grid boxes arranged next to each other, supporting together at least one layer of grid bodies in which grass and/or plants can grow and over which vehicular traffic can drive.

It is an object of the present disclosure to provide a system for building a road that addresses at least one of the above shortcomings.

Summary of the disclosure

Provided is a system for assembling a road. In an embodiment, the system comprises~~ing~~ a plurality of plastic support structures and a plurality of road deck elements. Each of the support structures comprises a base plate and at least one column extending, or for extending, upwardly from the base plate for supporting at least partly one of the road deck elements. For at least one and preferably each support structure it applies that the at least one column has a first end that has a seamless connection with the base plate. Each of the road deck elements is configured such that in an assembled and as road useable condition of the system, rainwater predominantly flows away over the road to one or more positions next to the road and/or to a slit-sized interruption of the road across the road. The system comprises a number of gutter elements, and at least one of the gutter elements is connected to at least one of the columns.

This embodiment of the system allows for an easy way of building a road, of which rainwater flows away in a sophisticated manner with much less dependency on the permeability of the road deck for water. Hence, water that falls on the road will not collect on the road where permeability of the road deck is poor. Instead, water may swiftly flow away from the road deck, therewith reducing splashing of water, reducing slipping due to water etc.., and overall enhancing safety with regard to traffic over the road.

In an embodiment, the support structures and/or the road deck elements are connectable such that in an assembled condition at least one tunnel is formed between the road decks and the base plates. In an assembled condition of the system a road is formed and the least one tunnel then extends in a length dimension of the road. The length dimension may extend into the direction of the road. This allows for use of the tunnel for inspection purposes, using for instance a camera mounted on a dedicated mobile device that can find its way through the tunnel. This also allows for laying pipes and or cables through the tunnel for infrastructural purposes, not only related to for instance sewage and/or the need to provide electricity to lampposts, but also for providing the necessary cabling to and from induction coils that may in the future be embedded in the road for charging electrically driven automobiles. Not only can a road be easily assembled using the system, a road once laid using the system can also easily be opened up for maintenance of the components and networks placed under the road decks and/or for introducing new devices under the road deck.

Claims

1 A system for assembling a road, the system comprising a plurality of plastic support structures and a plurality of road deck elements, wherein each of the support structures comprises a base plate and at least one column extending, or for extending, upwardly from the base plate for supporting at least partly one of the road deck elements wherein for at least one and preferably each support structure it applies that the at least one column has a first end that has a seamless connection with the base plate, each of the road deck elements being configured such that in an assembled and as road useable condition of the system, rainwater predominantly flows away over the road to one or more positions next to the road, and/or to a slit-sized interruption of the road across the road, wherein the system comprises a number of gutter elements, and wherein at least one of the gutter elements is ~~at least partly integrated in, or connectable to,~~ connected to at least one of the columns.

2 ~~A~~ The system according to claim 1, wherein the support structures and~~/or~~ the road deck elements are connectable such that in an assembled condition at least one tunnel is formed between the road decks and the base plates, wherein in an assembled condition of the system a road is formed and the least one tunnel extends in a length dimension of the road.

3 ~~A~~ The system according to claim 1 or 2, wherein at least a number of the support structures are free from having along the entire circumference of the base plate upwardly extending wall members extending in a direction parallel to the at least one column.

4 ~~A~~ The system according to claim 1, 2, or 3, wherein the system comprises a carrier plate that has a seamless connection with at least two columns, or that is connectable with at least two columns.

5 ~~A~~ The system according to any one of claims 1-4, wherein at least one of the plurality of support structures is at least partly usable as a water attenuation or water infiltration structure.

6 ~~A~~ The system according to any one of the previous claims, wherein at least one and preferably each of the columns is provided with a connector part for connecting with at least a part of one of the road decks, so that the respective road deck is supported by at least one column.

7 ~~A~~ The system according to any one of the previous claims, wherein each road deck element is provided with an outer layer that is usable as a road surface.

8 ~~A~~ The system according to any one of the previous claims as far as dependent of at least claim 6 and 7, wherein each road deck element is provided with a connection side that is opposite the outer layer and that is provided with connection structures which are each releasably connectable with one of the connector parts.

9 ~~A~~ The system according to any one of claim 1-8, wherein at least one of the gutter elements is separately connectable to at least one of the road deck elements and/or to at least one of the support structures.

10 ~~A~~ The system according to any one of claim 1-9, wherein at least one of the gutter elements is at least partly integrated in at least one of the support structures and/or at least one of the road deck elements.

11 ~~A~~ The system according to any one of the previous claims, wherein at least one of the plurality of road deck elements comprises plastic.

12 ~~A~~ The system according to any one of the previous claims, wherein at least one of the plurality of road deck elements comprises fibers.

13 ~~A~~ The system according to any one of the previous claims, wherein at least one of the plurality of road deck elements comprises a structure having a plate shaped part that forms in an assembled and as road useable condition an upper deck level of the respective road deck element, whereas the structure has a cell-structured part as a lower deck level.

14 ~~A~~ The system according to claim 13, wherein the plate shaped part forms the upper most deck level.

15 ~~A~~ The system according to claim 14, wherein the plate shaped part comprises a non-plastic, preferably a ceramic, material for providing a friction enhancing surface and/or for providing a wear resistant surface.

16 ~~A~~ The system according to any one of claims 13-15, wherein the structure comprises a sandwich structure, having the cell-structured part between the plate shaped part that forms ~~an~~ the upper deck level and another plate shaped part that is provided at a side of the cell-structured part that is opposite the plate shaped part that forms the upper deck level.

17 ~~A~~ The system according to any one of claims 13-16, wherein the cell structured part comprises a honeycomb structure, such that each honeycomb has its axis directed towards the plate shaped part that forms ~~an~~ the upper deck level of the respective road deck element.

18 ~~A~~ The system according to any one of the previous claims wherein at least one of the road deck elements is ~~a~~ configured for placement as a single element directly on top of one or more adjacently placed support structures.

19 ~~A~~ The system according to ~~any one of the previous claims~~claim 11, wherein the plastic of the at least one of the plurality of road deck elements comprises recycled plastic.

~~20 A system according to any one of the previous claims, wherein the system only consists of a plurality of plastic support structures and a plurality of road deck elements or only consists of a plurality of plastic support structures, a plurality of road deck elements and a plurality of gutter elements.~~