# MOBIROOF ECO

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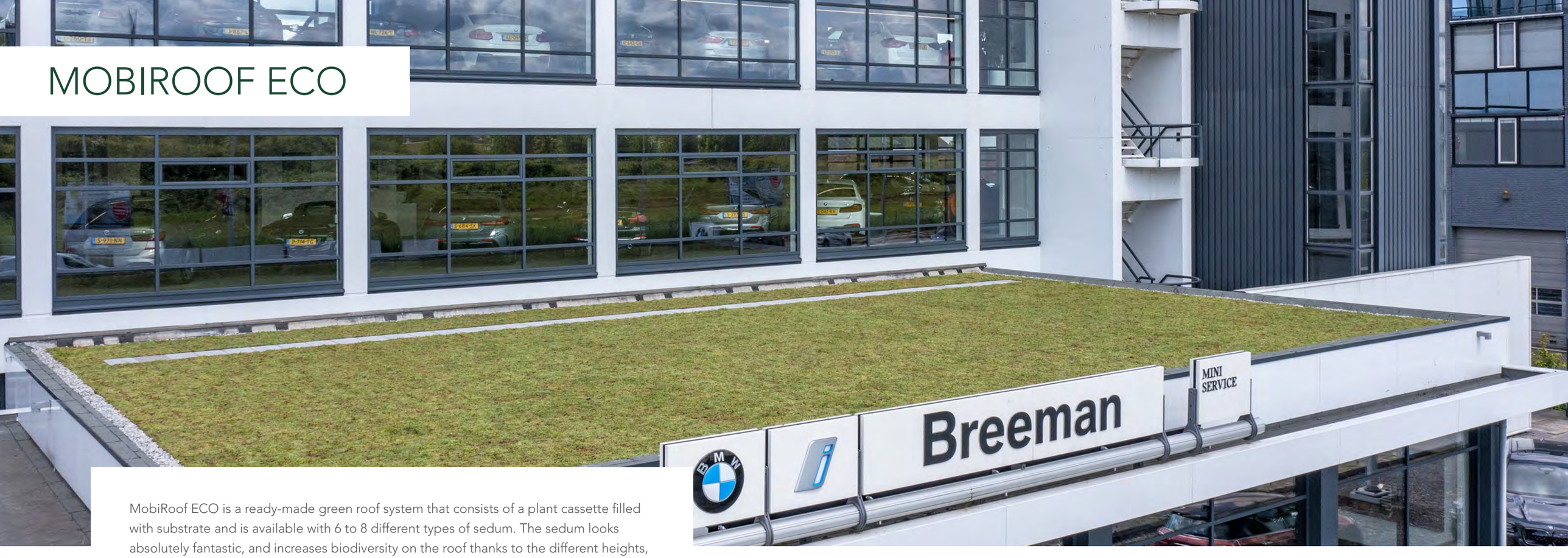



MobiRoof ECO is a ready-made green roof system that consists of a plant cassette filled with substrate and is available with 6 to 8 different types of sedum. The sedum looks absolutely fantastic, and increases biodiversity on the roof thanks to the different heights, flowering periods and colours of the sedum. The plants improve air quality by absorbing CO2 and capturing particulates, and significantly extend the life of roofing material by protecting it against weather influences such as UV radiation.

## CIRCULAR AND PRE-GROWN LOCALLY

MobiRoof ECO is a circular green roof system. The cassette is made of recycled material and fully recyclable. This reduces environmental pressure and reduces waste flow. The cassettes are pre-grown locally with cuttings from our own nursery.

## MOBIROOF ECO MATERIALS

**Cassette:** The cassette is made of regenerated non-toxic polypropylene (PP) produced in the Netherlands.

**Planting:** The plants used in the pre-cultivated cassettes in the MobiRoof ECO system are grown at the Dartplant production site under "On the way to PlanetProof" certification. This independent certification proves that the plants for the MobiRoof ECO cassettes have been produced more sustainably and are therefore a better choice for nature, climate and animals.

# UNIQUE FEATURES

Ready-to-use cassette with 6 to 8 different types of sedum

Ready for use as roof cover

Lightweight green roof system

Easy to install and replace

Water retention of 20 litres per $m^2$ (optional 40 litre per $m^2$)

Sustainably and locally produced

Circular, recycled and fully recyclable

Low maintenance

Can be used on both flat and slightly sloping roofs

# BENEFITS

Collection and buffering of rainwater

Stimulates biodiversity

Insulating and sound-absorbing effect

Extends the life of the roof

Aesthetic value

Increases the value of real estate

Increased efficiency of solar panels

Eligible for subsidies and tax breaks

# INSTALLATION

MobiRoof ECO ensures a direct green result. The external measurements of the cassettes are 50 x 50 x 6 cm (=0.25 m²). 4 cassettes therefore fit into 1 m². The cassettes are easily placed against each other, creating a green roof immediately.

## ROOF LOAD CAPACITY AND WATER RETENTION

Before the green roof is installed, the structural capacity of the roof must be surveyed and determined in consultation with the structural engineer or building contractor. MobiRoof ECO weighs approximately 38 kg per m² when dry and approximately 58 kg per m² when completely saturated with water. The water capacity is approximately 20 litres per m². As a result, the MobiRoof ECO green roof system is eligible for subsidies and tax advantages. The water buffer capacity can be increased by adding a buffer layer under the cassette (optional 40 litre per m²).

## ROOF PITCH

he MobiRoof ECO system can be applied to flat roofs and those with a slight angle of up to 10 degrees (20%). MobiRoof ECO can be installed as is, with no further action required.

## ROOF PREPARATION

Gravel should be applied to the outer edges of the roof and around skylights and downpipes. A 300 to 500-mm wide strip of gravel (minimum 16/32) or concrete tiles should be laid alongside. Fire-resistant parapet walls with a minimum height of 300 mm, or strips at least 1-m wide consisting of 16/32 gravel or concrete tiles, must be installed no more than 40 metres apart. An additional advantage of the gravel is that it improves the microclimate and protects the cassettes from wind.

## ROOF PROTECTION

Apply root-resistant permeable sheeting on the roof before installing the cassettes when the roofing does not include a root-resistant layer.

## WIND LOAD

The Dutch Building Decree refers to the Eurocode (NEN-EN 1991) to calculate wind load (wind resistance) on roofs and for the attachment of roof coverings. NEN-EN 1991-1-4 (wind) and NTA 8292 can be used to calculate the load on buildings.

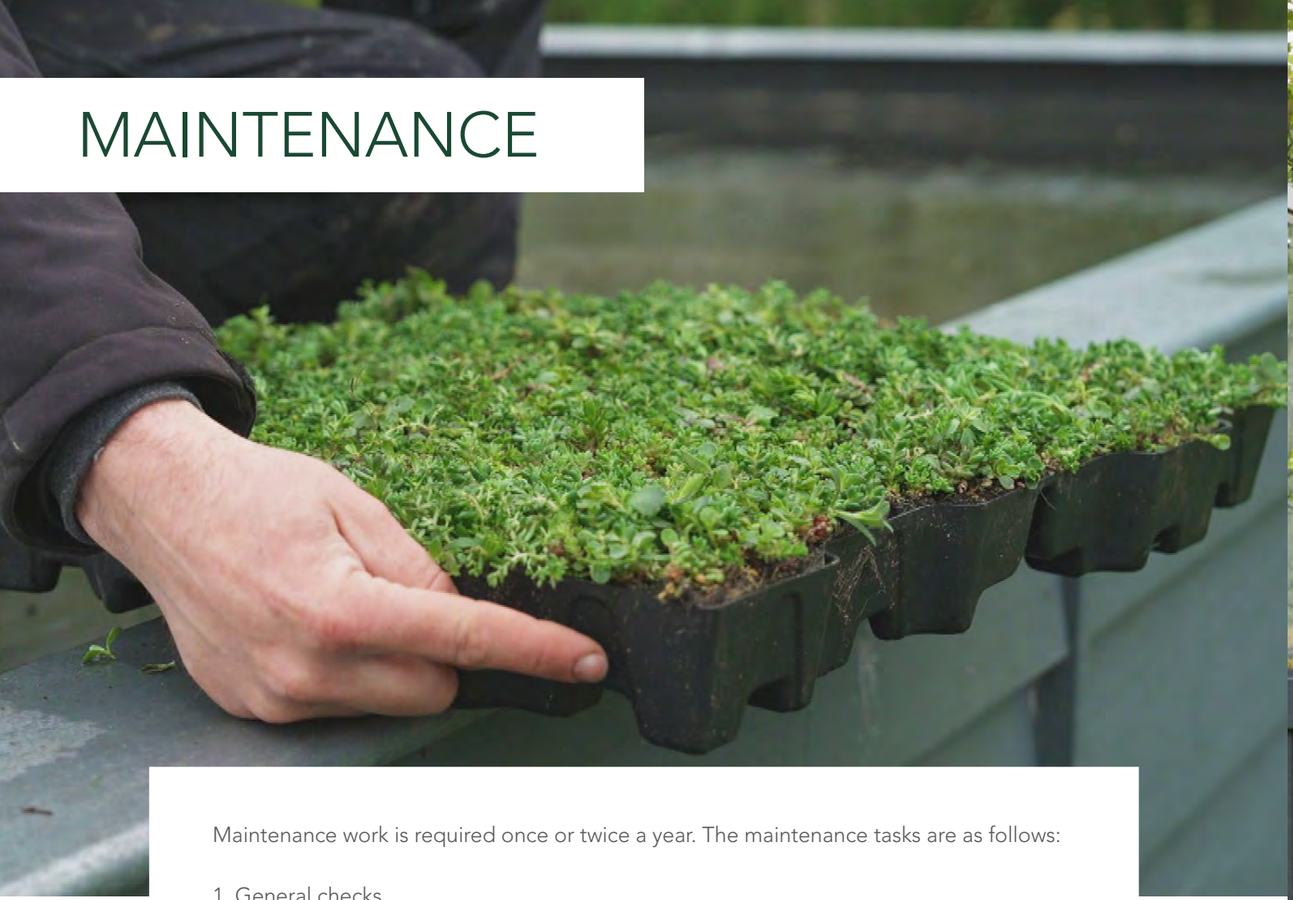
## FIRE SAFETY

The Dutch Building Decree states that a building's roof must not be a fire hazard. The roof must pass the test method described in NEN 6063 or NTA 8292. MobiRoof ECO meets the requirement that the layer containing vegetation is at least 30-mm thick and contains no more than 20% (by weight) of organic components.

## ACCESSIBILITY

The installation of a green roof is scheduled in the final stage of construction. A mobile crane is usually required to place the cassettes on the roof, so this should be taken into account.

# MAINTENANCE



Maintenance work is required once or twice a year. The maintenance tasks are as follows:

1. General checks
Remove weeds and seedlings from trees and shrubs.

2. Watering
Normally, a green roof doesn't need additional irrigation, as this can change the natural balance of the plants. However, irrigation is required in extremely dry periods.

3. Pruning
September is the best month for pruning, as most bees will have completed their life cycle. Smaller cuttings can be left on the roof, but larger cuttings should be removed.

4. Phased pruning:
Various useful species of animal live on and in a green roof, so to avoid excessive disturbance it's best to prune in phases. Prune the green roof one strip or area at a time, and leave an area uncut (15 to 30%). A few weeks later, prune this last area.

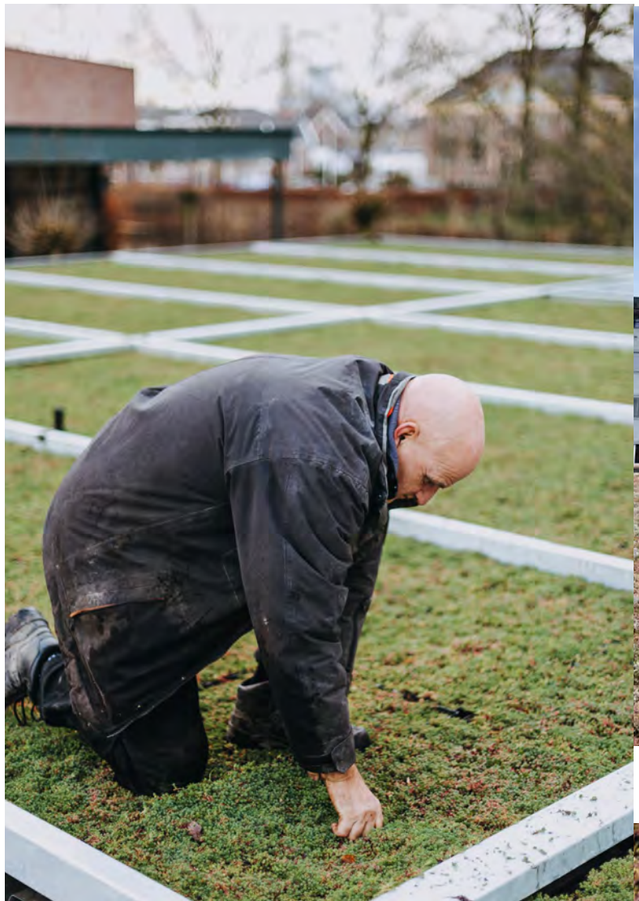
5. Fertilising
To keep the plants healthy, green, and dense, fertiliser is required. It stimulates soil fertility and contains nutrition for the plants. Fertiliser only needs to be applied once or twice a year in the spring and autumn.

# REFERENCES AND APPLICATIONS

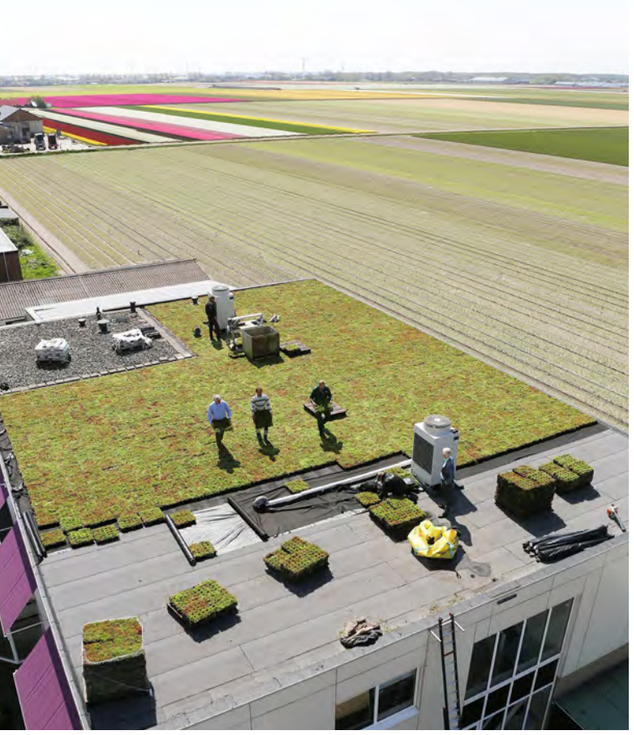
BUS SHELTER

UTILITY CONSTRUCTION

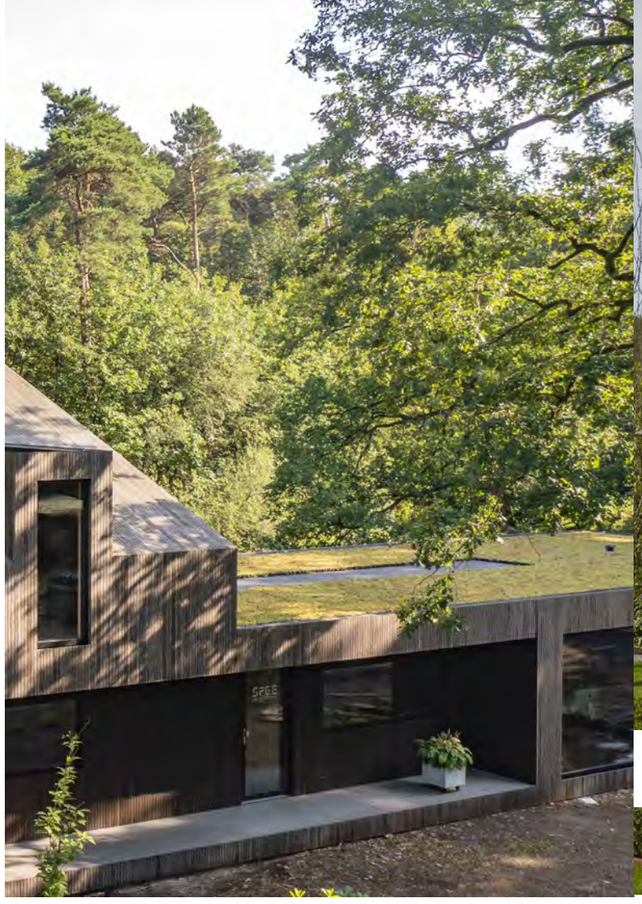
BICYCLE SHELTER



HOUSING

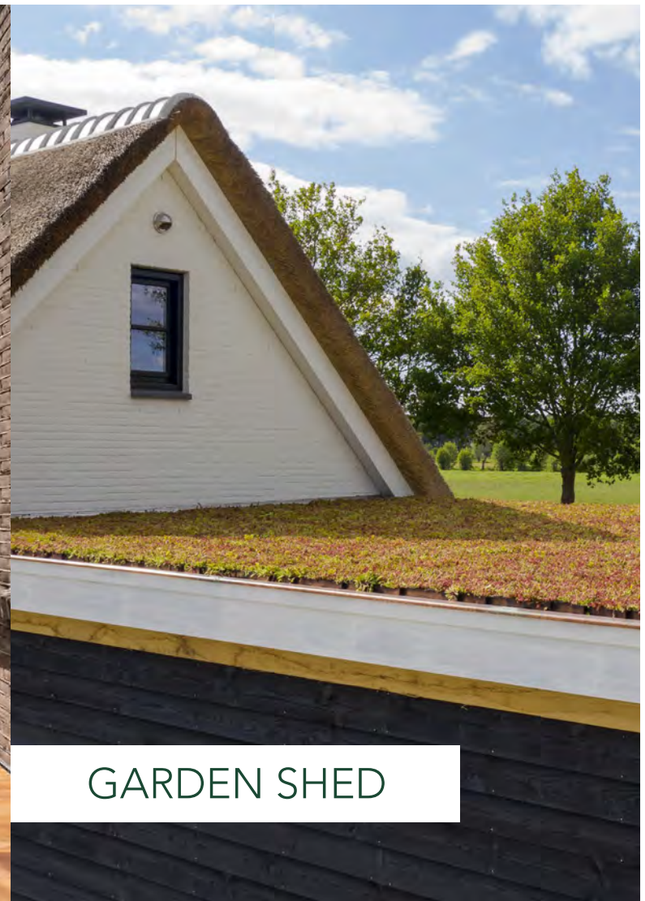


UTILITY CONSTRUCTION



GARDEN SHED

HOUSING



GARDEN SHED

# CASE STUDY

## PROJECT INFORMATION

The big open multi-storey car park Hornschuhpromenade in Fürth is covered with an extensive green roof. The car park has been designed by Max Bögl and has a capacity of 380 cars. The car park has been designed in such a way that it should be easy to build, cost-effective, have an appealing appearance and at the same time easy to maintain. The Max Bögl Group and Isobautec as an executive partner have chosen for MobiRoof ECO to green the 1300 square metres car park roof.

## BENEFITS OF EXTENSIVE GREEN ROOF

"Next to the many product benefits, the decisive argument for choosing the MobiRoof ECO green roof system was that the plants contribute to improving air quality. The CO2 levels are reduced and fine dust is captured, in cities this is essential, said the representative from Max Bögl Group. What is also interesting is that increasingly more cities and municipalities provide grants for installing intensive or extensive green roofs. Green roofs support biodiversity in the city. All kinds of plants and animals can be found on these roofs that are normally not present on ordinary 'bare' roofs with bitumen or roof tiles. Many insects such as bees, hoverflies, beetles, and spiders find a spot in the planted roofs

**ARCHITECT AND COMMISSIONING PARTY :** Max Bögl Group (MBG)
**CONTRACTOR:** Isobautec
**YEAR OF CONSTRUCTION :** 2020
**LOCATION :** Fürth, DE

# BIM

BIM models can be downloaded from the Mobilane website www.mobilane.com or by scanning the QR-code. BIM can be used for Revit, IFC, and Civil 3D by architects, engineers, and construction professionals (AEC).

**SCAN FOR BIM MODEL**