Suttle Projects

Crescent Car Park

Creating safer parking environments

Issue

Crescent Car Park provides surface level public parking in the centre of Taunton, a vibrant market town in the pretty county of Somerset. Over the years, an ever increasing demand for parking resulted in the capacity being increased by integrating adjacent areas of unused land in an ad hoc fashion, the consequence of which was a disjointed, unattractive space in desperate need of refurbishment. Somerset Council's vision for this town centre location was to develop the essential parking facility into a pleasurable public space that would support the wellbeing of residents and visitors, and where people would feel safe to enjoy the local attractions.

The resulting £1.4m refurbishment project to reinvigorate the area and create an enhanced environment was awarded to Suttle Projects. The improvement works included the creation of 168 car parking spaces of increased width, an increased number of accessible parking spaces and dedicated motorcycle parking areas. The enhancements also included the provision of 19 electric vehicle charging points to encourage the uptake of electric vehicles in line with the local authority's commitment towards becoming carbon neutral, new landscaping and tree planting.

With half the existing car park capacity needing to be maintained at all times, Suttle Projects' approach to simplifying projects through meticulous attention to detail, buildable designs, and clear communications would prove invaluable in completing this project.

The highly constrained nature of the site meant there were several important issues to be considered to ensure the works would not cause unnecessary disruption to the neighbouring businesses, residents and travelling public.

When unforeseen ground conditions were encountered, proactive solutions were created and promptly implemented to avoid any impact to the client's programme and budget.

Solution

Suttle Projects' teams are connected, adaptable and empowered to make rapid decisions. Their attention to detail from the outset results in any issues being spotted early, and dealt with efficiently, so that any required changes minimise variations to the budget and programme.

This approach would prove to be essential in achieving the project milestones for Somerset Council, residents, businesses and the visitors to Taunton.

Early Stakeholder Engagement

In addition to the new car park, this comprehensive public realm project required access improvements to be made through reconstruction of the public highway serving the car park, a mini roundabout and street lighting improvements. The scope of work also included the provision of a new electricity substation, improvements to drainage systems, resurfacing, line marking, landscaping and tree planting. The works area was surrounded by residences and retail businesses and the extensive and diverse range of activities all had to be undertaken whilst maintaining half the existing car park's capacity at all times.

Importantly, stakeholders were identified and engagement plans put in place to ensure residents and businesses could be regularly kept informed of the planned activities, the proposed phasing, progress updates and real time contact details for any questions or concerns they might have.

Methodologies were developed to minimise disruption and risk through solutions that maximised productivity with efficient vehicle movements, reliable delivery slots and overall programme savings. To guarantee project completion dates, upon contract award, orders were placed immediately to secure key materials and equipment with long lead in times such as the EV chargers, street furniture and planters.

Sustainable EV Charging Points Foundation Solution

Aligned to the Local Authorities Carbon Neutrality and Climate Resilience Action Plan, the project included the provision of 19 new EV charging points, requiring the high voltage electricity supply to be upgraded to deliver sufficient power for the specified combination of both slow and fast EV chargers. The provision of power supplies for the new EV charging points involved careful working around a myriad of existing statutory services and to reduce risk of damage and increase productivity, vacuum excavation techniques were utilised.

In simplifying the design solution, Suttle Projects also adopted a more sustainable alternative for the foundations to the EV charging unit, using EV Blocks rather than traditional cast in situ concrete plinths. Traditional bases and plinths require a custom cast on site and the shuttering becomes a waste product when complete. In situ concrete also takes several days to cure, delaying the follow-on activities, also increasing the risk of further delays during inclement weather. The EV Blocks come with a universal adaptor plate, ready for installation, cutting project timelines from days to hours, reducing labour costs and ensuring a faster, more efficient EV implementation.

Contaminated Ground Requires Car Park Redesign

Whilst a limited quantity of contaminated ground was anticipated, once the project commenced the extent of the contamination was found to be much greater than originally planned for. Acting promptly, ground bearing tests were undertaken and a new design for the car park reconstruction was researched and implemented. The adopted solution reduced the depth of the proposed excavation, hence allowing the majority of the contaminated materials to remain undisturbed and safely retained in situ.

The reduced depth car park reconstruction provided an equally resilient solution to the original design through incorporating a layer of Glasstex® P200 from Tensar. Glasstex® P200 is a stress absorbing interlayer that when combined with asphalt in pavement construction, provides a barrier against moisture and oxygen, along with a reinforcing effect that helps to prevent reflective cracking. The Glasstex® P200 arrives in rolls, is easy to transport and simple to install, providing further cost and time savings compared to the traditional solution that was originally proposed.

Innovative Tree Pits for Healthy Growth

To create a welcoming public space, the design solution included the provision of high quality street furniture, along with urban landscaping. Suttle Projects provided an innovative solution for planting of the trees that would simplify the installation and provide a professional long-term approach to ongoing tree management.

Five metre square tree pits were incorporated utilising the GreenBlue Urban ArborSystem® to combine root management, structural soil components, aeration and irrigation. These load bearing recycled plastic modules are designed for water attenuation and distribution within the tree pit system and are suitable for roadway applications. The soil cells are designed to provide trees in urban environments with suitable conditions to promote healthy growth, without disturbing the structures above.

Outcome

The completed car park and enhanced public space has 137 standard bays all of which have more room between each bay to enable ease of entry and exit for cars, 12 accessible parking spaces, 19 electric vehicle bays and 8 dedicated motorcycle areas. Suttle Projects' prompt actions in addressing site issues and approach to simplifying solutions and methodologies with alternative, sustainable technologies, resulted in significant project programme and cost savings, minimising vehicle movements, carbon emissions and overall disruption to residents, businesses and highway users.

Reliability

Reliable channels of communication were established with stakeholders to assure residents and businesses that project completion dates would be met. Material orders were placed immediately upon award of contract to reliably secure key items with long lead times, with efficient vehicle movements and reliable delivery slots further minimising disruption.

Sustainability

Simpler and more sustainable design and delivery solutions were adopted where possible, including the use of EV Block foundations, GreenBlue Urban ArborSystem® tree pits and vacuum excavation techniques.

Creativity

When the project was faced with a substantial increase in the anticipated level of ground contamination, a creative solution was developed that enabled the contaminated material to be maintained safely in situ. The adoption of a thinner pavement construction depth also lowered the volume of material to be disposed offsite, reducing the number of vehicle movements required, and subsequently optimising the reconstruction costs and programme.

Productivity

The creative design options and simplified techniques adopted by Suttle Projects contributed significantly to maximising productivity across the construction activities, minimising disruption and reducing programme duration and associated costs to Somerset Council.

Crescent Car Park has been awarded a "Park Mark" from the nationwide Safer Parking Scheme for the measures that it has implemented to create a safe environment that deters criminal activity and anti-social behaviour, where people can confidently leave their vehicles, with good levels of lighting and safe walking routes clearly marked. This initiative and the awards are aimed at reducing crime and the fear of crime in parking facilities and the distinctive Park Mark helps drivers to find car parks that meet the challenging requirements.

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Councillor Mike Rigby, Lead Member for Economic Development Planning and Assets at Somerset Council commented:

"Receiving this award is a sign that we're doing everything we can to prevent crime and reduce the fear of crime in our parking facility. The Park Mark not only shows that we've put measures in place that help to deter criminal activity and anti-social behaviour, but it also demonstrates that we've passed the requirements of quality management, appropriate lighting, effective surveillance, and a clean environment. This is a great endorsement of our work to create one of the greenest, cleanest, safest car parks in Somerset."

In addition, a new covered cycle shelter was provided at the car park directly by Somerset Council to help promote cycling as a sustainable means of transport. This will be developed into Taunton's first "bike hub" as part of a Council initiative to support healthy lifestyles.