

Annenberg Sunnylands Desert Garden  
Rancho Mirage, CA



Target Center Green Roof  
Minneapolis, MN



Cessnock Hornets Match Field  
Cessnock, New South Wales, Australia



# KISSS America

INTELLIGENT IRRIGATION TM



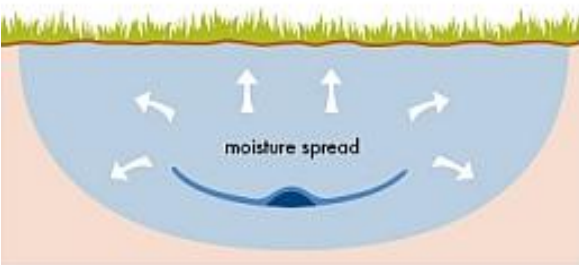
## What is KISSS?

KISSS sub-surface textile irrigation is the new generation irrigation technology providing intelligent water saving solutions for recreational spaces and sports fields. KISSS, installed underground, moves water upwards and outwards to the root zone at the soil's natural absorption rate, effectively wetting large areas of soil with even distribution.

Through this process, KISSS reduces water usage by eliminating water evaporation, overspray, and runoff.

## What is KISSS made of?

KISSS includes in-line embedded emitter tubing, a physical root barrier, capillary fiber, and an anti-percolation layer on the underside. These components assist in the even absorption of water and protection of the emitters from root intrusion.



## How does KISSS Irrigation Work?

During an irrigation cycle, water comes out of the embedded drip line's emitters and enters the capillary fiber. Capillary action within the fiber and the soil itself causes water to be absorbed upward and outward. Water is absorbed by the turf's root zone at a rate based on density gradients. Dense, wet soil will absorb less water than dry, airy, thirsty soil.

KISSS moves water upwards and outwards to the root zone at the soil's natural absorption rate, effectively wetting large areas of soil. KISSS controls the flow of water to dry soil when saturation occurs, resulting in a uniform wetting pattern.

## What are the benefits of KISSS?

- Most efficient, evenly distributed irrigation system on the market
- Minimal evaporation and run-off
- Ability to irrigate while area is in use
- Recycled or greywater can safely be used with proper filtration
- Vandalism reduced by underground irrigation

## How is KISSS Installed?

KISSS lines are installed 4-6 inches below the surface with a horizontal spacing of 18-24 inches. Depth and spacing are dependent on results of soil capillarity tests. On turf plots, KISSS lines are plowed in with a tractor for consistency of application and speed of installation.



## Is KISSS the same as drip irrigation?

KISSS is not drip irrigation. KISSS is an improvement over Standard Drip Irrigation (SDI) technology. SDI has been accepted throughout Southern California as an efficient, effective way to irrigate shrubs, gardens, medians and other, non-active landscaped areas, but has not been accepted by the irrigation community as an effective way to irrigate natural turf – the biggest water user (per square foot) of any outdoor landscape. These areas are still by and large irrigated with overhead sprinklers. KISSS is specially designed with these areas in mind.

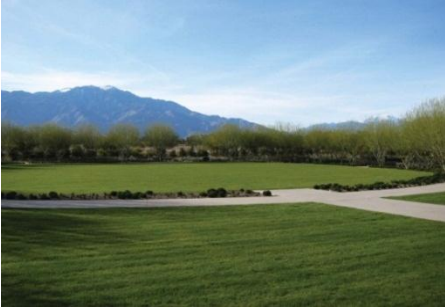
## KISSS Success Stories

### Annenberg Center at Sunnylands Desert Garden

70177 Highway 111 • Rancho Mirage, CA • 92270

#### Project Scope:

As one of the Pilot Projects for the Sustainable Sites Initiative, the Desert Garden at Sunnylands is a model of sustainability. At this site, KISSS irrigates 2 acres of turf along with several thousand native plants. With the help of KISSS, this site is expected to use 20% of the water budget allowed by the local Coachella Valley Water District



**Landscape Architect:** Dillon Diers, Office of James Burnett

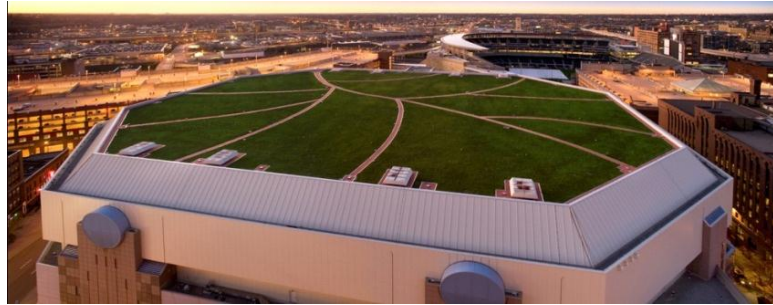
**Irrigation Designer:** Lance Sweeney, Sweeney and Associates

### Target Center Green Roof

600 First Avenue • North Minneapolis, MN • 55403

#### Project Scope:

The home of the NBA's Minnesota Timberwolves, the Target Center is the 5<sup>th</sup> largest Green Roof in the United States. This project was designed to help the building withstand Minneapolis' harsh winters and to reduce HVAC costs.



**Architect:** Leo A. Daly

**Green Roof Design:** Kestrel Design Group, Inc

### William J. Clinton Library and Museum Green Roof

1200 President Clinton Avenue • Little Rock, AR • 72201

#### Project Scope:

Designed with over 90 species of plants, this Green Roof assists the control of stormwater runoff and helped the Clinton Library earn a LEED Platinum Rating.



**Landscape Architect:** Heidi Natura, Living Habitats

**Green Roof Design:** Tremco

## KISSS Success Stories

### Redding School of the Arts

2200 Eureka Way • Redding, CA • 96001

#### Project Scope:

A LEED Certified Project that complies with the Collaborative for High Performance Schools (CHPS) standard, the landscape at the Redding School of the Arts features significant hardscapes (including basketball courts and walkways). Since the KISSS System defuses overspray worries, these areas are kept dry and safe.

Landscape Architect: Shapiro and Didway



### Oregon Health Science University Green Roof

3181 S.W. Sam Jackson Park Rd. • Portland, OR • 97239

#### Project Scope:

Spread over two levels, this configuration of green roof space aims to provide exterior spaces to sit, while maximizing green space and aiding in stormwater management.

Landscape Architect: Jason King, Terra Fluxus Design Group



### Drew School Green Roof

2901 California St • San Francisco, CA • 94115

Landscape Architect: Roma Design  
Green Roof Design: Rana Creek



### Moorpark College Green Roof

7075 Campus Road • Moorpark, CA • 93021

Landscape Architect: Lynn Capouya Inc  
Green Roof Design: Tremco

