



LIFE Project Number  
**LIFE12 ENV/UK/001133**

**FINAL Report**  
**Covering the project activities from 01/07/2013 to 30/09/2016**

Reporting Date  
**23/12/2016**

LIFE+ PROJECT NAME or Acronym  
**Climate-Proofing Social Housing Landscapes**

Project Data

<b>Project location</b>	London, UK
<b>Project start date:</b>	01/07/2013
<b>Project end date:</b>	31/03/2016 <b>Extension date:</b> 30/09/2016
<b>Total Project duration (in months)</b>	39 months ( including <b>Extension of 6 months</b> )
<b>Total budget</b>	€ 1,615,636
<b>Total eligible budget</b>	€ 1,615,636
<b>EU contribution:</b>	€ 807,818
<b>(%) of total costs</b>	50%
<b>(%) of eligible costs</b>	50%

Beneficiary Data

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## 2. Executive Summary

Groundwork London, in partnership with Hammersmith & Fulham Council, delivered the *LIFE+ Climate-Proofing Social Housing Landscapes* project between July 2013 and September 2016. The project has demonstrated an integrated approach to climate adaptation in urban areas by undertaking a package of affordable, light-engineering climate change adaptation measures based around the retrofitting of blue and green infrastructure. Alongside this, the project has also featured in-depth community engagement and awareness-raising of climate change adaptation opportunities, as well as training local apprentices and local authority staff in the skills to implement and maintain such measures.

These measures have been implemented in three different social housing contexts in West London, within areas characterised by high levels of multiple deprivation including higher exposure to climate-related risks. Ultimately, the project aimed to demonstrate an integrated approach to addressing climate-related and wider socio-economic challenges in vulnerable urban environments.

This Final Report provides a detailed technical overview of the progress made towards meeting the project's objectives and provides detail on the outputs achieved in quantifiable terms in accordance with each of the project actions. In addition, the report includes a financial return detailing the costs incurred on the project and the statement of expenditure.

The key objectives of the project were to:

1. Develop a transferable methodology for designing affordable, light-engineering climate change adaptation measures for social housing landscapes using green and blue infrastructure.
2. Design and implement comprehensive packages of retrofitting measures in three different types of social housing landscapes.
3. Implement the main measures through employment programmes for long-term unemployed beneficiaries creating local jobs.
4. Develop a set of training modules for housing and grounds maintenance professionals on the whole cycle of adaptation and green infrastructure relevant procurement systems, design, retrofit and maintenance.
5. Develop a transferable methodology for resident stakeholder engagement, resulting in site-specific community adaptation action plans and practical involvement in retrofitting and maintenance activities.
6. Design an evaluation methodology capturing technical performance and social return on investment.
7. Develop interactive e-learning materials including a film to inform local, national and EU policy, strategy and best practice.

These objectives were met by completing the deliverables set out in the project application, as follows:

- Feasibility Assessments completed, to establish a prioritised hierarchy of measures for implementation based on their performance, longer term technical and maintenance viability, financial viability and social acceptability (see **A1 Green infrastructure feasibility assessments**)
- A package of affordable and socially acceptable retrofit climate change adaptation measures installed across 3 housing estates, supporting the achievement of wider green

infrastructure goals; 22 Green Team trainees involved in delivering the soft landscaping (see **B1 Implementation of green infrastructure retrofit programme**)

- 46 H&F Council maintenance contractors and senior managers engaged in a training programme designed to ensure they understand the impacts of climate change at a local level and are equipped to specify and maintain retrofit solutions; 48 representatives from other housing providers and related organisations engaged through two masterclasses designed to inform stakeholders about the project and support its replicability (see **B2 Deliver housing staff training programme**)
- Community engagement programme delivered, with a total of 472 residents engaged through activities including consultation and celebration events, residents meetings, door knocking and leaflet dropping, surveys, Green Doctor energy advice visits, gardening and food growing clubs, sustainability champions training and local adaptation plan development (see **B3 Undertake community engagement**)
- Policy review undertaken, with inputs made to key local, regional and national policies supported by the project's Advisory Group and case studies published on websites including the EEA's Climate-ADAPT platform, with a view to influencing policy and introducing best practice that can be used to inform the evidence base for policy changes at the wider European scale (see **B4 Influence policy and best practice**)
- Technical monitoring of the project carried out by the University of East London's Sustainability Research Institute, establishing the impact of the interventions in order to quantify the environmental benefits (see **C1 Monitoring impact**)
- Wider evaluation of the project completed using a Social Return On Investment, in order to effectively demonstrate the social, economic and environment benefits of climate adaptation, including the added value of the project's interventions (see **C2 Project evaluation**)
- Communications plan and protocols established and implemented to ensure effective communication between the project's delivery partners, particularly Groundwork London and Hammersmith & Fulham Council (see **D1 Internal project communication**)
- A wide range of stakeholder engagement activities carried out, from conferences and seminars to walking tours of the project sites, including; the SHIFT National Adaptation Conference; London Councils Environment Coordinators Network; 1<sup>st</sup> European Urban Green Infrastructure Conference; Green Sky Thinking week; INSS Communities & Connections conference; wider H&F Council resident engagement activities; London Drainage Engineers Group meeting and Thames21 SuDS event. Advisory group of external experts established and engaged with regularly to support project implementation, monitoring, policy influencing and dissemination (see **D2 Engaging with stakeholders**)
- Project website created and used to disseminate information on project activities, outcomes and resources. Key features include: project overview; details of the three project sites; case studies, videos and other resources including the Implementation Guide and Layman's Report; results; news; project film; 360° virtual tour; testimonials; media coverage, awards and events; contact information (see **D3 Create project website**)
- Implementation guide published, providing other local authorities and housing providers across Europe with the tools, resources and best practice guidance for

implementing climate change adaptation measures across their own housing stock (see **D4 Publish implementation guide**)

- Project film created and disseminated widely, showcasing the changes to the demonstration sites over the course of the project and featuring interviews with key stakeholders (see **D5 Production of project film**)
- Notice boards installed on all three sites close to the interventions, raising awareness of the installed features, the benefits they offer and why this is important (see **D6 Notice boards**)
- Layman's Report published, to inform decision-makers and non-technical parties across Europe on the objectives of the project and the results achieved, and to promote awareness of climate change adaptation potential (see **D7 Layman's Report**)
- Articles written and media coverage secured from a wide range of publications, including the Guardian, RHS magazine, Landscape Institute Journal, Horticulture Week and Housing Europe; winner of Landscape Institute College of Fellows' Award for Climate Adaptation 2016 and SWIG Urban Greening Award (see **D8 Media work**)
- Design for Life competition held in association with the Landscape Institute and National Housing Federation; promoted across Europe, with 10 entries received and first prize awarded to Hungarian entry 'A Good Base for a Smart City' (see **D9 Design competition**)
- Other European and international projects engaged in order to share results and learnings, through one to one exchanges (such as with the LIFE Urban Oases project) and wider meetings and conferences (including the LIFE Water Platform meeting and 1<sup>st</sup> European Urban Green Infrastructure conference) (see **E3 Networking with other projects**)
- After LIFE communication plan published, setting out how we will continue to apply, disseminate and communicate the results of the project across Europe after its end (see **E4 After LIFE communication plan**).

This report sets out the key activities and achievements of the project in more detail. This is preceded by an Introduction (Chapter 3) which describes the background, problem and objectives and expected longer term results, and an Administrative part (Chapter 4) which describes and evaluates the project's management system.

Following the descriptions of the technical and dissemination actions (Chapter 5, sections 5.1 and 5.2), an evaluation of project implementation and analysis of long-term benefits is provided (5.3 and 5.4). Comments on the financial report are given in Chapter 6. Finally, Administrative, Technical, Dissemination and Financial Annexes are provided in Chapter 7 and 8, and referenced where relevant throughout this report.

### 3. Introduction

This project addresses climate change as its key environmental problem, and the fact that this is likely to mean more extreme weather events across Europe which significantly increases the threat of surface water flooding and other negative impacts in urban areas. Climate adaptation solutions minimise the impact that urban development has on the environment, and the impact that a changing climate change could have on the buildings, open spaces and people that live there. However, the implementation of adaptation measures in estates' outdoor spaces across Europe is uncommon.

Recognising this, Groundwork London worked with Hammersmith & Fulham Council (H&F Council, formerly known as the London Borough of Hammersmith and Fulham), residents and other key stakeholders to design and implement adaptation measures in three housing estates in West London. The project aimed to demonstrate that through water-sensitive urban design measures and other climate adaptation actions, urban housing estates can play an important part in adapting our cities to cope better with climate change.

Key activities included:

- Retrofitting cost-effective, light-engineering solutions in green spaces to help ease environmental impacts such as flooding and heat waves, adopting a model that is replicable in and transferable to cities across Europe.
- Creating training and employment opportunities for apprentices to carry out some of the adaptation work, and for social housing staff and grounds maintenance contractors to learn how to maintain and replicate these measures.
- Working alongside residents to give them the opportunity to shape the open space improvements on their estates, and to raise their awareness about the implications of climate change and the actions residents can take themselves to contribute to adaptation.
- Developing a range of materials to disseminate the project's activities and results, and support its transferability, including a 360° tour, film, case studies, Implementation Guide and Layman's Report.

These activities have delivered, and will continue to deliver, a range of environmental, social and economic benefits for the estates, their residents and the wider neighbourhoods. Environmental benefits include the management of flood risk, natural cooling, improved biodiversity and reduced requirements for irrigation. Social and economic benefits include improved health and well-being, raised awareness of climate change issues, improved skills and employability, reduced costs associated with mitigating flood risks, and the empowerment of local stakeholders to make a contribution to adaptation and increasing local resilience.

Specifically, in delivering a high profile integrated programme of adaptation measures across three sites, using a comprehensive monitoring approach to demonstrate their impact, and developing a range of resources, the project aimed to achieve key longer term impacts, including: making the business case for green infrastructure-based climate adaptation initiatives, enabling the transferability of approaches to other urban areas across Europe, supporting H&F Council to become recognised as a lead authority in advancing effective approaches to climate adaptation at a neighbourhood and borough wide scale, and providing best practice examples that help to strengthen relevant policy at the local, regional, national and European scale. Progress towards these aims is set out throughout this Final Report, with plans for continued achievement of the key objectives described in the After LIFE plan (E4).

## 4. Administrative part

### 4.1 Description of the management system

The work packages and project activities are summarised within the appended chart (Annex 7.1.1), which shows the month in which each activity was completed (proposed vs. actual). Detailed information on each work package is presented in Chapter 5 – Technical Progress, with annexes provided separately and a list of previously submitted annexes included in Annex 7.1.2. This section describes activities carried out under E1 Project management and E2 Monitoring project progress.

Groundwork London (herein referred to as ‘GL’ – for a full list of abbreviations used, see Annex 7.1.3) is the Coordinating Beneficiary with one Associated Beneficiary, Hammersmith & Fulham Council (herein referred to as ‘H&F Council’). GL led on all work packages, with input from the Council and other stakeholders as required. The project was led by a dedicated LIFE+ Project Manager at GL, who was responsible for overseeing all actions associated with the successful delivery of each work package, the day-to-day administrative and financial management of the project, and ensuring that reporting requirements were met and communications procedures adhered to. The Project Manager was also responsible for writing and submitting the Inception Report (March 2014 – see Annex 7.1.4), Mid-term Report (June 2015 – see Annex 7.1.5) and this Final Report (December 2016).

GL’s Project Director had overall responsibility for the project’s success and ensured senior level commitment and support for the project, working closely with the Project Manager on key activities including strategic development, dissemination actions and policy influencing. The Project Director retained an oversight of all activity areas and helped to ensure that the project is now well placed to drive the adaptation of policy and approach by other social housing providers. The wider GL project teams included Landscape Design Services, Community, Employment and Training, Marketing and Communications and Green Doctors (professional energy advisers). The project was also supported by GL’s in-house Finance Team and Administrative staff, with Senior Management team involvement as required (such as in financial management and key stakeholder engagement).

Due to staff changes, there were two replacements of the Project Manager over the course of the project, from Caroline Bragg to Hannah Clay (March 2015), and from Hannah Clay to Hannah Baker (née Kyrke-Smith, March 2016). All have a background in Project Management, including the coordination of European programmes, and have been well-placed to lead on priority activities such as the monitoring and evaluation of the project and retaining an oversight of progress in all other work areas. There have also been staff changes in the Project Director role: Nicola Wheeler became the Project Director when Anita Konrad left GL in February 2014; in December 2015 Nicola left GL and Anita returned, taking on the Project Director role again.

The effective management of the project was supported by tools such as the GL project management system PIMS, a shared delivery plan, communications plan, risk register and risk management plan, delivery Gantt chart and financial year plan to monitor expenditure. These were all updated on a regular basis throughout the project.

The Project Manager led on all regular communication with H&F Council, and organised and administered all internal operational meetings (GL) and monthly Steering Group meetings

(GL with H&F Council) to track and update on progress across all work areas, as well as discuss key risks and issues. The Project Director, Senior Community Project Officer (Daniel Brittle) and Senior Communications & PR Officer (Tayler Groom) also attended these meetings where required. The Project Manager also regularly communicated with the project's external Advisory Group (see D2 Engaging with stakeholders), including administering five meetings over the course of the project.

At H&F Council, the project's Strategic Lead (Sharon Schaaf) and Project Officer (Binita Shah) supported day-to-day project delivery and ensured senior level buy-in across the Council. The Partnership Agreement with H&F Council was signed in March 2014 (submitted with the Mid-term Report and included here in Annex 7.1.6). The Council was also engaged in reviewing and signing off key relevant documentation, such as the local adaptation plans (see B3), and communicated project news through their Communications Team.

An updated LIFE+ project team organogram is provided in Annex 7.1.7. The project team structure has evolved beyond the core team involved at the Inception Report stage due to the increase in activity across all work packages and the changes in Project Management as described above. Staff beyond the core team have been brought in to manage specific elements, such as the Green Doctor programme under B3 Community engagement (Resource efficiency specialists), and the Green Team's delivery of soft landscaping works and initial maintenance under B1 Implementation. All personnel categories/roles were foreseen in the grant agreement cost tables.

In November 2015 the Project Director submitted a request for a six month prolongation to the project, to allow additional time for the completion of the implementation works and Green Team planting and maintenance at the third site (Cheeseman's Terrace) following delays to the start of B1 Implementation works there, and to extend the monitoring period in order to better understand the impact of the interventions. Further detail is provided in the prolongation request letter dated 4<sup>th</sup> November 2015 (see Annex 7.1.8). This was granted (EC letter dated 18<sup>th</sup> March 2016), taking the project end date to 30<sup>th</sup> September 2016 and enabling the project to fully meet its objectives.

At the end of the project GL's Financial Director arranged an independent financial audit (E5). This was carried out by GL's external auditors, Hartley Fowler, on 21<sup>st</sup>-25<sup>th</sup> November 2016; the report of which can be found in Annex 8.3. Throughout the project, financial and beneficiary data monitoring and performance management systems were in place to monitor project expenditure, beneficiary recruitment, individual progression and achievement of project aims and objectives. Expenditure was monitored using GL accounting systems to ensure that all expenditure claimed is eligible for LIFE purposes and that an appropriate audit trail could be provided.



## 4.2 Evaluation of the management system

As described in section 4.1 above, the project has benefitted from a strong project management approach, with a number of systems working concurrently to ensure its successful delivery. The tools and systems in place allowed for effective monitoring of project progress through monthly financial reports and updates and comprehensively capturing all evidence of expenditure across the project. This was supported by regular meetings of GL operational staff to review progress across each task area, and report and monitor risks across the project. These meetings were found to be particularly critical during the B1 Implementation phase; as a result, throughout much of the project the operational team met fortnightly rather than monthly as initially anticipated. The meetings ensured that there was a coordinated approach across all work areas with teams working together to support wider project objectives, and that all teams were fully briefed and able to provide detailed information on progress and outcomes to stakeholders and beneficiaries.

Whilst staff changeovers in both the Project Director and Project Manager roles risked having a negative impact on project delivery, this was avoided due to the systems in place and supporting staffing structure, as well as comprehensive handovers which took place; as a result the staff changeovers happened smoothly and effectively. Where a resource gap was unavoidable (such as when Caroline Bragg's immediate replacement was unable to remain in post due to health reasons), the Project Director provided additional support and oversaw project delivery until a replacement was secured. The final change to the current Project Manager benefited from the fact that Hannah Baker was already familiar with the project, having been brought in to deliver the Implementation Guide.

As described in section 4.1, the six-month prolongation enabled the project's objectives to be met in full. This became necessary due to delays in starting implementation works at the third site, Cheeseman's Terrace, as a result of new technical input from Thames Water which led to positive changes to the designs that increased the quantities of surface water run-off managed by the measures (see B1 Implementation). The start of the technical monitoring (C1) was also delayed due to an unsuccessful tendering process in May 2014, which meant the monitoring experts (University of East London) were not appointed until May 2015; combined with the B1 delays, this would have restricted the time available for monitoring, and therefore demonstrating project impact, if the prolongation had not been granted.

GL retained an excellent working relationship with H&F Council throughout the project. The Council was extremely supportive and provided excellent inputs across the delivery and dissemination of all implementation actions. Regular attendance at Steering Group meetings from the Estate Management Team, Project Accountants and support from their Local Housing Officers contributed to successful project management; this was further strengthened with the involvement of the Council's Flood Risk Manager, George Warren, from April 2014 onwards. George helped to ensure that the project was, and continues to be, championed as a credible example of SuDS in the Borough and beyond, offering his technical knowledge and the ability to facilitate cross departmental working. George has also assisted with the project's communication and dissemination actions as Chair of the London Drainage Engineers Group and a member of the Mayor of London's Drain London partnership, and has led a number of site tours and referenced the project in various presentations and events.

Sharon Schaaf and Binita Shah at H&F Council facilitated good relationships with their term contractors for grounds maintenance (Quadron Services Limited), estate cleansing (Pinnacle)

and cyclical repairs and maintenance (Mitie) throughout the key delivery phases, and also supported the project with specific issues around the feasibility, implementation and community engagement phases of the project.

The project's external Advisory Group has been highly supportive, with influential and senior representation from across the housing, landscape, water management and environment sectors including the Landscape Institute, Greater London Authority, Thames Water and the Environment Agency. Their interest and enthusiasm for the project's activities and outcomes, as well as their considerable influence, has resulted in the project being referenced in publications, referred to on Advisory Group members' websites and used as case study material for wider dissemination. The project has also benefited from other external expertise, in support of particular tasks and work packages – including a consortium of green infrastructure experts who supported the feasibility assessments, the University of East London who delivered the technical monitoring, and the Landscape Institute and NHF who ran the Design for Life competition in association with GL.

Regular contact with the External Monitor has been maintained throughout the project, including several phone calls, and visits in February 2014, April 2015 and September 2016. All three visits have featured tours of the project sites which have been helpful in bringing the project's objectives and implementation to life. A good relationship was established with Chris Rose, and then his successor Hannah Wilson from June 2016. The Project Manager has also responded to additional queries and requests for information from the European Commission (EC), such as clarifications in relation to the Inception and Mid-term Reports (in response to EC letters dated 28<sup>th</sup> March 2014 and 17<sup>th</sup> December 2015 respectively – see Annexes 7.1.9 and 7.1.10), and requests to update project information for the LIFE project outcome indicators database (letters dated 2<sup>nd</sup> March 2016 and 17<sup>th</sup> March 2016). An updated response to the Inception and Mid-term Report clarifications is provided as part of the cover letter for this Final Report.

## 5. Technical part

As noted in section 4.1 above, the overall progress of the project is presented in a chart in Annex 7.1.1. This technical part of the Final Report sets out progress on each work package, documenting the work carried out and outputs achieved, any deviations from the planned outputs and time schedules, any modifications to the work packages and planned continuation of each activity after the end of the project. Brief comparisons between incurred costs and the budget are given for each work package, with more detail provided in Section 6.5 below.

### 5.1. Technical progress, per task

The table below lists each deliverable and milestone with the dates of their delivery, as well as the report with which each deliverable has been submitted (where applicable). Below this, each work package is described in detail.

<b>Deliverable/ milestone</b>	<b>Work package</b>	<b>Deliverable/milestone name</b>	<b>Date of delivery/ achievement</b>	<b>Report submission (where applicable)</b>
Deliverable	A1	Green Infrastructure Feasibility Assessments	June 2014	Mid-term Report (update provided with Final Report)
Milestone	A1	Suitably qualified experts appointed	May 2014	N/A
Milestone	A1	Final versions of Green Infrastructure Feasibility Assessments available	June 2014	Mid-term Report (update provided with Final Report)
Milestone	B1	Implementation plans for each project location	June 2014	N/A
Milestone	B1	Green Team staff recruited	June 2014	N/A
Milestone	B1	Deliver phased programme of climate change adaptation measures across intervention sites	June 2015 (QCE/CER) September 2016 (CT)	N/A
Deliverable	B2	Evaluation report from delivery of training programme	September 2016	Final Report
Deliverable	B2	Training programme (modules and overall framework)	June 2015	Mid-term Report and clarification responses; Final Report
Milestone	B2	Review existing training available and propose structure and outline modules	March 2014	Inception Report
Milestone	B2	Undertake a skills needs analysis with LBHF staff, contractors and members of the Green Team	March 2014	Inception Report
Milestone	B2	Training programme (modules and overall framework including accreditation)	June 2015	Mid-term Report and clarification responses
Milestone	B2	Evaluate pilot, incorporate feedback	January 2016	Final Report
Milestone	B2	Market accredited training programme	Expected January 2017	N/A

Milestone	B2	Deliver masterclass to a wider audience of housing practitioners	July 2015 September 2016	N/A
Deliverable	B3	Detailed engagement plan	March 2014	Inception Report
Deliverable	B3	Community Engagement report	January 2016	Mid-term Report clarification responses (update provided with Final Report)
Milestone	B3	Engagement events on each site to introduce the programme and seek resident views and input	March 2014	N/A
Milestone	B3	Action planning exercises to inform the implementation plan on each site	May-August 2014	N/A
Milestone	B3	Final celebration event to launch completion of project and install notice boards	July 2015 (CER) July 2016 (QCE) September 2016 (CT)	N/A
Deliverable	B4	Working Group Report	September 2016	Final Report
Milestone	B4	Establish six-monthly cross-departmental local authority and GLA working group	January 2014	N/A
Milestone	B4	Draft incentives and policy recommendations	September 2016	Final Report
Deliverable	C1	Baseline report	Not completed	N/A
Deliverable	C1	Final monitoring impact report	September 2016	Final Report
Milestone	C1	Appoint external experts via public tender	May 2015	N/A
Milestone	C1	Undertake baseline of existing capacity and services across the three intervention sites	Not completed	N/A
Deliverable	C2	Social Return On Investment Assessment	September 2016	Final Report
Deliverable	C2	Evaluation Report	September 2016	Final Report
Milestone	C2	External evaluation commissioned	Not completed	N/A
Milestone	C2	Social Return On Investment (SROI) questionnaire and proxy values agreed	December 2013	Inception Report
Milestone	C2	SROI Assessment published	September 2016	Final Report
Deliverable	D1	Finalised Communications pack and protocols	September 2013	Inception Report
Milestone	D1	Establish operational project delivery team	July 2013	N/A

Milestone	D1	Draft Communication Protocols and Communication Pack	July 2013	N/A
Milestone	D1	Set up communication tools	July 2013	N/A
Deliverable	D2	Communications & Dissemination Plan	September 2013	Inception Report
Milestone	D2	Six-monthly Steering Group meetings	April 2014 – July 2016	N/A
Milestone	D2	Establish Steering Group	September 2013	N/A
Milestone	D2	Draft Terms of Reference and governance arrangements	September 2013	Inception Report
Milestone	D3	Launch website	September 2013 March 2016	N/A
Milestone	D3	Regular website updates and maintenance	Ongoing	N/A
Milestone	D3	Commission web developer	Not completed	N/A
Deliverable	D4	Implementation Guide	September 2016	Final Report
Milestone	D4	Breakfast briefing/seminar launch of guide	September 2016	N/A
Milestone	D4	Final review of dissemination plan to include local, regional, national and trans-national stakeholders	June 2016	N/A
Milestone	D4	Publication disseminated	September 2016	N/A
Milestone	D4	Develop publication brief for implementation guide	September 2015	N/A
Milestone	D5	Develop brief for production of film	January 2014	Inception Report
Milestone	D5	Launch of film at breakfast briefing	September 2016	N/A
Milestone	D5	Filming at 4 key stages throughout project	April 2015- July 2016	N/A
Milestone	D6	Install notice boards on site	September 2016	N/A
Milestone	D6	Commission production of notice boards	September 2015 September 2016	N/A
Deliverable	D7	Layman's Report	September 2016	Final Report
Milestone	D7	Report published on website	September 2016	N/A
Milestone	D8	Identify key press and publicity opportunities alongside the project milestones	September 2013	N/A
Milestone	D8	Research journals and publications across the EU which are relevant and develop contacts database	September 2013	N/A

Milestone	D8	Disseminate press release launching the project	January/ February 2014	Inception Report
Milestone	D9	Establish judging panel and launch competition guidelines	July 2015	Final Report
Milestone	D9	Host showcase of shortlisted applicants and winners	February 2016	Final Report
Deliverable	E1	Mid-term Report	June 2015	Mid-term Report
Deliverable	E1	Final Report	December 2016	Final Report
Deliverable	E1	Inception Report	March 2014	Inception Report
Deliverable	E1	Procedures Manual and Signed Partnership Agreement	March 2014	Mid-term Report
Milestone	E1	Project management systems for both beneficiaries in place	July 2013	N/A
Milestone	E1	Agree schedule of operational progress meetings and steering group meetings	September 2013	N/A
Milestone	E1	Regional kick-off meeting with EU representative	October 2013	N/A
Milestone	E1	Procedures Manual and Signed Partnership Agreement in place	March 2014	Mid-term Report
Deliverable	E2	Mid-term Report	June 2015	Mid-term Report
Deliverable	E2	Inception Report	March 2014	Inception Report
Deliverable	E2	Final Report	December 2016	Final Report
Milestone	E2	Inception Report submitted	March 2014	N/A
Milestone	E2	Schedule monthly operational team meetings	September 2013	N/A
Milestone	E2	Mid-term Report submitted	June 2015	N/A
Milestone	E2	Final Report submitted	December 2016	N/A
Milestone	E3	Undertake international site visit with project delivery partners from another LIFE project	September 2014 September 2015	Final Report
Milestone	E3	Make contact with coordinating beneficiaries at other projects	Ongoing	N/A
Milestone	E3	Organise virtual exchange visits or webinars to understand lessons learnt and activities completed	Ongoing	N/A
Deliverable	E4	After LIFE Communication Plan	September 2016	Final Report
Milestone	E4	After LIFE Communication Plan published	September 2016	N/A
Deliverable	E5	Independent financial audit	November 2016	Final Report
Milestone	E5	Independent auditor appointed	June 2016	N/A
Milestone	E5	Completion of independent audit	November 2016	Final Report

## **A1: Green infrastructure feasibility assessments**

Start date: September 2013 End date: June 2014

### *Description of the activities undertaken and outputs achieved:*

GL's Landscape Design Team started the feasibility assessments in September 2013. Marion Phillips, Senior Landscape Architect together with Mark Bentley, Landscape Architect led the delivery of this action with input from the GIS Team (Paul Hodgson, Vieri Nucci, Thomas Puthuserry and Tony Fregoli), who supported the preparation of the assessment mapping.

The study was broken down into the following stages:

- Initial audit:
  - Desk-based data collection and site surveys – site context and site analysis
  - Community consultation events to characterise the sites and identify their strengths and weaknesses
- Assessment:
  - Interpretation of the site surveys and community consultation results to identify environmental threats and opportunities
  - At this stage, opportunities were identified with an open mind in the knowledge that the feasibility and prioritisation stages would help to screen and then prioritise options
- Feasibility assessment:
  - Screening opportunities based on an assessment of key factors such as green infrastructure functionality, technical feasibility, financial feasibility and maintenance requirements
  - Expert input to the process (e.g. structural engineer, drainage engineer, ecologist)
- Prioritisation:
  - Shortlisting of opportunities using a simple multi-criteria assessment method to establish a prioritised list of interventions to take forward to sketch design

As part of the initial audit, the team undertook background reading and reviewed precedent projects in the UK, Europe and worldwide to develop an informed approach to the site assessments. Existing data sets were reviewed and collected for each of the three pilot estates to understand the local context and baseline the current conditions. This included data made available by H&F Council, such as gulley maintenance information from estate inspections, flood risk incident records, maintenance and repair reports and biodiversity records.

The site survey work was undertaken during December 2013 and January 2014. This was followed in March and May 2014 by a series of consultation events held at each of the three estates to introduce residents to the project and to gather information on:

- How residents use the green spaces on their estate;
- Problems residents experience (flooding, water pooling, overheating, lack of provision of certain facilities); and
- Ideas residents had for green space improvements.

Each site was considered at two spatial scales, with the surveys considering both the site itself (for example, existing vegetation and drainage regime) and the local context of each estate (such as open space provision, recreation opportunities and flood risk).

A series of survey plans were prepared for each site, with the support of GL's GIS team. These survey plans overlaid the data collected on site base plans. The local context plans included location plans, land use data, open space and recreation mapping, nature conservation designations, surface water flood modelling, air pollution (particulates & nitrogen dioxide) and traffic noise. The site plans visually represented the arrangement of buildings, hard standing and green space across the three estates, and captured the results of the vegetation surveys, drainage surveys, access and movement surveys, assessment of greening opportunities and drainage opportunities, and consultation comments. In addition, photo surveys and shade analysis plans were prepared. An example of these site surveys for Queen Caroline Estate was provided with the Mid-term Report.

In the assessment stage the context and site plans were analysed to assess the range of environmental threats experienced by the three estates and the extent of opportunities for retrofitting green infrastructure. Environmental threats considered included those related to climate change, i.e. exposure to overheating, risk of flooding and water scarcity and drought, and other environmental factors, e.g. noise, air pollution and water quality. Opportunities considered included green roofs, green walls, tree planting, rain gardens, swales, basins, permeable paving, and water storage and re-use through rainwater harvesting systems.

GL's Landscape team worked with the housing provider and residents to develop a long-list of interventions for each of the three estates. This long-list was then subjected to a feasibility assessment and prioritisation process. A consortium led by The Ecology Consultancy (TEC) was appointed in May 2014 to provide technical support and specialist expertise from the feasibility assessment through to the completion of detailed design. The TEC team (listed in the Mid-term Report) included leaders in green infrastructure assessment and implementation, responsible for the design and build of many green roofs, living walls and rain gardens.

The feasibility assessment considered the technical and financial feasibility of the long-list of measures, as well as their likely long-term maintenance requirements, leading to a number of options being screened out. The technical feasibility was informed by input from drainage and structural engineers and ecologists. The financial feasibility took account of: (i) capital cost estimates (based on experience of delivering similar landscape features elsewhere); (ii) whether any funds had already been assigned by others that could support the work, e.g. the roof at Richard Knight House was identified as being due for planned upgrade; and (iii) likely long-term maintenance costs. The assessment of maintenance requirements considered whether the measure was likely to be maintenance neutral or to increase or decrease maintenance.

With the support of the TEC team, a methodology for the prioritisation and selection of measures on the three estates was developed by GL's Landscape Architects. This involved applying a site-specific multi-criteria scoring and weighting system to the long-list of measures which had not been screened out during the feasibility assessment. The criteria were established to assess climate change adaptation performance, as well as the other benefits that green infrastructure can provide, e.g. for air quality, water quality, or biodiversity. The weighting of criteria reflected the key objectives of the project, with climate change adaptation performance weighted higher than other benefits, e.g. air quality or biodiversity.

The criteria included:

- Effectiveness in reducing the risk of flooding, exposure to overheating and reducing water scarcity;



- Contribution towards wider green infrastructure benefits (biodiversity, amenity, water quality, air quality, etc.);
- Technical and financial feasibility;
- Maintenance requirements; and
- Social acceptability and aesthetic quality.

The prioritisation process resulted in a shortlist of interventions for each of the three estates, which were then agreed with the housing provider. An example of the screening and prioritisation process was provided with the Mid-term Report and in Annex 7.2.1. Based on these findings, the Landscape team developed initial outline proposals for the retrofit of green infrastructure on the three estates. Early iterations set out how the estate open spaces could accommodate different types of retrofit green infrastructure. These were developed into master-plans for each estate and sketch designs and visualisations for sites within each estate. These were used to discuss the proposals with stakeholders.

*Assessment of progress against planned outputs and timescales:*

The A1 work package was originally scheduled to start in July 2013 and complete by 31<sup>st</sup> March 2014. Progress was measured according to two key milestones: the appointment of external experts and the completion of the green infrastructure feasibility assessments.

Both of the outputs associated with this work package were complete by June 2014. However, as noted in the Mid-term Report, a minor delay to the start of this work package was experienced as the project mobilised and staff were deployed. In line with GL's response to evaluators during the negotiation of the grant agreement, significant in-house capacity, including in GIS analysis, was exploited in preparing the green infrastructure feasibility assessments. As a result, the appointment of technical expertise was moved to the latter stages of drafting of the assessments. Although there was a slight delay to their planned appointment ready for review of the assessments, the experts were appointed in May 2014. This resulted in a minor delay in finalising the three Feasibility Assessments from the deadline of 31<sup>st</sup> March but this had no effect on the viability of the work package as a whole.

The Feasibility Assessment Report was submitted with the Mid-term Report. This was completed just before the release of updated local flood risk data by H&F Council's Flood Risk Team. The updated data was captured within the project at the time and the A1 report and its annexes were subsequently amended to reflect this (see Annex 7.2.1). In addition, in the Commission's Mid-term Report response letter (dated 17<sup>th</sup> December 2015) it was requested that further explanation for the rationale and weighting of the proposed measures to be installed was provided, with guidance shared in the Implementation Guide. This request has been taken on board (see above and D4 Implementation Guide).

*Modifications to this work package and its associated budget:*

As noted in the Mid-term Report, it was recognised that there was an increased requirement for in-house experience and expertise to complete the Feasibility Assessments, in particular with support from GL's GIS team. The project requested a transfer between work packages for an increase in personnel costs in the Inception Report. The EC's Inception Report letter (dated 19<sup>th</sup> May 2014) acknowledged this and confirmed that an additional agreement was not required in this case. As documented in the Mid-term Report, the total personnel costs for this work package on its completion were significantly more than was budgeted for in the proposal, because more time and resource was needed to complete the Assessments to a high standard. This increase is off-set by a reduction in personnel costs in work package B1.

As also set out in the Mid-term Report, in the proposal the external assistance costs associated with the appointment of the technical expertise were budgeted under B1. However, as the agreed output in appointing the expertise is listed under A1, this expenditure is attributed to the A1 work package in the Summary of Costs per Action, section 6.

*Continuation of the action after the project's end:*

As set out in the Mid-term Report, having been asked to critique the approach undertaken at a meeting in September 2014, members of the Advisory Group expressed an interest in the methodology employed for selecting measures. The mapping and selection process form a crucial part of the transferable methodology that has been developed and shared as part of the dissemination process; for example, the Implementation Guide features a section focused on this process in order to support other housing providers in conducting a similar exercise. The section of the Guide sets out the approach followed, and provides guidance and explanations for the selection and weighting of the proposed measures to be installed.

H&F Council have already indicated that they would like to undertake similar assessments across all of their social housing estates to identify opportunities for similar schemes, based on the learnings from this project. The method used aims to ensure that other housing providers are able to adopt and use a simple tool such as the one used in this project to aid their decision making processes about future investment in green infrastructure.

We also shared this approach and the selection process table with the Royal Borough of Kensington & Chelsea (RBKC) who were exploring the potential for residential green roofs in the Borough and have a bi-borough/shared services working arrangement with H&F Council. As a result of this, the Climate Change Team in RBKC were able to secure £97k of public health funding to deliver two green roof projects that would demonstrate the benefits of this type of green infrastructure to the health and well-being of local communities. Together with social housing managed by Octavia, the Muslim Cultural Heritage Centre was selected to benefit because of the positive interest of the director and because its roof can be made accessible to the community visiting the centre, in particular the children. The green roof at the Centre was installed in June 2016; the green roof at the Octavia building is currently in the tender stage and is expected to be completed by March 2017. This complementary activity was commissioned as a direct result of the work carried out by the LIFE+ project. Mathieu Mazenod (formerly at RBKC, but now at GLA) contacted GL to provide project management after attending the first masterclass in July 2015 (see B2 below). Two of the GL LIFE+ project team have delivered this work – Landscape Architect Mark Bentley provided technical support and Green Team Programme Manager Stephen Dunn carried out all project management.

In addition, CIRIA (the construction industry research and information association) has now developed a tool called BeST (Benefits of SuDS Tool), which should also support feasibility assessments of this kind in the future.

## **B1: Implementation of green infrastructure retrofit programme**

Start date: June 2014

End date: September 2016

*N.B. Please note that in the project proposal, B1 was described as the Training programme, and B2 was the Implementation programme. In both the Inception and Mid-term Reports, these have been swapped so that B1 is the Implementation programme, and B2 is Training. We have therefore done the same for this Final Report.*

### *Description of the activities undertaken and outputs achieved:*

As set out in the Mid-term Report, GL's Landscape Design Team led the development and implementation of this work package. Landscape Architects Marion Phillips and Mark Bentley followed the Landscape Institute's defined work stages from concept design through to completion of works on site, on the three pilot sites: Queen Caroline Estate (QCE); Cyril Thatcher, Eric MacDonald and Richard Knight House (CER); and Cheeseman's Terrace (CT). Marion and Mark were supported by colleagues in the Landscape team including Matthew Conlon-Perry, Ben Dewhurst, Sanchia Dunn, Jane Everitt, Christine Jakoby and Liz Cronin, in preparing sketch designs, tender packages, construction drawings and administering the contracts to deliver works on site.

The Project Managers, formally Caroline Bragg and Hannah Clay, then Hannah Baker, have overseen the delivery of this work package. This has included monitoring project progress through fortnightly operational team meetings with the Landscape Architects, Green Team Supervisors and Senior Community Project Officer, working with H&F Council to agree the design and implementation process and financial monitoring. H&F Council facilitated good relationships with their term contractors for grounds maintenance (Quadron Services Limited), estate cleansing (Pinnacle) and cyclical repairs and maintenance (Mitie), and also supported the project to address specific issues during the construction phase. As documented in the Mid-term Report, the project benefitted from tying in the delivery of some measures with existing planned maintenance programmes (e.g. green roof at Richard Knight House).

The key work stages are as follows:

- Outline and sketch proposals
- Detailed design
- Production information
- Tender action and contract preparation
- Works on site
- Completion

The stages within the B1 work package are summarised in the Mid-term Report up to the Tender action and contract preparation stage for all three sites, and to the Completion stage for the first two sites. The latter stages for the third site, Cheeseman's Terrace, and the on-going maintenance and monitoring on all three sites, are described below.



Figure 1. Before and after photos – Queen Caroline Estate



Figure 2. Before and after photos – Queen Caroline Estate



Figure 3. Before and after photos – Cyril Thatcher, Eric MacDonald and Richard Knight Houses



Figure 4. Before and after photos – Cyril Thatcher, Eric MacDonald and Richard Knight Houses

### *Tender action and contract preparation stage – Cheeseman’s Terrace*

As for the first two sites, on account of GL’s experience in specifying, issuing and administering landscape contracts, GL again undertook this activity on behalf of H&F Council. GL prepared and issued tender information in accordance with its procurement procedures, undertook the evaluation of the received tenders and provided a written recommendation to H&F Council as to which contractor should be appointed. Following appointment, GL took responsibility for administering the contract on behalf of H&F Council.

Invitations to tender for the works at CT were issued in January 2016 with submissions received in February 2016. The tender analysis and award process took longer than anticipated. Initially this was due to some submissions not taking into account a revised schedule of works that was issued towards the end of the tender period, which meant that all contractors were invited to confirm or amend their prices (Mar 2016). This caused a knock on effect to the planned start and delivery dates, so contractors were subsequently asked to confirm whether they could meet revised timescales for delivery (May 2016). The tender analysis process was eventually concluded in June 2016.

In the Mid-term Report, the value of hard landscaping works at CT was estimated at £85,500. Following submission of the Mid-term Report, the scope of the works was increased slightly to take advantage of opportunities, identified during discussions with engineers representing Thames Water, to maximise the volumes of surface water managed by the proposed measures. The pre-tender cost estimate prepared by GL increased to £96,277. The contract was awarded to Greatford Garden Services with a contract value of £97,810.17 + VAT (see Tender Report in Annex 7.2.2).

### *Works on site and completion stages – Cheeseman’s Terrace*

On agreement of the contract for CT, a pre-start meeting took place on site on 11<sup>th</sup> July 2016, with GL, H&F Council, Greatford Garden Services and a representative from the estate’s TRA. Works commenced on site on 18<sup>th</sup> July, with the completion date set for 30<sup>th</sup> August. However, works were not completed until 21<sup>st</sup> September 2016 due to unexpected ground conditions which slowed the clearance and excavation works, and delays to the delivery of key materials, e.g. the bespoke flow control chambers.

GL’s Landscape Team undertook contract administration, which included regular site visits to monitor progress and the issuing of instructions and payment certificates on behalf of H&F Council. H&F Council then processed invoices and released payments.



Figure 5. Before and after photos at Cheeseman’s Terrace



Figure 6. Before and after photos at Cheeseman's Terrace

### *Green Team*

GL Green Teams were actively involved in the development, implementation and subsequent maintenance of the measures. From July 2014 a team of trainees progressively took over the horticultural maintenance of the three sites. As implementation began on each site, these teams of trainees were also deployed to deliver the soft landscaping elements, i.e. top soiling and planting, and to undertake the establishment maintenance of the features. The involvement of the Green Teams in all aspects of the works has provided valuable waged work placements and training to unemployed residents living in the Borough. The Green Team Supervisors, Paul Craig and Paul Davis, led a total of 22 trainees through the programme overall, all of whom have achieved the City & Guilds Award in Practical Horticultural Skills at Level 1.

On the first two sites, the Green Team was responsible for maintenance of the interventions for a year, holding a handover session and maintenance refresher with H&F Council and their contractors in April 2016 (see B2 Training programme). However, delays to the completion of implementation works at CT meant that only limited maintenance was possible within the timeframe of the LIFE+ project; as a result, GL is independently funding the maintenance of the interventions by the Green Team for a period of 6 months – this will then be handed over to H&F Council as for the first two sites.

The benefits realised through the use of Green Teams on the project were described in depth in the Mid-term Report. GL has been able to support trainees to apply for jobs following the completion of their placement, which has resulted in 11 job outcomes to date, including gardening jobs. Other trainees have gone on to undertake further training, to jobs in other sectors and to higher education. Since the Mid-term Report the Green Team has also been interviewed for the project film (see D5 Project film) and a Green Team case study has been published on the project website.



Figure 7. Green Team carrying out turfing tasks at Cheeseman's Terrace

*"A really satisfying part of gardening work is watching people enjoy something that you've made. I've learnt how to handle machinery, gained some turfing skills, and hopefully lost a few pounds thanks to all the physical activity!" - Louis MacDonald, Green Team Member*

#### *Community engagement*

This work package has been underpinned by on-going resident engagement across the three estates. Residents continued to be consulted on the developing designs, were kept up-to-date with the project's progress, and were given opportunities to find out more about climate change and its potential impacts. This work was led by Daniel Brittle, Senior Community Project Officer. More information is provided in B3 Community engagement.

#### *Assessment of progress against planned outputs and timescales:*

The table below summarises the outputs achieved in accordance with the Grant Agreement. As noted in the Mid-term Report, it was agreed over the telephone with the Monitor on 5<sup>th</sup> August 2014 that there was a justification to review the B1 quantitative outputs based on the feasibility assessments. This has led to revisions to some of the original defined quantities.

<b>Output</b>	<b>Target</b>	<b>Achieved</b>	<b>Comments on any changes</b>
No. of waged green team opportunities	35	22	The decision at the start of the project was to take on a lower number of Green Team trainees due to the level of qualifications to be attained and the increased likelihood of securing job outcomes by the end of the programme.
Jobs created	12	11	The longer term benefits of the Green Team programme mean it is likely that additional job outcomes will be achieved following completion of the programme.

Area of green infrastructure enhanced	2,500 m <sup>2</sup>	4,537m <sup>2</sup> total land improved  This includes 2,630m <sup>2</sup> of new or enhanced green infrastructure.	No changes.
Increase in permeable surfaces	25%	16%  Surface water from 3,158m <sup>2</sup> of impermeable surface has been diverted into green infrastructure and away from the sewer	This is the average % in permeable surfacing for land within the site boundaries. For CER it is as high as 48%.  The increase in permeable surfaces does not take into account the quantity of impermeable surfacing draining to green infrastructure rather than the sewer. The project has demonstrated that it is generally more cost effective to direct surface water from impermeable surfaces into permeable landscapes than it is to change impermeable surfaces into permeable surfacing.
Water retention capacity	20,000 m <sup>3</sup>	Monitoring results show that 1,286,815 litres (1,287m <sup>3</sup> ) annual rainfall has been retained and diverted away from the storm drain system by the interventions, and that 100% of rainfall has been diverted away from the storm drain system by the ground level SuDS.	This is the quantity of water retained over the course of a year.  Assuming the interventions have a long lifespan, which evidence suggests most SuDS features do (20 years+), the water retention capacity target will be met in 15.5 years.
Trees and shrubs planted	600	565	As agreed with the Monitor in August 2014, the feasibility studies identified that there was not sufficient space to support new tree planting on this scale, and so the target was revised to include trees and shrubs. This target has therefore almost been met.



Food growing capacity	400m <sup>2</sup>	24m <sup>2</sup>	As for tree planting, it was identified during the feasibility studies that demand for food growing did not match the levels originally identified. The space restrictions at the third site meant that it was not possible to install additional food growing capacity, therefore this figure remains as per the Mid-term Report.
Green roofs created	600m <sup>2</sup>	432m <sup>2</sup> 89% (on average) of the rainfall landing on the green roofs has been absorbed, at a maximum of 100%.	An additional 73m <sup>2</sup> of green roofs was expected by the end of the project, however this was reliant on GL securing additional match funding for this; this was unsuccessful and therefore the figure remains as per the Mid-term Report.  The additional monitoring results here demonstrate the impact the green roofs have had on run-off.
Rainwater harvesting systems	10	0	10 rainwater planters with integrated rainwater harvesting/water filtration are planned for CT; however, this will now fall outside the scope of the LIFE+ project as an opportunity has arisen to trial a new planter design developed by Thames Water, which has the potential, if the pilot is successful, to be rolled out across the borough and beyond.

The B1 work package was originally scheduled to start in April 2013 with the Green Teams recruited by 31<sup>st</sup> March 2014 and all works on site complete by 31<sup>st</sup> December 2015. There were some delays to the start of this work package as a direct impact of the delays to the completion of the feasibility and prioritisation process under work package A1 (see above). Later in the delivery of B1, delays were caused by the need to break the works down into 7 contracts and 3 packages of work for the Green Teams. The division of works took into account the geographical spread of the sites and construction specialisms (e.g. green roof construction). The administration of these multiple contracts and work packages required more personnel resource than was originally anticipated in the project proposal; however this was offset by lower personnel resource requirements elsewhere in this work package.

In the Mid-term Report it was noted that all capital works would be completed on site before the end of September 2015. However, the commencement of works on site at the third estate was delayed, as a result of new technical input which we received from Thames Water.

Thames Water, the private utility company responsible for the public water supply and waste water treatment in large parts of Greater London, was a member of the project's Advisory Group and their active involvement resulted in positive changes to the designs that increased the quantities of surface water run-off managed by the installed measures. This was communicated to the Monitor in a phone call on 7<sup>th</sup> October 2015.

The delays to the implementation of the works impacted on the specification and scheduling of the soft landscaping works delivered through GL's Green Team across the estates. The delays at the third site also impacted on the time available for monitoring and evaluating the impact of the interventions at this site (see C1 Monitoring impact and C2 Evaluation). With this in mind, in November 2015 GL requested a six month prolongation to the project overall, to allow additional time for the completion of the implementation works and Green Team planting and maintenance at the third site, and to extend the monitoring period in order to better understand the impact of the interventions. Further detail is provided in the prolongation request letter dated 4<sup>th</sup> November 2015 (see Annex 7.1.8). The request was accepted (EC letter dated 18<sup>th</sup> March 2016), extending the final project completion date to September 2016, and enabling the project to fully meet its objectives.

As noted in the Mid-term Report clarifications, sent on 20<sup>th</sup> January 2016 in response to the EC's Mid-term Report letter (dated 17<sup>th</sup> December 2015), which queried the target numbers for trees and food growing capacity and the impact of this on the B1 budget, the original targets for tree planting and food growing capacity were identified as unrealistic at an early stage. The original target for trees was based on a green space audit by Officers from H&F Council and related to large scale planting of (low cost) whips across the estates. The original budget identified for this was around £3,000. At the Feasibility and Assessment stage and following resident consultation, it was decided that it was more appropriate to reduce the scale of tree planting and to include a lower number of larger specimen trees and a number of shrubs for a greater impact across the estate. There were also concerns that whip planting could be subject to a high failure rate as the spaces are heavily used and may be subject to vandalism and/or damage. It was important for GL to take a holistic approach to the estate works and to make informed choices on prioritising elements of the budget in response to the detailed feasibility and assessment stage; this is what led to these changes.

In relation to the food growing facilities, as also noted in the Mid-term Report clarifications, the demand for these was much lower than originally anticipated. A consultation as part of the preliminary engagement activities indicated that fewer than half of residents who responded were interested in food growing. This was then reflected in the final project designs, as we did not wish to commit residents to large areas of food growing on the estates without the evidence that they would be a success - particularly beyond the project term. Raised beds have therefore been installed across two of the estates, with small planting areas at CT. Resident food growing/gardening clubs on all three estates have proved successful, and the spaces provided are still in use by residents across all three estates following completion of the project (see B3 Community engagement).

As also noted in the Mid-term Report clarifications with regard to the target of 25% increase in permeable surfaces, the omission of information on this from the Mid-term Report was partly due to the need to review the methods used for calculation. The increase in permeable surfaces varies across each estate, according to the estate size, identified boundaries and opportunities for replacing surfacing. In total, the change in permeable surfacing for land within the site boundaries is 730m<sup>2</sup>. On average the % increase in permeable surfacing for

land within the site boundaries is 16%, but is as high as 48% at CER. In addition, 3,158m<sup>2</sup> of impermeable surface has been diverted from draining directly to the sewer by the interventions. The calculations look at both the increase in permeable surfacing across the whole estate area (omitting roads and car parks where it was not possible to make changes), but also report the increase in impermeable land draining to new permeable landscape features (e.g. rain gardens). The project has demonstrated that it is generally more cost effective to direct surface water from impermeable surfaces into permeable landscapes than it is to change impermeable surfaces into permeable surfacing.

As noted in the Mid-term Report, the intention was to install 10 rainwater planters with integrated rainwater harvesting at CT. Having worked closely with Thames Water on a number of elements of the project, the intention was to install planters designed by them. However, delays in the design process meant that by the end of the B1 Implementation works these planters were still only in the prototype phase and therefore will now be installed at a later date, outside the scope of the LIFE+ programme. The planters, and some other additional measures to be implemented beyond the LIFE+ programme at all three estates, will be made possible through funding from Thames Water as part of their Twenty4Twenty programme; GL currently has an agreement in principle for these interventions, which is due to be confirmed early in 2017.

The actual water retention capacity of the interventions has been calculated at 1,287m<sup>3</sup> per year, which is lower than the original target of 20,000m<sup>3</sup>. This is due to the calculation method used to establish the target figure, the parameters of which were not set in the proposal. As noted in the table above, assuming the interventions have a long lifespan, which evidence suggests most SuDS features do (20 years+), the target will be met in 15.5 years.

*Modifications to this work package and its associated budget:*

The delays to the B1 Implementation package had no impact on the overall project objectives or total budget, and all project milestones were delivered within the approved budget for both personnel and consumables, despite the extended timescales. In the approved prolongation request, the total maximum requested contribution of the European Commission therefore remained unchanged.

Work packages A1 and B1 have incurred travel and subsistence costs which were not allocated for in the project proposal. In a call with the Monitor in 5<sup>th</sup> August 2014, it was agreed that some of the travel budget previously attributed to work package B3 could be transferred to allow for this as it was not a significant change. This was also noted in the Mid-term Report, with the EC's response on 17<sup>th</sup> December confirming its acceptability.

The above revisions relating to tree planting and food growing capacity were communicated to the Monitor in a phone call on 5<sup>th</sup> August 2014 and were highlighted in the Mid-term Report. As noted in our response to the Mid-term Report queries (EC letter dated 17<sup>th</sup> December 2015), we have transferred the original budget for tree planting to other aspects of B1 expenditure including larger specimen trees (including guards and timber supports), shrubs, hedge planting and wider landscaping works. Any cost reductions associated with food growing have been transferred to the wider planting and landscaping works.

It was intended to construct a vertical rain garden at Queen Caroline Estate as part of the B1 Implementation works. However, due to delays in finalising the design for this and resulting delays in tendering the works, it was not possible to install this within the timeframe of the B1

Implementation works as part of the LIFE+ programme. The installation of the vertical rain garden is still going ahead however, funded by the Western Riverside Environmental Fund (WREF). The cost reductions associated with this have led to a reduction in the overall incurred costs for B1 (see section 6).

*Continuation of the action after the project's end:*

As set out in the Mid-term Report, the approaches adopted in this project and the development of GL's skills and expertise in this area have already resulted in GL taking forward a number of other GI retrofit projects since the project started, including:

- Millshott Close (for H&F Council) – new green social space for residents including informal play, a rain garden and de-paving works.
- Carmarthen Place (for London Borough of Southwark) – entrance improvements to the Tyers estate including a new rain garden and de-paving works.

GL has also submitted an application to LIFE+ for a project in the London Borough of Havering, which would combine the learning from this project with GL's longstanding experience in wider urban neighbourhood improvements. The broad aim is to work with multiple land users to provide a community-scale approach to climate adaptation, making the business case for combining new development with retrofitting to increase the overall resilience of neighbourhoods. A number of the organisations who formed the Advisory Group for this project supported the development of the bid.

As also noted above, additional climate adaptation measures are also due to be implemented across the three sites, funded through Thames Water's Twenty4Twenty programme. This will serve to further increase the estates' resilience to the potential impacts of a changing climate.

H&F Council's contractors will continue to maintain the measures implemented during the project. With maintenance schedules provided by GL, so far the interventions have been maintained to a good standard, and GL's ongoing relationship with H&F Council and engagement with residents across the estates will ensure that this continues to be the case. Beyond this, thanks to the successes and lessons learned from the project, and recognising the benefits it has delivered locally, H&F Council is exploring the potential to roll out the delivery of climate change adaptation measures across all of the Borough's housing estates.

## **B2: Deliver housing staff training programme**

Start date: January 2014      End date: September 2016

*N.B. Please note that in the project proposal, B1 was described as the Training programme, and B2 was the Implementation programme. In both the Inception and Mid-term Reports, these have been swapped so that B1 is the Implementation programme, and B2 is Training. We have therefore done the same for this Final Report.*

*Description of the activities undertaken and outputs achieved:*

This work package sought to develop the local institutional capacity of H&F Council to facilitate the replication of the project's approach across the Borough. As documented in the Mid-term Report, the development of this work package was led by Caroline Bragg who, prior to the submission of the Inception Report, had identified potential training programme participants, carried out a detailed skills needs analysis and reviewed similar training available on the market (the output of which was submitted with the Inception Report).

Building on the findings of this preliminary work, Caroline drafted a training programme, separated into two strands; one specifically targeting operational staff and a second targeting senior management. GL worked closely with H&F Council to ensure that the proposed approach to training reflected the organisation's needs and strategic direction, benefiting from the input of George Warren and Sharon Schaaf at the project's Steering Group meetings. When Caroline left GL, Nicola Wheeler led the progress of this work package as suited to her specific expertise; the final elements of the work package (2<sup>nd</sup> masterclass and update to the Training Evaluation Report) were then taken on by Hannah Baker and Anita Konrad after Nicola's departure. GL also sought the involvement of members of the project's Advisory Group to comment on the detailed training content in order to ensure it accurately responded to the identified needs and gaps in the market. Advisory Group members including the GLA and Landscape Institute took a particular interest in the development of the workshops, acknowledging that there was a gap in the market for supporting practitioners to implement green infrastructure sustainable drainage measures.

Two initial workshops were held in September 2014. These workshops invited identified stakeholders from operative teams and senior management to consider and inform the proposed content and delivery format of the outline training workshops. Stakeholders were interested to explore how the project sites could be used to carry out practical workshops and site visits as part of the training. Reflecting the operating environment of ongoing cost reductions at local authorities and pressure on existing staff and resources, feedback indicated that workshops should be grouped together to make best use of people's time.

The detailed development of the training modules was postponed until the autumn of 2015 when the works had been completed on two of the three demonstration sites. This was to ensure that adequate learning from the project's delivery could be shared and that there were live examples of completed projects to illustrate the principles of the training. The training framework was submitted with the Mid-Term Report, with additional materials from the operatives training provided as part of the Mid-term Report clarifications on 20<sup>th</sup> January 2016 in response to the EC's Mid-term Report letter (dated 17<sup>th</sup> December 2015), which asked for copies of the training course materials; detailed workshop plans and course materials for both training programmes can be found in Annex 7.2.3.1.

The operatives training was scheduled for 2<sup>nd</sup> December 2015, and the senior management training for 27<sup>th</sup> January 2016. As some time had passed since undertaking the training needs analysis and identification of possible participants, H&F Council contributed to an updated invitee list for both training workshops. To further promote the training opportunity, GL developed posters to be put up in Council offices, and on contractors' sites. GL managed the administrative process for sign-ups and issue of joining instructions. Where necessary, further follow up actively targeted those for whom the training would be most relevant.

The courses for operatives and senior management were structured around 2 and 4 workshops respectively, each delivered over the course of a day. Each workshop was 1.25-2.5 hours long and responded to a specific theme identified during the engagement phases. The workshops have been designed so that they can be delivered separately or grouped together, depending on the preferences of future learning groups.

The operational training programme sought to ensure that climate adaptation measures can be effectively planned for and maintained as part of the estates services provided by H&F Council to residents on the three estates. The workshops ensured that operatives understand how the build of common green infrastructure measures can be integrated into routine maintenance so that staff are confident in carrying out routine and special maintenance inspections. 14 people attended, from H&F Council, grounds maintenance staff from Quadron Services Limited, caretaking staff and housing officers from Pinnacle, and Groundwork Green Team trainees.

In support of this, a maintenance schedule was developed and agreed with H&F Council (Annex 7.2.3.1). This formed the basis for the course materials and hand-outs, and was used to support a refresher workshop and maintenance handover to H&F Council in April 2016. Eight representatives from H&F Council, Quadron, Pinnacle and the Green Team attended the handover, benefiting from the opportunity to go over the maintenance requirements in depth, receive the maintenance schedules and remind themselves of the learning from the training courses. They were joined by two estate residents.



Figure 8. Operatives training, December 2015

*'I found the course very informative and relevant to my work. Very interesting. Feel fascinated.'* – Operative training attendee

The senior management training programme aimed to support the wider implementation of climate adaptation measures within the borough through supporting the commissioning, financing and communication surrounding green infrastructure retrofit measures. The training was attended by 8 people including senior management staff from Estate Services, Planning, Highways, Environmental Policy and Property Services. In addition, the Head of Community Investment at Mitie also attended.



Figure 9. Senior management training, January 2016

*'Very useful background information on SuDS projects and green infrastructure site visit was also very good.'* – Senior management training attendee

In advance of the training workshops, GL delivered a housing sector masterclass to coincide with the completion of works at QCE on 20<sup>th</sup> July 2015. The masterclass was badged as a sector launch event, walking case study tour at QCE and 'Questions & Answers' with an expert panel. The panel consisted of project partners Sharon Schaaf and George Warren from H&F Council, Dusty Gedge of the Green Infrastructure Consultancy and Mark Bentley of GL. 30 delegates attended, of which over 50% were housing practitioners from various London Boroughs and housing associations. Other delegates were from other organisations working in this field, including the Landscape Institute, the London Wildlife Trust and Thames Water. The masterclass was well received, with a range of topical questions asked by audience members. The Q&A session was recorded and uploaded to the project website's Resources page in order for a wider audience to learn from the expert panel.

A second masterclass was held at the end of the project, on 30<sup>th</sup> September 2016, once the works were complete across all three sites. Hosted by Peabody at their Whitecross Estate in the London Borough of Islington, this half day workshop was attended by 18 delegates from housing providers across London. This not only provided a good opportunity to showcase the completed works using photos and the project film, it was also an opportunity to share learning and advice from the project in order to support the transferability of project approaches to other housing estates across London. The Implementation Guide (see D4) was introduced to delegates and circulated after the session. As part of the workshop, participants

took part in a mini design session to consider the suitability of interventions in different housing landscapes and learn about the plans to retrofit the Whitecross Estate through Peabody’s IMPROVE programme.

*‘The session exceeded my expectations... [by] putting SuDS knowledge into practice in this very practical way. Doing so in small groups was especially helpful as ideas were able to be bounced back and forth.’ – 2<sup>nd</sup> masterclass attendee*

*‘Great to share the knowledge gained from your project across the sector so we don’t all have to reinvent the wheel!’ – 2<sup>nd</sup> masterclass attendee*

More detail on the approach, content and successes of the Training Programme is provided in the B2 Training Evaluation Report and its annexes (Annex 7.2.3.2). This report was completed following the senior managers training in January 2016, and updated on completion of the 2<sup>nd</sup> masterclass in September 2016.

*Assessment of progress against planned outputs and timescales:*

This work package was scheduled to run until December 2015; however the senior management training was delivered in January 2016 due to availability of key members of staff. The second masterclass was held at the end of the project, in September 2016, to allow for the key learnings and resources (such as the project film and Implementation Guide) to be shared with a wider audience of housing professionals.

The intention was that by the conclusion of the LIFE+ programme in September 2016, accreditation of the training modules would have been approved by Lantra, the sector skills council for land based and environmental industries. The approval process has taken longer than expected, but we do not envisage any difficulties in securing accreditation early in 2017.

The table below quantifies the progress of this work package against the agreed output indicators.

<b>Output</b>	<b>Target</b>	<b>Achieved</b>	<b>Comments on any changes</b>
No. of training workshops delivered	8	8	No changes – delivered as multiple workshops in one day for operatives training, and likewise for senior management training, based on feedback from H&F Council staff in the planning stage.
No. of H&F staff/contractors engaged	24	46	No changes – participant numbers higher than anticipated.
No. of representatives from other housing providers taking part	24	48	No changes – participant numbers higher than anticipated.
Training modules in accessible format	Not defined	6 modules in core programme (operatives and senior managers)	No changes.



*Modifications to this work package and its associated budget:*

There have been no substantial modifications to the content or budget of this work package. Overall, spend has been lower than anticipated, both in terms of personnel costs and other costs. This is primarily because the training has been delivered in-house rather than by external speakers, taking less time following feedback from potential participants that they would prefer workshops to be grouped together rather than delivered over several days. Other costs were lower than anticipated as room hire costs were predominantly minimal or zero, and learning materials were primarily developed in-house by GL at a low cost – this has contributed to the overall underspend in other costs by the project.

*Continuation of the action after the project's end:*

The training programme is a core element of the plan for project's sustainability beyond September 2016. With accreditation for the course due to be in place shortly and the in-house skills and expertise in this area, GL intend to market and deliver training in GI SuDS retrofit to a wider audience. This wider housing sector roll-out will support the transferability of the project's approach in other housing environments across London and the UK. We have identified a need and interest for this training through discussions with our Advisory Group members and housing sector stakeholders, of which there are many that we have existing strong relationships with. The training activities were also featured in a specific section of the Implementation Guide, with advice for other housing providers interested in replicating this element of the project.

Throughout the project we have been aware of the importance of ensuring appropriate knowledge and detailed understanding of the project's maintenance requirements through training for H&F Council officers, as well as external contractors used by the Council. The involvement of a range of H&F Council staff in all elements of the training – including the Housing Manager, the Quality and Performance Manager and the Technical Liaison and Performance Manager – has helped to support this being embedded in Council activities. It was important to involve these staff in the development and delivery of the training as they form part of the team that manages ongoing maintenance of the three project sites with contractors, and beyond this will be integral in any future similar initiatives elsewhere in the borough. The training modules are designed to be used for future H&F Council staff briefings and for inclusion in regular staff training, and the maintenance schedules developed through the project play a key part in supporting this and any future maintenance tendering processes. Through our ongoing strong relationships with key H&F Council staff we will be able to establish to what extent this has been realised going forward.

Moreover, H&F Council is committed to working up a specific maintenance contract for green roofs for the Borough. This requirement was discussed (and minuted) at a project Steering Group meeting and H&F Council have provided strong reassurance on their commitment to this in the future.

### **B3: Undertake community engagement**

Start date: January 2014      End date: September 2016

#### *Description of the activities undertaken and outputs achieved:*

The project's community engagement activities have been essential for increasing knowledge and awareness of climate change issues amongst local residents, securing their buy-in and support and improving community cohesion, health and well-being. This has led to tangible outcomes, including site-specific community adaptation action plans, practical involvement in climate adaptation approaches and resident involvement in ongoing management and maintenance activities beyond the lifetime of the project itself. A diverse range of engagement activities has been delivered during the project, which has allowed residents and the wider community to become involved in ways that suit them.

GL has worked alongside residents throughout the life of the project in support of a number of work packages, giving them the opportunity to shape the open space improvements on their estates. Initially led by Caroline Bragg, since her departure these activities have been led by Daniel Brittle, Senior Community Project Officer, with support from colleagues from across GL's Community Team as required. Additional staff have been resourced through the Operations Manager Sarah Whitby (and Nicole Muris during her maternity leave), including Community Gardeners (Mark Patterson and Jane Lloyd) and Community Project Officers (Alice Hemming, Sarayu Shah and Nicola Judd). Household visits were delivered by Green Doctors (Resource Efficiency Specialists), namely Soscha Woods, Tahir Akar, Tony McMahon and Derek Palmer, supported in an administrative capacity by Francisco Sierra and managed by Emily Jewell. The delivery of this work package has also been actively supported by H&F Council, principally Binita Shah, and has been a regular agenda item at the project's Steering Group meetings.

The method used to engage residents was as follows:

- Develop a detailed community engagement plan at the start, identifying who to engage, the key opportunities to do so, and the appropriate methods of engagement;
- Hold launch events to introduce the project to each estate;
- Engage the TRAs and other interested resident groups on the estates in meetings, including involving them in the development and delivery of engagement plans and regularly attending meetings in order to get feedback and provide updates on progress;
- Initial consultation phase to understand how residents use the green spaces on their estate, problems they experience, and improvements they would like to see;
- Involve residents in mapping their estate's environmental issues and ideas for solutions, reviewing the resulting assessments and the designs put forward;
- Share concept designs with residents, bringing the project to life and helping residents to visualise the improvements that could take place;
- Use initial consultation on the designs to develop an ongoing plan of activities that are unique to each estate and look at adaptation to climate change more broadly;
- A range of workshops, events, leaflet dropping and surveys (through door knocking) to keep residents engaged throughout the project and gather their views on its impacts;
- Energy and water efficiency home visits through GL's Green Doctor programme;
- Food growing and gardening clubs;
- Sustainability champions training sessions, to equip local residents with the skills and understanding to manage their green space assets effectively;

- Development of notice boards for each estate informing residents of works implemented and their benefits (see D6 Notice boards);
- Events on each estate to celebrate the completion of capital works;
- Engagement in estate climate adaptation plans, including through estate walkabouts and photography competitions;
- Use researched SROI outcomes questions to baseline and assess the change in social outcomes perceived by residents as a result of the project and how that compares to the investment committed (see C2 Evaluation).

The Mid-term Report described many of the community engagement events in detail, including launch events, Tenant and Resident Association (TRA) meetings, feasibility mapping, concept design events, Sustainability Champions training, Green Doctor visits and food growing sessions.



Figure 10. Community engagement photo montage

The Mid-term Report also highlighted some of the earlier challenges faced in the delivery of this work package, including the difficulties residents had in linking local environmental challenges to climate change impacts, limited understanding of the measures to be installed, and limited use of the estates' existing open spaces – all of which helped GL to tailor the way we engaged with resident communities and designed the interventions. A further challenge that had to be managed by the Senior Community Project Officer was the initial misconceptions by residents that cameras installed as part of the C1 Monitoring work package were going to monitor what they were doing – the camera at the Beatrice House swale, for example, was installed close to residents' properties. This required liaising with residents, in person and by letter, to ensure that they understood the work being carried out and its aims, and to allay their concerns.

Activities are described in more detail in the Community Engagement Report, as summarised in the table below. The Community Engagement Plan was submitted with the Inception Report, and a draft of the Community Engagement Report was submitted as part of the Mid-term Report clarifications on 20<sup>th</sup> January 2016, in response to the EC's Mid-term Report letter (dated 17<sup>th</sup> December 2015) which noted that the Community Engagement Report had

not yet been submitted; this has since been updated to reflect activities and outcomes within this work package over the remaining months of the project (see Annex 7.2.4). The Report has been shared via the project website on the Community engagement page, which also links to a case study that has been developed focusing on this aspect of the project.

<b>Activity</b>	<b>Date</b>	<b>Attendees</b>
Meetings with community groups/TRAs	2x meetings a month from March 2014 – September 2016	7 per each meeting
3x Project launch events	March 2014	15 approx. per event
9x Door knocking surveys	March – August 2014	48 residents completed surveys
3x Consultation events	May – August 2014	20 approx. per event
85x Green Doctor home visits	May 2014 – April 2015	85 resident homes visited
Sustainability champions training (6 sessions)	June – July 2015	8 per each session
56x Food growing clubs	August 2015 - March 2016	6 per session
3x Maintenance handovers	April 2016 (QCE/CER) Early 2017 tbc (CT)	3 per each handover
3x Celebration events	July 2015 (CER) July 2016 (QCE) September 2016 (CT)	20 approx. per event

A number of the community engagement activities were complete at the time of the Mid-term Report submission given their alignment with the B1 Implementation works. However, the food growing and gardening clubs on all three estates continued until March 2016, with sessions led by a GL Community Gardener. During the session the gardener supported residents to learn about a variety of gardening skills and techniques including soil care, organic fertilisers, growing mediums, attracting pollinators to the garden, mulches, composting, seed sowing and pruning fruit trees. Participants also made bird feeders and garden signs and learned to cook new dishes using the herbs and vegetables grown on the estates. GL's attendance at TRA meetings also continued throughout the remainder of the project, to ensure that residents could easily raise any questions or concerns, and to enable the identification of potential new project ideas.

Celebration events were held on each site, either following the completion of the B1 Implementation works or towards the end of the project. To mark the completion of works at CER in 2015, five residents attended a celebration as part of the gardening club activities – at the event they planted plants in the planters and made lavender bath salts and a herb salsa with ingredients grown. The QCE celebration event was held in July 2016, with 20 residents attending as part of a community fun day held in partnership with H&F Council. At the event residents took part in craft activities, seed ball making and photography sessions to input into the adaptation plan; H&F Council supported by providing staff and BBQ food. The final celebration event was held at Cheeseman's Terrace to tie in with the completion of implementation works there in September 2016. 15 residents attended a community picnic, took part in craft activities, seed ball making and photography sessions. GL also used this as an opportunity to gather SROI and other evaluation data for the project.

One of the key activities since the submission of the Mid-term Report has been the development of local adaptation plans for the three project sites (see Annex 7.2.5.1). Through

this process residents on each estate identified assets that the community values, threats to those assets and ways to work together as a community and with H&F Council and its contractors to mitigate those threats. GL captured resident input to these plans through meetings and events, comments cards (see Annex 7.2.5.2) and a photography competition during the summer of 2016. The photography competition gave residents a valuable opportunity to explore the interventions on their estate, with three subject categories (people, place, environment), two age categories (young people and adults) and small prizes on offer, encouraging a wide range of residents to get involved. Nicola Judd, Community Project Officer led the adaptation plan activities across all three estates, with support from Daniel Brittle and other members of the Community Team. Overall 39 residents were engaged in the community adaptation plans and all three plans have been endorsed by the respective estate residents and H&F Council.

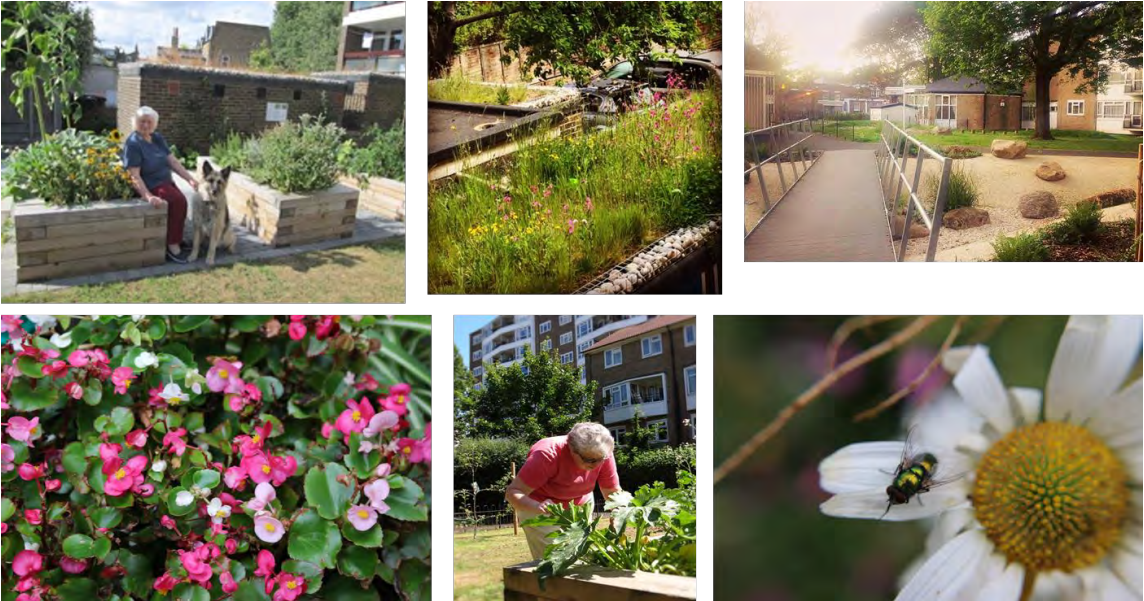


Figure 11. Photography competition montage

In the latter half of the project, residents were also engaged in the production of the project film (see D5 Project Film). One QCE resident gave an interview covering what the project means for her and her family, and also shared her understanding of the environmental and social benefits it offers. Other residents featured in cutaway scenes showing the spaces in use, including some of the younger residents enjoying the natural play features during a resident engagement event in the summer of 2016.



Figure 12. Young residents enjoying the natural play features at the Queen Caroline Estate

Residents were also engaged in the Social Return On Investment (SROI) assessment, to understand the wider social and economic impacts of the project. For more information on this, see C2 Evaluation.

Examples of printed materials produced for work package B3 are provided in Annex 7.2.5.2.

*Assessment of progress against planned outputs and timescales:*

This work package was scheduled to span the duration of the project, with activities carried out up until its completion in September 2016. The specific output targets and achievements for community engagement are as follows:

<b>Output</b>	<b>Target</b>	<b>Achieved</b>	<b>Comments on any changes</b>
Site-specific community adaptation plans	3	3	No changes.
Number of local people engaged	300	472	Diversity of engagement activities enabled the community to be involved in many ways – including gardening clubs, energy efficiency home visits and community meetings.
Number of households reached	578	1,236	By communicating the project to residents outside of the three estates, inviting them to events and presenting the project at borough forums, it was possible to go far beyond this target.
Number of community activities delivered	36	55	Good engagement with residents across the estates resulted in greater interest in

			events and activities than anticipated.
Number of sustainability champions recruited	12	8	There was not as much interest in this as anticipated initially; however we were successful in getting two of the participants' action plans (developed as part of the training) funded through H&F Council's improvements grants, which has further supported the sustainability of the estates.

As can be seen above, aside from the Sustainability Champions training, all community engagement targets have been surpassed. Despite offering this to residents in other estates across the borough, the number of participants was lower than anticipated. As there has been very positive engagement with the project in general, it is likely that this is due to the commitment required from Sustainability Champions rather than a lack of interest in the project. As set out in Mid-term Report, feedback from those who did participate in the training was very positive, and as noted in the table above there have also been funding successes for two of the estates as a result.

A key aim of the engagement was to improve residents' awareness of climate change issues and impacts. By the end of the programme we were able to make good progress in this area, through a range of activities including events, Green Doctor visits, Sustainability Champions training and the development of climate adaptation plans. For example, when Sustainability Champions were asked the question "How much do you feel you know about climate change science and the human impact on the environment?", the average scoring increased after the sessions from 3.0 to 4.0. The training also supported the Champions in strengthening practical skills to address climate change problems, as well as learning how to communicate this to others. When asked through surveys for the SROI exercise (see C2 Evaluation), 90% of residents reported an increased understanding of climate change and anecdotal evidence collected through discussions with residents has revealed that they feel they experience less water pooling and other related issues. We were able to achieve this by approaching climate change from a hyper-local angle, connecting issues of flooding, drains overflowing and flats overheating to help people relate to climate change more than when we initially started discussing it on a global scale.

By the end of the project, SROI surveys conducted with residents showed that:

- 90% of residents reported an increased understanding of climate change;
- 81% of residents said they agree or strongly agree that the quality of the green spaces has improved significantly;
- 58% of residents reported their use of the green spaces had increased;
- 48% of residents reported an increased sense of belonging; and
- 67% of residents reported increased pride in the area they live in.

*"This project has made a lot of improvements to the look of the estate, as well as helping to bring our community together."* – Ros O'Connell, Treasurer, Queen Caroline TRA

*"The garden is much approved of by all of the residents, and we have seen a reduction in vandalism since it was built. As I am mostly at home due to my husband's dementia, having a garden gives me huge pleasure."* – Lyn Hally, Richard Knight House resident

Complementary action has been achieved through H&F Council's annual investment programme: Housing Estates Improvement Programme (HEIP) which awards TRAs in the borough with up to £50,000 out of an annual budget of £220,000 to improve open spaces on their estates. Through promoting the LIFE project and increasing interest and awareness among residents in the borough about climate adaption measures, in 2015 the programme saw its first application for a green roof at Jepson House (SW6), which was awarded £20,000. HEIP funding also provided match-funding for the food growing beds on two of the project sites (QCE and CER).

*Modifications to this work package and its associated budget:*

There have been no significant modifications to this work package. There has been an overall decrease in spend, in part due to community engagement activities benefiting from volunteer support alongside paid members of staff. Other costs are slightly higher than planned due to the need to ensure that community engagement activities were adequately resourced and residents were adequately supported to continue these activities following project completion.

*Continuation of the action after the project's end:*

The principles developed for effective engagement with residents around complex issues like climate change are already being applied across similar GL projects. Strong relationships with the active TRAs on two of the three pilot estates, and informal resident groups on the other estate (CER, which does not have a TRA), has started to identify potential future projects that would expand on the work achieved through LIFE. GL will continue to attend resident meetings and work with residents to make applications to appropriate funding sources (such as HEIP) to take forward these project ideas, which include replication of the swales on QCE, additional green roofs and rain gardens at CER and on-going food growing activities at CT. The Sustainability Champions training also received interest from RBKC and we have held discussions about a similar training offer for residents in this neighbouring Borough.

At the end of the food growing / gardening club activities as part of the project in March 2016, GL bought various tools and materials to support residents in continuing to make use of the spaces available. Since then, GL and H&F Council have observed the continuation of these clubs without the direct support of the project. In addition to continuing to use the existing spaces, the gardening club at CT has been in discussion with H&F Council regarding taking over the maintenance of other small spaces around the estate in order to turn them into additional growing areas. Such activities are featured in the local adaptation plans for each estate, which have been endorsed by residents and H&F Council and will help to ensure that the interventions installed and other elements of the estates that residents value are looked after well beyond the completion of the project. In addition, by involving TRA members or other residents in the maintenance handovers at the estates, residents have been provided with the information they need to work with H&F Council staff and contractors to support the maintenance and management of the interventions in the longer term.





Figure 13. One of the planting areas maintained by the Maystar Gardening Club at Cheeseman's Terrace

The approach to community engagement, lessons learned and emerging recommendations for other housing providers, has also been featured in the Implementation Guide (D4). Furthermore, a specific case study on community engagement has been written and shared on the project website. Various presentations given as part of both B2 (masterclasses) and D2 (Engagement with stakeholders), and other case studies written for external sites (such as Climate-ADAPT), also document the community engagement approaches and successes. These actions all serve to encourage other housing providers ensure that any future activities build in comprehensive resident engagement.

Finally, to support ongoing awareness of the interventions – especially for new residents moving to the estates following project completion, or other visitors to the estates, notice boards have been installed across the estates. These describe the interventions, their functions and benefits (see D6 Notice boards).

## **B4: Influence policy and best practice**

Start date: January 2014      End date: September 2016

### *Description of the activities undertaken and outputs achieved:*

Work package B4 was designed to enable influencing in the wide range of policy areas relevant to the project's key themes. These range from nature-based solutions for climate adaptation, and in particular flood risk management, to biodiversity, integrated approaches for managing social housing landscapes and community resilience.

Acting as a linchpin, B4 brought the project's tangible results and learning together into a strategic narrative and forming part of the evidence base for policy change – at EU level, nationally, pan-London and locally. The work package was delivered in close conjunction with D2 Stakeholder Engagement and E3 Networking. The responsibility for B4 sat with GL, predominantly led by the Project Director, with some input from the Project Manager and Community Project Officer.

Activities focused on the key spheres for shaping policy:

- Attitudinal and behavioural change in key actors, improving their awareness of nature-based climate adaptation opportunities and resulting in new ways of planning for and implementing solutions.
- Procedural change in the way policy is made, e.g. by promoting new forms of stakeholder engagement and a stronger emphasis on existing best practice and locally generated quantitative and qualitative evidence.
- Influencing policy content, e.g. through formal consultation responses and case studies.

Based on an extensive policy review (completed in July 2014 and submitted as part of the Mid-term Report), B4 generated a wide range of outputs in the form of contributions to public policy consultations and case studies showcasing different best practice elements of the project, including detail on how to replicate these in different settings. A list of outputs and corresponding annexes up until July 2015 was provided in the Mid-term Report and has since been updated to cover the entire project period, as well as some ongoing activities (Annex 7.2.6).

At the European level, the project has published a detailed case study for the European Environment Agency's Climate-ADAPT platform, targeting European and national policy makers, key actors such as NGOs, business, media and scientists as well as the wider public. Housing Europe (formerly CECODHAS), a network of 44 national and regional federations which together gather about 43,000 public, social and cooperative housing providers in 23 countries and manage over 26 million homes, has featured two articles on the project (referenced under work packages D4 and D8, and provided in Annex 7.3.3.7) as well as disseminated the Implementation Guide through its extensive EU-wide networks.

The project was also presented at the 1<sup>st</sup> European Urban Green Infrastructure conference, which was held in November 2015 in Vienna (the contents and value of which are described in more detail under work package E3 Networking).

At the UK, pan-London and local levels, the project has also continued to generate significant interest in the period between July 2015 – September 2016 and beyond. For example, it was recognised as best practice in specialist design guidance by statutory organisations such as Transport for London's *SuDS in London: A Design Guide* (due to be published in January

2017) and the Greater London Authority's *Sustainable Drainage Action Plan* (published in December 2016, see Annex 7.2.7) and its Drain London best practice examples (referenced under work package D8 and in Annex 7.2.7). The project is also included in CIRIA's Susdrain guidance and best practice resources (due to be published in January 2017). Whilst some of these activities fall after the end of the project, they all serve to support the continued dissemination of the project's approach and results through the After LIFE plan (E4), and the replication of this by other housing providers.

At the local level, the Associated Beneficiary H&F Council has included the project as best practice in making the case for ongoing investment in nature-based adaptation solutions, including in a Committee Report on Urban Ecology and Biodiversity (Annex 7.2.7).

*Assessment of progress against planned outputs and timescales:*

B4 was scheduled to be delivered between October 2014 and September 2016, which was achieved. Delivery started earlier than scheduled in 2014, with the policy review referenced above providing a solid foundation for subsequent activities.

B4 had the following milestones:

- Milestone 1: establish six-monthly cross-departmental local authority and GLA working group
- Milestone 2: draft incentives and policy recommendations

Both Milestones were delivered, albeit in a modified format.

Given the composition of the project's Advisory Group, which comprised all key statutory stakeholders, policy makers and landscape, construction and housing industry bodies (as detailed under D2), an additional working group, which would have featured an identical membership, was not considered effective or value for money. This was noted in the Addendum to the Inception Report on 28<sup>th</sup> March 2014 in response to the EC's letter received on the same date, which asked us provide details of the individuals and departments/organisations represented on the cross-departmental and GLA working groups with the Inception Report (see Annex 7.1.9).

Instead, opportunities for, and progress on, policy influencing and best practice were addressed in detail at each Advisory Group meeting and, as and when appropriate, with individual members. The project benefitted greatly from the contributions made by its key stakeholders who championed it as best practice within their organisations, as is also evidenced under D2, D8, D9 and E4, and as part of their wider statutory responsibilities.

The recommendations (Milestone 2) were therefore included in the Implementation Guide. This also served to ensure greater reach and the promotion of a comprehensive set of messages about the project and all its components.

Consequently, the deliverable related to Milestone 1, a Working Group Report, was included in the Implementation Guide in the form of lessons learnt and guidance on stakeholder engagement. Key discussion points arising from the Advisory Group meetings were captured in the associated minutes (see examples in Annex 7.3.3.2).

*Modifications to this work package and its associated budget:*

There were no modifications other than the adaptations described above. There has been an overall increase in personnel costs incurred compared to the budget. This is because the work package has benefited from strategic input from the Project Director, which was not foreseen in the budget.

*Continuation of the action after the project's end:*

One of the indicators of the project's success is the fact that it continues to be recognised as best practice by a wide range of stakeholders after its official completion. For example, at the European level, the project has been invited to submit a case study to the European Natural Water Retention Measures Platform, [www.nwrm.eu](http://www.nwrm.eu) (this has been submitted and is expected to be published in January 2017).

In London, GL has been invited to contribute to a London Assembly Roundtable on Biodiversity in New Developments (November 2016 – see Annex 7.2.7), as an acknowledgement that the project's holistic approach is highly relevant in different housing contexts. Furthermore, GL was called to give evidence at a London Assembly Investigation into Green Space in London (December 2016). In the context of the latter, the project was also selected as one of three site visits for Committee members and wider stakeholders (scheduled to take place in January 2017).

An additional CIRIA case study, with a specific focus on the project's technical construction details, is currently in draft and due to be published early in 2017 as part of CIRIA's SuDS Construction guidance.

## **C1: Monitoring impact**

Start date: January 2014      End date: September 2016

### *Description of the activities undertaken and outputs achieved:*

The key aim of this work package was to monitor the impact of interventions across the three estates in order to quantify the environmental benefits. As noted in the Mid-term Report, this work package initially suffered a setback due to an unsuccessful tendering process in May 2014. However, as also noted in the Mid-term Report, a second tendering process was successful and resulted in the University of East London's Sustainability Research Institute (UEL SRI) being appointed in May 2015 (see Annex 7.2.8).

This work package has therefore been led by UEL, with key GL staff liaising with Dr Stuart Connop (Senior Research Fellow) and Jack Clough (Research Assistant) on a regular basis to understand progress and resolve any issues that emerged. UEL also subcontracted to RS Hydro for the equipment needed to complete the works. RS Hydro are a specialist provider with detailed knowledge in providing flow meters, water quality monitoring instruments, weather stations and wireless telemetry systems and have worked with UEL before on other projects. This work package also benefited from input from the project's Advisory Group, particularly the GLA and CIRIA who helped to ensure a better informed and structured brief for the works in the second tendering process. This external support also enabled the project to explore how monitoring undertaken as part of the LIFE+ project can inform a city wide approach to monitoring the impact of green infrastructure retrofit measures.

UEL began work in June 2015, and were scheduled to complete their activities by 31<sup>st</sup> March 2016 (the project's original end date). The majority of monitoring equipment was installed at the first two sites by August 2015 (staggered to marry with the completion of works on site), and therefore the reporting period started at that point. Upon approval of the prolongation request for the project, the monitoring period was also extended accordingly (see below).

It was agreed that the main focus of the monitoring would be on specific interventions across the three estates; as follows:

- The residential green roof at Richard Knight House, CER
- The combined rain garden & tree pit at Richard Knight House, CER
- Lower level green roofs at QCE
- Ground-level SuDS interventions at QCE
- Low-level green roof at CT
- Sun Road rain gardens at CT

As noted in the Mid-term Report, UEL were also due to monitor the impact of the vertical rain garden at QCE and the rainwater-fed planters at CT. However, as these were not installed within the project timeframes (see B1 above), additional monitoring of the QCE ground-level SuDS and rain gardens at CT was possible within the existing budget (see storm simulation information below).

Key monitoring activities by UEL were as follows:

- Fixed-point time lapse cameras to capture the performance of measures during rain events (infiltration rates) and development of vegetation;
- Weather stations to monitor environmental conditions, including the timings and size of rain events, and temperature;

- Flowmeters (at inlets) and pressure sensors (in basins) to monitor aspects such as water accumulation and infiltration times;
- Thermal monitoring using a thermal imaging camera;
- Biodiversity monitoring on the green roofs, using vegetation surveys;
- Photographic monitoring to create an archive of the development of biodiversity and monitor elements as they develop and mature; and
- Simulated storm events at QCE and CT.

The majority of the above activities were planned in the initial agreement between GL and UEL. However, once monitoring was underway it was proposed by UEL that simulated storm events would be an effective way of understanding the performance of the interventions in a 1 in 100 year storm, as they have been designed to be able to perform to. This was also seen to be a constructive solution to the limited time available to monitor the performance of the interventions at CT due to the delays in the completion of B1 works there.

*Assessment of progress against planned outputs and timescales:*

The results from the monitoring are presented in two monitoring reports written by UEL (Annex 7.2.9) – the first covering August 2015 to May 2016, and the second covering June to September 2016 (to reflect the project’s extended completion date – see explanation below). Headline figures have been shared in the Implementation Guide, presentations and case studies (as described under 5.2 Dissemination Actions below), with the reports also presented in full on the project website. An infographic has also been developed to continue to share the key results in support of the sustainability of the project, in a visually simple and attractive way – these images have also been added to the website, as well as featuring in the Layman’s Report and After LIFE plan. The results demonstrate that the interventions are all performing as, if not better than, expected. Water pooling and surface water flooding incidences have fallen, and the interventions are not only bringing about environmental benefits but also improving access, visual amenity and delivering other social benefits to residents.

Headline technical monitoring results include:

- 1,286,815 litres annual rainfall retention and diversion away from the storm drain system by the interventions\*
- 100% of rainfall diverted away from the storm drain system by the ground level SuDS
- 89.48% (on average) of the rainfall landing on the green roofs absorbed (max. 100%)
- 100% improvement in surface water pollution, as no surface water was recorded leaving any of the designed elements and feeding into the combined sewer system
- A net increase of 64 floral species on the residential green roof at Richard Knight House compared to a standard flat roof, and of 54 floral species compared to a typical amenity lawn area
- A maximum of a 35.73% reduction in temperature on a vegetated green roof compared to surrounding grey infrastructure

\*It is worth noting that the figure of 1,286,815 litres is calculated by extrapolating the performance of the interventions at the third site (CT) over a longer period of time. This is because whilst it was possible to monitor the interventions at QCE and CER over a year, the later completion date of B1 works at CT meant that this was not possible at that site.

*Modifications to this work package and its associated budget:*

As documented in the Mid-term Report, it was necessary to increase the budget for this work package in order to enable a comprehensive monitoring approach. The final agreed price for

the tender was £45,936 +VAT, to be paid in two instalments. However, due to cost savings on other items covered within the external assistance budget, the overall expenditure under this budget heading was not affected.

This work package has been delivered comprehensively, with a substantial set of data provided by UEL to demonstrate the environmental impact of the measures. However, it was not possible to measure some of the indicators originally proposed in the project bid, due to the feasibility of measuring such indicators and the budget available. This included:

- Evapotranspiration – this would have required humidity sensors before and after installation, and cannot meaningfully be calculated from a reduction in run-off.
- Energy savings as a result of the residential green roof – the re-insulation of Richard Knight House was carried out at the same time, which meant it would have been impossible to isolate the impact of the green roof alone.
- Reduction in local flooding – the data could not be used to calculate this as the state of local flooding was not monitored pre-interventions, aside from anecdotal evidence provided by residents and H&F Council. Instead, the monitoring revealed the amounts of water diverted from reaching the sewer network.
- Reduction in surface water pollution – no storm water ever came out of any of the control flow chambers, so it was impossible to quantify reduction in surface water pollution. This infers a 100% improvement in water quality released to the sewer (as no water, and therefore no pollution, was released to the sewer network), but could not be used to assess the water quality going to groundwater recharge.
- Reduction in ambient temperature – it was possible to record the localised decreases in temperature using the thermal cameras, but the reduction in ambient temperature would have needed thermal sensors across the estate before and after installation. It is likely the effects would have been negligible as they are localised and the effect of the Hammersmith area as a whole would control local ambient temperatures.

As noted in the Mid-term Report, the delay in appointing monitoring experts meant that it was no longer possible to include a pre-intervention baseline monitoring period, instead necessitating the use of control sites in order to better understand the impacts of the interventions. However, this was not seen to negatively impact the quality of data or the value of the results produced. A further challenge was that some of the planned monitoring activities required liaison with residents, for example monitoring the run off from the residential green roof on Richard Knight House required access to residents' private balconies in order to access the downpipes from the roof. This was not resolved during the project period, and therefore green roof retention values are based on the low level green roofs only.

As noted in B1 Implementation above, with the approval of the project extension it was agreed between GL and H&F Council that it would be beneficial to extend the monitoring beyond the previously agreed completion date of 31<sup>st</sup> March 2016. This was initially agreed with UEL to be extended until June 2016, for no additional cost due to unforeseen delays in some of the monitoring equipment being installed. All monitoring activities as per the original agreement between UEL and GL were completed by 30<sup>th</sup> June 2016, aside from a storm simulation test at QCE to measure water attenuation and a similar exercise at CT due to delays in the completion of B1 activities there.

Discussions between Groundwork London and UEL established that additional monitoring activities beyond June 2016 would be beneficial, providing additional data as part of the evidence base for green infrastructure initiatives of this kind which can be shared across

Europe to encourage others to undertake similar initiatives. This would include further thermal monitoring and biodiversity monitoring, as well as continuing to download data from time lapse cameras, water gauges and weather stations at all three estates. As the thermal and biodiversity monitoring on the green roofs only takes place in summer months, this provided a valuable opportunity to compare the results from summer 2015, when the green roofs had only just been installed, to summer 2016 when vegetation had time to become established.

The decision was taken that UEL would carry out these additional activities, contracted through an addendum to the additional Agreement for an additional fee of £8,998 (VAT inclusive), rather than retendering. The justification for this is that UEL had been carrying out monitoring tasks for the project over the past year, had established a methodology and associated monitoring techniques for assessing the impact of the green infrastructure measures, had installed the necessary equipment for data capture, and had been analysing and reporting on the performance of the measures. Retendering would likely have involved establishing new monitoring approaches and the installation of new equipment by a different service provider, which could have meant that the results from the earlier monitoring period would not have been comparable to those gathered in the final three months of the project. This would also have made it a more costly process, and would have taken longer to set up, losing valuable monitoring time in the final stages of the project. UEL have proved to be capable, effective, efficient and reliable to work with, and there were therefore clear benefits of continuing to use their services for the remaining monitoring activities. Before the additional monitoring period was agreed, UEL provided an interim report to cover monitoring activities to June 2016; it was agreed that a final report would be submitted in September to cover all remaining monitoring activities and results.

There has also been an increase in personnel costs for this work package, due to the additional time required for tendering as a result of the first unsuccessful tender process, and the time required by the Project Manager and Landscape Architect to liaise with UEL throughout the monitoring period to ensure that GL's requirements were met.

*Continuation of the action after the project's end:*

We noted in the Mid-term Report that the intention was to continue this work package beyond the project to enable more comprehensive data capture and evaluation. Recognising the value of the monitoring results, both to demonstrate the project's effectiveness and to support the wider roll-out of similar schemes across the borough and beyond, H&F Council have identified a budget to cover a one year extension of the technical monitoring by UEL across all three project sites. This will include a continuation of the storm water attenuation monitoring, biodiversity monitoring and thermal performance monitoring, with a report provided to H&F Council and GL at the end of the period. It will also enable a storm simulation test to be carried out in winter, when the ground is already likely to be saturated – which will provide additional data to support the existing summer storm simulation results.

The monitoring approach and results have also been shared through different media, including in the Implementation Guide, which documents the methodology and features guidance for other housing providers in how to monitor their own green infrastructure projects. In this way, GL is aiming to support further building of the evidence base for such schemes by demonstrating the environmental impact that they have and supporting others to do the same. Finally, UEL has recently been successful in securing Horizon 2020 funding for a project focused on nature based solutions governance, which will feature and learn from case studies of this project and will continue to build on their expertise in monitoring similar schemes.



## **C2: Project evaluation**

Start date: December 2013    End date: September 2016

### *Description of the activities undertaken and outputs achieved:*

In addition to the environmental monitoring already described in C1, we also undertook a comprehensive evaluation of the project using a Social Return On Investment (SROI) model that combines environmental impact with social and economic benefits and allows for an assessment of the wider value of the project.

The approach taken followed the Cabinet Office's 2012 Guide to SROI, and was documented in the Mid-term Report. It was led by Daniel Brittle, Senior Community Project Officer, who undertook training in this area at an early stage in the project. Daniel was supported by the Project Manager and Project Director throughout the process.

Data was collected during resident events and door knocking surveys across the three estates, as well as at other key opportunities such as gardening clubs, Sustainability Champions training and TRA meetings. In total, 102 residents were engaged in the SROI process. Alongside this, data from the C1 Monitoring work package and from H&F Council (gathered through Steering Group meetings) was also fed into the SROI exercise. Volunteers and Green Team trainees were engaged in the process through one to one interviews.

The results from the SROI assessment are documented in the SROI Report (Annex 7.2.10), which has been shared on the project website, with headline figures also shared in presentations. This exercise has demonstrated that green infrastructure-based climate change adaptation measures benefit local communities beyond their immediate role of alleviating localised flooding. The measures installed brought about outcomes that increased residents' pride in their local area, their sense of belonging and their social ties to their neighbours; all factors which contribute to community cohesion. 34% of residents agreed or strongly agreed that local people got on better as a result of the project. When extrapolated to the whole population (this result represented 437 residents), this resulted in a social value of £820,133.75 being returned, which is the 4th highest social value out of the fifteen that were measured.

The SROI also established that the community engagement and Sustainability Champions training delivered as part of the programme contributed to residents' knowledge of climate change and understanding of its potential impacts; it is envisaged that this knowledge will enable residents to be more prepared for, and responsive to, the effects of a changing climate. 90% of respondents felt that their knowledge of climate change had been improved by being involved with the project; this was valued as generating £207,385.27 of social return over 5 years. This indicates that the accrual of knowledge and its ability to change behaviour are greatly valued by communities. The SROI also demonstrated that several other stakeholders experienced positive outcomes as well as the residents, including the local authority, Green Team trainees and volunteers. For the purpose of this assessment, the environment was also included as a stakeholder.

It was found that for every £1 invested in the project, the programme generated £4.39 of benefits. This ratio was calculated by using financial proxies to give a monetary value to various outcomes and by establishing the true impact of interventions by using deadweight, displacement, attribution, drop off and discounting measures common to the SROI process.

When applying sensitivity analysis to test the assumptions used the ratio always remained positive, but varied in a range from £2.31 to £5.15 of benefits for every £1 invested.

We have not formally commissioned an external evaluation of the project overall, but evaluation has been a core part of several work packages, including:

- B2 Housing staff training – evaluation of the training courses delivered through participant feedback
- B3 Community engagement – feedback sought from residents on their engagement with the programme and its impacts
- B4 Policy influencing – evaluation of the policy impact of the project at different scales
- C1 Monitoring – the core package where the environmental impact of the project has been evaluated
- Dissemination work packages – evaluation of the impact of dissemination activities, for example by tracking visits to the website, views of publications, and interactions on social media.

Katherine Drayson, the Advisory Group member from the GLA, which also provided match funding for the project through its Drain London programme, has provided this peer review of the programme overall:

*The GLA has many different functions and roles. However, one crucial role is to provide a strategic overview of, and guidance for solving, London's environmental, social and economic challenges. Another complementary role is to support innovative projects in London's Boroughs that could be scaled-up across the city to help solve some of these challenges.*

*As part of its strategic function, the GLA has published the [London Sustainable Action Plan \(LSDAP\)](#). This identifies the need to increase the number and scale of sustainable drainage retrofit projects across the city to increase its resilience to climate change in the face of increasing population growth and urban densification.*

*To help support this goal, the GLA (through the Drain London partnership and programme) has provided financial support to five green SuDS retrofit demonstrator projects across the city. This includes Groundwork's Climate-Proofing Social Housing Landscapes project in the London Borough of Hammersmith and Fulham.*

*Many of London's housing estates are blessed with relatively large areas of green space. However, these are often blank areas of lawn that are under-used and perform few functions. This project aimed to demonstrate how a housing estate's green spaces could be cost-effectively transformed to support multiple functions, including flood risk management, recreation, food growing, increasing biodiversity, and improving the public realm. This is not only in line with the LSDAP, but also with the recommendations of the [Green Infrastructure Task Force's](#) report, Natural Capital.*

*There were several factors contributing to our decision to fund this project, including:*

- considerable surface water attenuation;
- the focus on housing estates – London has many housing estates that could benefit from SuDS but the principle needed to be tested on a reasonably large scale

- *the emphasis on monitoring – this will provide an important evidence base for decision-makers interested in, but perhaps as yet unconvinced by, SuDS retrofit; and*
- *the importance of community engagement – to help encourage residents to use and care for their green spaces, as well as increase awareness of the environmental issues London faces.*

*As the project draws to a close, we have been impressed with the way that it has been conducted, with the way its progress has been communicated to stakeholders, and with what it has achieved in a relatively short period of time. We are currently drafting an advocacy report for the five demonstrator projects, and this project will feature heavily in it.*

*Assessment of progress against planned outputs and timescales:*

As noted in the Mid-term Report, the collection of data for this work package was initially delayed due to the focus on B1 Implementation. As a result of this, it was not possible to carry out a forecast SROI as planned, in order to gather baseline data before the interventions were completed and establish the appropriate mechanism for collecting outcomes data. However, discussions were held with residents at initial consultation events, covering the outcomes that the programme could bring about in order to start the process of residents thinking about social returns. At follow-up events, residents were also engaged in an activity to rank outcomes previously discussed in order of importance, to prioritise the outcomes they valued. By engaging relevant stakeholders in deciding which outcomes to analyse, this helped mitigate against not being able to refine our outcomes from the findings of a forecast SROI.

This was the first GL project to use SROI as an evaluation tool; as such it has generated a significant amount of learning for future applications of SROI to GL projects. An important learning point to take forward would be to not underestimate the time it takes to conduct a thorough SROI evaluation. It has become clear that having a planned SROI stakeholder engagement strategy is essential for any future projects. At the onset of this project the SROI process was very much a part of the project's general stakeholder engagement process; however, it became evident that it was necessary to re-evaluate the approach in order to successfully complete the SROI process.

There were also challenges in completing the SROI assessment given the difficulty of securing robust, good quality, data – it is easy to over-state the impact of a project through such an exercise. The nature of the exercise also means that quantifying the impacts can be difficult, in many cases requiring assumptions – this has highlighted to GL the importance of good training in SROI before embarking on the exercise.

Achievement against the set indicators is as follows:

<b>Output</b>	<b>Target</b>	<b>Achieved</b>	<b>Comments on any changes</b>
Number of residents actively participating in their local green space	Not defined	58% of residents reported their use of the green spaces had increased	As reported in SROI surveys.
Number of residents reporting perceived improvements to health and wellbeing	Not defined	48% of residents reported an increased sense of belonging; 67% of residents reported increased pride in the area they live in	As reported in SROI surveys; health and wellbeing question not asked directly.
Number of people in work after 12 months	Not defined	11	Green Team trainee job outcomes.

*Modifications to this work package and its associated budget:*

There have been no significant modifications to this work package, although there has been an overall decrease in incurred personnel costs compared to the budget due to the limited time available for a forecast SROI following the focus on B1 Implementation works earlier in the project. In addition, as noted above many of the evaluation activities have been built into other work packages and therefore personnel costs have instead been captured under these work packages.

*Continuation of the action after the project's end:*

As the first use of SROI by GL, the experience and knowledge gained during this exercise is of great value and has led GL to consider opportunities to embed this exercise in other projects in order to understand their wider impacts. Given GL's extensive work with communities there is considerable potential here. This has already led to complementary actions outside of the project, including Daniel Brittle running a 'learning curve' seminar to share SROI approaches and learnings with GL staff and encourage them to consider opportunities to include it in their own projects, and giving a presentation to GL's Board of Trustees. The impact of this is already clear, with the SROI approach being adopted by other projects including GL's other current LIFE+ project, *Repurpose*.

## 5.2 Dissemination actions

### 5.2.1 Objectives

As noted in the Mid-term Report, the dissemination and communication actions set out in the approved project proposal aimed to ensure:

- Timely and effective communication between delivery staff and Beneficiaries to ensure successful implementation of the project in accordance with agreed deliverables. This has been facilitated principally through the project's approved Communications Plan (submitted with the Inception Report) and via the operational project team and Steering Group meetings (**D1 Internal project communication**).
- Opportunities to promote the project and disseminate emergent learning have been maximised through proactive stakeholder engagement at the local, regional, national and European level (**D2 Engaging with stakeholders**), facilitated in part by using the existing networks of Beneficiaries and the Advisory and Steering Groups.
- The project has had a public facing presence i.e. the website, media work and social media channels through which we have regularly issued information on the project's progress (**D3 Create project website** and **D8 Media work**) and hosted dissemination material, for example the Layman's Report (**D7 Layman's Report**).
- Dissemination materials, in particular the project film (**D5 Project Film**) and Implementation Guide (**D4 Implementation Guide**), capture and present the project's learning in a way that supports the transferability of the approach undertaken in other places.
- The project has created opportunities to engage with a wider audience, with a particular emphasis on the housing sector, to promote the project and support a step change in the way that housing green spaces are improved and maintained to promote climate adaptation. This has principally been achieved through the design competition (**D9 Design competition**), engagement with stakeholders (D2), media work (D8) and training and masterclasses for housing professionals (B2 Deliver housing staff training programme).
- Permanent interpretative notice boards detailing the adaptive features and project funders were installed in key project locations to inform the public about the works undertaken (**D6 Notice boards**).

Section 5.2.2 that follows describes the activities undertaken within each dissemination work package, outputs achieved, any deviations from planned outputs and timescales, and all deliverables produced.

## 5.2.2 Dissemination: overview per activity

### **D1: Internal project communication**

Start date: July 2013

End date: September 2016

#### *Description of the activities undertaken and outputs achieved:*

This work package aimed to ensure effective communication between the delivery partners and staff in each organisation. This was achieved through regular meetings and the sharing of project documents and information. GL as coordinating beneficiary was responsible for this, led by the Project Manager with support from the Project Director. Close working with and between all key staff delivering the project was required for the successful completion of this work package – principally Mark Bentley (Landscape Architect), Stephen Dunn (Green Team Programme Manager), Daniel Brittle (Senior Community Project Officer), and Tayler Groom (Senior Communications and PR Officer).

#### Key activities included:

- **Communications Plan and Protocols** drafted and agreed between beneficiaries and provided as part of the Inception Report, focused on how the project is communicated externally to support its successful dissemination and ensuring the LIFE+ communication requirements are adhered to.
- **Regular steering group meetings** between GL and H&F Council hosted at Hammersmith Town Hall (on a monthly basis at key project stages), to monitor project progress against the agreed milestones, make further progress on key deliverables, and address any risks or issues. Minutes from each meeting have been taken and circulated by GL, and phone/email communication in between meetings has taken place as required. Steering Group Terms of Reference were agreed at the start of the project (submitted with Inception Report).
- **Regular operations meetings** between GL project staff as listed above. These have taken place every 2 weeks throughout much of the project, with minutes taken and circulated by the Project Manager and phone/email communication in between meetings as required. The preceding meeting's minutes have been used as the basis of discussion at each meeting, to ensure all issues and action points are addressed.
- **Green roof specific project delivery team meetings** held during the relevant stages of project implementation to ensure this element of the B1 Implementation works was delivered successfully. These were attended by representatives from GL, H&F Council, Mitie and Bauder (green roof manufacturer).

#### *Assessment of progress against planned outputs and timescales:*

Achievement against the indicators in the bid is as follows:

<b>Output</b>	<b>Target</b>	<b>Achieved</b>	<b>Comments on any changes</b>
Number of meetings or remote meetings with delivery partners	99	93	This includes: -27 Steering Group meetings between GL and H&F Council (surpassing our target number of 11) -60 operational team meetings at GL -6 green roof specific project delivery team meetings

Whilst it was originally anticipated that file sharing tools would be required, this has not been necessary as the majority of files have been needed on a regular basis by one beneficiary only – meaning that each beneficiary’s standard electronic filing system has been sufficient. Where this has not been appropriate, for example for sharing large reports or photos, or files in advance of project reporting deadlines, Dropbox or WeTransfer has been used to share files as required.

This action has proceeded as planned, and the strong relationship between staff at GL and H&F Council throughout the project has effectively supported the project’s successful delivery. It was noted in the Mid-term Report that there was an underspend in the personnel budget for this work package, because there is a degree of cross-over between the actions associated with this and those associated with E1 Project management in some instances staff time has been posted against this work package instead – timesheets have been reviewed in advance of Final Report submission and this has now been corrected.

*Deliverables:*

Finalised communication pack and protocols (submitted with Inception Report and here in Annex 7.3.3.1).

In addition, examples of minutes from the Steering Group and green roof team meetings are also included in Annex 7.3.3.1.

## **D2: Engaging with stakeholders**

Start date: September 2013 End date: September 2016

### *Description of the activities undertaken and outputs achieved:*

The key aim of this work package was to ensure that the project's findings are disseminated to key actors at local, regional, national and European levels. As the coordinating beneficiary, GL has been responsible for ensuring this action is completed successfully. The Project Manager has coordinated the delivery of the work package, with several other members of the project team actively engaging stakeholders through meetings and events, including Mark Bentley, Anita Konrad, Nicola Wheeler and Daniel Brittle. Stakeholder engagement activities have also been delivered by H&F Council's Flood Risk Manager, George Warren.

As set out in the Mid-term Report, potential members of the Advisory Group were identified in advance of the Inception Report, and the Terms of Reference and governance arrangements were submitted with the Mid-term Report. Due to staff changes since the Mid-term Report, some Advisory Group members have changed (though the organisations represented remain the same) – the final membership at the end of the project was as follows:

- Stephen Russell, Landscape Institute
- Hannah Crossan-Smith, National Housing Federation
- Julia Thrift, TCPA
- Kristen Guida, London Climate Change Partnership
- Sally Harries, Natural England
- Neil Monaghan, Environment Agency
- David Harding, Thames Water
- Katherine Drayson, GLA
- Suzanne Simmons, CIRIA

With nine organisations represented, this exceeded our target number of members (6). The advisory group met five times over the course of the project, with members influencing and overseeing project delivery and supporting policy influencing, dissemination and legacy. Whilst fewer meetings have been held than originally planned (10), other engagement with members on a 1:1 basis has taken place between meetings, for example the GLA, NHF, Environment Agency and Natural England were all given tours of QCE interventions in September 2016 on request from their Advisory Group representatives.

The focus of the Advisory Group meetings has been as follows:

- 7<sup>th</sup> April 2014: focused on introductions and the feasibility mapping
- 15<sup>th</sup> September 2014: focused on presenting the concept designs and discussing the transferability of the approach to date
- 10<sup>th</sup> June 2015: focused on update of progress of works on site, the monitoring and a study tour of Queen Caroline Estate
- 2<sup>nd</sup> February 2016: focused on update of progress of works on site, resident engagement activities, training, monitoring and dissemination, as well as specific discussions around the Implementation Guide and planning for After LIFE
- 20<sup>th</sup> July 2016: focused on project updates, monitoring and evaluation interim results, policy influencing opportunities, dissemination activities and opportunities, as well as members giving an update on their relevant current and planned activities.



As noted in the Mid-term Report, GL has longstanding relationships with all members of the Advisory Group and regular communication in between the meetings has been sustained through GL's involvement in practitioner groups facilitated by Advisory Group members, such as Neighbourhoods Green (NHF), the All London Green Grid (ALGG), the London Climate Change Partnership, and the GLA's green infrastructure SuDS Steering Group.

The Mid-term Report set out a number of engagement activities with a wider stakeholder audience. Since June 2015, many more engagement activities have been carried out – in many cases with GL receiving invitations to present at events and meetings rather than needing to seek out these opportunities. This demonstrates the considerable interest in the project across London and beyond.

Annex 7.3.3.2 lists all stakeholder engagement activities in full – many of these are also listed on the Events page of the project website. Highlights since the Mid-term Report include:

- CIRIA SuDS and placemaking event (1<sup>st</sup> October 2015)
- European Urban Green Infrastructure Conference (23<sup>rd</sup> November 2015)
- GLA sustainable drainage steering group meeting (3<sup>rd</sup> February 2016)
- Green Sky Thinking week event and site tour (27<sup>th</sup> April 2016)
- INSS Communities & Connections conference (10<sup>th</sup> June 2016)
- Several wider LBHF resident engagement events, including a stall at the annual H&F Council residents conference (18<sup>th</sup> June 2016)
- LoDEG meeting (15<sup>th</sup> September 2016)
- Thames 21 SuDS event (28<sup>th</sup> September 2016)



Figure 14. Green Sky Thinking week presentation and tour, April 2016

GL and H&F Council have also run several tours of project sites, including for H&F Councillors, the Environment Agency chair, the UK Big Lottery Fund chair, GL's Board of Trustees, GL's Local Authority Strategic Impact Board, GLA, NHF, Environment Agency and Natural England. As noted in the Mid-term Report, connections made with GL's housing sector focus group have also helped GL to engage a wider audience of housing professionals. As set out in E3 Networking below, engaging with other European projects through exchanges, platform meetings and other activities has also supported project dissemination.

George Warren at H&F Council has assisted with communication and dissemination activities as Chair of the London Drainage Engineering Group (LoDEG) and a member of the Mayor of London's Drain London partnership. He has continued to speak about the project at meetings and events since the Mid-term Report, and has led several tours of project sites, including:

- Urban Design London conference (November 2015)
- LBHF Public Accountability Committee (March 2016)
- Thames Regional Flood & Coastal Committee (April 2016)
- UDL SuDS in Hammersmith and Fulham event (June 2016)
- Susdrain SuDS tour (June 2016)
- Other London Lead Local Flood Authority and Local Planning Authority officers (multiple occasions)

Since the project finished, GL continues to receive speaking invitations for events and meetings, which are accepted wherever possible in order to support the ongoing dissemination and transferability of the project as set out in the After LIFE plan (E4). This demonstrates that the project has become widely recognised as a good example of green infrastructure-based climate adaptation initiatives in urban housing environments, and that many different audiences are interested to learn from this.

To date, this has included:

- CIRIA and TfL workshop on Barriers to Supporting Transport Resilience in London (5<sup>th</sup> October 2016)
- Urban Design London conference: Streets for Life – Water Sensitive Design (11<sup>th</sup> October 2016)
- Forests & Woodland Advisory Committee Meeting (16<sup>th</sup> November 2016)
- Lecture to University of Greenwich Landscape Architecture students (17<sup>th</sup> November 2016)
- A tour of Queen Caroline for Frederic Segur, Director of Trees & Landscapes at the Greater Lyon Authority (17<sup>th</sup> November 2016 – led by George Warren at H&F Council)
- National Housing Federation – London Environment Committee meeting (6<sup>th</sup> December 2016)
- A CIRIA walking case study tour (date tbc)
- NHF Neighbourhoods Green steering group meeting (date tbc – postponed from September 2016)
- Ecobuild 2017 – Green Infrastructure Seminar Session (9<sup>th</sup> March 2017)

GL will also be arranging a tour of the project sites in early 2017 for those who have expressed an interest in recent months – this includes participants from the 2<sup>nd</sup> masterclass, members of the NHF London Environment Committee, Advisory Group members, and other GL housing sector contacts.

*Assessment of progress against planned outputs and timescales:*

This action has proceeded as planned and, as noted above, interest in this project from a wide and varied audience has grown over the course of the project. Events and meetings have provided valuable opportunities to present project approaches, results and lessons learned, and in the final months of the project these activities were also highly valuable in sharing resources developed during the project such as the film and Implementation Guide. These opportunities have been core to the project's dissemination, and also to support the transferability of approaches to other urban housing environments elsewhere in London, the UK and Europe.

<b>Output</b>	<b>Target</b>	<b>Achieved</b>	<b>Comments on any changes</b>
No. of Steering group Meetings held throughout the course of the project	11	27	We have delivered additional Steering Group meetings due to the need for additional partner input, particularly during the B1 Implementation phase. See D1.
No. of Advisory Group meetings held throughout the course of the project	10	5	Regular interim meetings and communication has taken place with Advisory Group members, and engagement with other networks such as GL's housing sector focus group and GLA SuDS steering group has complemented the Advisory Group meetings.
No. of exchanges with EU stakeholders	4	10+	These exchanges are documented in E3 Networking.
Number of organisations represented on the Advisory group	6	9	
Number of stakeholders who have heard about the project through networking activities	500	1,000+	The exact number is difficult to quantify as the audience size of events is not always known.
No. of presentations/workshops delivered at key stakeholder events	8	50+	This includes presentations at events/meetings, walking tours of project sites, workshops, seminars.

There has been an exceedance of the original personnel costs budget as was set out in the proposal. The project Beneficiaries recognise the importance of this strand of the programme and have dedicated additional resource to establishing and managing relationships with Advisory Group members, promoting the project at relevant opportunities and disseminating learning from the project among our extensive networks; in particular focusing on new housing audiences. This increased personnel cost is absorbed by underspend in other work package personnel budgets (e.g. B1) and therefore there is no overall impact on the project's personnel costs. The incurred other costs are much lower than anticipated, due to conference fees and travel costs for meetings being either free of charge or low cost – this has contributed to the overall underspend in other costs by the project.

*Deliverables:*

Communications and dissemination plan (submitted with Inception Report)

In addition, Advisory Group Terms of Reference and governance arrangements were submitted with the Mid-term Report, and examples of Advisory Group meeting minutes and stakeholder engagement presentations are provided in Annex 7.3.3.2. A general project presentation is also provided in Annex 7.3.3.10.

### **D3 Create project website**

Start date: September 2013

End date: September 2016

#### *Description of the activities undertaken and outputs achieved:*

In the Mid-term Report we noted that we had not created a website for the project, and were instead using the existing GL website as an existing high-profile platform by which to drive audiences to the specific LIFE+ webpages ([www.groundwork.org.uk/Sites/london/pages/lifeplus-lon](http://www.groundwork.org.uk/Sites/london/pages/lifeplus-lon)). However, since the Mid-term Report GL recognised there would be considerable value in developing a project specific microsite hosted on the GL website, especially given the quantity of project specific information and resources to be shared. The microsite was developed by the GL Marketing Manager in the first half of 2016 and was widely promoted from June 2016, with its own unique URL: [www.urbanclimateproofing.london](http://www.urbanclimateproofing.london).

Since then, the microsite has served as the primary external facing communications mechanism and a knowledge and resources hub for the project and its activities. New content has been added on a regular basis as it has become available. The management and updating of the website has been the responsibility of the Senior Communications and PR Officer at GL, with input from the project team as required. This is continuing beyond the end of the project to support the ongoing dissemination of resources and results and the transferability of approaches to other urban housing environments. In line with EC requirements, the website will remain active for five years after the end of the project – updated by GL’s marketing team with input from the GL and H&F Council project teams as required.

Key features include:

- A project overview
- Details of the three project sites, including professional photos
- Case studies, videos and other resources
- News
- Project film
- 360° virtual tour of two of the sites
- Testimonials
- Media coverage, awards and events
- Monitoring results
- Contact information
- Links to GL Twitter and Facebook accounts, and the project’s Tumblr blog, where project news has been shared on a regular basis.

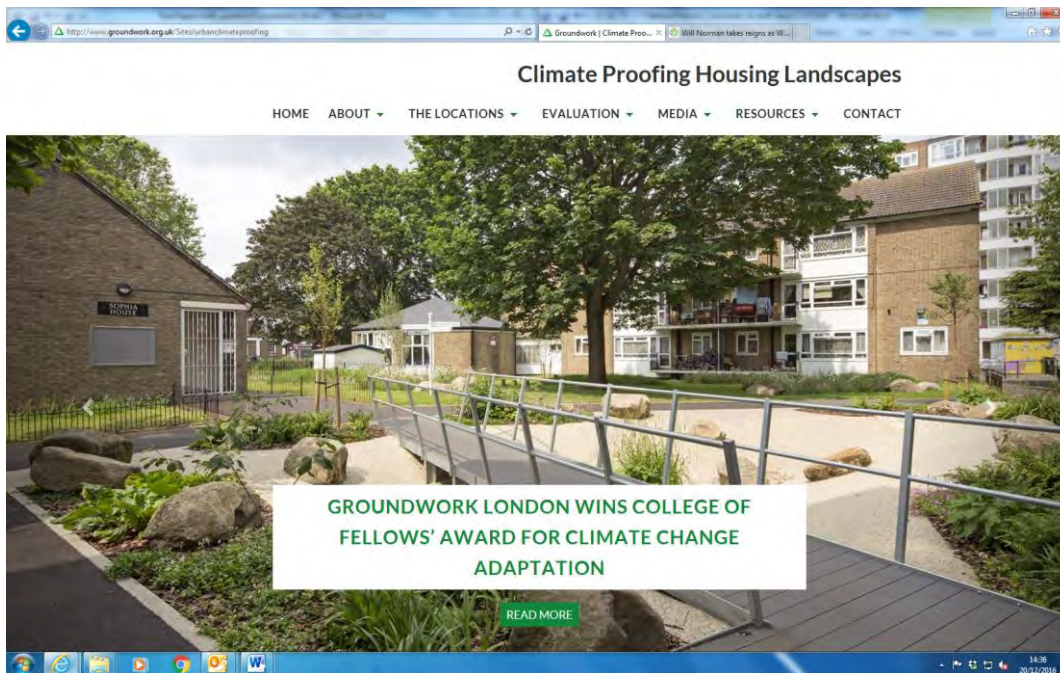


Figure 15. Screen shot of the project website homepage

Annex 7.3.3.3 provides further screen shots of the project website's key pages.

The 360° virtual tour has proven to be a valuable resource, enabling viewers to visualise the interventions at the first two sites (QCE and CER) in an interactive way, and at the same time providing key information on the individual interventions and the benefits they offer. The website has also benefited from an extensive collection of professional photos of all three sites (Annex 7.3.3.3), which are featured in a gallery for each site as well as being used to enhance website pages, publications, case studies, articles, social media and other key project activities by both GL and H&F Council. With a number of 'before' photos taken in advance of the works commencing on each site, we have also been able to put together several 'before and after' photo sequences (as displayed in section B1 above), which have featured in key publications including the Implementation Guide, to help stakeholders understand the changes that have taken place.

Case studies have been written by GL for the project website, and for wider dissemination, in order to highlight key elements of the project. Specifically, these focus on each project site, the project's approach to community engagement, and the Green Teams (see Annex 7.3.3.3).

Interactions with the website have been monitored using Google analytics, to understand the audience and reach of the content. Since the domain name was registered in January 2016, the site has had 4,520 views, including 276 views of the project film page and 154 views of the 360° tour page. Peak views for the website were reached in August and October 2016, correlating with key times when new resources were added and their dissemination was in focus. Geographically the highest proportion of website views has come from the UK, but website visitors have also come from continental Europe, the US and Canada, South America, India, Australia, Egypt, Japan and South Africa.

The original GL project page has remained available and kept up to date, with 2,365 views since January 2014 – this reached a peak in January 2016, reflecting the point at which interest in the project was high but the project specific website had not been launched.

We have also continued to update the project's blog, at <http://urbanclimateproofing.tumblr.com>, with news stories. A total of 34 blog entries have been added over the course of the project, which are all still available to view on the blog site (examples provided in Annex 7.3.3.3).

The project's social media activity is led by GL through the GL Twitter account (@GroundworkLON), using the hashtag #urbanclimateproofing. It was decided early in the project that this would be more effective than setting up a project specific account, given GL's existing reputation and following (over 8,600 Twitter followers). A total of 106 tweets have been issued using this hashtag, generating 65,402 impressions, 342 re-tweets, 318 likes and 789 unique interactions about the project. Facebook has also been used to share project information at key opportunities, such as when the Implementation Guide was published – a promoted post about the guide reached an audience of 16,265. This proved valuable in supporting the dissemination of the Guide to an international audience (see D4).

Annex 7.3.3.3 gives more information on the project's communications headline figures, including examples of social media engagement.

H&F Council have also run their own communication activities through their press team, including via Twitter and news stories on the H&F Council website. This has included:

- A news piece covering the project's success at the Landscape Institute Awards 2016: [www.lbhf.gov.uk/articles/news/2016/12/project-climate-proof-social-housing-estates-scoops-award](http://www.lbhf.gov.uk/articles/news/2016/12/project-climate-proof-social-housing-estates-scoops-award)
- A news piece covering the project coming to an end: [www.lbhf.gov.uk/articles/news/2016/10/residents-reap-benefits-pioneering-scheme-green-social-housing](http://www.lbhf.gov.uk/articles/news/2016/10/residents-reap-benefits-pioneering-scheme-green-social-housing)
- A news piece covering the resident photography competition at Queen Caroline: [www.lbhf.gov.uk/articles/news/2016/10/green-schemes-come-focus-queen-caroline-photography-contest](http://www.lbhf.gov.uk/articles/news/2016/10/green-schemes-come-focus-queen-caroline-photography-contest)
- A news piece on the project's Green Sky Thinking week event: [www.lbhf.gov.uk/articles/news/2016/05/all-eyes-council-s-landmark-environmental-schemes](http://www.lbhf.gov.uk/articles/news/2016/05/all-eyes-council-s-landmark-environmental-schemes)
- Tweets aligned with key milestones, such as the LI Awards, project end, Green Sky Thinking week and media coverage in Horticulture Week.

*Assessment of progress against planned outputs and timescales:*

As noted in the Mid-term Report, we decided not to commission a web developer to create a project website. Instead, this was done in-house, developed as a microsite on GL's existing website, which meant that the work package could be delivered at a much lower cost than originally foreseen. As planned, regular website updates and maintenance is carried out; however, with the site being hosted on an existing GL platform, this has also been done in-house instead of through an external web developer. This has given GL the flexibility and control to update and manage the website as and when required.

As a result of this, incurred costs under this work package are lower than foreseen, particularly in the external assistance category. Actual costs for the 360° tour, included in the Mid-term Report as an anticipated cost under the section for D5 project film, are now included within this budget as the tour has been shared as a resource on the website. The

professional photography costs have also been included in this work package, as these are featured on the website.

Achievements against targets for this work package are as follows:

<b>Output</b>	<b>Target</b>	<b>Achieved</b>	<b>Comments on any changes</b>
Project website	1	1	No changes.
E-news bulletins	10	34	This is the number of Tumblr blog posts; emails have also been sent to stakeholders to share key project resources and events.
Twitter followers	300	See right	Separate Twitter account not created; instead GL account used (8,600+ followers). 106 tweets using #urbanclimateproofing; 65,402 impressions (GL Tweets only); 342 re-tweets; 318 likes; 789 unique interactions. Over 16,200 reached by project posts via the Groundwork London Facebook page.

*Deliverables:*

No deliverables were listed in the project proposal; however the website itself has been a key deliverable of the project.

#### **D4: Publish Implementation Guide**

Start date: September 2015

End date: September 2016

##### *Description of the activities undertaken and outputs achieved:*

As noted in the Mid-term Report, the Implementation Guide was intended to share the key learning points from the project and serve as a manual for other similar projects, with a particular emphasis on retrofitting urban environments across Europe. The guide provides other local authorities and housing providers with the tools, resources and best practice guidance for implementing climate change adaptation measures across their own housing stock.

Work on the Guide started in September 2015 as planned, with key chapter headings and a publication brief drafted by the Project Manager Hannah Clay. Hannah Baker was brought in specifically to support this work package, before taking over as Project Manager in March 2016. In autumn 2015 Hannah Baker started the background research for this work package, including interviews and discussions with key stakeholders in order to define the focus, format, content, other stakeholders to engage and support available for dissemination. Discussions took place with those who had worked on the project and those forming the target audience, such as other housing providers in London and those that work with housing providers across Europe.

Key stakeholders engaged in this process included:

- Project Advisory Group (through advisory group meetings and one to one discussions with key members, e.g. the National Housing Federation)
- Project delivery team (through Operations meetings and one to one discussions with the Landscape and Community teams)
- Dusty Gedge from the Green Infrastructure Consultancy
- Sharon Schaaf at H&F Council
- Other H&F Council staff attending the senior managers training (January 2016)
- Tessa Barraclough at Peabody (housing provider)
- Alessandro Cesale and Michalis Goudis from Housing Europe
- Participants at the 1<sup>st</sup> European Urban Green Infrastructure Conference (November 2015)

These discussions provided valuable input to support Hannah Baker in writing the Guide. The Guide was published in September 2016, to allow for all key elements of the programme, and headline results, to be captured. It also features many of the professional photos taken for the project, from all three estates.

The Guide is structured as follows:

- Introduction
- Background and environmental problem
- Approach and technical solutions
- Replicating the Climate-Proofing Social Housing Landscapes project approach
- Implementation of green infrastructure interventions
- Impact monitoring and evaluation
- Community engagement
- Additional resources and links
- Acknowledgements



Key aspects where advice for other housing providers was seen to be particularly beneficial are featured, including:

- Establishing project partners and other key stakeholders
- Securing project finance
- Feasibility assessment and prioritisation
- Training for housing staff and maintenance contractors
- Monitoring and evaluation
- Effective community engagement

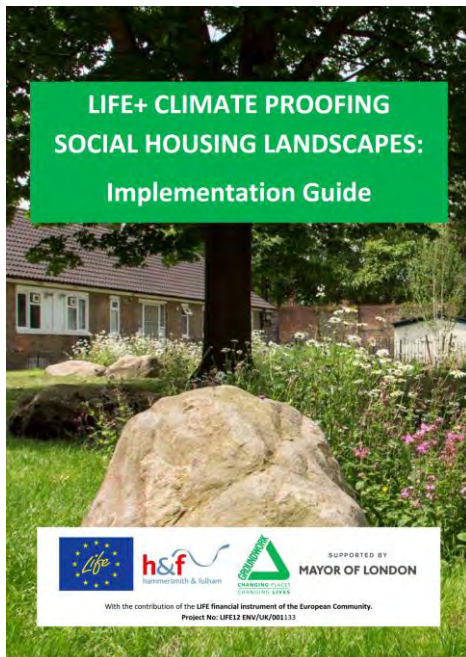


Figure 16. Implementation Guide cover

The Guide was primarily developed for dissemination in e-format, as previously noted in the Mid-term Report, recognising that this is the preferred format for much of the target audience and that it enables much wider dissemination than hard copy format. The Guide has been uploaded to the project website Resources page using Issuu, and shared via email and social media (Twitter and Facebook), as well as through articles and in project presentations. Issuu supports easy online reading as publications are presented as booklets with clickable links, and also enables GL to track how many people have read the guide online, and therefore understand its reach (see below). A small number of hard copies (100) were printed, bound in A4 format in full colour, to support the Guide also being shared in person at meetings and events. These will continue to be disseminated as part of the After LIFE activities, including through the meetings and events referred to in D2 above.

Key dissemination actions and successes have included:

- Housing Europe article and newsletter feature in January 2016, sharing project information and notifying readers of the Implementation Guide to be published later in the year: [www.housingeurope.eu/resource-633/climate-proofing-housing-landscapes](http://www.housingeurope.eu/resource-633/climate-proofing-housing-landscapes)
- Housing Europe article and newsletter feature in September 2016, focusing on the published Guide: [www.housingeurope.eu/blog-789/climate-proofing-social-housing-landscapes](http://www.housingeurope.eu/blog-789/climate-proofing-social-housing-landscapes). The newsletter was sent to an audience of 708 people. This was complemented by a tweet and Facebook post, which reached an audience of 1,125 and 98 respectively.

- Uploaded to the project website Resources page, with approximately 2,000 impressions and views to date.
- Promoted GL Facebook post sharing the published Guide, reaching an audience of 16,265 – this was targeted to all European countries.
- Tweets from the GL account, and from the Project Manager’s personal Twitter account. Five tweets by Hannah Baker, Project Manager, specifically focusing on the Implementation Guide, secured a total of 2,844 impressions.
- Direct email to approx. 450 key stakeholders in early October (see Annex 7.3.3.4 for the email copy and recipient list), including European organisations and networks, other EU-funded projects (see E3 Networking), the project’s Advisory Group, project partners, Design for Life competition judges and entrants, other relevant UK based organisations (including landscape architects, consultancies, NGOs and industry bodies), London Drainage Engineers Group (LoDEG) members, NHF London Environment Group members, and GL housing sector contacts including masterclass invitees and attendees.

Many of the recipients of our direct email were in fact networks in themselves, meaning that the actual audience is likely to be much bigger than the audience we targeted directly. With previous experience working on sustainability-focused European projects, Hannah Baker was able to identify an extensive list of stakeholders to disseminate the Guide to. This includes influential European networks such as 100 Resilient Cities, CAN Europe, Covenant of Mayors, Eurocities, and the European Network for Housing Research. Through these combined dissemination efforts, it is clear that the target for the number of recipients of the Guide across Europe (7,000) has been exceeded. However, whilst recipient numbers are high, based on the Issuu impressions and hard copy figures the number of people reading the Guide is lower than the target figure. This is in part due to the fact that the Guide was published in the final month of the project, yet is likely to have a much longer term impact as we continue to share and promote it to a wide audience. We therefore expect the number of online views of the Guide to continue to increase, with the Guide remaining available for as long as the website remains active (five years). It is clear from those who have read the Guide that it is seen to be a useful resource, and one that is already inspiring other housing providers to consider the opportunities in their own estates.

We had originally intended to launch the Implementation Guide at a breakfast briefing or similar. However, it became clear that there were a number of SuDS focused events planned in London during September 2016, therefore presenting an opportunity for GL and H&F Council to disseminate the guide at events hosted by other organisations rather than arranging a separate event for a very similar audience. This included the Thames21 SuDS Conference 'Delivering Rainscapes' and LoDEG meeting, with GL presenting at both. The masterclass in the final week of the project also provided a valuable opportunity to share the Implementation Guide with housing providers from across London. Events following the completion of the project that GL will be presenting at, and sharing the Guide, have been set out in D2 Engaging with stakeholders above.

Contents of the Guide will also be used by project partners to support future GL and H&F Council activities. For example, H&F Council is exploring the potential for new green infrastructure initiatives across the borough and the Guide will help those Council staff who were not involved in the project understand the key approaches and the benefits they offer. GL run training courses for new customer engagement officers employed for its major contract with Thames Water, and will be including content from the guide in the Domestic

Energy & Water Saving module in order to support effective community engagement in resource efficiency issues. The Guide will also support GL in promoting its landscape design, community engagement and training services to other housing providers with a view to being able to lead these elements of future green infrastructure projects in London.

*Assessment of progress against planned outputs and timescales:*

Achieved outcomes compared to the indicators in the bid are as follows:

<b>Output</b>	<b>Target</b>	<b>Achieved</b>	<b>Comments on any changes</b>
Implementation Guide published	1	1	No changes.
Number of recipients of Guide	7,000	10,000+	Difficult to quantify given indirect reach beyond those engaged directly, although the Guide has been promoted and disseminated widely. We expect online views to continue to increase over the coming years as we continue to share the Guide.

As set out above, the Implementation Guide has been published according to the planned timescales as approved as part of the prolongation request. Its development was supported by input from key stakeholders, both internal and external, and at local, regional, national and European levels. It has been disseminated widely across Europe to a large audience of housing providers and other relevant stakeholders.

Whilst a breakfast briefing/seminar was not held specifically to launch the Guide, a number of events organised by GL and others in autumn 2016 have provided valuable opportunities to disseminate the Guide effectively. These opportunities will continue to be seized going forward.

The incurred costs are much lower than foreseen in the budget, due to the Guide primarily being published in e-format rather than in printed format. This has contributed to the fact that overall, the project's other costs are lower than anticipated.

*Deliverables:*

Implementation Guide (submitted with this report in electronic and paper format – see Annex 7.3.3.4).

## **D5: Production of project film**

Start date: October 2013      End date: June 2016

### *Description of the activities undertaken and outputs achieved:*

In the Mid-term Report we noted that we were in the process of developing a short film to document the changes to the project sites and reflect the perspectives of various stakeholders to demonstrate the project's impact. GL has been responsible for the implementation of this action, with support from H&F Council. Much of the early work was carried out by Faron Woodbridge, GL's Youth Project Coordinator, who has considerable filming experience. However, when Faron left GL in early 2016 it was necessary to secure external support for the successful completion of this work package. We therefore engaged Nuru Mkali, an external film producer who had worked with GL on a number of filming projects in the past.

A creative brief and narrative storyboard was developed by GL's Senior Communications and PR officer in advance of the Mid-term Report. In advance of filming, a film schedule was developed, interviewees identified and interview questions drafted. Filming took place throughout 2015 and 2016 to capture documentary footage at key points throughout the project, including before the works commenced, as works were underway and following their completion. The film also featured cut away footage of the spaces in use, including young residents enjoying the natural play features, and the storm simulation test which took place at QCE in the summer of 2016. It also featured a short video clip taken by UEL, demonstrating the run off from a green roof in heavy rain compared to the run off from a normal flat roof – this video clip has also been uploaded to YouTube separately by UEL.

Interviews were held with a number of stakeholders during the filming process, namely:

- Mark Bentley, GL Landscape Architect
- Nicola Wheeler, GL Project Director
- George Warren, H&F Flood Risk Manager
- Wayne Essiene, Green Team trainee
- Emma Griffiths, QCE resident
- Dusty Gedge, Green Infrastructure Consultancy
- Dr Stuart Connop, UEL SRI
- Jonathan Lyon, Greatford Garden Services

The majority of filming and editing was completed by spring 2016, with the Advisory Group given the opportunity to review and give feedback at the June 2016 meeting of this group before the final version was published. Aside from the interview with the landscaping contractor (Greatford Garden Services), all other interviews were featured in the final film. Unfortunately the contractor interview was not usable due to sound interference which would have impaired the quality of the film. However, this has been transcribed and key quotes added to the project website's Testimonials page.

The film was uploaded to the website's Resources page and shared via Twitter, Facebook and other channels in summer of 2016. It was very well received, with key stakeholders sharing the film beyond GL's channels (see Comms headlines in Annex 7.3.3.5). To date, the film has had 276 views via the project website. The film has also been shown as part of GL presentations at events, including the LoDEG meeting in September 2016, final masterclass in September 2016 and Urban Design London workshop in October 2016. It will continue to be disseminated beyond the lifetime of the project to support the After LIFE plan.

*Assessment of progress against planned outputs and timescales:*

The film has been delivered as planned, though slightly later than originally anticipated to allow for key footage from later in the project to be included – such as the storm simulation test and residents using the spaces at QCE at a resident event in July 2016.

The initial intention was to carry out 10 interviews for the project. As can be seen above, 8 interviews were carried out – whilst slightly lower than planned, it was felt that the interviewees offered a broad range of perspectives on the project and provided more than enough footage without the film becoming too long and therefore risking limiting interest in stakeholders watching it in full. It was also intended to launch the film at a breakfast briefing. However, as for the Implementation Guide, it was seen to be more beneficial to present the film at existing events rather than arrange a separate event for this purpose.

Achieved outputs compared to the indicators in the bid:

<b>Output</b>	<b>Target</b>	<b>Achieved</b>	<b>Comments on any changes</b>
Project film launched	1	1	No changes.
Number of interviews with project participants	10	8	See above – sufficient breadth of perspectives captured.
Number of YouTube page views	Not defined	104	N/A
Number of page visits to the film on the project website	Not defined	276	N/A

Finally, it was not foreseen that external support would be required for the production of the film. However, staff changes made this necessary in order to produce a high quality product. As a result, some external assistance costs were incurred which were not foreseen in the project proposal; these have been offset by lower external assistance costs in other work packages so that the total external assistance budget has not been exceeded. Working with an external producer and editor also led to personnel costs being slightly lower than foreseen in the budget.

*Deliverables:*

No deliverables were listed in the project proposal; however the film itself has been a key deliverable of the project (see Annex 7.3.3.5).

## D6: Notice boards

Start date: January 2014      End date: September 2016

### *Description of the activities undertaken and outputs achieved:*

Notice boards have been installed across all three sites to describe the interventions which have been installed on each site and how the sites are being managed in the long term. This work has been led by GL, specifically the Senior Community Project Officer with support from the Senior Communications and PR Officer.

Notice boards produced have been in the form of:

- Temporary notice boards installed at all three project sites since January 2014, raising awareness of the project and the works to be carried out.
- Additional temporary notices installed as the project progressed to inform residents of works starting and of maintenance arrangements with the Green Team, as well as providing contact details for any queries.
- Final notice boards installed on completion of works at each estate, informing residents and visitors to the sites of the project, the measures installed and the benefits they offer. All sites have required multiple boards due to the locations of interventions, so that boards could be installed close to the interventions they refer to.

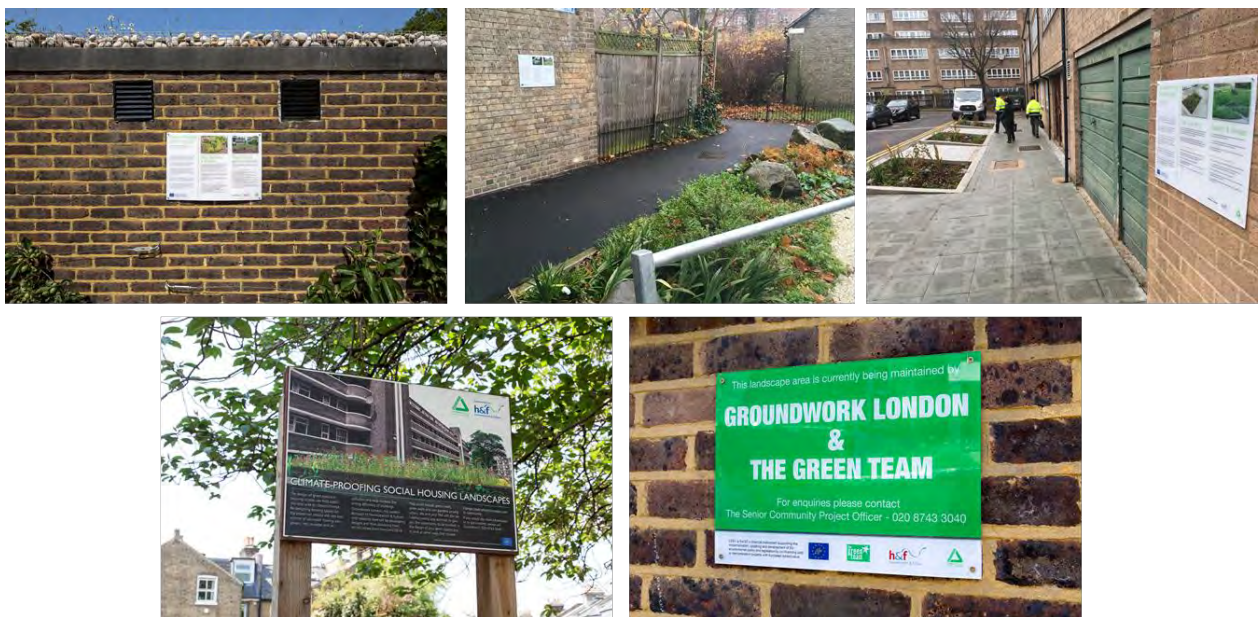


Figure 17. Notice boards in place at all three project sites, including final boards at CER, QCE and CT (top row left to right) and temporary board installed at the start of the project and during the works (bottom row left to right)

All notice boards have been developed to meet LIFE+ communications requirements, featuring the LIFE+ logo and supporting text, as well as partner logos.

### *Assessment of progress against planned outputs and timescales:*

This work package has been completed as planned, with permanent notice boards installed across all three sites before the end of the project. However, some delays emerged during this process, due to the need to get sign-off from the TRAs or other key residents before the notice boards could be installed.

Achievements compared to indicators in bid:

<b>Output</b>	<b>Target</b>	<b>Achieved</b>	<b>Comments on any changes</b>
Number of notice boards installed on project sites	3	6	Multiple boards per site required, to enable them to be located close to relevant interventions

As noted in the Mid-term Report, personnel costs associated with this work package were higher than forecast due to the production of temporary notice boards for the project, which were not originally anticipated but have been a key way of communicating the works with residents (as previously noted in the Inception Report).

There were no budgeted other costs for notice boards, but expenditure has been necessary in order to produce high quality, long-lasting, notice boards which will continue to ensure that residents and estate visitors are aware of the measures and their benefits over the longer term. This was made possible due to lower than forecast other costs in other work packages so overall the other costs budget is not increased.

*Deliverables:*

No deliverables were listed in the project proposal; however the notice boards could be seen as a deliverable of the project (see Annex 7.3.3.6 for final PDFs and photographic evidence of the notice boards in place).

## D7: Layman's Report

Start date: May 2016

End date: September 2016

### *Description of the activities undertaken and outputs achieved:*

As noted in the Mid-term Report, this action was scheduled for the final months of the project once the majority of findings had been compiled. This work package was led by the Project Manager at GL, with support from the Landscape Architects and wider project team who gathered information and documented lessons learned throughout the various project stages.

The report draws on key elements from other publications, including the Implementation Guide and case studies, and includes images from before and after the works were completed.

Key sections are:

- Project introduction
- Why climate proofing is important
- Project location
- Before and after images
- Key activities
- Spotlight on:
  - Community engagement
  - Training and employment
  - Monitoring impact
- Lessons learned
- Transferability of the project
- Contact details



Figure 18. Layman's Report cover

The Layman's Report has been uploaded to the website's Resources page and shared via social media, including Facebook and Twitter. To date it has been viewed 70 times; however we expect this to increase considerably in the coming months as we continue to promote and share it.



*Assessment of progress against planned outputs and timescales:*

The report content was written towards the end of the project. Recognising the importance of developing a Layman's Report that is visually attractive and user-friendly, GL's graphic designer worked to create a final version with photos, infographic images and an engaging format. This was not completed until the end of the project, due to the value in waiting to finalise it until the implementation works on the third site and all monitoring and evaluation results were available. As a result, to date online views of the Report are relatively low.

*Achievements against indicators in bid:*

<b>Output</b>	<b>Target</b>	<b>Achieved</b>	<b>Comments on any changes</b>
Layman's Report available online	1	1	No changes.

The personnel costs of this work package were higher than foreseen as it was written by the Project Manager instead of the Community Project Officer and Marketing Manager as foreseen in the budget – this ensured the Layman's Report effectively communicated an overview of the project's approaches and results to a non-expert audience.

*Deliverables:*

Layman's Report (submitted with this report in electronic and paper format – see Annex 7.3.1).

## D8: Media work

Start date: September 2013 End date: September 2016

### *Description of the activities undertaken and outputs achieved:*

The Mid-term Report noted that media activity until that point had been primarily focused at the local level, with limited coverage prior to the B1 Implementation works being carried out. Since then, this work package gained significant momentum, with considerable interest at the local, regional, national and European level. This work package has been led by GL's Senior Communications and PR Officer, liaising with the project teams at GL and H&F Council as required. For H&F Council communications activities, see D3 Project website above.

This momentum is demonstrated by the project's awards successes over the past 12 months, which have been shared on the Awards page of the project website. Namely:

- Landscape Institute Awards 2016: Winner of the Fellows' award for climate change adaptation; runner up in the Adding value through landscape category (for the Awards submission see Annex 7.3.3.7)
- SWIG Awards 2015: Winner of the Urban Greening Award
- Planning & Placemaking Awards 2016: Finalist in the Regional – London category



Figure 19. Award presentation photos from the Landscape Institute Awards 2016

These awards successes have considerably helped to raise the profile of the project amongst a wide audience, ensuring that the project is now recognised as a best practice example of delivering green infrastructure based climate adaptation measures in urban housing environments.

As noted in the Mid-term Report, a targeted press list specific to the project was developed early on in the project, listing all journals and publications relevant to the project at different geographical scales. This was then updated as the project progressed (see Annex 7.3.3.7).

A total of 7 international and 6 local press releases were issued during the project, aligned with key project milestones (see Annex 7.3.3.7). This exceeds our target number of press releases at the international scale (4) and matches the local press release target.

### International PR:

- July 2015 – Design for Life competition launch
- October 2015 – Design for Life competition winners
- January 2016 – Landscape and Urban Design newsletter

- January 2016 – 360° virtual tour resource launch
- January 2016 – Housing Europe newsletter feature and article
- January 2016 – World Landscape Architect
- September 2016 – Implementation completes

Local PR:

- February 2014 – Project launch
- September 2015 – Update on works
- March 2016 – Horticulture Week coverage
- April 2016 – Green Sky Thinking week
- September 2016 – QCE photography competition winners announced
- September 2016 – Completion of works at Cheeseman’s Terrace

Additional media coverage has also been secured at the regional, national and international scale, including:

- January 2014 – Housing Excellence
- February 2014 – London Climate Change Partnership blog piece
- June 2015 – Guardian Housing/Environment feature
- November 2015 – Royal Horticultural Society ‘Garden’ magazine feature
- January 2016 – feature on London retrofit SuDS map
- January 2016 – Housing Europe newsletter feature and article
- March 2016 – National Housing Federation newsletter
- March 2016 – Design competition showcase in Landscape Institute Journal
- May 2016 – Our Bright Futures blog feature
- July 2016 – feature in Horticulture Week re. storm simulation
- September 2016 – Housing Europe newsletter feature and article

Over the course of the project, a more than 25 articles and other information has been published in magazines, newspapers and online. A number of examples of our media engagement activities are shared in the Communications headlines document (Annex 7.3.3.7), as well as on the Media page of the project website. We have also maintained a comprehensive list of all coverage, which is also available in Annex 7.3.3.7. Case studies have also been published on various national and European websites, as documented under B4 Policy influencing.

Since the completion of the project, further coverage has been secured which is helping us to continue to disseminate project results and support its transferability to other urban areas. This has included:

- October 2016 – Landscape Institute website feature – LI Awards shortlist
- November 2016 – Joint Nature Conservation Committee (JNCC) ‘Inspiring projects’ feature
- November 2016 – GLA Greenstreets webpages featuring Drain London project information
- November 2016 – Landscape Institute Journal case study as part of feature on all LI Awards winners
- December 2016 – Creating Sustainable Cities magazine feature
- January 2017 – Horticulture Week magazine and website feature
- Spring 2017 – Housing Management & Maintenance magazine feature

- Date tbc – case study feature in H&F Council pamphlet on ‘Living with rainwater’
- Date tbc – National Housing Federation newsletter and Neighbourhoods Green website feature

Other communications activities have been covered in the above sections, namely the website and social media (D3), professional photos which have supported our activities under D8, and case studies for different audiences (B4).

*Assessment of progress against planned outputs and timescales:*

Considerable progress has been made since the Mid-term Report, so that the key objectives of this work package have now been met. We have successfully generated media interest and press coverage at key intervals during the lifetime of the project. Examples of media activity and online articles are included in Annex 7.3.3.7, demonstrating the wide reach of the project at local, regional, national and international scales.

Achievements compared to the indicators in the bid:

<b>Output</b>	<b>Target</b>	<b>Achieved</b>	<b>Comments on any changes</b>
Number of press releases at international level	4	7	Target exceeded, reflecting opportunities linked to key project milestones
Number of press releases at local level	6	6	No changes.
Website traffic statistics	Not defined	4,520 views of the project website	

In order to secure the achievements in this work package, additional time has been necessary to identify and secure media opportunities, write press releases, and to monitor the impact of dissemination activities. As a result, personnel costs incurred are higher than the budget, but this has been offset by lower personnel costs in other work packages so that overall the budget is not affected.

*Deliverables:*

No deliverables were listed in the project proposal.

## **D9: Design competition**

Start date: June 2015

End date: February 2016

### *Description of the activities undertaken and outputs achieved:*

As noted in the Mid-term Report, this work package acted to raise awareness for, and engage a broad stakeholder audience in, the project. It sought to encourage replicability by incentivising other housing practitioners to consider the opportunities to retrofit green infrastructure for the purposes of climate adaptation.

In the Mid-term Report, we noted our intention to bring this work package forward to coincide with the completion of works on site and provide a sufficient amount of time to invite submissions, shortlist, award and promote the winners.

We therefore launched the competition on 20<sup>th</sup> July 2015, with a closing date of 21<sup>st</sup> September. The competition was run in association with the Landscape Institute and National Housing Federation, both Advisory Group members who provided valuable support and helped to raise the profile of the competition. The competition invited ideas about how green infrastructure could be retrofitted in a neighbourhood to make it more resilient to climate change. Design ideas were to be linked to a real space and tackle climate challenges such as flooding, overheating and drought to ‘future-proof’ existing green space.

Communications materials were developed to promote the competition, including press releases, flyer, logo, social media and website content. In addition, materials for participants were developed, including a guidance document (Annex 7.3.3.8).

GL tweets about the launch of the competition generated 102 retweets, 23,561 impressions and 588 direct engagements. In addition, a promoted Facebook post generated over 40 direct engagements, with a reach of 4,655. The press release announcing the competition launch secured coverage on websites including the Landscape Institute, National Housing Federation, Horticulture Week, World Landscape Architect and British Association of Landscape Industries (BALI).

10 entries were received, from across Europe. The judging panel comprised of representatives from Halton Housing Trust, London Wildlife Trust, Affinity Sutton, Landscape Institute, Groundwork UK, National Housing Federation and Peabody. The winner was announced on 20<sup>th</sup> October 2015 with an international PR, securing coverage in Horticulture Week, Pro Landscape magazine, the Landscape Institute and Daily News Hungary. In spring 2016 a showcase feature was published in the Landscape Institute Journal (included in the full list of the project’s media coverage in Annex 7.3.3.7). Information on the competition and the winning and runners-up entries has also been shared on the project website.

The winner was Dora Papp from Hungary, with her project ‘A Good Base for a Smart City’, which featured an innovative design for a neighbourhood in Nyíregyháza in Hungary, re-grouping existing green spaces into new green-chains to run along the inside of the estate. She was awarded £1,000, and was also offered a day of expert advice – however the advice offer was never taken up. There were two runners-up: ‘SuDS for play areas’ at Tylney House in east London and ‘The Height Weavers Community Green Space’ project in Manchester. Each was awarded £500 to help with development of their project. The winning and runner-up projects’ entries are included in Annex 7.3.3.8.



Figure 20. Design for Life competition winning entry

*Assessment of progress against planned outputs and timescales:*

The work package was delivered as planned, earlier than the anticipated timescales as set out above. The anticipated number of entries set out in the project proposal was higher than achieved (20 rather than 10), but the entries received were of a high standard. A possible lesson to learn from this is the importance of being clear about the target audience when promoting the competition – it may be that some potential entrants were unsure whether they should submit an entry or not. In addition, running the competition over the summer months may have clashed with holiday periods. We had anticipated holding a showcase event for shortlisted entries; this was done as a Landscape Institute Journal feature rather than an event, given the wide audience which is located across Europe rather than solely in London.

Achievements compared to the indicators in the bid:

Output	Target	Achieved	Comments on any changes
Number of entries to the design competition	20	10	Promoted widely; all entries of a good standard despite being fewer than anticipated.
Number of winners and runners-up	1 3	1 2	Fewer runners-up awarded based on number of applications.
Showcase event	1	1	Not held as event, but showcase feature in Landscape Institute Journal.

Whilst the other costs for this work package were lower than anticipated due to the winner not taking up the offer of support from GL (despite repeated contact made), personnel costs incurred were higher due to time spent by the Project Director to ensure the success of the work package. This included working closely with Advisory Group colleagues at the NHF and Landscape Institute, who GL ran the competition in association with.

*Deliverables:*

No deliverables were listed in the project proposal.

### **E3: Networking**

Start date: September 2013 End date: September 2016

#### *Description of the activities undertaken and outputs achieved:*

This work package aimed to build on the success of activities undertaken through the project, build on approaches and add value to financial contributions made by the EU LIFE+ programme to beneficiaries. It was led by GL, with H&F Council also seizing networking opportunities that emerged. A number of personnel have worked on this work package, including the Project Manager, Landscape Architect and Senior Community Project Officer at GL, and the Head of Estate Services and Project Officer at H&F Council.

Key activities which have proved valuable for exchanging experiences, resources and learnings are:

- LIFE Urban Oases project exchange:
  - Finland visit (September 2014)
  - UK visit (September 2015)
- LIFE platform meetings:
  - UK & Ireland platform meeting, covering nature, environment and information projects, hosted by the UK & Ireland external monitoring team (October 2013)
  - Urban Resilience conference, hosted by the R-Urban project in Colombes, France (April 2014)
  - Water platform meeting, hosted by the Environment Agency through their LIFE14 Integrated Project for the North West of England, in Manchester, UK (May 2016)
- 1<sup>st</sup> European Urban Green Infrastructure Conference, including hosting a workshop session and giving a presentation to delegates (November 2015)
- Queen Caroline Estate tours with international contacts, including:
  - Groundwork Mishima (Japan) (September 2014)
  - Scandinavian Green Roofs Institute (May 2015)
  - Green Roofs Australasia (May 2015)
  - UEL, Armenian and Georgian research institutes involved in the EU funded TURAS (Transitioning towards Urban Resilience and Sustainability) project (June 2016)
  - Healthy Waterways Australia (July 2016)

The project exchange with the Urban Oases project was particularly valuable; GL's visit in September 2014 presented a useful opportunity to discuss the project proposals with professionals from other countries, and to learn from the projects they had already delivered. The return trip in September 2015 was also well-timed as it meant the GL delivery team could show the team from Helsinki University the works that had been completed on the first two sites, get their feedback on the schemes and have valuable discussions on the opportunities for wider roll-out.



Figure 21. Photos from Groundwork London’s exchange trip to LIFE Urban Oases project

Attending LIFE platform meetings was valuable for the Project Manager. Falling very early in the project in October 2013, the UK & Ireland platform meeting was an opportunity to learn from other projects that were more advanced in their progress, and likely to be facing similar challenges and opportunities given their location. It was also an opportunity to ask questions of the monitoring team, and learn about communicating LIFE projects from the external communications team. The Urban Resilience platform meeting, again falling quite early in the project in April 2014, was helpful in enabling learning from other projects focused on a similar agenda, discussing key challenges and understanding the direction of the LIFE+ programme. It also provided an opportunity to build relationships with other projects – including LIFE Urban Oases. GL gave a brief presentation on the project as part of the meeting. Finally, the Water platform meeting in May 2016 enabled the Project Manager to engage with other projects – presenting an opportunity to share more of our experiences given its timing at a late stage in the project. It was also a good opportunity to see other projects in action through field trips, and engage in a workshop discussion around physical pressures.

The 1<sup>st</sup> European Urban Green Infrastructure Conference was also a valuable opportunity to disseminate the learning from the project, coming after the completion of B1 Implementation works on the first two sites. It also facilitated discussions with other green infrastructure professionals on the challenges and opportunities for widespread roll-out of green infrastructure in urban areas. GL’s existing relationship with Dusty Gedge from the Green Infrastructure Consultancy, who organised the conference, helped to secure the project with both a presentation opportunity (see Annex 7.3.3.9) and a workshop session to run. Mark Bentley, Landscape Architect, represented the project at this event.

Networking with other European projects and international organisations/networks through these activities has provided valuable inputs to the Implementation Guide (D4), and these stakeholders have also been engaged through the dissemination of the Guide and Layman’s Report. The Project Manager identified other projects to engage during the development of the Implementation Guide, by researching relevant keywords in the LIFE and other EU funding programmes’ projects database, and attending relevant meetings such as the LIFE platform meetings.

Current European projects that received electronic copies of the Implementation Guide and Layman’s Report include:

- BASE



- ECONADAPT
- GRaBS
- Green Surge
- Life RII
- LIFE-GREEN4GREY
- OpenNESS
- RAMSES
- TURAS
- Urban Oases

Throughout the project GL has also reviewed similar European projects’ materials and resources to identify opportunities to share or use tools and learning. This has also helped to support the development of key project resources, such as the Layman’s Report and After LIFE plan. This has included the European projects mentioned in the project proposal, which have all now closed but have tools and resources available online:

- Sustain ICT
- Seine City Park
- ACT: Adapting to climate change in time
- GRACC: Green roofs against climate change
- CLIMATEADAPT: Green tools for urban climate adaptation
- CHAMP: Climate change response through managing urban Europe

As documented in B4 Policy influencing, case studies have also been written to share learning across Europe, including through Climate-ADAPT, and as planned for the Natural Water Retention Measures European platform in early 2017.

The report in Annex 7.3.3.9 provides further information on how learning from other projects has influenced our project, and also provides evidence from these activities, including photos, reports and agendas.

*Assessment of progress against planned outputs and timescales:*

This work package has been delivered as anticipated, with exchanges ongoing.

*Achievements compared to indicators in the bid:*

<b>Output</b>	<b>Target</b>	<b>Achieved</b>	<b>Comments on any changes</b>
Number of virtual, online exchanges or webinars	2	10+	There have been many networking activities through visits, meetings and events.
Number of international visits	1	1	Exchange visit with LIFE Urban Oases

Personnel costs incurred are higher than budgeted, due to the involvement of the Landscape Architect and Senior Community Project Officer, which was not foreseen in the budget. This has been essential in order to support the effective sharing of both technical and community engagement elements of the project with other European stakeholders – both of which are of great interest to others considering implementing similar projects.

*Deliverables:*

No deliverables were listed in the project proposal.

#### **E4: After LIFE communication plan**

Start date: May 2016

End date: September 2016

##### *Description of the activities undertaken and outputs achieved:*

This work package, a LIFE+ programme requirement, sets out how GL and H&F Council will continue to disseminate and communicate the results and learning after the end of the project. The development of the plan has been led by the Senior Communications and PR Officer, with support from the wider project team. The plan and its proposed contents were also discussed with the project's Advisory Group and Steering Group in the final meetings of each.

The After LIFE plan is a brief document that features the following key sections:

- Project description
- Project development/activities
- Key results
- Policy context
- Communication strategy
  - Stakeholders engaged
  - Dissemination activities during project
  - Future dissemination plans
    - Project website
    - Other websites
    - Media work
    - Dissemination of resources
    - Site visits and tours
    - Dissemination events and conferences
    - Monitoring extension
    - Additional implementation works
    - Awards
  - Budget
- Project data
- Beneficiary data

The After LIFE plan has been uploaded to the project website's Shared Learning page at the end of the project. The infographic images from the Layman's Report have also been added to the plan, to communicate some of the key results and outputs in a visually engaging way.

As noted in earlier sections of this report, implementation of the plan is already underway, with further dissemination opportunities secured throughout the autumn and winter of 2016. The plan also highlights GL's intentions to undertake more work of this nature, given the skills possessed by the Landscape Team to implement similar schemes on other social housing estates. GL is exploring opportunities to work with other housing providers in London, as well as working with H&F Council to support them in rolling out similar schemes across other housing stock in the borough.

This includes the recent submission of a proposal for a new LIFE+ project, Urban Neighbourhoods, based on the learnings from this project but taking this up a level to the neighbourhood scale, working with the London Borough of Havering. In addition to this, UEL have recently secured Horizon 2020 funding for a project focused on nature based solutions governance, which will feature and learn from case studies of this project.

The successful delivery of this plan is supported by the project website being hosted as a microsite on the GL website, making regular updates very straightforward. It will also be supported by the ongoing good relationships between GL and H&F Council, and with key stakeholders such as the Advisory Group members, which will not only help identify and secure dissemination opportunities but will also help identify potential new project opportunities in other housing estates in London.

*Assessment of progress against planned outputs and timescales:*

This work package has been completed as planned. No costs were foreseen in the budget in relation to this work package, and therefore personnel costs associated with developing the plan have been subsumed by GL's marketing budget, with the Project Manager's time included in the D2 Engagement with stakeholders incurred costs.

*Deliverables:*

After LIFE communication plan (submitted with this report in electronic and paper format – see Annex 7.3.2).

## 5.3 Evaluation of Project Implementation

### **Methodology**

Overall the methodology applied in the project has been highly effective. The beneficiaries, Groundwork London and Hammersmith & Fulham Council, have taken an integrated approach, resulting in environmental, social and economic benefits. By incorporating a number of other elements alongside the implementation of the measures themselves, it has been possible to not only demonstrate the role housing estates can play in supporting urban resilience to climate change, but also to demonstrate the vital role that residents play in this process, the importance of ensuring that those involved have the necessary skills and resources, and also the potential for delivering added value – such as creating training and employment opportunities for the long-term unemployed.

The approach has been comprehensive, but at the same time is clearly transferable to other housing contexts across Europe. GL has been emphasising this through its stakeholder engagement and dissemination activities – encouraging other housing providers to consider the potential to replicate project approaches, and making clear the resources and support available from the project. We also recognise that budget and other resource constraints may mean that replication is not always possible in full. The approach taken addresses this challenge, with elements of it working as stand-alone aspects as well as a package overall. For example, community engagement approaches applied in this project could be transferred to other community engagement activities led by housing providers; monitoring approaches could be applied to existing schemes; or the training package could be used to help make the business case for potential future schemes. The approaches applied could also work at different scales – again, GL has been emphasising to housing providers that even small scale interventions can have a big impact when considered alongside other interventions across an urban area, and this should be explored when budgets or space are limited.

Budget constraints have emerged as a clear issue for housing providers engaged through the project, and it has been beneficial to be able to demonstrate that the implementation and maintenance costs of measures such as those delivered through the project are not significantly more than traditional housing estate improvement projects or maintenance requirements. We have also been able to demonstrate ways of making cost savings, such as through opportunities to tie in works with planned maintenance or upgrade projects – as this project was able to do with the residential green roof at Richard Knight House.

The resources developed through the project play, and will continue to play, an important part in supporting other housing providers to develop and deliver similar initiatives going forward. The Implementation Guide in particular provides an effective way of communicating the project's methodology, results and lessons learned to a wider audience, demonstrating the project as a best practice example in this field. The training modules developed through the project will also have wider value well beyond the end of the project, and once accredited will help to ensure other housing providers have the necessary skills and resources in-house.

Overall, the project has been delivered within the agreed budgets and timescales. More information on each work package is provided in the technical part above and comments on the financial report below.

## Results

The table below compares the results achieved against the project's objectives for each work package, describing the successes and challenges. For more detail on each work package's achievements, see the technical part above.

Task	Work package	Foreseen in the proposal	Achieved	Evaluation
Assessment	A1	-Three in-depth Green Infrastructure Feasibility Assessments (one per project location) in line with the requirements specified in the tender documents.	Yes	External experts appointed to support this process; slight delays due to the work package taking longer than anticipated.
Green Infrastructure	B1	-Increased opportunities for training and employment through Green Teams -Enhanced green infrastructure contributing to improved quality of life of vulnerable local residents -35 work placements -12 jobs created -3 Climate Adaptation Plans -2500m <sup>2</sup> of enhanced green infrastructure -25% increase in permeable surfaces -20,000m <sup>3</sup> of water retention capacity -600 trees planted -600m <sup>2</sup> of green roofs -400m <sup>2</sup> of food growing capacity -10 x rain water harvesting systems	Yes	<p>The core objectives of this work package have been met, both in terms of the implementation of green infrastructure measures and the training opportunities for long-term unemployed through GL's Green Teams.</p> <p>Some of the specific targets have not been met in full, as described in B1 above (including the targets for work placements, trees, food growing capacity and rain water harvesting systems). In some cases, the infeasibility of meetings targets was noted early on and was therefore highlighted in the Mid-term Report.</p> <p>Our achievements have helped us to demonstrate that such interventions are both necessary and costs effective, and have confirmed our expectation that such projects work best when not delivered in isolation.</p>
Housing staff training	B2	-Increased knowledge and capacity of housing practitioners to identify and manage green infrastructure initiatives -8 training workshops/modules delivered -24 housing LBHF staff/contractors engaged in training programme -24 representatives from other housing providers taking part in the masterclasses -Training modules in format widely accessible to social housing providers	Yes	<p>All targets met or exceeded, with more H&amp;F Council staff attending training than anticipated and more representatives from other housing providers taking part in masterclasses than anticipated. Feedback from training sessions has been positive, with participants noting improved skills and knowledge.</p> <p>Accreditation of training modules has been applied for but not yet secured due to delays in Lantra approval – however no issues are anticipated.</p>

Community engagement	B3	<p>-Increased levels of understanding and awareness of impacts of climate change and opportunities to increase local resilience</p> <p>-Improved sense of community through participation in engagement events and activities</p> <p>-Resident champions have significantly improved knowledge and awareness of climate change and are confident communicating messages to others</p> <p>-300 local people engaged in events/activities</p> <p>-578 households reached through marketing/promotion</p> <p>-36 community events/activities delivered</p> <p>-12 x sustainability champions recruited</p> <p>-Community engagement approaches are documented to encourage other social housing providers to involve local communities in Climate Adaptation Plans</p>	Yes	<p>GL has worked with H&amp;F Council to deliver a comprehensive approach to community engagement through the project, and as a result many of the targets have been exceeded. Engagement with residents has helped us to understand that residents are expert users of spaces and have valuable knowledge of their local environment.</p> <p>Early challenges engaging residents have been addressed, and resident surveys conducted through the SROI process demonstrate residents have greatly benefited from the project, including greater awareness of climate change issues and impacts, improved sense of pride, improved well-being, improved community cohesion.</p> <p>Fewer Sustainability Champions were recruited than anticipated, possibly given the level of commitment required, but this has been complemented by the project engaging many more local people than anticipated.</p> <p>The approach to community in engagement has been documented in the Implementation Guide, with recommendations for other housing providers.</p>
Influencing policy	B4	<p>The results and learning from the LIFE Housing Landscapes project is recognised/ referenced in subsequent guidance produced by central government, local authorities and housing providers to inform climate change adaptation plans.</p>	Yes	<p>Various policy and guidance documents have used the project as a best practice case study, particularly at the regional scale. The project has also fed into national consultations on sustainable drainage. At the local level, H&amp;F Council is using the project to support its intentions to roll out similar initiatives across its other housing estates.</p> <p>It is anticipated that this impact will continue over the longer term at local, regional, national and European scales, as more housing providers explore the options for green infrastructure.</p>
Monitoring impact	C1	<p>-Tailor-made, transferable methodology for monitoring impact of interventions</p> <p>-1 full impact assessment</p>	Yes	<p>The University of East London was appointed to carry out the technical monitoring tasks, working with GL to agree the methodology.</p> <p>Two reports were produced by UEL</p>

		measuring impact of interventions across implementation sites		<p>during the project, and the benefits of the project are continuing to be monitored for a further year to understand their longer term impact.</p> <p>The results in the reports have demonstrated the environmental impacts of the project, and can also help to make the business case for such schemes going forward.</p> <p>There were some delays in this work package due to a failed first tender process, but these have been mitigated through the use of control sites and storm simulation testing.</p>
Evaluation	C2	<p>-Project partners are able to effectively demonstrate the added value of the project's interventions</p> <p>-Improved access to quality green space for recreation and leisure by vulnerable residents</p> <p>-Improved local health and wellbeing in target disadvantaged communities</p> <p>-Sustainable employment models for unemployed people</p> <p>-Climate adaptation of social housing is easier and adopted by a wide range of social housing providers across the EU</p> <p>-Cost effectiveness and climate proofing potential of water related green infrastructure is better understood by central government, municipalities and social housing residents resulting in wider demand for climate adaptation plans by social housing providers</p>	Yes	<p>The use of the SROI model has helped us to demonstrate the wider impact of the project, beyond the environmental benefits it offers.</p> <p>The evaluation has demonstrated that residents feel an increased sense of pride in their estate, use the spaces more often, and have found health and well-being benefits too. They also have been helped to understand the issues and potential impacts of climate change more as a result of the programme. Green Team trainees have also benefited from being involved in the project, with many of them finding employment on completion of their training.</p> <p>The adoption of climate adaptation by housing providers across the EU is likely to be a longer term impact, but the project has focused on supporting this by developing transferable methodologies and resources that offer guidance to other housing providers.</p>
Internal communications	D1	<p>-Regular and effective communication among delivery partners to ensure progress against the project milestones.</p> <p>-Effective use of online tools for information sharing among partners.</p> <p>-99 meetings or remote meetings with delivery partners.</p>	Yes	<p>The relationship between GL and H&amp;F Council has been positive and effective throughout the project, with more meetings held than anticipated.</p> <p>Online tools for sharing information between partners have not been required.</p>

Stakeholder engagement	D2	<p>-Strong relationships with key stakeholders which provide access to platforms for dissemination during and beyond the project.</p> <p>-11 Steering Group meetings throughout the course of the project</p> <p>-10 Advisory Group meetings throughout the course of the project</p> <p>-A minimum of four exchanges (virtual and otherwise, where feasible) with EU stakeholders.</p> <p>-At least 6 organisations represented on the steering group reflecting the breadth of the housing and green space sectors</p> <p>-500 key stakeholders hear about the LIFE project through networking activities</p> <p>-8 presentations/workshops delivered at key stakeholder events</p>	Yes	<p>Both partners have invested considerable time in this work package, recognising the value it offered in not only disseminating project results but also encouraging other housing providers to deliver similar initiatives. Alongside the environmental results, this can help to make the business case for investing in such schemes.</p> <p>The Advisory Group has been very supportive of the project, and has benefited from representatives of a range of high profile organisations. The number of meetings held with the group was lower than planned, but this has been complemented by one to one meetings and exchanges with relevant members of the groups.</p> <p>EU stakeholders have been engaged through this work package and E3 Networking, enabling the project to learn from others' experiences and share our results.</p>
Project website	D3	<p>-Regularly updated and fully accessible website providing key project information and results.</p> <p>-1 Project website launched</p> <p>-10 e-news bulletins disseminated</p> <p>-300 followers on Twitter</p>	Yes	<p>A project specific website has been created and has been accessed by visitors from across the world; this will continue to be updated beyond the end of the project.</p> <p>E-news bulletins have taken the form of a Tumblr blog, with emails sent to networks around specific milestones such as the launch of the Implementation Guide.</p> <p>A separate Twitter account has not been set up, instead using the partners' existing accounts with a unique hashtag to track conversations about the project.</p>
Implementation guide	D4	<p>-Practical and accessible guide outlining the opportunities and mechanisms for adaptation available to housing providers</p> <p>-Implementation Guide published</p> <p>-7000 recipients of e-format copies</p>	Yes	<p>The Implementation Guide was published towards the end of the project, and disseminated widely to stakeholders across Europe. The dissemination benefited from an article on the Housing Europe website, which was circulated in their newsletter.</p> <p>Whilst it is difficult to track the recipients of the guide, it is likely this number is much higher than</p>



				7,000 given that many of those that received e-copies were networks themselves, often with thousands of members.
Project film	D5	-Short and engaging film capturing the project and its impact -1 x project film launched -10 interviews with project participants captured as part of the film	Yes	The project film was published in the summer of 2016 and received much positive feedback. It has been disseminated widely, including as part of project presentations.  Whilst the number of interviews was slightly lower than anticipated, the 8 interviews conducted captured a broad range of perspectives from different project stakeholders.
Notice boards	D6	-3 x Notice boards installed on project sites -Local recognition of European support for local environment and wellbeing improvements	Yes	Notice boards have been installed across all three sites; multiple boards per site to enable their location close to the relevant measures. This will continue to raise awareness of the interventions and their benefits over the longer term.
Layman's Report	D7	-1 x Layman's report available online. -Wide dissemination of the report to lead to increased web traffic and downloading of full implementation plan.	Yes	The Layman's Report has been written and shared online; its impact on web traffic and downloads of the Implementation Guide would be difficult to isolate as other dissemination activities have continued alongside this as part of the After LIFE plan.
Media Work	D8	-4 x press releases at key intervals in the project for EU wide dissemination -6 x local press releases at key intervals in the project to raise awareness and promote the project in LBHF/ London -Increased traffic to the website and downloading of the layman's report and implementation guide as a result of media work.	Yes	Local and international press releases have been developed at key milestones, with the target number of international press releases exceeded.  The promotion of the Implementation Guide has led to approximately 2,000 people reading it in online, in addition to those who have received hard copies at meetings and events. Views of the Implementation Guide and Layman's Report are expected to increase in the coming months as dissemination continues.
Design competition	D9	-Minimum to 20 entries to the Design Competition -1 winner and 3 runners up -Show case event	Yes	The competition was a success, although the number of entries was lower than anticipated. The quality of entries was very good, and the competition also benefited from the support of the NHF and Landscape Institute.  A showcase feature was secured in the Landscape Institute Journal in place of an event.

Project management	E1	-Successful delivery of the project on time and to budget -Successful completion of all project activities through active project management. -Project learning will have European relevance and promote wider adoption of climate change adaptation in the social housing sector in the EU.	Yes	The project has been effectively managed, so that all deliverables have been completed on time and the overall budget has not been exceeded. The secured prolongation ensured that project objectives could be met in full.  Potential challenges, such as the change in Project Manager during the project, have been addressed and this has not had any adverse impacts.  The wider European relevance of the project is clear, and has been shared in key documents including the Implementation Guide and case studies.
Monitoring progress	E2	-The project is kept on track and delivered according to project plan and reporting schedule.	Yes	The project has been effectively managed so that all deliverables have been completed on time – any delays to elements of a work package have been managed so that the project plan overall has not been affected.
Networking	E3	-Delivery of LIFE Housing Landscapes is informed by the learning from other projects to avoid duplication and ensure maximum impact of the project. -Project is influenced by learning from other European projects to ensure that project is highly relevant and replicable across the EU. -2 x virtual, on-line exchanges or webinars -1 x international visit to a LIFE project	Yes	Exchanges with other European projects and networks has proved valuable, especially coming at different times in the project – early exchanges provided valuable opportunities to learn from existing projects, whereas later exchanges provided opportunities to share our results.  An international visit and exchange took place with the LIFE Urban Oases project, with other European projects engaged through project delivery and dissemination.
After Life communication plan	E4	-1 x After Life Communication Plan agreed upon by partners and submitted as part of the final report	Yes	After LIFE communication plan has been written and submitted with this report; its delivery is well underway with interest in the project continuing among a wide range of stakeholders.
Independent audit	E5	-1 x Independent Financial Audit	Yes	The audit has been carried out, and the report has been provided in Annex 8.3 to this Final Report.

Most of the impacts set out above are immediately visible, but some will become more apparent over time. This includes:

- Social benefits: Residents have reported benefits including increased pride in their estate, well-being and community cohesion – this is likely to continue over time, especially given that activities such as the gardening/food growing clubs are ongoing.
- Environmental benefits: With one year of monitoring complete for the first two sites, but less time available for monitoring at Cheeseman’s Terrace, the project will greatly

benefit from a year-long extension to the monitoring beyond the end of the project. This will help us to understand the longer term impacts and will also allow further comparisons between the same seasons in different years, as well as helping H&F Council to make the case for rolling out similar initiatives elsewhere in the borough. In addition, over time as the potential worsening impacts of climate change are felt, the impact of the interventions on surface water run-off and localised flooding will also become more apparent.

- Economic benefits: The project has resulted in 22 Green Team trainees being upskilled in soft landscaping and maintenance techniques. Whilst half of them have already secured jobs following this, these are life-long skills which will continue to be of value to the trainees for years to come and are likely to lead to job outcomes in the longer term.
- Transferability: A core aim of the project is to support the transferability of this approach to other urban housing environments across Europe. Whilst we have certainly raised interest in the project, and shared resources and project information in order to support this, it is too early to understand whether or not the project has supported replication elsewhere. This applies within H&F Council too, where the intention is to roll out similar initiatives across the borough's housing estates.

### **Impact of project prolongation**

In November 2015 GL requested a six month prolongation to the project overall (see Annex 7.1.8), to allow additional time for the completion of the implementation works and Green Team planting and maintenance at the third site, following delays to the start of works there, and to extend the monitoring period in order to better understand the impact of the interventions. This request was accepted on 18<sup>th</sup> March 2016, extending the final project completion date to 30<sup>th</sup> September 2016.

The prolongation enabled the project to fully meet its objectives. Had the prolongation request not been granted, the completion of the interventions at the third site would not have allowed sufficient time for such extensive monitoring of the interventions. This not only would have affected the third site, but all sites – as it would not have been possible to monitor the interventions for a full year or draw comparisons between the results in the first summer and second summer following installation.

### **Effectiveness of dissemination**

As demonstrated above, the project has been disseminated widely and effectively. Since the Mid-term Report was submitted, and in particular as the work on the sites completed, and results and resources became available, interest in the project has grown substantially. This has meant that it has not only been a case of GL and H&F Council seeking out opportunities to disseminate the project but also both beneficiaries being invited to present at meetings and events attended by a wide range of stakeholders.

Earlier in the project, in the run up to the Mid-term Report, the focus was on local level dissemination around the interventions being implemented. However, since then the focus has shifted to the regional, national and international scale, ensuring the project reaches a wide audience. Key dissemination activities include articles shared by Housing Europe, and a case study on the EEA's Climate-ADAPT website, both of which will help support other housing providers across Europe to consider opportunities to deliver similar initiatives. Dissemination opportunities will continue to be seized going forward in the delivery of the After LIFE plan.

## 5.4 Analysis of long-term benefits

### **Environmental benefits**

The interventions delivered as part of this project on the three pilot estates provide 2,630m<sup>2</sup> of enhanced green infrastructure in a high density, urban environment, exceeding the target of 2,500m<sup>2</sup> as defined in the project proposal. The annual rainfall retention figure is 1,287m<sup>3</sup>, with 100% of rainfall attenuated and diverted away from the sewer system, and this impact will continue to be felt over the lifetime of the interventions. Biodiversity on the green roofs has been monitored, and found to be much higher than traditional flat roofs (64 species vs. 0), and the temperature on the green roofs has also been found to be up to 35.7% lower than that of surrounding grey infrastructure.

The interventions delivered through this project have been designed principally to mitigate the impact of climate change and support adaptation at a neighbourhood level, by reducing surface water flooding, improving biodiversity and mitigating the urban heat island effect. Technical monitoring by UEL demonstrates that this has been achieved, with visible effect. Ongoing monitoring by UEL over the coming year, as well as anecdotal evidence from residents and H&F Council, will help to demonstrate the longer term impacts – especially as the climate continues to change and the impacts of this potentially become more significant.

In terms of the policy context, adaptation measures of this nature are covered by European policy under the Water Framework Directive and the EU Floods Directive. These measures also demonstrate practical responses in line with the EU Strategy on Adaptation to Climate Change, which encourages all Member States to adopt comprehensive adaptation strategies and recognises that it makes sense to begin with measures that are low-cost, flexible and good for both the economy and the climate. A key relevant policy document is the European Commission's Green Infrastructure Strategy, which recognises the important role these measures play in a number of areas, including the provision of ecosystem services, the protection and enhancement of natural capital, adaptation to climate change and disaster risk management, as well as offering health and social benefits too. The results and successes of this project, and the case studies that have been developed, have the potential to influence European policy over the longer term as and when key policy decisions are made.

At the national level, the project has contributed to the development of the UK's approach towards Sustainable Drainage Systems, inputting to a Defra/CLG consultation in 2014. At the regional level, the project is highly relevant for the London Sustainable Drainage Action Plan, which aims to ensure that London can manage its rainwater sustainably to reduce flood risk and improve water security, and is referred to in the Plan. The project has also helped to strengthen local planning policies associated with SuDS and climate change proofing of future developments within Hammersmith & Fulham Council's new Local Plan, and has also been fed into the new Ecology / Biodiversity Policy that the local authority is proposing. The project also features in various national and regional guidance documents, including CIRIA/Susdrain guidance, TfL's SuDS design guide, and the GLA's Greenstreets webpages. All of this will ensure that the project's impacts and experiences continue to be shared well beyond the close of the project itself.

### **Long-term benefits and sustainability**

In addition to the quantitative environmental benefits, the project has also sought to improve the quality of place and has resulted in higher environmental and aesthetic quality across the

estates. These multi-functional green spaces now not only provide an important climate adaptation function but they also support improved health and well-being of residents, community cohesion and sense of pride in the estates, and have brought about greater use of spaces that prior to the project were rarely used. This has been evidenced through resident surveys as part of the SROI process, as well as anecdotal feedback from residents and others interacting with the estates. For example, 67% of residents reported increased pride in the area, and 58% reported that their use of the green spaces had increased following the completion of the works. The SROI exercise put a monetary value on these and other benefits, indicating that £4.39 of benefits were generated for every £1 invested in the programme.

With effective maintenance by H&F Council's contractors, and the involvement of H&F Council staff and residents (as committed in their adaptation plans), these impacts will continue to be felt over the longer term. Engaging residents throughout the process, including in design, has been vital in securing this interest and support – and with the food growing/gardening clubs continuing independently it is clear that this interest is continuing.

Beyond this, the project has supported the growth of skills and knowledge in this area, through training for 46 local authority staff and contractors, apprenticeships for 22 long-term unemployed people through GL's Green Teams, and engagement with 472 residents to raise their awareness and help 8 of them to become Sustainability Champions. Training for local authority staff and contractors has ensured that H&F Council has the necessary skills and knowledge, as well as senior buy-in, in place to support the maintenance of the measures and their replication in other estates across the Borough. The impacts of the Green Team programme will also continue to be felt over the longer term; with 11 trainees securing employment to date, their experiences and qualifications, as well as the ongoing support provided by GL, trainees will be well placed to secure employment in the future.

The project has also demonstrated that delivering climate adaptation measures does not have to be a high cost endeavour – many of the interventions are comparable in cost to traditional estate improvement programmes delivered by GL in the past. It has also demonstrated the value in linking to planned maintenance works or upgrades, for example this lowered the costs of implementing the residential green roof at Richard Knight House. The project has also been able to demonstrate that the maintenance requirements for green infrastructure interventions are not onerous, and can be built into existing maintenance plans and contracts.

It is likely that over the longer term, the interventions will save money for H&F Council, due to the avoided damage costs associated with localised flooding – however the extent of this is not yet known. The reduction in surface water run-off entering the sewer system will also realise cost savings for Thames Water. With London's sewer system at capacity, there is a major investment programme underway to build a 'super sewer' under the River Thames – however, smaller scale interventions are required to reduce the volume of water actually entering the system in the first place.

With H&F Council considering the feasibility of rolling out similar programmes across their housing stock, these social and economic impacts have the potential to be replicated across the Borough. GL is already in discussions with the Council about how it can support this, as well as engaging other housing providers to establish their interest and advise them of the support and resources available. GL's LIFE+ proposal for a project at the neighbourhood scale in the London Borough of Havering would also capture much of the learning from this project. With additional funding from Thames Water and WREF, there are also plans for

further interventions to be implemented across the project sites, as well as the continued monitoring of the existing interventions by UEL over the next year.

### **Replication and transferability**

The project has been designed to contribute to European policy and strategy and provide best practice examples that can be shared with other social housing contexts, developing a transferable methodology that can support other housing providers in developing and delivering similar initiatives. This has been complemented by interactive and user-friendly learning materials, including a 360° tour, project film and Implementation Guide.

The replication of the project has been a key consideration throughout, the focus of many stakeholder engagement and dissemination activities as described in the work package sections above. This will continue to be in focus as the activities in the After LIFE plan are implemented over the coming months and years. Some evidence of this in action is being seen already, such as H&F Council investigating the feasibility of rolling out green infrastructure-based climate adaptation approaches across their housing stock.

As noted in the Mid-term Report, there are particular considerations to be taken on board when replicating key technical elements of the project – namely the feasibility assessment, prioritisation, design and specification. To support their transferability, these stages have been documented in the Implementation Guide, with guidance offered to other housing providers.

### **Best practice lessons**

The project showcases a wide variety of adaptation measures and thus provides a wealth of case study information for other projects to learn and gain inspiration from. The project aims to show best practice retrofit solutions for effective, affordable and socially acceptable alternatives to heavy engineering approaches to SuDS, demonstrating how measures can be implemented in a social housing context.

The selected pilot sites reflect different social housing contexts, e.g. property types and estate sizes, which can be found in other EU member states, to make the methodology and wider learning transferable across the EU. By targeting social housing sites situated in areas with high levels of multiple deprivation, including poor quality environments and consequently higher exposure to climate-related risks, the project has also helped to reduce these deprived communities' vulnerability to climate change.

The project has demonstrated best practice mechanisms for resourcing the delivery of adaptation measures, including combining implementation with employment and accredited training programmes for long-term unemployed local people, thereby creating local jobs. Transferable training modules for grounds maintenance contractors and social housing staff have promoted green infrastructure measures for climate-proofing housing landscapes, and cover the whole housing management cycle.

Another key best practice element is the in-depth community engagement and awareness-raising of climate change adaptation opportunities to secure the local residents' buy-in for the measures and involve them wherever possible in their long-term maintenance.

The key lessons learned through the project, which have been shared with other stakeholders through presentations and case studies, include:

- Retrofitting open spaces in social housing environments is both necessary and cost-effective: the measures implemented through the project help to demonstrate the role these spaces can play in increasing urban resilience to climate change.
- Such projects work better when not delivered in isolation: climate adaptation is multi-faceted and requires cross-disciplinary working – from consultation to co-design, from community engagement activities to training and employment opportunities.
- Communities, in particular residents, are expert users of spaces and have valuable knowledge of their local environment: their involvement from the start of the project has been essential to secure their input and support.
- A comprehensive approach to monitoring and evaluation can help make the business case for such schemes: this should not only include environmental monitoring, but also evaluation to capture the wider social and economic benefits of the project.

We have also made the following recommendations to other housing providers, based on the learnings from the project:

- Even with a small amount of open space, implementing climate adaptation measures in housing environments can have a cumulative impact
- Consider opportunities offered by existing cyclical works and maintenance plans: combining with this can help to bring down the costs of such measures
- Build in resident engagement from the start: they are the key users of the estate, and such measures can help them to take pride in their estate
- Staff training is key, both for senior managers and operatives: this helps to ensure the necessary skills and resources are in-house, and that there is support for the implementation of climate adaptation measures at the strategic level
- Elements of this project work well on their own, but try to aim for the full package!

### **Innovation and demonstration value**

The project has clear demonstrative properties. It differs from other initiatives using similar measures in that it focuses on a specific sector – social housing – and applies a systematic approach to implementing a wide range of affordable, highly effective measures. It combines implementation with accredited training for long-term unemployed people, thereby creating local jobs. It also combines this with a comprehensive programme of resident engagement, supporting awareness-raising and skills growth amongst the local community.

In order to embed the measures in the day-to-day management of the green and open spaces, the project also delivered activities to highlight the risks of climate change to housing staff and grounds maintenance contractors. This was complemented by a set of transferable training modules to demonstrate how green infrastructure implementation can be phased into the management of social housing, to achieve their long-term climate resilience, improve their overall environmental and aesthetic quality and, not least, support local institutional and community stakeholders in developing their adaptive capacity. The accreditation of these modules will support their delivery, by GL, to other housing providers across the capital.

Particularly innovative techniques that have been demonstrated include:

- The use of Aquaten within the substrate of the green roof at Richard Knight House, CER. This highly absorbent product increases the water retention capacity of the substrate, helping to mitigate the effects of heavy rainfall events as well as holding a band of water to maintain a reservoir for vegetation in dry weather.
- The green roof at Richard Knight House has also been designed to incorporate a range of substrate depths and planting approaches. This has enabled the project to monitor

the environmental performance characteristics (i.e. water attenuation, vegetation cover, biodiversity and thermal performance) of shallow substrate systems in general and in combination with the Aquaten product. Going forward, this may open up new opportunities for the use of lightweight green roofs within retrofit projects.

- Schotterrasen at QCE (Austrian gravel lawn) is new to the UK, meaning that the project has been able to test its performance and feasibility for other housing estates. It is formed of a substrate using secondary aggregates, which acts as a gravel turf - an ecological and economical technology for surface mounting, particularly suitable for areas with low traffic loads, parked vehicles and open spaces.
- The stony basin design used at QCE was developed in order to create a useable, playful and attractive landscape that provided significant storm water attenuation capacity, minimised additional on-going maintenance (H&F Council requirement) and responded to resident concerns that loose aggregate/stones might be thrown. Although the feature itself is not novel, the design was tailored to meet these various demands.

The project has also demonstrated that it is not essential to implement innovative measures in order to have a significant impact. Many of the interventions have been widely tested and applied elsewhere across Europe and beyond, but not in the context of social housing – a sector that is often neglected in this regard. The two smaller estates have shown what is possible in smaller spaces, and their impact has demonstrated that there is still considerable value in this. The project has shown that housing providers do not have to re-invent the wheel, but by combining the implementation of measures with additional approaches such as resident engagement, training and monitoring a project is likely to have a much wider impact.

### **Long-term indicators of success**

The long-term indicators of success for this project are considerable. Most have been documented above, and include:

- Environmental impacts: With additional funding from H&F Council, UEL are monitoring the impacts of the interventions for a further 12 months. This will help us to further understand how the interventions perform in different conditions, and once they have become further established. GL and H&F Council will also be able to track localised flooding across the sites through their regular visits to the estates.
- Social impacts: Since the project has completed, it is clearly visible that the use of the food growing and gardening facilities is continuing; GL and H&F Council's ongoing engagement with the residents across the estates will enable us to keep track of this, and anecdotally continue to understand the other social impacts such as improved well-being and health, community cohesion and pride in the estate.
- Economic impacts: GL will be able to continue to monitor the job outcomes of the Green Team trainees from the programme, and our ongoing relationship with H&F Council and other key stakeholders such as Thames Water will also enable us to understand whether any cost savings have been realised by them.
- Transferability: This is likely to be a key longer term impact and indicator of success, but will be difficult to monitor. Across London, we will be able to track the replication of the project by H&F Council, and by other London housing providers – especially where GL is engaged in the projects. However, beyond this it will be difficult to track whether emerging initiatives in the social housing context are as a direct result of the project. Indications are already positive, with the interest growing across Europe, and GL will continue to support transferability where possible. GL will also continue to monitor visits to the project website, views of the Implementation Guide and interactions via social media in order to understand the project's ongoing reach.



## 6. Comments on the financial report

### 6.1. Summary of Costs Incurred

The table below shows the budgeted project costs, split by cost category, and the actual costs incurred within each category. It also shows the % of each budget costs category that was actually incurred.

It can be seen that for all cost categories aside from ‘Other costs’, costs incurred are either 100%, or close to 100% of the budget. ‘Other costs’ is the exception to this because the required budget to cover training room hire (B2), conference fees (D2) and Design competition prizes (D9) was not as high as anticipated in the project proposal. Consumables costs are marginally higher than forecast, in part due to the higher than anticipated consumables costs in work packages B3 and D9, and also due to costs incurred in work packages D3, D4 and D6 which were not foreseen in the budget (D3 and D4 costs were budgeted under External Assistance) but were required in order to deliver these work packages successfully. Please see the commentary on each individual work package below.

There is therefore no discrepancy in costs incurred against foreseen budget of the extent which is required to be reported in depth. All variances between costs incurred and budget according to the grant agreement are in compliance with reportable limits of 10% and EUR 30,000 (Article 15.2 of the Common Provisions).

Total costs incurred are EUR 2,814 higher than budget.

PROJECT COSTS INCURRED			
Cost category	Budget according to the grant agreement*	Costs incurred within the project duration	%**
1. Personnel	759,729	747,074	98
2. Travel	10,046	10,088	100
3. External assistance	172,800	171,470	99
4. Durables: total <u>non-depreciated</u> cost	0	0	
- <i>Infrastructure sub-tot.</i>	0	0	
- <i>Equipment sub-tot.</i>	0	0	
- <i>Prototypes sub-tot.</i>	0	0	
5. Consumables	561,066	580,028	103
6. Other costs	6,300	3,910	62
7. Overheads	105,695	105,880	100
<b>TOTAL</b>	<b>1,615,636</b>	<b>1,618,450</b>	100

\*) If the Commission has officially approved a budget modification indicate the breakdown of the revised budget. Otherwise this should be the budget in the original grant agreement.

\*\*\*) Calculate the percentages by budget lines: e.g. the % of the budgeted personnel costs that were actually incurred

## 6.2. Accounting system

GL and H&F Council have suitable accounting systems in place to support the accurate profiling and reporting of all expenditure relating to this project. Both beneficiaries have separate cost accounts for the management of the project and it is a requirement that purchase orders and invoicing include the relevant LIFE+ reference to ensure that all costs can be traced back to the project.

GL has a finance team consisting of a Finance Director, Project Accountant and bookkeepers. The team has extensive experience and has well established systems which follow the following framework:

- Work to a financial strategy as set out in the Trust's annual business plan
- Comply with Charities Acts and Companies Acts
- Manage cash flow to remain in credit at all times
- Invest reserves so as to secure a competitive return without incurring any undue risks
- Collect all debts within 40 days of invoicing
- Secure all income due to the Trust including recovery of tax wherever appropriate
- Take out adequate insurance to cover liabilities and assets

GL manage all its contracts using PIMS, a custom-built IT based project management system. This system correlates budgets set by project managers with actual expenditure, generated through the SAGE accounting package. A project accountant is allocated to each project /contract and provides financial advice and assistance to the project staff. In support of PIMS, we have devised bespoke Excel files to offer a complimentary robust recording and monitoring tool for each project manager. All financial information regarding payroll, charge out rates, overheads, bank account cash flow, evidence of claims and payments are retained by the finance team and made available for auditors when required. All financial systems are in line with charities regulations and auditing standards.

Purchase Orders are required for all work, goods and services, and these are stored in the project management system and consecutively numbered. All orders need to be approved within the finance system by the project lead and an approved authoriser within the accounts team. A nominated member of the finance team examines, verifies and certifies all accounts relating to the Trust prior to payment. All accounts, which have been certified, are paid using either cheques or BACS payments that bear two signatures from the list of signatories approved by the Board and notified to the Trust's bankers. All accounts for income due to the Trust are generated using a sales invoice raised through the project management system. One of the Trust's project accountants must approve all sales invoices. Any money received on behalf of the Trust is paid intact into the Trust's bank account at the earliest opportunity and shall not be used to defray expenditure. No bad debts are written off without the approval of the Board. The Finance Director ensures that all input and output VAT is accounted for. GL is audited on an annual basis. The Finance Director arranges for an external audit of the annual report and accounts to be carried out by a person or firm approved by the Company Members at the AGM, according to a timetable approved by the Board.

GL employs an electronic timesheet system whereby all staff, apart from Green Team apprentices who complete hard copy timesheets, and having been provided with a unique login, record their weekly hours and submit to their line manager for approval. Line managers approve each timesheet electronically. Each month staff are required to ensure their

timesheets are up to date and time spent on projects is recorded against the appropriate project code and that all performance measures are captured. Staff are briefed to ensure that the work programme activities are detailed within the timesheet recording system. Timesheets are completed on a weekly basis and once submitted to their line manager, are not editable. H&F Council records time on a manual timesheet, adapted from the standard LIFE timesheet and approved by a line manager on a timely basis.

Project staff follow GL's Procurement rules within our financial regulations, which have been accepted by H&F Council as the correct procedure to follow in tender for works at various expenditure levels.

Suppliers are asked to include the LIFE+ project reference on each invoice when goods and services are ordered. Suppliers are not always able or willing to include this reference – in these instances the reference is written on the invoice by the relevant beneficiary as part of the invoice authorisation process. Each item of expenditure is coded to the LIFE+ project and separate cost codes are maintained in the accounts system for all GL and H&F Council projects. In the case of the LIFE+ project the project code is RO196.

### 6.3. Partnership arrangements

The partnership agreement with H&F Council was submitted with the Inception Report in March 2014. In advance of each reporting period, H&F Council have produced their own version of the Statement of Expenditure which is audited by the GL Finance Officer, to ensure that each expenditure item is supported by the minimum requirements in terms of evidencing. This includes purchase orders, timesheets, invoices and bank statements. This information is then included within the overall Statement of Expenditure report.

In advance of each reporting period, the relevant teams at GL and H&F Council have met to ensure that the requirements and deadlines for reporting are clear.

### 6.4. Auditor's report/declaration

The project has been audited by GL external auditors, details of which are as below:

Hartley Fowler  
4th Floor Tuition House  
27/37 St George's Road  
London, SW19 4EU

The audit report is provided in Annex 8.3, with the original signed paper copy also provided. The report follows the format of the standard audit form from the LIFE website.

## 6.5 Summary of costs per action

The table below presents the costs incurred per action and cost category, as well as total costs incurred.

*N.B. The figures below are rounded to the nearest whole number – the Excel files in Annexes 8.1 and 8.2 include the EUR and cent values.*

Action no.	Short name of action	1. Personnel	2. Travel and subsistence	3. External assistance	4.a Infra-structure	4.b Equip-ment	4.c Prototype	5. Purchase or lease of land	6. Consumables	7. Other costs	TOTAL
A1 Feasibility Assessments	A1	36,919	183	23,652					26	700	61,480
B1 Implementation	B1	284,729	3,547	51,448					567,738	366	907,828
B2 Staff training programme	B2	14,405	740	2,827					71	454	18,497
B3 Community engagement	B3	90,072	534						8,682	46	99,334
B4 Influencing policy	B4	2,576									2,576
C1 Monitoring impact	C1	5,190	116	84,867							90,173
C2 Evaluation	C2	33,553									33,553
D1 Internal communications	D1	29,052									29,052
D2 Engaging stakeholders	D2	32,109	104							420	32,633
D3 Website	D3	4,729		1,631					1,000		7,360
D4 Implementation guide	D4	5,323							902		6,225
D5 Film	D5	5,744	44	1,355							7,143
D6 Notice Boards	D6	1,933							734		2,667
D7 Layman's Guide	D7	906									906
D8 Media Work	D8	3,690									3,690
D9 Design competition	D9	3,193							865	1,923	5,981
E1 Project Management	E1	158,353	977						11		159,341
E2 Monitoring progress	E2	28,863									28,863
E3 Networking	E3	3,704	3,842								7,546
E4 After LIFE plan	E4										0
E5 Financial audit	E5	2,031		5,690							7,721
Over-heads											105,880
	<b>TOTAL</b>	<b>747,074</b>	<b>10,087</b>	<b>171,470</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>580,029</b>	<b>3,909</b>	<b>1,618,449</b>

## Discrepancies between costs incurred and the summary of costs per action set out in the grant agreement

Please see the breakdown by action number below, showing the cost incurred per action and how this compares to the budget. NB. All cost figures are in EUR.

Action No.	Short Name of Action	Summary of costs per action set out in the grant agreement	Costs incurred within the project duration	Discrepancy	% change
Assessment	A1	4,220	61,480	57,260	1357%
Green Infrastructure	B1	967,457	907,828	-59,629	-6%
Housing staff training	B2	38,429	18,496	-19,933	-52%
Community engagement	B3	113,574	99,334	-14,240	-13%
Influencing policy	B4	1,790	2,576	786	44%
Monitoring impact	C1	45,790	90,173	44,383	97%
Evaluation	C2	42,080	33,553	-8,527	-20%
Internal communications	D1	29,138	29,052	-86	0%
Stakeholder engagement	D2	12,340	32,634	20,294	164%
Project website	D3	14,532	7,360	-7,172	-49%
Implementation guide	D4	13,250	6,225	-7,025	-53%
Project film	D5	7,088	7,142	54	1%
Notice boards	D6	350	2,667	2,317	662%
Layman's Report	D7	569	906	337	59%
Media Work	D8	2,452	3,690	1,238	50%
Design competition	D9	5,013	5,981	968	19%
Project management	E1	166,250	159,341	-6,909	-4%
Monitoring progress	E2	32,020	28,863	-3,157	-10%
Networking	E3	6,525	7,546	1,021	16%
After Life communication plan	E4	0	0	0	0%
Independent audit	E5	7,074	7,721	647	9%
		1,509,941	1,512,570	2,629	0%
Overheads		105,695	105,880	185	0%
<b>Total</b>		<b>1,615,636</b>	<b>1,618,449</b>	<b>2,813</b>	<b>0%</b>

### *A1 Assessment*

<b>Assessment</b>	<b>Short Name of Action</b>	<b>Budget according to the grant agreement</b>	<b>Costs incurred within the project duration</b>	<b>Change</b>	<b>% change</b>
Personnel costs	A1	4,220	36,919	32,699	775%
Other costs		0	24,561	24,561	0%
<b>Total costs</b>		4,220	61,480	57,260	1357%
<b>Person days</b>	Days	20	190	170	
	Daily rate	211	194	-17	

Overall there has been an increase of 1357% (EUR 57,260) in this work package.

As reported in the Mid-term Report, it was recognised that there was an increased requirement for in-house experience and expertise to complete the Feasibility Assessments, in particular with support from GL's GIS team. The project requested a transfer between work packages for an increase in personnel costs in the Inception Report. The total personnel costs for this work package on its completion were significantly higher than was budgeted for in the proposal, because more time and resource was needed to complete the Assessments to a high standard. This increase is off-set by a reduction in personnel costs in work package B1.

The number of days worked on this work package is 170 higher than the budget, with a decrease in the average daily rate of EUR 17.

The majority of the other costs in the table above were incurred in relation to surveys at all three sites, which formed part of the Feasibility Assessment before the implementation works could begin (these were originally budgeted under B1 – see below).

### *B1 Implementation*

<b>Green Infrastructure</b>	<b>Short Name of Action</b>	<b>Budget according to the grant agreement</b>	<b>Costs incurred within the project duration</b>	<b>Change</b>	<b>% change</b>
Personnel costs	B1	312,407	284,729	-27,678	-9%
Other costs		655,050	623,100	-31,950	-5%
<b>Total costs</b>		967,457	907,828	-59,629	-6%
<b>Person days</b>	Days	2,809	2,077	-732	
	Daily rate	111	137	26	

Overall there is a decrease of 9% (EUR 59,629) in this work package as described in the analysis of A1 Assessment above.

Overall there has been a decrease of 732 days spent below budget and an increase in the average daily rate of EUR 26. Personnel costs for B1 have reduced by EUR 27,678 overall.

There is a decrease in spend on other costs of EUR 31,950. Costs which had originally been budgeted under B1 to the value of EUR 23,290 have been moved to work package A1, including topographical surveys at all three sites (included within External Assistance A1 above). The overall underspend is therefore EUR 31,950 - EUR 23,290 = EUR 8,660 which is accounted for by some interventions that were originally planned (e.g. QCE vertical rain garden and CT rainwater harvesting systems) now falling outside the scope of the project timeframe (although this is in part offset by some completed interventions, such as at CT, costing more than anticipated). It is also accounted for due to the notice board costs, which were originally budgeted in this work package, actually being incurred under D6 Notice boards (see below).

EUR 27,678 for personnel underspend and EUR 8,660 for other spend moves from B1 to work package A1.

### *B2 Housing staff training*

<b>Housing staff training</b>	<b>Short Name of Action</b>	<b>Budget according to the grant agreement</b>	<b>Costs incurred within the project duration</b>	<b>Change</b>	<b>% change</b>
Personnel costs	B2	30,720	14,405	-16,315	-53%
Other costs		7,709	4,091	-3,618	-47%
<b>Total costs</b>		38,429	18,496	-19,933	-52%
<b>Person days</b>	Days	145	41	-104	
	Daily rate	213	350	137	

There has been an overall decrease in spend on this package of 52% (EUR 19,933) and a decrease in the number of days worked of 104, with an increase in the average daily rate of EUR 137. Average daily rate has increased as a result of the work being carried out by the Project Manager when the budget originally included the Community Project Officer and Landscape Architect.

There is a decrease in spend on other costs of EUR 3,618. Budgeted other costs included EUR 3,500 for speaker costs and EUR 1,750 for accreditation, EUR 1,500 for room hire, EUR 506 for learning materials and EUR 453 for travel.

External speakers were not required for housing staff training as internal staff had the required skills and capability to deliver the training. This was undertaken in less time than anticipated whilst still delivering the required number of workshops, responding to the feedback from the introductory training workshops which established that participants would prefer multiple workshops to be combined in a single day rather than delivered over an extended period. Room hire costs were lower than anticipated as we were able to use free of charge spaces at Hammersmith Town Hall and at QCE for the training with H&F Council staff, and the second masterclass was hosted by Peabody for no cost. Learning materials were predominantly developed and printed in-house by GL, therefore incurring little cost.

Actual costs included EUR 740 for travel, EUR 2,827 for accreditation, EUR 454 for room hire and EUR 71 for leaflets advertising the course.

### B3 Community engagement

Community engagement	Short Name of Action	Budget according to the grant agreement	Costs incurred within the project duration	Change	% change
Personnel costs	B3	105,506	90,072	-15,434	-15%
Other costs		8,068	9,262	1,194	15%
<b>Total costs</b>		113,574	99,334	-14,240	-13%
<b>Person days</b>	Days	582	515	-67	
	Daily rate	182	175	-7	

There has been an overall decrease in spend on this package of 13% (EUR 14,240) and a decrease in the number of days worked of 67, with a reduction in the average daily rate of EUR 7. This is in part because some community engagement activities have benefited from volunteer support alongside the paid members of staff.

There is an increase in spend on other costs of EUR 1,194 which includes an increased spend on workshop materials and materials to support resident gardening / food growing clubs (consumables spend is EUR 8,682 against a budget of EUR 5,310) to ensure the activities were adequately resourced and residents were supported to continue these activities following completion of the project.

### B4 Influencing policy

Influencing policy	Short Name of Action	Budget according to the grant agreement	Costs incurred within the project duration	Change	% change
Personnel costs	B4	1,790	2,576	786	44%
Other costs		0	0	0	0%
<b>Total costs</b>		1,790	2,576	786	44%
<b>Person days</b>	Days	10	8	-2	
	Daily rate	179	325	146	

There has been an overall increase in spend on this package of 44% (EUR 786) and a decrease in the number of days worked of 2, with an increase in the average daily rate of EUR 146.

This is because the work package has benefited from strategic input from the Project Director, which was not foreseen in the budget. There was no actual or budgeted spend on other costs.



### *C1 Monitoring impact*

<b>Monitoring impact</b>	<b>Short Name of Action</b>	<b>Budget according to the grant agreement</b>	<b>Costs incurred within the project duration</b>	<b>Change</b>	<b>% change</b>
Personnel costs	C1	1,790	5,190	3,400	190%
Other costs		44,000	84,983	40,983	93%
<b>Total costs</b>		45,790	90,173	44,383	97%
<b>Person days</b>	Days	10	27	17	
	Daily rate	179	192	13	

There has been an overall increase in spend on this package of 97% (EUR 44,383) and an increase in the number of days worked of 17, with an increase in the average daily rate of EUR 13. The increased personnel costs are due to the additional time required for tendering as a result of the first unsuccessful tender process, and the time required by the Project Manager and Landscape Architect to liaise with UEL throughout the monitoring period to ensure that GL's requirements were met.

There was an increase in spend on other costs of EUR 40,983. Total budget for monitoring impact was EUR 44,000; however EUR 84,867 was consumed by UEL. This work commenced in June 2015 and was due to complete in March 2016 but was extended until September 2016 upon approval of the prolongation request.

As documented in the Mid-term Report, it was necessary to increase the budget for this work package in order to enable a comprehensive monitoring approach. The final agreed price for the tender was £45,936, to be paid in two instalments. This was increased by a further £7,498 to cover the period April 2016 to September 2016 once the project prolongation was approved – this allowed for the delivery of additional technical monitoring tasks over the summer of 2016 in order to strengthen the data on the project's environmental impacts.

However, due to cost savings on other items covered within the external assistance budget, the overall expenditure under this budget heading was not affected. Final expenditure on external assistance overall was EUR 171,470 against a budget of EUR 172,800.

### *C2 Evaluation*

<b>Evaluation</b>	<b>Short Name of Action</b>	<b>Budget according to the grant agreement</b>	<b>Costs incurred within the project duration</b>	<b>Change</b>	<b>% change</b>
Personnel costs	C2	42,080	33,553	-8,527	-20%
Other costs		0	0	0	0%
<b>Total costs</b>		42,080	33,553	-8,527	-20%
<b>Person days</b>	Days	240	134	-106	
	Daily rate	175	250	75	

There has been an overall decrease in spend on this package of 20% (EUR 8,527) and a decrease in the number of days worked of 106 with an increase in the average daily rate of EUR 75.

The reduction in personnel costs has been due to the limited time available for a forecast SROI due to the focus on B1 Implementation works earlier in the project. In addition, many of the evaluation activities have been built into other work packages and therefore personnel costs have instead been captured under these work packages. This includes B2 Housing staff training, B3 Community engagement, B4 Policy influencing and C1 Monitoring. The increase in daily rate was due to the SROI exercise benefiting from strategic input from the Project Director, which was not foreseen in the budget but was necessary given that this was the first time SROI had been carried out by GL, and there was considerable interest from key stakeholders in the results.

There was no budgeted or actual spend on other costs.

#### *D1 Internal project communication*

<b>Internal communications</b>	<b>Short Name of Action</b>	<b>Budget according to the grant agreement</b>	<b>Costs incurred within the project duration</b>	<b>Change</b>	<b>% change</b>
Personnel costs	D1	29,138	29,052	-86	0%
Other costs		0	0	0	0%
<b>Total costs</b>		29,138	29,052	-86	0%
<b>Person days</b>	Days	133	142	9	
	Daily rate	221	205	-16	

There have been no significant changes to this work package. There has been an overall decrease in spend on this package of EUR 86, a nominal increase in the number of days worked of 9 with a decrease in the average daily rate of EUR 16.

There was no budgeted or actual spend on other costs.

#### *D2 Stakeholder engagement*

<b>Stakeholder engagement</b>	<b>Short Name of Action</b>	<b>Budget according to the grant agreement</b>	<b>Costs incurred within the project duration</b>	<b>Change</b>	<b>% change</b>
Personnel costs	D2	9,045	32,109	23,064	255%
Other costs		3,295	524	-2,771	-84%
<b>Total costs</b>		12,340	32,634	20,294	164%
<b>Person days</b>	Days	50	104	54	
	Daily rate	182	309	127	

There has been an overall increase in spend on this package of 164% (EUR 20,294) and an increase in the number of days worked of 54, with an increase in the average daily rate of

EUR 127. This spend was notified in the Mid-term Report, the project beneficiaries having recognised the importance of this strand. Additional resources were allocated, including senior staff such as the Project Director and Landscape Architect, to present the project to key stakeholder groups as appropriate. We have found that a number of invitations to present on the project have come our way, in addition to those sought directly; these have been valuable opportunities to disseminate the project and support its replicability.

There was a decrease in spend on other costs of EUR 2,771. This is because conference fees were not as high as anticipated, with many conferences that the project has participated in being free of charge or low cost. In addition, steering group meeting travel and subsistence costs were lower than anticipated as meetings were held at Hammersmith Town Hall, located close to both H&F Council and GL West London offices.

The increased personnel costs in this work package have been offset by reductions in other work packages; the overall personnel spend is less than the original budget (personnel budget was EUR 759,729 against actual of EUR 747,074).

### *D3 Project website*

<b>Project website</b>	<b>Short Name of Action</b>	<b>Budget according to the grant agreement</b>	<b>Costs incurred within the project duration</b>	<b>Change</b>	<b>% change</b>
Personnel costs	D3	5,032	4,729	-303	-6%
Other costs		9,500	2,631	-6,869	-72%
<b>Total costs</b>		14,532	7,360	-7,172	-49%
<b>Person days</b>	Days	28	32	4	
	Daily rate	180	147	-32	

There has been an overall decrease in spend on this package of 49% (EUR 7,172) and an increase in the number of days worked of 4, with a decrease in the average daily rate of EUR 32.

There was a decrease in spend on other costs of EUR 6,869.

The original external assistance budget for the website was EUR 9,500. As notified in the Mid-term Report, initially the existing GL website was used as a more high-profile platform by which to drive audiences to the specific LIFE+ web pages. Since the Mid-term Report, a microsite ([www.urbanclimateproofing.london](http://www.urbanclimateproofing.london)) was developed, hosted on the GL website for no additional cost. This was developed and will continue to be maintained by GL staff, therefore at a much lower cost than if subcontracted to an external web developer. Person days also included updating web content and monitoring site visits, as well as the monitoring and updating of Twitter notifications for the project.

Actual costs include costs for the 360° tour (EUR 1,075), included in the Mid-term Report as an anticipated cost under D5 Project film and now included under D3 Website as no other costs were budgeted under D5. There have also been the costs of professional photography of the interventions at all three sites (Lucy Millson-Watkins, EUR 474 and EUR 677) for the website and in support of wider project dissemination.

#### D4 Implementation guide

<b>Implementation guide</b>	<b>Short Name of Action</b>	<b>Budget according to the grant agreement</b>	<b>Costs incurred within the project duration</b>	<b>Change</b>	<b>% change</b>
Personnel costs	D4	5,250	5,323	73	1%
Other costs		8,000	902	-7,098	-89%
<b>Total costs</b>		13,250	6,225	-7,025	-53%
<b>Person days</b>	Days	30	27	-3	
	Daily rate	175	201	26	

There has been an overall decrease in spend on this package of 53% (EUR 7,025) with a minimal increase in spend on personnel costs of EUR 73. There was a decrease in the number of days worked of 3 with an increase in the average daily rate of EUR 26. This increase in daily rate was due to the majority of the Implementation Guide being written by the Project Manager, rather than the Community Project Officer as foreseen in the budget – this was necessary to ensure the guide covered all key aspects of the project, such as training, implementation and evaluation, in addition to the community engagement approach.

There was a decrease in spend on other costs of EUR 7,098. In the project application it had been anticipated that there would be a printed implementation guide. As described in the Mid-term Report, this has now primarily been published in e-format which has reduced the cost and for many is a more popular format than a printed guide. The guide has been disseminated via email and published on the project website, using Issuu for easy online reading. Issuu also enables GL to track how many people have read the guide online, which helps us to understand its reach. There has been a short print run of 100 guides costing EUR 902 which have been disseminated to key stakeholders at meetings and events.

#### D5 Project film

<b>Project film</b>	<b>Short Name of Action</b>	<b>Budget according to the grant agreement</b>	<b>Costs incurred within the project duration</b>	<b>Change</b>	<b>% change</b>
Personnel costs	D5	7,088	5,744	-1,344	-19%
Other costs		0	1,399	1,399	0%
<b>Total costs</b>		7,088	7,142	54	1%
<b>Person days</b>	Days	40	37	-3	
	Daily rate	177	155	-23	

There has been an overall increase in spend on this package of 1% (EUR 54) and a decrease in the number of days worked of 3, with an increase in the average daily rate of EUR 23.

There was an increase in spend on other costs of EUR 1,399 which was not included in the original budget. However, lower incurred external assistance costs in other work packages meant that the overall budget for external assistance was not exceeded.

Other costs in this package include filming costs of EUR 542 and editing and additional filming of EUR 813. This work was referred to in the Mid-term Report, however since then a key member of staff at GL who was involved in filming and editing the film (Faron Woodbridge) left GL. As a result, it was necessary to outsource the remaining filming and editing tasks as GL no longer had the resources to complete this in-house. This has resulted in a high quality film that has benefited from the addition of later footage such as the storm simulation test at QCE. As these unforeseen costs were minimal, no request has been made to modify the budget.

#### *D6 Notice boards*

<b>Notice boards</b>	<b>Short Name of Action</b>	<b>Budget according to the grant agreement</b>	<b>Costs incurred within the project duration</b>	<b>Change</b>	<b>% change</b>
Personnel costs	D6	350	1,933	1,583	452%
Other costs		0	734	734	0%
<b>Total costs</b>		350	2,667	2,317	662%
<b>Person days</b>	Days	2	15	13	
	Daily rate	175	133	-42	

There has been an overall increase in spend on this package of 662% (EUR 2,317) and a decrease in the number of days worked of 13, with a decrease in the average daily rate of EUR 42. As noted in the Mid-term Report, personnel costs in this work package are higher than forecast due to the production of temporary notice boards for the project, which were not originally planned but have been a key way of communicating the works with residents.

There was no budgeted other cost for notice boards within D6. The project has spent EUR 734 on permanent notice boards for each site as planned in the Mid-term Report. This enabled the production of high quality, long-lasting, notice boards which will continue to ensure that residents and estate visitors are aware of the measures and their benefits over the longer term.

#### *D7 Layman's Report*

<b>Layman's Report</b>	<b>Short Name of Action</b>	<b>Budget according to the grant agreement</b>	<b>Costs incurred within the project duration</b>	<b>Change</b>	<b>% change</b>
Personnel costs	D7	569	906	337	59%
Other costs		0	0	0	0%
<b>Total costs</b>		569	906	337	59%
<b>Person days</b>	Days	3	5	2	
	Daily rate	190	186	-4	

There has been an overall increase in spend on this package of 59% (EUR 337) and a decrease in the number of days worked of 2 with a decrease in average daily rate of EUR 4. This is because the Layman's Report was written by the Project Manager instead of the Community

Project Officer and Marketing Manager as foreseen in the budget – this ensured the Report effectively communicated the project’s approaches and results to a non-expert audience.

There was no budgeted other spend in this work package and there has been no actual spend.

*D8 Media work*

<b>Media Work</b>	<b>Short Name of Action</b>	<b>Budget according to the grant agreement</b>	<b>Costs incurred within the project duration</b>	<b>Change</b>	<b>% change</b>
Personnel costs	D8	2,452	3,690	1,238	50%
Other costs		0	0	0	0%
<b>Total costs</b>		2,452	3,690	1,238	50%
<b>Person days</b>	Days	12	25	13	
	Daily rate	204	150	-54	

There has been an increase in personnel costs of EUR 1,238 (50% of budget) with an additional 13 days spent, but a decrease in the daily rate for this package of EUR 54. Additional time has been necessary to identify and secure media opportunities, write press releases, and to monitor the impact of dissemination activities.

There was no budgeted other spend in this work package and there has been no actual spend.

*D9 Design for Life competition*

<b>Design competition</b>	<b>Short Name of Action</b>	<b>Budget according to the grant agreement</b>	<b>Costs incurred within the project duration</b>	<b>Change</b>	<b>% change</b>
Personnel costs	D9	963	3,193	2,230	232%
Other costs		4,050	2,788	-1,262	-31%
<b>Total costs</b>		5,013	5,981	968	19%
<b>Person days</b>	Days	5	11	6	
	Daily rate	193	283	91	

Overall there has been an increase in spend of 19% over budget (EUR 968), with an overspend on personnel costs of EUR 2,230 and an underspend of EUR 1,262 on other costs.

Personnel costs have increased by EUR 2,230 due to an increase in 6 days spent on the package. The budget according to the Grant Agreement included time for both the Community Project Officer and the Marketing Manager. Actual time spent on this element included 7 days spent by the Project Director to ensure the success of the work package, including working closely with Advisory Group colleagues at the NHF and Landscape Institute who GL ran the competition in association with. 1 day more than anticipated was spent by the Marketing Manager to promote the competition, and 2 days fewer were spent by the Community Project Officer.

Other costs were reduced because part of the competition prize was a visit by the winning entry to the UK which was not taken up. Costs incurred include EUR 1,282 (GBP 1,000) first prize and EUR 641 (GBP 500) runner up prize, which were foreseen in the budget.

### *E1 Project management*

<b>Project management</b>	<b>Short Name of Action</b>	<b>Budget according to the grant agreement</b>	<b>Costs incurred within the project duration</b>	<b>Change</b>	<b>% change</b>
Personnel costs	E1	165,550	158,353	-7,197	-4%
Other costs		700	988	288	41%
<b>Total costs</b>		166,250	159,341	-6,909	-4%
<b>Person days</b>	Days	586	585	-1	
	Daily rate	283	271	-13	

Overall there has been a decrease in spend of 4% (EUR 6,909) with EUR 7,197 underspend on personnel and EUR 288 overspend on other costs. The higher other costs were associated with some travel costs for local project management meetings being incurred in addition to the European travel costs foreseen in the budget in relation to the kick-off meeting.

Person days are as per the budget but there was a decrease in average daily rate of EUR 13.

### *E2 Monitoring progress*

<b>Monitoring progress</b>	<b>Short Name of Action</b>	<b>Budget according to the grant agreement</b>	<b>Costs incurred within the project duration</b>	<b>Change</b>	<b>% change</b>
Personnel costs	E2	32,020	28,863	-3,157	-10%
Other costs		0	0	0	0%
<b>Total costs</b>		32,020	28,863	-3,157	-10%
<b>Person days</b>	Days	155	90	-65	
	Daily rate	210	321	111	

Overall there has been a decrease in this work package of 10% (EUR 3,157), with a decrease in person days of 65 and an increase in the average daily rate of EUR 111. This is because some senior staff, such as GL's Finance Director, have needed to spend more time on the financial management of the project than anticipated – in particular in light of the multiple changes in Project Manager over the course of the project. These staff changes have also meant the new Project Managers have required time to get up to speed with the project, which could not have been foreseen in the budget.

There was no budgeted other spend in this work package and there has been no actual spend.

### *E3 Networking*

<b>Networking</b>	<b>Short Name of Action</b>	<b>Budget according to the grant agreement</b>	<b>Costs incurred within the project duration</b>	<b>Change</b>	<b>% change</b>
Personnel costs	E3	2,685	3,704	1,019	38%
Other costs		3,840	3,842	2	0%
<b>Total costs</b>		6,525	7,546	1,021	16%
<b>Person days</b>	Days	15	24	9	
	Daily rate	179	155	-24	

There has been an overall increase of 16% (EUR 1,021) in this work package.

Person days have increased by 9 from 15 to 24 but the average daily rate has reduced from EUR 179 to EUR 155. The increased costs are in part due to the involvement of GL's Landscape Architect and Community Project Officer in networking activities, which was not foreseen in the budget, in order to support the effective sharing of the technical elements and community engagement elements of the project with other European stakeholders.

### *E4 After LIFE communication plan*

No costs were foreseen in the budget for this work package. The plan has been developed by the Senior Communications and PR Officer with support from the Project Manager. Personnel costs associated with this have been subsumed by GL's marketing budget, with the Project Manager's time included in the D2 Engagement with stakeholders incurred costs.

### *E5 Independent audit*

<b>Independent audit</b>	<b>Short Name of Action</b>	<b>Budget according to the grant agreement</b>	<b>Costs incurred within the project duration</b>	<b>Change</b>	<b>% change</b>
Personnel costs	E5	1,074	2,031	957	89%
Other costs		6,000	5,690	-310	-5%
<b>Total costs</b>		7,074	7,721	647	9%
<b>Person days</b>	Days	6	6	0	
	Daily rate	179	339	160	

Overall the budget for this work package is 9% overspent with an increase of EUR 647.

There has been an overall increase in personnel costs as a result of the daily rate increasing from EUR 179 to EUR 339. The original budget included only a cost for Project Manager time on the audit whereas to complete the financial element of the final claim, both the Finance Director and Finance Officer have needed to be involved in the process. Overall the number of days spent on this work package are as per the budget.

There has been a slight decrease in the cost of the audit as this was an estimate in the budget.



### Person Days and average daily rate - budget to actual

This has been analysed by work package above, but overall the actual person days compared to the budgeted person days are as follows:

	Days
Budget	4,881
Actual	4,094
Change	-787

### Staff Daily rate changes

The table below shows a comparison between the staff daily rates used in the budgets and the actual staff daily rates. Those highlighted in yellow are changes which are an increase or decrease in staff rate of 20% of more – these are described in more detail below.

	Budget	Actual		
	Daily rate*	Daily rate**	EUR Daily Rate change	% Daily Rate change
Community Project Assistant	153 €	132 €	-21 €	-14%
Community Project Officer	175 €	154 €	-21 €	-12%
Employment Advisor - job brokerage	164 €	235 €	71 €	43%
Finance Director	420 €	422 €	2 €	0%
Finance Officer	211 €	177 €	-34 €	-16%
Green Team Apprentice	72 €	74 €	2 €	3%
Green Team Supervisor	164 €	163 €	-1 €	-1%
Head of Estates Services	360 €	514 €	154 €	43%
Head of Housing Management	360 €	0 €	-360 €	-100%
IT Support	179 €	168 €	-11 €	-6%
Landscape Architect	211 €	190 €	-21 €	-10%
Marketing Manager	219 €	133 €	-86 €	-39%
Project Administrator	135 €	138 €	3 €	2%
Project Director	429 €	441 €	12 €	3%
Project Manager	179 €	193 €	14 €	8%
Project Officer	218 €	301 €	83 €	38%
Resource efficiency specialist	153 €	147 €	-6 €	-4%

\*Daily Rate per application

\*\*Daily Rate calculated as actual average of all years – annual personnel costs divided by annual productive hours

### Staff rate changes <> 20%

#### Groundwork London staff

The overall claim for GL staff is EUR 665,500 against a budget of EUR 679,414 (decreased by 2%), with a decrease in hours spent of 16% to take account of changes as described in the individual work packages.

<b>Budget</b>	<b>Amount claimed</b>	<b>Variance</b>	<b>Budget person days</b>	<b>Number of person days assigned to the project</b>	<b>Variance</b>
679,414€	665,500€	2%	4,602	3,880	-16%

**Employment Advisor – job brokerage** – daily rate increased by EUR 71 (43%)

It had been originally budgeted to have a lower salary for the advisors working on the project.

The salary costs for this post were higher than anticipated.

<b>Year</b>	<b>Daily rate foreseen in the budget</b>	<b>Annual personnel costs - GBP</b>	<b>Annual personnel costs - EUR</b>	<b>Annual number of productive time units</b>	<b>Time unit rate - hours</b>	<b>Time unit rate - days</b>	<b>EU Daily rate increase</b>	<b>% Daily rate increase</b>	<b>Number of time units assigned to the project</b>
2013	EUR 164	£0	0 €	0	0 €	0 €	-164 €	-100%	0
2014	EUR 164	£40,710	49,155 €	1620	30 €	228 €	64 €	39%	105.5
2015	EUR 164	£33,001	42,309 €	1342.5	32 €	236 €	72 €	44%	263
2016	EUR 164	£24,759	33,545 €	1035	32 €	243 €	79 €	48%	107
	EUR 164	£98,470	125,008 €	3997.5	31 €	<b>235 €</b>	<b>71 €</b>	<b>43%</b>	475.5

**Marketing Manager** – daily rate reduced by EUR 86 (39%)

It had been anticipated that this post would have been delivered by a more senior member of the marketing team.

<b>Year</b>	<b>Daily rate foreseen in the budget</b>	<b>Annual personnel costs - GBP</b>	<b>Annual personnel costs - EUR</b>	<b>Annual number of productive time units</b>	<b>Time unit rate - hours</b>	<b>Time unit rate - days</b>	<b>EUR Daily rate decrease</b>	<b>% Daily rate decrease</b>	<b>Number of time units assigned to the project</b>
2013	EUR 219	£0	0 €	0	0 €	0 €	-219 €	-100%	0
2014	EUR 219	£30,678	37,042 €	2199.5	17 €	126 €	-93 €	-42%	60
2015	EUR 219	£28,331	36,321 €	2044.5	18 €	133 €	-86 €	-39%	106
2016	EUR 219	£25,838	35,005 €	1860.25	19 €	141 €	-78 €	-36%	156
	EUR 219	£84,846	108,369 €	6104.25	18 €	<b>133 €</b>	<b>-86 €</b>	<b>-39%</b>	322

### H&F Council staff

The overall claim for H&F Council staff is EUR 81,575 against a budget of EUR 80,315 (increased by 2%), with a decrease in hours spent of 23% to take account of increases in the daily cost of H&F Council staff.

<b>Budget</b>	<b>Amount claimed</b>	<b>Variance</b>	<b>Budget person days</b>	<b>Number of person days assigned to the project</b>	<b>Variance</b>
80,315 €	81,575 €	2%	279	213	-23%

### Head of Estates Services – daily rate increased by EUR 154 (43%)

The original budget had included salary costs at a lower level than the actual salary costs for H&F Council staff in the calculation of the daily rate and did not factor in pay rises or changes to the exchange rate. The actual daily rate has been audited and the costs claimed have been approved as correct by the auditors.

In addition, the Head of Estates Services fulfilled the duties of the Head of Housing Management whose budget was not utilised (see below).

<b>Year</b>	<b>Daily rate foreseen in the budget</b>	<b>Annual personnel costs - GBP</b>	<b>Annual personnel costs - EUR</b>	<b>Annual number of productive time units</b>	<b>Time unit rate - hours</b>	<b>Time unit rate - days</b>	<b>EU Daily rate increase</b>	<b>% Daily rate increase</b>	<b>Number of time units assigned to the project</b>
2013	EUR 360	£25,444	31,257 €	597.6	52 €	377 €	17 €	5%	22
2014	EUR 360	£82,950	100,157 €	1555.21	64 €	464 €	104 €	29%	198.7
2015	EUR 360	£92,971	119,193 €	1626.1	73 €	528 €	168 €	47%	236.4
2016	EUR 360	£74,091	100,381 €	1137.6	88 €	635 €	275 €	76%	100.2
	EUR 360	£275,455	350,988 €	4916.51	71 €	<b>514 €</b>	<b>154 €</b>	<b>43%</b>	557.3

**Project Officer** – daily rate increased by EUR 83 (38%)

The original budget had underestimated the salary costs of H&F Council staff in the calculation of the daily rate

Year	Daily rate foreseen in the budget	Annual personnel costs - GBP	Annual personnel costs - EUR	Annual number of productive time units	Time unit rate - hours	Time unit rate - days	EU Daily rate increase	% Daily rate increase	Number of time units assigned to the project
2013	EUR 218	£15,867	19,493 €	554.4	35 €	253 €	35 €	16%	48
2014	EUR 218	£48,644	58,735 €	1496.2	39 €	283 €	65 €	30%	286
2015	EUR 218	£50,656	64,944 €	1554.2	42 €	301 €	83 €	38%	441.2
2016	EUR 218	£39,054	52,912 €	1079.5	49 €	353 €	135 €	62%	206.2
	EUR 218	£154,221	196,083 €	4684.3	42 €	<b>301 €</b>	<b>83 €</b>	<b>38%</b>	981.4

**Head of Housing Management** – daily rate reduced by EUR 360 (100%)

This post, whilst budgeted in the application, was not utilised in the project, as the Head of Estates Services was able to carry out the relevant duties.

## 7. Annexes

All core deliverables and annexes have been provided in hard copy and electronic format – others are provided in electronic format only.

### 7.1 Administrative annexes

Please see appended files:

- 7.1.1 Project Gantt Chart Summary
- 7.1.2 List of previously submitted annexes
- 7.1.3 List of abbreviations
- 7.1.4 Inception Report (March 2014)
- 7.1.5 Mid-term Report (June 2015)
- 7.1.6 Partnership Agreement
- 7.1.7 Organisation Structure LIFE+ 2016
- 7.1.8 Prolongation request letter (4<sup>th</sup> November 2015)
- 7.1.9 Addendum to Inception Report in response to EC letter dated 28<sup>th</sup> March 2014
- 7.1.10 Mid-term Report query responses (20<sup>th</sup> January 2016)

### 7.2 Technical annexes

Please see appended files, in two separate folders covering deliverables and supporting materials – numbered in the order they are referred to in the Report:

#### 7.2a Technical annexes – deliverables:

- 7.2.1 A1 Assessment Report and annexes
- 7.2.3 B2 Training
  - 7.2.3.1 B2 Training materials and maintenance schedule
  - 7.2.3.2 B2 Training Evaluation Report and annexes
- 7.2.4 B3 Community engagement report
- 7.2.6 B4 Policy influencing outputs table
- 7.2.9 C1 Monitoring reports (Part 1 and 2)
- 7.2.10 C2 SROI Report

#### 7.2b Technical annexes – supporting materials:

- 7.2.2 B1 C8 CT Land appointment letter and tender report
- 7.2.5 B3 Community engagement
  - 7.2.5.1 B3 Adaptation plans (CER, CT and QCE)
  - 7.2.5.2 B3 Printed materials
- 7.2.7 B4 supporting documents – case studies, consultation submissions, evidence given
- 7.2.8 C1 Monitoring brief, appointment letter and contract with UEL

### 7.3 Dissemination annexes

#### 7.3.1 Layman's Report

PDF and hard copy provided

### 7.3.2 After LIFE Communication plan

PDF and hard copy provided

### 7.3.3 Other dissemination annexes

Please see appended files:

- 7.3.3.1 D1 Internal project communication
  - Example meeting minutes (Steering Group and Green Roof project team)
  - Communications Plan and Procedures
- 7.3.3.2 D2 Stakeholder engagement
  - Advisory Group meeting minutes
  - Example presentations
  - Stakeholder engagement activities overview
- 7.3.3.3 D3 Project website
  - Website screen shots
  - Website and social media communications headlines
  - Blog post examples
  - Professional photos
  - Case studies
- 7.3.3.4 D4 Implementation Guide
  - Implementation Guide
  - Implementation Guide dissemination list and email
- 7.3.3.5 D5 Project film
  - Project film
  - Film communications headlines
- 7.3.3.6 D6 Notice boards
  - Notice boards PDFs
  - Notice boards photo evidence
- 7.3.3.7 D8 Media work
  - Media activities overview
  - Media coverage communications headlines
  - Landscape Institute Awards submission
  - Media coverage
  - Press releases and press list
- 7.3.3.8 D9 Design competition
  - Competition guidance and flyer
  - Competition winner and runner-up entries
  - Landscape Institute Journal feature
- 7.3.3.9 E3 Networking
  - Networking report on evidence and impact of international exchanges
  - 1<sup>st</sup> European Urban Green Infrastructure Conference presentation
- 7.3.3.10 General project presentation

### 7.4 Final table of indicators

Please see appended Excel file:

- 7.4 Project outcomes final indicators table

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## 8. Financial report and annexes

Please see appended files and folders:

- 8.1 Financial Report Excel for Groundwork London, including payment request and consolidated statement, plus signed PDF and paper copy
- 8.2 Financial Report Excel for Hammersmith and Fulham Council, plus signed PDF and paper copy
- 8.3 E5 Independent Audit Report (PDF and signed original paper copy)
- 8.4 VAT status – Groundwork (requested in the EC's Mid-term Report letter dated 17<sup>th</sup> December 2015)
- 8.5 Payroll information for Anita Konrad, Stuart Harrison and Binita Shah (requested in the EC's Mid-term Report letter dated 17<sup>th</sup> December 2015)
- 8.6 Greatford Garden Services tender documents, invoices and payment information (requested in the EC's Mid-term Report letter dated 17<sup>th</sup> December 2015)
- 8.7 Mitie tender documents, invoices and payment information (requested in the EC's Mid-term Report letter dated 17<sup>th</sup> December 2015)
- 8.8 The Ecology Consultancy tender documents, invoices and payment information (requested in the EC's Mid-term Report letter dated 17<sup>th</sup> December 2015)