

EPIC CASE STUDY

WASHBURNE STADIUM

SOUTHERN METHODIST UNIVERSITY · DALLAS, TEXAS, USA · INSTALLED 2006

A soccer field built on subsurface irrigation in 2006, photographed through construction, photographed playable in the middle of a four-inch rain, and photographed dense and green on 29 August 2026, with no measurable rain that month.

2006	0.00 in	2
INSTALLED 2006, IN PLAY 2026	RAINFALL AT DALLAS	12-VOLT PUMPS
Stadium rebuilt and reopened 2022	1 to 29 August 2026	The whole plant

EVIDENCE LEVEL

DOCUMENTED · 2006 construction photographic record · dated site photography January 2007, August 2011 and August 2026 · NOAA NCEI station record · account from the project's originator, September 2026

Washburne Stadium, Southern Methodist University, Dallas, 29 August 2026.

PROJECT RECORD

SITE	The soccer field at Westcott Field, Southern Methodist University, Dallas, Texas
INSTALLED	2006, ready for that autumn's competition
SURFACE AND DELIVERY	Natural grass on a flat field, laid as rolled sod on a sand profile over EPIC chambers and geomembrane. Water is delivered below grade, direct to the root zone: no sprinklers, no overhead spray, and no irrigation water reaching the playing surface.
PLANT	Two 12-volt sump pumps and an irrigation controller, with a solar panel at installation

THE PROBLEM

The playing surface sat inside the Morrison-Bell running track. Enclosed that way, it was difficult to drain and difficult to keep to a standard that would let the programme qualify to host playoff matches at home.

In 2006 the incoming soccer coach asked for help revising the surface. J.W. Davis, a former SMU letterman who had supported the soccer programme and sat on the hiring committee, went looking for a technology that would solve the drainage problem rather than manage it, and located EPIC for the university.

WHAT WAS BUILT

A flat field over a sealed subsurface system. A geomembrane liner went down over the prepared subgrade, EPIC chambers and connecting pipework were laid on the liner, then gravel, then the sand profile, then sod.

The turf is laid as rolled sod on a sand profile kept damp by capillary action from below, so from the day it goes down the grass draws from beneath it and the roots grow downward chasing that moisture. The plants take up only what they are calling for, and that uptake is what lowers the water level: plant demand governs how much water leaves the sand, not a timer.

Rain reverses the direction of flow rather than adding to it, moving down through the profile into the chambers beneath and overflowing to storage and then to the city storm system. The field drains as designed precisely because the profile is not already saturated from routine irrigation.

HOW IT WAS BUILT, 2006, IN ORDER



1 BEFORE
The old surface, boxed in by the track.



2 LINER
Geomembrane down in the excavation.



3 CHAMBERS
Chambers and pipework on the liner, sandbagged.



4 STORAGE
Storage and conveyance at the head of the field.



5 FLOOD TEST
The lined basin charged and standing full.



6 SAND PROFILE
Sand over the chambers, the layer capillary rise works through.



7 90 PER CENT
Graded out to the track edge, ready for sod.

2006
INSTALLED 2006,
IN PLAY 2026

0.00 in
RAINFALL AT DALLAS
1 TO 29 AUGUST 2026

2
12-VOLT PUMPS
THE WHOLE PLANT

THE RECORD

The site has no water meter and no control plot, so no water saving is measured here. What it carries instead is a dated photographic record at both ends of the water spectrum, from a four-inch rain in January 2007 to August 2026 with no measurable rain, set against a published station weather record.

DALLAS LOVE FIELD, 1 MARCH TO 29 AUGUST 2026	READING
Days in the period	182
Peak temperature	109°F, 22 July 2026
Days at or above 105°F	9
Rainfall, 1 to 29 August 2026	0.00 in, no measurable precipitation
Rainfall, July 2026	0.60 in on five days, four under 0.10 in

NOAA National Centers for Environmental Information (NCEI), daily summaries, Dallas Love Field station USW00013960.

THE FACILITY

1994	Opened as Westcott Field. Training venue during the 1994 FIFA World Cup, hosting the Netherlands, Germany, Bulgaria and Sweden.
2006	EPIC subsurface irrigation installed under the soccer field, ready for that autumn's competition.
2020	Gift from Heather and Ray Washburne.
2022	Stadium rebuilt and reopened as Washburne Soccer and Track Stadium, capacity 2,577, with new grandstands, locker rooms and an updated track on the retained footprint of the original field. According to J.W. Davis, the 2006 subsurface system was carried through that work unaltered.
2026	Selected again as a training site for the 2026 FIFA World Cup.

Facility history from SMU Athletics and KERA News, 19 May 2026. The carry-through of the 2006 system in 2022 as described by J.W. Davis, September 2026.

ALSO ON THE RECORD

- **The other end of the spectrum: 13 January 2007.** A photograph taken during the field's first winter is captioned in the original, in the photographer's own hand: “SMU Jan 13, 2007. Middle of 4″ Rain. Field is Playable”. The surface is uniformly green and shows no standing water. Draining a boxed-in field was the problem the system was installed to solve, and that photograph is the earliest dated evidence that it did.
- **The construction sequence was photographed.** Seven frames record the field before construction, the geomembrane down in the excavation, chambers and pipework laid and sandbagged against float, the storage tank, the flood test with the lined basin standing full, the sand profile and the field at ninety per cent. The field in service that January follows on page 5.

THE PLANT, AS DESCRIBED BY THE MAN WHO SPECIFIED IT

“The field is basically flat. The subsurface irrigation design that sits below grade and delivers water directly to the root zone, invisible below the sod. No sprinklers, no overhead spray, no wasted evaporation. The equipment operating it consists of two (2) 12-volt sump pumps, an irrigation controller (a small solar panel at install).”

J.W. Davis, September 2026



29 Aug 2026 Washburne Stadium. Subsurface irrigation, below grade: full, dense, uniform cover, with no dormancy, no thinning and no irrigation-pattern striping.



29 Aug 2026 Unirrigated ground a short walk away, photographed the same day: bare soil and desiccation cracking, the clay itself shrinking as it dries.



13 Jan 2007 **FIVE MONTHS IN**

Playable in the middle of a four-inch rain, which is the problem the field was rebuilt in 2006 to solve.



30 Aug 2011 **FIVE YEARS IN**

The last summer the operations staff were in regular contact with the installer.



29 Aug 2026 **TWENTY YEARS ON**

Dense and uniform after 29 days of August with no measurable rainfall.



29 Aug 2026 **NEARBY, SAME DAY**

Untreated turf gone dormant, green surviving only under the tree canopy.

RECORDS Account of the project by J.W. Davis, September 2026, with the 2006 construction sequence and the 29 August 2026 photography; site photographs: 2006 construction sequence, 13 January 2007, 30 August 2011 and 29 August 2026; NOAA NCEI daily summaries, Dallas Love Field station, 1 March to 29 August 2026; SMU Athletics facility history; KERA News, 19 May 2026.