
HEREFORDSHIRE PUBLIC REALM CONTRACT 2022/23

ANNEX 7 – MANAGING WATER ON THE NETWORK



SERVICE OVERVIEW

SERVICE SUMMARY

Balfour Beatty Living Places (BBLP) will undertake Asset Management and Delivery of Capital and Reactive Drainage services on the Highway Public Realm Contract which are the responsibility of Herefordshire Council (HC). BBLP will also support HC as a Lead Flood Authority.

COMMISSIONED WORKS

The annex shall deliver all activities and works as set out in Schedule 4 – Service Information unless deemed out of scope as detailed below:

- Annex 08 - Service Information Highway Drainage V1.1
- Annex 10 - Service Information Land Drainage V1.1
- Annex 11 - Service Information Flood Risk Management
- Annex 12 - Service Information Highway Network Improvements V1.5

THE SERVICE

HIGH LEVEL SERVICE DELIVERY

SERVICE	RESOURCES (PEOPLE, PLANT, SYSTEMS)	DIRECT/ SUBCONTRACT	DELIVERY
Capital Drainage Schemes 2022-2023	BBLP Design and Capital Delivery Staff, supported by SUBCONTRACT where necessary	BBLP Direct and SUBCONTRACT where necessary	Investigations, Feasibility, Design, Project Management and Delivery of Highways Drainage schemes at various locations in Herefordshire developed form AMX data Set Schemes will also be carried forward from 2021 2022 Annual Plan which were not built in the previous 2021 2022 Annual Plan Location Details shown in Appendix B which includes Carry over 2021 2022 Schemes
Capital Drainage & Flood Asset Management	BBLP Asset Management Drainage Team which includes Snr Drainage Engineer, Drainage Engineer & 3 No Technicians as necessary	BBLP Direct	Management of the Asset Data Programme system to inform of current and future works programming. In addition, includes site reviews to confirm requirements.
Capital Highway Drainage Enquiries	BBLP Asset Management Drainage Team which includes Snr Drainage Engineer, 3 No Technicians as necessary	BBLP Direct	This is for 3No BBLP Drainage Technicians to respond to enquires raised by members of the public in-year relating to Highways Drainage. It includes public liaison, inspection of issues and determination and prioritisation of solutions which in turn will inform the Asset Management Programme of works.

<p>Capital Drainage Asset Inspections</p>	<p>BBLP Asset Management Drainage Team which includes Snr Drainage Engineer, 3 No Technicians as necessary</p>	<p>BBLP Direct and Subcontract for Reservoir Inspection</p>	<p>Inspections are undertaken by the 3 No Drainage Technicians in year to update the knowledge and condition of the “critical assets in the network”.</p> <p>This allows the Asset Management Drainage Team to then prioritise for cleansing and capital maintenance.</p> <p>A number of assets will be inspected during the period (course of the year) in the two Northern and Southern halves of the County.</p> <p>This Includes Diving inspections (Currently the number of enquiries that are being received and the level of service requirements mean that the Technicians are prioritising responses over inspections)</p> <p>These assets and their period of inspection are listed in Appendix C.</p> <p>Includes within this is a biennial Principal Inspection of Yazor Brook Flood Alleviation Scheme and an allowance for subcontractors</p> <p>Within this area of service, it also includes for a Reservoir Engineer Inspection and Topographical Survey at Marsh Farm FSA, Ross on Wye</p>
<p>Capital Pump Station Annual Maintenance</p>	<p>BBLP Asset Management Snr Drainage Engineer. And Subcontract Support (Hereford Rewinds)</p>	<p>BBLP Direct and SUBCONTRACT</p>	<p>Mechanical and Electrical Inspections and Servicing costs for 4 pumping stations with comments on the structural condition of the asset. This is carried out by a specialist subcontractor twice a year at each station who BBLP manage and monitor.</p> <p>Any Works identified during inspections is not accounted for within this service cost.</p> <p>These are listed and mapped in Appendix C.</p>

<p>Revenue Grill Inspections and clearance</p>	<p>BBLP Capital Delivery Manager, Capital Delivery Team Supervisor and 2 No Operatives (Fleet is Transit Tipper and small tools)</p>	<p>BBLP Direct</p>	<p>Drainage Grill Inspections are undertaken by the Delivery Team on a Monthly Rota to ensure their integrity and efficiency.</p> <p>In addition to this Grills are reviewed pre and post severe weather events (this cost allows for an additional 3 visits to all culverts in year)</p> <p>These are listed and mapped in Appendix C.</p> <p>Where clearing is required, this is completed at time of the inspection.</p>
<p>Revenue Yazor Brook Flow Data Telemetry and Maintenance</p>	<p>BBLP Asset Management Drainage Team which includes Snr Drainage Engineer, and Drainage Engineer and SUBCONTRACT where necessary</p>	<p>BBLP Direct & SUBCONTRACT where necessary</p>	<p>Re Installing Flow Monitors, Ongoing Interpretation of Yazor Brook FAS Flow Data.</p> <p>Cleansing and Inspection of Grills, Flow Monitors and Gauges.</p>
<p>Revenue Flooding Investigations (Section 19), Flood Risk Management & Flood Studies</p>	<p>BBLP Asset Management Drainage Team which includes Snr Drainage Engineer, and Consultancy as Necessary</p>	<p>BBLP Direct</p>	<p>This relates to undertaking the provision of technical support as the Lead Local Flood Authority (LLFA).</p> <p>This budget allows for one Section 19 report to be developed by Asset</p>
<p>Revenue Review and Updating Flood Risk Management Strategy</p>	<p>BBLP Asset Management Drainage Team which includes Snr Drainage Engineer and Consultancy as necessary</p>	<p>BBLP Direct and Consultancy support as needed</p>	<p>The Local Flood Risk Management Strategy has an Action Plan which runs from 2016 to 2022. BBLP therefore requires reviewing this in 2022</p>

Revenue Land Drainage / Riparian Enquiries/Landowner and other body (e.g., network rail) Asset Inspections/ Water Course Consenting	BBLP Asset Management Drainage Team which includes Snr Drainage Engineer, 3 No Technicians as necessary	Direct	This activity is in relation to the Drainage Asset Management Team responding (Snr Eng. and 3 Techs) to land drainage enquires, originating both from HC and other parties and progressing issues towards resolution. These enquiries require interaction with 3 rd Party (landowners, network rail etc). This item also covers Providing consents by the Drainage Asset Management Team, for working in ordinary watercourses
Revenue Network Encroachments	BBLP Asset Management Drainage Team which includes Snr Drainage Engineer, 3 No Technicians as necessary	Direct	An amount of time allocated for the Asset Management Team (Snr Eng., and 3 Techs) to aid HC in resolving legacy issues associated with planning permissions and the network. This amount is allocated on historical experience. Change control would be enacted should in-year costs be unexpectedly higher.
Revenue Routine Reactive Drainage Maintenance	BBLP Reactive Jetting Team which includes 1 County Wide Work Gang, Reactive Ditch and Grip Maintenance which includes 1 County Wide Work Gang, Cyclical and Reactive Rotary Ditching which includes 1 County Wide Work Gang	BBLP Direct and SUBCONTRACT	Reactive and Routine Drainage includes: <ul style="list-style-type: none"> - Reactive Drainage Gully Cleansing - Routine and Reactive Ditching and Grips Countywide - Rotary Ditcher
Revenue Programme Gully Cleansing	BBLP Cyclical Gully Maintenance which includes 1 County wide Work Gang	BBLP Direct and SUBCONTRACT	Gully Cleanse Programme

Revenue Annual Cleansing	BBLP Asset Management Drainage Team which includes Snr Drainage Engineer and Capital Delivery Manager, Capital Delivery Supervisor and Subcontract Specialists as required (On-site or Another)	BBLP Direct and SUBCONTRACT	This reactive cost item is for Culvert and Water course Cleansing/unblocking identified following culvert inspections and enquiries.
Revenue Water Course Clearance HC Land	BBLP Asset Management Drainage Team which includes Snr Drainage Engineer and Subcontract as needed	BBLP Direct and SUBCONTRACT as necessary (TBA)	Undertaking reactive clearance of HC Water Courses as requested
Revenue Development Control: Planning Flooding Advice	BBLP Asset Management Drainage Team which includes Snr Drainage Engineer and Consultants as necessary (WSP or another)	BBLP Direct and SUBCONTRACT	This allows for the Asset Management Team to undertake responses to technical reviews and flooding risk commentary to planning applications. Incl. Micro drainage Licencing Fees £10k
Externally Funded Property Flood Resilience at Brimfield & Orleton and at Wellington	BBLP Asset Management Snr Drainage Engineer	BBLP Direct	EA funding submission prepared in 2020/21 Scheme is Grant Funded by the Environment Agency and managed through Asset Management Senior Drainage Engineer

<p>Grant Applications In year 2022- 2023 EA/External Funding Opportunities Managed through Asset Management Senior Engineer.</p>	<p>BBLP Asset Management Snr Drainage Engineer</p>	<p>BBLP Direct</p>	<p>Garway Primary School flood alleviation - Design of a flood alleviation measures to mitigate risk of surface water flooding.</p> <p>“Works on Site Externally Funded by HC Education”</p> <p>EA Pipeline FRM Scheme Yazor Brook - Removal of existing penstock within Friars Street</p> <p>Yazor Brook culvert. CCTV of existing masonry culverts on Friar Street and Grimmer Road to establish condition. Hydraulic Modelling by Consultants to support EA Grant Application</p> <p>“Works on Site Externally Funded by EA Application”</p> <p>EA Pipeline FRM Scheme Bill Mills with Daycroft Lane - Hydraulic modelling of:</p> <p>Coughton Brook and feasibility study at Daycroft Lane, near Walford</p> <p>“Partially Externally Funded by application to the EA by Asset Management Senior Engineer”</p> <p>EA Pipeline FRM Scheme Cross Keys</p> <p>Hydraulic assessment of highway culvert, feasibility of flood alleviation measures</p> <p>“Partially Externally Funded by application to the EA by Asset Management Senior Engineer”</p> <p>EA Pipeline FRM Scheme – Lyde -- Hydraulic assessment of existing culverted watercourse. CCTV survey of culvert. Upsizing of sections of existing culvert</p> <p>“Partially Externally Funded by application to the EA</p> <p>by</p> <p>Asset Management Senior Engineer”</p>
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OUT OF SCOPE ACTIVITIES

The activities or works are out of scope:

Service/Activity Removed	Reason
<p>Asset Management</p>	<p>Commissioned</p> <ul style="list-style-type: none"> • Work with the TAMP and Operations team to optimise highway drainage inspections and maintenance. Utilise a risk-based approach to select which assets can be inspected within funding constraints • Maintain a forward programme of known defects that have been scoped, risk assessed and prioritised based on the scoring methodology outline in the Appendix of this Annual Plan. • Manage the network in accordance with HMEP Guidance on the Management of Highway Drainage Assets. This guidance will inform the Drainage Lifecycle Plan. • Maintain and continue to enhance the drainage records on GIS and AMX/Confirm systems. Databases are updated by operatives undertaking inspections • Development of an Annual Plan of capital schemes selected from the forward programme of known defects. • Leading the resolution of legacy drainage issues, such as planning or construction problems • Survey work to facilitate disputes with insurance companies • Review drainage asset inventory data and update inspection and maintenance schedules, using hand-held GIS sets. • Record drainage defects and identify routine maintenance priorities. <p>Not Commissioned</p> <ul style="list-style-type: none"> • Asset Management techniques such as deterioration curves, future prediction of condition.
<p>Highway Drainage – Capital and Revenue</p>	<p>Commissioned</p> <p>Work with TAMP team to implement the established value management process for annual highway drainage scheme programme based on HMEP Guidance on the management of highway drainage assets 2012.</p> <p>In accordance with the Drainage Assets Lifecycle Plan, utilise a risk-based approach to selectively carryout preventative/cyclical maintenance of high-risk assets and a reactive approach to maintaining low risk assets. Reactive response to highway flooding incidents. Following review for cost/benefit and prioritisation, our team will carry out one-off land drainage works to alleviate communities affected by flooding issues where resolution of land drainage issues has been exhaustive, and it has been agreed with HC that enforcement is not to be taken.</p>

	<p>Highway/HC owned ditch and grip clearance delivered through the Locality Teams and reported into TAMP team.</p> <p>Issues logged on CONFIRM will form a raw list of drainage issues. The Locality Teams will assist in resolving initial sift of entries, key issues will be brought forward onto a Drainage Tracker. Undertaken planned capital maintenance works to reduce the risk in the network and repair cat 2b defects</p> <p>Management of drainage inventory data which will inform the development of the highway drainage maintenance strategy. Asset data will be captured in the field using GIS Tablets, e.g. gully pot locations will thus be plotted and referenced with condition grade (depth of silt in gullies).</p> <p>Reviews will take place of ‘hot spots’ with wet skid accidents or flooding incidents criteria identified, which may be scheduled for gully/ grip clearance. Potential sites are escalated to the asset management team for review and prioritised for action. CONFIRM data management system utilised to allow refinement of the gully cleansing programme and help plan the routine maintenance of highway drainage assets. Data from reactive gully cleansing works will be utilised and the results refined by means of a flood risk assessment, for inclusion in the cyclic programme.</p> <p>Reviews will take place after ‘hot spots’ with wet skid accidents or flooding incidents criteria have been identified, which may be listed for gully/grip cleansing. Potential sites are escalated to the asset management team for review and prioritised for action.</p> <p>The ditching and grip cleansing programme will be extended to include the unknown network, where no current asset data is held on grip locations. Locations will be prioritised based on asset data collected to inform future programmes of work.</p>
<p>Pump Station Annual Maintenance</p>	<p>Commissioned</p> <ul style="list-style-type: none"> • Mechanical & Electrical Inspections for the four pumps within the Public Realm Contract are carried out by a specialist local sub-contractor on a six-monthly basis. They are organised by the Senior Drainage Engineer in the Asset Management Team. • Inspections record the general condition and the specific condition of components. Should issues that require immediate action be identified, or if a pump fails between inspections, repair maintenance is arranged. Should the cost of this reactive maintenance be over the allocated budget for pump maintenance then this is managed via the early warning process in the contract mechanisms. Via the inspection process, maintenance history and asset age it is possible to judge the general condition and approximate future life expectancy of the pumps. <p>Not Commissioned</p> <ul style="list-style-type: none"> • major maintenance or replacement be anticipated then this would be identified in the Annual Plan process and budgeted for the next financial year.
	<p>Commissioned</p> <p>Land Drainage Consenting, enforcement and maintenance on behalf of HC, including:</p>

<p>Land Drainage - Revenue</p>	<ul style="list-style-type: none"> • Exercise the duties and powers through the legislation on behalf of HC under the Land Drainage act 1991 including recording and managing consent applications, dealing with stakeholders regarding any land drainage issues within the county, in accordance with approved protocols. • Management of drainage ditches and watercourses where HC are the riparian owner, or where the duty for maintenance has been demonstrated to rest with HC. • Technical advice to HC Legal Team regarding the interpretation and legal action enforcement of Land Drainage Law will be addressed, some of these are between third parties but landowners have prompted involvement by BBLP. • Routine and reactive maintenance of HC land drainage assets, grill and ditch clearance, including response to flooding incidents delivered through the Locality and Operations Teams. • Dialogue with riparian owners to facilitate watercourse and ditch improvements under the Land Drainage Act, including the use of the HC website and approved leaflets. • Management of land drainage asset data will inform the development of the land drainage maintenance strategy. Lengths of HC maintained watercourses, ditches and grills will be added to GIS. • The CONFIRM and AMX data management systems will support the delivery of routine ditch and grill clearance and maintenance of land drainage assets, including assistance in any emergency or flooding incidents. <p>NOT Commissioned</p> <ul style="list-style-type: none"> • Undertaking drainage maintenance work that is the responsibility of Riparian Landowners, unless instructed to by HC to ensure HC’s statutory duties are fore filled. This is documented in a separate stand-alone process.
<p>Flood Risk Management & Flood Alleviation</p>	<p>Commissioned</p> <ul style="list-style-type: none"> • Working with the local water companies, Flood Groups, EA, IDBs, Parish Councils and landowners to ensure the most effective management of surface water systems and land drainage (including ditches, ordinary watercourses, grips, gouts and inlets) in Herefordshire. • Where appropriate, investigate incidents of flooding in accordance with Section 19 of the Flood & Water Management Act (FWMA) 2010 and HC’s Flood Investigation Policy. • Collating records of flooding incidents, including information obtained during the recovery phase. • Representing HC at monthly meetings with the EA and other neighbouring LLFAs. Communications with residents, local flood groups, Parish Councils and Ward Councillors regarding specific flooding studies. • Provide the EA with regular project updates for grant funded schemes as required by the conditions of a grant. • maintain within AMX of a register of structures or features which are likely to have a significant effect on a flood risk in accordance with Section 21 of the FWMA 2010

	<ul style="list-style-type: none">• Development Control: Technical advice to HC's Planning Team on planning applications. (To be funded via planning.) A Drainage Engineer will be employed to complete drainage planning reviews.• Provision of Hydraulic Modelling data to developers and consultants. HC intend to allocate a budget towards this service and recover charges from ad-hoc enquiries from developers and consultants. <p>NOT Commissioned</p> <ul style="list-style-type: none">• Drainage staff regularly attending parish flooding group meetings. (Due to their number and usual timings out of hours, key groups are often attended by Locality Stewards).• Undertaking Flooding Investigations that are not categorised as high enough impact to require investigation, in accordance with Flood Investigation Guidance document.
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APPENDICES

APPENDIX A: BBLP POLICY AND PROCESSES TO BE USED IN DELIVERY OF THE ANNEX

PROCESSES

The policy and processes that will be utilised in delivery this service is outlined in the TAMP, HMP, Drainage Lifecycle Plan and Drainage Quality Plan.

The prioritisation scoring methodology that will be utilised to select schemes for the Annual Plan will be as follows:

Note: the impact of the defect should be considered based on all seasons i.e., if a drain is blocked and it is assessed in a dry period, the impact of defect in a wet period should be considered.

Risk & Impact Scoring, max score: 100

Drainage Safety	Points	
Confirmed accident due to/exacerbated by defect	40	
Defect likely to result in high risk of accident or report of safety issue from Emergency Services	25	
Other minor safety issues	10	
No Safety Issues	0	
Sub-total:	/40	

Structural Stability	Points	
Defect causing instability of HC or 3 rd Party Asset – instability imminent or already failed. Indications of failure mechanism are evident. Or Defect leads to permanent road closure	25	
Defect causing instability of HC or 3 rd Party Asset – instability likely in medium term (1yr). Asset remains fully functional.	10	
Defect not causing instability	0	
Sub-total:	/25	

Highway Impact	Points	
A Roads or Main distributor B Roads	10	
B Roads	7	
C Roads	5	
Unclassified Roads	2	
Score	/10	

Property Flooding	Points	
Internal Property Flood or any Foul Flood	25	
Business impacted by Flooding	15	
Multiple External Property Floods	10	
Single External Property Flood	5	
Sub-total:	/25	

Drainage Prioritisation Value Management Scoring

For Category 2 defects the Asset Management team will review the Locality Steward's risk assessment and apply the following additional considerations, to develop a max score out of 100:

Social & Economic	Points	
Flooding in vicinity of Critical Services or Infrastructure e.g. schools or hospitals. Potential for loss of outstanding legal claim.	+15	
Critical route affected within urban area, part of strategic network or vital community link	+10	
Complete flooding or splashing of footways near property	+10	

Deliverability	Points	
Low value works (£3k) or simplistic scheme	+5	
Requires excavation in carriageway that's had surfacing works carried out in the last 3 years	-15	
Requires excavation in soon to be surfaced carriageway	+20	
Environmental Constraints	-10	
Positive Vocal Stakeholder Engagement / Public Demand for the Scheme	+5	
Significant traffic disruption likely due to remedial works	-5	
Excessive Cost vs. Value	-20	
Sustainability of Solution – Low	-10	
Accessibility for Land Drainage works – constraints present	-5	

Whole Life Costing	Points	
Change in drainage asset will result in increased maintenance burden	-5	
No change in maintenance requirements	0	
Change in drainage asset will result in decreased maintenance burden	+5	

APPENDIX B: PROGRAMME OF WORKS

2022 – 2023 Capital Programme

2022 – 2023 Drainage Asset Inspections by Asset Management Team and Technicians

AMX Drainage Assets Map

2022 – 2023 Drainage Pump Station Annual Maintenance List Managed by Asset Management Team

2022 – 2023 Grill Clearance Locations Managed by Delivery Group Team

APPENDIX C: BUDGET BREAKDOWN

Refer to Budget breakdown

APPENDIX D – LIST OF NOMINATED SUB CONTRACTORS

Name of Sub Contractor	Service Provided
ONSITE	Drainage Cleansing and VAC jetting
WSP	Specialist Consultancy for supporting with Technical Drainage Studies