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AUTUMN 2020

CONSTRUCT



Foreword



Adam Green

CEO FM Conway

OUR DIRECT DELIVERY CAPABILITY HAS PROVED CRUCIAL IN HELPING US ADAPT TO THE NEW NORMAL AND IN SUPPORTING OUR CLIENTS AND COLLEAGUES

This is the first issue of Construct since I was appointed as CEO and I would like to thank everyone in the FM Conway family for adapting so well to new working arrangements in the last six months.

I think we can all be immensely proud of the way we have responded to that challenge, the measures we have taken to keep all of our colleagues safe and well, and the support we have given our clients during these uncertain times.

We have been building up our direct delivery capability for many years now, to give us more control over all aspects of our projects. That has proved to be a huge asset to our customers in recent months, as we have been able to adapt quickly and introduce new working methods when the situation demanded it.

This bumper issue of Construct showcases some of the important projects and initiatives we are working on, demonstrating how we utilise technology, enabling us to work better, safer and more efficiently for our customers. And it even features a visit from our Prime Minister!

I am also delighted to announce that we have been awarded Transport for London's new Highways Maintenance and Projects Framework contract for the South region. This new contract will run for eight years with a possible four-year extension, and reaffirms our strength as the leading highways maintenance contractor in London.

I hope you enjoy this edition of Construct and I look forward to meeting with all our valued clients in the coming months and demonstrating the strength of our great business as we enter our 60th year.

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News

As a way of showing support to our amazing health workers during COVID-19, FM Conway has been working with various London boroughs to install NHS rainbow installations across London.

So far, 24 bespoke NHS preform markings have been installed across Barnet, Merton, Southwark and Westminster. "The idea was produced from one of our roadmarking

crews installing a hand-applied white heart with NHS through the middle while he was waiting for a new surface to be laid," explains contracts manager Ollie Scutts.

"The client liked the gesture so much that they asked for something more permanent. I set about using my iPad to see what we could come up with, and the end result was the seven colour design that we installed."



IMAGE: @ASKYOURCONCIERGE.LONDON

ASPHALT BY THE SEA

AFTER AN INVESTMENT OF £8 MILLION, FM CONWAY'S NEWEST ASPHALT PLANT IS UP AND RUNNING IN THE PORT OF NEWHAVEN, SERVING EAST SUSSEX AND BEYOND



When FM Conway secured a £56 million, seven year highways surfacing contract for East Sussex County Council, the company committed to building a new asphalt plant at Newhaven to serve the contract. Now, after an investment of over £8 million, that asphalt plant has been built and commissioned and is fully up and running.

"Having our own asphalt plant in the area means fewer road miles and makes more efficient use of our fleet," explains FM Conway head of operations Mark Whelehan. "It also enables us to make the best use of our material capabilities and to develop innovative solutions that will help the County Council achieve their strategic objectives."

The new asphalt plant has been built on a 6.2 acre brownfield site within the Port of Newhaven that had been derelict for 10 years. FM Conway has taken a 25 year lease on the site. Mark says: "It is unusual to put an asphalt plant on the coast, but it gives us the benefit of utilising the sea to bring

FACTS

Facility
**Newhaven
Asphalt Plant**

Plant capacity
250t per hour

Investment
£8 million

Ship capacity
3,300t

FM Conway divisions
**- Aggregates
& Asphalt
- Civil
Engineering
- Consultancy
- Surfacing**

aggregates in from coastal sources to reduce road miles."

This has already proved its worth, as two or three vessels are already arriving every month at a wharf alongside the plant, with each ship carrying up to 3,300t of aggregate from its supplier in Ireland.

FM Conway's self-delivery model was instrumental in the project, with the foundations for the new plant designed by the company's in-house engineers and constructed by the firm's civil engineering division. In addition, concrete was supplied by the aggregates & asphalt division, which also crushed excavated material on site; the surfacing and consultancy divisions were also involved in delivering the plant, and materials testing was carried out by FM Conway's in-house laboratory.

In all, almost 5,000m³ of material was excavated to create a level platform for the new plant, and 2,180m³ of concrete went

into the foundations, slabs and storage areas. The plant itself is a Marini Toptower 3000S. This is the second Marini asphalt plant FM Conway has installed, the other being at Aldershot. There is plenty of space to store different aggregates, recycled materials, and both standard and polymer modified bitumen, enabling the company to produce a wide variety of surfacing materials, including high recycled content, at a rate of up to 250t per hour.

"The plant has the capability to produce a wide range of materials," says FM Conway development director Tim Metcalf. "This includes regular asphalts, like hot rolled asphalt, stone mastic asphalts and warm mix, as well as polymer modified materials, high PSV asphalt and materials that contain up to 50% recycled content. In addition, we can also produce surfacing for sports facilities, such as Multi-Use Games Areas (MUGAs), tennis courts and red pigmented asphalts." This range of materials will be used for a wide variety of works, including binder

LOCATION



course, base course and surface course for the East Sussex contract, enabling the local authority's main contractor Costain to carry out road and footway construction, patching, haunching and surface dressing.

Most of the plant's output will go into servicing this long-term contract, with the remainder going to other local customers - including road network contracts the company has in the region for Highways England - and private work like trench reinstatements for utilities, estate roads, car parks, sports facilities and playgrounds.

"We have been working with Costain for some time, and that helped us to determine the specification of the plant to ensure we could deliver what the client requires," says Tim. "Having a long lead time during the planning process gave us the opportunity to get it right - to tailor the plant to the client's needs and make sure we built a bespoke plant that would work for the county and the wider area."

“It is very positive that we can use recycled materials and have all primary aggregate delivered by sea”

He adds that East Sussex County Council wanted a supplier that could offer a sustainable, economic solution but would also promote innovative materials and technologies – something that chimes with FM Conway’s own philosophy. “We are very keen that the plant should help enable a circular economy for road materials,” says

Tim. “Planings coming in from within easy reach of the plant are turned around into products that go back into the county.

“And, as there are no local resources for roadstone aggregate, it is very positive that we can use recycled materials and have all primary aggregate delivered by sea from Belfast straight into the plant. It all contributes to the economy, efficiency and environmental footprint of the products offered by the plant.”

Having taken a 25-year lease on the Newhaven site, and invested over £8 million on the new plant, FM Conway is committed to playing its part in the local community. “We’re there for the long haul,” says Mark. “Newhaven is an area that has suffered economic downturn and deserves investment.”

Below: Ship unloading



Project



MAKING SPACE

WESTMINSTER CITY COUNCIL HAS RESPONDED TO COVID-19 WITH SOCIAL DISTANCING MEASURES

As shops, bars, restaurants and workplaces started to reopen after the COVID-19 lockdown, Westminster City Council introduced measures to ensure there was adequate space for social distancing so that people can use the City’s streets safely. And, as Westminster’s service provider, FM Conway’s teams have been putting the measures in place.

Westminster includes the world-renowned shopping districts of Oxford Street, Regent Street and Covent Garden and the theatre and entertainment districts of Soho, Leicester Square and Shaftesbury Avenue. As soon as the government announced that non-essential shops could reopen in May, the council developed a strategy to help people

FACTS

Project
COVID-19 movement strategy

Client
Westminster City Council

Timescale
May/June 2020

FM Conway division
Term Maintenance

move around safely and for businesses in the area to get back up and running.

The first task was to identify locations where interventions could be provided immediately to give increased space for walking and cycling, including routes to and from transport hubs. The schemes’ designs were fast-tracked, and within days FM Conway was out on site putting the measures in place in high profile locations including Oxford Circus and Piccadilly.

“We widened the usable pavement space by installing barriers, cones and bollards,” explains FM Conway head of service Ed Barford. “For example we would install a line of barriers halfway out into the road to make

MAP 16

Working with Westminster City Council, FM Conway has been developing Map 16, an innovation that will transform the way the company manages infrastructure across the borough. Map 16 is an intelligent asset management system that gives key decision-makers access to detailed asset and inspection information. The system aggregates a number of data sources, using the latest sensor-based technology, and applies machine learning to enable FM Conway to become more predictive in maintenance operations. In addition to traditional routine and reactive maintenance capabilities, since July, data visualisation within Map 16 has been used as part of the local authority's COVID-19 Movement Strategy. It has proved instrumental in tracking schemes on site, and has been used by various departments within Westminster to support decision-making.

the footways wider to allow social distancing in advance of the return to the 'new normal' and increases over time."

Other interventions involved creating new or enlarging existing cycle lanes by painting new lines and installing bollards, and installing over 100 new cycle stands.

Ed says processes that would usually take weeks were done in a matter of days: "It was a very streamlined approach, and everybody worked collaboratively as a team. As their service provider, we pulled out all the stops to get things done."

This involved putting 12 gangs onto the work on the first weekend to get all the barriers, cones, bollards, lines and signs in place. "One of the big advantages we had was our self-delivery capability: we could call on other divisions within the company to get it done," says FM Conway service development manager Alan Kraven.

During that first weekend, the company installed over 3.5km of Strongwall barrier, rising to a total of 6km within a month. In addition, over 2,000 delineator pole cones and around 3,000 social distancing signs have also been installed.

WESTMINSTER IN NUMBERS

16

footway schemes

6

cycle schemes

7

combined cycle and footway schemes

37

hospitality schemes

3

street closures

13

school street closures

106

cycle stand installations

9.5km

of cables

1.2km

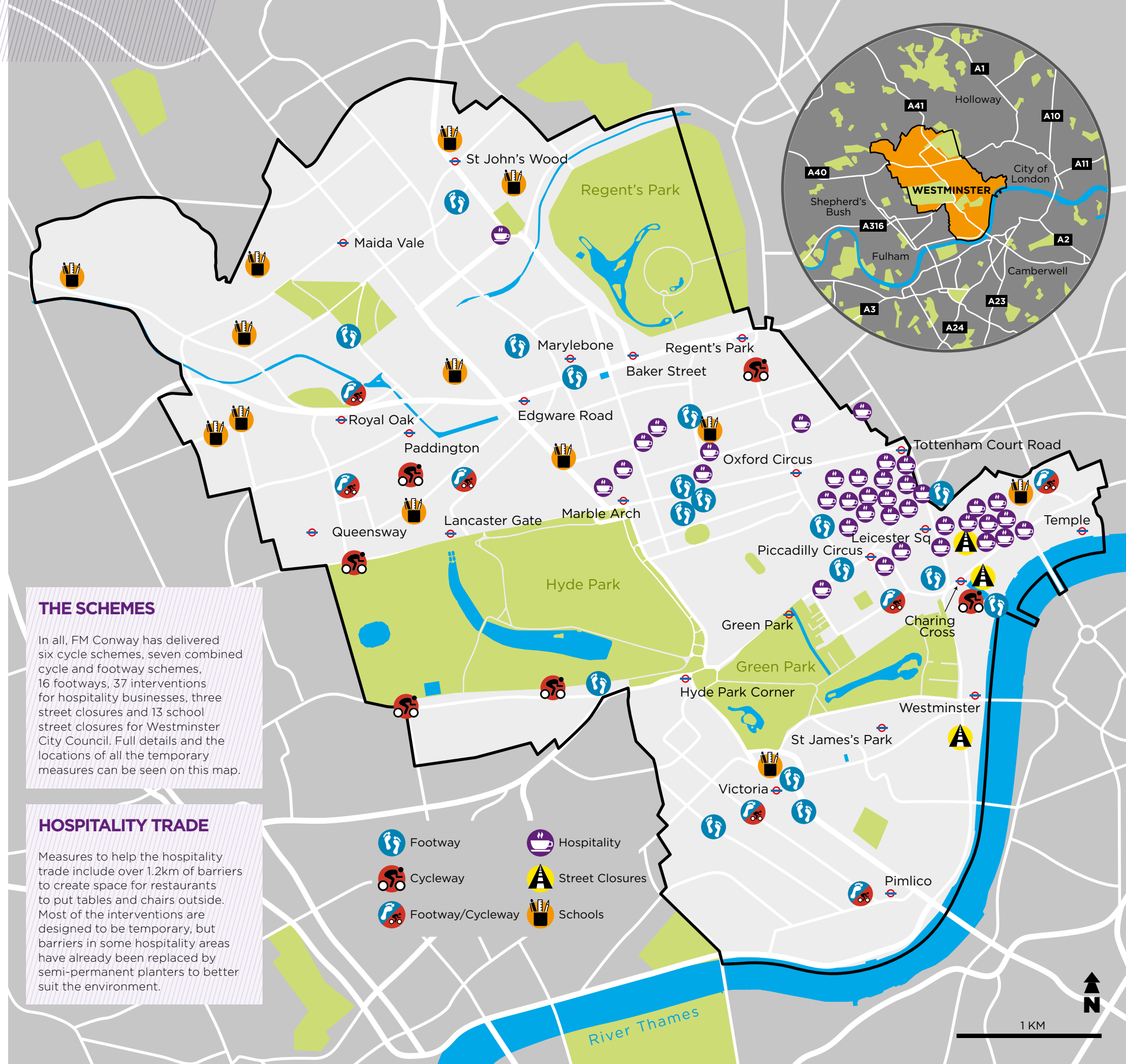
of barriers for hospitality measures

THE SCHEMES

In all, FM Conway has delivered six cycle schemes, seven combined cycle and footway schemes, 16 footways, 37 interventions for hospitality businesses, three street closures and 13 school street closures for Westminster City Council. Full details and the locations of all the temporary measures can be seen on this map.

HOSPITALITY TRADE

Measures to help the hospitality trade include over 1.2km of barriers to create space for restaurants to put tables and chairs outside. Most of the interventions are designed to be temporary, but barriers in some hospitality areas have already been replaced by semi-permanent planters to better suit the environment.





BRIGHT BRIDGE

Left to right: The river crossings from the air; steelwork on the Old Bridge; installing the new lighting

ROCHESTER'S RIVER CROSSINGS ARE BEING REFURBISHED IN A PROGRAMME THAT INCLUDES A MODERN LIGHTING SYSTEM DESIGNED TO SHOW THE HISTORIC BRIDGES IN THEIR BEST LIGHT

For nearly two millennia there has been a strategic crossing of the River Medway in Kent between what is now Rochester and Strood. The current crossing consists of two road bridges, one built in 1914 and the other in 1970, with a service bridge in between.

Over the last 18 months FM Conway's structures team has been carrying out a multi-million pound refurbishment of the bridges for their owner, the Rochester Bridge Trust, as well as refurbishing a section of Rochester Esplanade.

Work started in April 2019, and structural repairs beneath both bridge decks have continued throughout the programme. Above deck, FM Conway tackled the New Bridge first before starting renovations on the Old Bridge.

The Grade II-listed Old Bridge, built in 1856 and reconstructed in 1914, is a landmark for the town thanks to its three steel bowstring trusses. Among the most important work was re-waterproofing the deck of the shortest span, known as the Old Ships' Passage, as water had begun to penetrate the structure and damage the steel girders beneath. The expansion joints between each of the bridge's four spans also needed replacing.

Structural steelwork repairs have been carried out from scaffold platforms slung under the bridge deck, so traffic could continue to use the bridge. All the steel was grit blasted, repaired where required, and then repainted, while the Old Ships' Passage span required strengthening and repairs, including new stiffeners and cross-girder sections.

"You always uncover things on old structures," explains FM Conway contracts manager Peter Moore. "We worked very closely with the client's designer Arcadis to make quick decisions once something had been discovered."

The New Bridge was stripped back to enable concrete repairs to be carried out

and a new waterproofing membrane to be installed; a footway and cycleway have been reconstructed and a vehicle restraint barrier erected - all while traffic continued using the bridge.

In August, the New Bridge was completely closed for one weekend so that new expansion joints could be installed and the entire deck could be resurfaced. "We ran pavers side by side, so there are no longitudinal joints," Peter explains. "That means it will require less maintenance in future." The deck of the Old Bridge will be surfaced in the same way.

Other FM Conway teams have also been involved in the project, including traffic management, surfacing and lighting.

Modernisation of the lighting is a key element of the refurbishment programme, with the Rochester Bridge Trust keen to 'lose' the New Bridge as far as possible, in order to make the Old Bridge stand out. This has been achieved by installing 24 new aluminium lamp columns on the New Bridge that are below the level of the bowstring trusses of the Old Bridge. By sitting lower,

FACTS

Project
Rochester Bridge Refurbishment

Client
Rochester Bridge Trust

Contract period
April 2019- December 2020

FM Conway divisions

- Structures
- Traffic Management
- Surfacing
- Lighting

Colour-changing LED lights
144

they also help to eliminate light pollution. New lighting on the Old Bridge consists of bespoke units similar to the lights installed when the bridge was reconstructed in 1914. More than 40 new lighting columns, portico and pendant lamps have been made to match the original designs, but all fitted with LED lights.

The lighting division is also installing 144 colour-changing LED lights on the underside of the bowstring trusses to highlight the structural form and historic character of the Old Bridge. "This will look really impressive," says FM Conway senior contracts manager Richard Collins. "Each LED unit can be controlled individually."

The new lighting is linked to a central management system that enables remote control operation, variable dimming regimes and fault reporting. "It is really exciting to be working on a historic structure where the lighting has gone from gas to electric, and is now evolving with the latest technology," says Richard.

Work on the refurbishment project is set to be completed in December 2020.

LOCATION



Project

Surfacing operations were carried out on one half of the bridge while traffic ran on the other side



TIMELY REPAIR

LONDON BRIDGE HAS GONE THROUGH ITS FIRST MAJOR MAINTENANCE PROGRAMME IN HALF A CENTURY, SETTING IT UP FOR ANOTHER 50 YEARS OF OPERATION

London Bridge is one of the most famous river crossings in the world. The current 283m long, three span prestressed concrete box girder structure, opened in 1973. Now, after nearly 50 years of continuous operation, the bridge has undergone a major preventative maintenance project, with FM Conway carrying out the work for the City of London Corporation.

The main reason for carrying out the work was because the original waterproofing had deteriorated and needed replacing. FM Conway's contract involved removing the existing surfacing over the carriageway and footways, repairing the concrete deck where it was damaged, applying and testing a new waterproofing system covering an area of 9,580m², and resurfacing the bridge.

In addition, 24 bearings supporting the bridge had reached the end of their lifespan and needed replacing.

The project posed some logistical challenges as, in normal circumstances, 60,000 people walk across the bridge each rush hour, and 12 different bus routes cross it. Although Transport for London (TfL) agreed to close the bridge to general traffic while work was underway, it remained open for buses, taxis motorcycles, cycles and pedestrians.

"Because of where it is situated, a huge number of stakeholders are involved, including the Port of London Authority, the Marine Management Organisation, Environment Agency, Metropolitan Police, City of London Police, Counter Terrorism Police, TfL and London buses," says FM

Conway project manager John Briggs. "And they all require different permits."

Work started in March 2020, with traffic running on the east carriageway while the surfacing and waterproofing were removed from the carriageway and footway on the west side. FM Conway used a full depth planer to mill out 2,500t of material, which was taken to the company's Dartford plant for recycling.

Once the concrete deck was exposed, any damaged areas were repaired before the new waterproofing layer was installed. Then a new central reservation was cast, paving and kerbs on the west footpath reinstated and the west carriageway was surfaced, enabling traffic to be switched for the same work to be done on the east carriageway.

The new road consists of a base course, binder course and SureFlex surface layer.

Another innovation on the project was the use of a mechanical slab lifter to lay the heavy concrete footway paving slabs. "It is a lot safer than manual handling, as well as being faster," John explains.

FACTS

Project
London Bridge Preventative Maintenance

Client
City of London Corporation

Contract period
March-October 2020

FM Conway divisions
**- Structures
- Surfacing**

Area of new waterproofing
9,580m²

Bearings replaced
24

The bearings were replaced at the same time, starting with the 12 bearings in the north abutment. Specialist subcontractors installed four hydraulic jacks between each bearing to jack the entire structure up by 2mm. Then, working in a confined space, they removed the old bearings and installed new ones before releasing the jacks.

The bearings in the south abutment were replaced using a different method, says John: "We installed a suspended working scaffold platform under the bridge, took out the old bearings using hydro-demolition, then removed the contaminated water from site."

City of London engineer Trina de Silva adds: "When the rest of London shut down, FM Conway created new procedures to allow the works at London Bridge to continue." These included social distancing marshals, more cleaning, staggered break times and disinfecting vehicles and plant.

"This resulted in an early completion of the works, with minimal public disruption," says Trina, adding: "The work we have completed on London Bridge will ensure it remains operational for years to come."

LOCATION





PAVE PERFECT

HIGHWAYS ENGLAND'S PAVEMENT FRAMEWORK IS SET UP TO REWARD QUALITY AND INNOVATION, MAKING IT THE PERFECT FIT

In 2018 FM Conway began working on two Highways England Pavement Frameworks in the South West and South East regions, covering Areas 1, 2, 3 and 4 (see maps). The appointment followed a decision to work with Highways England, as the organisation boasts the perfect business credentials for FM Conway to align its ethos and aspirations with.

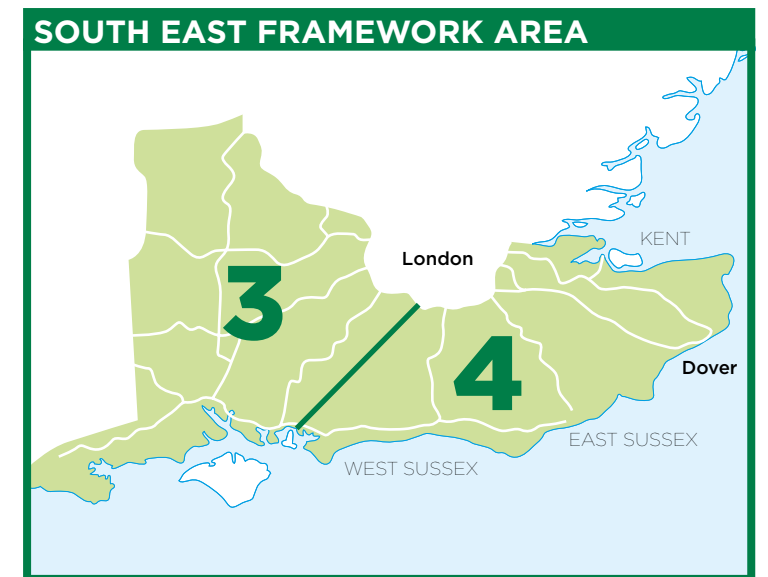
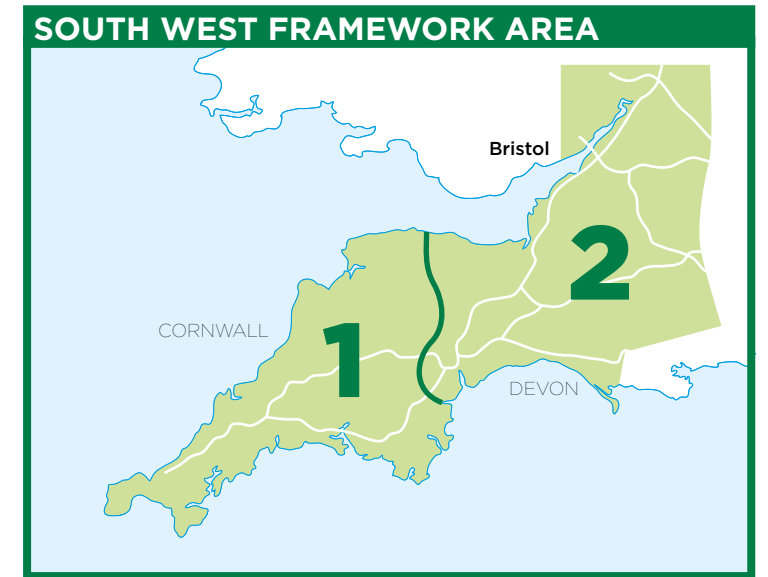
"We identified the Pavement Framework as a natural fit," explains FM Conway business development director Nick Burman. "At that time, Highways England wanted to diversify the number of suppliers it worked with and open up the frameworks to more regional suppliers. Its aim is to get closer to the people who actually deliver the works, as this is likely to result in more innovation." At the time, Highways England was reorganising its frameworks, with two contractors carrying out major surfacing projects (over £1 million) and two for minor projects in each of the regions. "As it was the first time we had bid on a Highways England contract, we took the decision to go for the minor lots," explains Nick. "We felt it was the best way to get experience of working with Highways England and to prove that we can deliver."

The company won a place on both frameworks with competitive tenders based on quality and price. "The quality submission was a big part of the tender, and gave us the opportunity to reinforce all the things we can bring to the table," says Nick.

Both frameworks last for four years, and cover supplying asphalt materials and carriageway surfacing on motorways and other strategic roads operated by Highways England. In the South East region, FM Conway carries out the work for the incumbent Asset Support Contractors (Kier in Area 3 and A-one+ in Area 4). In the South West the company reports directly to Highways England under an asset delivery model.

All work in the South East is self-delivered using FM Conway divisions, including the company's seven asphalt plants and in-house surfacing division. In the South West the company has established a network of trusted supply chain partners to support operations.

"When we put the tender in, we emphasised that we would utilise local SMEs and upskill



them to enhance the resources available to Highways England," explains Nick. "That has been really successful."

Individual projects on the framework are not competed for; in the first year Highways England allocated 60% of the work to the contractor that scored highest in the quality submission in each region and 40% to the other firm. In subsequent years, the allocation is based on how well each contractor scores on a quality matrix that charts five different reportable measures.

Opposite page:
The Framework is for supplying asphalt and road resurfacing

“Highways England wanted to diversify the number of suppliers it worked with and open up the frameworks to more regional suppliers”

So far, FM Conway has carried out around £7.2 million of work in the South East, including surfacing contracts on the M2 in Kent and the A20 and A2 at the Port of Dover.

A-one+ Area 4 site manager Ian Pugh says of the M2 contract: “The area we worked in proved to be quite challenging with respect to the public interface. However, all personnel acted in a professional and

extremely efficient manner, culminating in the scheme being completed with two shifts saved.”

He adds: “Whilst the works were completed ahead of schedule, this has in no way compromised the quality of the works produced, which I feel is excellent from all parties involved in the works.”

In the South West region, the company has delivered over £11 million of work, including high profile projects on the A303 near Stonehenge and the A38 Devon Expressway.

Nick wants to use FM Conway’s position on the framework to introduce efficiency and environmental innovations, like warm mix asphalt and surfacing with 50% recycled content.

The company is also considering which frameworks to apply for next time. Highways England’s asset delivery model includes opportunities for regional traffic management and drainage contractors, in addition to the Pavement Framework.

A21 HURST GREEN RESURFACING

During the summer, FM Conway laid 21,200m² of surface course and 10,200m² of base course on the A21 trunk road running through Hurst Green, East Sussex under the South East Pavement Framework.

The work was originally scheduled to be carried out in 23 shifts, but a clash with other work in the area meant the programme had to be cut by more than half. “We looked at how we could speed up delivery

of the programme, including additional resource and plant,” says FM Conway project manager Andy Weymouth. Instead of working on one half of the carriageway at a time and keeping one half open to traffic, the team opted for a full road closure each night, with two planers and two pavers working together.

This could have been disruptive, as the diversion route was quite long, but as FM Conway was responsible for

traffic management, it could provide escorts to get local residents to their properties. Resident Kay Huxstep says: “I was delayed at work with an elderly patient and missed getting home before the road closure. When I explained to the fellas working what had happened, they kindly escorted me home after a very long duty.”

The closure enabled the surfacing team to plane out 500t of material and

put 500t of new surfacing back in during each night-time closure.

Carriageway reconstruction varied depending on the condition of the road, but

in all areas the surface course was FM Conway’s SureFlex, all asphalt was supplied from the company’s Erith plant and all plantings went back to the Chelsfield recycling facility.



News



PM SHOWS SUPPORT

Boris Johnson at the Heathrow asphalt plant with (left to right) Mark Whelehan, Michael Conway and Adam Green

At the beginning of October FM Conway welcomed Prime Minister Boris Johnson, who visited the Heathrow Asphalt Plant to discuss the “Build Back Better” coronavirus recovery plan and what it means for infrastructure. The Prime Minister met chairman Michael Conway, CEO Adam Green and head of operations Mark Whelehan, and had a tour of the plant.

He was particularly impressed with the FM Conway’s use of recycled materials and ability to use such high percentages of recycled aggregate compared to the industry average – as demonstrated by

PRIME MINISTER BORIS JOHNSON WAS VERY IMPRESSED BY THE COMPANY’S RECYCLING CAPABILITIES WHEN HE TOURED THE HEATHROW ASPHALT PLANT AND MET SENIOR STAFF

the use of 50% RAP on the M25 and as high as 85% in Westminster.

The Prime Minister stressed the importance of sustainability and recycling, and described FM Conway as “one of the greenest road working companies in the whole of the world”. He added: “I absolutely congratulate them on what they are doing; they are helping this country to build back better.”

Following the meeting, Adam said: “We had a good conversation with the Prime Minister, and we talked about many things, including people and apprenticeships.”

MOVIE STARS

NEW PAVING AND SURFACING IN LONDON'S LEICESTER SQUARE WILL ENSURE IT IS READY FOR THE RED CARPET

London's Leicester Square regularly hosts world famous stars as they premiere their films in its iconic cinemas. In future, as the stars gather on the red carpet, FM Conway can enjoy having played an important supporting role.

Edwardian Hotels is currently building a new hotel complex in the south west corner of the Square that will accommodate 350 bedrooms, bars, restaurants and two Odeon cinemas. And, as part of the development, the hotel group's contractor Blue Sky Building (for Edwardian Hotels) is responsible for external works around the outside of the new complex. This is where FM Conway comes in: the civil engineering division has a contract to lay new surfacing and decorative paving around the hotel, as well as installing drainage, kerbs, HVM barriers and lighting.

As befits a development in such a high profile location, the environment around the new building has been designed to incorporate high quality materials, including granite and York stone paving slabs. A band of granite paving surrounds the entire complex, extending to the full width of St Martin's Street on the east side and Panton Street on the north. The north façade faces into Leicester Square, and this is where the main entrance to the hotel and cinema will be.

FACTS

Project
Leicester Square

Client
Blue Sky Building (for Edwardian Hotels)

Value
£1.2M (projected)

FM Conway divisions
 - **Civil Engineering**
 - **Consultancy**
 - **Lighting**
 - **Aggregates & Asphalt**
 - **Surfacing**

York stone slabs
200m²

Asphalt surfacing
500m²

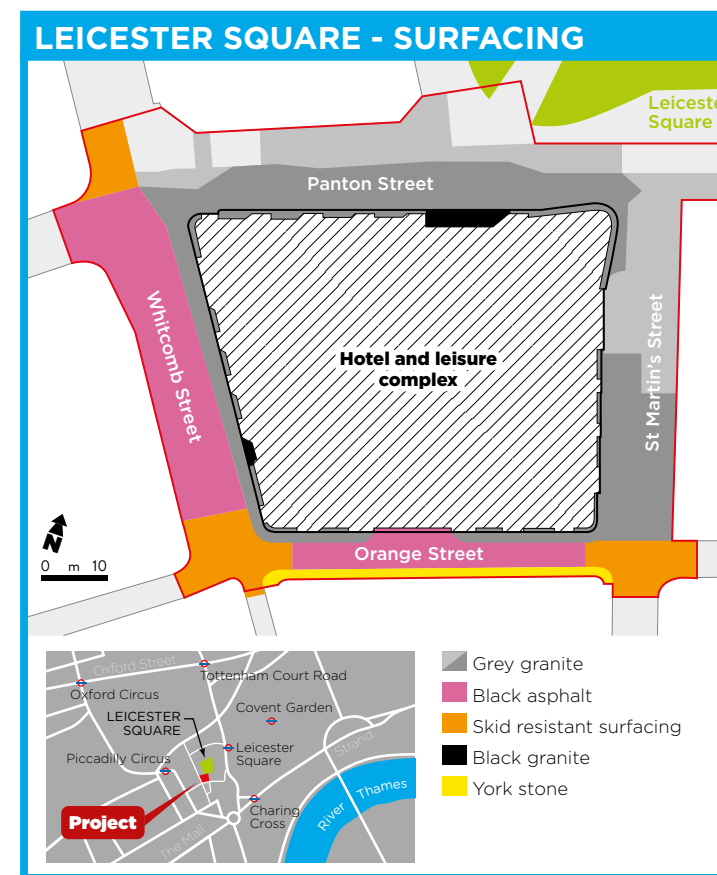
In all, the contract involves laying 1,300m² of granite paving, most of it in 125mm thick, 387mm x 640mm slabs in combinations of three shades of grey and two different patterns. The two entrance foyers are highlighted using 575mm square black granite slabs.

The FM Conway team is also laying 200m² of York stone slabs in various locations to match the paving in the surrounding streets, and will be laying 500m² of asphalt surfacing on Orange Street to the south and Whitcomb Street to the west.

FM Conway's self-delivery capability has been crucial in overcoming some technical challenges on the job, which included new highway drainage on all four sides of the building. This required carrier drainage to be installed to tie in with the existing gullies, and some deep drainage connections to link into the existing sewer network.

The company's consultancy division designed the temporary works required to safely dig down 3m to make these connections.

The lighting division also has an important role, as the contract includes the installation of five new streetlights and six new lanterns mounted on brackets on the wall of the



new building. And it will be FM Conway's surfacing and asphalt & aggregates teams that will supply and lay the new road surfacing.

During the contract, FM Conway's understanding of materials has resulted in some existing material being reused, saving on the amount of new material being brought in. "When we started to take up the existing paving and asphalt, the intention was to dig down to the Type 1 subbase. But we got some compaction tests done to check the suitability of this material, and where it was OK, we laid on top of it, rather than taking it out," explains FM Conway contracts manager Paul Williams.

A similar approach was taken to the asphalt resurfacing. Instead of digging everything out and replacing it with new subbase, concrete slab and asphalt surfacing, FM Conway suggested planing out and re-laying just the top 100mm of asphalt binder and surface course. "The client agreed with our proposed solution and we were able to save them time and money as a result," says Paul.

The project is due to finish in Autumn 2020, with one of the final activities being the installation of HVM security bollards to match those on the other access points into the Square.

CLIMATE CONSCIOUS

More than half the district, county, unitary and metropolitan councils in the UK have declared a climate emergency, including many of the local authorities FM Conway works with. The company is keen to help them achieve their aims of reducing carbon emissions, and believes lower carbon road surfacing can make a major contribution.

The most carbon friendly approach is a move to "warm mix" asphalts, which require less energy to produce. Traditional hot mix asphalt is mixed and laid at between 150°C and 190°C. If that temperature is reduced to between 120°C and 150°C, energy usage can be cut by 25%, resulting in far lower carbon emissions.

Warm mix asphalt brings other benefits, according to FM Conway head of technical Mark Flint. "By mixing it warm, there is less early life damage to the binder, so the pavement will have greater durability," he explains. "That will add to carbon savings in years to come, as the surfacing will not need replacing so quickly."

ENERGY REDUCTION IS KEY TO TACKLING THE CLIMATE EMERGENCY, SO IT MAKES SENSE TO USE LOWER TEMPERATURE ASPHALT WHEREVER POSSIBLE ON UK ROADS

Warm mix asphalt can also be compacted at a lower temperature than hot mix and cools faster in ambient temperatures, so the road can be opened to traffic earlier. This reduces disruption for road users and residents.

On a recent project for Westminster City Council, FM Conway laid a warm mix asphalt pavement using a single layer mix that contained 50% recycled asphalt, in which the construction programme was condensed from three days to two.

Warm mix accounts for almost 40% of asphalt production in the USA and over 15% in France, but less than 4% in the UK – something the All Party Parliamentary Group on Highways described as "a significant lost opportunity" in a 2019 report.

It went on to say: "If all asphalt production in Great Britain in 2017 had been switched to warm mix asphalt, it would have saved at least 61,000t of CO₂ – the equivalent of cutting almost 300 million miles of car journeys."

Warm mix asphalt has been studied in the lab



THE BIG TEN IN 10



FM Conway is revolutionising its approach to safety through Big Ten, a plan to target the top 10 risks faced daily by FM Conway staff and instil new technologies and methods of working that will keep people safe. Here are those risks and over the page we talk to Andrew Cox, the man who has developed the new strategy, to find out why the company is turning established health and safety practice on its head.



TEMPORARY WORKS

There will be no failure of any temporary work solution designed and installed across our projects.



SAFE DIGGING PRACTICES

We will eradicate all avoidable utility damages from the business.



SUBCONTRACTOR CONTROL

As a minimum, we will self-deliver 90% of the works that we undertake, and where we cannot self-deliver, we will engage with subcontractors and ensure full adherence to People First : Go Home Safe.



WORKING AT HEIGHT

Where it is not possible to eliminate working at height, we will implement physical protection.



OCCUPATIONAL HEALTH

Where elimination is not possible, we will create a working environment where exposure to life-changing health risks is minimised; focusing on vibration, noise, dust and manual handling.



CONFINED SPACES

Where it is not possible to eliminate working in a confined space, we will implement engineering controls to reduce and manage the entry process.



TRAFFIC & PEDESTRIAN INTERFACE

We will implement engineering controls that prevent people coming into contact with our moving vehicles and plant.



ISOLATION & GUARDING

We will ensure that all fixed and mobile plant deemed to have high-risk repair and maintenance operations, will be dual controlled, cross-monitored with interlocks, and where removal and opening of the guards and doors will automatically make safe the plant.



LIFTING OPERATIONS

All equipment will be purchased and designed to have safety critical controls that eliminate people coming into contact with the consequences of lifting operations.



OCCUPATIONAL ROAD RISK

Through our actions, no road user will suffer life-changing harm involving our vehicles.

ON THE BIG TEN IN 10

5 MINUTES

Q Why have you launched Big Ten in 10?

A The reason for launching Big Ten in 10 is because we have not fixed the problem that people are continuing to suffer life-changing harm from the same types of accidents across our industry.

There were 40 construction deaths in the UK last year. That is because, as an industry, we have become distracted by chasing targets, and have not been looking for the weak links in the business that can lead to life-changing harm. We have got dashboards full of 'Looking Good Indices' (LGIs), but they are not showing the true operational performance of the business. That is what Big Ten in 10 will change.

Q How long will Big Ten last?

A Our strategy is "Big Ten in 10" - eliminating the potential of the 10 biggest risks that cause life-changing harm within 10 years. I was challenged by the business about the length of the programme, because most health and safety strategies last five years.

My answer was that this can't be done in five years while keeping the business sustainable. We will need capital investment, and we will be reliant on technology that is not quite there yet. The aim is to use elimination, substitution and engineering controls to mitigate the severity of the ten big risks to our people. While we work through our ten-year strategy we will support our people with good risk assessments, risk mitigation and deployment of our Life-Saving Rules.

Q What are the Big Ten Risks?

A They are the activities that have the greatest risk of serious and life-changing harm. I went looking for the weak links, near misses that could have been much worse than they actually were, which helped to confirm what areas we needed to concentrate on. I don't think there are any surprises on the list, but what has been eye-opening has been quantifying how often there is potential for harm by the way we now classify this, which has been a spur to working out how to reduce the risks.

FM Conway has committed to invest in plant, equipment and technology to achieve the Big Ten aims. For instance, we have set a target of completing all manhole surveys via remote means by 2023, eliminating 20,000 confined space entries.

Q How can the workforce help?

A There might be a few bumps and scratches with Big Ten, and our workforce get that. What is most important to them is not losing a leg or an eye. We have always been very clear that we don't want "have-a-go heroes" taking chances to get the job done quicker.

People have always been able to say no to unsafe practices, but Big Ten's Life-Saving Rules provide rules and reasons why something is unsafe, so they can explain why they are saying no. For instance, if there is not a competent slinger/signaller/crane operator for lifting operations, people should be confident to stop the works. We also know that the best ideas and innovations come from our own people, and this strategy will need their input to help drive change.



ANDREW COX
SAFETY,
HEALTH,
ENVIRONMENT
AND QUALITY
DIRECTOR
FM CONWAY

Q What do clients think of the new Big Ten in 10 approach?

A We will still have the suite of traditional KPIs, including RIDDOR (Reporting of Injuries, Diseases and Dangerous Occurrences Regulations) statistics, for clients that want them to judge our safety performance, but I am getting a good response to the Big Ten approach. One client returned from a visit with us and

reviewed one aspect of his business - working at height. He found he had 16 potential incidents that didn't exist on his health and safety dashboard. That really shocked him. Others are doing similar things under the Safety Differently banner, but we came to this independently, and have worked out ways of doing things specifically for our business. The Big Ten in 10 is good risk management that delivers our People First vision of People First: Go Home Safe.

OBJECT LESSON

Earlier this year, FM Conway trialled “smart” camera technology in the Sevenoaks head office to count how many people are in the building at any time in case of a fire. That same software technology is now being evaluated for use by London boroughs to help monitor the effectiveness of their temporary measures to create more space for pedestrians and cyclists in response to COVID-19.

The smart camera is trained to identify objects

By linking a standard CCTV camera to advanced deep learning software, the smart



ADDING DEEP LEARNING SOFTWARE TO CCTV CAMERAS GIVES LOCAL AUTHORITIES THE ABILITY TO KEEP TRACK OF WHAT IS HAPPENING ON THEIR ROADS

camera can identify “objects”, including cars, vans, lorries, buses, bicycles and pedestrians. Once the system knows what the objects are, it can be tasked to identify patterns of behaviour, such as vehicles turning left or right at a road junction, or to determine if pedestrians are maintaining social distance.

“Deep learning visual analytics work in the same way as we do – by recognising shapes of specific objects and classifying them,” explains Ashley Bateup, head of technology and strategy for FM Conway’s smart cities team. “We can use existing camera feeds and our deep learning platform to identify the objects, count objects and understand how they move in the scene.”

Ashley’s team has already demonstrated the possibilities of this capability at a complex traffic light-controlled junction in Westminster, where it is now being used to count the different types of vehicles, cycles and pedestrians that use the junction and to analyse their movements.

FM Conway is also hoping to pilot this technology with other local authorities and boroughs to identify how effective their COVID-related temporary pedestrian and cycling measures are.

“This is a way of leveraging new capabilities to capture the new normal,” says FM Conway lighting director Graham Cartledge. “We can help our customers quantify measures and their effectiveness.”

Ashley says FM Conway is ideally placed to use advances in video analytics to benefit London local authority clients: “We’ve combined innovation and technology with our deep understanding of working day to day in London – giving us the unique ability to derive valuable insights.”



VANESSA HILTON

FM Conway is delighted to welcome Vanessa Hilton to spearhead activities aimed at making the business carbon neutral by 2045. Vanessa has spent 14 years in construction, working on large civil engineering projects and infrastructure development, and using a love of nature to drive her career in environmental management. Vanessa wants to change negative perceptions about the construction industry’s impact on the environment and build on FM Conway’s drive for innovation to deliver carbon reduction.

NPORS AUDIT

FM Conway has passed its annual audit by the National Plant Operators Registration Scheme (NPORS), one of the UK’s leading accreditation and registration bodies. NPORS allows employers to deliver training and testing both on site and in accredited training centres, and carries out annual audits to ensure that standards of training and assessment are of the required quality. The scheme enables individuals to be trained in the environment they work in daily, and to demonstrate and apply their knowledge while they are working. Thanks to FM Conway’s dedicated training centre at Chelsfield, and the great work of the training officers, the business is meeting and maintaining the high standards of NPORS and ensuring the safety of all colleagues.



INSPIRING STUDENTS

FM Conway has offered permanent roles to two graduates, Harry Rushworth and Manisha Sidhpura, through the Construction Industry Training Board Inspire Scholarship Scheme. Through the scheme, the company sponsors and recruits undergraduates who are studying a construction-related degree, offering them paid work experience each summer and supporting them throughout the year, with the aim that they will join the FM Conway family at the end of their studies.

ERITH 10-YEAR ANNIVERSARY

– Decade of production

This year FM Conway celebrated a great milestone: the 10th birthday of Erith Asphalt, the company’s first asphalt plant. The Benninghoven BA3000 plant was commissioned in 2010 to support FM Conway’s self-delivery model and has manufactured 3.9 million tonnes of asphalt over its 10-year history. When it opened, Erith was one of the first asphalt plants in the UK capable of using recycled asphalt pavement (RAP).



A JOB WELL DONE

cpneighbours
@cpneighbours

Epic work by @FMConwayLtd tonight ... resurfacing at its best!



Michael Barratt
@MBCyclingTM

Out with @FMConwayLtd snr management visiting bridge sites by bike & see how its going with their new fleet additions - discussing all things #cargobike Also, good to meet one of FMCs riders. Exemplar stuff! @jmurphyandsons @ringwayjacobs @BITAIntl @CCScheme



Nick Monopoli
@nickmonopoli

I never thought in my life I'd be so excited to have my road resurfaced! @FMConwayLtd always do a top job 👍 Next will be the planters and bollards @BetterStsNewham @newhamcyclists @NewhamLondon @MartinSurveyor



Inside Mill Hill
@insidemillhill

Had a quick chat with these chaps from @FMConwayLtd, they were busy cleaning and removing graffiti in the subway by Hartley Avenue, Mill Hill this morning, these are the real unsung heroes, I thanked them for doing a grand job! #millhill



Bike Lines London
@bikelinedn

Great to see @FMConwayLtd working with cargo bikes, though would be even better if the infra at Waterloo were a little more bike friendly @willnorman @TfL @MBCyclingTM



cpneighbours
@cpneighbours

We've just had our first daytime road closures of Westow Hill in a generation!

HUGE thanks for @lambeth_council @yourcroydon @VeoliaUK @FMConwayLtd @thameswater who allowed us a very special HIGH-street seat, for the best smoothest, cleanest, and peaceful sunset views in town!



Divisions
Term maintenance, traffic management, consultancy, lining

Compliment from
Kevin Goad, director of highways, Westminster City Council

Project
Westminster COVID-19 movement strategy

"I wanted to write to thank you and your teams for all the hard work to get the City reopen. I know that it has been challenging, that weekends and evenings have blurred or disappeared, and we have constantly had to change direction or amend services to support the reopening. That said, we did it, and it has been a real success and greatly appreciated by all. This has been a huge achievement and shone a positive spotlight on Westminster and its partners."

Division
Surfacing

Compliment from
Member of the public

Location
A26, Crowborough

"A massive thank you to the guy in one of your small diggers. He took the time to talk to our eight-year-old boy who loves anything to do with diggers. He was so pleased and grateful. If the guy could get some recognition that would be brilliant."

Division
Water & Drainage Management

Compliment from
Member of the public

Location
Gravesend

Operatives involved
Derek Witham and Ovidiu Girda

"I would like to bring to your attention two of your colleagues, Del and Ovie."

This area last year received substantial flood damage, and work to repair damaged drains has been ongoing. After heavy rain, flooding again occurred and was encroaching onto the properties. Thankfully, Del and Ovie arrived on scene and worked tirelessly to clean the soakaway and other drains. I cannot praise their professionalism, dedication to hard work and communication skills highly enough. Both are a credit to your company."

Division
Traffic management

Compliment from
Paul Smith (Amey) and Jonathan Dean (Kent County Council)

Location
Charing Hill, A252, Ashford

Operatives Involved
Sirak Soloman, Gavin Reynolds, Joe Nightingale, Iain Gunda, Shaun Manning, Anthony Hardy

"Please pass on our thanks to your traffic management crews who worked on Charing Hill. The client was extremely happy and noted that they were very professional in the way they conducted themselves and carried out their work to a high standard, creating a safe environment for the surfacing team to work, and made sure the works were completed not just on time, but early." (Amey)

Division
Water & Drainage Management

Compliment from
Tim Jermyn, Hampshire Police

Location
Mollison Rise, Whiteley

Operatives involved
Niall Devereaux and Terry Robinson

"Please pass on my thanks to Conway and their operatives who did a meticulous job on all the gully pots on our road."

Division
Human Resources

Reported by
Julian Wynn, water and drainage management director

"A special thank you to the HR team, who have been very helpful and supportive when dealing with issues related to furlough leave, bringing people back to work, and other sensitive matters. Several individuals have been really great helping us through some difficult situations."

"I would like to extend my thank you to the traffic management crews. To close (even partially) an A-road during the day is always a nightmare, but not one complaint crossed my desk, which is some achievement and reflects the professional way this was managed throughout by your crews." (KCC)



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