Question

Case Study 1 (a separate response for each Lot is required).

Please provide case study no 1 comprising no more than 4 x A4 sides - including any diagrams or pictures and in Arial 11 point font), detailing your experience of a similar scope and scale to the Lot you are responding to and include:

- How the scope is of relevance to the Client;
- The scale (value and volume), complexity and scope of the work delivered;
- How the Client's requirements, benefits and any value adds were achieved;
- The approach taken to achieve successful delivery;
- How you ensured your Client's customers' needs where met through your delivery approach;
- Client contact details (name, organisation, telephone and email address) to verify case study.

4 page Arial font 11

WATER for LIFE from Southern Water

ESG INDUSTRY TOP RATED

MORRISON Water Services
A part of MGroupServices
Together, creating a more sustainable environment

2.3.1 Case study 1 – Thames Water - Water & Wastewater Capital Delivery

Introduction

Awarded in April 2020, this £50m+ per annum 10-year (5+5yrs) capital design and build programme, delivered through two frameworks in South London and Thames Valley, demonstrates clear alignment to your new SDP infra framework with its objective to improve asset resilience through renewal and rehabilitation of water and wastewater infrastructure. By undertaking early contractor engagement in close collaboration with Thames Water and our supply chain design partner AECOM, we have gained significant benefit in value engineering innovative solutions that focus on long-term benefits to customers whilst achieving value for money. This experience will undoubtedly add value to your new contract.

Relevance of scope to Southern Water

The framework involves strategic planning, design and construction activities in planned capital infrastructure engineering works across the water and wastewater networks – managing projects with differing complexity during all stages of the project lifecycle. Work scopes include:

- Trunk mains repair/replacement
- Mains rehabilitation & new trunk mains
- Pressure management construction/optimisation
- Rehabilitation/replacement of gravity sewers
- Aqueduct, bridge & tunnel inspection/maintenance
- Pipe bridges
- DG2 and DG5 flooding
- New/replacement rising mains
- Sustainable urban drainage schemes
- Planned emergency works
- Storm water storage and combined sewer overflows
- Sewage pumping station construction/refurbishment

Examples of projects completed as part of this ongoing framework that are similar to those we expect to deliver as part of Lot 3 of the Capital Programme SDP Framework are described below.

Scale, value, complexity, and scope of work delivered

Project	Description
Blackfriars Road, Southwark, London £3 million	Following catastrophic failure of a 5.4-metre-deep large diameter 36-inch cast iron strategic trunk main (that caused significant customer disruption and flooding in a busy London street adjacent to the River Thames, the Shard and Blackfriars Tube Station), MWS undertook both emergency incident recovery and provided value engineered solutions to support future resilience of this critical asset. We worked closely with Thames Water and our sister company PMP to find a cost-effective engineering solution by using bespoke fabricated stainless-steel liners and associated seals. This alternative innovative solution was chosen over other options, including the next preferred viable solution of micro-tunnelling renewal. Benefits included: • Reduced cost – significantly cheaper than micro-tunnelling; 25% of the cost. • Reduced time – reduction from 9 months to 2 months using PMP's innovative modular steel liners and seals compared with micro-tunnelling. • Less disruption to public and local transport – no-dig solution with limited access.
South London and Thames Valley Mains Renewal – Multiple Batches £50 million	Installation of over 60 km of various size new PE potable water main renewals to replace high-risk assets with a history of bursts. The schemes were located throughout the Thames Valley and South London areas, replacing mains in both complex congested urban areas and environmentally sensitive rural areas. We are working alongside our designer AECOM and the Thames Water team to identify value-engineered solutions that include no-build rationalisation of mains through hydraulic modelling and use of innovative no-dig solutions (e.g. slip lining, pipe-busting & HDD), which provide an alternative to disruptive, carbon intensive open-cut dig methods that impact the environment. We used bespoke digital tools to monitor and measure progress against plan in near real-time – giving the client full visibility of performance.
South London Mains Renewal – Hampton and Bermondsey £30 million	Replacement of 20 km of high-risk assets within two urban District Metered Areas (DMAs) in South London whilst managing the severe design constraints found in heavily urban areas. Close liaison with the local highway authority, Network Rail and the relevant archaeology body was required to develop and manage the construction programme. Works included: identifying opportunities for rationalisation as well as alternative no-dig techniques, such as mains cleaning and spray lining; working with Thames Water Engineering to ensure we met the required asset standards.

	Design innovations included proposing slip lining extensively throughout the Bermondsey DMA to not only manage the high UXO risk, but also to provide hydraulic benefits to Thames Water, e.g. to increase velocities in slow moving mains.
Dukes Ride Rising Main, Wellington College, Crowthorne, Berkshire £830,000	Project to replace the severely corroded 920-metre long, 40-year-old ductile iron wastewater rising main. We worked with Thames Water to develop the project briefing document detailing the scope of works that included managing all over-pumping flows necessary to facilitate the works, carrying out CCTV surveys of receiving sewer between new upstream discharge manhole and downstream manhole, installing and welding a 355-mm PE 100 SDR 11 rising main using no-dig directional drilling to limit excavation activities. Collaboration with the Wellington College allowed the optimum route to be selected and ensured the scheme was delivered with minimal disruption to the local community. The project made use of college buildings and land and is a great example of collaborative working and stakeholder engagement. The scheme was mobilised within 6 weeks and delivered to the delight of both Wellington College and client. The team also carried out a volunteering day in the local heathland area as part of our commitment to social responsibility and giving back to the community.
Swindon NEV Growth £11 million	Project to construct a new terminal pumping station to discharge 160 l/s via two new wastewater rising mains to two designated break chambers. The scheme also includes a 1200-mm diameter tunnel under the A419 dual carriageway to convey the sewage to the pumping station. A change in pumping station location presented an opportunity to optimise the no-build element solution by eliminating a deep shaft and manholes and reducing the rising mains by 300 metres – resulting in a reduction in pumping costs and carbon savings of approximately 1,500 tCO2e.
Bexley ALF £60 million	The scheme involves the construction of a new water main from Oxleas Wood Reservoir to Farningham via Bexley WTW. MWS with AECOM assessed the initial pipeline route chosen by TW for factors such as stakeholder impact, health and safety considerations, constructability, traffic impact and environmental constraints. We then value engineered and used trenchless no-dig solutions at critical crossings and pinch points. By refining both the route and optimising the use of innovative no-dig methodology, we achieved a shorter route and carbon savings of 1,000 tCo2e.
Millennium Main £22 million	Large diameter trunk water main rehabilitation project in South London – the main had been taken out of service by the client for several years due to structural failure in the sofit. Using both pipe NDT and innovative ground penetrating radar and geophysics techniques MWS gained an accurate assessment of the pipe condition and surrounding bedding, identifying voids around the top section of the pipe, which made it prone to failure. To resolve the complex challenge of reaching and filling the voids, we worked in collaboration with our supply partner and used Bacel Hardform. By transferring knowledge from the energy sector, where it is used to decommission fuel cells, we initiated its first innovative use in the water sector. Investigations also revealed the pipe was suffering from delamination and blistering. Instead of removing the pipe and replacing it, we developed an innovative internal lining solution for a 1.6-km section of the main. This required DWI and Reg 31 approval and was achieved within 3 months of application. This innovative 'in-line' no-dig solution allowed the water main to be returned to service without incurring the significant costs associated with alternative solutions such as replacement. Estimated saving £20 million. As part of our social value approach, we organised a community event picnic in the park with Lewisham residents where we donated water bottles and held craft sessions with local children. We hired a local artist to decorate the hoarding and added the children's work – making the hoarding a community project and deterring graffiti. We also installed water fountains in the community park and a dog-friendly water fountain in the local dog park, close to where we are working. We are planning to create a picnic area with benches in the park when the project has been completed. We held 'meet the team' drop-in events every 3 months to provide the community with project updates and currently have three visits planned with local schools to promote STEM.
Bourton on the Water £4.2 million	Project to rehabilitate a gravity sewer (400mm and 375mm), weir chambers and wastewater rising main within a flood plain. Update of a hydro-brake chamber. Planning for the crossing of the River Dikler and a road crossing. We proposed the use of various rehabilitation techniques including cured in place lining (CIPP). We

	have completed the ECI phase which included stakeholder engagement with the EA to assess ecological mitigations for bats and the discharge of ground water, and the local community including a fishing lake where access will be restricted.

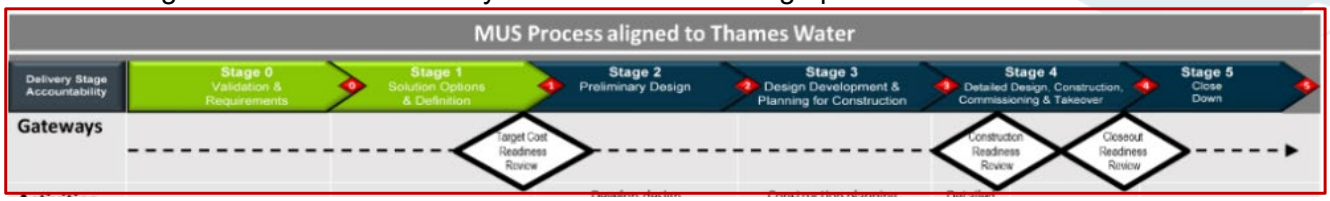
How the client's requirements, benefits and any value adds were achieved

The above examples show where we have delivered and where we continue to deliver added value through close collaboration with our clients, stakeholders, design partners and supply chain to explore and exploit alternative methodologies, work processes and innovative solutions. We continue to identify no-build or low-build solutions and provide optimum designs that deliver not just savings in cost and programme, but a range of other benefits to customers, stakeholders, local communities and the environment, including minimised disruption, reduced carbon, reduced waste and targeted support for local supply chains. On each project delivered, we have collaborated closely with all relevant stakeholders to meet project requirements, leave a positive legacy in the communities we impact, and help Thames Water achieve its social and environmental commitments. Public consultations have been held on multiple projects to keep the local community informed on projects and engaged with developments. We have also used our virtual customer walk-in platform to help keep customers informed of our projects through digital on-line resources. This helps those who may be unable to attend drop ins or visit the sites.

Our approach taken to achieve successful delivery

We developed a bespoke operating model aligned to Thames Water

Our approach to successful delivery starts with ensuring all of our staff receive thorough induction and onboarding when they join the framework via a series of inductions with each key department. Each individual is assigned a buddy who is able to answer any questions that may arise. We follow this up with regular briefing and communication sessions, an operational weekly briefing and a weekly 'all hands' call. This is underpinned by our simple operating model which focuses on providing a positive customer experience through an efficient quality-focused design and delivery service. We have aligned processes with Thames Water with a 'Left Shift' philosophy to ensure efficiency is maximised and cost reduced as a result of a high level of constructability at the end of the design phase.



The model runs the principles of efficient, agile and fast-tracking project management and maximises the use of digital technology and tools to make the information transfer, performance monitoring, quality assurance and communication slick. We focus on efficient design, lean construction and swift and timely decision making to ensure projects progress effectively through their entire lifecycles. This is achieved through a team of excellent people. We assign project managers and lead design engineers at the outset of each project, they then have the accountability of delivering the project through the various stages of the project lifecycle. They are responsible for ensuring the project is delivered on time, safely and to the required standards, which relies on our collaborative approach to project delivery, using planned gateways and document RAG status to measure performance and project status.

Our Asset Integration Manager works closely with the Thames Water asset engineers to ensure Operations are involved with our solutions and to enable handover and commissioning plans to be developed early so there are no surprises.

Ensuring effective and timely communications between all stakeholders

When delivering complex programmes, effective and timely communications between all stakeholders across the framework and each individual project is key to successful framework delivery. Early engagement is critical, and we work with Thames Water's programme and project teams to develop a Customer & Community Engagement Plan, identifying the key stakeholders (internal and external), communication requirements and responsible persons. For example, on our Mains Renewal Schemes, it was necessary to liaise with TfL, local authorities and Members of Parliament – and in Guildford, even with Jeremy Hunt MP (Chancellor of the Exchequer) to agree a suitable programme of delivery that supported the community and met their expectations. This included re-scheduling certain sections of the programme and returning at different times of the year to deliver them. Our early involvement and collaborative approach enabled this to be incorporated into the wider programme.

Managing our performance to ensure targets and KPIs are met

Our commitment to open and honest performance reporting and review of project deliverables enables us to make any adjustments necessary to programme, budget or resources, before any issue escalates. We have developed digital tools and reports in Power BI that we share with Thames Water and update daily. On our Mains Renewal scheme, the Thames Water Project Manager can see where we are working, how much main has been laid, how many services we have transferred, how much main we have commissioned and how much abandonment we have carried out.
We have agreed and established key KPIs with Thames Water covering a range of topics, including health and safety, customer, environment, commercial, forecasting accuracy and delivery performance. We manage performance through weekly project monitoring and monthly project reviews where the project teams present to the Senior Leadership Team on performance against time, cost and quality using reports generated by our Power BI system. We hold monthly performance review meetings with Thames Water to discuss cost, schedule, health and safety and quality performance and to look at future projects, initiatives and innovation. Individual performance is monitored daily and managed through our employee engagement process, this combines PDR targets, objective setting and monthly 1-2-1 sessions where individuals and line managers discuss wellbeing, development and performance. We also hold a monthly PACE meeting with Thames Water where we collectively review key projects moving through the design stages. These consist of open discussions where key decisions can be made without losing momentum, and ensure any blockers identified are managed early during the project lifecycle. Thames Water's incentivisation mechanism is based on 'pain gain', any savings or overspends on projects are split 50:50 between MWS and Thames Water–driving collaboration through a shared £1.

Using lessons learnt to continually improve performance across the framework

Our monthly project review meetings with Thames Water provide a forum to discuss what is going well, what is not going well and identify any lessons learned. This provides an opportunity for managers to step in and support teams to identify and resolve any areas where changes may be required. Learnings are then shared with the team and the relevant processes are revised, through our quality management system, followed by a roll-out of appropriate briefings/training across our operations.
Lead design engineers and construction managers attend a fortnightly meeting where they discuss any issues encountered and exchange ideas to resolve problems and prevent recurrence. This includes feedback to Thames Water on issues such as incompatible specifications or new technologies that may alleviate existing problems but which they have not yet considered or approved. Each project within the framework has a project close out review within three months of construction completion, capturing and discussing lessons learned. These forums include all team members who were involved in the project.

How we ensured our client's customers' needs were met

All staff receive customer training during our customer induction, delivered by our Customer Liaison Manager, Donna Jenkins, and her team. Before starting any project, we develop a Customer & Community Engagement Plan (CEP) to consider the specific requirements for each customer segment and for key stakeholders impacted by the work, including 'priority services' customers, third parties, local stakeholders, businesses, and schools. We update the CEP, in collaboration with the Thames Water Customer Team, throughout the project lifecycle to refine our engagement approach including:

- Virtual Drop-ins. Web based customer portal where MWS update customers on the projects.
- Community engagement to capture local issues: this considers local community events, the impact of road closures, historic flooding etc.
- Segmentation of customers to identify 'Priority Services' customers and businesses.
- Surveys, investigations and liaison with third parties and landowners to agree access arrangements and land entry.
- Face-to-face visits before works start with directly affected customers: door knocking, visits to businesses/local traders plus, if appropriate, media publicity.
- Proactive communication with key stakeholders such as highways authorities, councils, locally elected representatives, Environment Agency and trade bodies.
- Multi-channel communications during works, e.g. early written notices, virtual customer walk-in platform, personal visits, prior warning letters, cards, SMS messaging, feedback forms and signage.
- Use of social media listening platform to flag feeds relating to works/for proactive use.

Client contact details for Thames Water Delivery Frameworks

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