



TRANSPORTATION
SOLUTIONS



AWD
AMERICAN WICK DRAIN

**SITEDRAIN STRIP
HIGHWAY EDGE DRAIN**

awd-usa.com

SITEDRAIN Strip Highway Edge Drain

Trillions of dollars are invested annually into major highway systems throughout the world. Engineers are constantly searching for ways to improve highway design and achieve significant savings over the service life of these projects. Extensive studies have shown that excessive water can cause accelerated deterioration of both flexible and rigid pavement systems. American Wick Drain has worked with state, federal, and international agencies to develop the most efficient and cost-effective highway edge drain products available.

SITEDRAIN Strip Drain

SITEDRAIN Strip highway edge drain is an engineered solution for excessive water buildup in the pavement system. It provides a rapid drainage system for water that enters the pavement structure. It is a geocomposite strip drain product composed of a dimpled polymeric perforated core fully wrapped in a nonwoven geotextile. The geotextile allows water to pass through while retaining backfill materials. The perforated core allows water collection from all sides and provides a continuous flow path to designated drainage exits.

SITEDRAIN Strip highway edge drain offers numerous benefits over a typical perforated pipe and aggregate edge drainage system.

Collection Capacity

The high water flow rate (>135 gpm/ft²) of the geotextile filter fabric permits large volumes of water to enter the core in a short period of time, while at the same time retaining backfill materials. The strip drain has 60% open area to allow water to pass into the core.

Flow Capacity

The high in-plane flow capacity (21 gpm/ft-w @ HG = 0.1) of the drainage core provides rapid removal of water from the sub-base even in high inflow conditions. The structure of the core provides omnidirectional flow to direct water to designated exits.

Compressive Strength

SITEDRAIN Strip highway edge drain is available in compressive strength options of 6,000psf and 9,500psf to meet project-specific requirements. The creep-resistant core material remains durable over the service life of the drainage system.



Easy to Install

SITEDRAIN Strip highway edge drain is lightweight (< 7 oz/ft²) and easy to handle. It comes in various heights (6", 12", 18", 24" and 36") to meet project specific requirements. It can be placed with standard equipment and no skilled labor is required. Installation requires only a 4"-6" wide trench. Several miles per day can be installed with minimal traffic disruption. SITEDRAIN Strip highway edge drain is also significantly less expensive to transport and store when compared to perforated pipe and aggregate drainage systems.

Resists Clogging

The fabric options available for SITEDRAIN Strip highway edge drain products are specially designed for subsurface drainage applications to resist clogging from sub-base materials.

Puncture and Tear Resistant

The fabric has a high resistance to puncture and tearing, minimizing risk of damage during installation and maximizing service life.

COLLECTION CAPACITY – STRIP DRAIN VS. PIPE & STONE

SITEDRAIN Strip highway edge drain is designed to collect significantly more water in a significantly shorter period of time than perforated pipe and stone drainage systems.

For perforated pipe, collection capacity per foot is equal to the cross-sectional area of the perforations times the number of perforations per linear foot. Perforated pipes come in various materials and designs, with perforations in different sizes, shapes, and spacing. A common type for subsurface drainage is 4" corrugated HDPE slotted pipe. Dependent upon slot dimensions and spacing these pipes typically provide a total open area of 0.3 to 1.0 in² per linear foot of pipe. To increase collection capacity and provide strength to the pipe to prevent it from crushing, a large volume of select drainage aggregate encasing the pipe must be included.

SITEDRAIN Strip highway edge drain is available in various heights, with 12"-high commonly used to replace 4" perforated pipe and stone systems on highway edge drain projects. Strip drains provide over 60% open area for water to enter into the drainage core. 12"-high SITEDRAIN Strip highway edge drain has an open area of more than 175 in² per lineal foot, giving it the ability to collect significantly more water in significantly less time than a perforated pipe and stone system.



Typical 4" HDPE Slotted Pipe



SITEDRAIN Strip Drain



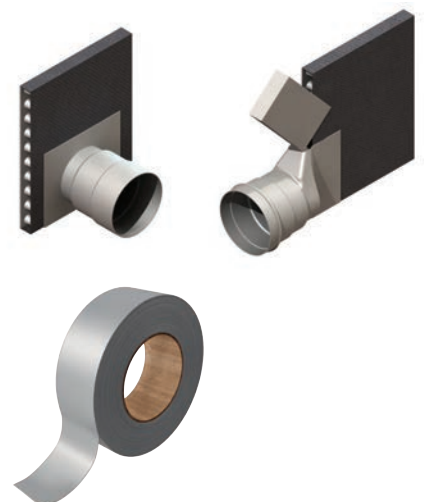
In addition to the collection capacity advantage, the compressive strength of SITEDRAIN Strip highway edge drain is designed and tested to withstand both normal and shear stresses. Shear loads are commonly developed during the trench backfill process, as well as by differential settlement during the service life of the roadway. Deformation from both normal and shear loading may greatly reduce the flow capacity of a collection system. In laboratory tests, SITEDRAIN Strip highway edge drain has proven its ability to support significantly higher loads at much lower deformations than traditional perforated pipe.

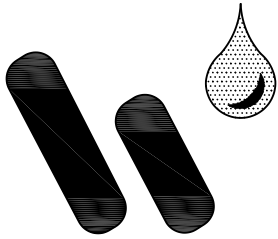
Outlet Fittings and Splices

Tee Outlet Fitting- Allows for tee (perpendicular) connection of strip drain to 4" outlet pipe (smooth or corrugated). Commonly used in low areas and/or routine spacing along the roadway.

End Outlet Fitting - Allows for in-line connection of strip drain to 4" outlet pipe (smooth or corrugated).

Splicing - In-line splicing of one roll to the next is typically done by peeling back the fabric from the two ends to be joined and interlocking two rows of core dimples, securing with a rubber hammer as needed. The fabric is then folded back over the joint and secured using underground-rated tape.

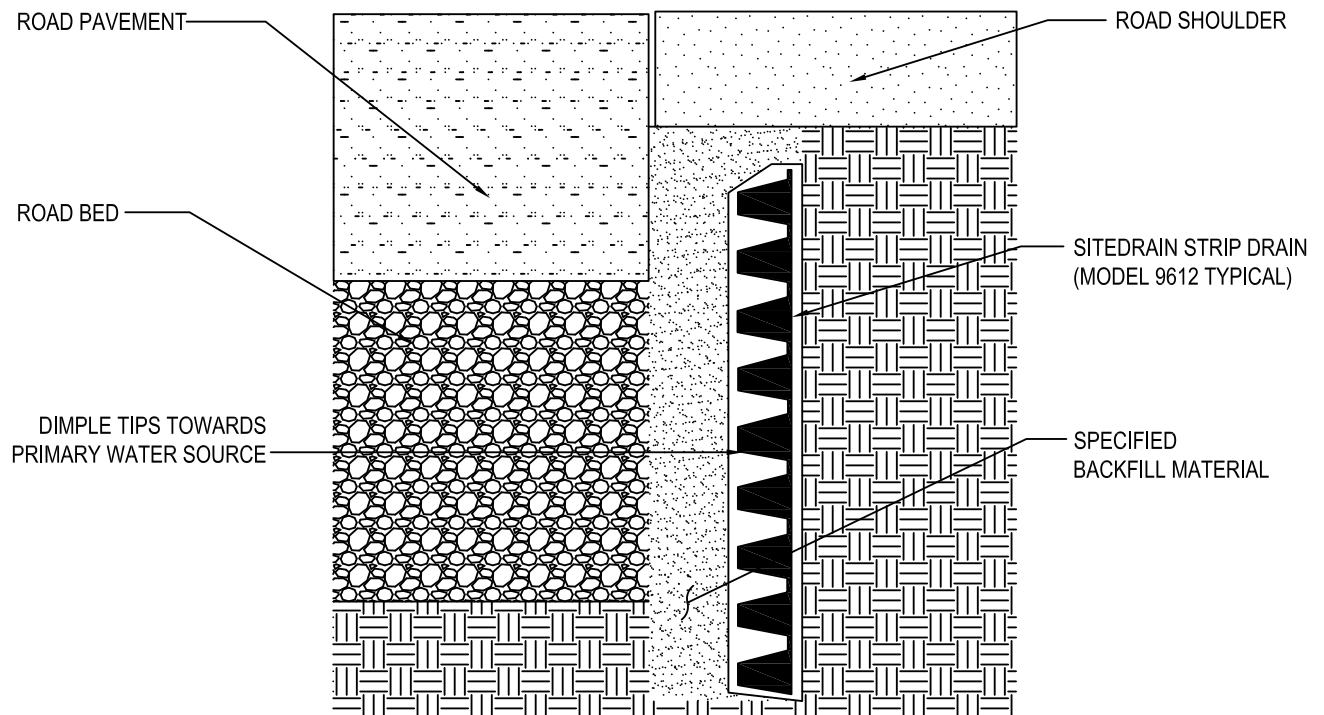




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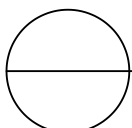
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ROADWAY EDGE DRAIN

NOTES:

1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. DO NOT SCALE DRAWINGS.



ROADWAY EDGE DRAINAGE - SHOULDER SIDE OF TRENCH

PREFABRICATED GEOCOMPOSITE DRAINAGE SYSTEM

AWD-150 12-08-2014

SITEDRAIN™ STRIP 6000 SERIES

PREFABRICATED STRIP DRAIN



PRODUCT OVERVIEW

SITEDRAIN Strip 6000 Series geocomposite strip drain products are composed of a dimpled polymeric perforated core fully wrapped in geotextile. The geotextile allows water to pass through while retaining backfill materials. The perforated core allows water collection from all sides and provides a continuous flow path to designated drainage exits.

SITEDRAIN Strip 6000 Series products provide a value engineered alternative to perforated pipe and aggregate subsurface drainage systems in applications requiring moderate strength and high flow capacity. Various geotextile options and product widths are available to meet project-specific requirements.

PROPERTY ¹	TEST METHOD	UNIT OF MEASURE	6400	6400-T	6600	6800
GEOTEXTILE						
Material ²			PP, NPNW	PP, SBNW	PP, NPNW	PP, NPNW
Survivability	AASHTO M288	Class	3	3	2	1
Grab Tensile Strength	ASTM D4632	lbs	135	150	195	245
		N	601	667	867	1,090
Grab Elongation	ASTM D4632	%	60	50	60	60
CBR Puncture	ASTM D6241	lbs	365	295	505	580
		N	1,624	1,312	2,246	2,580
Trapezoidal Tear	ASTM D4533	lbs	60	70	85	100
		N	267	310	378	445
UV Resistance	ASTM D4355	% / 500 Hrs	70	70	70	70
Apparent Opening Size (AOS) ³	ASTM D4751	sieve	70	80	70	80
		mm	0.212	0.180	0.212	0.180
Permittivity	ASTM D4491	sec ⁻¹	2.4	1.0	2.1	1.8
Water Flow Rate	ASTM D4491	gpm / ft ²	175	70	155	135
		Lpm / m ²	7,130	2,850	6,315	5,501
CORE						
Compressive Strength	ASTM D6364	psf	6,000	6,000	6,000	6,000
	ASTM D1621	kPa	287	287	287	287
Thickness	ASTM D5199	in	1.0	1.0	1.0	1.0
		mm	25.4	25.4	25.4	25.4
In-Plane Flow Rate ⁴	ASTM D4716	gpm/ft	21	21	21	21
		Lpm/m	261	261	261	261

¹ Unless otherwise noted, all physical and performance properties listed are Typical Value as defined in ASTM D4439.

² PP = Polypropylene; NPNW = Needle-Punched Nonwoven; WM = Woven Monofilament; SBNW = Spunbonded Nonwoven

³ Values for AOS represent Maximum Average Roll Value (MaxARV).

⁴ In-plane flow rate measured at 3,600 psf (172 kPa) compressive load and a hydraulic gradient of 0.1.

All technical information contained in this document is accurate as of publication. AWD reserves the right to make changes to products and literature without notice. Please refer to our website for the most current technical information available.

SITEDRAIN™ STRIP 9000 SERIES

PREFABRICATED STRIP DRAIN



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SITEDRAIN Strip 9000 Series products provide a value engineered alternative to perforated pipe and aggregate subsurface drainage systems in applications requiring high strength and high flow capacity. Various geotextile options and product widths are available to meet project-specific requirements.

PROPERTY ¹	TEST METHOD	UNIT OF MEASURE	9400	9400-T	9600	9800
GEOTEXTILE						
Material ²			PP, NPNW	PP, SBNW	PP, NPNW	PP, NPNW
Survivability	AASHTO M288	Class	3	3	2	1
Grab Tensile Strength	ASTM D4632	lbs	135	150	195	245
		N	601	667	867	1,090
Grab Elongation	ASTM D4632	%	60	50	60	60
CBR Puncture	ASTM D6241	lbs	365	295	505	580
		N	1,624	1,312	2,246	2,580
Trapezoidal Tear	ASTM D4533	lbs	60	70	85	100
		N	267	310	378	445
UV Resistance	ASTM D4355	% / 500 Hrs	70	70	70	70
Apparent Opening Size (AOS) ³	ASTM D4751	sieve	70	80	70	80
		mm	0.212	0.180	0.212	0.180
Permittivity	ASTM D4491	sec ⁻¹	2.4	1.0	2.1	1.8
Water Flow Rate	ASTM D4491	gpm / ft ²	175	70	155	135
		Lpm / m ²	7,130	2,850	6,315	5,501
CORE						
Compressive Strength	ASTM D6364	psf	9,500	9,500	9,500	9,500
	ASTM D1621	kPa	455	455	455	455
Thickness	ASTM D5199	in	1.0	1.0	1.0	1.0
		mm	25.4	25.4	25.4	25.4
In-Plane Flow Rate ⁴	ASTM D4716	gpm/ft	21	21	21	21
		Lpm/m	261	261	261	261

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