mpa
essential materials
sustainable solutions

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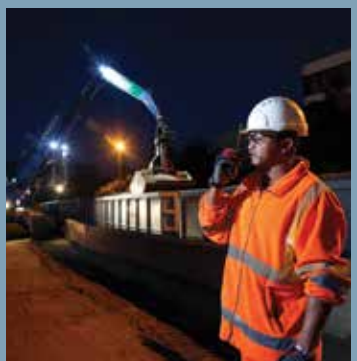
The magazine of the Mineral Products Association

mineral products today

Building bridges
better connections

Quarries & Nature 2017 – restoration and biodiversity award winners



Bigger and better
joined-up wildlife

Safeguarding
protect key sites

Quarrywatch
new initiative

make the link
to mineral products

WELCOME

IT IS a pleasure to welcome you to another issue and to have an opportunity of introducing myself as MPA's newly appointed chairman to those that don't know me. In doing so, I would like to pay tribute to my predecessor Simon Vivian – he has done much to further our cause.

I am senior vice president with Tarmac (a CRH Company) and have enjoyed a 30-year career in the construction and quarrying sectors, having originally joined as an apprentice. I have worked in a variety of both operational and management roles.

I am passionate about all aspects of the mineral products sector but none more so than about our people – encouraging them to join this great industry, helping them grow their skills into rewarding careers and doing all that we can to keep them safe and happy.

I also have a strong belief in not just minimising our impacts on the environment but making positive contributions wherever we can. I am, therefore, delighted to see strong evidence of that in this issue, with companies large and small working side-by-side to achieve great outcomes.

Achievements in our front-line business of supplying the nation's construction needs are made every day and in a host of ways – whether on health and safety, nature conservation or sustainable products. But few are on quite the scale of the newly-opened Queensferry Crossing. How appropriate that Her Majesty the Queen should officially open

it 53 years to the day since she performed the same task for its predecessor. Like so much of what our industry achieves, it will do much to improve the economy, protect jobs and enhance our quality of life.

Martin Riley
Chairman, MPA

'Wake up' call

A storm is brewing over the 'withering' planning system

MPA has urged the Government to 'wake up' and make the link between its own ambitions for more homes and better infrastructure and the mineral products that make them possible.

The association's chief executive, Nigel Jackson, has written to Communities Secretary Sajid Javid, saying that ensuring adequate supplies of aggregates, the main constituent of mineral products supply, relies upon an efficient mineral planning system which encourages companies to submit planning applications for more aggregate reserves.

"Over recent years the system has been withering, with vital staff in both local and central Government being cut, not replaced or diverted," says Nigel Jackson. "Eventually we will pay a price and the system that has operated reasonably well since the mid-70s will fail to deliver mineral products at the right levels to feed the construction industry. Government needs to wake up and 'make the link' while there is still time to act."

The plea for timely action also asserts the need to continue cutting and improving red tape in the extraction industry. Operators are frustrated that the 'cutting red tape' review of mineral extraction introduced in acknowledgement of the cumulative impacts of environmental and other regulation has stalled. With it was promised a drive to secure an overall £10bn of reduced costs for business.

MPA's suggestion is that momentum is regained by forming a joint Government and industry strategic group to provide due diligence on developing more effective regulation. Meanwhile, the need for between 3.2 and 3.8bn tonnes of materials by 2030 needs 'active management' that overcomes the obstacles created by localism and devolution in particular.

"These key inter-related issues potentially affect our industry's ability to ensure that the construction industry can continue to be supplied with one million tonnes a day of essential products," says Nigel Jackson. "If the Government takes no action, it will undermine any attempts to fix a broken housing market and supply significant infrastructure projects that are planned over the next five to ten years."

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Front cover: The new Queensferry Crossing underpins Scotland's economy (p10-11). Photo: PA Images.

Call to expand safety scheme

LIVES of vulnerable road users can be saved if a vital London-focused scheme gets the support that it needs to go national. That's the MPA view as it throws its members' weight behind the latest campaign from the Construction Logistics and Community Safety (CLOCS) initiative.

With statistics indicating that four years of effort are at last starting to reap rewards in the capital, the association believes the time is right to greatly expand CLOCS' influence. It wants its members, together with construction firms, major building projects and local authorities to ensure that the CLOCS code becomes embedded elsewhere and that there is one national standard for improving the safety of vulnerable road users (including pedestrians, cyclists, motorcyclists).

MPA's involvement is led by executive director Jerry McLaughlin who believes local authorities have a key role to play. "They have purchasing power as construction clients; they apply planning conditions to construction projects; and they impose planning conditions on quarries and other sources of materials," he says. "If they embedded a requirement for all construction-related vehicles operating in their areas to operate in accordance with CLOCS it would undoubtedly send out clear messages along the supply chain and ultimately save lives."

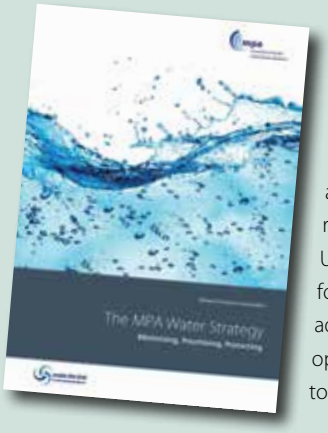
Of the 78 vulnerable road users killed or seriously injured in 2015 in collisions with tippers and truckmixers, some 80% occurred outside London. In London over the past few years, cycling trips increased by 25% and construction deliveries by about 50% – but as CLOCS has gained traction, the toll of cycling fatalities and serious injuries has slightly fallen.

The CLOCS standard includes requirements for the use of safer lorries, driver training, better planning of deliveries and safer access and unloading at construction sites. All are designed to make roads safer for pedestrians, cyclists, motorcyclists and other road users.

Pledge to save water

MINIMISING the use of water, prioritising sustainable sources and ensuring that quality is not affected by operations are the three priorities of a new MPA Water Strategy.

The association's vision for water applies to the entire cradle-to-grave life cycle, with members increasingly committed to designing products and solutions that will contribute to sustainable solutions.



Operators are aiming to achieve a better overall understanding of the amount of water consumed and demonstrate where measures have been implemented to achieve the three key aims. It will be reviewed in 2020, by which time the measures set out in the strategy will have provided baseline data and a greater understanding developed of the industry's interaction with the water environment.

MPA's environment and waste policy executive, Nicola Owen, says that there is strong commitment amongst members. "They recognise the importance of the UK's water resources and the need for sustainable management to be adopted across every aspect of their operations, from extraction, through to product manufacture and use."

Budget priorities

AN economic and industrial strategy that fuels sustainable growth, and a good deal on Brexit that maintains UK competitiveness are the twin priorities identified by MPA for the Autumn Budget as it presses the case for building confidence and encouraging investment.


Image: Shutterstock

In total, the association has identified nine priority areas that need to be addressed and has also included within them the speeding up of infrastructure investment, freezing and improving the aggregates levy and improving the competitiveness of energy-intensive industries.

Chief executive Nigel Jackson believes the 22 November Budget is critical to the industry and to its customers and suppliers. "The impending Brexit means that Government needs to look for every opportunity to support the competitiveness of UK industry and to encourage confidence and investment," he said.

"Operating throughout the UK and supplying industries with a turnover of £495 billion, ours is a key 'enabling' industry that underpins growth, job creation and productivity improvement through the economy while also delivering social and environmental objectives."

He added: "Our proposals would help build confidence and encourage investment while giving our economy and our industry the platform for sustained long-term growth."

BRIDGING TO THE FUTURE

THE stunning image of the new third bridge spanning the Firth of Forth carries far more weight and significance than the traffic flows it supports. Apart from showcasing the evolution of bridge design and the brilliance of the designers, engineers and contractors, there is far more to appreciate than appears at first sight.

Firstly, the foundations and motorway. Over a million tonnes of aggregates, asphalt and concrete have been consumed; not as eye catching as the steel cabling that takes the weight of the bridge and gives it form, but just as essential. These primary materials have been predominantly produced and supplied by local operations of MPA members. Materials that day-in, day-out provide the foundations for virtually every structure, road and railway in the UK. Too often unseen, overlooked and undervalued.

We should be grateful that we are blessed with such rich geology that enables us to deliver vital materials by road, rail and river and act as a bridge for areas that cannot satisfy their own needs.

Bridges do far more than span gaps, they enable flow and movement of people, labour and goods. It is interesting that over time, new crossings have been needed to enable Edinburgh and Fife to realise the region's economic potential. Increasing and improving connectivity is a strategic response to latent demand and stimulates economic activity.

But bridges are not always physical. Bonds, contracts, partnerships, joint ventures and agreements are equally essential in uniting separate parties with common objectives. And no, I am not developing an argument against Brexit! I am arguing for constructive cooperation in whatever form enables mutual value to be generated.

To build a river crossing requires vision, a clear common objective, a programme of action and funding arrangements that will deliver the desired outcome.

It also, of course, needs the right skills and competence – people who know what they are doing all pulling in the same direction. Acting as a team.

And now I am moving into Brexit territory! If our exit negotiations were subjected to the same performance evaluation that has been applied at the Queensferry Crossing the score would be very low. So why is it that the equivalent skills and competences that enable so many construction projects to be successfully delivered by professionals appear to be lacking in the highest echelons of Government and the official Opposition.

It is, of course, possible that this is deliberately illusory or tactical, but when clocks are ticking politically and economically it is no time to 'underperform'. As we depart the EU, it is vital that we maintain effective bridges and build new and better ones, both in Europe and beyond.

Business and industry are doing this all the time. We know what works and what does not. We are not theoreticians but pragmatists. We have to deliver to survive and work hard at developing the capabilities and capacity to ensure good outcomes in challenging conditions.

Skilled people all working in a common cause – why not with Brexit?

VIEWPOINT by MPA chief executive Nigel Jackson

'So why is it that the equivalent skills and competences that enable so many construction projects to be successfully delivered by professionals appear to be lacking in the highest echelons of Government and the official Opposition.'

The last unnecessary election has prompted something of a shift in the Government's engagement with business. To date, it remains unclear whether it is really listening. The move to transitional arrangements post Brexit is sensible and may well reflect a more pragmatic approach based on dialogue with industry. It is a start, but no more. It is like the first pours of concrete for the foundations at Queensferry. Something to build on.

With continuing engagement and a whole lot more listening, industry can help build the bridges we need to achieve a global Britain. If we succeed, we can increase the flows of capital, people, labour and goods but hopefully in a more managed and economically productive way. The Firth of Forth is not just a beautiful fjord and estuary and the site of three great engineering achievements. It is a metaphor for our new place in the world.

Illustrations: Michael Warren

Bigger & better

Joined-up thinking is central to the Government's long-term strategy for wildlife across the UK. While small individual sites remain important, the big benefit comes when it is possible to link them up on a landscape scale. Quarry restoration has a big part to play in the vision to create a whole that is greater than the sum of its parts.

This project was showcased at MPA's Quarries & Nature 2017

STRETCHING across middle England, the valleys of the Trent and Tame were once a wildlife paradise – a giant wetland artery running 185 miles from source in the West Midlands to the sea in Lincolnshire.

Over the past 100 years or so, much of what made the valleys so attractive to wildlife has been degraded. Wetlands have been lost because they were drained for agriculture, built upon or generally neglected. Species like wading birds, bittern and water vole have all come under immense pressure from loss of wetland habitats, and reedbeds in particular.

Gravel extraction has been part of this pattern of change as the industry has responded to public demand for new and better homes, schools, roads and hospitals. Yet now, quarrying is leading the way in reversing the decline. Carefully conceived and coordinated restoration of a whole string of sites is seen as the major agent in bringing this huge Midlands corridor back to its watery former glory, and in doing so securing the future of threatened species.

The transformation is being made possible by a nature partnership on a previously unseen scale involving six county councils, a string of government agencies, environmental NGOs and mineral products operators. Fundamental to the whole exercise is the leadership given by Nature After Minerals (NAM), an RSPB-led partnership programme, established 10 years ago with support from Natural England, the Mineral Products Association and others.

An aerial view of Langford Lowfields quarry and reserve demonstrates the wetland potential

The 'Bigger & Better' initiative covers the whole of the Trent and Tame valleys. Its 2050 vision is to bring it back as one of Britain's greatest wetlands – an "attractive, multi-functional and inspiring landscape loved and valued by all".

With current and proposed mineral sites covering some 8,000 hectares (about the size of the city of Nottingham), it already has the benefit of a lot of successful individual restorations. The challenge now is to take a more strategic, coordinated and landscape-scale approach; and the fact that each of the six Mineral Local Plans for the region began undergoing review at the same time meant that opportunity knocked like never before.

While small wetlands are of high value for species like amphibians and dragonflies, bigger ones of 100 or even 200ha can accommodate a full range of species. They are also more resilient to the effects of climate change, cheaper and easier to manage per hectare, and more likely to attract newly colonising species like purple heron and spoonbill.

Substantial progress could be achieved by coordinating master plans across whole clusters of mineral sites. With potential for revenue-generating after-uses, it could also unlock funding for habitat management – one of the trickiest issues for operators, land owners and mineral planning authorities.

The jewel in the crown of the grand plan for the Trent and Tame valley involves a 12-mile stretch of the Trent running north from Newark with four quarries forming a 1,200ha chain. Mineral sites here are already creating rich wildlife habitats on a largely piecemeal basis.

Nature After Minerals' planning adviser, John Mills sees the 'joining up' potential here as covering more than just biodiversity. "Delivery of the Newark to South Clifton Concept Plan will result in a better and easier to manage habitat mix, benefiting a range of species, as well as providing sustainable flood risk management, increased public access and natural space for recreation and benefits for the whole local economy," he says.

But will a wildlife vision on this scale make it any easier to win over communities faced by new extraction proposals? "The 'Bigger & Better' vision can't do anything to allay concerns about the operational phase of development," he says. "However, we hope it will help all parties to work better together to show local people what's possible if we raise our ambitions collectively.

"We hope to help local communities understand what a nature-rich landscape really is; how much has been lost in the UK; and the benefits appropriate and sustainable biodiversity-led minerals restoration can provide to them."

Success will be counted in the region's capacity to attract flagship species like bittern, otter, water vole, eel and curlew. "If you can attract those species to live and breed then you have a good quality ecosystem and the associated suite of species is right there alongside them," says John. "But the flagship 'star' species won't set up home on just any old patch of wetland – you have to be ambitious to achieve the right scale and quality of habitat."

Where else?

The 'Bigger and Better' initiative and the specific concept plan for the quarries between Newark and South Clifton is attracting wide attention across Britain. In Dorset, the approach is being developed by Nature After Minerals for potential application to a cluster of mineral sites near Wareham. In Lincolnshire, East Yorkshire and the West Midlands there is similar interest in using concept plans to bind together fragmented mineral restoration and so achieve landscape-scale benefits.

Unique opportunity

Restoration by MPA members has already achieved major benefits for wildlife along the length of the Trent and Tame corridor. The threatened species that can benefit from a joined-up approach in the coming years include water vole, which has become one of the most endangered mammal species in the UK. Nearly 90% have disappeared in the last seven years due to habitat loss and predation by American mink. Meanwhile breeding numbers of lapwing, curlew, snipe and redshank have all crashed since the 1980s and need large wet grasslands for recovery. The opportunity is a unique one.

Reedbed

Tarmac is working in partnership with the RSPB at Langford Lowfields near Newark-on-Trent and has already created a popular reserve. Still a working quarry, the site is on course to become the biggest reedbed in the East Midlands, with particular long-term potential for bittern, water vole and eel. Trails and viewpoints offer local people new opportunities to enjoy the rich landscape and to see some 20 butterfly species plus barn owl, cuckoo and hobby.

Wet woodland

A strong relationship between CEMEX UK and the Nottinghamshire Wildlife Trust has seen Attenborough quarry near Beeston evolve into a stunning 145-hectare nature reserve with an award-winning visitor centre. Its bird species include bittern, grasshopper warbler, great crested grebe, lapwing and oystercatcher. Attenborough is also strategically located to join up other initiatives which include plans to provide osprey nesting opportunities along the Trent Valley.

Channel braiding

Hanson's restoration of its Middleton Hall site near Tamworth, in partnership with the RSPB, has seen a previously degraded farmland landscape transformed into a diversity of habitats. The company worked closely with the Environment Agency on a scheme which involved experimental extraction from the river bank. In doing so, it made possible the creation of islands, gravel bars and other features which enhanced the habitat value. With some 23 hectares of reed beds also created in the main gravel workings, which are now part of RSPB Middleton Lakes, a significant nature reserve attracting thousands of visitors, the overall benefit has been massive. The restoration also helps to alleviate flooding in the wider area.

Lakes and woodland

Aggregate Industries' quarrying operation at Newbold Quarry south of Burton-on-Trent is a long-term project, with a new 160ha phase now progressing restoration that has already returned land to farming, woodland and wetland. The latest stage will include semi-improved grassland and arable land, together with new lakes for amenity, recreation and nature conservation. New planting will join up existing areas of woodland. The site will contribute significantly to the Central Rivers and National Forest initiatives that are revitalising the Trent Valley locally.

Quarries & Nature 2017

MPA's Restoration and Biodiversity Awards **are the highlight of the association's bi-annual conference which takes place at the Royal Society in London as this issue goes to press. This year, its focus is on *Appreciating Assets*, celebrating the wealth of the landscapes and habitats created and managed by the industry.**

RESTORATION: COOPER HEYMAN CUP

Tarmac, the Herts & Middlesex Wildlife Trust and **Hertfordshire County Council** win the coveted Cooper-Heyman Cup for the Panshanger Park restoration near Hertford. The company extracted 5.5m tonnes of sand and gravel with progressive return to agriculture, woodland, grassland and wetland.

The park is a grade II listed historic landscape. Its great beauty includes many veteran trees and the River Mimram, a chalk river and internationally important habitat.

The fact that the ecology and landscape of the site was not just protected but enhanced is a great credit. The land area that was the subject of extraction amounts to 20 to 25% of the whole site, with the work giving back 20ha of priority habitat including a new section of chalk river, fen and marshy grassland plus lakes with reed-fringed margins.

As quarrying operations come to an end, a large part of the estate is being opened to the public as a country park and nature reserve.

BIODIVERSITY: INNOVATION

The award goes to **Hanson** for the work involved in creating a new SSSI from one that was lost at Keepershield Quarry in Northumberland. Amongst other important habitats, the Scroggs SSSI contained one of only three known UK populations of Alchemilla micans (shining lady's mantle).

The underlying ground conditions were created in a receptor site, including the formation of exposed rocks so that there were areas of limestone and whinstone suitable to receive translocated turf. Turf was then lifted and moved fragment by fragment to match the mosaic of underlying conditions. Weeds were eradicated and stock-proof fencing erected to keep vegetation at an optimal level. Such has been the success that the receptor site has now been designated as the 'New Scroggs SSSI'.

BIODIVERSITY: PLANNED RESTORATION

The award goes to **Raymond Brown Minerals & Recycling** for a project involving its Brickworth site near Salisbury. The company has won permission for extraction of 1.3m tonnes of soft sand over 12 years as an extension to an existing operation.

The area to be quarried is currently commercial coniferous woodland, but it was originally ancient woodland and the soil carries a rich seed bank. A robust handling strategy has been designed which relies on moving soils only once, using direct placement to the area of restoration.

The intention is to increase broadleaved woodland on ancient woodland soils with an enhanced range of native species. Ecological benefits include creation of habitat areas to benefit reptiles, bats, dormice, birds and great crested newts.

BIODIVERSITY: INDIVIDUAL CONTRIBUTION

Michael ('Mik') Cardus is a born and bred dalesman with a life-long devotion to the wildlife of the Yorkshire Dales. In childhood, he could name every bird listed in the *Observer Book of British Birds* and carried that passion with him when he went to work as a plant operator at Dry Rigg Quarry in North Yorkshire at the age of 16.

Today, he is quarry manager there and has been able to pursue his long-held belief that quarries in Dales and National Park needed to "up their game" so that they were seen as a community asset. He was instrumental in converting a redundant office into an educational facility and has greatly grown the number of school and university visits from a wide area. He gives up much of his own time to those visits.

Mik has poured his enthusiasm into restoration work at Dry Rigg that has targeted the rare alkaline fen plant community. He was involved too in the recording, trapping and relocation (under licence and supervision) of great crested newts that were recorded for the first time in the national park in the first phase restoration. He also records wildlife and helps with management at the neighbouring Swarth Moor SSSI.

BIODIVERSITY: LANDSCAPE SCALE

Imerys Minerals takes the Natural England Award with a project that has involved recreation of 785ha of lowland heathland on sites extending over 26 square miles of Cornwall. The work has been undertaken over a number of years as part of the *Tomorrow's Heathland Project – Putting the Wild Heart Back into Cornwall.*

It began with the landscaping and reprofiling of existing china clay tips, pits and mica dams in order to recreate previously lost lowland heathland habitat.

Heathland plant species were seeded onto specific sites, complemented by the planting of native trees. Collected seed stock was dispersed using a hydro-seeding technique. The scheme also included the creation of additional public access and installation of stock management facilities.

The project was planned using data captured from the National Lowland Heathland Programme and used historic material including aerial photography and landscape appraisals dating back to the 1940s. Imerys then worked with Natural England's project team to identify appropriate sites.

BIODIVERSITY: INNOVATION (SPECIAL FEATURES)

Two projects were showcased at Quarries & Nature 2017 – one from Tarmac and the other from Hanson. The **Tarmac** project uses Geographical Information System (GIS technology) to map habitats within quarry restoration schemes. The technique is seen as a means of optimising landscape connectivity and net positive biodiversity.

Priority habitats associated with current and past quarries are a particular beneficiary because habitat mapping can be used to guide new connectivity. Species targeted include wetlands and reed beds for birds such as the bittern; and ponds plus rocky scree slopes for amphibians and reptiles.

Hanson impressed the judges with a 'Quarry Life Award' scheme which has involved 13 student research projects over six years and covering nine different quarries.

The work has covered a wide range of habitats and has focused on species ranging from bats and crayfish to water voles, migrating waders and invertebrates.

Part of a wider European initiative by parent company Heidelberg, the scheme engages students, schoolchildren and other groups in projects in and around quarries.

Full awards results at www.mineralproducts.org **@quarry_nature**

Photo: PA Images

Incredible feat

The opening of the new Queensferry Crossing in August provides vital underpinning for the Scottish economy by removing the recurring threat posed by long-term operational problems and frequent closures of the old Forth Road Bridge. Built in often horrendous weather conditions and completed under-budget, the new £1.35bn bridge represents a huge construction feat. It could not have been achieved without on-the-ground input from MPA members.

- Scotland's biggest infrastructure project for a generation
- At 1.6 miles, it's the longest bridge of its type in the world
- The 210m bridge towers are the highest in the UK
- Longest free-standing balanced cantilever in the world (344m x 2)
- Over 15,000 people worked on the project.

THEY appear unlikely starting points for what some are now describing as one of the world's most graceful bridges but, in the midst of an international construction team, Tarmac's nearby Ravelrig and Newbigging quarries are both due their own modest slices of the credit for the newly iconic Queensferry Crossing.

Over in Glasgow, the import terminal operated by fellow MPA member Aggregate Industries was similarly fundamental to the bridge. It managed the flow of cement and blastfurnace slag produced by a sister company in

Photo: Shutterstock

Photo: Shutterstock

Germany. And when it came to surfacing the bridge deck, that too came from AI, this time from asphalt plants at Grangemouth, Duntilland and Chryston.

Behind the scenes at both companies were teams of experienced people who, after winning their respective contracts from the Forth Crossing Bridge Constructors (FCBC), managed an often complex logistics process to put essential materials in the right place at the right time over a testing five-year construction marathon.

The raw materials came together in a batching plant operated by FCBC at Rosyth, with onward barge deliveries from there. Aggregate Industries and Tarmac had their own important roles to play in setting one of the more obscure world records – for a continuous underwater concrete pour.

The foundation work for the 210-metre high bridge needed a 15-day, 24-hour non-stop operation to pour nearly 17,000m^3 to the foundations of the south tower, one of three that now support the deck as it carries 65,000 vehicles a day. In doing so, the bridge will be pivotal to the Scottish economy and greatly ease the frustration of drivers previously used to stop-start queues during rush hour, and closures in high winds. (The new crossing features pioneering windshielding techniques that should virtually eliminate closures in the notoriously windy Forth estuary.)

Situated ten miles south of the bridge at Kirknewton, Ravelrig Quarry is no stranger to supplying major projects, having been a key producer across central Scotland since it opened in 1984. It provided 356,000 tonnes of bulk fill and 213,000 of coarse aggregate for the site's ready-mixed concrete plant. Meanwhile, its sister Newbigging Quarry, some 20 miles away near Lanark, supplied 90,000 tonnes of drainage material and 182,000 tonnes of fine aggregate for concrete manufacture. Tarmac's peak came for the record pour when it contributed an average of 1,350 tonnes each day.

Strategic account manager Barry Wellby was a key member of the Tarmac team. "Our biggest challenge came when the existing Forth Road Bridge was closed to HGVs for three months in December 2015 due to a crack in a critical beam," he said. "That meant a major diversion and long delays but we worked with FCBC to maintain the supplies which ensured that the batching plant remained on programme."

For Aggregate Industries, the project was a demanding one which required consistency, not just across the various elements of the bridge but over five years from 2012. The contract was placed prior to the 2015 LafargeHolcim merger, which meant that the cement and slag came from Holcim plants in Germany via a terminal in Glasgow.

The continuous pour was particularly testing, says Matt Cunningham, head of trading and supply chain. "Our terminal gave us a reserve of several thousand tonnes and it was then a matter of working with our transport partners to ensure that we had material on site, which we achieved by having a tanker and driver based at the wharf full time."

He adds: "The finished product speaks for itself and the results will come in the performance of the bridge. I studied civil and environmental engineering at Edinburgh University with the old bridges on my doorstep. Being able to be involved in this project gives me an enormous sense of pride."

On the asphalt front, AI supplied and laid a total of 270,000 tonnes over the past three years on the bridge deck, motorway-standard approach roads and realigned local roads.

The complexity of the task challenged the team's innovation skills. It included a 'Scotland first' involving the use of 'echelon paving' across four lanes of motorway, with pavers working in tandem to eliminate longitudinal joints and so strengthen the final surface.

"The finished product speaks for itself and the results will come in the performance of the bridge."

Photo: Shutterstock

SAFEGUARD OUR SITES

MPA is challenging local authorities to recognise that failing to safeguard strategic rail depot and river wharf facilities from surrounding development is opening the way to neighbour conflicts and could put mineral supplies delivered by rail and water at risk. The problem is particularly acute in London but is increasing in many parts of Britain.

There is also growing concern in the industry about its diminishing long-term ability to supply key construction markets in the most sustainable manner. While river locations in particular lend themselves to fashionable new housing, the reality is that ultimately the less glamorous but essential operations that underpin sustainable supply are in danger of being seriously constrained or driven out.

Safeguarding of key sites has become an important challenge for MPA and its members as they struggle to persuade planners of the need to implement the strong national and local policies that are available to them.

The association readily acknowledges that wharves and rail depots can generate noise and dust, and include areas for material storage and processing. They also sometimes need to operate 24-hours, notably to unload dredgers that can only deliver on high tides, and are likely to involve significant road (and sometimes rail) movements. There is acceptance too that operators should manage and minimise any such issues.

But the issue remains that planning policies which recognise the importance of – and are designed to protect – wharves and rail depots are often not implemented effectively. As a result, incompatible neighbouring development is allowed – notably housing, with the result that residents then complain about noise or other nuisance. Pressure is then put on the industrial operations and their activities are limited.

In some cases, planning authorities and developers seek to abandon the safeguarding of such sites in order to build on them.

As MPA's Mark Russell puts it: "If wharf and rail depot sites are lost, either through design or ignorance, we will lose our ability to supply construction markets in the most sustainable manner."

He adds: "Local authorities must sustain and implement existing safeguarding policies. The importance of our wharf and rail infrastructure should be emphasised in particular in the London Plan and the Mayor's Transport Strategy, and local planners and councillors must appreciate

"If wharf and rail depot sites are lost, either through design or ignorance, we will lose our ability to supply construction markets in the most sustainable manner."

their responsibilities under national and London Plan policy to implement safeguarding policy requirements when producing local plans and determining planning applications.

"If new developments that could impact on safeguarded wharves and rail depots are proposed, it needs to be demonstrated that these issues have been fully addressed – for example in the design of the development – to mitigate the effects of noise from existing operations."

Research amongst MPA members reveals industry sites over a wide area of the country affected or potentially affected by safeguarding issues. They include:

- A railhead in Bow, East London where safeguarding is being opposed and housing is proposed
- A wharf in Swansea where enclosure by residential development opens the way to potential complaints
- A safeguarded rail depot in Leeds where housing was permitted in close proximity and safeguarding was not applied
- Potential loss of a railhead in Northampton in favour of a car park and housing
- Rail sidings in Bury St Edmunds, Suffolk where the feasibility is threatened by noise-sensitive residential development.

Key facts

- 97% of aggregates used in London are transported from elsewhere
- A network of wharves and rail depots handles 10mt of primary aggregates each year
- … equivalent to 500,000 long-distance lorry movements each way
- One large dredger carries the equivalent of 250 lorries, while a river barge carries 50 lorry loads
- One train carries the equivalent of 75 lorries.

WHARVES: GREENWICH

Industry operations are clustered along the Greenwich peninsula, including marine aggregate wharves and processing facilities, and a railhead. In 2016, nearly 3mt of sand and gravel was landed. A high-rise mixed use scheme is being developed on immediately adjacent land and also on the opposite bank of the Thames. Negotiation and challenges by operators have resulted in noise attenuation measures. These include gaps between buildings facing the wharves being filled with special glass barriers. MPA says that such measures need to be factored into new developments at an early stage to avoid conflict, delay and escalating cost. Safeguarding of inactive wharves is also needed to provide flexibility to respond to market demand.

RAIL DEPOT: WOKING

The depot is important for supply of sand, gravel and crushed rock. Housing has been built up to the site boundary and overlooking the site, and permission has been granted for a 34-storey residential tower. No measures are included to mitigate potential effects of the railhead. Yet the Minerals Core Strategy requires safeguarding of infrastructure and consultation on proposals for non-mineral development. Railheads under similar pressure include Tolworth in Kingston, Leeds, Bury St Edmunds, Birmingham and Northampton.

In all cases, there are concerns that complaints from residents are inevitable, leading to additional restrictions on existing, well-established operations.

INVESTMENT

Victory in an endless race

FAMILY-OWNED J & J Franks has showcased its bold long term investment strategy with the official opening of its Mercers Farm Quarry at Nutfield in Surrey.

The official opening of the operation by MPA chief executive Nigel Jackson (pictured below left with Franks managing director Peter Crate) gives the county a much needed source of soft and silica sands. The planning process has cost over £750,000 and taken 16 years to achieve, but it now provides an estimated five million tonnes and brings with it consent to infill with inert waste.

The opening was a momentous day for Peter Crate whose personal association with the site goes back more than 30 years. Nigel Jackson praised his endurance in winning "an endless hurdle race where, as each hurdle is cleared, another appears". He added: "It is a classic example of what we have been saying to Government for a long time that it can take five to 15 years from discovery to operation."

The company has been determined to make Mercers Farm a showcase and it benefits from a high quality haul road direct onto the A25, 27,500 new trees and habitats for bats, reptiles and birds.

SILICA SAND

Making water safe

THE old ways are still sometimes the best, as Garside Sands has proved by supplying the specialised sand used in an age-old process that is purifying drinking water for 180,000 people in the Fife area of Scotland.

The company supplied more than 2,800 tonnes of its pioneering Slowfil Sand to the Glenfarg water treatment works as part of a programme to improve its water quality using a slow-filtering process first adopted in Victorian times.

The process takes place in a container in which the sand is initially submerged in water, gradually developing a biological film made up of living organisms. This then effectively 'eats' pathogens as water passes slowly through the sand.

Brian McCulloch of Ross-Shire Engineering, who installed the system at Glenfarg, said: "It was crucial to have a highly accurate specification of sand. Garside Sands was fantastic in working closely with us and understanding what we needed."

DIMENSION STONE

Anxious wait

AS we go to press the team at MPA member Albion Stone are on tenterhooks awaiting the destination of British architecture's most coveted prize.

Amongst the shortlisted contenders for RIBA's Sterling Prize for the UK's best building is the British Museum's £135m World Conservation and Exhibition Centre in London whose key architectural features include Portland stone supplied by the Dorset company.

The redevelopment project is one of the largest in the museum's 260-year history and involves a new gallery and archive facility. The nine-storey structure involves a cluster of pavilions, including one underground. These were constructed using steel frames, Portland stone and glass to fit in with 19th and 20th century architecture of the existing buildings.

The project is already a regional winner along with another Albion Stone project – the 8 Finsbury Circus office building in the City of London. The judges will announce their decision on the Sterling Prize at the end of October.

TRADITION

Ragstone revival

SUCH is its pride in one of Britain's less familiar building stones that Kent-based Gallagher Aggregates has gone so far as to raise awareness by placing a ragstone advertorial in a local newspaper.

It tells the story of the ragged grey stone which goes back to Roman times when Medway quarries played a key part in the building of London. The sizeable industry shrank back to local proportions for many years but has been resurrected since the 17th century as a source of material for Westminster Abbey and St Paul's Cathedral.

In the modern era, Gallagher is the only company actively quarrying Kentish ragstone from two quarries. Blocks are cut into slabs via a primary saw and then into precise dimensions before being hand-dressed to suit specific requirements.

Gallagher Group chairman Pat Gallagher is proud of the craftsmanship involved and of the fact that newly quarried ragstone is now being used alongside older buildings in the same material in developments such as the Chilmington Green housing development, near Ashford. "It is at locations like these where Kentish ragstone's natural durability and fine appearance will continue the tradition of this excellent construction material," he said.

RESURFACING

A tall order

IN the world of road resurfacing, there are few projects quite so daunting as the 1 in 4 gradient on Somerset's Porlock Hill. It was, however, a challenge that locally based Wainwright was happy to take on.

The job required a specialist integrated paver and an all-terrain forklift truck all the way from Germany. The Wainwright team, also had to erect safety barriers to protect both the workforce and nearby proprieties.

The company's general manager for surfacing Lee Seviour says that a rubberised binder was needed to deal with the steep gradient. "The job involved two weeks of concerted effort, including one week of 24/7 closure," he says. "The fact that we finished on time and inside budget is testament to a lot of hard work, careful organisation and forward planning."

CONCRETE

Strong supporting act

THE transformation of the former BBC Television Centre into a mixed use residential and commercial development has meant a key supporting role for Hanson's London concrete team.

A total of 48,000 cubic metres of concrete has been supplied over 12 months to the £400 million project. Concrete was chosen as the primary construction material to realise the architect's vision for the 145-acre site, which included extending existing structures as well as constructing new ones.

The Grade II listed building at White City, which opened in 1960, was vacated and sold by the BBC in 2012. Hanson has supplied mass pours for the slabs on which the superstructure sits as well as material for post-tensioned slabs and jump-form vertical elements.

Every mix incorporated ground granulated blast furnace slag, reducing the embodied CO_2 of the concrete by nearly 50%.

A key element of the project has been the replacement of the famous obelisk and bowl central fountain, which has been recreated using a self-compacting, watertight concrete. The mix contained a mica sand that provides a shimmer to offset the golden statue at the top of the obelisk.

On the wild side

Photos: David Hatful

MINERAL products operators across the UK are lining up to join MPA's new *Quarrywatch* initiative which aims to build wider appreciation of the wealth of wildlife to be found at the industry's sites.

Launched at the association's *Quarries & Nature 2017* event in London in October, *Quarrywatch* will involve focused nature surveys at designated locations in order to build a much bigger picture of the species that are colonising restored quarries and other nature sites. The Wildlife Trusts are very positive about the initiative, with unmatched opportunities to steer surveys and host surveys at quarries that they manage as nature reserves.

Local wildlife groups, individual enthusiasts and schools will be invited to take part in a campaign which it is hoped will provide valuable new insights to inform the massive habitat creation exercise that is going on across the industry.

Stephanie Hilborne, chief executive of The Wildlife Trusts said: "The minerals sector has an impressive track-record of working in partnership to create havens for wildlife. Our month-long nature challenge in June each year – *30DaysWild* – shows how much people benefit from noticing wildlife in their daily lives.

Encouraging surveys and more time in the wild places that are closest and most important to people, is only a good thing. *Quarrywatch* will not only result in more data, it will also give people the opportunity to experience the joys of wildlife in their daily lives, and help to build closer connections with the natural world, which can be a powerful force for change."

Quarrywatch will link into the nationwide round of *BioBlitz* events being planned around the country during 2018. *BioBlitz* participants this year included Tice's Meadow, a newly developed reserve at Farnham in Surrey created from a Hanson quarry which closed in 2010. Dozens of visitors took part in the wildlife survey there, with a total of 80 species identified. Activities during the day included bird watching, bird ringing, small mammal trapping, moth trapping and bat spotting.

MPA chief executive Nigel Jackson believes the potential for *Quarrywatch* is substantial. "As an industry, we are making a fantastic contribution to wildlife," he said. "Our members are helping to bring back treasured species like the bittern, otter and water vole and are planning the restoration of their sites to achieve just that. *Quarrywatch* is an exciting opportunity to spread the word about what we are doing as well as to gather important new data."

He added: "As threats to UK wildlife mount, there is a real need to grow the evidence base for effective conservation. Volunteers and enthusiasts can generate vast databanks to support environmental policy making."