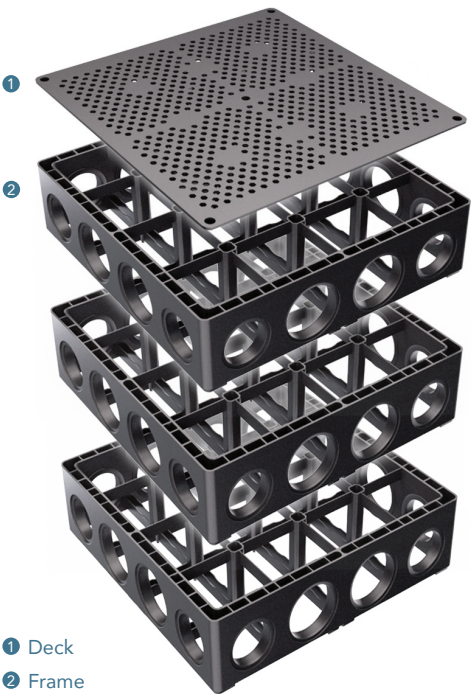


# MARINO CELL® TECHNICAL AND LOADING DATA

The DeepRoot Marino Cell is a high strength, shallow storage module for stormwater detention, infiltration, and water reuse. It features a shallow profile (150 mm in height) and a stackable, modular design for customizable chamber sizes to fit nearly any project specification. Designed for use at shallow depths with minimal cover, the system can meet heavy truck loading requirements, offering the maximum combination of utility, sustainability, strength and cost effectiveness.

The highly engineered system incorporates a single deck (lid) atop a modular frame that can be stacked as high as 600 mm. The Marino Cell features two sizes of utility pipe inlets for easy pass-through access ensuring maximum field utility and maintenance options. Easy installation, versatility and the shallow profile combine to make the Marino Cell a powerful tool for multiple Green Infrastructure (GI) applications.

## BENEFITS



### DESIGN

150 mm depth modules, stackable  
Unlimited design flexibility using multiple modules to achieve stormwater management goals

### STRENGTH

Minimal cover to meet BS EN 1991 loading  
Supports vehicular loading with as little as 100 mm of cover and paving  
Single ultra high strength deck for multiple frames - cost efficient

### SUSTAINABILITY

100% recycled polypropylene  
Replaces large volume of aggregate (rock)  
Green infrastructure application

### MAINTENANCE FLEXIBILITY

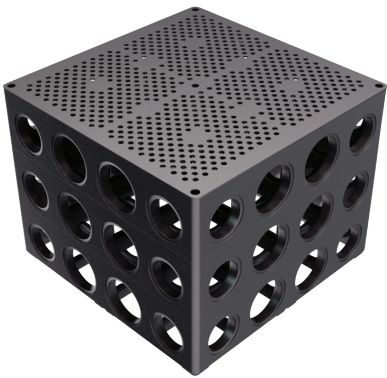
Two-part deck and base allow for removal of the deck for observation and maintenance  
Large 75 mm openings on all four sides allow for vac and jetting maintenance  
Independent structures allow for the removal of a stack to access utilities and other infrastructure

### WATER

93% void space ratio  
Easy access for collection and distribution pipes on all four sides  
Flexibility to run utilities through the system in both directions up to 75 mm diameter  
Connect to perimeter of cell with 100 mm diameter pipe

### INSTALLATION

Lightweight and easy to handle – no assembly required  
No connecting pins required



## APPLICATIONS + DIMENSIONS

- Permeable paving - replaces rock and provides high efficiency storage
- Bioretention/bioretention systems to maximize capacity
- Green infrastructure for climate change mitigation, storage and conveyance
- Water reuse on podium or green roof & street tree applications
- Urban forestry to support the planting and irrigation of street trees

### UTILITIES

The Marino Cell has four utility ports on each side, able to accommodate up to a 75 mm pipe

### STRUCTURALLY INDEPENDENT

The Marino Cell frames are structurally independent from one another, making installation and future maintenance/repair a simple process  
No connecting pins required

#### DIMENSIONS

Frames	Length	Width	Height
One	600mm	600mm	150mm
Two	600mm	600mm	300mm
Three	600mm	600mm	450mm
Four	600mm	600mm	600mm

#### WATER CAPACITY

Frames	m³
One	0.05
Two	0.10
Three	0.15
Four	0.20

#### DESIGN FEATURES

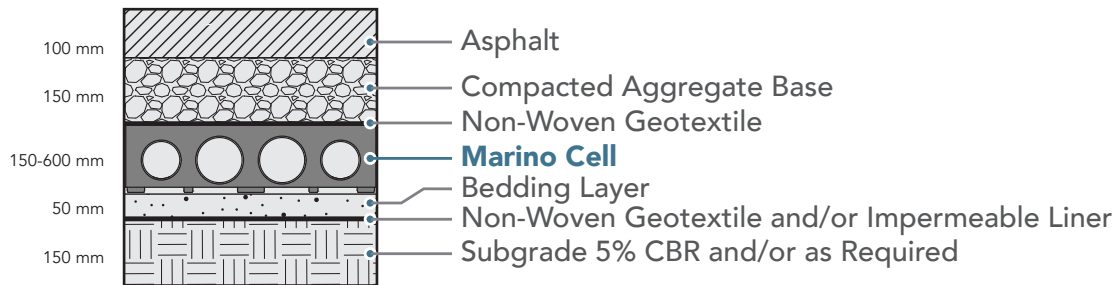
DESIGN FEATURES	SI UNITS
Volumetric Void Ratio	93%
Length per unit	600 mm
Width per unit	600 mm
Void volume per unit	0.0506 m³
Weight per unit	6.03 kg
Vertical compressive yield	827 kpa
Lateral compressive yield	420 kpa
Vertical deflection strength	3723 kpa/cm
Lateral deflection strength	840 kpa/cm

# MARINO CELL LOADING

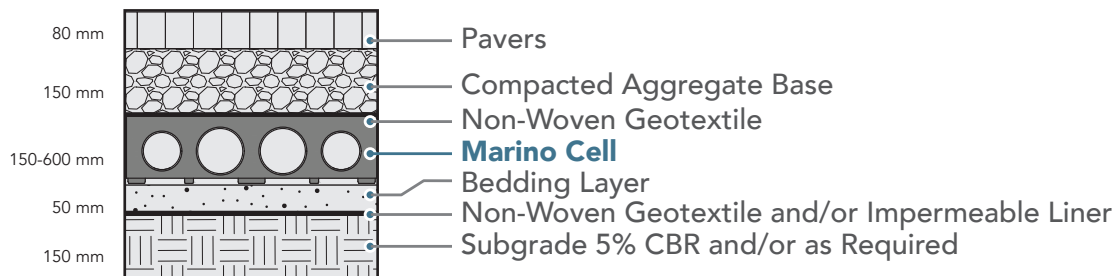
## BS EN 1991 Heavy Truck and Commercial Vehicle

Engineered to meet the BS EN 1991 to support vehicle loading, including those used for emergency, delivery, and maintenance when used with standard paving profiles below.

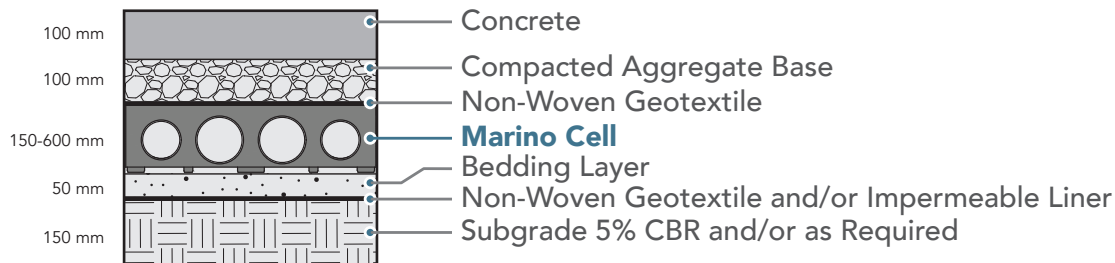
### ASPHALT



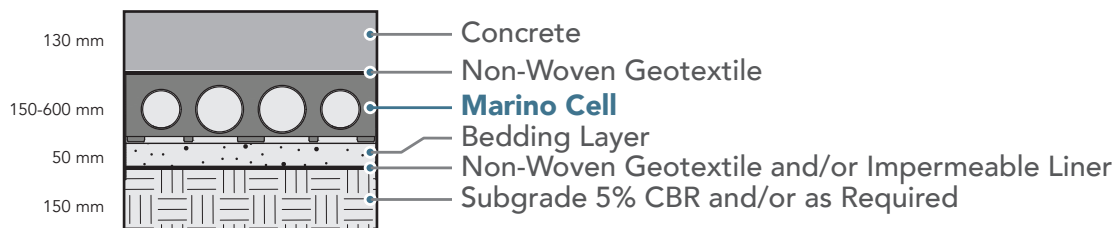
### PAVERS



### CONCRETE



### CONCRETE NO COVER



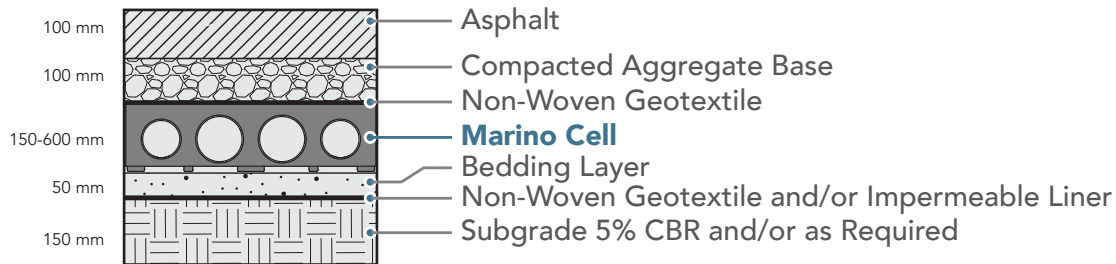
\*for other applications contact DeepRoot for more details

# MARINO CELL LOADING

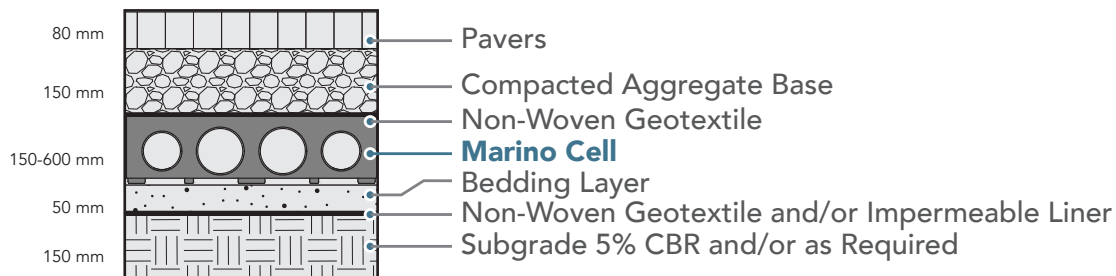
## Pedestrian/Light Truck Usage

Loading standard for supporting lighter vehicle weights and lower traffic volumes typical of driveways, small parking lots, plazas and other areas with no heavy truck access.

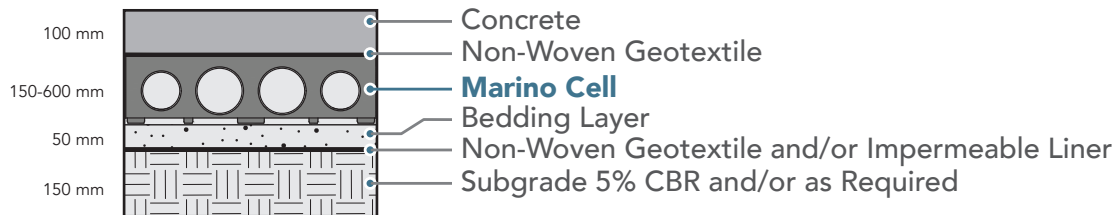
### ASPHALT



### PAVERS



### CONCRETE



### DECOMPOSED GRANITE (DG)

