

Hinxton Modular Deck

- Erect straight on to existing deck
- 30% cheaper than traditional solutions
- Quick assembly
- Portable for relocation
- Add EV charging and PV panels
- 50 year structural design life



Case Study

Hinxton Modular Deck

| | |
|----------|-------------------------------------|
| PROJECT | Wellcome Genome Campus Modular Deck |
| CUSTOMER | Urban & Civic |
| LOCATION | Hinxton, Cambridge |
| CONTRACT | Design & Construct - JCT |
| DURATION | 26 weeks |
| VALUE | £4.3m |





Need

For many businesses, both public and private, surface level car parks occupy valuable land and struggle to meet parking capacity needs. Our challenge is to release that land, increasing parking capacity and supporting biodiversity on site.

The Wellcome Genome Campus had a need to increase parking capacity due to expansion of the Hinxton site.

Solution

The Octavius modular car park system provide a cost-effective solution which is around 30% cheaper and quicker to build when compared with traditional construction methods.

An innovative modular car park is a cost-effective alternative to traditional construction. By constructing in stand-alone modules with staged handover, customers can benefit from reduced disruption and short build programmes. The result is a car park which offers all the aesthetic and modern benefits of bespoke cladding, EV charging and PV panels without the cost and disruption of a traditional multi-storey build.

The Wellcome Genome Campus car park doubled car parking capacity to 293 parking spaces, 8 of which are EV. Initially the intent was to erect our foundation-less clearspan system on to the existing surface deck however the footprint layout desired was slightly wider than the existing surface. Due to this, a ring beam foundation was installed around the perimeter of the car park to ensure adequate founding. Installing the ring beam allowed us to maintain a majority foundation-less system. The main structure of the car park is a made up of a mixture of our clear beam system, a 15.6m clear span, and our modular system providing as standard 7.5m x 5m bays.

The appearance of the system was important in order to blend in with surrounding structures on site. Urban & Civic was involved in helping design bespoke finishes. Extruded aluminium cladding was chosen in an aerofoil shape to mimic the wings of the aircraft that regularly fly over the Genome Campus. Each powder coated aerofoil wing is set to a graduated angle providing shade and light deflection for the cars parked on the deck. This cladding gave a higher quality finish to the appearance, as opposed to more commonly used folded aluminium cladding.

Alongside side the cladding, a bespoke green wall mesh was installed in panels, which are easily replaceable should they require

replacement. The plants are connected to the panels by wires, once grown out this will give the illusion that the green wall is floating. The mixture of plants chosen, Honeysuckle and Ivy, to fill the green wall are specifically designed to encourage and attract pollinators to help increase the biodiversity of the site. There is also a swale of wildflowers to the front of the site which was left unmown during the works and there forward, helping attract pollinators. Bat boxes and bird boxes have also been fitted to the rear of the car park.



On the top deck we installed 276 solar panels which provides power for the EV charging and a canopy to cover cars parked on the top deck. The solar generated is supplied back to two inverters installed during the works in a



bespoke grp plant room. The solar panels were delivered to the site on 10 pallets, each pallet is equivalent to planting 710 trees. The solar will provide around 186mWh per year of energy, giving the car park total carbon savings of 356,040kg per year.

On this project we installed our first curved ramp. The curved ramp improves traffic flow and removes pinch points that you find in the 90 degree bends found in traditional ramps. The ramp was also heated so that during winter months, frosts and snow don't settle on the ramp, causing hazards. There will be no need to grit or salt the ramp, helping reduce the amount of maintenance required to the car park. The heated ramp can be powered from conventional HV or by the power generated from the solar panels. Further energy reductions were made by fitting led lighting, as



opposed to sodium based lighting systems which require more energy to power.

Outcome

Through our modular system, we were able to double parking capacity, provide an aesthetically pleasing structure and support biodiversity at the site.

From conception to completion the project took 11 months, 26 weeks of which were construction. Octavius were successful in handing back the car park defect free, on time and on budget.

Compared with traditional construction methods the Octavius modular system can be tailored to suit the client's environment. There are wide ranging benefits from modular approach:

- Optimisation of existing level ground used for parking
- Significant cost reduction from traditional multi-storey car park construction
- Quick assembly and subsequent relocation to flex with short and long term needs
- Increased revenue through PV panels and EV charging points

- 25 years of hassle-free parking before resurfacing along with a 50-year structural design life

Working with us, we can offer support at every stage of the development from finance right through to planning, construction and the on-going efficient operation of your car park.