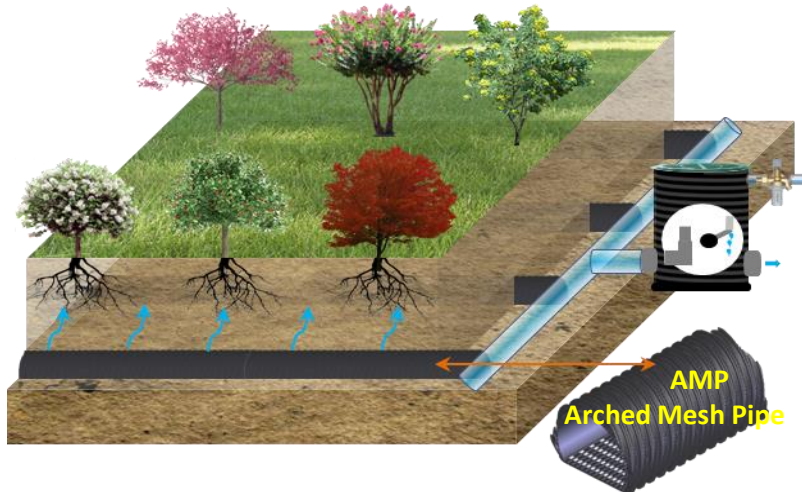


Sub-irrigation and Drainage System-Design and Watering



AMP-Arched Mesh Pipe sub-irrigation and drainage system design

- ◆ AMP-Arched Mesh Pipe size generally used 2", 2½", 3", 4".
- ◆ Depth from 20 ~ 70cm,
Lawn 30cm-40cm, Shrub 40-50cm, Tree 50~70cm .
- ◆ Pipe space control in 120cm ~ 300cm.
- ◆ Pipe length within 60 meters or Less.
- ◆ 12" irrigation well underground watering covers 300 to 400 square meters.
- ◆ Pipe slope from 0.001 to 0.005.



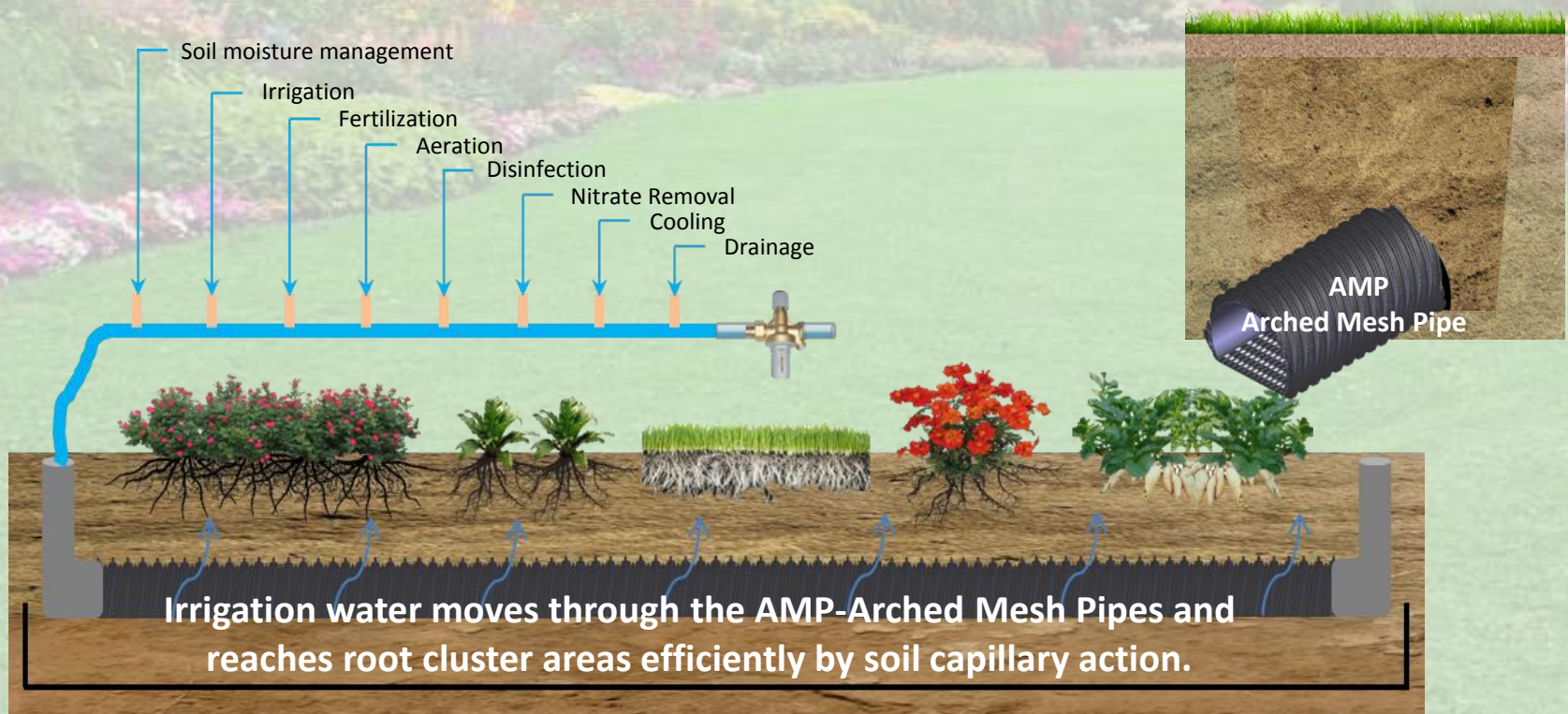
Watering

Clay with 9 to 10 liters / hour meter is appropriate, in loam 12 to 16 liters / Hour meters is appropriate, sandy loam with 16 to 20 liters / hour meter is appropriate.

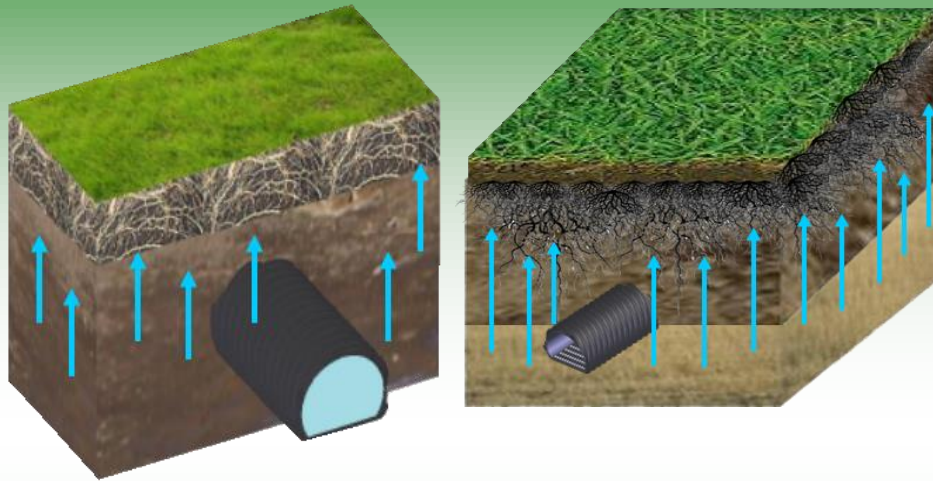
Soil moisture content less than 10% is necessary to irrigation, soil moisture will be in the best condition. General Rotation irrigation in spring 10 days, 7 days in summer irrigation, according to crop water demand of different periods.

During a rain shower or irrigation application, the soil pores will fill with water, soil moisture content 20~30% in volume. Irrigation water moves through the AMP-Arched Mesh Pipes and reaches root cluster areas efficiently by soil capillary action. Irrigation water requirements and irrigation manpower are reduced, Plant growth increase are equivalent to reduce in fertilizer.

AMP-Arched Mesh Pipe underground space provides soil moisture management, drainage, irrigation, fertilization, temperature control, disinfection and other functions.



Principle of Capillary Action

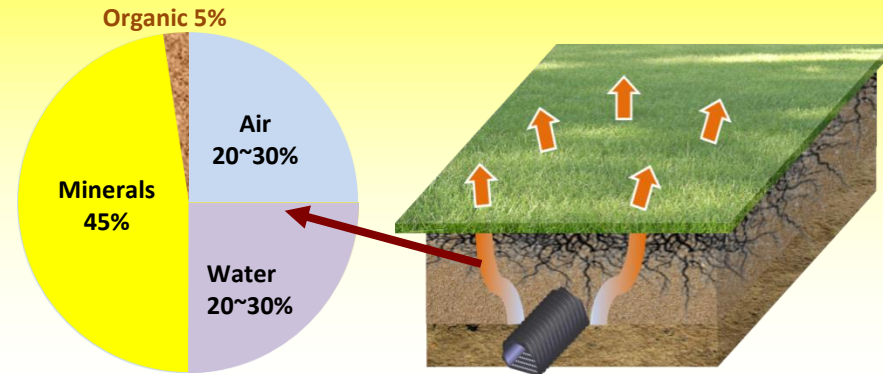


Wicking Irrigation

AMP-Arched Mesh Pipe delivers irrigation water into the subsoil, which stays moist as water wicks upward by capillary action from the chambers.

The Wicking bed system uses less water for irrigation than other methods.

Principle of Ventilation



Soil—Plant—Water Relationship

Ventilation

***AMP-Arched Mesh Pipe Provides
Subsoil Ventilation***

Soil ventilation supports the microbial activity required for plant growth.

AMPS-Arched Mesh Pipe Sub-irrigation and Drainage Systems Provide Multiple Benefits



Underground irrigation, water and energy saving

Irrigation water moves through the AMP-Arched Mesh Pipes and reaches root cluster areas efficiently by soil capillary action. Irrigation water requirements are reduced by 60% and irrigation manpower by 50%, Plant growth increase are equivalent to a 40% increase in fertilizer.

Promote stormwater infiltration, surface runoff mitigation

AMPS-Arched Mesh Pipe underground irrigation and drainage systems to collect and promote rainwater infiltration, reduce surface runoff.

Stormwater Retention and Conservation

Let the water penetration is temporarily stored in the system, and then slowly penetrate natural way penetrate to the soil.

Promote stormwater infiltration so that the soil moisture capacity and storing rainwater conservation.

Rainwater filter, reduce pollution

Rainwater through soil and grass (tree) root and then filtered into groundwater layer or into rivers, lakes and reduce pollution.

Reduce the heat island effect

AMP-Arched Mesh Pipe provides underground space to allow air convection, reduce surface temperature, reducing heat island effect.

Subsidence mitigation

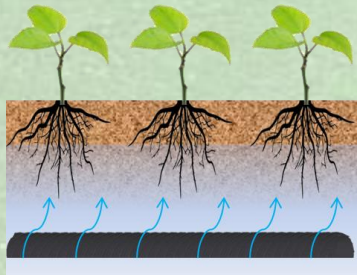
AMP-Arched Mesh Pipe to promote rainwater infiltration, groundwater recharge, slow subsidence.

Reduce the occurrence of mosquito

Underground irrigation surface is dry, it will not also produce mosquito breeding problem.

Create a comfortable environment for the growth of plants

AMP-Arched Mesh Pipe underground space in soil moisture management, drainage, irrigation, fertilization, ventilation, temperature control, sterilization, ranked salt and other functions to create a comfortable environment for the growth of plants.



Advantages of AMP-Arched Mesh Pipe Underground Irrigation and Drainage

- They are water-efficient ,use between 40 ~ 50% less water than a conventional garden bed.
- Watering from the bottom up prevents the evaporation of surface water.
- Harder for weeds to establish as the soil on the surface is drier.
- Very labor-efficient, they are self-watering , so it is possible to go away for two or three weeks at a time without your garden bed drying out.
- They can be watered by a low pressure water system. It can be directly connected to a water tank without the use of a pressure pump.
- They provide efficient and effective drainage when there is a heavy downpour.
- Large reservoir of water reduces the need for frequent watering.
- Evaporation is reduced to a minimum with thick mulching.
- Harder for weeds to establish as the mulch covered surface is drier.
- Soil life is improved. Nutrients are not flown away to the subsoil when the garden bed is watered.
- No salting and evaporation; no mineral is left in the soil.
- No permanent stale water; there is no mosquito larvae or anaerobic conditions.

