21 days

the WEHOLITE **JOURNAL**

Cost versus value

WHY THE WATER INDUSTRY NEEDS TO REASSESS ITS GOALS

BRITAIN'S HOUSING CRISIS

Do our brownfield sites hold the solution to the UKs housing shortage?

LARGEST WEHOLITE MODULAR TANK EVER BUILT

delivered to Cambridge sewage plant

ISSUE #4

WEHOLITE

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ASSET International Ltd.

INTRODUCTION

21 days
the WEHOLITE JOURNAL

It takes 21 days to change a habit

– Dr Maxwell Maltz

Following the initiation of the landmark AMP6 period and the culmination of one of the most surprising General Elections in many years, it can certainly be said that we are in a period of great flux within the construction and water industries.

Some big questions need to be answered, many of which will define the manufacturing world for a generation.

For example, the concept of 'cost versus value' will be integral to the future of the water industry. Currently there is an emphasis on short term cost reduction over whole life costs, with many inside the industry understanding price but not value.

However, it is my hope that the new AMP6 period will herald a new dawn in this regard, following an innovative approach from Ofwat who are encouraging water companies to take account of the whole life costs of their assets, and not just be aware of the immediate bottom line.

This is a philosophy we always stand by at Asset, and one we believe will position us perfectly as the industry looks to make better and smarter choices in their use of construction materials. When whole life costs are taken into consideration, the use of plastic, over more traditional building materials will certainly stack up well.

We'll also be keeping a watchful eye on the new political landscape. When it comes to politics, it's housing policy that is the real hot topic in the construction industry. Whether the new government can solve our housing crisis remains to be seen, however what's clear is that we're simply not building enough new homes to meet demand. Pre-election the Conservatives pledged to build 200,000 new houses for first time buyers over the next five years, but this figure is nowhere near enough to tackle the crisis. We need to build at least 200,000 every year if we're to be in with a chance of effectively tackling the chronic housing shortage in the UK.

Of course, it's not all bad news. The economy is very much in growth, the manufacturing world at large is reporting an upturn in operations and profits and it appears that Britain is building again.

At Asset International we are currently involved in some truly exciting flagship projects across the UK and internationally, and there are many more on the horizon. As AMP6 ramps up and the new political landscape takes shape, we're excited to be part of this new era in water management, and to be an important cog in a manufacturing industry that puts the Great back into Britain.

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Editor
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THIS ISSUE

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Asset makes **five new key appointments** following record sales figures

Asset International has recently made five new appointments, consolidating recent growth which has seen the company experience increased levels of business, both domestically and internationally, driven by a buoyant construction sector.

Dominic Lewis, 33, from Ebbw Vale; Johnny Johnson, 26, from Caerphilly; Rhys Williams, 33, from Llantrisant, Lucy Davies, 21, from Treorchy and Tom Phillips, 21, from Neath, have all taken up new posts at the manufacturing firm.

Dominic joins Asset after leaving his role as Global IT Manager for Suterra, the world's leading bio-rational pest control company.

He has already been responsible for the installation of a new high speed fibre optic broadband system, and has overhauled the internal IT infrastructure.

Jonny Johnson and Rhys Williams have taken up positions as Technical Sales Engineers. Their roles will involve developing new business for the brand, designing 'off-site manufactured' solutions and providing technical support to house-builders, consultants and contractors.

Lucy Davies and Tom Phillips have been appointed as new CAD (Computer Aided Design) Engineers.

Lucy and Tom join Asset following the completion of their degrees, with Lucy having studied at Buckinghamshire New University and Tom studying at Liverpool University.

The pair will produce technical engineering drawings and designs with a 3D package, ensuring Asset stays firmly ahead of other companies, many of whom still use more traditional 2D packages.

Back Row:
Dominic Lewis,
Johnny Johnson
Front Row:
Tom Phillips, Lucy
Davies, Rhys Williams

New look website

In early 2015 we unveiled our new look website, which has been designed with water industry professionals firmly in mind.

Featuring all of our latest projects, image galleries, videos, news stories and a complete rundown of our products and services, it is the one-stop destination for all of your Weholite needs.

Visit **www.weholite.co.uk**

Heavy industry meets conceptual design at the **Hampton Court Palace Flower Show**

Asset International has contributed a number of its large diameter plastic Weholite pipes, to an award winning garden designer for use at The RHS Royal Hampton Court Palace Flower Show.

Designer, Katerina Rafaj's bold and bright garden explores the idea of gluttony, as part of the shows wider Seven Deadly Sins theme. The garden was entered into the 'Conceptual Garden' category, where it won Gold.

Boxing and Biking - Asset's charitable spirit is high on adrenaline

Asset International has focused on giving as much back to the local community of its Newport based headquarters as possible and are participating in a number of high octane fund raising events over the course of the next year.

First on the agenda is a charity White Collar Boxing Event at Mo's Boxing & Fitness Academy in Newport on September 12th.

Asset is sponsoring the event, as well as providing trophies, clothing and food, not to mention entering four staff members into the contest.

Finance Director, Neil Bryan; Technical Sales Engineer, Johnny Johnson; Production Manager, Ben Hillman and Fabricator, Anthony Sesevic will all be dancing like butterflies and stinging like bees at the competitive event, as well as raising much needed funds for Autism Puzzles and the Cystic Fibrosis Trust.

In the longer term, several members of the Asset International team have signed up for the Global Adventure Challenges London to Paris bike ride, which takes place over four days next June.

Like the boxers, the intrepid cyclists will also be raising money for Autism Puzzles and the Cystic Fibrosis Trust, two charities which are close to the hearts of the Asset International team for very personal reasons. Neil has two nieces and Anthony has a son who has autism and Steve has a daughter with cystic fibrosis. The funds raised from both charity events will be divided between the two charities.

For more information or to donate to these great causes, please go to https://mydonate.bt.com/fundraisers/neilsbigchallenge and http://uk.virginmoneygiving.com/team/amy65roses

Weholite pipes play role in **African rhino rescue** project

Asset International has supplied a number of its large diameter plastic pipes to a South African wildlife agency in order to build a raft for transporting stranded rhinos across water.

The Mpumalanga Tourism and Parks Agency in South Africa is a governmental organisation responsible for preserving nature reserves within the Mpumalanga region. They have used the company's Weholite pipes to create a raft, which will be used to transport stranded and starving rhinos across a large dam to safety.

The current rhino population on the southern side of Loskop Dam Nature Reserve is stranded due to a dam wall that was raised many years ago. As a result of years of grazing and the limited management of animal numbers, the southern side has become over grazed, thereby putting pressure on the rhinos that cannot swim across river to find better grazing.

Newport manufacturer **strengthens team** with promotion of **world renowned plastics expert**

Asset International has strengthened its engineering team with the promotion of product manager, Dr Vasilios Samaras to the position of technical director.

Dr Vasilios Samaras, 35, joined Asset International in 2005 and has since established himself as a world renowned authority on large diameter plastic pipes. Vasilios is a Fellow of the Chartered Institute of Mechanical Engineers and a Member of the European Engineering Institution. He holds a BEng and a CEng in Mechanical Engineering, a Masters Degree in Research in Computer Modelling and a PhD in Mechanical Engineering, all from Swansea University. He is also currently studying for an MBA at Swansea Metropolitan University.

Dr Samaras oversees an engineering team which designs integrated pipework systems and solutions for the construction industry. He is currently working on a multi-million pound project to help improve London's antiquated Victorian sewage networks, as well as overseeing a number of other high profile projects both in the UK and abroad.

Cost versus value - why the **water industry** needs to **reassess** its **goals**

"For many within the industry it is value for money for customers and reduced flood events that have been identified as being integral to the success of the new AMP programme moving forward."

So called eco-friendly sustainable farming methods are at the root of this winter's floods, but it's heavy industry that will need to pick up the pieces, says Simon Thomas, Managing Director of Asset International.

The water industry is currently undergoing a sea-change that will have a significant impact on the way water companies and their partners operate in decades to come.

It is now almost 25 years since the water industry in England and Wales was privatised. During that time, the UK's water companies have spent over £100bn upgrading the UKs often antiquated Victorian water and sewerage networks, resulting in hugely improved water quality.

The main emphasis in the last 25 years has been on meeting legislative requirements, which has led to programmes to build and upgrade existing facilities to make sure they comply. With the bulk of that work now complete, there is going to be a huge shift in focus in the way the industry works, with an emphasis on consolidation and maintenance of the current infrastructure, and meeting new benchmarks set by Ofwat that are intended to govern the industry in the decades to come.

Until now, Ofwat's priority has been to make sure the water companies upgrade facilities and comply with European water quality directives, very much achieved by a focus on 'outputs' (for example building a new treatment works to achieve required water quality). Now however Ofwat is encouraging companies to take a far less prescriptive approach, moving away from 'output based requirements' and towards 'outcome based requirements'. Essentially Ofwat want the industry to take account of the whole life costs of their assets, and not just be aware of the immediate bottom line.

Currently there is an emphasis on short term cost reduction over whole life cost, with many inside the industry understanding price but not value. Economists describe this as having too much focus on capital expenditure ("capex"), and not enough on total expenditure ("totex").

At the same time as the shift in Ofwat's focus, we must also set all this against a backdrop of the new AMP6 programme, which follows the conclusion of the £22bn AMP5 project. As a result it is an incredibly busy time for contractors and consultants alike, who are coming to market to negotiate the multi billion pound contracts which will drive the industry forward in the years to come.

"Currently there is an emphasis on short term cost reduction over whole life cost, with many inside the industry understanding price but not value."

During this new AMP period, the shift from large capital projects to asset maintenance, and from an awareness of capex to totex, will have far reaching consequences for everyone involved in the water industry, as all aspects of the procurement process will come under stringent scrutiny.

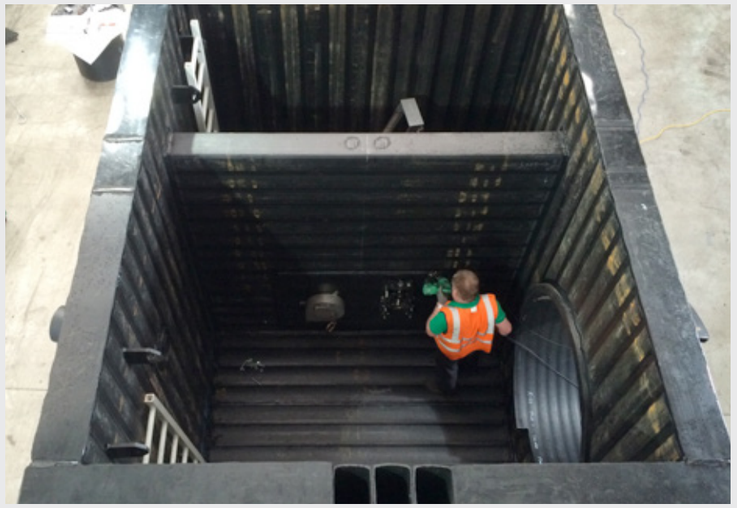
Many within the industry see this is a great opportunity to focus on innovation and what customers want, but naturally there will be many challenges. In this 'new age' of procurement new skill sets will be required, from finding 'outside the box' solutions to supply and quality issues, to delivering truly symbiotic cost/value packages in line with Ofwat's new philosophy, as well as thinking in more macro terms across entire regions, rather than at individual treatment works or pumping stations for example.

For many within the industry it is value for money for customers and reduced flood events that have been identified as being integral to the success of the new AMP programme moving forward, rather than the delivery of a pre-agreed capital investment programme.

For us, as major suppliers to the water industry, we are wholeheartedly embracing Ofwat's new rationale, in the hope that it unshackles an industry that has previously been a slave to decades of bureaucratic legislation, and which has led to often staid and ineffectual patterns of thinking.

A major symptom of this ineffectual thinking is the obsession with lowest cost, rather than best cost, which has been a thorn in our sides for some time. Other industries have already moved to a 'best cost' rather than 'lowest cost' supply model, however in an industry that has always been described at best as traditional, and at worst antediluvian, the world of water has been slow on the uptake.

For a long time we've been operating within a very simplistic and frustrating model where everyone has been scrabbling to come in on tenders with the lowest possible cost, regardless of the long term value it offers the contractor. Now it is all about getting that balance, which couldn't be a more welcome advancement for innovative firms like ours frustrated by the lack of agility within the sector.



Britain's **housing crisis** – the **brownfield solution**

The old Penallta Colliery in the South Wales Valleys.

As the dust from the May general election begins to settle, housing – a key point of discussion during the campaign – remains a key issue. The governing party – the Conservatives – promised during the campaign that they'd build 200,000 new houses, but this simply is not enough. And in real terms, how many of these will even get off the ground?

There's no denying that our housing shortage is a political hot potato of epic proportions. During the election campaign, Green Party leader Natalie Bennett got caught out on talk radio station LBC when she said that her party planned to build 500,000 new homes for £2.7bn (a cost of around £60,000 per home) if they came into power. The interviewer Nick Ferrari amusingly quipped "what are they made of? Plywood?" in retort, and proceeded to rip the ill-conceived policy to shreds. Humorous as it may be, this just highlights the problems that face the ruling party when it comes to finding the budget to build all of the new houses we need.

New housing is necessary because British society is evolving. People live longer, marry later, and divorce more often, meaning that there are more and more households – that is, groups of people who live together, such as families – that need somewhere to live. Government statistics from 2013 actually project that the number of new households will hit 221,000 per year by the year 2021. So where are these people going to live? And why on earth aren't new homes being built at a rate that reflects the demand?

On a more positive note, the number of houses built in England last year did rise by 8% to 118,760, but really we need to look at doubling this number to be at an acceptable level. Don't just take my word for it, homelessness charity Shelter are of the same view, and were annoyed that the 8% rise was the focus of the news stories that followed, instead of the fact that we are still failing to build anywhere near enough houses. I couldn't agree more.

The obvious effect of having a housing shortage is that many households will end up either living in homes that are sub-par, or without any home at all. It also causes house prices to skyrocket. It's no coincidence that since 1988 – the last time 200,000 homes were built – the average house price has risen from £45,000 to £189,000. So, as you can see, it's not just about having enough homes, but about having affordable homes as well.

Supply and demand, the most basic of economic principles, states that a shortage of any consumer good will lead to higher prices. This is the situation the housing market is in now. Conversely, a surplus in consumer goods leads to a decrease in house prices. This is a scenario that for a generation of young people, who stand little to no chance of ever getting on the housing ladder, would be no bad thing. However, the home owners among us may disagree.

Of course, there are numerous reasons why more new homes aren't being built. One of the major ones being that hundreds of thousands of new homes will obviously cost billions of pounds to build. However, another issue that desperately needs addressing is that finding land on which to build these new homes is becoming increasingly problematic. Green belt sites are fraught with planning problems, but what about our brownfield sites?

The government urgently need to implement measures that allow the housing industry to aggressively exploit brownfield land. For the uninitiated, brownfield land is reclaimable land that is left unoccupied following industrial use, such as a disused factory. So while developers may prefer to build new communities on desirable green belt land, the government restrictions imposed upon new builds on these sites makes attaining planning permission difficult and expensive. Brownfield land may require work to reclaim, but it's cheaper, planning permission is easier to attain, and it's typically closer to urban areas where demand for housing is higher. Furthermore, making the best possible use of our brownfield land and keeping strong safeguards in place that protects our valued countryside is clearly the ideal we should all be aiming for.

Clearly the potential of brownfield sites is not lost on the government, in their manifesto the Conservatives pledged to build 200,000 new homes on brownfield land by 2020. They've also pledged to use £1bn to unlock sites for 400,000 new homes. In addition, 20 new housing zones on this brownfield land in London will benefit from £400 million funding from the government and the Greater London Authority. And there will be £200 million of additional government funding available for 10 zones outside London.

The government evidently recognise the potential of brownfield land, but the numbers they're talking about just aren't big enough. We need to be building 200,000 new homes on brownfield sites every year, not just by 2020. And why are they pledging to clear brownfield land to build 400,000 homes but not actually building them?

Housing is a major issue for the new government to deal with, and rightly so. But it's time to ditch the political rhetoric and get serious about an exponential growth in the number of new builds, before the housing crisis gets any worse.

"The government urgently need to implement measures that allow the housing industry to aggressively exploit brownfield land."

A bespoke Weholite drainage solution provided by Asset International for Redrow Homes to protect its new housing development in South Wales, which has been built on the site of the former Penallta Colliery.

Large Weholite **Modular tank** built as part of **Cambridge sewage treatment upgrade**

"Weholite Modular can be used to construct CSO control chambers, pumping stations, flow control chambers, ventilation chambers, detention tanks and other strategic water management products."

Asset International has just delivered the largest Weholite Modular tank ever built to Anglian Water's Cambridge Water Recycling Centre, to form part of the inter-process pumping for the plant's ongoing £21 million upgrade.

Ahead of the initiation of the AMP6 period in April 2015, Anglian Water invested £21 million to increase the treatment capacity of the sewage treatment works in Cambridge.

Asset International were commissioned by Anglian Water's @one Alliance to deliver a Weholite Modular tank for the project, which would be utilised as a pumping chamber, in order to transfer sewage to the new treatment units.

The dimensions required on site meant that the size of the Weholite Modular tank was larger than anything that had been built before at the South Wales factory. At 15 metres long, 4.5 metres wide and 5 metres high, the tank has a capacity of approximately 340m3, which translates to 340,000 litres of sewage.

Once the Weholite Modular tank left South Wales it was installed on site in Cambridge by the following morning, an impressive feat of engineering that would have seen a similar project undertaken in concrete taking up to 13 weeks to install.

Speaking about the project, Shaun Kalies, Sales Director at Asset, commented; "Due to its sheer size a lot of complex design work went into the development of this Weholite Modular tank. We're really proud of the finished result, which is a testament to the innovative practices we employ in every project that we undertake."

Weholite Modular is a new product from Asset International which is more commonly associated with its large diameter plastic pipes. Weholite Modular can be used to construct CSO control chambers, pumping stations, flow control chambers, ventilation chambers, detention tanks and other strategic water management products.

Asset can customise the individual chambers according to customer specifications to include hatches, pipe supports, ladders and more, all the while taking into account traffic loads, groundwater pressure and soil loads.

"Once the Weholite Modular tank left South Wales it was installed on site in Cambridge by the following morning."

Asset's ecological **ambitions help reduce** University of Leicester's **carbon footprint.**

Asset International has provided REHAU, a leading provider of polymer-based construction solutions, with its Weholite brand of high density polyethylene (HDPE) pipes as part of a ground-air heat exchanger system for a £42million renewable energy project at the University of Leicester.

The University of Leicester is developing a state-of-the-art academic research and teaching building. The new Centre for Medicine will be built on Lancaster Road, just outside the city centre, using land recently acquired from Regent College, one of three sixth form colleges in Leicester.

The ground-air heat exchanger (also known as 'earth tubes') will use the near-constant temperature of the ground to heat the ventilation air in winter and cool it in summer for the 12,000m2 building. The utilisation of a ground-air heat exchanger is a cost effective method of tempering the air to ensure the building has a low carbon footprint.

Asset has provided REHAU with approximately 200metres of 1,050mm diameter Weholite header pipe work and round to rectangular box conversions for the project. Weholite pipes were chosen for the header pipes due to their high tolerance of ground movements and their durability. They are lightweight and therefore low cost in regards to transportation as well as being easy to manoeuvre for installation.

Steve Richmond, Business Team Manager for Renewable Energy at REHAU adds: "Connecting our innovative AWADUKT Thermo antimicrobial pipe system to a Weholite header pipe system offers clients a high-performance ground-air heat exchanger solution. Due to the project specific nature of the product, working closely with Asset allows us to fabricate a unique solution. REHAU's bespoke calculation software was used to estimate the potential energy savings from the 32,400m³/h system."

The University of Leicester site is extremely tight, meaning it was often difficult to coordinate the deliveries on site. However, with good communication between REHAU and Asset, the pipes were successfully delivered and fitted.

Paul O'Regan, Asset's Technical Sales Engineer for the renewables sector, said: "Asset is extremely environmentally conscious and for that reason this is a project that we were keen to be involved with. We have worked with REHAU on many projects so they have benefitted first-hand from the effectiveness of Weholite.

"As new buildings seek to boost their environmental credentials, we are seeing high demand for Weholite which is proven to have a lower carbon footprint than its rivals."

Irish natural gas project benefits from Weholite pipes

The ongoing Corrib gas project in Mayo, Ireland, has been advanced by the employment of Asset International.

The landmark project, anticipated to be operational this summer, is estimated to harvest a massive 5,940 billion cubic feet of natural gas.

When it was discovered in 1996, the Corrib gas field was the largest of its kind discovered in Ireland for over a quarter of a century. At peak it is predicted that it will supply up to 60% of Ireland's natural gas requirements, for some twenty years.

The Shell owned Corrib gas field is located about 52 miles off Erris Head in County Mayo in an area known as the Slyne Trough at a depth of around 355 metres. The gas is originating from a Triassic Sandstone reservoir 3,000 metres below the seabed.

Shell began work on the offshore section of the pipeline in the summer of 2009. Over 7,000 lengths of pipe have been welded together on board the Solitaire pipe laying vessel.

"The Shell Corrib Mayo natural gas project is one of the largest schemes Asset has ever been involved with."

Asset International provided 4.9km of 750mm 4k Weholite pipe, which was used to create an air duct for part of the marine section of the large scale project. The Weholite pipes were installed onsite by Murphy International, wholly owned subsidiary of J. Murphy & Sons Limited, for the project, overseen by principal contractor BAM Construction.

Donnacha Keating, Project Manager at Murphy International, said: "The Corrib Gas Pipeline Project is one of the most significant engineering projects ever undertaken in Ireland. With the help of key people dedicated to the detail the project demanded, we ensured all design, planning, safety, quality and environmental challenges were met within time and budget. The project was considered a success on all levels by all parties, with the main factors for this being the effective planning, good communication and skilled people involved throughout the project."

Paul O'Regan, Technical Engineer at Asset International said: "Being involved in a project of this scale and standing has been both challenging and incredibly rewarding. We needed to ensure that nearly 5 kilometres of Weholite pipe was completely airtight, as the tunnel it occupied was to be filled with grout once completed. Despite a challenging brief, the job was well executed, and delivered on time."

Simon Thomas, Managing Director of Asset International, said of the project: "The Shell Corrib Mayo natural gas project is another one of the largest schemes Asset has been involved with. It is truly epic in scale and we are extremely proud of our connection with this landmark project that will deliver much of Ireland's gas requirements for the foreseeable future."

Infratunnel **pipes and cables** in **new residential area**

An almost two-kilometre long infratunnel with an internal diameter of 2.2 metres will house all of the piping needed for the infrastructure of a new city district being added to the southern Swedish city of Linköping. Excavations in the streets and residential areas will soon be history, since all maintenance and installation work will be achievable within the infratunnel.

Almost two kilometres long and 2.2 metres in internal diameter, the Weholite infratunnel was installed in the Vallastaden district of Linköping during the summer of 2014. Vallastaden is the site of a modern, ecologically sustainable city district, now under construction and intended to house around 10,000 residents. A housing fair area will also be built on the site.

"All pipes and cables in the new residential area will be located in the Weholite infratunnel. Water, sewage, district heating and district cooling pipes, as well as electricity and data cables, will run through the tunnel," says **Andreas Lillmals**, site manager at Uponor Infra. The infratunnel will also house a waste collection pipe system for the area, which will use suction and air flows to carry waste to a collection point.

Uponor Infra has been in charge of the Infratunnel's design, manufacture and installation. The customer is the Technical Department of the City of Linköping.

Lillmals explains that Uponor Infra installed its first infratunnels in Germany in the 1990s. "However, they were only a few hundred metres long."

- *Tunnel built from Weholite pipes almost 2 km in length and 2,200mm in diameter*
- *Water, sewage, district heating and district cooling pipes, as well as electricity and data cables and a waste collection pipe system have been installed in this ventilated and lit tunnel*
- *The infratunnel will serve a residential area currently being built for around 10,000 inhabitants*
- *Uponor Infra is in charge of the design, installation and materials for the tunnel. In addition, Uponor Infra is supplying some of the pipes*
- *The customer is the Technical Department of the City of Linköping*

Excavation-free maintenance

The great advantage of an infratunnel is the fact that it relieves cities from a familiar curse: regular hole-digging in streets.

"All maintenance work and tasks such as the installation of new pipes can be handled in the tunnel. There is no need to dig holes in streets or redirect traffic. Residents won't even be aware that something is going on underground."

Working is safe in a ventilated and well-lit tunnel. There is no need for heating, since the subterranean temperature is five degrees year round. Workers can access the tunnel via concrete chambers built at turning points. The tunnel also branches off to properties located at intervals along its route.

"An infratunnel is a slightly more expensive solution than simply installing pipes and cables directly in the ground in the traditional manner. However, because pipe maintenance and adding more infrastructure are so easy, the tunnel will pay itself back with time," explains Lillmals.

Christian Vestman at Uponor Infra's Project Services points out that providing pipes and cables with the protection of an infratunnel lengthens their maintenance intervals and lifecycles.

"Because the pipes do not come into contact with groundwater, for example, their valves do not rust."

"And when the need arises to renew cables, financially valuable materials containing copper are easy to recover," Vestman comments. It is estimated that the infratunnel itself will last for at least one hundred years.

In a greenfield site – or the middle of a city

Vestman explains that infratunnels are ideal for new, greenfield sites and locations where excavation is hampered by groundwater or bad soil conditions.

"However, an infratunnel is also a great solution for built environments and sites that are criss-crossed by a network of pipes and cables. In pipe work, the price of the pipe is not the key issue. Repeated excavation, asphalting, kerbing and landscaping are the most expensive items."

Excavation is also hard on underground infrastructure.

"When a lower set of pipes is renewed, during the backfill phase it can be difficult to return the ground to its original firmness. Such work can cause problems for the upper pipes, which only come to a head a few years later."

Module solution speeds up installation

"The Linköping infratunnel was installed in a greenfield site whose drawings were only finalised after the work had already begun. For this reason, the pipes and cables were only laid in the infratunnel afterwards," Lillmals explains.

An infratunnel can also be built as a module solution. In such cases, the pipes to be housed by the tunnel are pre-installed at the factory. The pipes are connected up after the infratunnel has been set in the ground. "A module solution speeds up installation," affirms Vestman.

Tunnel has aroused interest

Linköping already has a new infratunnel under planning to be installed in the city centre and to run under areas including the main street.

"We aim to begin work next summer," comments Vestman.

Linköping's example has raised interest elsewhere in Sweden. Visits have been made from all over the country.

"We are currently engaged in negotiations with around ten cities, some of which would like work to begin next summer," Christian Vestman points out.

Text by: Matti Välimäki
Pictures: Uponor Infra

> "The great advantage of an infratunnel is the fact that it relieves cities from a familiar curse: regular hole-digging in streets."

For more information about the Turnkey Applications offered by Weholite, call **01633 273081** for more information or visit **www.weholite.co.uk**

Asset provide tank for **housing development** in **Greater Manchester**

Asset International has provided residential developer, Taylor Wimpey, with a storm water attenuation tank for its new Kings Grange housing development in Audenshaw, Greater Manchester.

The bespoke modular design, provided by Asset International, utilised large diameter Weholite pipes to suit the site requirements in order to create a massive attenuation tank, one of the largest the company has ever supplied within the United Utilities region for a housing development.

The tank will be used to help reduce peak flow, caused by heavy rainfall,at the housing development by restricting the flow of excess water before releasing it gradually via an outfall back into the ground. This will provide invaluable protection for the site.

"Asset's British made 3.5 metre diameter pipes are the largest of their kind in the world."

The installation consisted of three 3.5m diameter pipes, which were each 36.5m in length, connected at each end with a factory manufactured manifold, creating a total capacity of 1,551m3 (approximately 1,055,100 litres). Asset's British made 3.5 metre diameter pipes are the largest of their kind in the world.

The attenuation tank will provide protection to the 200 new homes at the Taylor Wimpey Audenshaw site, which is located five miles from Manchester city centre.

The Weholite pipes were procured and installed by national contractor John Reilly Civil Engineering Ltd, who were the principal contractor for Taylor Wimpey Manchester on site.

Jamie Austin, of John Reilly Civil Engineering, said: "The Weholite system employed saved a considerable amount of time and money and I would not hesitate in recommending the product in the future."

Gareth Green of Asset International, said: "The Kings Grange project demonstrates the versatility of our Weholite product and how it can be effectively used as a solution for managing excess storm water.

"The attenuation tank was installed on site extremely quickly, adding value and cost efficiencies that our client would not have achieved using traditional materials. This is a particularly important requirement on such a large development.

"Our uniquely designed solution provided the development with exactly what they were after and will ensure the new Taylor Wimpey properties are safe from flood risk."

Asset supplies **SUDS defences** to South West property development

Asset International has provided CJL Construction with specified soakaway systems for the new Persimmon Homes Greenacres development in Exeter.

Asset supplied 75 soakaway systems for the new housing development on the city's Topsham Road, in order to consistently manage the site's water infiltration.

The bespoke soakaway systems provided by Asset utilised a variety of Weholite pipe sizes to suit the SUDS (Sustainable Urban Drainage Systems) requirements on site. The pipes range in size from 1m up to 3.5m diameter. The soakaway systems are designed to prevent flooding and over saturation of the land on which the new housing estate is built.

The Greenacres project is still underway due to the large amount of soakaway systems required across the 25 acre site which, when completed, will contain 450 new properties.

After working with CJL Construction Ltd on various housing schemes within the South West region, Asset International was chosen to provide the SUDS systems for this project as the Weholite pipes are able to be installed in one complete section, as opposed to alternatives which are supplied in multiple segments to suit the required conditions.

Robin Milliner from CJL Construction commented: "Weholite was the ideal choice of pipe for our soakaway systems at the Topsham Road site due to it being lightweight and fast to install. We pride ourselves on building housing developments that are well protected against the elements and Asset has played a vital part in making this possible."

Darren Williams, Technical Sales Engineer at Asset said: "Working on flood management systems for large scale housing developments such as this site in Exeter is becoming a large part of what we do.

"Soakaway systems are an excellent way of reliably and steadily managing the amount of water on site at any given period, avoiding flash flood episodes due to saturated ground. Weholite is an excellent tool in this regard, not only from an ongoing performance perspective, but the fact that our pipes can be installed in one complete section means that there is a significant reduction in installation time, and consequently the costs involved are lower.

"The project is still ongoing, however, now that the flood defence soakaway systems are in place the build can now continue with confidence, ahead of the wet winter months."

> "The soakaway systems are designed to prevent flooding and over saturation of the land on which the new housing estate is built."