

DARENT VALLEY LANDSCAPE PARTNERSHIP SCHEME

LANDSCAPE CONSERVATION ACTION PLAN – PART 3 – PROJECT DESCRIPTIONS

TABLE OF CONTENTS

THEME 1. AN INSPIRING DARENT VALLEY

1A. In Search Of The Bright Cloud - A Samuel Palmer Trail	3
1B. Samuel Palmer’s Return	13
1C. Inspired Palmer Landscapes	23
1D. Framing the View	35
1E. Finding the Earthly Paradise - Broadly Engaging with Tranquillity in the Darent Valley	45
1F. Restoring the Canvas - Tackling the Flytipping Problem	55

THEME 2. THE HISTORIC DARENT VALLEY

2A. Peeling Back The Layers	67
2B. The Darent Valley’s Hidden Roman Legacy	87
2C. The Surviving Castle - Eynsford’s Hidden Treasure	113
2D. The Hidden Palace - Otford’s Own Hampton Court	121
2E. Royalty and Silk - Lullingstone Castle’s Buried Secrets	143
2F. Gunpowder and Paper - Remembering a Working River	159
2G. Dartford Marshes - Orchard Hospital Nature Park and Community Orchard	173

THEME 3. DARENT VALLEY EXPLORATION

3A. Heart of the Valley - The Darent Valley Path	191
3B.1 Sevenoaks Wildlife Reserve - Wildlife for the People	215
3B.2 Shoreham Woods - The Darent Valley’s Hidden Gateway	235
3C. Telling the Darent’s Story	243
3D. Reducing the Pressure - Community Local Landscape Trails	259

THEME 4. DARENT VALLEY NATURAL AND HISTORIC LANDSCAPES

4A.1 Jewels in the Downs	267
4A.2 Preston Hill - The Unknown Country Park	287
4A.3 Flight of the Butterfly - White Hill Reserve - Shoreham	305
4B. Enhancing Oxenhill Shaw and Meadow.....	313
4C. Where Ten Thousand Fishes Once Played - Restoring the Darent	323
4D.1 Samuel Palmer’s Great Veterans of Lullingstone Park	341
4D.2 Landscape On Course - Influencing Golf Course Management.....	365
4D.3 Combe Bank – The Divided Park	375
4D.4. Squerryes Estate Parkland - The Source of the River Darent	383
4E. On the Verge - Integrating Roadside Management into the Landscape.....	391
4F. Local Landscapes Grants.....	401
4G. Restoring the Hedgerow Mosaic.....	415

THEME 5. DARENT VALLEY LEARNING AND FUTURE SKILLS

5A.1 Adventure Learning for All at Wide Horizons.....	435
5A.2 Designing Nature at Sevenoaks Wildlife Reserve	447
5A.3 The Enchanted Woodland.....	457
5A.4 The Quadrangle Forest Garden - A Community Permaculture Project	469
5A.5 Otford Chalk Pit Nature Area	481
5A.6 Encouraging Adventure Play - Reducing Barriers to Wild Time.....	489
5B. School Run - Reading the Landscape.....	495
5C. Supporting Land Managers in a Period of Change - A Collaborative Advisory Service	503
5D. Future Skills - Embedding Knowledge and Skills in Communities and Partners	509
5E. Landscape Apprentices - Training the Next Generation of Landscape Managers	519
5F. Engaging New Audiences - Walks, Talks and Events to Inspire and Learn.....	527
5G. Spreading the Word An On-line Resource	541

1A. IN SEARCH OF THE BRIGHT CLOUD A SAMUEL PALMER TRAIL



Samuel Palmer Self Portrait © Ashmolean Museum, University of Oxford

PROJECT AIM

To introduce people to the life and work of British watercolourist Samuel Palmer and his close connection with the landscape of the Darent Valley. Focusing on the years he spent in Shoreham it will take visitors on a journey following in Palmer's footsteps along a waymarked trail, drawing on the inspiration he gained from the surrounding countryside 200 years ago. Creative interpretation using audio and visual media will bring Palmer's experiences to life and raise awareness of him amongst both visitors and residents.

DELIVERY LEAD

Direct delivery by the DVLPS team.

LOCATION AND LAND OWNERSHIP

The precise location and route of the Samuel Palmer Trail will be determined by the DVLPS team working closely with local artists, the Ashmolean Museum and Kent County Council Public Rights of Way team. However, it will be centred on the village of Shoreham where Palmer lived in the early 19th Century, and extending out onto the valley sides to visit the views and landscape that inspired him.

AUDIENCE

Both local residents and visitors. It is anticipated that the Trail will also attract visitors from further afield who have a specialist interest in Samuel Palmer, but the target audience will be those that have little or no awareness of him.

HERITAGE VALUE

The Darent Valley is indelibly associated with one of the greatest of English Romantic artists, Samuel Palmer. For a brief period, the landscape inspired some of the most intense paintings in the history of British art, so original that Palmer's contemporaries laughed; but they are now recognized as uniquely personal expressions of a vision of England much closer to that of William Blake than the more traditional views of J.M.W. Turner and John Constable.

Few landscapes in England are so closely associated with a single artist. Palmer, however, was almost an outsider when he settled in the village of Shoreham in 1826. Many of the subjects he painted during his 'Shoreham period', between c. 1824 and 1835, are immediately recognisable. The earliest is the Rest on the Flight into Egypt (Ashmolean Museum), painted in the winter of 1824-5, in which the Holy Family is seen resting in Shoreham Paddock. Other religious subjects, such as Ruth returned from the Gleaning (V&A) continue in this vein, with a biblical figure firmly installed in the Darent Valley.

As well as these visions, Palmer began on the recommendation of his future father-in-law, John Linnell, a series of more naturalistic drawings showing the hills, river, church spires, barns, and cottages of the Darent Valley. Such subjects as The Bridge at Shoreham (Met. Museum, New York) owe less to the picturesque tradition of the 18th century than they do to the peculiarities of the local landscape and Palmer's extraordinarily individual manner of observing it. Among other subjects, Ivy Cottage (where he occasionally lodged), Sepham Barn (now destroyed), the orchards and hop gardens of the Darent Valley were all transformed by Palmer's vision. He reserved a particular affection for the ancient trees in Lullingstone Park, making three almost hallucinatory drawings of their twisting branches and almost monstrous girth. Palmer also made many drawings of the general topography, the sweep of the valley as the river passes through it, the close identification of human habitation with the natural landscape and timeless agricultural activity, and, above all, the strange and sophisticated effects of the ridges and folds of hills seen by twilight and moonlight.

ISSUES AND THREATS

A Samuel Palmer Trail is central to the DVLPS vision, enhancing direct and indirect knowledge of both Palmer and the valley he loved so much. In the survey for the scheme's audience development plan only 35% of respondents (including local residents) were aware of Samuel Palmer. The proportion of

visitors to the valley who had not heard of Palmer was 82%, and rose to 85% of respondents who were surveyed in South East London. Bearing in mind his importance as a visionary landscape artist and his close ties to the Darent Valley, this low level of awareness is remarkable.



Samuel Palmer; The Bright Cloud; © The Tate; Image released under Creative Commons CC-BY-NC-ND (3.0 Unported)

Greater knowledge of Palmer's life and work will engender a deeper appreciation of the natural setting he revered. By seeing views that he might once have enjoyed, his art and unusual methods will be appreciated by a much wider audience.

The Trail will be central to the heritage and legacy of the artist Samuel Palmer. By exploring the Darent Valley on foot as part of the trail, greater appreciation of the existing landscape and the landscape he loved will result.

Not enough is known locally about Samuel Palmer and his work and life have little local profile. He is one of Britain's most influential artists particularly among early 19th century artists. His innovative methods and ideas about the artistic medium deserve a wider audience. As so much of his inspiration came from the Darent Valley landscape it is vital to make the link between the two.

PROJECT DESCRIPTION

The Trail will deepen people's understanding of the heritage of the valley and specifically Shoreham. It will increase an awareness of an outstanding artist and his unique response to the landscape. Palmer's intense enthusiasm for the natural setting will inspire others to see the valley through a different lens. Following the trail will encourage people to explore the valley on foot and visitors will be encouraged to set off on foot or arrive by train or by bike (venues like Shoreham Aircraft Museum positively encourage cyclists to visit) and will reduce the need for car visits.

The project will involve working with local artists and Palmer experts to devise and create a trail that is enjoyable, informative and innovative. The two key individuals involved will be Sarah Newman and Victoria Bathurst.

Sarah Newman has a background in writing, editing, event curating (one of which used electronic beacons in a Cambridge historical trail), photography and has made a number of historical documentaries (and has a degree in history). Victoria Bathurst is an artist who has originated and been running three-hour walks about Samuel Palmer in the Darent Valley for several years now. She has a deep knowledge of Palmer's work and has visited almost all the galleries holding his work to see the originals. She has numerous contacts with relevant museum and gallery experts in the field.

Sarah and Victoria will work closely with the DVLPS Interpretation & Learning Officer, with further support from Colin Harrison at the Ashmolean Museum (one of the country's foremost experts on Samuel Palmer) and the V&A Museum. In addition, they will also work closely with local amateur dramatics groups such as the Shoreham Riverside Players.

The route will follow public rights of way from a central Shoreham location (with access from the railway station), but opportunities may exist for new permissive routes to be created. A route will be researched, selected and waymarked to a high standard to ensure easy route following. Installation will be undertaken by local community volunteers. Twelve posts at key sites will have a Bluetooth beacon installed that will connect with enabled devices and allow for the downloading of images, text and audio recordings. These will communicate the importance of the location to Palmer and how the landscape provided the inspiration. Audio recordings will be provided by the actor Robert Bathurst (*Cold Feet*).

In addition, a trail leaflet will be produced to ensure that the Samuel Palmer Trail can be used and enjoyed without technology.

OUTPUTS AND OUTCOMES

Activity	Outputs	Outcomes
Samuel Palmer Trail	<ul style="list-style-type: none"> • New 8km of trail created. • 30 waymarker posts installed. • 12 Bluetooth beacons installed. • Interactive audio-visual interpretation created. • 2,000 copies of Palmer Trail leaflets printed. • 20 volunteer days contributed. • 250 people using the trail per annum. 	<ul style="list-style-type: none"> • Greater awareness of Samuel Palmer and his importance to the landscape of the Darent Valley. • Increased exploration of the Darent Valley by foot. • Increased pride in the association of Shoreham and the Darent Valley with Samuel Palmer. • Improved access provision. • Increased awareness of the importance of rural landscape and what has formed them. • A closer connection and valuing of the Darent Valley landscape. • An increase in the way the Darent Valley landscape is valued for its natural and heritage assets.
Launch event	<ul style="list-style-type: none"> • 100 attendees. • 10 local groups contributing to launch event. 	<ul style="list-style-type: none"> • Increased participation in promoting the heritage that is Samuel Palmer’s association with the valley. • Improved knowledge of Samuel Palmer amongst local residents and consequential dissemination to the wider community. • An increase in the way the Darent Valley landscape is valued for its natural and heritage assets.
Samuel Palmer curated walks	<ul style="list-style-type: none"> • 10 curated guided walks provided. • 200 attendees. 	<ul style="list-style-type: none"> • A detailed understanding of Samuel Palmer’s legacy and connection to the landscape. • Greater awareness of Samuel Palmer and his importance to the landscape of the Darent Valley. • An increase in the way the Darent Valley landscape is valued for its natural and heritage assets.
Social media and publicity	<ul style="list-style-type: none"> • 250 engaged via social media. • 200 downloads of pdf version of leaflet. 	<ul style="list-style-type: none"> • A broader geographical spread of those that have an awareness of the Palmer-Darent Valley connection. • A younger demographic learning about Palmer and landscape. • An increase in the way the Darent Valley landscape is valued for its natural and heritage assets.

Use of the trail will be measured by:

- The number of leaflets distributed.
- Recording of the number of downloads of data from the beacons.
- Responses through social media channels along with associated demographics.
- Feedback from curated walks.

PROJECT RISKS

Risk	How likely	Severity	Consequence	Action required
Landowner permission not forthcoming	Low	Medium	Project may be limited in its extent.	Good relations already exist with landowners around Shoreham, and the route will, in the main be on existing rights of way.
Vandalism and/or poor maintenance of posts and beacons	Low	Medium	The lifetime of the trail may be reduced	As capital items are relatively low cost, a store of beacons will be maintained. Continued support from the Shoreham Society and the Parish Council is likely to provide continued support.
Copyright issues concerning the use of Palmer images	Medium	Medium	Use of Palmer images may be limited presenting difficulty with conveying the landscape connection and appreciation.	Both the V&A and the Ashmolean are supportive of the project, and it is hoped that use of the images will be provided as an in-kind contribution. A contingency amount has been retained in the event that copyright issues cannot be overcome.

TRAINING REQUIRED

None identified.

MAINTAINING A LEGACY

The Samuel Palmer Trail provides information through a medium that requires only a small capital outlay and uses low cost technology that can be updated, improved and changed easily. The project has the support of an active local community, with the Shoreham Society in a position to provide continued volunteer support. Sarah Newman is also a local Shoreham resident and will therefore remain as a champion for the trail in the future. The North West Kent Countryside Partnership will be available to provide continuing support, and it is hoped that a longer term relationship will have been fostered between the Ashmolean Museum and the local community through this project.

LINKS TO OTHER PROJECTS

- **1B Samuel Palmer’s Return** – This project will act as an inspirational beginning for the Samuel Palmer exhibition in the Darent Valley.
- **1C Inspired Palmer Landscapes** – The Samuel Palmer Trail will provide the basis for specific events relating to Palmer.
- **3A Heart of the Valley: The Darent Valley Path** – The Samuel Palmer Trail will intersect the Darent Valley Path and provide opportunities for additional exploration by visitors.
- **3C Telling the Darent’s Story** – The trail will be a key component of the overall interpretive approach for the scheme.
- **3D Reducing the Pressure** – The trail will link directly to Shoreham Station and will be a key contributor to encouraging the use of sustainable transport options into the valley, particularly for visitors from London.
- **4A Uncovering the Herb-Scented Scarp** – It is anticipated that the trail will pass through several of the sites benefiting from project 4A.

Theme 1: Inspiring Darent Valley

1A. IN SEARCH OF THE BRIGHT CLOUD – A SAMUEL PALMER TRAIL

PROJECT TIMETABLE

Activity	Year 1					Year 2					Year 3					Year 4					Year 5																
	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	
Creating the Samuel Palmer Trail																																					
Discussion on route selection between partners																																					
Route for Samuel Palmer Trail finalised																																					
Landowner consultations and permissions																																					
Installation of waymarking and signage																																					
Research interpretive content for web-based service and leaflet																																					
Production of voice over recordings and web-based content																																					
Installation of bluetooth beacons																																					
Leaflet design and production																																					
Launch event																																					
Recruitment of volunteers																																					
Event planning																																					
Delivery																																					
Delivery of Samuel Palmer curated walks																																					
Research and preparation for walks																																					
Delivery of walks																																					
Promotion and social media activities																																					
Development of web content and social media presence																																					
Updating of social media content and integration into partner websites																																					

Theme 1: Inspiring Darent Valley

1A. IN SEARCH OF THE BRIGHT CLOUD – A SAMUEL PALMER TRAIL

1B. SAMUEL PALMER'S RETURN



Landscape with a Barn, Shoreham by Samuel Palmer © Victoria & Albert Museum

PROJECT AIM

To return some of Samuel Palmer's paintings of his Darent Valley period for an exhibition within the scheme area alongside other more contemporary pieces of art inspired by his and the scheme's work. This will be a celebration of people's appreciation and connection with the valley's landscape and an exciting opportunity for local people to have their own interpretations displayed alongside those of one of the country's most visionary landscape artists. Ultimately, it will inspire a new generation of artists to interpret the Darent Valley landscape for themselves and introduce a new audience to landscape art so that they develop an appreciation for themselves.

DELIVERY LEAD

Direct delivery by the DVLPS team, but with the support of the Ashmolean Museum of Art and Archaeology.

LOCATION AND LAND OWNERSHIP

The exhibition location is yet to be confirmed (dependent on checks undertaken on behalf of the lending museums) but two possible locations have expressed an interest:

- Ightham Mote – Grade I listed building on the edge of the DVLPS area to the west of Sevenoaks
- Acacia Hall, Dartford – a Grade II listed building located beside the River Darent in the centre of Dartford. This property is about to undergo a renovation and will be available for an exhibition in 2021/22.

In addition, two other possible locations have been identified:

- Hall Place, Bexley – A Grade I listed building located next to the River Cray (one of the Darent's tributaries) and operated by the Bexley Heritage Trust.
- Horniman Museum, Lewisham – An Arts Council England Major Partner Museum with the vision of using its worldwide collections and the gardens to encourage a wider appreciation of the world, its peoples and their cultures, and its environments.

AUDIENCE

The audience will be extremely broad, but this project will particularly target communities that don't normally have an involvement in the arts or don't have the opportunity. Whilst an exhibition of some of Palmer's works will undoubtedly attract his aficionados, the aim will be to engage new audiences, and the opportunity to have this exhibition within the urban communities of Dartford, Bexley and Lewisham will do that. Conversely, it will also target those from an art background to make a more physical connection with the landscape that inspired Palmer.

HERITAGE VALUE

As explained in Project 1A, the Darent Valley has a deep association with Samuel Palmer. Rachel Campbell-Johnston in her book 'Mysterious Wisdom – The Life and Work of Samuel Palmer' states:

"...when Palmer first started visiting the village [Shoreham], the suburbs had only just begun their inexorable creep. There was no train to startle the hares from their nibbling or put up the herons from their patient watch. Even the toll road, that unspooling precursor of ribbon development, did not pass through the village, and Palmer and his fellow Ancients, if leaving on foot from London at dawn, would have arrived in the village by the light of the moon."

For both Samuel Palmer and the Ancients, the Darent Valley was a special place. One of this group, Edward Calvert described it as *"a valley so hidden that it looked as if the devil had not yet found it out"* (AH Palmer; *The Life and Letters of Samuel Palmer*; 1892).



In a Shoreham Garden by Samuel Palmer
© Victoria and Albert Museum

Palmer's 'Shoreham Period' is when he produced his greatest works. Paintings such as *Ruth returned from the Gleaning*; *The Bridge at Shoreham*; *In a Shoreham Garden*; *Oak Trees, Lullingstone Park*;

Landscape with a Barn, Shoreham; The Harvest Moon and Ivy Cottage, Shoreham were all inspired by the landscape of the Darent Valley.

The importance of these pieces of art is that they portray the connection and understanding of the natural landscape and man's largely benign interaction with it. Essentially a state of living in harmony with the rural landscape where both benefit.

ISSUES AND THREATS

Samuel Palmer is justifiably the central thread that runs through the DVLPS vision, aims and objectives. This project seeks to provide an alternative way of restoring an appreciation, understanding and a relationship with the Darent Valley landscape. The intention is not specifically to raise the profile of Samuel Palmer (although this is a very laudable and secondary outcome), but more to use his approach and works as an innovative way of rebuilding a link with the Darent Valley's landscape.



The Harvest Moon by Samuel Palmer (Yale Centre for British Art, Paul Mellon Collection)

Paul Selman in his book, 'Sustainable Landscape Planning: The Reconnection Agenda', proposes that "people are increasingly disconnected from the places in which they dwell, because they may work elsewhere, engage in 'virtual' worlds, be drawn into global cultures, and rely on goods and services from distant origins". He also recognises that "if people have closer connections with the landscape itself, they are likely to make wiser choices that lead to a more resilient future".

In addition, an RSPB study in 2013 revealed that 75% of young Londoners are disconnected from nature¹, and George Monbiot has argued that “...if children lose contact with nature they won't fight for it²”. However, for disconnection in adults there is a surprising lack of hard evidence. The general perception is that in modern society there is a considerably reduced connection with nature and the landscape, but a Natural England report concluded that the evidence base was small. The conclusion however was that this is most likely due to the relatively recent interest in this area³.

By integrating this project with others in the Inspiring Darent Valley theme and across the whole DVLPS, it provides a first step to encouraging people to examine the landscape around them more closely. By revealing Samuel Palmer's work, and using it to inspire others, it is realistic to expect it to contribute to achieving a much greater connectedness.

PROJECT DESCRIPTION

Samuel Palmer's Return will be the culmination of much of the scheme's work. The exhibition will be delivered in the final year of the DVLPS and will be a celebration of all that is special about the landscape of the Darent Valley. The final output will be an exhibition not only located close to the inspiration of Palmer's greatest works, but also within the communities that surround the valley. It will not only bring a selection of his works to be viewed by the general public, but they will be exhibited alongside other works of art produced by local artists and by participants in the other DVLPS projects within the Inspiring Darent Valley and Darent Valley Learning and Future Skills themes. This provides an opportunity to not only for children and adults to display their own works alongside those of one of the most visionary landscape artists in Britain, but also to demonstrate how human interaction with the Darent Valley landscape in both modern times and the past has shaped and changed it.

There have been relatively few exhibitions of Palmer's works. He was first 'rediscovered' in 1926 through an exhibition of many of his works at the Victoria and Albert Museum. This inspired and influenced a new wave of landscape artists including F.L. Griggs, Robin Tanner, Graham Sutherland, Paul Drury, Joseph Webb, Eric Ravilious, the glass engraving of Laurence Whistler, and Clifford Harper. His Shoreham works were also exhibited in London some thirty years later in 1956/57.

Whilst the DVLPS exhibition will not be on the scale of these, by having a small selection of his Shoreham works displayed close to where they were originally conceived and created, it is likely to inspire another generation of landscape artists to interpret the qualities of the Darent Valley.

The DVLPS delivery team will work closely with colleagues at the Ashmolean Museum of Art and Archaeology as well as those at the Victoria and Albert Museum to secure the loan of key works. This will entail liaising with art institutions including the British Museum, the Tate, The Yale Centre for British Art, The Morgan in New York, and the National Gallery of Canada.

¹ <http://www.rspb.org.uk/community/placestovisit/rainhammarshes/b/rainhammarshes-blog/archive/2013/10/16/75-of-young-londoners-are-disconnected-from-nature.aspx>

² <https://www.theguardian.com/commentisfree/2012/nov/19/children-lose-contact-with-nature>

³ Connection to Nature: evidence briefing (EIN015) Natural England, 2016; <http://publications.naturalengland.org.uk/publication/4792791243161600>

To deliver this project there are several requirements that will need to be met. These include ensuring that the location for the exhibition meets certain environmental and security conditions which will be assessed by the Government Indemnity Scheme that provide insurance cover for works of art of this value and importance.



The project will comprise of five elements:

ON-LINE SHARED EXHIBITION OF PALMER'S SHOREHAM WORKS

An on-line shared space will be created that communicates the connection between Samuel Palmer, the landscape and the work of the DVLPS. This will initially be shared between the Ashmolean, the Victoria & Albert and the DVLPS, but will seek to expand and include the Tate, British Museum and international partners. This on-line exhibition will draw on the expertise of Colin Harrison and other DVLPS art partners to make a link between art and landscape conservation and provide a starting point for revealing Palmer's influence.

GALLERY SPACE AT THE VICTORIA & ALBERT MUSEUM

The V&A has kindly offered gallery space for a dedicated 'Samuel Palmer and the Darent Valley' display. This will provide an opportunity to raise the profile of Palmer's connection with the valley. Timed to coincide with the launch of the Samuel Palmer Trail it will expand awareness of the Darent Valley, its qualities, special nature and importance to the breadth and diverse nature of visitors to the V&A.

CONFERENCE EVENT AT THE VICTORIA AND ALBERT MUSEUM

A conference event held at the V&A to examine and discuss the role of landscape art in reconnecting modern society with nature. It will consider what can be learnt from exploring the relationship that communities of the past had with their landscape and how this was communicated through art and other media. It will draw specifically on the example of Samuel Palmer and the Darent Valley. The conference will be fed live on social media and subsequently be available through the DVLPS website and social media channels.

GUERRILLA ART

In the build-up to the 'Samuel Palmer's Return' exhibition, a form of 'guerrilla art' will be used, posting ephemeral large-scale images of Samuel Palmer works in the valley and in south-east London. This will utilise the DVLPS's relationship with Southeastern Trains and other partners to create 'teaser' promotions and discussion about Palmer and the valley.

'SAMUEL PALMERS RETURN' EXHIBITION

Year 5 of the scheme will culminate in the exhibition of several of Samuel Palmer's works from the Darent Valley back within the valley. Whilst Knole Park (identified at stage 1) is no longer able to host this, at least two good potential venues have been identified. The intention is that the exhibition will tour two or possibly three venues, with at least one located in the heart of urban communities within or near the valley. Both Dartford and Lewisham are within target communities for introducing new audiences to Samuel Palmer's works and extending the appreciation of the valley's landscape beyond its own resident communities.

The exhibition will also house and display contemporary works produced by DVLPS art partners including the Dartford Arts Network, local art groups and work created through the other projects in DVLPS Inspiring Darent Valley theme. This will include photography, prose, poetry and audio works.

OUTPUTS AND OUTCOMES

Activity	Outputs	Outcomes
Online Palmer exhibition	<ul style="list-style-type: none"> • 6 museum partner organisations involved. • 2,000 hits on the website. 	<ul style="list-style-type: none"> • Increased awareness of Samuel Palmer and his relationship and appreciation of landscape, and particularly the Darent Valley. • A broader awareness of the qualities of the Darent Valley landscape amongst national and international visitors. • The introduction of the concept of landscape art to new audiences, particularly amongst non-traditional target demographic groups. • Raised awareness of the location and qualities of the Darent Valley amongst residents in Lewisham and Dartford. • Increased interest and involvement in landscape art activities associated with the Darent Valley. • A new generation of artists inspired to interpret and communicate the Darent Valley landscape.
Gallery space at the V&A	<ul style="list-style-type: none"> • 1,000 visitors to gallery space. • 1,000 with increased awareness of Samuel Palmer's links to the Darent Valley. 	
Conference event at the V&A	<ul style="list-style-type: none"> • 1 conference event held. • 50 attendees. • 50 live views of the conference. • 250 subsequent views on the DVLPS website. 	
Guerrilla Art	<ul style="list-style-type: none"> • 30 large-scale Palmer images posted in and around the landscape of the Darent Valley. 	
Samuel Palmer's Return exhibition	<ul style="list-style-type: none"> • 1 exhibition provided at 3 locations. • 5+ Shoreham Palmer images exhibited back within the Darent Valley. • 50 contributing local artists' works exhibited. • 1,000 attendees to exhibition. 	

All the outputs referred to above can be readily collected. The only exceptions are visitors to the gallery space at the V&A and the exhibition itself. Where they are not available already we will install simple people counters to record the number of visitors.

Outcomes will be measured through social media responses (Facebook will be a principle way of raising the profile of activities in this project). In addition, repetition of the audience development survey will demonstrate a change in behaviours and awareness.

PROJECT COSTS

Element/Item	Year 1 2017/18	Year 2 2018/19	Year 3 2019/20	Year 4 2020/21	Year 5 2021/22	Total
[REDACTED]		[REDACTED]				[REDACTED]
[REDACTED]	[REDACTED]					[REDACTED]
[REDACTED]					[REDACTED]	[REDACTED]
[REDACTED]					[REDACTED]	[REDACTED]
[REDACTED]					[REDACTED]	[REDACTED]
[REDACTED]				[REDACTED]		[REDACTED]
[REDACTED]				[REDACTED]		[REDACTED]
[REDACTED]				[REDACTED]		[REDACTED]
[REDACTED]					[REDACTED]	[REDACTED]
[REDACTED]					[REDACTED]	[REDACTED]
[REDACTED]					[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]				[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]				[REDACTED]		[REDACTED]
[REDACTED]				[REDACTED]		[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]				[REDACTED]		[REDACTED]
[REDACTED]				[REDACTED]		[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Totals	£1,675	£1,950	£350	£8,400	£26,000	£38,375

PROJECT RISKS

Risk	How likely	Severity	Consequence	Action required
Availability of Palmer works does not fit with exhibition timetable	Low	Medium	Final exhibition is unable to go ahead.	The exhibition is planned for the final year of the scheme, and early enquiries have already been made with possible locations. These will be firmed up in year 1 of the scheme delivery.
No exhibition locations meeting the Government Indemnity Scheme requirements	Low	High	Exhibition of Palmer works will not be possible.	Ightham Mote and the Horniman Museum have previously hosted exhibitions of this status and it is therefore unlikely that they will not be acceptable to the GIS.
Lack of availability of exhibition locations	Low	Medium	Use of Palmer images may be limited presenting difficulty with conveying the landscape connection and appreciation.	Investigation with identified exhibitions at an early stage in year 1 with a view to provisionally booking them well in advance.
Transport costs and loan fees make project prohibitive	Medium	Medium	Limited range of Palmer works can be exhibited meaning that outputs and outcomes may not be achieved.	Principle costs come from obtaining works from North America. These costs are based on best estimates from the Ashmolean and will be clarified early on. Otherwise, British based works will only be used.

TRAINING REQUIRED

None identified.

MAINTAINING A LEGACY

This project in effect creates and maintains its own legacy as it aims to generate a long-term appreciation of the Darent Valley's landscape. Its true legacy will be to instil a valuing of the landscape and a strong will to protect its special character for future generations in the way that Palmer did in the past.

LINKS TO OTHER PROJECTS

- 1A Samuel Palmer Trail
- 1C Inspired Palmer Landscapes
- 3C Telling the Darent's Story
- 3D Reducing the Pressure

PROJECT TIMETABLE

Activity	Year 1			Year 2			Year 3			Year 4			Year 5											
	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
On-line shared exhibition of Palmer's Shoreham works																								
Discussion with museum partners regarding technical issues with shared webspace.																								
Establishment of online web gallery on DVLPS site																								
Social media marketing and publicity																								
Shared space gallery live																								
Gallery space at the Victoria & Albert Museum																								
Discussion with V&A about requirements for use of gallery space																								
Design and production of display and promotional material																								
Palmer and the Darent Valley gallery space running																								
Conference event at the Victoria and Albert Museum																								
Organisation and administration																								
Conference delivery																								
Guerrilla art																								
Confirm locations																								
Production of posters																								
Posters located and displayed																								
'Samuel Palmers Return' exhibition																								
Research possible exhibition locations																								
Confirm loan potential, costs and any restoration required																								
Curation and production of materials																								
Exhibition running																								

1C. INSPIRED PALMER LANDSCAPES



Cornfield by Moonlight with the Evening Star by Samuel Palmer (The British Museum)

PROJECT AIM

The Inspired Palmer Landscapes project plays a key role within the entire scheme. It will work across all the communities within the valley to explore, reveal and celebrate the stories of individual places and local landscapes. Engaging 'Talk the Walk' events will draw together communities and individuals of all ages to investigate the history that has shaped the Darent Valley and created the sense of place for their part of it. Drawing on the experience of the Thurrock 100 project on the other side of the Thames, these stories will be communicated through pieces of poetry, prose and artwork, inspired by Samuel Palmer's connection with the valley. This will then be celebrated through a Samuel Palmer Walking and Talking Festival, to enable the wider community enjoy and learn about the Darent Valley's heritage and celebrate their own heritage connections to the landscape.

DELIVERY LEAD

Darent Valley Landscape Partnership Scheme Delivery Team working with Kent County Council Arts and using commissioned artists.

LOCATION

The Inspired Palmer Landscapes projects will operate across the entire valley. It will work with every community in the valley (see Audience section below). It does not propose to work with any specific site-based installations, but the Talk and Walk events and the festival will run from the individual communities, villages and towns along rights of way and permissive paths.

AUDIENCE

The focus will be on enhancing community pride and joint-working between the individual settlements that are located within the valley. It will be a celebration of the communities, land and how interaction created the distinctive landscape of the Darent Valley.

The project intends to be entirely inclusive, and provide opportunities for all sections of the individual communities to be involved from school children to adults. The communities will be grouped into ten areas:

- Temple Hill
- Dartford & Hawley
- Sutton-at-Hone, Horton Kirby and South Darent
- Eynsford, Farningham and outskirts of Crockenhill
- Shoreham & Badger's Mount
- Otford & Kemsing
- Sevenoaks
- Chevening & Chipstead
- Sundridge and Brasted
- Westerham

Whilst the immediate focus is on those settlements within the valley, it will also work with communities adjacent to the valley.

HERITAGE VALUE

Each of the villages has its own identity that have been shaped by their relationship with the River Darent and the surrounding landscape. This relationship began in prehistory, but was strengthened during Roman times. Therefore, even those villages in close proximity to each other have very separate identities. This is evidenced by each having a Conservation Area at its heart, with a distinctive feel and environment.

Some of the villages appear connected but are separated by local authority boundaries (e.g. Horton Kirby and Sutton-at-Hone) which creates an artificial boundary. The villages within the Central Valley Sub-Character Area work closely together having formed a 'Darent Valley Consortium' but there is no formation or grouping (except the DVLP) that unifies the entire valley.

However, all the settlements are joined by the valley's heritage and have the Darent Valley Path (and the A225 and A25) as a physical connection between the towns and villages.

Each of the communities has stories to tell and share, and there are many active groups that already investigate local history or are involved in community activities. All are proud of their valley, but want to celebrate it, and this project will provide that mechanism.

ISSUES AND THREATS

There is a remarkable community spirit within the Darent Valley despite its location being so close to London. However, the proximity of the capital means that the communities are far more mobile and dynamic, with the result of constant change.

Being commuter-belt country with the central and lower valleys having excellent links to the city, many residents have a more limited knowledge of the area's heritage and history. However, this is not necessarily because they don't want to know about how the valley's landscapes and communities have been shaped, but more because that information isn't necessarily in an easily accessible form. The audience development work undertaken during the development stage for the scheme demonstrated that there is a real appetite for learning more about the Darent Valley, and this project provides an excellent opportunity to deliver this.

There is now less connection along the entire length of the valley, and the river is not as unifying a feature as it once was. Only in recent years has Dartford recognised the importance of the Darent as a feature that shaped its past. This is likely due to it being seen as a significant flooding threat in the middle of the last century, and the emphasis was on speeding its course to empty its waters into the Thames. Now, it is turning back to face the river and it is seen as an asset.

The local authority boundary between the Borough of Dartford and Sevenoaks District has actually created a significant barrier. Investment into Dartford as a growth area within the Thames Gateway has often meant that as distance from the town increases to the south towards the Sevenoaks boundary and beyond, it is less evidenced. The consequence is that the section of the valley between south Dartford and Farningham often feels a little forgotten when compared to the rest of the area.

There is also something of a disconnect between the upper valley and the central valley. This is partly due to the presence of Sevenoaks, which in a similar way to Dartford creates an artificial separation.

Ultimately, this all returns to the loss of an emotional connection with the valley's landscape, which weakens the will to protect and conserve it for the future.

PROJECT DESCRIPTION

With discreet communities spread along the floor of the Darent Valley, and the walking route of the Darent Valley Path connecting all of the villages and town, the landscape lends itself well to a project enabling a celebration through art and walking. This project will run through the entire five years of the DVLPS and will deliver over four stages.

The project itself is inspired by similar projects including the Thurrock 100 which has run immediately adjacent to the DVLPS area on the Essex side of the Thames, and the Silk River project currently delivering along the Thames and including Dartford. During the development stage of DVLPS, the development team has been involved with the Silk River project and advised by the organisation running it, Kinetika. Inspired Palmer Landscapes is an opportunity to build on that work, and integrate it so that there is a far greater benefit.

STAGE 1 – ESTABLISHMENT AND PREPARATION

This stage will enable the establishment of the framework for managing and overseeing the project to ensure that it integrates with other projects in the scheme.

1.1 ESTABLISH THEME GROUP AND DISCUSS DETAIL OF PROJECT

The formation of the 'Inspiring' theme group for the DVLPS is an important precursor to the start of this project as it includes most if not all of the elements of the theme. The DVLPS Delivery Team will bring together the key local arts and culture organisations to provide an overview and input into the project, and guide it so that it maintains delivery of the key objectives of the scheme. The specifics of project delivery will be discussed to inform the building of a project brief.

1.2 ADOPTION AND PREPARATION OF KENT COUNTY COUNCIL'S AIRSTREAM CARAVAN

The DVLPS will take on the Airstream caravan that was used as the Kent Cultural Baton during the Olympic year in 2012. Originally funded by lottery funding from the Arts Council England, the DVLPS will give it a new lease of life by undertaking refurbishments and internal conversion to provide a travelling engagement tool for 'Inspired Palmer Landscapes'. This will include internal landscape wraps, restoration of the extendable camera or 'Scape Scope', repairs and polish. It will create a focus for attracting attention and drawing people in to tell stories and undertake activities at events.

1.3 FINALISE BRIEF

The brief will be clarified and finalised through the work of the 'Inspiring' theme group. This will be undertaken through initial physical meetings, but will subsequently utilise the collaboration tools through the DVLPS's new IT system (see LCAP for more details). The importance of ensuring the brief relates to Samuel Palmer along with the relationship and understanding of the landscape will be key.

1.4 COMMISSIONING OF DELIVERY ORGANISATION

Following Kent County Council's procurement procedure, a community arts organisation will be commissioned to deliver the project in its entirety using the theme group as its steering group. The emphasis will be on using a locally based organisation that is prepared to use local artists and experts from the local communities to deliver the projects. Previous experience of delivering very similar projects will also be essential.

STAGE 2 – GENERATING INTEREST AND SUPPORT

Upon commissioning of the delivery organisation, the next stage will involve developing interest in the project. It is anticipated that the 'Inspiring' theme group will play an important role with this using existing key links that can be utilised. Several essential actions will be required:

2.1 ESTABLISH LINKS WITH MAIN ART AND CULTURE PARTNERS

The commissioned organisation will contact and look to integrate the work of existing partners such as the Big Draw, the Ashmolean and the Victoria & Albert Museums. The integration of the Big Draw's annual campaigns as well as the outreach programmes of the museums will be important to ensuring a wide-reaching project that encompasses the ethos of Samuel Palmer.

2.2 ESTABLISH LINKS WITH LOCAL ARTISTS AND HERITAGE GROUPS

The DVLPS already has well-established relationships with many local artists. This project will endeavour wherever possible to work through these groups and artists. These include the Dartford Arts Network, Darent Valley Youth Music, Shoreham Village Players, Local Vocals, Farningham and Eynsford Local History Society, the Horton Kirby & South Darent Local History Society, Dartford Museum, Eynsford Riverside Players and Westerham History Society.

2.3 INTEGRATION WITH OTHER PROJECTS

As this project encompasses all elements within the scheme’s Inspiring theme, it will co-ordinate and work closely with the delivery of the other projects. In particular, this will be with a view to many of the pieces produced being exhibited alongside Samuel Palmer’s works in the final year of the scheme.

2.4 THE TOURING AIRSTREAM

The Airstream will be used to tour the villages, attending, schools, local groups, and village and town events, using audio recording equipment, art activities and discussions to collect stories from the communities along the valley. It is intended that the Airstream becomes a recognisable feature of the DVLPS and allows people to engage with the scheme in a friendly environment.



2.5 ‘TALKING HISTORY’ SESSIONS WITH EACH LOCAL COMMUNITY

Informal introductory workshops will be held with each community to inform them of the project, explain its approach, and collect initial information. These will provide the starting point and will take the form of informal story-sharing sessions and pin-pointing what makes their community and local landscape special. It will also draw from existing oral history projects that have been undertaken for instance by the Shoreham & District Historical Society.

2.6 RECRUITING VOLUNTEERS

The talking history sessions will provide initial contact with potential volunteers to lead the learning walks and have involvement in the walking festival. It will also allow the identification of training needs.

2.7 LANDSCAPE LEARNING WALKS

A series of learning walks will be undertaken led by local volunteers and with local people. Approximate routes will be determined beforehand, but they will be allowed to develop organically as stories are gradually revealed and expanded upon by participants. Audio recording equipment and where feasible video, will be used to note the discussions.

STAGE 3 – DEVELOPING STORIES AND THE ROUTE

This stage will develop and build the record of stories as a record of the identity of the villages and towns, and their relationship with the landscape. These stories will be used to inspire pieces of art, photography, music, prose and creative writing that will form the centrepiece of the Samuel Palmer Walking and Talking Festival.

3.1 DELIVERY OF STORIES SESSIONS

Stories sessions will be organised with both schools and communities to develop the ideas and tales discovered during the landscape learning walks. These will be interactive and engaging events that will help to embellish what was learnt and begin to involve the wider community in rediscovering these stories.

3.2 CREATIVE WRITING AND DRAWING WORKSHOPS

A series of workshops will be delivered in as many of the schools within the Darent Valley as possible, and also provided for adults involved in the project. These will be half-day sessions with the potential to expand where there is demand. For members of the community there will be opportunities for longer term courses to be delivered through the Future Skills project in theme 5.

3.3 COMPOSITION WORKSHOPS – MUSIC.

The project will work with organisations such as Darent Valley Youth Music and local composers such as Rupert Bond to deliver creative workshops inspired by the landscape. These will be developed from the Landscape Learning Walks where young people will have an opportunity to engage with the landscape.

3.4 FLAG MAKING AND CELEBRATION ART

In preparation for the walking festival, community celebration flags interpreting each individual place along the Darent will be made. The intention is that these will be created through workshops and produced on silk in recognition of the famous silk mill at Greatness (made famous by the “Ode on the Silk Mills at Greatness” by Joseph Harrison in 1869, the silk farm at Lullingstone Castle and the silk printing works at Dartford. These flags will be a representation of the stories and heritage of each village and town, and will be paraded as part of the festival.



Flag-making during the Thurrock 100 project (Kinetika)

3.5 VOLUNTEER TRAINING – WALK LEADERSHIP AND GUIDING

In advance of the festival, training will be provided for the volunteers that will be leading the individual walks. This will ensure that the walks are well-organised, safe and competently delivered. These will be provided through the Future Skills project.

3.6 COLLATION OF STORIES AND IMAGES FOR STORIES BOOK

The outputs from all the creative workshops will be collated to be included in a Palmer's Valley stories book that will be available to the local community as a record of their activity. Audio recordings will be made available through the websites of DVLPS and the partners and also promoted through social media channels including the scheme's own Vimeo Channel.

STAGE 4 – DELIVERING THE WALKING FESTIVAL

The culmination of the project will be the delivery of the walking festival in the final year of the scheme.

4.1 DELIVERY OF THE SAMUEL PALMER WALKING AND TALKING FESTIVAL

The festival will feature a walk around one community each day over a ten-day period. Each one will include part of the Darent Valley Path as a linking access feature, and will be a shared experience across all the communities. Each walk will be curated and led by local volunteers, and will be done with a spirit of fun and collaboration.

This will be a walking and talking festival, as in the manner of Samuel Palmer and his fellow Ancients 200 years ago, it is intended that there will be discussion and singing, with the inclusion of music and animated art from local groups.



Flags created as part of the Thurrock 100 project (Kinetika)

The flags and other celebration art produced through the workshops will be displayed on the walks, and this will be a positive visual symbol of the communities' relationship with the landscape around them.

4.2 FILMING

The festival will be recorded via video and still photography to provide a visual reminder of the celebration of the landscape. This will be archived on-line with the aim of it being repeated in future years to maintain the pride in the landscape.

4.3 PALMER PROJECTIONS

Each walk will end with an evening large-scale animated projection featuring art and the landscape within each community at an outdoor location. This will include Dartford's Outdoor Theatre, Eynsford Castle and other notable heritage sites.

4.4 PRODUCTION OF STORIES BOOK

The stories book will be designed and produced featuring the creative writing story pieces and artwork created by the communities as a permanent record of the project and its outputs. It will also be placed on the DVLPS website and fed out through the social media channels of the DVLPS and its partners.

4.5 SELECTING WORKS TO APPEAR IN THE PALMER EXHIBITION.

This project will integrate with Project 1B: Samuel Palmer's Return, with examples of the artwork produced being displayed alongside those of Samuel Palmer at the exhibition.

CHANGES FROM STAGE 1 SUBMISSION

This project brings together elements of the previously declared projects 'Restoring Landscape and Vision' from Theme 1, 'Then and Now – Remembering a Changing Valley' from Theme 2 and 'In Hop Pickers Footsteps' from Theme 5 under a single project. It also takes elements of 'Engaging New Audiences' project. The intention is that it integrates the elements of local history research, understanding of heritage, and the celebration of the landscape and local distinctiveness within an arts-based project that takes its inspiration from Samuel Palmer.

The elements outlined at stage 1 in the individual projects remain, but fit together more cohesively using the valley's landscape to generate creativity and cross-fertilisation.

The Big Draw were unable to commit to being involved to the extent that was first envisaged, but will still be participating in the project. Instead, a specialist arts organisation with previous experience of this type of work will be commissioned by the DVLPS team to co-ordinate and deliver this project.

OUTPUTS AND OUTCOMES

Activity	Outputs	Outcomes
Establishment of Inspiring theme group	<ul style="list-style-type: none"> • 1 x advisory theme group established. • 20 x members of theme group recruited. • 5 x theme group meetings during life of the project. • 1 x Virtual meeting point and discussion area created. 	<ul style="list-style-type: none"> • Improved understanding of the heritage that shaped the communities and landscape around them. • Greater awareness of Samuel Palmer and his relationship with the landscape and the Darent Valley. • Local people will have developed new skills such walk curation and leadership. • Close community bonds between the individual settlements of the Darent Valley. • Local people have a stronger connection (emotionally and physically) with their landscape. • An even greater sense of pride in the valley and its heritage. • Local people will have explored parts of the valley that they were previously unaware of. • A legacy will have been established for future celebrations. • Children and adults will have developed new artistic skills and be able to better communicate their own personal connection with the landscape. • Links will be established with neighbours in Thurrock, along the Thames and in India along the Hooghly River, through connections with the Thurrock 100 and Silk River projects.
Links with art and culture partners established	<ul style="list-style-type: none"> • 3 x main art and culture partners involved. • 30 x local groups recruited to contribute to the project. 	
Adoption of Airstream caravan	<ul style="list-style-type: none"> • 1 x Airstream caravan renovated and kitted out for touring. • Attends 50 events and locations as part of engagement activity. • Visited by 2,500 people during life of project. 	
Talking History sessions run	<ul style="list-style-type: none"> • 10 x sessions held. • Attended by 200 people. 	
Volunteers recruited	<ul style="list-style-type: none"> • 20 x volunteers recruited. • 40 volunteer days contributed. 	
Landscape Learning Walks	<ul style="list-style-type: none"> • 10 x Landscape Learning walks delivered. • Attended by 300 people. 	
Stories Sessions	<ul style="list-style-type: none"> • 10 x Stories Sessions held. • 250 participants. • 100 stories recorded. 	
Creative writing and drawing workshops	<ul style="list-style-type: none"> • 25 x ½ day school workshops held. • 25 x schools participating. • 10 x whole-day workshops for adults • 100 x adults participating. 	
Flag-making and celebration art sessions	<ul style="list-style-type: none"> • 10 x celebration art sessions held. • 200 x people participating. 	
Volunteer walk leadership and guiding training sessions	<ul style="list-style-type: none"> • 1 x training session held. • 20 x participants. 	
Walking and Talking Festival	<ul style="list-style-type: none"> • 1 x festival held. • 10 x individual walks. • 500 participants. 	
Production of Stories Book	<ul style="list-style-type: none"> • 1 x Stories Book published. • 1000 copies produced. 	

There will be a requirement of the commissioned art organisation to collect the necessary outputs. In addition, the project will be included within the main scheme evaluation, and outcomes will be measured through audio recording, informal interviews and through social media.

PROJECT COSTS

Element/Item	Year 1 2017/18	Year 2 2018/19	Year 3 2019/20	Year 4 2020/21	Year 5 2021/22	Total
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
Totals	£20,750	£21,768	£25,118	£26,218	£30,893	£124,745

PROJECT RISKS

Risk	How likely	Severity	Consequence	Action required
Unable to commission with appropriate skills and experience	Low	High	Project needs to be reduced in scale or broken down into constituent parts meaning that outputs and outcomes cannot be achieved.	Kinetika, who delivered the Thurrock 100 and Silk River projects has expressed considerable interest in the project and intend to apply for the commission. DVLPS will maintain contact with them to ascertain their availability.
Community participation is insufficient	Low	High	Project cannot be completed or is not possible in all communities.	Community participation in the scheme so far has been excellent, and tremendous enthusiasm has already been expressed for this project. DVLPS will maintain communications and momentum in the build up to delivery of the project.
Budget is insufficient for project completion	Medium	Medium	Project must be scaled back and outputs and outcomes cannot be achieved.	The budget is based on expanded costings from the Thurrock 100 project. Therefore, they are anticipated to be accurate. A 10% contingency has been allowed for.

TRAINING REQUIRED

- Walk leadership and curating
- Creative writing and poetry
- Artistic skills – sketching, painting
- Music composition

MAINTAINING A LEGACY

Many of the outputs of this project will create its legacy. These include the pieces of art, compositions and stories that will continue to be available through the DVLPS website (which will be transferred to the Kent Downs AONB at the end of the scheme) and those of partners and the individual communities.

The Stories Book will be a permanent record of the project’s outputs along with audio recordings, and video record of the celebrations. It is intended that these events can be repeated a decade later to maintain the celebration of communities and landscape into the future.

The true legacy of this project though will be the shift in how communities view the Darent Valley landscape and can further appreciate the multiple layers of heritage have shaped it.

LINKS TO OTHER PROJECTS

This project has links to all others within the scheme and it is therefore anticipated that specific connections will be identified as it progresses.

Theme 1: Inspiring Darent Valley

1C. INSPIRED PALMER LANDSCAPES

PROJECT TIMETABLE

Activity	Year 1					Year 2					Year 3					Year 4					Year 5																
	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	
1.1 Establish theme group and discuss detail of project	■	■	■	■																																	
1.2 Adoption and preparation of Kent County Council's Airstream	■	■	■	■	■	■	■																														
1.3 Finalise brief				■	■																																
1.4 Commissioning of delivery organisation						■	■	■	■																												
2.1 Establish links with main art and culture partners									■	■																											
2.2 Establish links with local artists and heritage groups									■	■	■	■																									
2.3 Integration with other projects																																					
2.4 Airstream goes on tour												■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
2.5 'Talking History' sessions with each local community												■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
2.6 Recruiting volunteers												■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
2.7 Landscape Learning walks																																					
3.1 Delivery of stories sessions																																					
3.2 Creative writing and drawing workshops																																					
3.3 Composition workshops - music																																					
3.4 Flag-making and celebration art																																					
3.5 Volunteer training - walk leadership and guiding																																					
3.6 Collation of stories and images for stories book																																					
4.1 Delivery of Samuel Palmer Walking Festival																																					
4.2 Filming and recording of the festival																																					
4.3 Palmer projections																																					
4.4 Production of Stories Book																																					
4.5 Selection of works for Palmer exhibition																																					
5.0 Evaluation and development of legacy																																					

1D. FRAMING THE VIEW



PROJECT AIM

To work with UK Power Networks (UKPN) to relocate 11kV electricity lines underground where they impede important views, have a negative impact on landscape character and detract from important sites in the Darent Valley. These undergrounding projects will be complemented by other landscape enhancements to provide additionality and maximise the impact of the undergrounding operation.

DELIVERY LEAD

Due to the technical nature of the project and UKPN being the statutory undertaker and distribution network operator for electricity covering South East England, the actual undergrounding operation will be delivered by them. However, they will work closely with the DVLPS delivery team and the responsible officer from the Kent Downs AONB to identify the locations for undergrounding these lines. The delivery of complementing landscape enhancements will be led either by the DVLPS delivery team or the appropriate delivery partner (depending on the finalised location).

LOCATION AND LAND OWNERSHIP



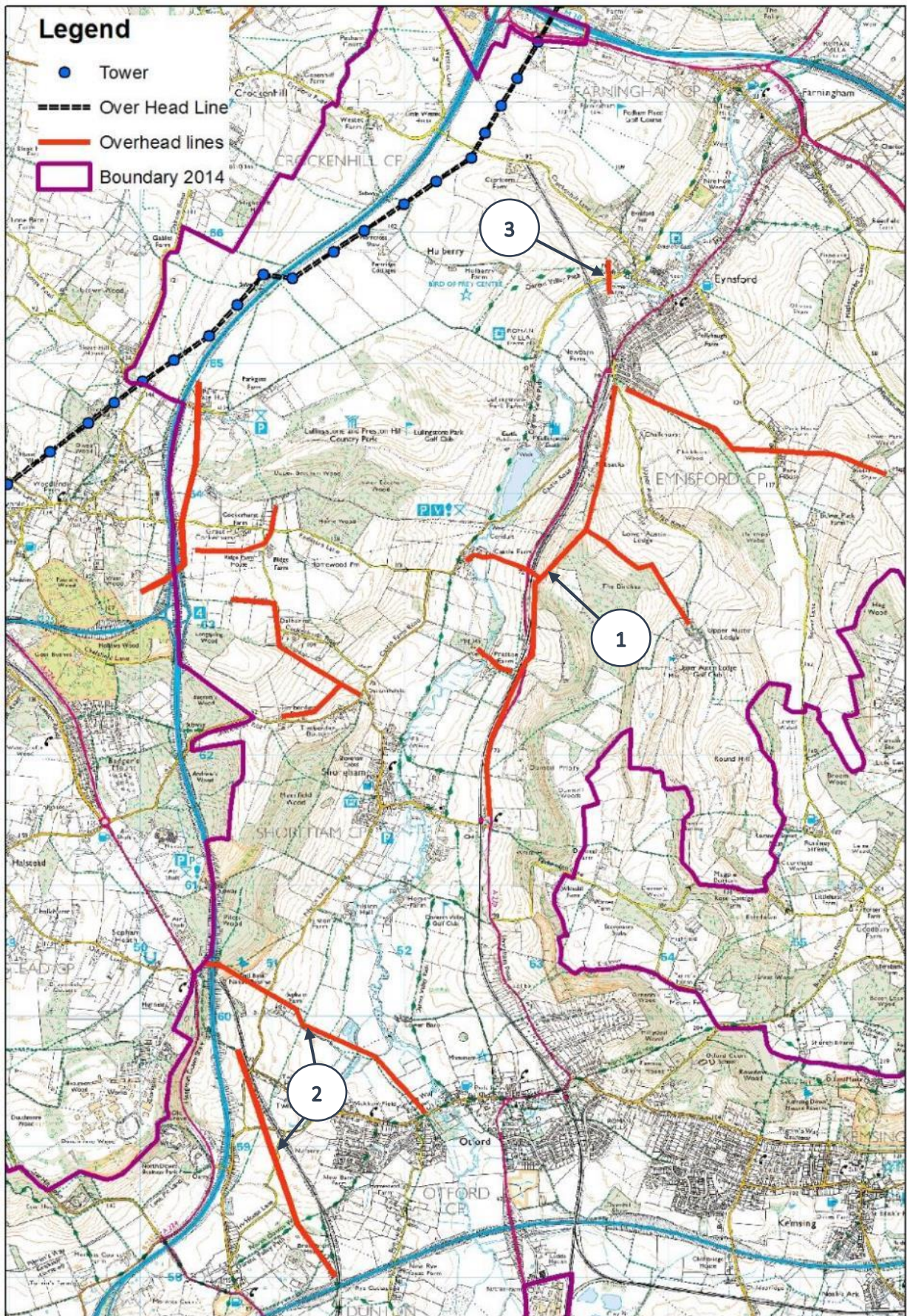
During the development phase, a complete survey was undertaken of the location of all 11kV lines within the AONB sections of the Darent Valley (see overleaf). This was to ascertain where the existing lines had the greatest impact on the landscape, be it spoiling important views of the valley or being visually intrusive across the landscape. The practicalities of undergrounding were also considered, as the presence of other infrastructure such as roads, and natural features such as rivers where they created considerable complications. Also, the presence nearby of other infrastructure such as National Grid lines, 132 kV lines or street lights was considered where it might mean that the beneficial effects of undergrounding might be considerably reduced.

A priority location was identified at Preston Hill (TQ 53050 63373 and shown as point 1 on map overleaf); a country park, SSSI and popular viewpoint. The undergrounding of cables here has several potential benefits including facilitating better management of an important chalk grassland site, providing clear and far-reaching views of the valley from Farningham down to Sevenoaks, and also likely to be an area that Samuel Palmer walked and enjoyed almost two hundred years ago.

The land is in the ownership of Kent County Council, with two of the fields leased to a local farmer, John Dinnis at Filston Farm. Both are predisposed to supporting the project, not only for aesthetic reasons, but also to aid the management of their land.

Full feasibility work is still required to be undertaken by UKPN, and therefore it is possible that undergrounding here may not be possible for unforeseen reasons. If this is the case, the survey work undertaken by the development team have identified secondary sites (shown as point 2 on the map overleaf) where this may be undertaken. In addition, a small length of line is present at Eynsford where it crosses the Darent Valley Path (point 3) at a much-enjoyed viewpoint.

Although the DVLP has proposed just one undergrounding project, the scheme is well-placed to facilitate a second one at another location in the valley, and therefore it is hoped that there will be even greater benefit.



Location of 11kV lines (in red) and National Grid lines (in dashed black) and towers (in blue) in the central valley

AUDIENCE

This project does not target a specific audience, and instead will benefit all residents and visitors in the vicinity of the undergrounding sites. The project at Preston Hill will be integrated with the work being undertaken in project 4A.1 which will provide better (but understated) access for a site that is surprisingly rich in both cultural and natural heritage. As a country park, the site is publicly owned with open access and is also highly likely to feature on the Samuel Palmer Trail as part of Project 1A.

HERITAGE VALUE

The consultation undertaken during the development stage of the scheme highlighted the importance of the views within the valley. As the slopes rise steeply from the valley floor in the central valley, the expansive and far-reaching views that are offered are highly valued. Unfortunately, this also means that modern energy transport infrastructure can have a major negative impact on the landscape heritage.

The National Grid and Electricity Distribution Network of overhead lines are a relatively recent creation, being established in the 1920s. At the time of Samuel Palmer's residence in Shoreham, these overhead lines would not have existed, and would have been something that he would have abhorred.

The National Grid lines skirt the edge of the valley to the west of Eynsford and Farningham and then actually cross the valley between Horton Kirby and South Darent. Their impact is significant as they sit on the horizon and are visible throughout the valley. Unfortunately, undergrounding of these is not feasible and it is only possible to mitigate against their effects.

ISSUES AND THREATS

The power distribution network is an obvious necessity in today's society, but channelling these lines underground is an expensive and complicated task. Within the Darent Valley, several run alongside roads and here the impact is reduced. However, in an essentially rural area with significant areas of open landscape, particularly on the valley sides, several runs of the low voltage 11kV lines extend across open fields. In these cases, they have a much greater effect on the landscape, and because they are generally seeking the shortest distance between two points, do not follow natural landscape features. Consequently, despite generally 'only' being wooden poles with three cables, they draw the eye and damage views.

In addition, a 132kV section of line from near junction 4 of the M25 eastwards, passing eastwards between Castle Farm near Shoreham and Lullingstone Castle. Unlike the 11kV cable, this is carried by steel pylons some 27 metres in height



and have a significant impact on the landscape. During the development stage consultation, the DVLP was regularly asked if ‘something could be done’ about these towers.

The high voltage lines carrying the National Grid are even more imposing at some 45 metres in height, and their location on the valley tops within the AONB section of the valley, and crossing it to the north has a significant impact.

A key issue here however is that there is currently no mechanism for undergrounding these higher voltage lines. The National Grid is piloting the undergrounding of its lines in four National Parks and AONBs, but the cost is likely to be £18 million per pylon. There are currently no plans to expand this into the Kent Downs AONB.

PROJECT DESCRIPTION

The undergrounding in the Darent Valley will focus on the 11kV lines. This will be funded and led by UK Power Network’s AONB Undergrounding Project. Working in association with Natural England and environmental experts across the region, the project has already removed over 120km of visually intrusive overhead power lines from protected landscapes in the East and South East of England by January 2017.

This work has been made possible by a special allowance granted by the electricity regulator Ofgem to remove overhead lines from protected landscapes such as Areas of Outstanding Natural Beauty (AONB’s) and National Parks.

Successful projects are identified and determined by a regional steering group comprising of representatives of the AONB and national park management units, and chaired by Natural England. UK Power Networks offers technical support and guidance to the group and carries out the work but doesn’t vote on the selection of individual projects.



View across valley at Preston Hill with 11kV wires affecting view

During the development phase, the steering group was consulted about the plans for the Darent Valley Landscape Partnership Scheme, and it was agreed that the integration of undergrounding with the scheme’s work made projects more attractive. Although submitted projects still need to achieve the criteria set by Ofgem and administered by the steering group, the potential projects identified through DVLPS will exceed these.

The undergrounding at Preston Hill has been prioritised as it integrates with several other projects within the scheme and creates added value. Provisional costings have been put together by UKPN, and a conservative estimate is £350,000 to bury the cables at this location.

Prior to any scheme being approved by the steering group, consent is sought from all landowners and their tenants likely to be affected by any proposal. Parish and Town Councils, the local planning authority and other statutory bodies are also consulted as part of the feasibility process. The undergrounding scheme will then be presented to the Undergrounding Steering Group for approval and will be followed by a full site survey to determine technical issues and accurate costing.

The undergrounding process is then likely to take approximately four months from the commencement of the replacement installation underground cable network to the final dismantlement of the overhead line.

OUTPUTS AND OUTCOMES

Activity	Outputs	Outcomes
Undergrounding of 11kV line at Preston Hill	<ul style="list-style-type: none"> • 2km of line removed and placed underground. • 18 poles removed. • 1 key viewpoint restored. 	<ul style="list-style-type: none"> • Greater appreciation of the natural heritage and landscape character for visitors to Preston Hill Country Park. • Restoration of a valley view as would have been enjoyed by Samuel Palmer 200 years ago. • Improved setting for landscape, access and biodiversity enhancements undertaken by other DVLPS projects.

Outputs and outcomes will be measured principally using before and after photographs.

PROJECT COSTS

Element/Item	Year 1 2017/18	Year 2 2018/19	Year 3 2019/20	Year 4 2020/21	Year 5 2021/22	Total
Totals	£0	£350,000	£0	£0	£0	£350,000

Whilst this project remains in the scheme the costings are not included in the budget sheets as an in-kind contribution. This is due to it skewing the figures falsely. It however remains a significant contribution to the scheme.

PROJECT RISKS

Risk	How likely	Severity	Consequence	Action required
Availability of funds for the undergrounding project no longer available.	Very Low	High	Undergrounding not possible without the funding from UKPN and approval of Ofgem.	The fund is currently underspent and funding has been approved for the foreseeable future. This project will be taken forward to the steering group early in the life of the scheme.
Proposed projects not approved by the undergrounding steering group.	Low	Medium	Selected projects not delivered.	The Kent Downs AONB sits on the steering group and has a high rate of success with proposals. Assessment of Darent Valley sites has been completed with the responsible officer, and have scored very highly. At least contingency projects are included as a standby.
Landowner approval not given	Low	Medium	Identified projects not possible.	Both landowners at the Preston Hill site are well known by the DVLP (and sit on the Partnership Board) and therefore consent is highly likely. Part of the line passes over the railway line and Network Rail’s approval may also be needed, and communication will begin with them at an early stage.
Unforeseen technical issues arise.	Low	Medium	Cost may increase and/or specialist equipment is needed.	As the priority project is located on chalk, no major issues are anticipated.

TRAINING REQUIRED

None identified.

MAINTAINING A LEGACY

This activity is a long-term project in its own right. Its key legacy may be to generate enthusiasm for further similar projects elsewhere in the valley, and therefore providing landscape benefits over a larger area. By integrating undergrounding into a landscape partnership, this becomes more than just an undergrounding project, and will have the effect of evidencing to UKPN and Ofgem that delivering this work in a more holistic way can generate far greater benefits. In addition, it offers improved publicity opportunities for commercial partners providing prospects for closer partnership working in the future.

LINKS TO OTHER PROJECTS

- 1A In Search of the Bright Cloud – The Samuel Palmer Trail
- 1B Samuel Palmer’s Return
- 1C Inspired Palmer Landscapes
- 1E Rediscovering Tranquillity
- 3B Gateways to the Valley
- 3D Reducing the Pressure
- 4A Uncovering the Herb-scented Scarp

PROJECT TIMETABLE

Activity	Year 1					Year 2					Year 3					Year 4																					
	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	
UKPN to confirm estimated costings	■	■																																			
Consultation with landowners (DVLPS)			■	■																																	
Consultation with Parish Council, Sevenoaks DC and Natural England (DVLPS)				■	■																																
Presentation of project to Undergrounding Steering Group for approval (DVLPS)					■	■	■	■																													
Detailed implementation plans and costing calculated by UKPN.						■	■	■	■																												
SSSI consent obtained.										■	■	■	■	■																							
Undergrounding implemented (UKPN)																																					
Assessment for additional undergrounding sites in the Darent Valley.																																					

1E. FINDING THE EARTHLY PARADISE BROADLY ENGAGING WITH TRANQUILLITY IN THE DARENT VALLEY



PROJECT AIM

To investigate locally specific views on tranquillity and non-tranquillity by engaging and consulting with local communities from which visual models and maps of tranquillity will be created through a Geographical Information System (GIS). This visual depiction of local definitions of tranquillity will enable the results of the consultation to be easily communicated to all audiences. The benchmark of tranquillity created also acts as a management indicator over coming years, and will contribute to enhance future planning and management decisions in the Darent Valley.

DELIVERY LEAD

Darent Valley Landscape Partnership Delivery Team in partnership and with the support of the University of Winchester.

Dr Denise Hewlett FRGS – denise.hewlett@winchester.ac.uk

████████████████████

LOCATION OF PROJECT

This project will operate across the entire DVLPS area and also include consultation with communities in adjacent urban areas.

AUDIENCE

The principle audience or end user of the outputs of this project will be local authorities, AONBs, Wildlife Trusts and conservation organisations that have an input to or make planning decisions. However, it also forms the basis for supporting and informing practically all the projects within the DVLPS and acting as a measure of the impact of threats in the valley and how these will change over time.

The measurement of tranquillity through this project differs in that it actively considers the varied and often subjective view that communities have depending on their location, demographics and background. Local communities will therefore take an active role in participating and contributing to the project.



PROJECT DESCRIPTION

Tranquillity as depicted in Samuel Palmer's 'Cornfield by Moonlight', has long been considered a key landscape quality. This popularity continues today and opportunities for the public to connect with tranquillity and benefit from tranquil experiences and spaces are key aims. With much of the area designated protected as an AONB, tranquil experiences are to a large degree expected by both residents and visitors to the area. Such experiences are increasingly considered of value as they provide an escape from progressively more stressful lives. Yet in the case of the Darent Valley, due to its proximity to London and other major urban areas, challenges to landscape management are exacerbated and ultimately have the potential to threaten the very essence of tranquillity expected from visiting the area.

An existing benchmark for tranquillity does not exist in the Darent Valley. Additionally, tranquillity studies are notoriously complex, and therefore tried and tested methods have been evaluated. Of previous tranquillity studies of merit, the most recent work completed, Broadly Engaging with Tranquillity (BETP), has been investigated to consider its relevance to the DVLP aims. BETP has progressed in the Purbecks area of the Dorset AONB; an area that is intensively visited, not least due to its World Heritage Coastline, but also due to its proximity to the Bournemouth/Poole conurbation. Further pressures on that AONB are common, threatening the tranquillity perceived in and expected of the Purbecks. Based on the successful completion and developing use in the planning and management of this area, BETP's adaptation to the Darent Valley is considered realistic and feasible to be implemented.

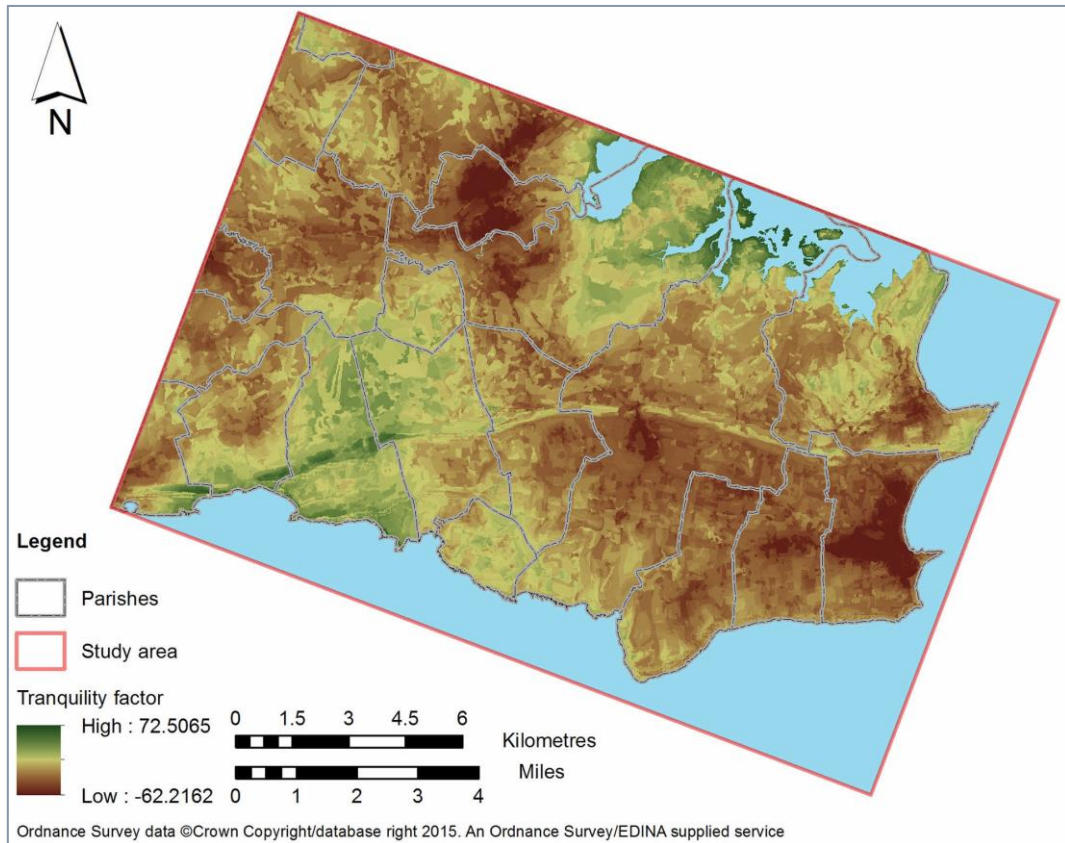
Community engagement and their empowerment is critically important. The University of Winchester's project team argues that broad community engagement should be the key determinant in defining tranquillity and therefore the entire project works with local communities and groups as not only participants in the project itself and in conveying their views, but also as colleagues comprising volunteers in assisting the DVLP in progressing this assessment of tranquillity.

This project will support the Landscape Partnership in its aim of rediscovering, measuring and monitoring change in tranquillity in the Darent Valley. Community participation is key to the approach that will be used. A broad and extensive approach to collating views on tranquillity will be sought from existing community groups, institutions, local planning authorities, managing agencies, and equally as importantly from residents and visitors to the area. The key purpose is to create a locally defined view on tranquillity that can be used as a benchmark to enhance and support planning and management decisions in the Darent Valley. An equally important outcome of the project is the depth and range of community engagement that will be undertaken, and therefore increasing the awareness of tranquillity.

This project uses the most recently conducted Broadly Engaging with Tranquillity (BETP) study, a tested and proven framework that was originally conducted in the Dorset AONB (2013-2015) that was endorsed and funded by the Economic and Social Science Research Council (ESRC).

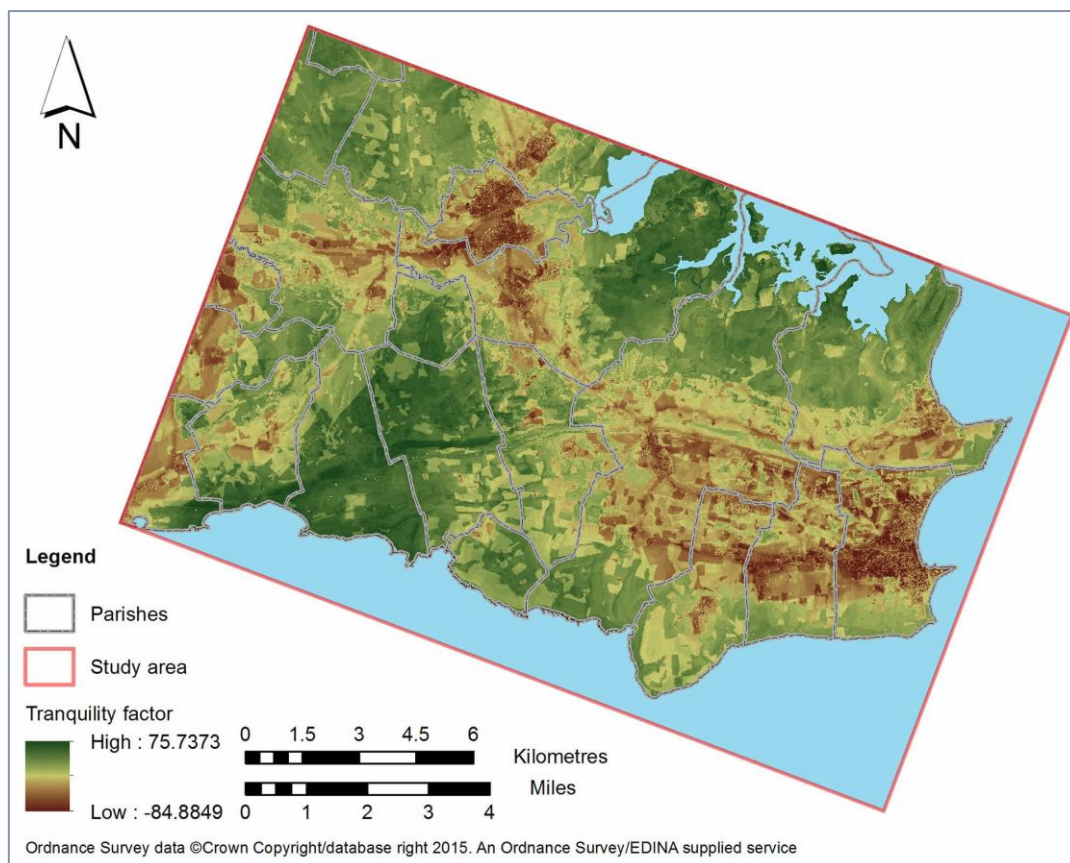
To achieve the project aim, the objectives are to:

1. Enable an opportunity for the breadth of the community (inclusive of the young to the elderly) to express their views on tranquillity. Due to the range of community members included, methods used to collate views will be equally wide-ranging including the use of a variety of media including art as well as more traditional methods of focus groups and household surveys;
2. Enable community participation by:
 - sharing their views on tranquillity with the study team; and
 - working with the study team as volunteers in collating views from visitors/other community members.
 - Community empowerment at all stages of this project is a key priority;
3. Enable the production of high resolution (cells of <50x50m) tranquillity models in GIS;
4. Allow updating of models based on changing geographic circumstances and community opinion;
5. Provide a benchmark from which future generations might continue to enjoy and subsequently engage in continuing to define, evaluate and measure tranquillity in the Darent Valley;
6. Ultimately can be replicated in the future by local government officers in other areas.



Both images:

Hewlett, D., Harding, L., Munro, T., Terradillos, A., Wilkinson, K. 2017. Broadly engaging with tranquillity in protected landscapes: A matter of perspective identified in GIS. *Landscape and Urban Planning*. Vol. 158 pp. 185-201



METHODOLOGY

The approach comprises seven key stages for collecting data that are initially based on participatory consultations. This means that:

1. In-depth consultations commence with obtaining the views of institutions, managing agencies and representatives from user and community groups;
2. A random household survey is prepared to collate local community views and where residents permit further contact, to initiate engagement with the hard-to-reach;
3. A second series of in-depth consultations are held with members of this wider community;
4. A series of visitor onsite surveys are held at key visitation locations during peak visitation periods;
5. Outreach activities are progressed with existing organisations whose remit includes engaging with those under 18 years of age and/or those classed as vulnerable and elderly;
6. Analysis of views conveyed;
7. A verification stage of views collated, interpretations made and of GIS models created. This is recommended to be progressed with participants and members of the wider public being invited to a series of road shows in the area.

GIS software (ArcGIS v10) will be used to develop a model for tranquillity based on available topographic (e.g. Ordnance Survey mapping, LiDAR elevation data from Project 2A), utility and survey (e.g. traffic noise, visitor numbers etc.) data as well as the results of each of the research stages. The model will be formula-based and will use routines with ArcGIS’s Spatial Analyst module to generate a raster file showing relative tranquillity at a resolution of 50m (i.e. one pixel representing an area of 50x50m). The model and its output will be adaptive, in other words updating any or all the variables that were part of the production of the tranquillity raster will automatically change the model output.

OUTPUTS AND OUTCOMES

Activity	Outputs	Outcomes
Public consultation for views on tranquillity	<ul style="list-style-type: none"> • Minimum of 20 volunteers trained to undertake consultations and surveys. • Running of 3 consultation workshops. • In total minimum of 700 members of the public expressing views on tranquillity. 	<ul style="list-style-type: none"> • Greater awareness and understanding amongst visitors and residents of the importance of tranquillity to landscape character and quality. • Deeper appreciation of the qualities of tranquillity and what detracts from it.

<p>Production of tranquillity modelling and mapping</p>	<ul style="list-style-type: none"> • Production of a model for measuring tranquillity within the Darent Valley. • An endorsed and high quality measure of tranquillity for the entire Darent Valley and a baseline against which future change can be measured. 	<ul style="list-style-type: none"> • Improved management of areas to conserve and protect tranquillity. • Greater awareness amongst agencies, authorities and partners of where tranquil areas exist. • Repeat surveys show trends and impact of projects undertaken by the DVLP and others.
<p>Adoption by local planning authorities.</p>	<ul style="list-style-type: none"> • The report is adopted as a Supplementary Planning Document by two local authorities (Sevenoaks DC & Dartford BC). 	<ul style="list-style-type: none"> • Planning decisions consider tranquillity.
<p>Dissemination of findings</p>	<ul style="list-style-type: none"> • 1 x workshop provided for officers from planning authorities. • 15 planning officers attended workshop (at least one from each Kent district and the London boroughs of Bexley and Bromley). 	<ul style="list-style-type: none"> • Model adopted elsewhere outside of the DVLPS area. • Uniting discourse amongst urban and rural planners.

MEASUREMENTS OF OUTPUT AND OUTCOMES

The tranquillity study is founded on principles of evidence based outcomes. Therefore:

Greater awareness, understanding and appreciation amongst visitors and residents of the importance of tranquillity to landscape character and quality will actively be gauged through two attitudinal surveys of participant views – the first pre-project and prior to consultation stages and the second, post consultation meaning a degree of understanding and importance will be able to be provided for any midterm evaluation.

The incorporation of tranquil spaces identified through the study is being included in the Kent Downs AONB Management Plan of 2024, and respective core action plan activities. Therefore, the DVLPS management team will mandatorily document where the project findings are consulted and subsequently can provide a trail for how the findings influence management decisions subsequently taken.

Through the findings being incorporated into local planning authorities’ practices and processes, an edict for consulting on tranquil maps will result on the part of local planners. Impacts and influences of the tranquillity study will statutorily be recorded and in turn captured by the DVLPS team post project.

Adoption of the tranquillity project framework being extended to other LPAs: the goal of which is to create a countywide map of tranquillity. During the project, dialogue amongst urban and landscape planners is integral to project progression and legacy. The aim by the end of the project and to support legacy, is the creation of a Kent wide network of urban and landscape planners.

PROJECT COSTS

Element/Item	Year 1 2017/18	Year 2 2018/19	Year 3 2019/20	Year 4 2020/21	Year 5 2021/22	Total
[REDACTED]		[REDACTED]	[REDACTED]			[REDACTED]
[REDACTED]		[REDACTED]	[REDACTED]	[REDACTED]		[REDACTED]
[REDACTED]				[REDACTED]		[REDACTED]
[REDACTED]				[REDACTED]		[REDACTED]
[REDACTED]		[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]		[REDACTED]
[REDACTED]				[REDACTED]		[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]		[REDACTED]				[REDACTED]
[REDACTED]						[REDACTED]
Contingency (default 5% of capital costs)	£78	£214	£164	£305	£50	£811
Totals	£1,550	£22,955	£14,169	£8,277	£2,600	£49,551

PROJECT RISKS

Risk	How likely	Severity	Consequence	Action required
Unable to recruit enough capable volunteers	Low	Medium	Project may be delayed or not possible to deliver.	A good volunteer base already exists for the Partnership and will be able to draw upon a broad range of potential volunteers.
Adequately experienced and knowledgeable GIS not available to undertake processing and analysis	Low	High	GIS support is a vital component of the project, and without it the project cannot be delivered.	GIS expertise does exist within partner organisations and can be drawn up with appropriate training if required.
University of Winchester is unable to support the project through its life	Low	High	Project undeliverable.	University of Winchester is committed to this project and is an opportunity for their model to be tested.

TRAINING REQUIRED

Training for volunteers is included within the project proposal, and there is also the need for additional training for DVLPS and Kent Downs AONB staff in the use of ArcGIS packages.

MAINTAINING A LEGACY

The nature of the BETP framework makes for an excellent longitudinal study being conducted on how tranquillity is likely to change over a period of time. Whilst the lifetime of the scheme is probably too short to allow repetition within the five-year period, it is recommended by the University of Winchester that the project is re-run in line with the review of the Kent Downs AONB Management Plan or at 10 yearly intervals.

In addition, DVLPS intends to disseminate the results and findings of the project at a workshop to facilitate the application elsewhere within Kent and other landscapes in the South East. Other planning authorities have already expressed considerable interest, and 'Finding the Earthly Paradise' will act as a pilot for its introduction elsewhere.

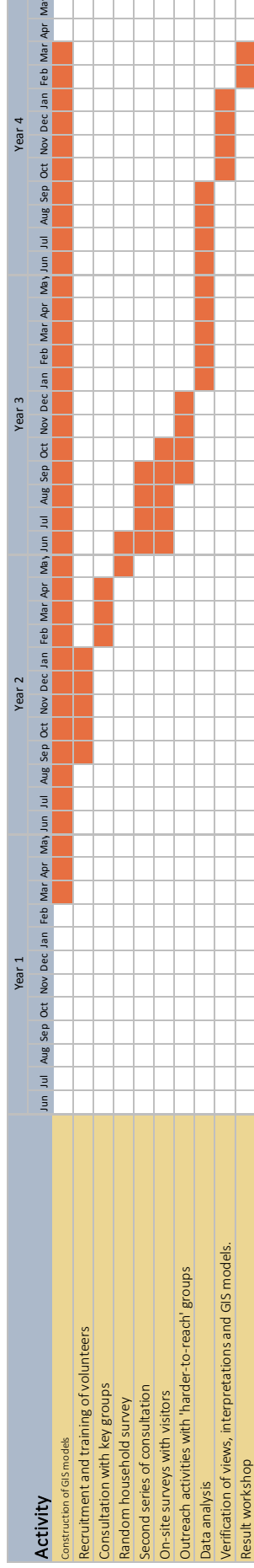
LINKS TO OTHER PROJECTS

All other projects within Programme 1 – An Inspiring Darent Valley.

Theme 1. An Inspiring Darent Valley

PROJECT 1E. FINDING THE EARTHLY PARADISE – BROADLY ENGAGING WITH TRANQUILITY

PROJECT TIMETABLE



Theme 1. An Inspiring Darent Valley

PROJECT 1E. FINDING THE EARTHLY PARADISE – BROADLY ENGAGING WITH TRANQUILLITY

1F. Finding the Earthly Paradise – Broadly Engaging with Tranquillity in the Darent Valley

1F. RESTORING THE CANVAS TACKLING THE FLYTIPPING PROBLEM



PROJECT AIM

A community partnership approach will be established to address the rapidly growing issue of flytipping in the valley. Building on existing relationships between local authority partners, a combination of approaches will be used to increase the likelihood of offenders being caught, encouraging faster reporting and expediting the clearance of tip events. Local communities will be provided with clearer advice on reporting mechanisms and photo evidence collection. A 'Duty of Care' campaign will communicate the actions being undertaken and provide a high-profile deterrent to offenders.

DELIVERY LEAD

DVLPS team working closely with local authority partners from Dartford, Sevenoaks, Bexley, Bromley and Kent.

LOCATION

Whilst flytipping is a scheme area issue it is particularly concentrated in specific areas of the valley. These are generally in the more secluded areas which are near urban areas. Consequently, flytipping events most often occur in the following locations:

- Estuarine Darent Valley Sub-Character Area (SCA); on both Crayford Marshes and Dartford Marshes.
- Lower Darent Valley SCA; principally in the lanes around Horton Kirby and South Darenth.
- Central Darent Valley SCA; on remoter country lanes and drove lanes on both valley sides.
- Upper Darent Valley West SCA; mainly on the drove roads on the chalk slope on the north side of the valley.

It should be noted that by its very nature, flytipping is transient in its location and new concentration areas appear. Therefore, issues can and do appear throughout the entire valley.

AUDIENCE

The audience for this project falls into three main categories: the enforcers, the communities, and the offenders. Each of these categories will be influenced, supported or communicated with in a different way to reduce the impact of flytipping in the valley.

The enforcers include Kent County Council (waste enforcement and community wardens), London Boroughs of Bromley and Bexley, Dartford Borough Council, Sevenoaks District Council, and the Environment Agency.

The communities are divided between those that live in the valley and therefore are the recipients of the negative impacts of the flytipping, and those that live outside the valley and may be the unwitting suppliers of the waste tipped (and are also likely to be visitors to the valley).

The offenders are those that undertake the flytipping, and recent convictions suggest that the majority originate from the Kent Thameside area (Dartford to Gravesend), and from the London boroughs.

HERITAGE VALUE

Flytipping has a disproportionate negative impact on landscape character, particularly within the Darent Valley. Although occurring in relatively small amounts, the effect these incidents have on the perception of the area is considerable. During the scheme development, consultation with local communities highlighted that flytipping was the single biggest



element to have a negative impact on the landscape of the Darent Valley (as demonstrated by the word cloud above – the larger the word the more times it was mentioned). This is often exacerbated by the fact that access points into the valley are often used and therefore the effect for visitors is that often the first view they have of the area’s landscape is blighted by fly tips. Where dumped rubbish has been left on a highway it is the responsibility of the local authority to clear it. This diverts already scant resources away from more positive enhancements within the Darent Valley. In addition, fly tip sites are often found at laybys or land access points, causing issues with land management and access for landowners.

ISSUES AND THREATS

The issue of flytipping is a national one, and certainly something that is not unique to the Darent Valley. Unfortunately, there is no panacea, and the inherent mobile and dynamic nature of the problem means that a fixed response does not work.

In the Darent Valley, the main issue is the proximity of a very sizeable population to a rural area (over 1.3 million people live within 10km of the valley) and it has many quiet and secluded access points. The wooded nature of these of these lanes along with large underpasses beneath the M25 motorway provide convenient and hidden locations where tipping can occur.

In 2016, there were many flytipping incidents, and these were often substantial enough that the roads where it occurred had to be closed over several days to allow clearance. This causes a major inconvenience for residents, visitors and landowners alike. Where flytipping occurs off the highway, it is the landowner’s responsibility to remove it. These incidents may include hazardous waste such as asbestos, and the cost of its removal and disposal can be exorbitant. In such circumstances, there is a danger that the waste is not dealt with or there is a delay in its removal, and the visual impact is



Flytipping on the North Kent Marshes (Hugh Neal)

increased. Furthermore, the ‘broken windows theory’ dictates that flytipping that is not dealt with may make the issue worse and cause more incidents. This is because its continued presence suggests that enforcement and preventative action is not undertaken and signals to other tippers that it is a suitable location for their activities.

Both Crayford and Dartford Marshes have suffered from exactly this issue. Not having the same aesthetics in terms of landscape character they have both been locations for persistent flytipping. Large quantities of waste have been deposited at the roadside and within the ditches on the marshes. This has an impact on biodiversity (through pollution and affecting water levels), dissuades visitors from exploring the site and encourages more flytipping as it has become the norm.

Research in North Kent has revealed that fear and the visual evidence of crime is a critical barrier to people visiting the countryside. The extent of flytipping reduces any sense of tranquillity and there is a general perception of it being a wasteland which then attracts other anti-social behaviour, having a greater negative impact on the special characteristics of the site.

Sometimes the preventative measures themselves can increase this issue. Through its Clean Kent campaign, Kent County Council placed high profile signage in many flytipping hotspots. This emphasises that the area is under closer surveillance with the warning “Flytipping? See you in court. Don’t flytip in Kent”. This approach has proven effective and aims to address the broken windows theory. However, care must be taken in their use. High profile visual signage with what is essentially a negative message can jar in the landscape and suggests to the casual legitimate user that it is a problem area. The solution can become part of the problem.

Whilst the local authorities in the Darent Valley have a dedicated waste enforcement officer, they are under-resourced. The Sevenoaks District Council role dealing with flytipping is part-time and has limited resources for preventative work. The consequence is that all local authorities have a greater emphasis on operating in a reactive rather than a proactive way, dealing with the flytipping after it has happened. Monitoring equipment is restricted and limits what surveillance work can be done.

Local residents are frustrated with the growing issue, and are often confused about the reporting mechanism. There is a willingness to contribute to the solution, but all too often they are put off reporting the issue due to the complexities of who is responsible and therefore who should be contacted to deal with it. However, if it is provided, many local residents would be prepared to help with reporting and collecting visual evidence.

The local authorities do work in partnership with each other to be more strategic in their approach. This is supported by Kent County Council’s Waste Enforcement Adviser who also works beyond the county’s boundaries. However, there is the potential to create a local partnership to provide a strategic approach for the Darent Valley and develop a joined-up approach with the London Boroughs.

Finally, where solutions are found they can simply displace the issue to elsewhere. Often this is unavoidable, but if a neighbouring area initiates a successful intervention, it can increase the issue in the Darent Valley. Likewise, the success of this project may create issues in other rural areas, and this needs to be considered when delivering its outputs.

PROJECT DESCRIPTION

A STRATEGIC APPROACH

Restoring the Canvas will take a strategic approach that looks at how best to co-ordinate existing resources in the most effective way, and supplement this with additional resources where they will have the most impact. This builds on the very successful model employed by the Valley of Vision LPS that brought together some quite disparate organisations to tackle illegal motorised access in a co-ordinated manner. This project will draw together officers from the local authorities within and adjacent to the Darent Valley with responsibility for flytipping in order that an assessment of the current situation can be carried out and seek to co-ordinate activities so that they have a greater impact on the issue. This Co-ordination Group will meet physically twice a year (but maintain regular contact in between) and be chaired by the DVLPS Landscape & Access Officer. It is intended that these will be concise and focused meetings with three main items:

1. Outcomes and outputs from actions identified at the previous meeting.
2. Assessment and discussion of the main issues concerning flytipping in and around the valley and identification of growing trends.
3. Identification and tasking of actions for the next six months.

As the project progresses, the Co-ordination Group will be expanded to include other partners from local communities and user groups that have an interest in contributing to the solution.

IMPROVED SURVEILLANCE AND MONITORING

One of the main limiting factors successfully addressing flytipping in the valley has been the lack of adequate surveillance equipment. Technology in this area is rapidly improving and becoming more affordable, but there is a requirement for reliable and consistent imagery that provides high resolution files even in low-light conditions.

A combination of different types of audio-visual equipment will be made available to local authority partners including direct feed CCTV cameras to provide a permanent deterrent at locations of persistent offending and more mobile devices using MMS to transmit images via mobile signal. The latter devices will provide the flexibility to deploy surveillance equipment if and when it relocates to other areas in the valley, and to be shared with other partners.

IMPROVING COMMUNICATION AND REPORTING OF INCIDENTS

Reporting remains an issue, and anecdotally it appears that smaller scale flytipping may be under-reported but still contributing to the perception that the flytipper 'can get away with it'. Mixed

Theme 1: An Inspiring Darent Valley

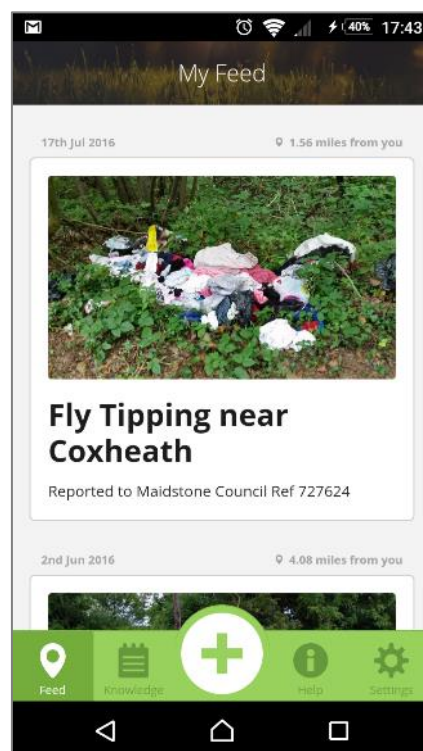
1F. RESTORING THE CANVAS

messages are given to the public. There is inconsistency with advice that it should be reported to their local council (and many are unaware whether this is at district or county level), the landowner, or via the apps that are now available to aggregate reports, such as Littergram and Country Eye.

The Co-ordination Group will determine what the preferred and most efficient method for reporting. A social media and publicity drive will then be used to inform residents how they should report incidents to the relevant bodies.

The preference is to have one single point of contact, but individual local authorities feel that the information is not being passed on in the manner required, and therefore needs further consultation to determine the best method.

If the Country Eye app is chosen as a central reporting tool, the scheme will enhance its functionality. This would include improved intelligence capture and grouping for individual local authorities and capturing of video.



PUBLICITY AND PROMOTION

Communication of recommended reporting mechanisms, actions being undertaken and of enforcement successes will be a key part of this project. The central message will be to indicate that action is being taken to address flytipping, and if offenders decide to flytip in the valley, they are likely to get caught. Where enforcement action is taken, these will be publicised through social media campaigns and working through local authority partners.

Proactive publicity will also be undertaken to ensure that both domestic and commercial waste producers are aware of their duty of care when disposing of waste, and this will be broadened out to target communities in the London suburbs.

APPRENTICE OPPORTUNITY

An apprentice opportunity will be provided to work with waste enforcement officers in the valley to gain experience and skills for a future career in this area. The role will also provide support where staff resources are not sufficient to deal with the demand. This will be provided for one year through Kent County Council's Apprenticeship Scheme.

VOLUNTEER WATCH GROUP

This will capture the energy and enthusiasm there is amongst local communities to play an active role in tackling the issue, but also to channel it in a positive and safe way. Village watch groups will be formed and given training on how to improve reporting, capture useful and usable intelligence and support a fast reaction service to clearing flytips when they occur. They will also play an important

role in spreading the word regarding successes and the actions being undertaken. The purpose and role of the group will be allowed to evolve and grow depending on their abilities, and there may be opportunities to combine with the Darent Valley Path wardens group.

OUTPUTS AND OUTCOMES

Activity	Outputs	Outcomes
Developing a strategic approach	<ul style="list-style-type: none"> • Co-ordination Group established. • 6 local authorities involved. • 10 meetings held. • Baseline of incidents established against which progress can be measured. • 30% reduction in flytipping incidents from baseline by the end of the scheme. 	<ul style="list-style-type: none"> • Local communities perceive that flytipping has reduced and has less of a negative impact on landscape character. • Local communities feel that they are taking an active role in preventing the issue of flytipping. • Local authorities operate in a more co-ordinated way.
Improved surveillance and monitoring	<ul style="list-style-type: none"> • Provision of 5 new surveillance systems. • 30 x enforcement action taken because of new surveillance systems. • Equipment sharing protocol established between partner organisations. 	<ul style="list-style-type: none"> • Perception that those flytipping in the Darent Valley are more likely to be caught. • A model is established that can be replicated in other areas.
Improving communication and reporting of incidents	<ul style="list-style-type: none"> • Clarified reporting protocol established. • 2 x functionality enhancements made to the Country Eye app*. • 1000 downloads across platforms*. <p>* depending on decision of Co-ordination Group</p>	<ul style="list-style-type: none"> • The rural nature of the Darent Valley landscape is restored. • Greater awareness of how to effectively report flytipping.
Publicity and promotion	<ul style="list-style-type: none"> • 20,000 individuals targeted with publicity regarding duty of care. • 5,000 views of promotion of flytipping prevention in the Darent Valley on social media platforms. • 20 press articles published regarding actions being taken and successful enforcement action. 	<ul style="list-style-type: none"> • Commercial and domestic waste producers have greater awareness of their duty of care and legal requirements with waste disposal.
Apprenticeship opportunity	<ul style="list-style-type: none"> • 1 x apprenticeship opportunity created working with local authority partners. 	
Volunteer Watch Group	<ul style="list-style-type: none"> • 5 x individual watch groups established. • 50 people trained in collecting intelligence. • 50 active community volunteers. 	

PROJECT COSTS

Element/Item	Year 1 2017/18	Year 2 2018/19	Year 3 2019/20	Year 4 2020/21	Year 5 2021/22	Total
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Totals	£10,230	£14,175	£4,500	£5,250	£5,250	£39,405

PROJECT RISKS

Risk	How likely	Severity	Consequence	Action required
Damage to or loss of surveillance equipment.	Medium	Medium	Reduced surveillance and less capacity to monitor, react to and enforce flytip incidents.	Local authority partners will be responsible for surveillance equipment when on loan or permanently installed. Range of equipment will be provided including low-cost mobile systems that can be easily replaced.
Resources insufficient from local authority partners to commit time to partnership working.	Medium	Low	Less joined-up approach that reduces effectiveness and efficient use of resources.	Kent partners already have a partnership working approach and this can be built upon co-ordinated with the involvement of the DVLPS team. Contact to be made with London borough partners at earliest opportunity.
Candidates for apprentice/graduate position are limited or don't have necessary skills.	Low	Medium	Role is not sufficiently effective and does not provide the additional resources required, or the development of new employment opportunities.	Discussion with Kent Apprentices and the Kent Graduate Programme to determine how to maximise the opportunity and ensure that role is positive for both partners.
Recruitment to community watch groups is poor.	Low	Low	Reporting of incidents and intelligence gathering is poor, and doesn't support the reduction in flytipping.	Build on positive discussions with local communities to maintain momentum and enthusiasm. Raise profile through local community social media groups to ensure that there is an understanding that this part of a bigger project.
Unforeseen changes in legislation and landfill tax.	Low	High	Unexpected increase in flytipping that is beyond the control of the project and resources available.	This is outside the scope of what DVLPS can influence in the short-term, but will look to anticipate through the work of the Co-ordination Group.

TRAINING REQUIRED

- Intelligence Gathering
- Apprenticeship/Graduate training – dependent on skills assessment once in place.
- Trend analysis and spatial assessment (GIS)

MAINTAINING A LEGACY

Flytipping is likely to remain an issue for as long as rural and urban areas are in close proximity to each other. This project will put the resources in place for local partners to have a long-term strategic approach to tackling the issue and be flexible in their approach to what can be a very mobile problem.

If the model is effective, it will be shared with partners outside of the DVLP, as well as communicating failures or less-effective approaches. Part of the legacy will be maintaining the project partnership as well as providing a trained individual that can go on to support tackling the issue. Communities will also be able to continue to support the local authorities and work together in an effective manner. It is anticipated that Kent County Council will be able to take on that unifying role when the DVLPS has been completed.

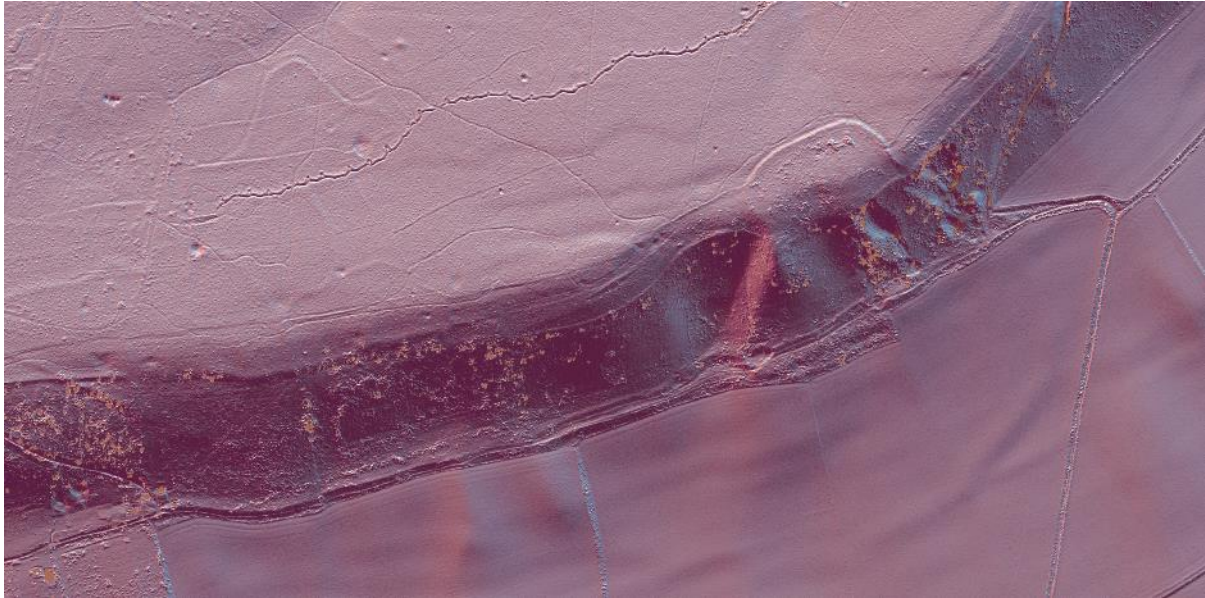
LINKS TO OTHER PROJECTS

- [1C Inspired Landscapes](#)
- [1E Framing the View](#)
- [1F Rediscovering Tranquillity](#)
- [3B Gateways to the Valley](#)
- [4E On the Verge – Connecting Opportunities](#)
- [5D Future Skills](#)
- [5E Landscape Apprentices](#)

Theme 1: An Inspiring Darent Valley

1.F. RESTORING THE CANVAS

2A. PEELING BACK THE LAYERS



PROJECT AIM

In many respects the Darent Valley is a complex and intricate landscape. It has been an aspiration of local groups such as the West Kent Archaeological Society to have detailed data to be able to interrogate and explore. This project will commission a LiDAR (Light Detection and Ranging) survey early in the delivery phase to provide this information and support better understanding of the landscape and layers of history. This survey will be an important element of many of the scheme's projects and will enable crowd-sourced interrogation of the outputs by both archaeological experts, amateur historians and local communities through a web-based portal hosted on the DVLPS website. The project will also develop the use of an Unmanned Aerial Vehicle (UAV), or drone, as a remote sensing tool for multiple projects in the scheme. The project will also provide important biodiversity data concerning vegetation extent, density and height to inform habitat management and hedgerow network; be used by the 'Rediscovering Tranquillity' project (1E); and for mapping with the 'Reading the Landscape' project (5C).

DELIVERY LEAD

This project will be led by the DVLPS Delivery Team.

LOCATION

The project will be delivered across the entire scheme area and the immediate surrounding area. The DVLPS team will work closely with the Greensand Commons HLF project, and will extend the area surveyed to include all sites within that project. Funding to enable this extension is being provided by Sevenoaks District Council.

AUDIENCE

The reach of this project will be extensive. As a web-based tool, and the global interest in the use of LiDAR, it will be an opportunity to have a very broad audience. Whilst it intends to generate considerable input from experts and amateurs in archaeology, this project will also target members of the public and local communities with perhaps only a passing interest in heritage.

LiDAR is a visual tool and in the same manner as aerial photography, generates curiosity and interest. The expectation is that it will draw in new audiences to explore the valley's landscape using the images created, with a percentage being recruited to act as 'landscape investigators' and ground-truth features identified through the online portal.

It also anticipated that the audience will be expected to extend to those involved in the art-based activities provided through the scheme, and particularly the 'Inspired Palmer Landscapes' project (1C). Local art groups have expressed an interest in using the images as inspiration for new works of art, and developing them as works of art in their own right.



HERITAGE VALUE

The use of LiDAR has a wide range of potential uses in the Darent Valley. Traditionally, it has been seen as a tool to reveal hidden archaeology, particularly in highly vegetated areas such as woodlands. The Darent Valley is not a heavily wooded area, although there are extensive woodlands particularly on the valley tops and several large dispersed woodlands on the valley floor. However, the valley has been a relatively dynamic landscape with elements such as the manipulation of the River Darent and several hidden or inaccessible locations that have been difficult to survey.

The historic environment record shows that there are many records that are inconclusive or vague within the valley, and there are large amounts of buried archaeology close to the surface. Local groups are particularly excited by what the LiDAR survey will reveal, particularly with relation to prehistoric and Roman archaeology.

No complete high resolution LiDAR survey of the valley has been undertaken. The Environment Agency's data is confined to the floodplain and is not of sufficiently high resolution, whilst a commercial survey available through Bluesky was undertaken in the summer months when vegetation was in full leaf. Consequently the data is not accurate enough for the purposes of the scheme. The survey outputs will be utilised throughout the scheme in multiple projects, and is therefore programmed for the first year delivery. It will be used to inform projects such as:

- Investigation the landscape immediately around Otford Palace
- Identification of potential Roman sites
- Exploration of relic watermeadows
- Accurate contour and feature mapping for new orienteering maps
- Spatial assessment of views and modelling of mitigating works for power lines
- Mapping of existing hedgerow network and condition
- Identification of veteran and high status trees
- Utilised as an important element in measuring tranquillity in the valley.
- Measurement of scrub encroachment on chalk grassland.

The value of a good quality LiDAR survey has proved invaluable for landscape scale projects, providing a wealth of information that can be interrogated for many years. By commissioning the survey at such an early stage, the intention is that it provides this information at the most useful point of the scheme and can be used to its full potential.

ISSUES AND THREATS



This project addresses a shortage of comprehensive and accurate data that is freely available to interest groups and local communities. It provides an opportunity to enable full engagement with the landscape and better understand its evolution, use and management. Its particular advantage is that it can be interpreted at many different levels, and therefore whilst local archaeological groups can undertake detailed investigation, it also allows the layperson to take their first steps into heritage landscape exploration.

This work will also provide an ongoing legacy for archaeological study in the valley beyond the life of the scheme and to provide a focus for future work. It will be utilised to evaluate some of the habitat management outputs elsewhere in the scheme.

Most importantly, this work will facilitate the issue of unknown or hidden archaeology and the consequential loss or destruction due to lack of knowledge.

PROJECT DESCRIPTION

1. COMMISSIONING THE LIDAR SURVEY AND PROCESSING OF DATA

A key action for the scheme will be to commission the LiDAR survey at the earliest opportunity. This will maximise the number of days available to undertake the aerial survey when weather conditions are optimised and vegetation is in a leafless state. As a consequence, it is anticipated that this will be completed between November 2017 and March 2018. Initial enquiries have been made with Forest Research's Woodland Heritage Services Group (WHSG) which has supported several landscape partnership schemes in undertaking LiDAR surveys.

It is anticipated that DVLPS will commission an organisation to project manage the survey by tendering on the scheme's behalf to ensure the quality of the product. The WHSG does provide this service, but other providers mean that an open tendering process will be used. The project management role will include:

- The scoping of the project and development of the survey specifications.
- Liaison and supervision of the survey contractor.
- Data processing and image production.
- Production of both a Digital Surface Model and Digital Terrain Model for the valley.
- Slope and aspect analysis.
- Production of a Vegetation Height Model.
- Training for further data analysis.

It is intended that the resolution of the survey will be at least at the 50cm cell level, and possibly down to the 25cm cell level.

2. ARCGIS SOFTWARE

The DVLPS team will have access to Esri ArcGIS Desktop 10.2, but this requires updating to the latest version – currently 10.5. This will allow further manipulation of the outputs of the survey, and most importantly the production of mapping for consumption on the web. This will also support work undertaken through other projects, principally 'Rediscovering Tranquillity' (1D) and all projects in Theme 4.

3. ONLINE PORTAL AND CROWDSOURCING INVESTIGATION

A web-based interactive map will be created and made available on the DVLPS website and possibly at <http://webapps.kent.gov.uk/KCC.HeritageMaps.Web.Sites.Public/>, Kent County Council's Heritage Maps service. The former will be hosted on an ArcMap portal embedded on the website and would allow users to tag and annotate features on the map. These can subsequently be aggregated and later 'ground-truthed'. This is provided as a subscription service by Esri and is one of the best mapping applications available. In addition, this provides the opportunity to use Explorer for ArcGIS which enables users to access the maps on their mobile phone, therefore making ground-truthing considerably easier.

4. LANDSCAPE INVESTIGATORS

The DVLPS Community Archaeologist will lead the development of a Landscape Investigation Unit. This will involve training volunteers to ground-truth findings from the LiDAR survey and piece together findings. Volunteers will use the free app 'Collector for ArcGIS' to aid information collection, and will use it to enhance and update the Historic Environment Record and build up an online directory of features.

The project will also work with local landscape historians to interpret findings, learn about landscape heritage, and use it to inform other projects such as 'Inspired Palmer Landscapes'. The DVLPS team will also work with the North Downs group of the Young Archaeologists' Club in this process and share approaches with the Cobham Landscape Detectives project.

5. DRONE SURVEYING

In addition to the LiDAR survey undertaken by a light aircraft over the valley, this project will undertake other remote sensing techniques. This will include working with partners from the Interreg 2 Seas funded project, ICAReS, and with Connect Plus Services who are piloting the use of drone technology for surveying vegetation and fencing on the soft estate adjacent to motorways. There is an opportunity to be at the forefront of using unmanned aerial vehicles for this type of work and as an evaluation tool. The DVLPS will purchase a drone system to be used by itself and partners to explore ways in which it can support management, monitoring and evaluation. Part of this project will be experimental, but there is also the potential to use it for surveying for oak processionary moth (see project 4D.1) as well as its subsequent treatment if required. Training will be provided along with information sharing workshops with European partners.

By working with ICAReS partners such as Southampton University, there is an opportunity to explore how UAVs can be used to monitor biodiversity in a new way.



Drone imagery used for assessing the impact of Ash Dieback in the Kent Downs

6. BUILT HERITAGE EXPLORATION

As a further development from drone surveying, the project will facilitate the filming and scanning (with drone-mounted LiDAR) of important built heritage in the valley. This will include locations such as Otford Palace where both internal and external scanning will allow an accurate assessment of condition as well as the construction of 3D virtual models of the buildings. They will allow an accurate record of the condition of these structures to act as a baseline for future assessments.

7. LIDAR AND DRONE TECHNOLOGY AS AN INTERPRETATION TOOL

Both the valley-wide LiDAR survey and outputs from the use of the drone will be used in innovative ways for landscape interpretation. They will provide an alternative perspective for viewing the landscape, and by utilising the DVLPS website, social media outlets and the scheme's Vimeo channel, will bring awareness of the valley and its heritage to a much wider audience.

8. HISTORIC LANDSCAPE CHARACTERISATION

Using the information gathered from the LiDAR survey and other activities in this project, a Historic Landscape Characterisation (HLC) assessment will be commissioned. This will include an element of working with volunteers in order that they can contribute and gain new skills. The HLC will be used to supplement and add to the existing Strategic Landscape Enhancement Plan that was prepared for the Stage 1 submission to be used to guide legacy work and the development of new projects after the delivery period of the DVLPS.

OUTPUTS AND OUTCOMES

Activity	Outputs	Outcomes
Comprehensive LiDAR survey undertaken of entire Darent Valley landscape	<ul style="list-style-type: none"> • One survey undertaken covering approx. 200 square km. • Digital Surface Model, Digital Terrain Model and Vegetation Height Model produced. • 1 x training course provided to staff in use of LiDAR data. • 10 individuals trained in use of data. 	<ul style="list-style-type: none"> • A local community that is more engaged and involved in caring for and recording the heritage in their landscape. • People are more aware of the quantity and variety of heritage in the Darent Valley. • People over a much larger geographic area are aware of the heritage in the Darent Valley. • People who don't live in or visit the valley very frequently have the opportunity to contribute to protecting, recording and being involved in the Darent Valley's heritage. • Exchange of knowledge and skills between experts and amateurs. • Exchange of approaches and techniques between remote sensing professionals to support better recording, understanding and management of heritage features and landscapes. • Increased understanding of the formation of the Darent Valley landscape. • An effective and dynamic way of interpreting and introducing people and communities to the types of heritage found in the Darent Valley.
Interactive web portal for LiDAR outputs	<ul style="list-style-type: none"> • Online interactive mapping portal made available on DVLPS website. • >1,000 hits per year on mapping portal. • >200 comments/interactions per year. 	
Volunteer Landscape Investigation Unit created	<ul style="list-style-type: none"> • 20 volunteers recruited as landscape investigators. • 10 children recruited as junior landscape investigators. • 1 x training course provided in ground-truthing and use of ArcGIS Collector. • 20 individuals trained. • 250 heritage features investigated, assessed and recorded. • Data and images added to online portal. • 250 volunteer days contributed by investigators. • 100 features added or quantified for the Historic Environment Record. 	
Natural heritage monitoring using drone technology	<ul style="list-style-type: none"> • 1 drone and monitoring equipment acquired. • 4 x staff trained in use of drone • 20 sites recorded and monitored 	
Built heritage monitoring using drone technology	<ul style="list-style-type: none"> • 5 sites scanned/recorded. • Presentation of outputs on social media and DVLPS website. 	
Innovative interpretation using LiDAR and drone footage	<ul style="list-style-type: none"> • 20 short films posted on DVLPS Vimeo site. • 1,000 hits on website, Vimeo and social media outlets. 	
Exchange workshops	<ul style="list-style-type: none"> • Delivery of two demonstration workshop for partners in the UK, Netherlands, France and Belgium showing the use of remote sensing in nature and heritage conservation scenario. 	
Historic Landscape Characterisation	<ul style="list-style-type: none"> • Historic Landscape Characterisation of the valley undertaken. 	

PROJECT COSTS

Element/Item	2017/18	2018/19	2019/20	2020/21	2021/22	
[REDACTED]	[REDACTED]					[REDACTED]
[REDACTED]	[REDACTED]					[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]		[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]		[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]		[REDACTED]				[REDACTED]
[REDACTED]		[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]		[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]		[REDACTED]	[REDACTED]			[REDACTED]
[REDACTED]	[REDACTED]					[REDACTED]
[REDACTED]		[REDACTED]				[REDACTED]
[REDACTED]	[REDACTED]		[REDACTED]			[REDACTED]
[REDACTED]			[REDACTED]			[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]			[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Totals	£103,510	£14,155	£24,125	£12,625	£11,125	£165,540

PROJECT RISKS

Risk	How likely	Severity	Consequence	Action required
Allocated budget is insufficient.	Low	Low	Unable to survey entire scheme area or at reduced resolution.	Accurate estimates have been received at stage 2 development and allowed for an overlap beyond boundary. If budget is insufficient, the survey is scalable and can be concentrated on areas of most interest.
Technological issues prevent interactive portal from operating as required.	Medium	Medium	Tagging and commenting on map is not possible or is not intuitive for the end user and crowdsourced data interrogation is substantially reduced.	Interactive exploratory maps have been created elsewhere in the UK and lessons can be learned from them. Options for commenting and tagging will be explored with IT and European partners early in year 1.
Weather conditions prevents LiDAR survey being undertaken in the winter of year 1.	Medium	High	Data is compromised or survey is delayed by a year having an impact on other projects and community engagement.	Commissioning required early in year 1 to ensure flights are programmed for early in the winter of 2018/19 and provide contingency if there are poor weather conditions through the winter.
Poor recruitment of volunteers.	Low	Low	Ground-truthing is slower and less productive.	Poor recruitment is unlikely due to the attractiveness of using LiDAR. The project will exploit existing links with local heritage groups.

TRAINING REQUIRED

- LiDAR data interpretation and manipulation (staff and volunteers).
- Ground-truthing and feature interpretation for volunteers.
- Flying drones (staff).
- Skills and knowledge exchange for remote sensing (UK & European partners, volunteers and DVLPS partners).
- ArcGIS use.

MAINTAINING A LEGACY

The production of the LiDAR survey provides data that can be used and interrogated for years beyond the life of the DVLPS. The model produced will be made publicly available so it can be used by partners well into the future. The outputs will also provide baseline evidence for much of the scheme’s work, and particularly for those concerning habitat management and built heritage conservation.

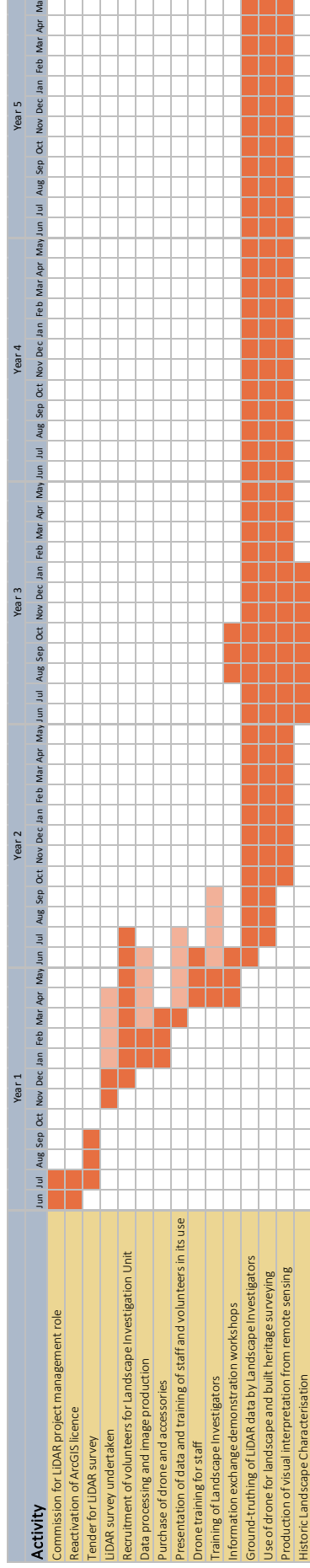
This project will also elicit any behaviour change as new heritage is revealed and awareness of existing known heritage is enhanced and made more available. Local people and communities, as well as others further afield in the UK and in other countries will have the opportunity to play an active role in doing this, creating a closer bond with the landscape around them. The new skills and knowledge gained will also support improved management of heritage in the future, as well as progressing the use of modern remote sensing techniques to enhance heritage conservation.

LINKS TO OTHER PROJECTS

- 1C. Inspired Palmer Landscapes
- 1D. Framing the View
- 1E. Rediscovering Tranquillity
- 2B. The Darent's Hidden Roman Legacy
- 2C. Eynsford Castle Revealed
- 2D. The Hidden Palace
- 2E. Royalty and Silk
- 2F. Gunpowder and Paper
- 2G. Orchard Hospital Nature Park
- 3A. Heart of the Valley – The Darent Valley Path
- 3B. Gateways to the Valley
- 3C. Telling the Darent's Story
- 3D Reducing the Pressure
- 4A. Uncovering the Herb-Scented Scarp - Connecting Chalk Grassland
- 4B. Enhancing Oxenhill Shaw and Meadow
- 4C. Restoring the Darent
- 4D. A Designed Landscape
- 4E. On the Verge
- 5B Reading the Landscape
- 5C. Supporting the Land Managers
- 5D. Future Skills
- 5F. Engaging New Audiences
- 5G. Spreading the Word

Theme 2: The Historic Darent Valley
2A. PEELING BACK THE LAYERS

PROJECT TIMETABLE



APPENDIX (2A) 1 – SPECIFICATION FOR LIDAR PROJECT MANAGEMENT

1. INTRODUCTION

Kent County Council is seeking to have a LiDAR survey carried out in connection with their Heritage Lottery Funded project the Darent Valley Landscape Partnership. The County Council wishes to appoint an agent to assist them to commission and liaise with a contractor to collect LiDAR data and to undertake the processing, preparation and presentation of the data.

It is hoped that the LiDAR survey will identify and map a wide range archaeological, historic landscape and built heritage features in the survey area, thereby increasing our knowledge of the rich heritage of the area and providing a resource that can be used to facilitate a wide variety of community archaeology activities for the local communities to engage with.

Funding for the LiDAR survey has been made available by the Heritage Lottery Fund through the Darent Valley Landscape Partnership, a contribution from Sevenoaks District Council and through the Interreg 2 Seas project ICAReS.

2. AREA OF SURVEY

The Survey Area has been defined to encompass as a minimum the full boundary of both the DVLPS area and that of the HLF funded Greensand Commons project. The proposed Survey Area is set out in Figure 1 below. It is understood that there may be a need to adjust the area to accommodate flight patterns, however any adjustment of the area should be agreed with Kent County Council.

3. DEFINITION OF ROLES AND CONTRACTUAL RELATIONSHIPS (IN THIS SPECIFICATION)

The **Client** is Kent County Council who represent the partnership for this survey of the Valley of Visions, Shorne Woods Heritage Project and KCC Heritage Conservation.

The **Client Liaison** will be commissioned directly by Kent County Council to act as their agent to assist them to commission and liaise with a contractor to collect LiDAR data and to undertake the processing, preparation and presentation of the data.

The **Consultancy** will be commissioned directly by Kent County Council and will undertake the aerial survey and collection of LiDAR data to a technical specification provided by the Client Liaison.

4. EXPECTATIONS OF THE CLIENT LIAISON

The Client Liaison will undertake as a minimum the following areas of work:

1. Provide professional and technical advice on the LiDAR to ensure that an appropriate and suitable survey is carried out and optimum results achieved within the constraints of the available funding.
2. Investigate and cost the options for collection of LiDAR data.

3. Prepare a precise technical specification for the data collection suitable to KCC's requirements.
4. Assist KCC in obtaining quotes from suitable LiDAR consultancies and selection of the Consultancy to undertake the data collection.
5. Act as KCC's direct link with the Consultancy throughout the commission.
6. Project delivery: GIS project creation, data loading, checking against area commissioned, and formatting the various data types for optimum display and data archiving.
7. Receive process and analyse LiDAR data: 16 x hill-shaded processing, statistical analysis, vegetation height maps, slope and aspect data, and production of between 9 GIS-ready images per area of elevation model
8. Provide hill-shaded images and 4-colour composite images in digital and hardcopy form, a single composite image in a GIS-ready file, and a backup copy of the LiDAR data.
9. Undertake a rapid archaeological and ecological field assessment to ground truth a sample of the LiDAR data. The findings of the field assessment will be matched to the processed LiDAR data.
10. Present the data in the form of a PowerPoint presentation to the project partners, stakeholders and selected volunteers from the two HLF projects demonstrating the results and limitations.
11. Provide basic training at the time of the presentation on the use and viewing of the data
12. Hand over to Kent County Council a copy of the data and derived images.
13. Provide three copies of A3 map books.
14. Hold a back-up copy of the survey data and images.

5. DELIVERABLES AND TIMESCALE

The Client Liaison will provide the following:

A technical specification for the collection of data. This to be provided within 1 week of commission and will be used by KCC to directly commission the LiDAR Consultancy.

Subject to weather constraints and leaf emergence, LiDAR data will be collected in the period December 2017 to end of March 2018 (although this may be extended if conditions allow). Processed data will be provided to the Client Liaison within six weeks of the survey being completed.

The Client Liaison will complete the contract and provide the deliverables outlined in section 4 above within 4 weeks of being receipt of the survey data.

6. GIS COMPATABILITY

Data provided to Kent County Council should be geo-referenced in a format that can be directly imported into the Council's GIS system which uses ArcGIS 10.5 software.

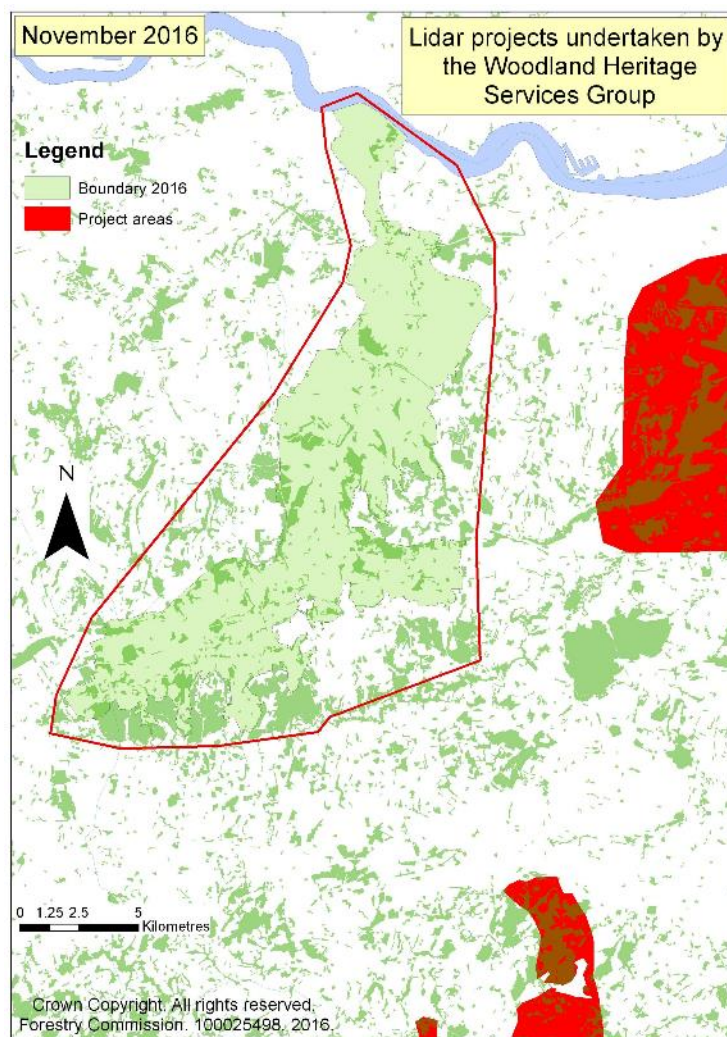
7. COPYRIGHT

Copyright of the elevation data will be shared equally between the Consultancy and the Client. Any applications to the Consultancy for the commercial use of the data should be made known to the Client for approval. Any income received for the commercial use of the data will be shared equally between the Consultancy and Client.

Copyright of the resulting processed images will remain with the Client Liaison. However, as the funding for the survey is derived from the Heritage Lottery Fund through a community based projects, the Client will have full rights to make the survey images available to the public for non-commercial, research and survey purposes (which may include publishing on the Internet).

8. TERMINATION IN EVENT OF POOR WEATHER PREVENTING FLYING

In the event that survey cannot be carried out in this timescale (due to weather conditions or availability of LiDAR Consultancy, the Client Liaison should inform the Client at the earliest opportunity.



Contract Period

The contract will commence upon contract signature on a mutually convenient date and will continue until the completion of the post works administration unless terminated in accordance with the Conditions of Contract.

Sub-Contractors

The Client Liaison must state if any part of their proposed supply solution requires the use of sub-contractors. The Council reserves the right to reject the use of any particular sub-contractor.

Requirements

Client Liaisons will deliver the works as identified in the specification above.

Pricing and Invoicing

All prices must include delivery and be exclusive of VAT.

Pricing will remain fixed and firm for the duration of the contract period.

Invoices should be submitted in accordance with the instructions received from the Council's Contract Officer or their delegated representative quoting relevant reference numbers and should contain a summary of transactions/work completed. Invoices will normally be paid within 30 days of receipt of the tax point of a correct and valid invoice.

Payment will be staged on an agreed basis linked to milestones within the project which will be agreed with the successful Client Liaison(s).

If discounts are available for early payment or payment for means other than BACS, please state this within the tender.

Contract Prices

Contract pricing in the form of the schedules in Appendix A are attached. Any prices not disclosed within the pricing information may not be entertained.

Management Information

The Project Manager and day-to-day contact for the project will be Rick Bayne, Project Manager for the Valley of Visions Landscape Partnership.

Order Process

Orders will be made by official Kent County Council purchase order and will either be sent by post, facsimile or e-mail. Telephone orders will be confirmed in writing by post, facsimile or e-mail within the next working day. Orders placed in any other way must not be accepted. The Council accepts no

responsibility for payment for orders placed and processed where the order has not complied with this process.

Health & Safety

The Council is committed to a management framework which incorporates the provisions of the Health & Safety at Work Act, and the responsibility to provide, so far as is reasonably practicable, a safe and healthy working environment for all employees.

The Council requires that all suppliers, their employees and, where applicable, sub-contractors shall, while working for KCC, conform to all requirements of the Health and Safety at Work etc Act 1974 (HSWA) and with all other Health and Safety associated Acts and Regulations that relate.

Client Liaisons who fail to comply with Health and Safety legislation may be removed and excluded from opportunities of working for KCC in the future.

Insurance

As a Government Department, the Client Liaison is self-insuring. It will however undertake to indemnify and hold harmless the Client from and against any losses, costs, damages, liabilities and expenses incurred by our clients directly or indirectly as a result of any act or omission on our part or of any of our employees, agents, or subcontractors or the employees of any of them in connection with the carrying out of this contract and against any and all actions, suits, proceedings, claims, demands, assessments and judgements with respect to any of the foregoing. This will be equivalent at least to the following level of insurance cover.

1. Public Liability insurance (£5 million limit)
2. Professional Indemnity insurance (£1 million limit)
3. Employer's Liability insurance (£10 million limit)

Equal Opportunities

Kent County Council supports the principle of equality and fairness and opposes all forms of unlawful or unfair discrimination on the grounds of gender, race, religion, age, sexuality, social background and disability. This includes embracing the principles of the Race Relations Amendment Act which seeks to establish race equality and good race relations. The Client Liaison is expected to adhere to these also.

APPENDIX (2A) 2 – SPECIFICATION FOR LIDAR SURVEY

1. INTRODUCTION

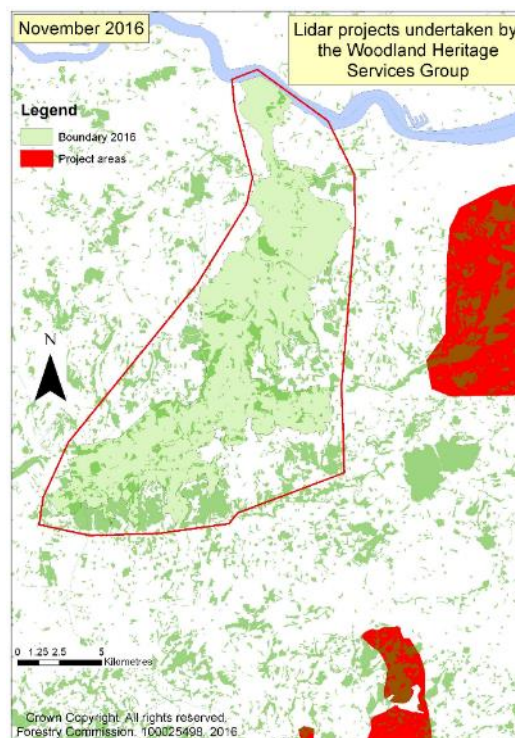
Kent County Council is seeking to have a LiDAR survey carried out in connection with their Heritage Lottery Funded project the Darent Valley Landscape Partnership. The County Council wishes to appoint an agent to assist them to commission and liaise with a contractor to collect LiDAR data and to undertake the processing, preparation and presentation of the data.

It is hoped that the LiDAR survey will identify and map a wide range archaeological, historic landscape and built heritage features in the survey area, thereby increasing our knowledge of the rich heritage of the area and providing a resource that can be used to facilitate a wide variety of community archaeology activities for the local communities to engage with.

Funding for the LiDAR survey has been made available by the Heritage Lottery Fund through the Darent Valley Landscape Partnership, a contribution from Sevenoaks District Council and through the Interreg 2 Seas project ICAReS.

2. AREA OF SURVEY

The Survey Area has been defined to encompass as a minimum the full boundary of both the DVLPS area and that of the HLF funded Greensand Commons project. The proposed Survey Area is set out in Figure 1 below. It is understood that there may be a need to adjust the area to accommodate flight patterns, however any adjustment of the area should be agreed with Kent County Council.



3. DEFINITION OF ROLES AND CONTRACTUAL RELATIONSHIPS (IN THIS SPECIFICATION)

The **Client** is Kent County Council who represent the partnership for this survey of the Valley of Visions, Shorne Woods Heritage Project and KCC Heritage Conservation.

The **Client Liaison** will be commissioned directly by Kent County Council to act as their agent to assist them to commission and liaise with a contractor to collect LiDAR data and to undertake the processing, preparation and presentation of the data.

The **Consultancy** will be commissioned directly by Kent County Council and will undertake the aerial survey and collection of LiDAR data to a technical specification provided by the Client Liaison.

4. TIMING

The survey will be flown during winter 2017/18, when the broadleaf trees are devoid of leaf cover and the understorey vegetation is at a minimum. The aerial survey needs to be completed at the earliest possible date before the LiDAR Survey End Date.

"In the event that survey cannot be carried out in this by the Lidar Survey End Date, the Consultant should inform the Client and Client Liaison at the earliest opportunity.

The Client Liaison will be kept informed of progress (including planned data acquisition) so that fieldwork or ground-based photography can be coordinated accordingly.

5. LIDAR SPECIFICATIONS

Lidar data will be captured at a minimum of 2 laser hits per square metre (between 2 and 6 hits per metre are expected), using a maximum half scan angle of 15 degrees and a swath overlap of 55%. The survey altitude will be no greater than 1000m A.G.L. A Lidar system equipped with an 'eye-safe', class IV laser will be used, to ensure better penetration of the forest canopy.

The survey will produce 3-dimensional {X, Y, Z, I}, geo-referenced (British National Grid), point-cloud data. These data will be provided as CSV or similar 'separated variables' formatted files and contain first, last and any intermediate return data. Files will cover 1 square Km of area. Each row will contain the returns from a single laser pulse. Any missing intermediate reflections should also have their null values separated (e.g. with commas) to facilitate data parsing and subsequent column integrity.

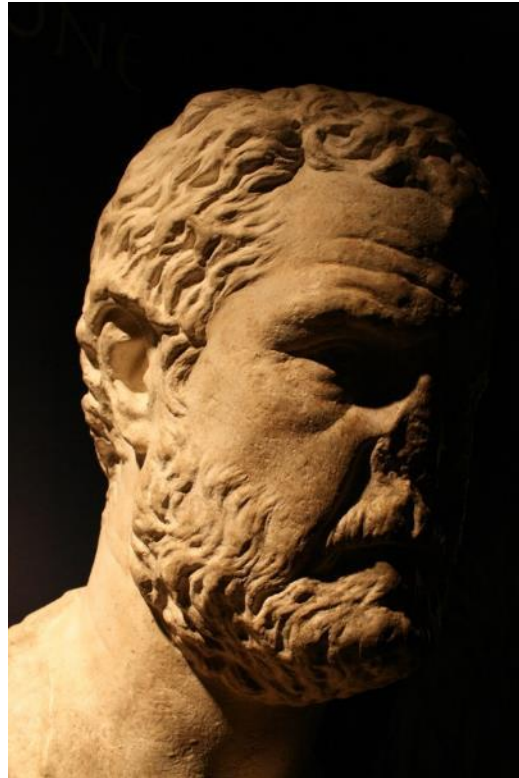
The Lidar data will be processed by the Consultant to produce point clouds and digital surface models (DSM) as an IMG formatted raster with a 0.25m cell size.

The application of vegetation removal algorithms to the data will produce "bare-earth" digital terrain models (DTM) in a similar format and cell size. Where dense vegetation prevents the vegetation removal process from determining a reliable ground value, gaps should be left within the DTM, rather than forcing a surface and creating artificial features. Where possible, intermediate returns should be

used to help distinguish between vegetation and true ground points in last return data, thereby helping produce the best quality DTM.

Both the DSMs and DTMs should be provided as Ordnance Survey referenced data. These rasters will be delivered covering 'bite-sized' areas of landscape rather than hundreds of individual 1Km² tiles.

2B. THE DARENT VALLEY'S HIDDEN ROMAN LEGACY



*Replica of bust found at Lullingstone Villa possibly of Publius Helvius Pertinax
Published under a [Creative Commons Licence](#)*

PROJECT AIM

To communicate the importance of the landscape of the Darent Valley during the Roman era to a wider audience. Explain the significance of the villas and other Roman heritage throughout the valley's landscape that remains largely hidden to the wider public, and enable people and communities to learn about and explore why it was so important to them. Also, undertake exploratory research, recording and possibly excavation of exposed archaeology with community involvement at Lullingstone Roman Villa and other Roman sites in the scheme area.

DELIVERY LEAD

Darent Valley Landscape Partnership Scheme Delivery Team working with English Heritage, Dartford Museum and the Discovering Roman Otford Project.

LOCATION AND LAND OWNERSHIP

The multiple locations of villa and other Roman sites in the valley occur on land owned or managed by many different individuals and organisations. Lullingstone Villa is the most famous and a popular tourist destination. It is owned and maintained by English Heritage.

AUDIENCE

Lullingstone Villa is part of the cluster of tourist destinations in the Eynsford area that includes Eagle Heights Bird of Prey Centre, Lullingstone Castle, Lullingstone Country Park and the lavender fields at the Hop Shop. It receives around 30,000 visitors a year and has an active education programme. Being one of the best-preserved villas in the country, it attracts many national and international visitors as well as from across Kent. Many schools visit from outside the valley with many travelling from London. The audience for this project includes all these visitors and will aim to increase awareness that Roman activity was not just focused at Lullingstone. Local communities will also be provided with opportunities to get directly involved with exploring Roman heritage.

HERITAGE VALUE

The River Darent was an important Roman supply route, probably carrying grain downstream and possibly bringing back materials for construction and other purposes. The peak of Roman activity in the valley was probably between the 2nd and 3rd centuries, when most of the known villa sites were operating at the same time. There may have been as many as thirteen Roman sites between Dartford and Kemsing, although all may not have been villas.

Lullingstone Roman Villa represents a remarkable survival, both in terms of the preservation of some structural elements of the main villa-house, but also, and more significantly, with respect to the evidence for Romano-British Christianity that it produced. Built perhaps as early as the AD 80s, Lullingstone Villa reached the peak of luxury in the mid-4th century when its spectacular mosaics were laid. It is also important for its possible imperial associations, as well as the enigmatic nature of the wider site and the challenges that presents to our interpretation and understanding (English Heritage, 2016).



Lullingstone Roman villa in its landscape in the later 4th century - © Historic England (illustration by Peter Urmston)

Originally built in c. AD 75, Lullingstone Roman Villa was not re-discovered until 1949. The villa is significant due to the importance of the Christian evidence from the site. The excellent preservation of features such as the raised floor also suggest the importance of the building and status of the owner. There have been suggestions that the owner may have been Publius Helvius Successus, and this is supported by one of two busts found at the site. He was a Senator and Governor of Britannia in AD 185-6, and went on to become Emperor for just 87 days in AD 193.

Elsewhere in the valley, at Otford, a Roman Villa at least twice the size of Lullingstone is currently being excavated. This was abandoned in mysterious circumstances during the 4th century. Originally partially excavated in the 1930s, in recent years the West Kent Archaeological Society have been undertaking more extensive excavations in recent years through their Discovering Roman Otford Project (DROP).

Dating evidence from the few coins and pottery found suggests the villa was occupied during the 3rd and 4th centuries. Hypocaust tiles and several red tesserae made from clipped tile are being examined, although the villa appears to have been systematically demolished.

DROP has not detected any signs of a devastating fire, but the floor where the tiles were removed was covered in 50mm of silt which was itself covered in demolition rubble, suggesting that flooding of the River Darent may have been responsible for its abandonment.



Excavation of Otford Roman villa (© Kevin Fromings)

ISSUES AND THREATS

Beyond Lullingstone, awareness of many of these sites is poor outside of archaeological and historical groups. Several of the excavations date back to around a century ago, and with one exception, the last excavation of a Roman site was 26 years ago. However, with establishment of the Discover Roman Otford Project (DROP) in 2016, there is a renewed focus on the importance of the wider Darent Valley. DROP was born out of the West Kent Archaeological Society (WKAS) and is working on a five-year project (started in 2015) to investigate the Churchfield and Progress villas in Otford using archaeological methodology (Fromings, 2016).

Lullingstone Villa's interpretation is excellent, and it has played an important role in communicating Roman occupation of the valley. However, although there is an explanation of Roman presence across the valley, the focus is understandably on the Lullingstone site and there is therefore a need to emphasise and communicate to the wider public where Roman activity was elsewhere in the valley.

PROJECT DESCRIPTION

There are three main elements to this project which combined will look to communicate the Roman heritage of the valley in a way that enables a more general understanding of how the Romans used and worked with the landscape of the Darent Valley. These are:

INVESTIGATION, RECORDING OF AND COMMUNITY ARCHAEOLOGY AT LULLINGSTONE VILLA

Beyond the covered main site at the Lullingstone villa, there is exposed archaeology evident that English Heritage would like to investigate in more detail. This requires an initial survey and data collection, but English Heritage is happy for it to be developed as a community archaeology project including potential excavation. This provides an exciting opportunity for local people and visitors to be involved with archaeology and contribute to finding out more about one of the most important Roman villas in the country.

The DVLPS will work closely with English Heritage to develop this project, and will involve the West Kent Archaeology Society (WKAS) and their DROP project. Furthermore, Dartford Museum holds some material from the villa and the work undertaken by the Kent Archaeological Rescue Unit, and the museum's involvement will enable this work to be communicated and promoted at the northern end of the valley.

An historic environment desk-based assessment will be undertaken initially by a consultant in year 2 of the scheme, and this will be undertaken using the standard and guidance provided by the Chartered Institute for Archaeologists (attached in appendix 1 on page 96). Depending on what the assessment reveals, it will enable the development of the approach that will be taken for further investigation in partnership with English Heritage. The focus will be on providing an opportunity for local people and visitors to observe and have some involvement in practical archaeology, and to contribute to discovering and revealing more about Lullingstone villa and the wider occupation of the valley.

EXTENDING KNOWLEDGE OF THE WORK OF DROP

The Otford Villa site is currently the focus of DROPs activity and will be during the first three years of the scheme. There is some sensitivity around the site as it is on private land with no public access, and there have been issues with how work on the villa has been publicised. The DVLPS presents an opportunity to communicate the work of DROP to a wider audience through a careful and structured programme of interpretation and controlled information. This will enable awareness of the importance of this other key site to be extended whilst respecting the privacy and security of the heritage and landowner.

It is important to note that this activity in the project will be guided by DROP who are best positioned to understand the sensitivities of the site. Working with them, DVLPS will investigate if there is a way that the work can be communicated to a wider audience whilst respecting these sensitivities.

This will include:

- A series of talks to provide updates on findings and current thoughts being developed about the site.
- A regular blog on the DVLPS website to communicate findings to the public.
- Guided site walks and presentations.
- Support and promotion for DROP to encourage participation and commitment from people to support work in helping in the trenches at the Otford Villa.

COMMUNICATING KNOWLEDGE AND AWARENESS OF ROMAN SITES THROUGHOUT THE VALLEY

WEB-BASED EDUCATION RESOURCE

Evolving web-based education resource explaining the Roman sites in the valley, their location, significance, and what is known about them. This will be developed to complement English Heritage's existing education provision at Lullingstone and aimed at expanding learning to the whole of the valley. A bursary will also be made available to fund schools with a high proportion of pupils with free school meals to benefit from expert-led discovery visits at Lullingstone villa. Normally costing £100 a visit, this will provide a more interactive visit for schools, particularly for those where cost may be a prohibiting factor.

AUDIO-VISUAL INTERPRETATION

The Darent Valley Path passes extremely close to most of the notable villa and other Roman sites in the valley. A downloadable audio-visual interpretation will be created that complements existing interpretation for the Darent Valley Path. At each site location, a disk on a waymarker post will reference an audio-visual file to explain what is known about the site, what can be found there, and how it fitted in to the Roman Darent Valley landscape. This approach will allow the Darent Valley Path to be walked with an alternative theme or focus, provide the opportunity to experience it in a different way. With new discoveries and improved understanding regularly being made, this will allow up-to-date information to be provided throughout the life of the scheme. The information and scripts will be developed with local experts on the Roman occupation of the valley, and recorded using local volunteers. This information will also be available in leaflet form for those without web access from key tourist destinations along the Darent Valley, and in downloadable form for those that prefer to avoid technology whilst walking in the countryside.



*Excavation of Darenth Court Farm Roman Villa in 1894
(Archaeologia Cantiana Vol.22 1897)*

OUTPUTS AND OUTCOMES

Activity	Outputs	Outcomes
Investigation, recording of and community archaeology at Lullingstone villa	<ul style="list-style-type: none"> • 1 x historic environment desk-based assessment undertaken. • 1 x community archaeology project undertaken. • 40 people involved in on-site archaeology. • 250 people visiting and viewing archaeological work being undertaken. • 1 x new archaeological feature recorded and identified. • 50 volunteer days contributed to archaeological work. 	<ul style="list-style-type: none"> • Greater understanding of the Roman villa's heritage and use. • Exposed archaeology recorded and archived. • Community participation in discovering new heritage and archaeology. • Visitors to Lullingstone villa can observe archaeology in action and be enthused and excited by the discovery of archaeology.
Extending knowledge of the work of DROP	<ul style="list-style-type: none"> • 4 x guided site events held* • 120 participants* • 1 x blog produced. • 5 x talks given. • 10 new DROP volunteers recruited. <p>(* Dependent on sensitivities of site being overcome).</p>	<ul style="list-style-type: none"> • A new generation of archaeologists inspired. • A greater appreciation of how the Darent Valley landscape was used by the Romans in its entirety. • Schoolchildren experience an interactive learning experience that they would not have otherwise been able to enjoy.
Web-based education resource	<ul style="list-style-type: none"> • 1 x web-based resource produced. • 20 x schools provided with a bursary for Lullingstone villa expert-led visits. • 600 x schoolchildren benefitting from enhanced learning at Lullingstone villa. • 40 x schools using the web-based resource 	<ul style="list-style-type: none"> • Teachers provided with additional learning resources to extend learning beyond Lullingstone villa to the rest of the landscape. • More people actively involved in archaeology.
Audio-visual interpretation	<ul style="list-style-type: none"> • 1 x new audio-visual guide produced. • 1,000 x downloads. • 4 volunteer days contributed (script-writing and voice recording). 	<ul style="list-style-type: none"> • Increased knowledge about the Roman sites across the rest of the Darent Valley.

PROJECT COSTS

Element/Item	Year 1 2017/18	Year 2 2018/19	Year 3 2019/20	Year 4 2020/21	Year 5 2021/22	Total
[REDACTED]		[REDACTED]				[REDACTED]
[REDACTED]			[REDACTED]	[REDACTED]		[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]		[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]		[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]			[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]			[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Totals	£990	£7,040	£17,140	£16,865	£1,635	£43,670

PROJECT RISKS

Risk	How likely	Severity	Consequence	Action required
Time commitment from local archaeology groups is limited	Medium	Medium	Difficulty in providing sufficient resources for community archaeology project	Community archaeology programmed for the second half of the scheme, to allow for scheduling and development. Ascertain availability at an early stage and begin promotion.
Security and privacy prevents wider communication of information about Otford Villa site	Medium	Medium	Guided site visits may not be possible and restricts detailed information being put in the public domain	Maintain close communication with DROP and WKAS to determine most appropriate way to progress.

TRAINING REQUIRED

- Community archaeology skills.

MAINTAINING A LEGACY

The outcomes from the practical works will be recorded and archived by the groups involved, and English Heritage will integrate it into their on-site interpretation at Lullingstone villa. The audio-visual interpretation is in a form that can be easily updated or enhanced and will remain available on the legacy website for DVLPS. This can be adopted for maintaining by Kent Downs AONB, KCC Heritage or Explore Kent. The bursary's uptake will be assessed to calculate effectiveness, and alternative mechanisms will be explored to fund it if considered to be successful.

LINKS TO OTHER PROJECTS

- 1C. Inspired Landscapes
- 2A. Peeling Back the Layers
- 3A. Heart of the Valley – The Darent Valley Path
- 3C. Telling the Darent's Story
- 5A. Landscape Adventure Learning For All
- 5D. Future Skills
- 5G. Spreading the Word

Theme 2: Historic Darent valley

2B: THE DARENT VALLEY'S HIDDEN ROMAN LEGACY

PROJECT TIMETABLE

Activity	Year 1			Year 2			Year 3			Year 4			Year 5												
	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	
Oford Villa guided site visits																									
School visit bursary made available																									
Oford talks																									
Historic environment desk-based assessment undertaken																									
Production of web-based learning resource																									
Community archaeology project undertaken																									
Audio-visual interpretation produced																									



Standard and guidance for historic environment desk- based assessment

Published December 2014

The Chartered Institute for Archaeologists is a company incorporated by Royal Charter.

Miller Building, University of Reading, Reading RG6 6AB

1

STANDARD AND GUIDANCE

for historic environment desk-based assessment

INTRODUCTION

This *guidance* seeks to define good practice for the execution and reporting of desk-based assessment, in line with the regulations of ClfA; in particular the *Code of conduct*. It seeks to expand and explain general definitions in the Codes.

The key section of this document is the *Standard*. It is only a few lines long, and deliberately lacks detail. In part this is because it is impossible to foresee every circumstance and prescribe for each an investigative method. Nor does the Institute seek to dictate to its members in detail the means by which projects are conducted, but to outline procedures by which outcomes or products can be attained and against which performance can be monitored. The historic environment expert is left free to make a considered selection of appropriate established techniques and to develop new methods.

If the project has failed to determine *the nature, extent and significance of the historic environment within a specified area* because of the way in which it was conducted, the *Standard* has not been met. It is a 'sub-standard' project. The caveat is *as far as is reasonably possible*, because there may be good reasons why a well-conducted assessment stood no chance of success.

Defining 'reasonably possible' relies on shared professional judgement and values. This is where the *Guidance* section comes in. It is not binding *per se*, but advises on what the profession presently considers good practice. Departures from the guidance should be undertaken with caution, and it is advisable to document the reasons.

So the *Standard* defines a required outcome and the guidance advises in broad terms how the profession currently anticipates that the end product will be reached. This document contains more detailed guidance on the legal, policy and practice requirements of the United Kingdom, Channel Islands and Isle of Man, and complements government or practitioner guidance; but it applies to ClfA members' work universally and would benefit from additional sections from those able to draft them. Professional practitioners are likely to produce their own yet more detailed handbooks and procedures documents on how they interpret and implement the ClfA guidance.

The *Standard and guidance* has many potential applications, but is principally used by

- those involved in commissioning archaeological work, be they developers and their agents, planning archaeologists, or archaeologists designing their independent research, to define the quality required
- those undertaking the work, to assist in their own quality management and to show clients and peers that they are attaining a certain quality

The *Standard and guidance* applies equally to paid or unpaid archaeologists. For ClfA members and Registered Organisations compliance with the *Standard* is an obligation of membership/Registration: failure to meet the standard may be judged to be in conflict with the regulations through the Institute's professional conduct procedures.

Professional practice is changing. New methods are being developed, and the circumstances in which archaeological work is commissioned and conducted are subject to changing legal, administrative and ideological perspectives. Comments and recommendations on this document are welcome at any time.

STANDARD

Desk-based assessment will determine, as far as is reasonably possible from existing records, the nature, extent and significance of the historic environment within a specified area. Desk-based assessment will be undertaken using appropriate methods and practices which satisfy the stated aims of the project, and which comply with the *Code of conduct* and other relevant regulations of ClfA. In a development context desk-based assessment will establish the impact of the proposed development on the significance of the historic environment (or will identify the need for further evaluation to do so), and will enable reasoned proposals and decisions to be made whether to mitigate, offset or accept without further intervention that impact.

GUIDANCE

Definition

Desk-based assessment is a programme of study of the historic environment within a specified area or site on land, the inter-tidal zone or underwater that addresses agreed research and/or conservation objectives. It consists of an analysis of existing written, graphic, photographic and electronic information in order to identify the likely heritage assets, their interests and significance and the character of the study area, including appropriate consideration of the settings of heritage assets and, in England, the nature, extent and quality of the known or potential archaeological, historic, architectural and artistic interest. Significance is to be judged in a local, regional, national or international context as appropriate.

Purpose and context

The purpose of a desk-based assessment is to gain an understanding of the historic environment resource in order to formulate as required

1. an assessment of the potential for heritage assets to survive within the area of study
2. an assessment of the significance of the known or predicted heritage assets considering, in England, their archaeological, historic, architectural and artistic interests
3. strategies for further evaluation whether or not intrusive, where the nature, extent or significance of the resource is not sufficiently well defined
4. an assessment of the impact of proposed development or other land use changes on the significance of the heritage assets and their settings
5. strategies to conserve the significance of heritage assets, and their settings

6. design strategies to ensure new development makes a positive contribution to the character and local distinctiveness of the historic environment and local place-shaping
7. proposals for further archaeological investigation within a programme of research, whether undertaken in response to a threat or not.

Such assessment may be undertaken

- in response to proposed development, other land-use change or natural decay or erosion which threatens the historic environment
- within a programme of research not generated by a specific threat to the historic environment
- in connection with the preparation of management plans to conserve the historic environment

The scope of desk-based assessment therefore will vary according to the circumstances in which it is carried out. Desk-based assessment may be instigated or commissioned by a range of different individuals or organisations, including local planning authorities and their advisors, national advisory bodies, government agencies, private landowners, developers or their agents, archaeological researchers etc. The scope should be agreed with relevant parties in advance.

1 Application

1.1 The *guidance* applies to all types of non-intrusive assessment of the historic environment (above or below ground, inter-tidal and underwater) however generated.

1.2 This document provides more detailed guidance on working in the legislative and practice framework of the UK, Channel Island and Isle of Man, and seeks to amplify directions given in appropriate national planning policy (see Appendix 6), and be compatible with current guidelines issued by regulatory authorities. ClfA members and Registered Organisations must comply with the Standard and should follow the guidance wherever they work: they are additionally responsible for making sure that they are aware of and comply with local requirements.

2 Principles: the Code of conduct and other regulations of the ClfA

2.1 An archaeologist undertaking desk-based assessment must adhere to the five principles enshrined in the ClfA's *Code of conduct* and the rules governing these principles, see <http://www.archaeologists.net/codes/ifa>.

3 Procedures

3.1 Project initiation

3.1.1 The historic environment varies greatly from place to place, and its survival or form is often due to very localised conditions. Consequently it is good practice to consult historic environment information and regional research agenda at the outset of any new study in order to establish appropriate investigation criteria.

- 3.1.2 In the United Kingdom, Channel Islands and Isle of Man the conservation of the historic environment is a material consideration in the planning process.
- 3.1.3 Within the planning framework the local historic environment record and the local authority's historic environment advisers should be consulted to determine whether further information is required. In Northern Ireland developers are advised to undertake their own appraisals prior to submission of a planning application.
- 3.1.4 Certain developments fall within special regulations or statute differing from or additional to the standard planning process (eg some projects initiated by public utilities, statutory undertakers, Crown Commissioners, Ministry of Defence etc). Desk-based assessment undertaken for such developments should aim to follow the procedure set out above.
- 3.1.5 Environmental Impact Assessment (EIA) applies to proposed projects that are considered to have significant environmental effects (as defined in EC Directive 85/337), and requires a systematic analysis of such effects before a decision to permit or prevent the project is taken. Applicants are required to provide information for the deciding agency to consider in the decision-making process, and further give bodies with relevant environmental responsibilities an opportunity to set the scope of the required impact assessment and to comment on its conclusions before consent is given. EIA is mandatory in relation to certain projects and may be extended to others. Appraisal and desk-based assessment are integral elements of EIA. Non-intrusive and intrusive fieldwork may also be required. Careful consideration should be given to the overlap with landscape and visual assessments, and with the assessment of the setting of historic environment assets whether designated or not. See Appendix 1 for definitions and *CiFA Standard and guidance for field evaluation*.
- 3.1.6 It is imperative that the scope, aims and methodology of desk-based assessment be discussed with the local authority's historic environment adviser prior to the commencement of the EIA, and tailored to the specific needs of the site or development.
- 3.1.7 Where EIA does not apply, consultation with the local authority's historic environment advisers in advance of research to seek to agree the aims and methodology will ensure that unnecessary work is avoided and that the results are useful and properly able to inform the planning process. Confidentiality issues should be accommodated by all parties involved.

3.2 Briefs/project outlines, specifications and project designs

- 3.2.1 Desk-based assessment should be carried out according to a written specification or to a project design agreed by all relevant parties, so that performance and fitness for purpose can be measured.
- 3.2.2 A brief (or project outline in Scotland) is an outline of the circumstances to be addressed. It does not provide sufficient detail to be a measurable standard but it could form the basis for a specification or a project design which sets out a schedule of work in sufficient detail for it to be quantifiable, implemented and monitored, ie a measurable standard. A project design may also include additional information which covers contractual details such as staffing levels or cost relevant to the commissioning but not necessarily the monitoring body. A project design may be prepared in response

to a brief/project outline or it may be a research proposal independent of the planning framework (see Appendix 2, English Heritage 2006, Appendix 2, Historic Scotland 1996b, 7).

- 3.2.3 Any archaeologist undertaking desk-based assessment should use all appropriate sources and expertise. In the case of projects affecting complex or multi-faceted heritage assets special consideration should be given to the role of the archaeologist in either leading or contributing to a historic environment team also including other experts in built heritage or historic landscape. The archaeologist should seek to contribute to inter-disciplinary assessment and should not ignore or downplay the significance of other historic, architectural or artistic interests of the heritage asset.
- 3.2.4 For desk-based assessment within the planning framework, a brief/project outline will usually be prepared by the planning archaeologist or curator and issued by the commissioning body or their agents. The brief/project outline or a specification may be prepared by the commissioning body or their agents, but should be agreed in advance with the planning archaeologist.
- 3.2.5 The specification or project design should set out the scope of the end report and should identify relevant data standards for record organisation and content that will be used in information recording systems employed by the project.

3.3 Sources and data collection (including field visits)

- 3.3.1 All work should conform to the specification and/or project design and be agreed by all relevant parties before work commences. Any variations should be agreed in writing by all relevant parties.
- 3.3.2 Sufficient and appropriate resources (staff, equipment, accommodation etc) must be used to enable the project to be completed within the timetable and to an acceptable standard. Any contingency elements must be clearly identified and justified. It is the role of the archaeologist undertaking the work to define appropriate staff levels. All staff, including subcontractors, must be adequately briefed and aware of the work required under the specification, and must understand the aims and methodologies of the project.
- 3.3.4 All staff, including subcontractors, must be competent for their project roles, and employed in line with relevant legislation and ClfA regulations (see Appendix 6). The author and/or manager should preferably be an accredited member of the ClfA. *ClfA Registered Organisations have undertaken to comply with the Code of Conduct, have been quality assured by the ClfA within the last two years and are subject to a complaints process. Because of the complexity and sensitivity of most commercial work, those commissioning or specifying such work are recommended to seek to ensure it is undertaken by a ClfA Registered Organisation.*
- 3.3.5 Full and proper records (written, graphic, electronic, and photographic as appropriate) should be made for all work. Digital records created as part of the project should comply with specific data standards.
- 3.3.6 The archaeologist undertaking desk-based assessment should consider all appropriate sources of information and give an assessment of their relevance and reliability. All sources consulted should be listed in the report, whether or not they have been

productive. All other potentially relevant sources which have not been consulted should be listed and the reasons for not consulting them given. The report should contain a full discussion of the implications of the choice of sources consulted in relation to the reliability of the conclusions reached.

3.3.8 The range of sources containing potential information which need to be consulted in undertaking desk-based assessment will vary according to a number of factors

- the size and location of land
- the nature and quality of existing information
- the exact purpose and scope of the study

A list of sources of potential sources is provided in Annex 1, but this is by no means exhaustive.

The archaeologist should also contact the relevant HER before undertaking the assessment in order to check

- what digital images and cartographic resources are available within the HER which could potentially be used for DBA, subject to appropriate copyright and licence arrangements (eg. scanned tithe maps, aerial photographs)
- if there are any other DBAs for the study area or adjacent areas that are available or being produced
- the sources that may have been already used by the HER as part of any HER appraisal for the development or land-use change that DBA aims to address.

3.3.9 Unless access is restricted the archaeologist undertaking desk-based assessment should visit the study area in order to assess its character, identify visible historic features and assess possible factors which may affect the survival or condition of known or potential assets. All assessments should include an explicit statement as to whether or not a visit has taken place and, if so, a description of the procedures used and any constraints to observation encountered.

3.3.10 Health and Safety regulations and requirements cannot be ignored no matter how imperative the need to record archaeological information; hence Health and Safety will take priority over archaeological matters. All archaeologists undertaking fieldwork (eg a site visit) must do so under a defined Health and Safety policy. Archaeologists undertaking fieldwork must observe safe working practices; the Health and Safety arrangements must be agreed and understood by all relevant parties before work commences. Risk assessments must be carried out and documented for every field project, in accordance with the Management of Health and Safety at Work Regulations 1992.

3.3.11 All equipment must be suitable for the purpose and in sound condition and comply with Health and Safety Executive recommendations. It should be noted that diving equipment in particular is subject to statutory controls under the *Diving Operations at*

Work Regulations, over and above suitability for purpose and sound condition.

3.3.12 The archaeologist undertaking desk-based assessment should ensure that he or she has adequate insurance policies, public and employer's liability, and some relevant form of civil liability indemnity or professional indemnity.

3.4 Assessing significance

3.4.1 An assessment of the significance of historic assets should include consideration, in England, of the archaeological, historic, architectural and artistic interests pertaining to the heritage asset, their significance, and the extent to which that significance relates to different elements of the asset's fabric. More information on assessing significance can be found in PPS5 Planning for the Historic Environment: Historic Environment Planning Practice Guide (EH 2010).

3.4.2 Assessment should include where appropriate evidence of the potential reduction of significance due to truncation or the erosion of deposits, or alterations to buildings, etc.

3.4.3 Assessment should also identify the potential impact of proposed or predicted changes on the significance of the asset and the opportunities for reducing that impact. It should consider how the significance of the asset might be enhanced, and might suggest how loss of significance of one interest might be offset by enhancing that of another (eg through increased knowledge and public appreciation).

3.5 Reports

3.5.1 All reports should be written in a clear, concise and logical style; technical terms should be explained. Reports submitted in support of planning applications are public documents which need to be easily understandable by a non-specialist audience.

3.5.2 The content of desk-based assessment reports will vary according to the scope of the proposals and the complexity or otherwise of the information available from existing sources; presentation may also be determined by the requirements of the body or person commissioning the work.

3.5.3 Reports should contain as a minimum:

- non-technical summary
- statement of research and/or conservation objectives and how they have been addressed by the study
- clear map of study area
- aims and purpose of assessment including the context of development or other land use change
- methodology including sources consulted (see 3.3.7)
- identification of existing heritage or archaeological site management plans that may be in operation in the locality, and where sufficient information about the proposed development is available an assessment of the impacts that new development may have on them

- description of the heritage assets and archaeological potential of the study area
- an assessment of the interest and significance of each asset and its setting, focussing on those aspects which will be affected by any proposed or predicted changes
- assessment of the nature of the effects and options for reducing or mitigating harm. Opportunities for positive effects should be identified as well as negative impacts and mitigation options.
- a description of the area's historic character and the effect of proposed development upon it (where appropriate, this should include options for conserving or enhancing local character)
- conclusion, including a confidence rating and the extent to which the aims and purpose have been met
- supporting illustrations at appropriate scales
- supporting data, tabulated or in appendices
- index to and location of archive
- references

The contents are discussed in more detail in Appendix 5.

3.5.4 Where the project is carried out within the planning process, the report should contain sufficient objective data to enable 'an informed and reasonable decision to be made', including a decision to require further evaluation of the site. Non-compliance with the agreed specification or project design should be pointed out by the local authority historic environment adviser to the archaeologist undertaking the work, and their client if appropriate, at the earliest opportunity.

3.5.5 Subject to any contractual requirements on confidentiality, copies of the report should be submitted to the appropriate Historic Environment Record and national monuments record, where appropriate, and an OASIS form should be completed to notify and provide information to the relevant local and national authorities, within six months of the completion of the report or earlier as may be specified by contractual or grant conditions. This should contain sufficient detail to help researchers to find and access the project archive.

3.6 Other considerations

3.6.1 Desk-based assessment may be undertaken before development proposals are in the public domain. The archaeologist undertaking this type of work has a duty of confidence to the client but must emphasise their professional obligation to make the results of work available to the wider community within a reasonable time.

3.6.2 It is advisable for desk-based assessment to be governed by a written contract to which the specification or project design may be attached. Such contracts or agreements should include reference to the defined area of study outlined on a map; to the brief/project outline, specification or project design (see 3.2); to conditions for access; programme, method and timetable for payment; copyright arrangements (Darvill and Atkins 1991).

-
- 3.6.3 All project archives should meet the requirements of the *Cifa Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives* and comply with the best practice outlined in AAF (2007).
- 3.6.4 It is advisable to include statements on ownership and copyright in a written contract or agreement. It is normal practice for both the copyright and ownership of the paper and digital archive from archaeological work to rest with the originating body (the archaeological organisation undertaking the work). The originating body deposits the material with the recipient museum or repository on completion of the contracted works, and normally transfers title and/or licenses the use of the records at this stage
- 3.6.5 Material copied or cited in reports should be duly acknowledged and all copyright conditions (such as those for Historic Environment Records, national monuments/historic environment records or Ordnance Survey maps and the National Grid) observed.
- 3.6.6 All aspects of publicity must be agreed at the outset of the project between the commissioning body, and the archaeologist undertaking the project.
- 3.6.7 Any costs to be charged by the local authority historic environment advisers must be agreed in writing at the outset of the project.

ANNEX 1

Sources of historic environment information

Archaeological databases

Source type

Historic Environment Records, archaeological excavation and survey records, Archaeological Data Service, national monuments records, national buildings records, Listed Building lists, Scheduled Monuments lists, regional inventories, public and private collections of artefacts and ecofacts, Internet.

Source location

National heritage bodies, Royal Commissions, local authorities Historic Environment Records, museums, archaeological trusts and units, universities, Ordnance Survey, local archaeological and historical societies,

Online sources

Archaeology Data Service
Heritage Gateway
CANMORE
Coflein
Intute
PastScape

Historical documents

Source type

Charters, registers, manuscript collections (secular and ecclesiastical), deeds, wills, estate papers, electoral rolls, contemporary published accounts (eg county and agricultural surveys), industrial investigations.

Source location

The National Archives, parish records, estate collections, museums, national and local libraries, county and district archives, study centres, press libraries, Ordnance Survey, British Library.

Online sources

Access 2 Archives

Cartographic and pictorial documents

Source type

Early maps, prints and paintings, tithe maps, Ordnance Survey maps, estate plans, and Admiralty charts.

Source location

The National Archives, parish records, estate collections, museums, national and local libraries, county and district archives, Ordnance Survey, press libraries, private collections, Ministry of Defence hydrographic office, local archaeological and historical societies.

Online sources

Access 2 Archives

MAGIC

Aerial photographs**Source type**

Aerial photographs. Satellite images

Source location

National registers of aerial photographs (including RAF and Ordnance Survey flights), museum collections, national heritage bodies, Sites and Monuments Records, university collections, private collections (in some instances a flight may be commissioned as part of the study). Online sources such as Google Earth or Microsoft MSN Virtual Earth

Geotechnical information**Source type**

Borehole and test pit logs, site surveys, geological maps, offshore surveys.

Source location

Client geosurvey records, Ordnance Survey, British Standards Institute, British Geological Survey publications, commercial offshore survey companies, universities.

Secondary and statutory sources**Source type**

Regional and period archaeological studies, landscape studies, local knowledge, dissertations, policy statements and research frameworks, legislative documents, European directives, local development plans, unitary development plans, Constraints Maps.

Source location

Libraries, local landowners, local and national museums, universities, academic journals, monographs and other publications, local archaeological and historical societies.

Online sources:

HEREIN

ANNEX 2

Report contents

Non-technical summary

This should outline in plain, non-technical language, the principal reason for the work, its aims and main results, and should include reference to authorship and commissioning body.

Introduction

This should set out the circumstances leading to the commission of the report, any restrictions on reporting or access to relevant records, size, surface geology and topography of the study area.

Aims and objectives

These should reflect or reiterate the aims set in the project design or specification.

Methodology

The methods used and an outline of sources consulted, including any variation to the agreed project design or specification, should be set out carefully and explained as appropriate. The methodology for assessing significance should be explained.

Summary of archaeological results

This should outline, as a series of objective statements organised clearly in relation to the methods used, the known and potential archaeological interests by period and/or type. Their significance with reference/inclusion of supporting evidence should be indicated.

Development or other impact (if appropriate)

This should outline the likely impact(s) of the development and other factors on the known or potential archaeological resource. If the precise impact cannot be evaluated, this should be stated.

Conclusions

It is appropriate to include a section which summarises and interprets the results, and puts them into context (local, national or otherwise). Other elements should include a confidence rating or statement on the reliability of sources used, or limitations imposed by particular factors. Recommendations on further work may also be required, but in most circumstances within the planning framework this will be the responsibility of the relevant planning archaeologist or curator.

Appendices

These should consist of essential technical and other detail to support the above. They may consist of a copy of the brief/specification for the work, summaries of sources of evidence consulted with reference to location, catalogue numbers etc, transcripts or copies of

documents (where copyright permissions exist or are attainable), project archive catalogue, list of consultees, index to site codes.

Illustrations

Most desk-based assessment will need the inclusion of location plans for the development area, plans of the existing and proposed developments, and at least one figure showing known or potential archaeological interests within or affecting the development area. Any figures should be clearly numbered and easily referenced to the National Grid.

References and bibliography

A list of all primary and secondary sources used, as well as potentially relevant sources not consulted must be given.

Other

Contents list, acknowledgements, disclaimers.

ANNEX 3

Recommendations for digital archives

Projects vary in their organisation and implementation, even where standards and best practice are employed. This annexe thus provides a checklist for the types of data to be included in the digital archive of a desk-based assessment. Where those data do not exist they need not be created. Where they are not available in digital format, they need not be digitised. The archive has two components: the minimum archive is the index level record; with other materials as appropriate. Thus, the archive should consist of:

1. Index level record

An index level record for the investigation conforming to relevant standards. Typically this will be an OASIS entry. The exact content and structure of that record should be developed in consultation with relevant heritage agencies and identified in the project design. Local circumstances will dictate form of delivery though digital supply should be preferred, in order that the record may be appended to existing databases without the need for manual data entry.

2. Other associated data sets

Other associated data sets as identified in the project design, such as a project specification document, project design document and desk-based assessment report. If other forms of digital data, such as GIS or databases are used, these should also be supplied. The precise composition of the archive will vary with local circumstances.

Data creation

All data created as part of a project design should follow standards and guidelines for good practice. Data that is being deposited in a digital archive and should be supplied in a form consistent with that archive's deposition guidelines.

Further guidance on the management and archiving of digital data can be obtained from the Archaeology Data Service, summarised in part in the Guide to Good Practices series. "Digital Archives from Excavation and Fieldwork: Guide to Good Practice" is the most immediately relevant volume for desk-based assessment, though others may be more appropriate to the needs of specific projects. Contact details for the Archaeology Data Service are included in Appendix 7.

ACKNOWLEDGEMENTS

This document was originally drafted by Andrew Marvell. Contributions and

editing were provided by Gill Andrews, Dave Batchelor, Kate Clark, Sue Davies, Peter Hinton, and Taryn Nixon. This revision has benefited from the input of Sandy Kidd, Stewart Bryant, Dave Barrett, Neil Maylan, Andrea Bradley and members of CfA's Professional Development and Practice Committee.

2C. THE SURVIVING CASTLE EYNSFORD’S HIDDEN TREASURE



Eynsford Castle from across the River Darent (Adam Swaine)

PROJECT AIM

To open Eynsford’s Norman ‘enclosure castle’ to a wider audience by improving signage and providing additional interpretation to complement existing English Heritage boards on site. Provide opportunities for further archaeological investigation in the surrounding fields to reveal further information about the castle and allow local people and visitors to participate in finding out more about the site.

DELIVERY LEAD

Darent Valley Landscape Partnership Scheme Delivery Team working closely with English Heritage.

LOCATION AND LAND OWNERSHIP

Eynsford Castle is located a short distance off the High Street in the village of Eynsford, at the end of a small dead-end off Gibson Drive at TQ541658. It is under the guardianship and management of English Heritage.

AUDIENCE

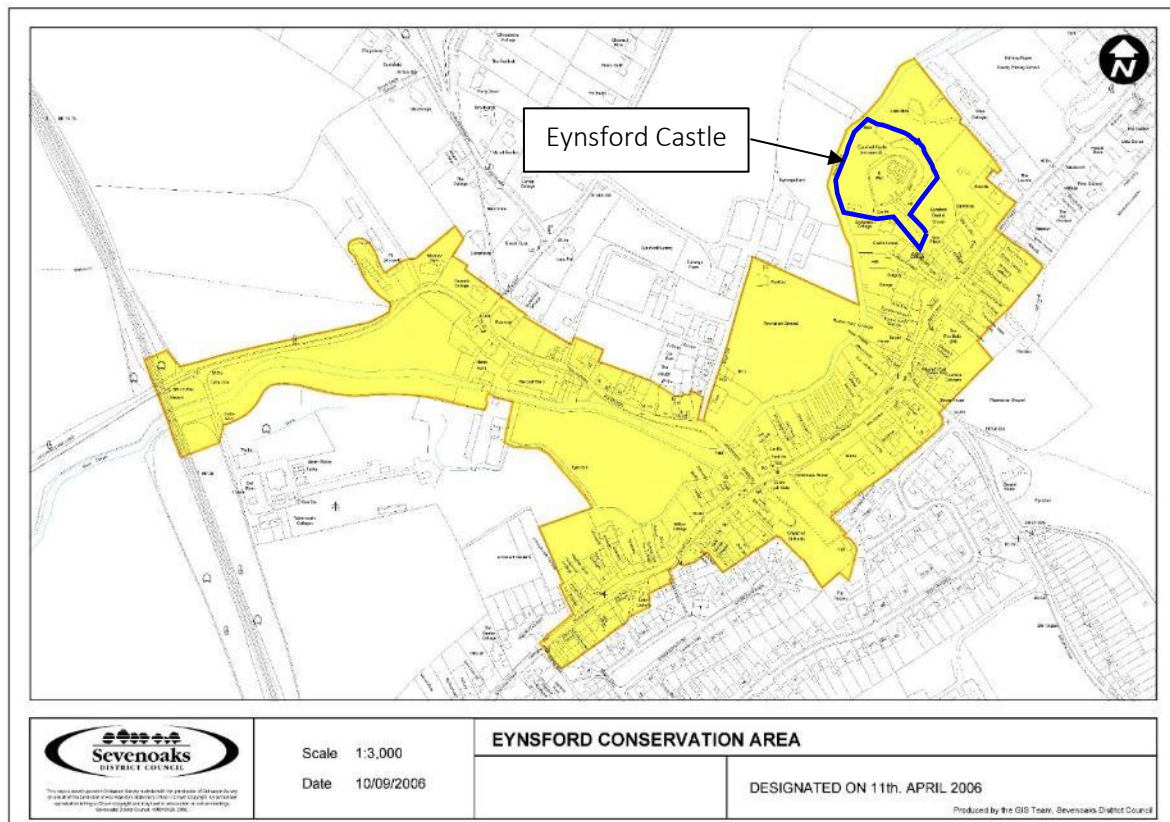
To many people that visit the Darent Valley, the location of Eynsford Castle is something of a mystery. It is often found by accident whilst walking the Darent Valley Path from where it can be viewed across the river. However, for many, even if they wish to visit, it is very difficult to find. The current audience tends to be local people and those making a specific visit and having researched its location. It is a site that is deserving of a much wider audience, and particularly those that have travelled from further afield. It is within easy walking distance of Eynsford Station (just over 1km), and can be included in a short diversion off the Darent Valley Path. Consequently, the target audience is principally visitors from south-east London, outside of the valley and walkers on the Darent Valley Path.

HERITAGE VALUE



Eynsford Castle is a rare survival of an early Norman ‘enclosure castle’, which remained unaltered by later building work. Begun by William de Eynsford I in the late 1080s, the castle was later the subject of a hotly disputed inheritance, which reached a climax in 1312 when one of the claimants, Nicholas de Criol and his supporters broke in and vandalised it. Soon afterwards the castle was abandoned, and by the 18th century many of the buildings had fallen into disrepair, being used only as stables and kennels for hunting dogs (English Heritage, 2016).

In 1835, the architect Edward Cresy cleared the stables and kennels from the site, and produced a survey of the remaining building, which included several features now lost. Excavations were carried out in the 1950s and 1960s, with further work undertaken in the 1980s. It is also a scheduled monument (1007462) and is in the Kent Downs AONB and the Eynsford conservation area (see map overleaf).



ISSUES AND THREATS

In recent years, the condition of the exterior of the curtain wall on the south side has deteriorated. This has resulted in not only a risk to the heritage itself, but also a health and safety risk for visitors. However, structurally there is not an issue, and English Heritage are addressing the situation.

At the stage 1 submission of DVLPS, the condition of the replica timber bridge was of concern and had been highlighted for replacement through the scheme. However, English Heritage took the view that as this is the main entrance to the interior of the curtain wall, that it required urgent replacement. This has now been programmed and will be completed before DVLPS begins its delivery phase.

The site has also been subject to flooding during recent winters. This has not posed a risk to the structure of the castle itself, as it would have been moated in its heyday and fed by the Darent. However, it can present an issue for



Eynsford Castle in 1951 © Historic England
<http://www.britainfromabove.org.uk/image/eaw034952>

visitors as the car park becomes flooded. Flooding may well have also been responsible for the partial curtain wall collapse on the west side in the 1960s.

There have been some recent incidents concerning heritage crime on the site, and although this has not been particularly prevalent, it does remain a concern.

However, the main issue is the lack of awareness of the site. There is extensive and excellent interpretation on the site, and this is matched by an informative web presence on the English Heritage website. However, access to the castle is down a narrow lane with a sharp bend which has the appearance of the access route to the village hall or someone’s drive (see Google Street View image below). It is reasonable to assume that many people unfamiliar with the area have been unable to find it, and therefore unable to experience the interpretation. In addition, the castle is often encountered by visitors for the first time, whilst walking the Darent Valley Path. This is located on the west side of the river, passing through Nine Hole Wood off Sparepenny Lane. Here there is no interpretation, and many walkers over the years have pondered what the large flint structure is, but have had no way of finding out.



View of access road (Gibson Drive) to Eynsford Castle (Google)

PROJECT DESCRIPTION

The DVLPS will work with English Heritage, Eynsford Parish Council and Sevenoaks District Council to investigate how signage can be improved at the entrance to Gibson Drive. This will include the addition of a brown tourism sign and the replacement of the existing, subtle and somewhat worn English Heritage signage. In addition, further signage is required to direct visitors down to the castle itself rather than towards the village hall. This is located within the conservation area and will therefore require planning permission.

To support English Heritage’s on-site interpretation, aerial imagery will be captured of the castle using the scheme’s unmanned aerial vehicle (UAV). This will provide web-based video interpretation of the

site, and will be supplemented by audio recordings that can either be pre-downloaded or streamed to add an extra element to the site, and bring the heritage to life. A Bluetooth Beacon installed on the High Street will be used as a method of encouraging those passing through the village to visit the site. The Riverside Players are an active local amateur dramatics group, and it is hoped that they will be engaged to support this interpretation with providing voice recordings for the audio downloads.

An interpretation panel will also be located on the other side of the valley where the castle is most visible. This will provide an opportunity to communicate the castle’s position within the landscape to complement the more specific interpretation on the site. It will be located either within the Woodland Trust’s Nine Hole Wood, or on land owned by James and Robert Alexander of Home Farm and will be linked to the proposed ‘contemplation bench’ that will be installed there as part of project 3C.

The castle itself provides an excellent amphitheatre for events and performances, and it is anticipated that it will host several events being delivered through other projects such as 1C, Inspired Palmer Landscapes. These will include the ‘Palmer Projections’ element as well as outdoor musical compositions by the Darent Valley Youth Music and Eynsford Concert Orchestra inspired by the surrounding landscape of the Darent Valley. In addition, DVLPS will work with the local community to create an animated event at the castle that communicates the history of the castle, village and its heritage.

OUTPUTS AND OUTCOMES

Activity	Outputs	Outcomes
Improved signage to the Castle from Eynsford High Street.	<ul style="list-style-type: none"> • New entrance signage installed. • New brown tourist sign installed. • Directional signage installed along entrance lane. 	<ul style="list-style-type: none"> • More people are aware of the heritage that is Eynsford Castle.
Enhanced audio and visual interpretation.	<ul style="list-style-type: none"> • Aerial footage of Eynsford Castle recorded and narrated to provide alternative interpretation of the site. • One Bluetooth Beacon installed to ‘capture’ visitors. • Audio interpretation recording scripted and made available on-line created. • 1 local community group involved. • Two volunteer days contributed for recording. • Record of website hits and downloads. • Link to English Heritage web page for Eynsford Castle. 	<ul style="list-style-type: none"> • An increase in the number of visitors able to find the castle. • More people engaged with the site and understanding its significance. • Walkers using the Darent Valley Path understand what Eynsford Castle is and why it is located there. • Local groups and organisations participate in celebrating and communicating the heritage of Eynsford Castle and the surrounding landscape.
Off-site interpretation targeted at users of the Darent Valley Path.	<ul style="list-style-type: none"> • 1 interpretation panel installed at Nine Hole Wood. 	<ul style="list-style-type: none"> • People and communities from outside the Darent Valley are aware of Eynsford Castle and are encouraged to visit it to explore.
Events and performance.	<ul style="list-style-type: none"> • 4 outdoor events held within the curtain wall to reveal the history of the castle. • 4 local groups involved. • 20 volunteer days contributed. 	

PROJECT COSTS

Element/Item	Year 1 2017/18	Year 2 2018/19	Year 3 2019/20	Year 4 2020/21	Year 5 2021/22	Total
[REDACTED]			[REDACTED]			[REDACTED]
[REDACTED]	[REDACTED]					[REDACTED]
[REDACTED]			[REDACTED]			[REDACTED]
[REDACTED]			[REDACTED]			[REDACTED]
[REDACTED]			[REDACTED]			[REDACTED]
[REDACTED]		[REDACTED]				[REDACTED]
[REDACTED]			[REDACTED]			[REDACTED]
[REDACTED]			[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]			[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]			[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]			[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Totals	£792	£660	£10,646	£4,680	£4,680	£21,458



PROJECT RISKS

Risk	How likely	Severity	Consequence	Action required
Planning permission refused.	Low	Medium	Signage may not be permitted to be larger or more obvious, and will not therefore provide the direction visitors need.	Speak with planning colleagues regarding what the expectation is and consult parish council and others ahead of submission.
Community participation and involvement in events at the castle insufficient.	Low	Medium	Community participation is reduced and is therefore less locally relevant.	Confirm with local groups at an early stage regarding their involvement. Provide notice so that the events can be scheduled well ahead of time.
Noise concerns from events prevent events going ahead.	Medium	Medium	The nature of the events must change to ensure that there is no disturbance to neighbours.	Ensure that events respect neighbours’ proximity to the castle. Consult, provide notice and ensure that they are invited.
Events are poorly attended.	Low	High	Communication and the awareness of heritage associated with the castle and the village is negligible.	Ensure good publicity and local involvement. Make contingency plan in preparation for bad weather.

TRAINING REQUIRED

- Flying and control of UAVs
- Audio editing
- Event management

MAINTAINING A LEGACY

English Heritage has guardianship of Eynsford Castle and maintains the on-site interpretation. The interpretation material created through DVLPS will be transferred to them for use on the Eynsford Castle web page. It will also be retained on the DVLPS legacy website and social media outlets, including the scheme’s Vimeo account.

LINKS TO OTHER PROJECTS

- 1C. Inspired Landscapes
- 2A. Peeling Back the Layers
- 3A. Heart of the Valley – The Darent Valley Path
- 3C. Telling the Darent’s Story
- 5D. Future Skills
- 5F Engaging New Audiences
- 5G. Spreading the Word.

2D. THE HIDDEN PALACE OTFORD'S OWN HAMPTON COURT



PROJECT AIM

As one of the most significant heritage features in the Darent Valley, the remaining north-west Tower will be stabilised to ensure that no further degradation of the building's structure will occur. Further restoration will be undertaken to enhance the heritage features of the Tower. This will ultimately lead to the removal of the Archbishop's Palace Tower from Historic England's At Risk Register.

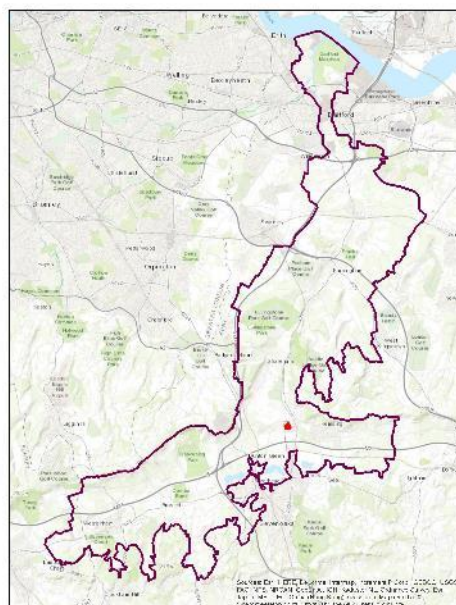
A sustainable future for the building will be sought that involves and engages with the local community in order for it to be appreciated for the important status it has in the valley. This use will respect the building's heritage importance and sensitivity and be an important component of ensuring that it does not fall into a state of disrepair again.

Visitors and the local community will be encouraged to discover and explore a building of great national significance. New interpretation will be provided and integrated with special events and re-enactments. Otford will be justifiably proud of the Palace's presence in the village, and celebrate its role in British history.

Management of the adjacent Old Palace Field will be reviewed to consider if any changes can be made to promote the site’s enjoyment and understanding, and improved promotion will encourage visitors to divert from the North Downs Way and Darent Valley Path to investigate the Palace.

DELIVERY LEAD

Sevenoaks District Council; Emma Burdett, Facilities Manager; Sevenoaks District Council, Council Offices, Argyle Road, Sevenoaks, Kent, TN13 1HG; emma.burdett@sevenoaks.gov.uk; 01732 227304.



LOCATION AND LAND OWNERSHIP

The remains of the Archbishop’s Palace are located just off the A225 Sevenoaks Road in the village of Otford immediately to the south of the village pond at TQ 52807 59196. Both the remains of the Tower and the Old Palace Field are in the ownership of Sevenoaks District Council. The Tower is directly attached to private properties (Castle Cottages), which were once part of the outer courtyard.

AUDIENCE

The site of the Archbishop’s Palace has been of particular importance to the people of Otford. However, despite it being a building of great importance, knowledge and awareness is surprisingly low. Anecdotally, many Darent Valley residents have no knowledge of the Palace, or if they do, are not aware of its former scale or relevance. The DVLPS presents an opportunity to address this and open it up to a much wider audience.

Whilst there is limited parking, the Palace is located less than 200m from to the North Downs Way National Trail and less than 700m from the Darent Valley Path. It is also an easy five-minute walk from Otford train station with its direct link to the central Darent Valley, Sevenoaks and central London.

Therefore, with appropriate engaging interpretation and profile-raising, the audience for the Tower could be extremely broad, introducing many new visitors to the heritage of the Darent Valley by encouraging them to visit via sustainable transport modes. This may also influence future use and management of the Tower itself.

HERITAGE VALUE


Otford Palace is scheduled under the Ancient Monuments and Archaeological Areas Act 1979 (List Entry No. 1005197) and is therefore considered to be of national importance. The scheduling covers the entire footprint of the original Palace along with surrounding land (see scheduling map) and within this several listed structures exist which are mainly relic walls. Several of these are located


Theme 2: Historic Darent Valley

2D: THE HIDDEN PALACE – OTFORD'S OWN HAMPTON COURT

within the gardens of private residences. The Tower, the associated Castle Cottages and the remains of the gatehouse are Grade II* listed. The Palace is included on the Historic England at Risk Register.

The site is also located within the Kent Downs AONB and the Otford Conservation Area.



Heritage Category:	Scheduling
List Entry No :	1005197
County:	Kent
District:	Sevenoaks
Parish:	Otford
<small>Each official record of a scheduled monument contains a map. New entries on the schedule from 1988 onwards include a digitally created map which forms part of the official record. For entries created in the years up to and including 1987 a hand-drawn map forms part of the official record. The map here has been translated from the official map and that process may have introduced inaccuracies. Copies of maps that form part of the official record can be obtained from Historic England.</small>	
<small>This map was delivered electronically and when printed may not be to scale and may be subject to distortions. All maps and grid references are for identification purposes only and must be read in conjunction with other information in the record.</small>	
List Entry NGR:	TQ 53051 59376
Map Scale:	1:2500
Print Date:	30 January 2017
 HistoricEngland.org.uk	

Name: Otford Palace

Modern Ordnance Survey mapping. © Crown Copyright and database right 2016. All rights reserved. Ordnance Survey Licence number 100024900. Marine mapping. © British Crown and SeaZone Solutions Ltd 2016. All rights reserved. Product licence number 102006.006.

This is an A4 sized map and should be printed full size at A4 with no page scaling set.

The Palace, when built in the early 16th century, covered an area of approximately 134m by 67m and included an inner and an outer courtyard divided by a central hall. Whilst all that visibly remains is the north-west polygonal tower, one side of the gatehouse and the connecting northern range of the outer court, there is much below ground archaeology and some remaining walls, many within the grounds of houses in the surrounding village.

The Archbishop's Palace was one side of the physical expression of rivalry between two of the most powerful men in the country in the 16th century. William Warham was the Archbishop of Canterbury and former Lord Chancellor of England, whilst Cardinal Wolsey was the current Lord Chancellor and close confidante of Henry VIII. Warham began building his Palace at Otford in 1514, and later in the same year Wolsey began work on his equivalent, Hampton Court Palace. The similarities in design are very



*Model of the Archbishop's Palace built by Rod Shelton
(Otford Heritage Centre)*

noticeable and the rivalry continued over many years.

In a letter written by Warham to Wolsey in the winter 1522, he tells Wolsey he is unable to travel to see him on the grounds of ill health. Warham also thanks him for his advice that he should live on high, dry ground rather than at Otford (which was damp and wet) and additionally for his offer of accommodation at Hampton Court (Walshe, 2016). The inference was that Hampton Court was superior due to its location, and to this day it is unknown why Otford Palace was constructed so close to the River Darent.

Henry VIII visited Otford Palace with his court in 1519, from where he went hunting. A year later he returned with his wife Catherine of Aragon with the royal court to stay at the Palace en route to France where he was to meet Francis, King of France at the Field of Gold. The court that accompanied Henry was believed to have been over 3,000 people, and would have therefore been an impressive sight.

The Palace is situated on a west-facing slope to the east of the River Darent at the foot of the Darent Valley. The early 16th century Palace is thought to have covered an area of almost a hectare. The upstanding remains include part of the northern range of the outer court, the north-west tower and one side of the gatehouse. The north-west tower and gatehouse are constructed of red brick with blue headers and stone quoins and dressings. They have a rubble plinth with moulded stone coping and windows of one or two Tudor-arched lights, many of which are under hoodmoulds. The polygonal tower survives to three storeys high but the roof is now missing. It originally included a crenellated parapet and leaded roof. Some brick diapering is preserved on the south face of the Tower and in the interior are fireplaces on each floor and remains of a stair to the south-east.



Ruins of Archbishop's Palace at Otford from Hasted's History of Kent c.1790



View of Otford Palace, taken in 1885 showing a thatched single-storey range of buildings (Otford.info).



View of Otford Palace, taken in 1934 showing the ivy removed and the buildings adjoining the Tower having gained a second brick storey (Otford.info)

The gatehouse includes two doorways under three-centred and four-centred moulded stone arches. It has a restored tiled roof hipped over half-octagonal ends. At the south-east corner are traces of an entrance arch. Between the Tower and gatehouse are Castle Cottages, which are completely excluded from the scheduling, although their gardens are included. Castle Cottages incorporate remains of the Palace on the ground floor but the first floor and roof above are modern additions. South of these buildings are further upstanding remains of the Palace. In the back gardens of houses on Bubblestone Road is some early 16th century stone walling of the inner court of the Palace. It is up to about 1.2m high and largely orientated east-west with some cross walls. Tudor brickwork is also embedded in the north banks of the small brook or culvert at the ends of the gardens. In the front gardens of houses on Bubblestone road is what is thought to be remains of the south precinct wall of the Palace. It is early 16th century in date and built of stone rubble with later repair work.



Cows from Hilldrop Farm being herded past the Archbishop's Palace along the Sevenoaks Road in the 1960s. (Otford.info).

Partial excavation has revealed the buried footings of the south and east range of the Palace. These overlie remains of an earlier fortified manor house. The east range includes the foundations of at least four rooms. A drain leads to a series of garderobe shafts in the south range. Between the ranges is a square tower, approximately 13m wide. To the east of Castle Cottages, earthworks survive relating to medieval water management associated with the Palace.

Otford Palace was built in about 1518 by Archbishop William Warham. It replaced an earlier manor house on the same site. Henry VIII was apparently entertained at the Palace on several occasions. In about 1538 the Palace

was exchanged by Archbishop Cranmer with the King. In the later 16th century Elizabeth I granted the Palace to Sir Robert Sidney. In the 17th century the land was sold to Sir Thomas Smith and passed to his descendants until it was purchased by Robert Parker in the late 18th century. The site was partially excavated in 1968, 1974, 1983 and 1986, and a geo-physical survey was carried out in 2001. The finds included one lead bull of Pope Lucius III (1181-5) and five lead bulls of Pope Urban III (1185-7), found in a medieval sewer on the site.

Further remains survive in the vicinity of this monument but are not scheduled because they have not been formally accessed.

ISSUES AND THREATS

The Archbishop's Palace is currently on the Heritage at Risk (HAR) register. The scheduled parts of the site are listed as being in 'poor' condition and are categorised as Priority A (immediate risk of further rapid deterioration or loss of fabric; no solution agreed). The register also states that the ruinous parts require consolidation work with major repairs needed. This assessment was due in some part to an absence of maintenance, leading to a steady and then rapidly increasing deterioration in its condition. In recent years, ingress of water through the roof had significant damage to the structure of the building. This had caused a catastrophic collapse of the roof structure in the south-east corner and had only remained in place due to the plywood sheets holding the rafters in position.

The local community was very concerned about the immediate future of the Palace Tower and following the inclusion of the site in the DVLPS at the development stage, lobbied Sevenoaks District Council (SDC) to undertake remedial action before major and irreversible damage occurred. With the Palace being returned onto the HAR register in 2013, SDC commissioned an inspection and condition survey of the building. This was undertaken in January 2015 and identified work classified either as ‘Immediate Conservation and Repair Needs’ or ‘Long Term Conservation and Repair Needs’. The inspection report is included in the appendix to this project plan.



Some of this work was classified as such high priority due to the threat of imminent collapse, that SDC released emergency funds and commissioned remedial works at the earliest opportunity to halt the continued deterioration of the Tower. This was undertaken from August 2015. A new main roof along with two additional roofs for the smaller towers were installed to ensure that the building was secured from the elements and further water ingress.



View inside the spiral staircase



Interior view of the main Tower showing the failing roof

Inappropriate restoration work (cement rendering) undertaken in the 1950s was removed along with old mortar and replaced with a lime and sand mortar. In addition, a large amount of brickwork was replaced along with the worst of the ragstone window mullions.



Whilst the work was extensive and at significant cost to SDC, it is effectively just a stop-gap. The Tower is still in a largely ruinous state and requires further major works to secure it for the future.

A key issue is that Otford Palace remains in the ownership of Sevenoaks District Council. There are major benefits to this as SDC is a public sector organisation and therefore holds the building for community benefit. However, with local authority funding at its most restricted, it is difficult for SDC to justify expenditure on non-statutory works. Sevenoaks District Council has adopted a model of becoming financially independent of central government funding and achieved this in 2016. To reach this goal, it has introduced several strategies including efficiency initiatives, maximising external income and an emphasis on statutory services.

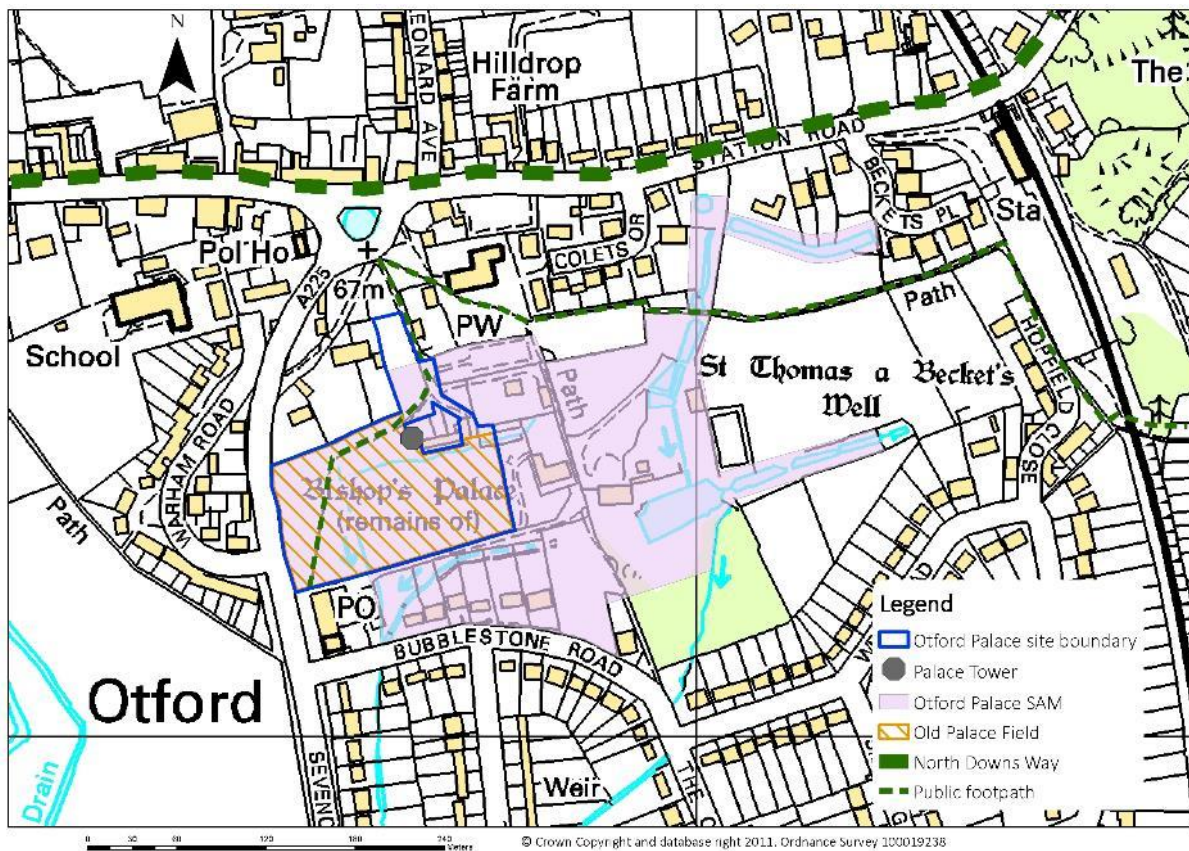
During the DVLPS development stage the situation has moved rapidly. SDC has secured a grant from Historic England to carry out further priority works and to complete an options appraisal for the future of the Tower. The works will begin in March and are, along with the options appraisal, likely to be completed before the delivery phase of DVLPS in June 2017.

Currently, the Palace Towers stands as a relic with no purpose, only serving as a reminder of an extravagant past for the area. As a consequence, as SDC and the local community look for a sustainable future for the Tower, the local authority has identified the need to consider what options there are and how it can contribute to its upkeep whilst maintaining its heritage importance.

Another issue includes the physical link to the adjacent private residences. This adds a complication as the stability of the building is important for these residents’ safety, but is also an important consideration as to how any remedial or conservation work should be undertaken.

Finally, there is a general lack of awareness of the building at its importance. Dr David Starkey once labelled the Palace as in “the ten most important Tudor buildings in England”, and yet most visitors are not even aware that it exists just metres from the attractive shops along the high street, or as they pass along the A225 Sevenoaks Road. It is the fact that a building of such past grandeur can remain hidden away that makes it so intriguing and such an exciting project. However, it also represents a significant threat as the perception can be that it is not sufficiently valued or appreciated, and therefore not worth the expenditure for conservation.

PROJECT DESCRIPTION



REMEDIAL AND RESTORATION WORKS

Due to the delicate and unstable condition of the Tower, the development of this project has been a fluid and rapidly evolving process. The inclusion of the Otford Palace in the stage 1 application for DVLPS was a catalyst to support action to secure its future. Consequently, there has been significant investment in saving the Palace from dereliction. The investment by SDC and the grant from Historic England means that significant progress has been made in halting the downward curve in condition. As a result, the emphasis of this project has shifted to one of restoration work and securing a sustainable future for the Tower.

The project remains largely a capital one, and there is an opportunity to ensure that the building has a significant amount of restoration undertaken. The specifics of precisely what will be delivered through DVLPS cannot be ascertained at this stage. Phase two of priority works funded by Historic England need to be completed (current planned start date of March 2017 with a duration of ten weeks) to allow a review and prioritisation of what will form phase 3 of the restoration works. These will also be subject to the outcomes of the options appraisal which will involve consultation with the local community. The brief for the stage 2 works is included as a separate appendix to this project plan.

Consequently, a brief for the phase 3 works will be produced following these pieces of work being completed, and what will best serve the longevity and security of the Tower. A realistic budget has been set aside for these works based on the restoration costs so far.

FUTURE RESTORATION, MANAGEMENT AND USE

The options appraisal consultation begins in February 2017 and is being undertaken by Thomas Ford & Partners on behalf of SDC with a grant from Historic England. The aim of this piece of work is to:

“...look at the Palace, its significance and developing a sustainable future which will safeguard the remnants but at the same time remove the financial liability from the council who have had to find significant sums to stabilise the Tower in recent years. Part of this process is to undertake wide ranging consultation with a number of local and national groups and organisations as well as the inhabitants of Otford to seek thoughts and views on the Palace, its significance and what might be seen as acceptable in terms of taking the buildings forward. Financially leaving the buildings as they are is not an option so a sustainable future is critical.”

In response to this, the local community is in the process of establishing The Archbishop's Palace Conservation Trust, and has laid out its intentions in its *'A Safe Pair of Hands'* document (see project plan appendix). This explains the establishment of a Charitable Incorporated Trust (CIO) with the intention of taking over the ownership or becoming the lessee of the Tower. This has been undertaken on the advice of the Prince's Conservation Trust and a specialist charity lawyer. The objectives of the Trust are:

- To act as freeholder, leaseholder or licensee of the ancient building and site known as the Archbishop's Palace, Otford, Kent as well as other such properties within the Darent Valley as may be considered appropriate for educational and community services.
- To restore the site and buildings into a heritage landmark.
- To develop the site and its buildings for the greater benefit of the community.
- To manage the site and its buildings as a self-sustaining centre for the dissemination of knowledge about the Palace, the Tudor period and the heritage and history of the Darent Valley.
- To raise money and conduct trade in the furtherance of these objectives.

The Trust sees the potential future use of the Tower as a heritage visitor centre and a way of introduction to the wider Darent Valley, and has already prepared draft plans for this. It is a significant undertaking, but there is a strong will and enthusiasm to make it happen. This will undoubtedly form a large part of the discussions with the options appraisal, and depending on the outcomes of that exercise. As owners, the ultimate decision lies with SDC, and it wishes to be seen as a responsible owner in finding a solution that works. The DVLP has allocated funds to supporting whatever way forward is chosen, although this cannot obviously be specified at this time. The potential for a community-led solution is highly attractive though, and through the DVLP's training, support can be provided to give this a positive start.

AWARENESS-RAISING AND INTERPRETATION

In 2014, new interpretation panels were installed at the Archbishop's Palace, replacing some vandalised boards that had remained in situ for some time. These were unveiled by author and historian Alison Weir and Siobhan Clarke from Historic Royal Palaces and provide an excellent overview of the history and heritage of the site with a very helpful reconstruction. However, the

interpretive aims for this site are to provide greater engagement and understanding to a much wider audience as well as ensuring the Palace can be found and enjoyed. This will be delivered by:

- Taking advantage of an offer from the Historic Royal Palaces and Hampton Court Palace to meet with their curators and learn from the interpretive techniques used there. This will be used as a training opportunity for the local community and other stakeholders.
- Providing a drone flight video both internally and externally of the Tower to not only reveal the structure of the Palace, but also to provide a record of its condition for future works and the success of past restoration. A digital aerial reconstruction of the Palace in its heyday will be created to communicate the scale of the building when it was complete.
- Dedicated audio interpretation that can either be streamed or downloaded 'pre-walk'. Work with the local amateur dramatic society (Otford Players) to record the pieces used and bring to life the history associated with Otford Palace. This will be linked to a short circular walk through the village of Otford.
- Platform interpretation will be installed at Otford Station to both encourage and guide visitors to the Palace and use the circular walk and interpretation. Investigations with Southeastern to see if free downloads can be provided at the platform will be undertaken.
- New signage appropriate to the village landscape to direct walkers and cyclists from the village and A225 to the Palace.
- Promotion of the Palace and the village of Otford with Southeastern and the North Downs Way National Trail.
- A series of guided walks, animated walks and talks to enlighten on the rich history of the Palace. Previous speakers have included Dr David Starkey and Dr Alden Gregory for the Historic Royal Palaces.
- Re-enactment event on the Old Palace Field.

EXPLORATION AND INVESTIGATION OF THE OLD PALACE FIELD

A considerable amount of archaeological investigation has already been undertaken across the Old Palace Field by the West Kent Archaeological Society (WKAS). The site was subject to extensive excavation in 1974, and subsequently there is some geophysical data for much of the Old Palace Field and beyond.

There is the opportunity to further investigate the site and WKAS has expressed an interest, although no commitment has been possible so far. A community archaeological excavation may be possible, but requires consultation with Kent County Council and Historic England.



Geophysical survey of Archbishop's Palace site (WKAS)

The Old Palace Field is an under-utilised green space, and there is also the opportunity to consider how it is managed and used. This will include a botanical survey and a feasibility study to understand if it can be managed as a wet meadow.

OUTPUTS AND OUTCOMES

Activity	Outputs	Outcomes
Remedial and Restoration Works	<ul style="list-style-type: none"> • Otford Archbishop’s Palace removed from the Heritage at Risk register. • Phase 3 of restoration works completed. • Historic England approve of work undertaken. • Phase 4 works identified and funding sought. 	<ul style="list-style-type: none"> • Celebration by the local community of the significance of an important piece of Britain’s heritage. • Direct community involvement in the protection and care for the Archbishop’s Palace.
Future Restoration, Management and Use	<ul style="list-style-type: none"> • Options appraisal identifies a viable future ownership/management model. • Sevenoaks DC and the Archbishop’s Palace Conservation Trust (APCT) are supported in delivering the first stages of this model. • Viability and development of the APCT is supported with training for trustees and supporters. • Support provided for attracting further funding. • 125 volunteer days (skilled) contributed by trustees. 	<ul style="list-style-type: none"> • The local community has gained new skills in conserving and potentially being responsible for a piece of important heritage. • A new alternative future use for the Palace has been found. • People who live within, outside and visit the valley are aware of and understand the importance of the Palace.
Awareness-Raising and Interpretation	<ul style="list-style-type: none"> • 1x learning visit for 10 volunteers to Hampton Court Palace. • 1 x drone video and digital reconstruction created and made available on Vimeo and DVLPS website. • Audio interpretation walk created around the site and village (2 x volunteer days). • Platform interpretation installed at Otford Station with download facilities for guided audio walk. • Signage and waymarking installed for links to North Downs Way and Darent Valley Path. • Promotion programme delivered with Southeastern and the North Downs Way. • 15 guided/animated walks and talks delivered with 450 participants. • 1 x re-enactment/celebration event. 	<ul style="list-style-type: none"> • A long-term plan for the Palace’s future has been established. • The condition of the Palace has been fully recorded for future records. • Further research has been undertaken by local archaeological and history groups to reveal more about the Palace’s past.
Exploration and investigation of the Old Palace Field	<ul style="list-style-type: none"> • Additional geophysical survey/exploratory excavation undertaken. • 1 x botanical survey undertaken. • 1 x revised management plan produced. • Reseeding and wildflower plug planting. • 50 volunteer days contributed (unskilled) 	

PROJECT RISKS

Risk	How likely	Severity	Consequence	Action required
Works undertaken not sufficient to remove the Palace from the HAR register.	Low	Medium	Significant further investment is required to bring the Tower into satisfactory condition.	It is likely that the work that has already been undertaken will be sufficient to remove the Tower from the HAR register. Close discussion will be maintained with Historic England to understand their expectations.
No sustainable future can be found for the Palace.	Medium	Medium	Difficulty in maintaining the Palace Tower leading to a gradual loss of condition.	The production of the options appraisal provides the most detailed assessment for finding a viable future for the Tower.
Objection to proposals by neighbouring residents.	Low	Medium	Work is delayed or unable to be completed.	Good relations are maintained with residents, and SDC will continue to consult them with plans.
Major issue found with the structural condition of the Tower.	Low	High	Much greater investment is required to ensure that the Palace Tower is stabilised and protected for the future.	The likelihood is very low as a comprehensive assessment has already been made. A contingency plan will be considered should this scenario occur.

TRAINING REQUIRED

- Being an effective trustee
- Heritage interpretation skills
- Fundraising

MAINTAINING A LEGACY

The purpose of this project is do ensure that the legacy of the Archbishop’s Palace is maintained. It is considered a long-term project that will extend well beyond the life of the scheme with aspirations to use the building in a productive manner that contributes to the heritage of the valley. If it is considered viable, the Tower’s use as heritage visitor centre will be an ideal purpose for it. Located close to the railway station, a national trail, a major recreational route, a main road and popular tourist destination, this could provide a perfect gateway to the valley’s heritage.

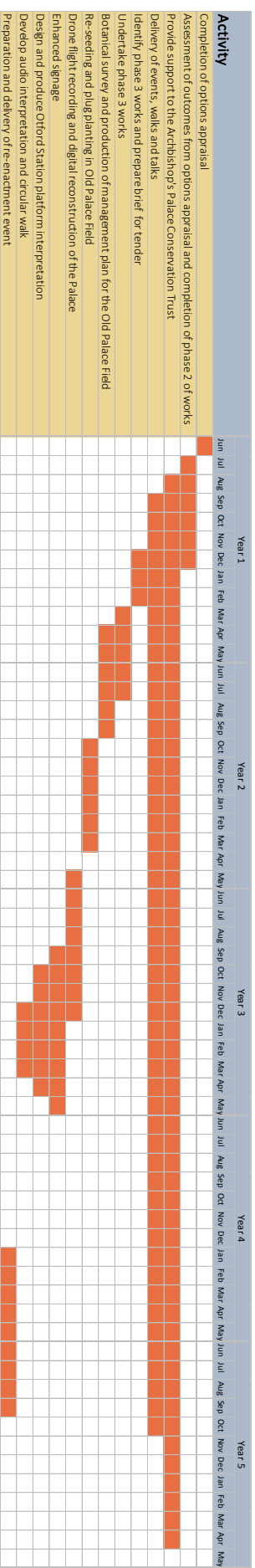
LINKS TO OTHER PROJECTS

- 1C Inspired Landscapes
- 2A Peeling Back the Layers
- 3A Heart of the Valley – The Darent Valley Path
- 3B Gateways to the Valley
- 3C Telling the Darent’s Story
- 3D Reducing the Pressure
- 5E Future Skills

Theme 2: Historic Darent Valley

2D: THE HIDDEN PALACE – OTFORD'S OWN HAMPTON COURT

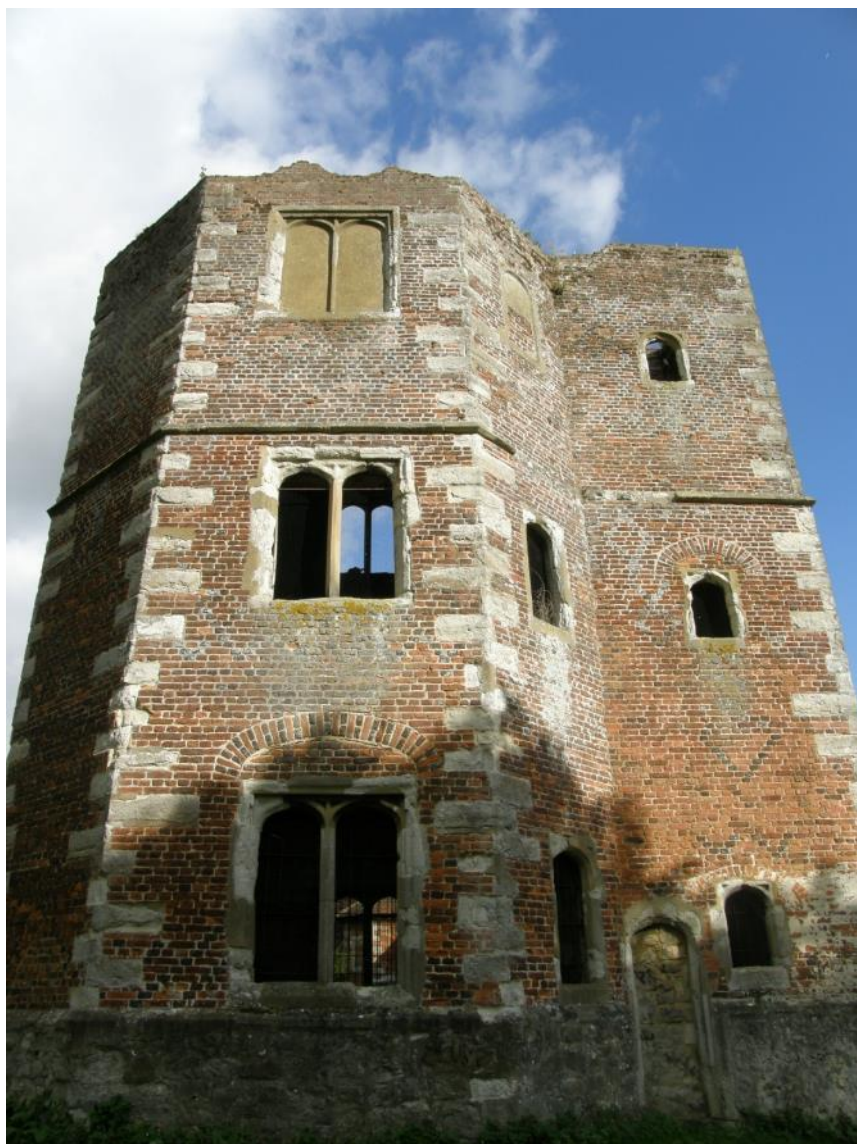
PROJECT TIMETABLE



APPENDIX (2D) 1



The Archbishop's Palace Conservation
Trust
A Safe pair of hands



A DOCUMENT OF INTENTION

November 2016

WE HAVE A VISION

To regenerate a fresh awareness of this heritage landmark by restoring it to a heritage building and developing it into a hub of education, discovery and information about the Palace, the Tudors and the Darent Valley.

THE CREATION OF A TRUST

Should the opportunity arise that Sevenoaks District Council considers the transfer or lease of the site known as The Archbishop’s Palace, to the Otford community, a CIO trust has been formed to represent the community in any future transactions. Forming a Community Interest Company was carried out on the advice of the Prince’s Conservation Trust and a specialist charity lawyer. The Otford Parish Council have elected to not take on the responsibility for the site.

- At a well-advertised, public meeting of Otford residents to be held on 21st January 2017, we hope for a vote of support being given by the community to the formation of such a charitable trust to represent them in future discussions. The Trust will be run by a board of local trustees. The following document represents the views of that trust, supported by the community.

THE TRUSTEES

We have sought to create a board of trustees who:

- have the 'hard' skills - legal, financial, management and so on - which will be necessary to understand some of the complex decisions that may need to be taken in these formative years.
- can encourage team working, problem solving, asking difficult questions, and can give advice in decision making.
- are local people with a knowledge of the Otford community.

Without unreasonably restricting the number of full trustees, it is our intention that our board of trustees shall continue to represent this community for many years ahead.

Supporting that board a number of ‘advisors’, all with specialist skills, have also been invited to act in support of the Trust when required.

THE OBJECTIVES OF THE TRUST

- To act as freeholder, leaseholder or licensee of the ancient building and site known as the Archbishop’s Palace, Otford, Kent as well as other such properties within the Darent Valley as may be considered appropriate for educational and community services.
- To restore the site and buildings into a heritage landmark.
- To develop the site and its buildings for the greater benefit of the community.

- To manage the site and its buildings as a self-sustaining centre for the dissemination of knowledge about the Palace, the Tudor period and the heritage and history of the Darent Valley.
- To raise money and conduct trade in the furtherance of these objectives.

THE PALACE IS A HERITAGE LANDMARK

The provenance of the heritage of the site, lies in its long history.

In 821 this land was first gifted to the Archbishop Wulfred by **Offa, King of Mercia**

A large, moated manor house was built here and enlarged over the next 600 years by 52 subsequent archbishops.

Those who came, lived or visited here, include:

1066: William the Conqueror recuperated at *The Ruined Tower* during his march on London

1162 – 1170: Thomas a Becket, it is said, particularly liked staying at Otford.

1315: The chapel (18 metres long) was built in the Decorated style with ‘a lavish interior’

1348: Edward III brought his whole court here to spend Christmas away from the Plague in London.

1382: The Great Hall (31 metres long and 12 metres wide) was built to seat 200 at dinner

1500: The Court rolls state that Otford was ‘*one of the grandest houses in England*’

1515: Archbishop Warham built one of the largest archiepiscopal Palaces in England.

1518: Erasmus and Holbein were regular guests

1520: Henry VIII and Katherine of Aragon stayed here en route to the Field of Cloth of Gold.

1532: Princess (later queen) Mary stayed here over two summers.

1534: Archbishop Cranmer begins work on his *Book of Common Prayer* at the Palace.

1537: Henry VIII becomes its owner and spends lavishly on the building and its hunting parks. (He dies ten years later)

Today, the remains of Otford Palace are unquestionably a Heritage site of National significance

The conveyance of the Palace site and buildings to the Sevenoaks Rural District Council took place in July 1935. It was previously in the ownership of Castle Farm. In the early 1960’s following a period of extensive repair work using cement, the site remained un-touched until 2015 when, following much-publicised masonry falls, Sevenoaks District Council eventually carried out extensive repairs to prevent any further deterioration. These works of repair and stabilisation are scheduled for completion in 2017.

BECOMING A HUB

The location of the Palace is a natural starting -point for exploration of the valley and the surrounding region. It is located at the intersection of the two major valley routes, the north-south A225 and the east-west Pilgrims Way, the ancient route to Winchester.

Over the coming five years, the Darent Valley Landscape Partnership, supported by significant Lottery funding and with the involvement of the valley communities, will seek to enhance and protect the profile and visibility of the valley's landscape and its heritage assets.

By maintaining and enhancing the heritage site of the Archbishop's Palace, we aim to develop it as a spring-board to the discovery of the heritage and the landscape of the Darent Valley. In providing public access to a renovated Palace, the site will be of positive benefit to both the village and the wider community and further its aim to continue as one of the valley's major heritage assets.

BRINGING HERITAGE TO LIFE INSIDE

With the approval of Historic England and support from the Heritage Lottery, the Trust will restore and re-introduce the floors and staircase to the Tower. Full services will also be introduced so that the property can be safely and properly opened for public use.

It is intended that **the ground-floor** then be developed as a celebration and source of education on the iconic buildings of the valley. Here are detailed, scale models and artist's impressions of all the historical buildings within the valley. They reveal to the visitor the worlds in which our ancestors once lived when these iconic places were newly built.

- Otford Palace (populated by over 100 miniature figures) provides a fascinating insight into how life in the Palace was lived in 1520.
- Lullingstone Roman villa, reveals all its rooms as they may have looked in 360AD;
- Eynsford Castle, surrounded by its moat, stands as it would have appeared in 1150.
- Then there is Lullingstone's Tudor Castle, seen within its own moat, as Henry VIII jousts there 1530 –
- And above them all, hangs the country's first flying machine built by Percy Pilcher of Eynsford.

The exhibition intends to include inter-active displays on the heritage locations and places of interest to be discovered in the valley.

The first floor is intended as a full re-creation of the Tudor room as it may have looked in 1538. Subject to our proposed association with Hampton Court Palace, it is also intended to hold regular Tudor fashion and other period exhibitions within this area (whenever possible linking with the school syllabus).

The upper, second floor, room is intended to be developed to tell the story of the writing of The English Prayer Book. It is hoped that, in association with the Chapter of Canterbury, we can, for the first time, bring some of this early work to public scrutiny.

The story of the Kent’s numerous Archbishop’s Palaces and the role of the Medieval peripatetic archbishops, will be another area of discovery for visitors. We also hope to contain extensive photographic and documentary archive, historical material on the villages of the valley.

Opportunities for exhibitions.

Understanding enhances appreciation. Subject to flexible use of space we intend to hold a range of exhibitions over the coming years, all connected with the valley. The sort of themes that may be considered would include:

What are we made of: A geological understanding of how the great Weald was first formed, the origin of chalk, the effects of erosion and the creation of flints.

The Valley of Visions: Occasional exhibitions, in association with the Ashmolean Museum of Oxford, of selected work and paintings by Shoreham artist, Samuel Palmer.

Understanding the Grasslands: The geology, biology and ornithology of the protected grassland areas which range the valley sides.

Paper. The earliest paper made in England was milled on the Darent during the reign of Elizabeth1. The Darent paper mills once produced all British paper money. The first continuous paper-making machine went into operation on this river. It is a fascinating story.

Romans in the Valley. The valley contained Roman villas almost every 1.5 kilometres along its length. The latest discovery, Otford’s Church field villa lies a matter of metres away from the Archbishop’s Palace and much of its tesserae and foundations were used to in-fill the Palace moat!

There will be a wealth of fascinating material for enquiry and discovery at this new centre. The opportunities for one-off exhibitions, promoted and introduced by a specialist speaker, are manifold.

We recognise that the future will inevitably become increasingly digital and more interactive for all our visitors.

In this way, we hope the centre will become a familiar, friendly venue for families and schools in the region, providing a stimulating hub of learning and discovery. We intend that its varied range of exhibitions will encourage repeat visits from families throughout the year. Educational projects will, where possible, be tailored to meet the requirements of the curricula. It is also intended that the gatehouse will be utilised as a lecture-room and teaching venue within a secure and safe study centre for parties of young visitors.

Subject to approval by Historic England, it is hoped that a glass-faced loggia may be constructed to provide both a secure entrance to the Palace buildings and to act as information centre and shop to visitors. Given its location and light construction at the rear of the Tower, it will be non-intrusive and create no visual block to the Tower buildings.

Recognising the importance of walking within the valley, the shop hopes to supply locally produced pamphlets on a whole range of walking routes centred on each of the valley villages. It is also intended that entrance tickets will be available to purchase on all the venues within the valley and the surrounding area. A wide range of books, maps and well-made local artefacts will also be available.

AND OUTSIDE

Palace Field will provide many opportunities to develop the Tudor theme:

The creation of a **Tudor Maze** or Labyrinth is a project which can bring enjoyment to many families in the future.

Re-producing the famous **Tudor knot-garden** (copied by Wolsey at Hampton Court) will be another source of interest. While, in an adjoining paddock area it is hoped, in time, to recreate a Tudor Garden for relaxation and pleasure. *“-and in the garden be there three little houses of pleasure with seats”*.

It is hoped that **Tudor-themed fairs** might be held in the summer and winter periods.

Opportunities for historical-themed events, hog-roasts and son-et-lumiere concerts will all be examined as part of a continual mix of entertainment.

There already exists a small **period orchard** and it intended to extend this further.

The opportunities to enhance **the little stream** may provide an echo of what once enhanced this very site: *“and in the said garden is a brook of fresh water, issuing out of the aforesaid spring and ponds wherein fish may be preserved and seen running within view.”*

Around the courtyard are occasional, well-illustrated **information boards** (similar to the ones employed at Rochester Castle) which provide visitors with an image of how the Palace may have looked from each site. These, of themselves, can provide visitors with a tour of the Palace in 1520. (Whether at some future date we might replace these with virtual reality viewers is open to optimistic conjecture!)

BECOMING A SELF-SUSTAINING OPERATION

It is intended that the Archbishop's Palace be developed as a landmark site for the region. Once trusted as a value-for-money operation, repeat family visits will be a strong likelihood. Its popularity, based on providing a varied menu of exhibitions and entertainment, should increase year on year.

Operational costs will include public liability insurance, services, security, regular site inspections, maintaining the field and limited staffing. The costs of mounting and publicising regular events and exhibitions as well as associated health & safety issues will also need to be taken into account. All of this will be contained in our business plan

Given predicted income streams from entrance fees, parking, and purchasing in the shop, as well as well-publicised one-off period events, predicted figures would indicate that a self-sustainable balance can be achieved and maintained by year three of the operation.

ACCESS AND PARKING

Vehicle access is not permissible via Palace Approach. Only pedestrian access is allowable along this route. Vehicles will therefore require access from the Sevenoaks Road. A wide drop kerb will need to be introduced as well as signage on the north-bound carriageway, indicating that cars wishing to enter the Palace should first proceed around Otford Pond.

It is proposed that a “green” (supporting mesh on grass) car-parking site be introduced within a limited area bound by the footpath and the hedge adjoining the main road. Resistivity scans have shown that no foundation work or other solid structures are located below this site, so no damage would be caused to the heritage.

In order to prevent the site being used as a long-term car park, charges will be introduced which make long-term parking prohibitive. The car park site will be monitored by an independent company to ensure fees are paid.

DEVELOPING OUR CONSERVATION PLAN

A robust and realistic business plan is in the process of being prepared. To create a project on such a scale will inevitably become a living and changing document. It must therefore be able to respond to eventualities and opportunities which arise during the process. It is clear that such a plan will require division into at least three distinct phases:

- The first phase: The planning, funding and development of the physical asset itself, including introducing all the infrastructure that will be required.
- The second phase: The planning, development and funding of the asset for the purposes for which it will be used by the community, both the Tower, gatehouse, field and paddock.
- Third phase: The running of the centre: (Divided into the first 3 years of operation: and the following five years.)

Such a long-term plan will need to:

Produce an outline schedule

Establish the predicted overhead running costs (fixed and personnel) for each phase.

Estimate our required financial targets to attain full self-sustainability

Assess likely turn-over from fixed assets. (Entrance fees, car park, shop sales)

Assess opportunities from exterior funding sources (Grants, aids, gifts)

Assess potential income from events. (Fetes/feasts/heritage events/talks)

For this reason, the trustees will use guidance given by the Heritage Lottery Trust and the Princes Conservation Trust on preparing a full Conservation Plan. The Trust will also seek the services of a financial advisor who will have a ‘duty of care’ to the project and can assist it in financial planning.

It is important to keep the community involved in our progress. A web site as well as regular newsletters and reports in the public journals will form an important role in the process

GENERATING FUNDING

A priority role of the Trust, is to identify our main sources of funding. In order to be fully prepared when making applications, the trust will need to prepare all the necessary support information:

- A history of the site and its importance as a heritage monument:
- A building survey and condition report:
- An ecological survey (Geo-Phiz report from East Kent Archaeological Assoc.)
- A conservation statement (from Historic England)
- Forecasts for costs and potential income (Our business plan):
- An assessment of the benefits it will provide the community

Major sources of funding at this initial time include:

The Heritage Lottery Grant

The Architectural Heritage Fund:

Crowd Funding through personal media.

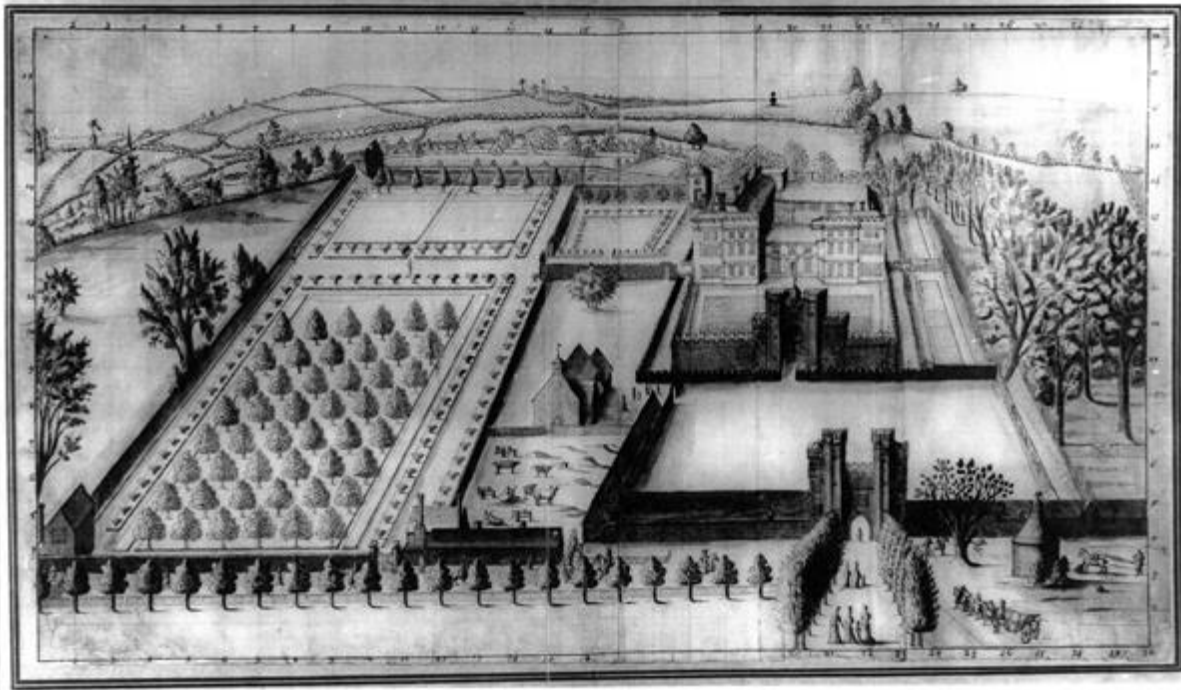
Other funding sources may be seen in Appendix 1

BENEFITTING THE LOCAL COMMUNITY

The Palace plays a central role in our village. For centuries, the Palace has had deep-seated associations for local residents. It is an iconic village landmark and lends character to the area. Thus regeneration of this site reinforces the sense of community. It will also make an important contribution to the local economy by bringing many more visitors into the village. A dynamic project such as this, can act as a catalyst to improvements to the whole village – generating a wider re-vitalisation process. This has been demonstrated elsewhere, where the effects of heritage-led regeneration, ripple outward to the benefit of nearby neighbourhoods. Developing the role of the Palace as a hub and spring board to the exploration for the whole valley, will re-enforcing a sense of community pride in Otford. The project will at last breathe new vigour into the standing shell of a Tower – actively reversing the consequences of half a century of neglect and dilapidation.

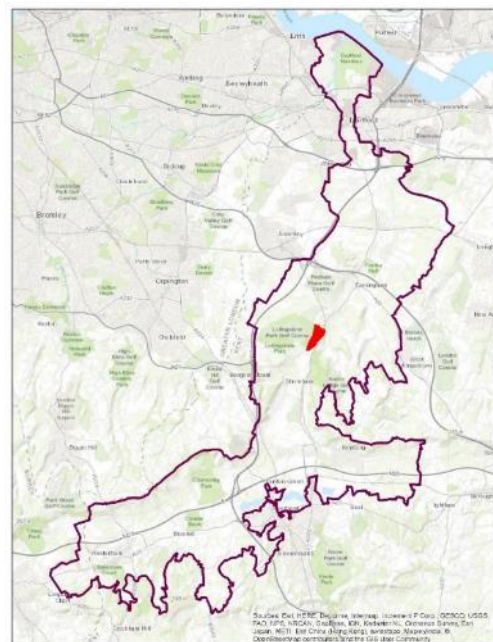
This document has been prepared by Rod Shelton Chairman of the Archbishop’s Palace Conservation Trust.
November 2016

2E. ROYALTY AND SILK LULLINGSTONE CASTLE’S BURIED SECRETS



PROJECT AIM

To undertake the investigation, exploration and interpretation of two heritage features at Lullingstone Castle through the delivery of a community archaeology project. Building on a geophysical resistivity survey completed in 2011 that revealed a possible sunken Tudor kitchen garden, further investigatory work and potential excavation will be undertaken as a community archaeology project. This will be complemented by research into and the cultivation of the plants that would have been grown at the time the garden existed. A magnetometry survey will also be completed for the estate to provide more information on the inner moated gatehouse which no longer exists. In addition, a condition survey will be undertaken of the flint bathhouse located next to the River Darent, with a view to potential restoration work being undertaken to prevent its future collapse. Access will be improved to this and the adjacent ice house for visitors to view and learn about.



DELIVERY LEAD

Darent Valley Landscape Partnership Scheme Delivery Team.

LOCATION AND LAND OWNERSHIP

Lullingstone Castle is located at the southern end of Lullingstone Lane to the south of the village of Eynsford at TQ530644. It is in the ownership of Guy and Sarah Hart-Dyke.

AUDIENCE

Lullingstone Castle and the World Garden is a popular tourist attraction within the valley. Along with Eagle Heights, Lullingstone Roman Villa, the lavender fields at the Hop Shop and Lullingstone Country Park it forms a cluster of popular sites in the heart of the area. In 2008 it received 20,000 visitors, and its location immediately adjacent to the Darent Valley Path makes it a popular stopping off point. The catchment for visitors is extensive, and it is a popular destination for people travelling from across the south-east of England, and receives a large number of overseas visitors. Whilst visitors will benefit from learning more about the heritage around Lullingstone Castle, participation in the project will target people from local communities and those just outside, such as Swanley.

HERITAGE VALUE

Lullingstone Castle is located in the Kent Downs AONB and has several heritage designations. Most notable is the gatehouse which is a scheduled monument and a Grade I listed building. The main building, Lullingstone Castle is Grade II* listed.

The site is suspected to date to the Saxon era and the early Saxon church of St John the Baptist suggests the presence of a vibrant population dating to this era.

Evidence to support this belief was enforced by a find at the nearby Eynsford railway viaduct. During its construction in 1861, the Lullingstone bowl a remarkable bronze-hanging bowl was found in a disturbed Saxon grave as workers dug for clay for construction bricks.



The Lullingstone Hanging Bowl (© The Trustees of the British Museum)

The Peche family, from whom the Hart-Dykes are descended, acquired Lullingstone in 1361, and were prosperous merchants who sought gentrification by acquiring estates near London. John Peche was Lord Mayor of London in 1361, a draper and possibly a fish merchant, who briefly secured the monopoly for sales of sweet wine in London and enjoyed several royal appointments. The present building was built in 1497 by John Peche, and has been passed down through generations of the same family for six hundred years.

John Peche had spent much of his adolescence at the court of Henry VII, and took part in the Royal Jousts. His helmet still hangs in a place of honour, above the fireplace in the Dining Room at

Lullingstone Castle. In 1495 he became the Sheriff of Kent, and two years later was knighted, following the Battle of Blackheath. It was about this time that Sir John Peche commissioned the gatehouse to be constructed - one of the first of its kind in England to be built entirely of bricks, and a precursor to the construction of Otford Palace.

Although Lullingstone Castle has well-preserved Tudor features, much of what is seen today dates from the extensive alterations and refurbishment carried out during the reign of Queen Anne, who was a frequent visitor to Lullingstone.

The building built in 1497 consisted of two courts, each entered through a brick gatehouse. The inner court was surrounded by a moat, around which ran a low crenelated wall on both sides. Its form is known from several early views of the house, including a preparatory drawing for a lost oil painting of about 1670–80. The distinctive outer gatehouse survives, with paired polygonal towers of different sizes on its inner and outer faces. Other examples of this form of gatehouse survive, such as Henry VIII’s gate to the lower ward at Windsor Castle, begun in 1509 and the nearby Otford Palace. All of them were probably designed by masons working from London.

The gatehouse displays Sir John’s heraldic shield and retains its original doors. It has been much restored, having been hit by a V1 doodlebug in 1944. The second inner gatehouse was demolished in 1765, on the grounds that he could not abide having to cross a bridge every day to leave and enter his house. Its demolition left a vast lawn between the entrance and house.

In more recent times, it was home to the Lullingstone Silk Farm which produced the silk for Queen Elizabeth II’s coronation robes.

Within the grounds and some distance from Lullingstone Castle, a flint bath house exists. This is listed as a Grade II structure and is located over a spring that feeds into the River Darent. The rectangular brick bath is approximately 4m long by 2½m wide and surrounded by a brick and flint and oval-shaped wall (now ruined) but rising to a height of about 2½m. The bath house was allegedly used as target practice by troops stationed at Lullingstone during the Second World War and without a roof there is significant deterioration. The bath-house was reputed to have been used regularly by Queen Anne who resided at Lullingstone Castle for some time, and she used the bath-house in an attempt to treat her purpura, a kidney problem.

ISSUES AND THREATS

Lullingstone Castle is an area exceedingly rich in heritage, and there is still much that can be learned about this site. For visitors, the focus of their visit is very much the gatehouse, Lullingstone Castle and the World Garden. However, the buried archaeology of the inner moated gatehouse and that of a potential sunken Tudor kitchen garden await further discovery and interpretation. Away from the World Garden there is limited interpretation and not many visitors leave fully understanding the other



Queen Anne's Bath House

structures that existed in the past at Lullingstone Castle. In addition, recent surveys have hinted at the presence of other buried archaeology of which very little is known about.

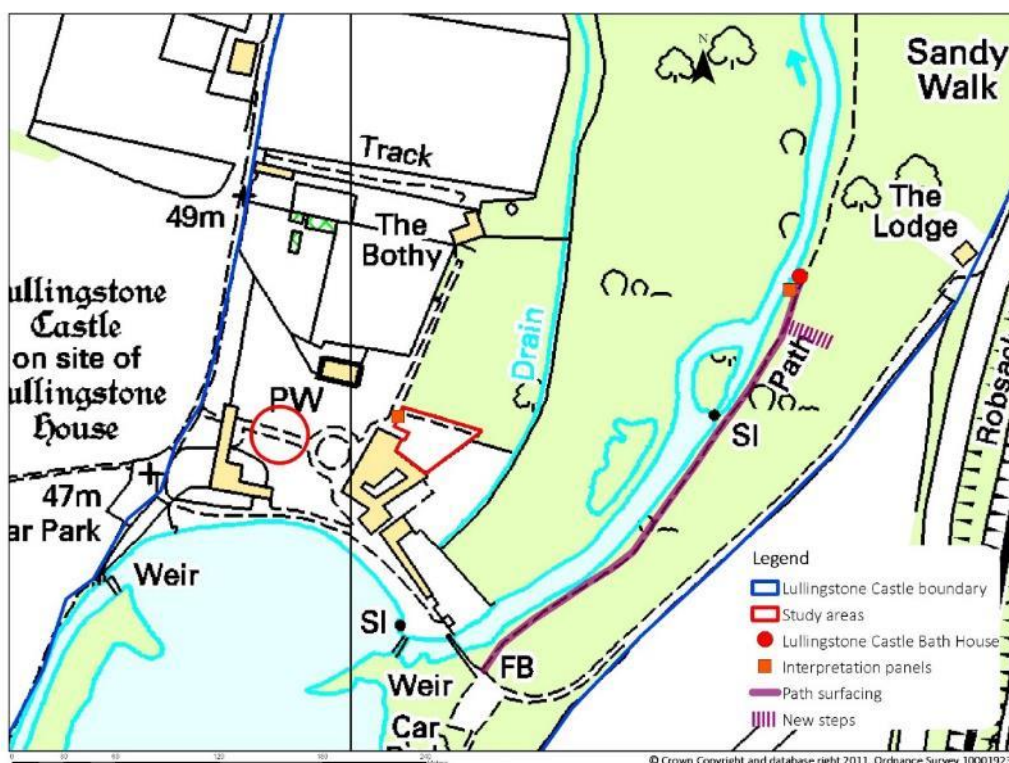
The bath-house remains an impressive structure, but is somewhat unstable with potential for further collapse. Until recently it was covered in ivy, and when this was removed, its current state could be observed. It still retains a through flow of water from a spring and is still crystal clear.

An ice house that was restored is also located nearby, but access to both is somewhat restricted as the path is unsurfaced and regularly becomes overgrown in the summer. This is supported by comments on Trip Advisor such as:

“We were told about a path we could take to see Queen Anne’s bath house. Not worth the bother. Stinging nettles everywhere.”

The ice house is located up a steep slope with no steps, and neither feature has any interpretation.

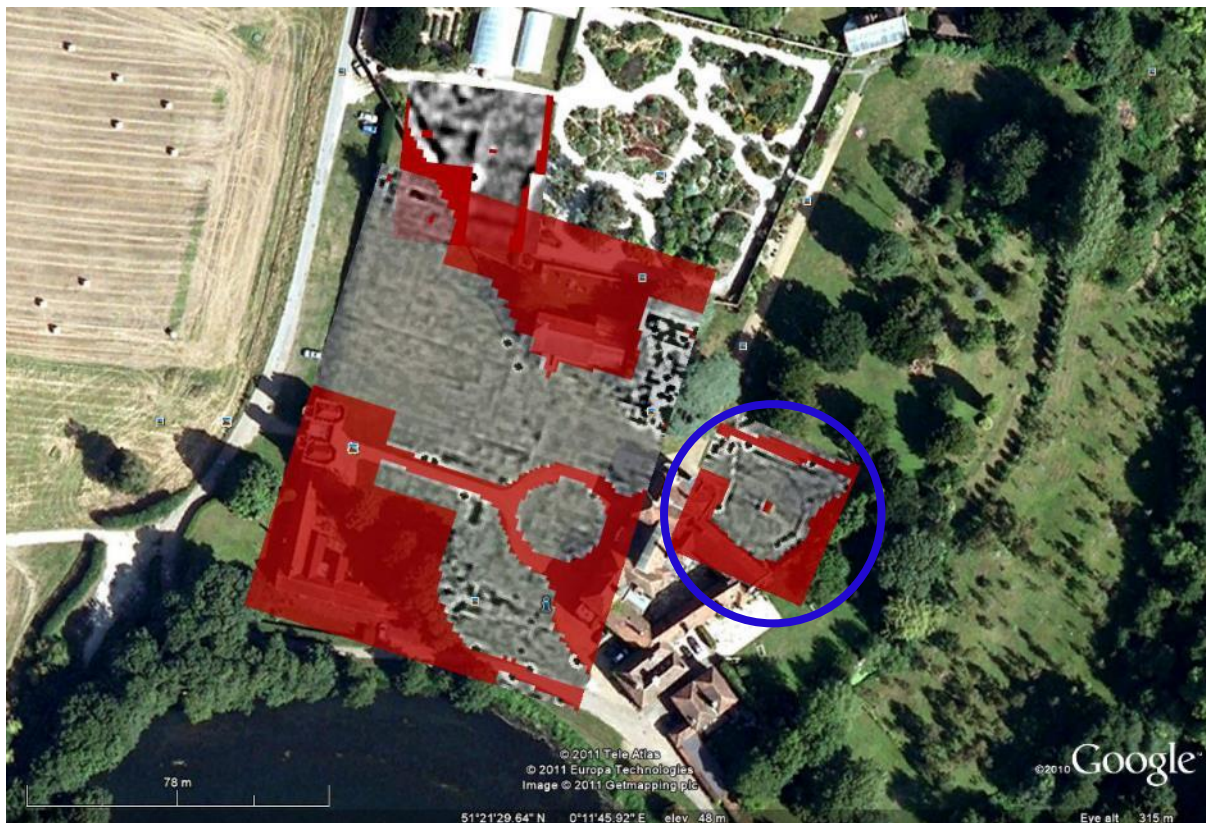
PROJECT DESCRIPTION



The project will include three activities with the potential for a fourth if certain conditions are met. These are the investigation of the sunken Tudor garden and the provision of interpretation after the activities have taken place; the stabilisation and conservation of Queen Anne’s Bath House with associated interpretation; improved access provision to the bath house and ice house; and the potential further investigation of the inner moated gatehouse.

INVESTIGATION OF THE TUDOR SUNKEN GARDEN

The resistivity survey undertaken in 2011 revealed the prospect of the remains of a laid-out garden buried underground adjacent to the north wing of the manor house (see area circled in blue on image below).



This was described in the report as “a distinctive round feature in this area, the dummy square in the centre relates to conifer in the middle of the lawn. This feature may reflect old garden pathways as there is a diagonal feature leading off from the circle to the North East which heads towards an existing flight of steps. This feature is next to the original entrance to the main house which was used during the medieval and Tudor period.”

No further information is held on this, and the image produced in 1670 (see page 143), provides no indication of a circular feature. The 2011 survey recommends further investigation by means of a magnetometry survey to assess if any further information can be gathered. Then, if appropriate, excavation of part of the area will be investigated.



Close-up of possible Tudor garden area



Aerial image from 2003 showing faint colouring of grass matching resistivity results (Google Earth)

This would be delivered under contract, but with a significant community archaeology element, enabling those with an interest to have active involvement. The Hart-Dykes have consented to excavation taking place with appropriate planning, and are also intrigued to understand what existed in this area. Lullingstone Castle is a pay-for-entry site, but during any excavation works, there will be no charge for entry to the gardens to view work taking place. Listed building consent will be required from Historic England.

If as anticipated, the area represents a sunken Tudor garden, this investigation will be integrated into a parallel project led by Tom Hart-Dyke, researching what would have been grown in the garden 500 years ago, and consequently cultivating heritage varieties for a reconstruction associated with the adjacent World Garden. This will be developed with a small team of volunteers working with Tom, and created as a living heritage reconstruction.

Upon completion of investigatory works on the Tudor garden, a new interpretation panel will be installed at its location to inform future visitors and explain the significance of the findings.

QUEEN ANNE’S BATH HOUSE CONSERVATION

The bath house is of importance due to its largely flint construction. As Susan Kellerman states in her paper “Use and Ornament”:

“During the eighteenth century in particular, the bath house was an essential feature in the designed landscape, and like other garden structures, such as banqueting houses, summerhouses, menageries, water towers, and boathouses, they had a dual role of practical function and ornamentation, the latter depending, to a large extent, on the wealth and status of the owner. But these fascinating buildings have been neglected both in terms of their physical maintenance and garden history research, so might be described as the Cinderellas of garden buildings. Apart from a few notable examples, those that survive are generally unrecognised, unrecorded, undervalued, and unloved.”

They are often in a derelict, unsafe, and unsavoury condition, and consequently are seldom (legitimately) accessible. They are still often erroneously described as ‘rare’ or ‘unusual’, even by archaeologists and historic buildings officers; but far from being an occasional oddity, they were ubiquitous.



A bath house would typically comprise a room with a sunken stone- or brick-lined cistern, or tank, filled with cold water from a spring or well (thus ensuring consistency of temperature), and an attached dressing room with fireplace.”

The bath house at Lullingstone requires a condition survey and recommendations to prevent further decay of the structure and subsequent dereliction (brief and specification in appendix 1 on page 154). The recent chemical treatment of the covering of ivy and bramble may have provided a clearer view of the structure, but may also have opened it to the elements and increased erosion. The results of the condition survey cannot be fully anticipated, but any subsequent works will focus on conservation rather than restoration. Listed building consent will be required from Historic England.

It is a building that draws visitors, particularly due to its probable use by royalty, but until now has been a largely underwhelming experience. An interpretation panel will be designed and installed adjacent to the structure to explain its significance and role at Lullingstone Castle.

ACCESS TO QUEEN ANNE’S BATH HOUSE AND THE ICE HOUSE

With the access path currently an occasionally strimmed, rough, muddy track, an improved surface is required to enable visitors to reach these two heritage features. A path surface of 300m long will be provided which allows access for wheelchairs and disabled people. It will meet the BT Access for All standards, being a width of 1.5m with a turning point at the end. The specification will be:

1. Excavate existing track to 1.5m wide and 100mm deep to remove small roots and debris. Roll and compact. Excavated material to be retained. No grading (apart from minor works is required of the path). Widening to 2.5m adjacent to the bath house and allowing for turning circle for wheelchairs
2. Lay a single layer of geogrid on excavated surface. Geogrid to be of specification SS40 or TriAX by Tensar International, Miragrid GX by Tencate, or other product that is equal to or exceeds these specifications.
3. 150mm of Type 1 granular material (preferably crushed limestone, but other local and sustainably sourced alternatives of a similar standard are acceptable – please specify) to be laid to Clause 803 of Volume 1 of the Manual of Contract Documents for Highway Works May 1999. Generally graded towards the edges to create a maximum of 25mm central camber. Roll and compact. Compaction shall be to Table 8/1 of Series 800 of Volume 1 of the Manual of Contract Documents for Highway Works.

4. Wearing course shall be limestone dust (3mm – dust) and laid and compacted to 25mm thick with a maximum of 25mm central camber. Compaction shall be to Table 8/1 of Series 800 of Volume 1 of the Manual of Contract Documents for Highway Works. Surface finish shall be free from marks and lines.
5. Path to minimum of 75mm above ground surface. Excavated material should be used to create shoulders, built up level to the path. Shoulders to be rolled and compacted.
6. Path to adhere to BT Access for All standards for rural paths.

Land Drainage Consent will be required from the Environment Agency for this work to be undertaken.

In addition, a set of timber steps will be installed to allow easy access to the entrance to the ice house from the path. This will be undertaken by volunteers working with the North West Kent Countryside Partnership.

INVESTIGATION OF THE INNER MOATED GATEHOUSE

At the stage 1 submission of the DVLPS, the intention was to undertake an excavation project to provide further information on the inner moated gatehouse. However, discussion with the Hart-Dyke family has indicated that the disruption that this would cause means that at the moment this is unlikely to go ahead. However, it does remain an aspiration, and if consent is given during the lifetime of the scheme, this may be added as a contingency project in the later years (if funds allow).

However, when magnetometry surveys are undertaken for the Tudor garden, this will be extended across the rest of the grounds to provide increased data.

OUTPUTS AND OUTCOMES

Activity	Outputs	Outcomes
Investigation of the Tudor sunken garden	<ul style="list-style-type: none"> • Magnetometry survey undertaken across the Lullingstone Castle gardens. • Archaeological excavation of Tudor garden. • 20 archaeological community volunteers participating in excavation. • 40 volunteer days contributed. • 1x interpretation panel installed. • Archaeological works viewed by 1,000 visitors. • 1 x kitchen garden reconstruction undertaken. 	<ul style="list-style-type: none"> • New information gathered on important heritage features at Lullingstone Castle to improve knowledge of the evolution of the site. • Increased participation from the local community in practical archaeology. • Greater awareness amongst visitors of the range of heritage present at Lullingstone Castle.
Queen Anne’s Bath House conservation	<ul style="list-style-type: none"> • 1 x condition survey and stabilisation plan undertaken. • Bath house structure secured and condition maintained. • 1 x interpretation panel installed. • Bath house viewed by 6,000 people following completion of conservation work. 	<ul style="list-style-type: none"> • An important heritage feature (bath house) surveyed, recorded and made available for people to understand and enjoy.
Access to Queen Anne’s Bath House and the ice house	<ul style="list-style-type: none"> • 300m of path surfaced to achieve disability standards for a rural path. • New signage installed. • 20m of steps installed. • 10 volunteer days contributed. 	<ul style="list-style-type: none"> • Heritage made available to people of all abilities.

PROJECT COSTS

Element/Item	Year 1 2017/18	Year 2 2018/19	Year 3 2019/20	Year 4 2020/21	Year 5 2021/22	Total
[REDACTED]		[REDACTED]				[REDACTED]
[REDACTED]			[REDACTED]			[REDACTED]
[REDACTED]			[REDACTED]			[REDACTED]
[REDACTED]				[REDACTED]		[REDACTED]
[REDACTED]		[REDACTED]				[REDACTED]
[REDACTED]			[REDACTED]			[REDACTED]
[REDACTED]				[REDACTED]		[REDACTED]
[REDACTED]			[REDACTED]			[REDACTED]
[REDACTED]				[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]			[REDACTED]			[REDACTED]
[REDACTED]			[REDACTED]			[REDACTED]
[REDACTED]			[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]			[REDACTED]			[REDACTED]
[REDACTED]			[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Totals	£0	£8,250	£40,350	£17,150	£2,850	£68,600

PROJECT RISKS

Risk	How likely	Severity	Consequence	Action required
Buried archaeology adjacent to north wing of house is not of great importance.	Medium	Medium	Proves not to be as engaging a project as hoped for, and value of heritage present is less.	None. The nature of archaeological investigation is that what is found may not be of value. However, this can often be as informative. However, the resistivity results are very interesting.
Budget provided for both the Tudor garden and bath house projects are not sufficient for the work required.	Medium	Medium	Full conservation or investigation not possible, leaving some information unknown.	Estimates have been on the generous side, and a larger contingency (20%) has been put in place should this scenario arise.

TRAINING REQUIRED

- Introduction to archaeological skills.
- Researching historic gardens and varieties of plants.
- Reconstruction and restoration of historic gardens.

MAINTAINING A LEGACY

The site and the outputs of this project will be the responsibility of the Hart-Dyke family upon completion. The family is very proud of their heritage and long association with Lullingstone Castle, and it is in their own interest to maintain the works. The surveys and excavations will provide valuable information on which to build and undertake further work in the future. With growing numbers of visitors and the location close to the Darent Valley Path, the accessibility to such a diverse and interesting array of heritage also means that awareness of the history of Lullingstone Castle will continue to grow for many years.

LINKS TO OTHER PROJECTS

- 1C. Inspired Landscapes
- 2A. Peeling Back the Layers
- 2B The Darent’s Hidden Roman Legacy
- 2D. The Hidden Palace
- 3A. Heart of the Valley – The Darent Valley Path
- 3C. Telling the Darent’s Story
- 4D. A Designed Landscape
- 5D. Future Skills
- 5F. Engaging New Audiences
- 5G. Spreading the Word.

Theme 2: Historic Darent Valley

2E: ROYALTY AND SILK – LULLINGSTONE CASTLE’S BURIED SECRETS

PROJECT TIMETABLE

Activity	Year 1			Year 2			Year 3			Year 4			Year 5													
	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May		
Commission and undertake condition survey of the bath house																										
Commission magnetometer survey																										
Undertake magnetometer survey																										
Prepare brief and commission archaeological investigation of Tudor garden																										
Installation of steps to the icehouse																										
Commission stabilisation works on bath house																										
Archaeological investigation/excavation of Tudor Garden																										
Submit planning application for interpretation panels																										
Commission path surfacing																										
Commission design and production of interpretation panels																										
Tudor garden plant research and reconstruction																										

APPENDIX (2E) 1: SPECIFICATION FOR CONDITION SURVEY OF THE BATH HOUSE AT LULLINGSTONE CASTLE

1. SUMMARY

- 1.1. This specification sets out instructions for a conservation condition survey of the upstanding structural remains of Queen Anne’s Bath House located in the grounds of Lullingstone Castle, Eynsford, Kent. DA4 OJA located at approximately TQ532645. The Contractor is expected to undertake a site visit, inspect the structure and produce a Condition Assessment Report. This should include priorities for work to be undertaken to maintain and improve its condition.

2. BACKGROUND

- 2.1. This project is part of the Darent Valley Landscape Partnership Scheme (DVLPS). DVLPS is a five year project funded primarily by the HLF and delivered through the Kent Downs Area of Outstanding Natural Beauty. The project aims to encourage local people and visitors to conserve, enhance and celebrate the natural beauty and heritage of the Darent Valley, to ensure its survival for future generations.
- 2.2. The Bishop’s Palace, Halling is part of this wider project. It is owned by the Hart-Dyke family at Lullingstone Castle. The main objective is to ensure the long-term conservation of the structure and provide improved public access and interpretation of the heritage so that it can be enjoyed by visitors. To achieve these objectives several tasks need to be completed. These tasks include:
 - Careful vegetation clearance to facilitate next stages;
 - Archaeological and topographical survey of the structure and its immediate environs.
 - Further site clearance and key conservation works
 - Implementation of interpretation (panels and heritage trail)
 - Implementation of public access works
- 2.3. This specification sets out the requirements and objectives of a condition survey of the structure of Queen Anne’s Bath House and the need for conservation works. The site inspection for the condition survey will be undertaken after any necessary vegetation clearance and after an archaeological and topographical survey of the site.
- 2.4. The flint bath house is listed as a Grade II structure and is located over a spring that feeds into the River Darent. The rectangular brick bath is approximately 4m long by 2½m wide and surrounded by a brick and flint and oval-shaped wall (now ruined) but rising to a height of about 2½m. The bath house was allegedly used as target practice by troops stationed at Lullingstone during the Second World War and without a roof there is significant deterioration. The bath-house was reputed to have been used regularly by Queen Anne who resided at Lullingstone Caste for some time, and she used the bath-house in an attempt to treat her purporea, a kidney problem.
- 2.5. Demonstrable expertise and knowledge of condition surveys and conservation work to historic structures is essential and preferably of sites within Kent.
- 2.6. Award of the contract will be based on:
 - cost effective approach to the project;

- expert knowledge and experience of condition survey of historic buildings

2.7. The bath house is a Grade II listed structure (1274762). Compliance with standard Historic England historic building survey guidelines should be ensured.

3. LOCATION OF STUDY AREA

3.1. The site is accessed via Lullingstone Lane from Eynsford and through the grounds of Lullingstone Castle on the west side of the River Darent at TQ532645.

4. HISTORICAL BACKGROUND

- 4.1. The bath house is of importance due to its largely flint construction. As Susan Kellerman states in her paper “Use and Ornament”:
- 4.2. “During the eighteenth century in particular, the bath house was an essential feature in the designed landscape, and like other garden structures, such as banqueting houses, summerhouses, menageries, water towers, and boathouses, they had a dual role of practical function and ornamentation, the latter depending, to a large extent, on the wealth and status of the owner. But these fascinating buildings have been neglected both in terms of their physical maintenance and garden history research, so might be described as the Cinderellas of garden buildings. Apart from a few notable examples, those that survive are generally unrecognised, unrecorded, undervalued, and unloved.
- 4.3. They are often in a derelict, unsafe, and unsavoury condition, and consequently are seldom (legitimately) accessible. They are still often erroneously described as ‘rare’ or ‘unusual’, even by archaeologists and historic buildings officers; but far from being an occasional oddity, they were ubiquitous.
- 4.4. A bath house would typically comprise a room with a sunken stone or brick-lined cistern, or tank, filled with cold water from a spring or well (thus ensuring consistency of temperature), and an attached dressing room with fireplace.”
- 4.5. The bath house at Lullingstone is important for its possible royal associations and flint construction.

5. OBJECTIVES OF THE CONDITION SURVEY OF ARCHBISHOP PALACE WALL

- 5.1. The objectives of the condition survey are as follows:
- 5.1.1. To provide a specialist survey of the condition of the structure of Queen Anne’s Bath House;
 - 5.1.2. To provide specialist recommendations for short term and long term conservation work;
 - 5.1.3. To provide information which can be used to ensure appropriate consideration and long term conservation, enhancement and understanding of the structure.

6. METHOD

6.1. The contractor will inspect the remains of the bath house.

- 6.2. The contractor will undertake any necessary cleaning of the exposed masonry surfaces sufficiently to clarify the extent of erosion or the stability of the walling. Care will be taken not to disturb or remove mortar or dislodge flint and masonry material.
- 6.3. The contractor will carefully inspect all exposed surfaces and elements of the upstanding walls in order to meet the objectives and assess the condition of the walling e.g. noting areas of weak mortar, loose masonry, intrusive vegetation etc.
- 6.4. A photographic record of the wall during the inspection will be taken. These photographs will be used to supplement advice on the condition of the walling and to illustrate findings.
- 6.5. The contractor will annotate plans, drawings or photographs of the walling to illustrate the condition of the walling and indicate where conservation work is needed.
- 6.6. Conservation work required will be detailed to allow subsequent works to be undertaken.

7. REPORTING

- 7.1. The contractor will provide a **Condition Survey Report** within 2 weeks of undertaking the site visit. Copies will be sent to:
 - Kent County Council’s Heritage Conservation Manager
 - The DVLPS delivery team
 - The Historic Environment Record based at County Hall
 - Tom Hart-Dyke at Lullingstone Castle
- 7.2. The Contractor may determine the general style and format of the **Condition Survey Report** but it must be completed in accordance with this specification. The report must provide sufficient information and assessment to provide sound guidance on conservation work and further stages of the DVLPS.
- 7.3. Reports that do not provide sufficient information or that have not been compiled in accordance with the relevant sections of this specification will be returned to the Contractor for revision and resubmission.
- 7.4. The **Condition Survey Report** is to include as a minimum:
 - 7.4.1. A statement of the objectives and methods of the inspection;
 - 7.4.2. A site location plan
 - 7.4.3. A description and interpretation of the walling;
 - 7.4.4. Assessment of the condition of the walling:
 - 7.4.5. Annotated plans, drawings or photographs illustrating clearly the assessment of the condition of the walling ie showing areas of loose masonry, weak mortar, intrusive vegetation etc plus showing different phases and quality of construction and repair;
 - 7.4.6. Recommendations for conservation works:
 - short term essential safety works,
 - short term enhancement works,
 - long term conservation works,
 - long term enhancement works.

7.4.7. A consideration of the methodology used, including a confidence rating.

8. TIMETABLE

- 8.1. Submission of tenders by 5pm Monday 30th July 2018.
- 8.2. Final report by 9th November 2018 or date agreed in advance with DVLPS.

Theme 2: Historic Darent Valley

2E: ROYALTY AND SILK – LULLINGSTONE CASTLE'S BURIED SECRETS

2F. GUNPOWDER AND PAPER REMEMBERING A WORKING RIVER



PROJECT AIM

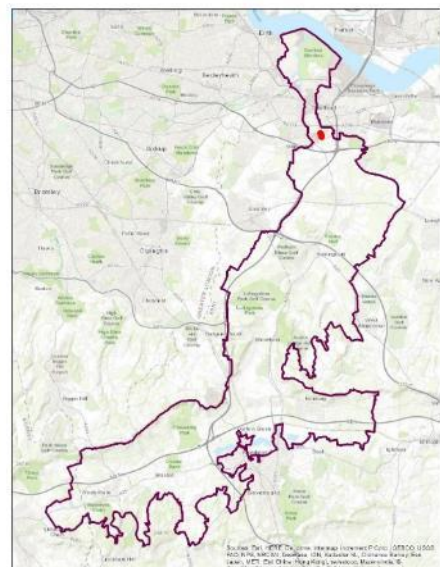
Working with Dartford Museum and Dartford Historical and Antiquarian Society, research, record, restore, conserve and interpret the remaining features of the Dartford Powder Mills and trace their history back to the 18th century.

DELIVERY LEAD

Darent Valley Landscape Partnership Scheme Delivery Team.

LOCATION AND LAND OWNERSHIP

The site of the Dartford Gunpowder Mill is located on the River Darent, adjacent to the Darent Valley Path and immediately south of Powder Mill Lane in Dartford at TQ547729. The site is in the ownership of Dartford Borough Council.



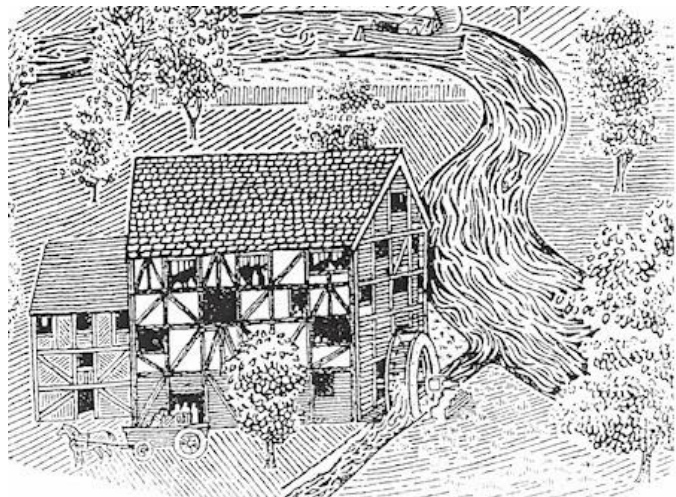
AUDIENCE

The ruins of Dartford Gunpowder Mills are usually discovered by walkers of the Darent Valley Path as they are leaving or entering Dartford. There is nothing to indicate what the obviously industrial remains are, except for the road name of Powder Mill Lane. Brooklands Lake immediately to the north of Powder Mill Lane is frequented by fisherman, dog-walkers and families spending leisure time going for a short walk (often having walked through the tunnel from Central Park). However, only a few continue south along the Darent Valley Path as it involves crossing the road through an industrial estate. Consequently, this is an important piece of Dartford's heritage that many local people are unaware of or don't understand.

The audience for this outputs of this project include existing and future walkers and cyclists along the Darent Valley Path and particularly Dartford residents. Local volunteers with an interest in heritage, as well as those from the North West Kent Countryside Partnership, along with organisations such as the Dartford Historical and Antiquarian Society and Dartford Museum.

HERITAGE VALUE

This site has a history of industrial use. Sir Martin Frobisher, the English seaman and privateer used a nearby location for a specially constructed smelting plant to extract gold from tons of black ore that he had brought back from Labrador in Canada in 1578. However, unfortunately for Frobisher, the ore proved to be mostly valueless iron pyrite with very little gold. Investors, including Elizabeth I lost considerable amounts of money. Much of 'Frobisher's Gold' was used for the metalling of roads and to construct the wall to Dartford Priory.



*Contemporary representation of Spilman's paper mill
(Dartford Grammar School)*

Subsequently, the first commercially successful paper mill in the UK was established in 1588 by John Spilman who was Court Jeweller to Elizabeth I and James I. The mill made good quality white paper that was considered the finest ever produced in England at that time. Records show that the mill was something of a local tourist attraction. It was the subject of 352 lines of poetry written by Thomas Churchyard in 1588, dedicated to Sir Walter Raleigh, and described it as an impressive building:

*'This is so fine with workmanship set foorth
So surely built, and planted in the ground
That it doth seeme a house of some estate...
To which brave mill do thousands still repayre
So see what things are wrought, by cunning skill,'*

The paper mill was in a disused state by 1724, and in 1732 was converted into a gunpowder mill. By 1810 Dartford had become the largest centre for gunpowder production, and Dartford powder was

known for its high quality. The mill was powered by the Darent's waters (which were stronger and faster at this time) being channelled through a complex set of sluices.

However, gunpowder production was a dangerous business, and there were regular explosions causing injuries and fatalities. A news report from 1790, when the whole site was destroyed, reads:

"The 12th, at four o'clock in the afternoon, the inhabitants of Dartford and of the country for several miles around were alarmed by a dreadful concussion occasioned by the explosion of seventy barrels of gunpowder at the works of Messrs. Pigou and Andrews. Six men were destroyed in the dreadful havoc, most of whom have left wives and families behind them. The foreman of the works has left a wife and seven children."

There were many safety precautions, and all workers were required to wear protective clothing and footwear; with the buildings surrounded by massive earth embankments and the more vulnerable buildings being moated. Despite all these precautions, many explosions occurred and the list of incidents demonstrates the risks the workers took: -



- 1745 - Minor explosion, no casualties
- 1790 - Entire site blown up. 7 killed.
- 1794 - 11 killed.
- 1796 - 6 killed.
- 1799 - 6 killed.
- 1803 - Composition house burned down.
- 1805 - 2 killed.
- 1806 - Horse killed.
- 1810 - 2 killed.
- 1827 - 3 killed. Remains scattered half a mile, explosion could be heard forty miles away.
- 1833 - 8 people and 3 horses killed.
- 1839 - 5 killed.
- 1839 - Brass Mill blown up.
- 1842, 1872, 1874, 1879 - no fatalities, little damage.
- 1885 - 1 killed.

The gunpowder mills were abandoned by 1907, with all usable material and equipment salvaged. The site was then left to vegetate over and was not rediscovered until 1983, when a proposed housing development revealed the remains.

The company engaged in building the industrial development five days into clearing a broad path some 15m wide, which was to continue right through the site of the mills to allow the Darent to be diverted. Within 24 hours of a field officer visiting from the Kent Archaeological Research Unit (KARU), the site had been saved from destruction.

KARU organised an excavation which revealed the substantial remains of three 'double' mills with wheel pits and bases for edge runner stones. At the centre of these three sites, the edge runner stone base was rebuilt by KARU. Images from the subsequent conservation work are shown on the following pages.



Photograph by Rob Cumming (1985)



The Wheel Pit 1984 (Rob Cumming)



Photograph by Rob Cumming



Millstones, 1986 (Rob Cumming)



The current condition of the brick base for the base runner stone

ISSUES AND THREATS

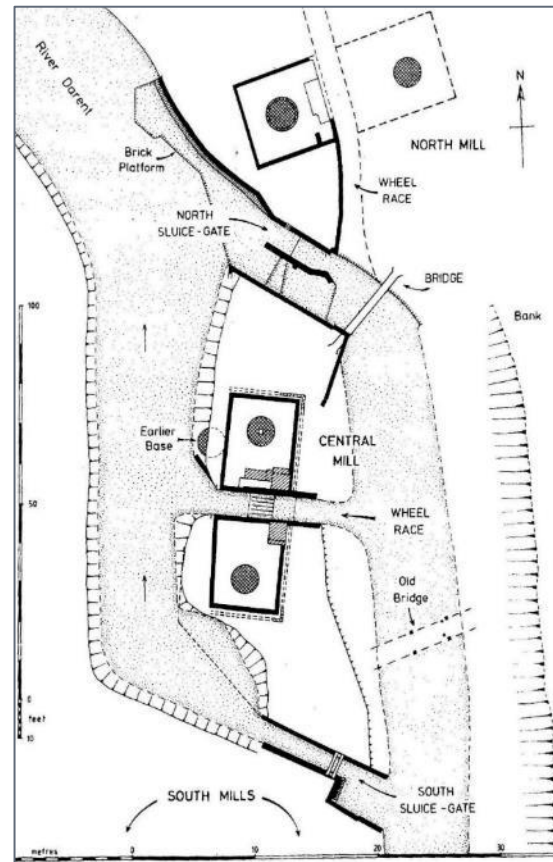
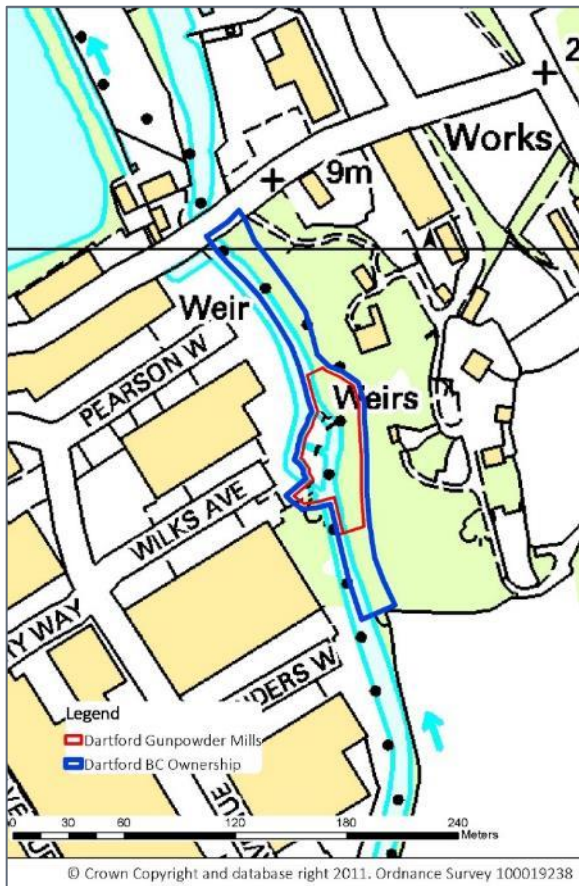
Following the successful rescue of the site in the 1980s, the area has been left largely to its own devices and is in a state of disrepair with a sense of abandonment. Fallen willow trees, establishment of sycamore saplings, graffiti and discarded rubbish presents something of a sad condition for a location that has such a long history and helped to shape Dartford over the last five centuries. Away from the Darent Valley Path, the site is largely overgrown, with evidence of fires being set on the brick base runners. Many of the structures are now covered in moss and hidden under leaf litter and trees. There is a danger that they will once again become completely lost and start to deteriorate.

No interpretation exists to inform the casual passer-by, or the more serious walker reaching the last stages of the Darent Valley Path, and general historical information is only found with concerted investigative research on the internet.

However, recent surfacing improvements to the Darent Valley Path have started to provide an incentive for people to explore further from Brooklands Lake, and this provides a catalyst to make improvements to this site.



PROJECT DESCRIPTION



Plan of preserved structures in 1984 (Mike Dutton)

The gunpowder mill site is somewhat complex and requires a considerable amount of investigative work before any conservation work can be undertaken on the site. The project presents an excellent opportunity to develop as a community archaeology project, and this will form the basis for how it will progress. Brian Philp, the original lead on the KARU project and author of ‘Dartford Gunpowder Mills’ is part of the Darent Valley Landscape Partnership Forum, and is well positioned to advise on the project.

The remaining structures are only a small part of the entire gunpowder mill, much of which is covered by the Questor industrial estate, and the focus of this project’s activities are the structures that were uncovered and restored in the mid-1980s. The project will have several elements:

1. ESTABLISHMENT OF PROJECT WORKING GROUP

A project working group will be established consisting of key local groups to take forward the development of the project. These will include Dr Mike Still from Dartford Museum and the Dartford Historical and Antiquarian Society (DHAS), Wendy Rogers from Kent County Council Heritage Team, the North West Kent Countryside Partnership, Dartford Borough Council, and the DVLPS team. This group will guide the research, community development and ultimate delivery of the project. It will also help to maintain the project’s legacy.

2. RECRUITMENT OF THE GUNPOWDER VOLUNTEERS

With its location close to Dartford, and therefore a large population, there is an opportunity to generate considerable local interest and participation in the project. The site can be reached from Dartford Museum walking along the Darent Valley Path in only twenty minutes, whilst Oakfield Community Primary School and Leigh Academy is only ten minutes walking distance from the site, and North Kent College is only 1½ km away. This presents an excellent method of involving a significant number of people and providing an engaging and exciting way of participating in heritage conservation.

A variety of methods will be used to raise awareness of the project, but will include social media, outlets such as Dartford Living and Dartford Borough Council’s magazine. This will be the focus of the first year of the scheme and generate genuine community participation in what will be an exciting project.



3. DOCUMENTARY RESEARCH AND SITE SURVEY

Under the guidance of Dartford Museum, the recruited volunteers will undertake documentary research to build a detailed picture of the site’s history to inform restoration and interpretation. This will be supplemented by free training provided in archaeological research, the LiDAR survey being completed early in 2018 and Unmanned Aerial Vehicle (UAV) footage. An Historic England Level 1 site survey will provide further information to support this work.

Consultation will be undertaken with local communities to understand how they would like to see the area evolve both as a heritage site and for amenity.

Links to local schools will be made by the DVLPS Community Archaeologist through outreach work which may be able to use artefacts that are currently held at Dartford Museum. The scheme and the working group will develop ways in which the schools and colleges can contribute to the project right from its development phase.

4. ECOLOGICAL SURVEY

An ecological survey will be undertaken to assess if there should be any consideration for habitats and species that may be affected by conservation work or removal of vegetation. This includes within the river where water flow may be affected by work on structures or the removal of debris.

5. CONSERVATION PLAN

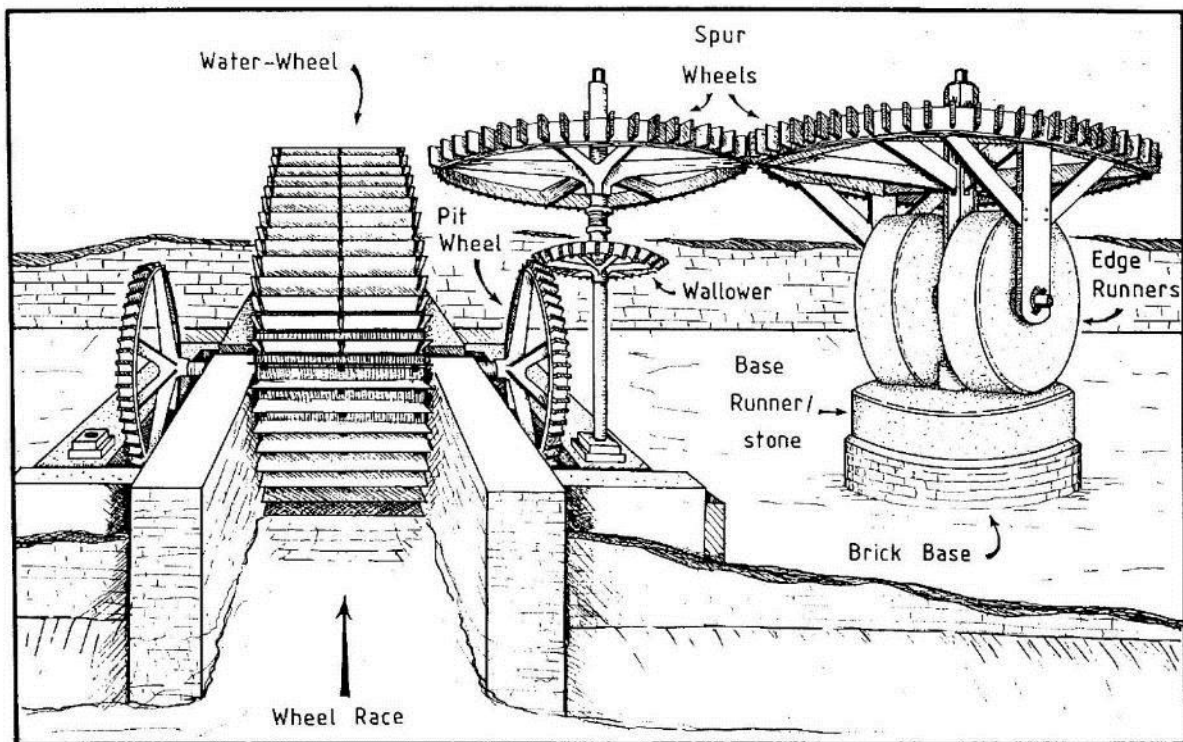
A conservation plan will be developed by the project group working with consultants to ensure that the mill remains can be restored and maintained in good condition. This will also include consideration for supporting interpretation and understanding of how the mill complex operated by visitors, locals and walkers of the Darent Valley Path. As there is a likely need for the removal of trees

and vegetation, this will require further consultation with local people so that they understand the reasons and to avert and negative publicity.

6. DELIVERY OF RESTORATION AND CONSERVATION WORKS

Following the production of the conservation plan, works will be delivered. This will be a combination of restoration works carried out by specialists and small-scale enhancement works undertaken by volunteers. It is anticipated that the works will include:

- Repair and restoration of wheel race and sluice structures.
- Re-setting of the millstones and brick bases along with any cosmetic repairs.
- Tree and vegetation removal to open the site and provide a less imposing environment (with ecological benefits for the river)
- Surface treatment to improve conditions under foot.



*Drawing showing mill machinery. The water mill sat outside between two mill-houses that enclosed the rest of the machinery
(Drawn by Mike Dutto - from Philp, B.;1985)*

7. DEVELOPMENT OF SITE INTERPRETATION PLAN AND IMPLEMENTATION

The site is ideally placed to have dedicated interpretation as there is a specific need here. Consideration needs to be given to vandalism risk, although this is expected to recede following improvements made at the site. The interpretation plan will be informed by both the DVLPS Interpretation Strategy and the research that is undertaken by the project group and Gunpowder Volunteers. However, the Interpretation Strategy suggests that a mix of interpretation panels to provide a visual representation of how the mill worked and audio interpretation to generate a 'feel' for how the site would have been at its industrial height. This is likely to require professional assistance with sound effects. It may also be supplemented by video interpretation using the UAV to provide the overview and interpret areas that are not possible to access.

8. ADDITIONAL WORKS

During the development of this project other projects may arise and may be assimilated into the project. These include:

- In-stream enhancements to the River Darent channel to diversify the flow, creating scouring of the river bed, and maximising any additional light reaching the water.
- Provision for picnicking.
- Shielding of adjacent industrial estate and palisade boundary fencing

9. ONGOING MANAGEMENT AND RESOURCING THE GUNPOWDER VOLUNTEERS

Following the completion of the works, a management and maintenance plan will be produced to guide ongoing management and avoid deterioration as occurred after the last restoration in the 1980s. Depending on how the Gunpowder Volunteers have developed, they will either be supported to become a self-sustaining group, or if they still require guidance, they can remain under the wing of the North West Kent Countryside Partnership.



CHANGES FROM STAGE 1

At stage 1 the proposal was to train volunteers to survey the entire river to record the lost mills of the Darent. However, this information already exists in the form of Alan Stoyel's excellent book "Memories of Kentish Watermills – The Rivers Cray & Darent". Consequently, the focus is now entirely on the Dartford Gunpowder Mill site.

OUTPUTS AND OUTCOMES

Activity	Outputs	Outcomes
Establishment of project working group.	<ul style="list-style-type: none"> Partnership of local organisations and interested individuals brought together. 	<ul style="list-style-type: none"> Awareness of hidden heritage site increased.
Recruitment of the Gunpowder Volunteers	<ul style="list-style-type: none"> 3 x local schools/colleges involved in the project. 90 children involved with the project. 30 volunteers actively participating with the Gunpowder Volunteers. 1 new volunteer group established 	<ul style="list-style-type: none"> Local participation in the conservation and restoration of Dartford’s industrial heritage. Local children have learnt about local heritage and are actively involved in its conservation.
Documentary research and site survey undertaken	<ul style="list-style-type: none"> 1 x Level 1 Heritage Site Survey undertaken. Record of heritage features and their condition updated. On-line and document research concerning the site’s history undertaken. Volunteers trained in heritage research skills. 10 volunteer days of research contributed. 	<ul style="list-style-type: none"> The heritage of the Dartford Gunpowder Mills has been recorded. Local people have learnt new skills to contribute to the recording, understanding and conservation of their heritage.
Ecological survey undertaken	<ul style="list-style-type: none"> 1 x ecological survey of the site undertaken. Record of natural heritage features of the site made. 	<ul style="list-style-type: none"> The Gunpowder Mills are a more attractive and inviting location to enjoy and understand heritage.
Production of conservation plan	<ul style="list-style-type: none"> 1 x detailed restoration and conservation plan produced for the site. 	
Delivery of restoration and conservation works	<ul style="list-style-type: none"> Heritage conservation undertaken on an area of 0.2 ha. 6 x industrial heritage features restored and returned to good condition. Access improved to 1 heritage site. 40 volunteer days of practical work undertaken 	<ul style="list-style-type: none"> The future of the Dartford Gunpowder Mills is secured for the foreseeable future. Visitors passing by on the Darent Valley Path understand the purpose of the structures and why they are special.
Delivery of interpretation	<ul style="list-style-type: none"> 1 x interpretation plan produced. 2 x interpretation panels installed. 1 x audio interpretation created. 1 x visual interpretation and web page created. 400 downloads of audio interpretation. 500 views of audio interpretation. 	<ul style="list-style-type: none"> Local people have taken responsibility for their local heritage. There is a greater appreciation for Dartford’s rich heritage.
Ongoing management	<ul style="list-style-type: none"> 1 x management plan produced 	

PROJECT COSTS

Element/Item	Year 1 2017/18	Year 2 2018/19	Year 3 2019/20	Year 4 2020/21	Year 5 2021/22	Total
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]		[REDACTED]
[REDACTED]	[REDACTED]					[REDACTED]
[REDACTED]	[REDACTED]					[REDACTED]
[REDACTED]		[REDACTED]				[REDACTED]
[REDACTED]		[REDACTED]				[REDACTED]
[REDACTED]			[REDACTED]	[REDACTED]		[REDACTED]
[REDACTED]		[REDACTED]				[REDACTED]
[REDACTED]				[REDACTED]		[REDACTED]
[REDACTED]				[REDACTED]		[REDACTED]
[REDACTED]				[REDACTED]		[REDACTED]
[REDACTED]					[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Totals	£4,840	£7,060	£24,110	£25,760	£3,100	£64,870

PROJECT RISKS

Risk	How likely	Severity	Consequence	Action required
Lack of interest from local community in participating in the project.	Low	Medium	Little or no community engagement or ownership of the site and project.	Active promotion, and emphasis of exciting and dangerous history of the site.
Schools don't have the time to be involved in project.	Low	Low	Lack of engagement with the younger generation.	Contact early so that involvement can be scheduled well in advance.
Budget insufficient for conservation work identified.	Medium	Medium	Limits to work that can be undertaken and scaling back required.	Budget is quite generous for the anticipated work, but funding opportunities may be sought from elsewhere to supplement works.
Gunpowder Volunteer group does not have enough active volunteers to sustain care for the site after works completed.	Medium	Medium	Ongoing maintenance will need to be resourced by Dartford Borough Council, or greater support provided to maintaining the group.	Continued support for volunteers during delivery phase of the scheme. Ensure that a support mechanism is available from partners on the project working group to aid establishment.

TRAINING REQUIRED

- Heritage, archive and historical research skills.
- Practical archaeology skills
- Volunteer leadership skills
- Power tool training
- Health and safety training

MAINTAINING A LEGACY

The site is in the ownership of Dartford Borough Council which provides security for the future. The establishment of a volunteer group provides opportunities for local participation and connection between the community and its heritage. The location next to the Darent Valley Path provides the impetus for maintaining the site, and the North West Kent Countryside Partnership remains active in the area to provide support.

LINKS TO OTHER PROJECTS

- 2A. Peeling Back the Layers
- 3A. Heart of the Valley – The Darent Valley Path
- 3C. Telling the Darent's Story
- 3D. Reducing the Pressure
- 4C. Restoring the Darent
- 5A. Landscape Adventure Learning for All
- 5D. Future Skills
- 5F. Engaging New Audiences
- 5G. Spreading the Word

2G. DARTFORD MARSHES ORCHARD HOSPITAL NATURE PARK AND COMMUNITY ORCHARD



The derelict orchard at Dartford Marshes (Friends of Dartford Marshes)

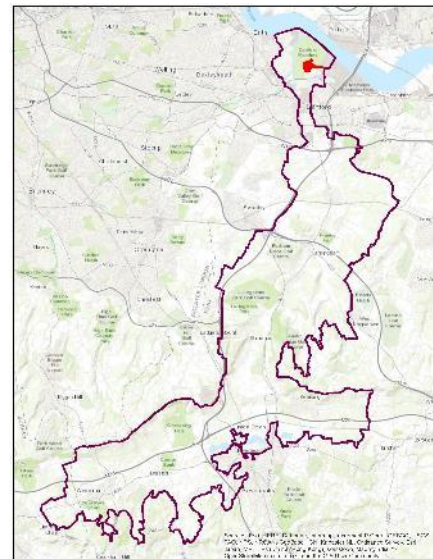
PROJECT AIM

The Orchard Hospital Nature Park and Community Orchard (Dartford Marshes) comprises of approximately 27 hectares of woodland, scrub, wetland, grassland with an extensive abandoned orchard located adjacent to the former Orchard Hospital site (part of the former Joyce Green Hospital complex). The aim is to enhance the whole site so that it can be enjoyed and accessed by the local community, visitors and schools. The site has been neglected for approximately 27 years, which has attracted anti-social activities. The project will empower local people to reverse the neglect and begin to conserve the area sustainably for its rich natural and cultural heritage.

DELIVERY LEAD

Dartford Borough Council; Dave Bennett (Parks and Open Spaces Manager); Dave.Bennett@dartford.gov.uk.

Supported by the North West Kent Countryside Partnership (NWKCP) (mark.gallant@kent.gov.uk) and the Bridge Residents Association.



LOCATION AND LAND OWNERSHIP

The site is located on Dartford Marshes to the north of Binnie Road and east of Joyce Green Lane at TQ544766. All land is owned by Dartford Borough Council; Civic Centre, Home Gardens, Dartford, Kent, DA1 1DR (appendix 1 on page 186).

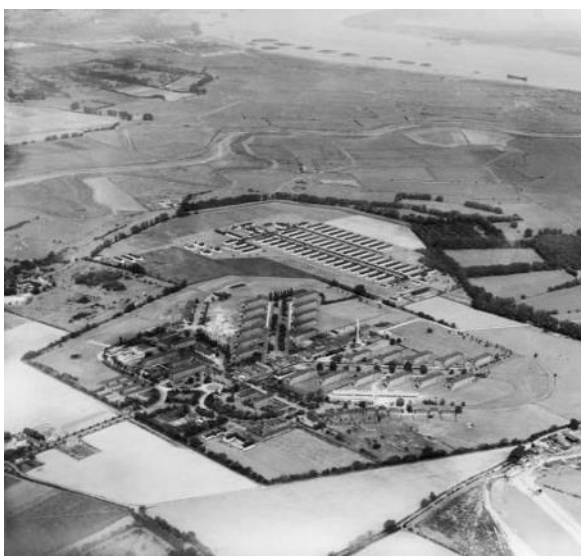
AUDIENCE

Residents (particularly from the new Bridge development located partly on the former Joyce Green Hospital site (The Bridge Housing Association) and from the Temple Hill Estate and wider Dartford.

Local community groups including the Friends of Dartford Marshes and other conservation and historical groups. Schools (specifically targeting Dartford Bridge Community Primary and Temple Hill Primary), colleges, universities within the Darent Valley and beyond. The site also lies alongside the Darent Valley Path and will therefore have a wider audience from across Kent and south-east London.

HERITAGE VALUE

The former Joyce Green Hospital is considered one of the lost hospitals of London, commissioned in 1901, the Hospital was constructed primarily to treat patients suffering from small pox. Existing as



Orchard and Joyce Green Hospitals, Dartford Marshes, 1938
<http://www.britainfromabove.org.uk/image/epw057986>
© Historic England



Orchard in the foreground with the Darent in background 1952.
<http://www.britainfromabove.org.uk/download/EAW044653>
© Historic England

part of the larger Joyce Green Hospital site, the Orchard Hospital opened a year later in 1902. The former Joyce Green and Orchard Hospital is recognised by those interested in local and medical history as being of great cultural and historical significance.

The Orchard Hospital was taken over by the military during the First World War becoming the Dartford Auxiliary Hospital in 1916. In an interesting description of the landscape around the hospital, a newsletter written by the soldiers read as follows:

“There was nothing particularly inviting about the trip from the railway station to the gates. The country looked dark and bleak, nothing that could suggest a happy hunting ground after nature’s bounteous gifts, yet those weary travellers hailed it at last as their haven of rest. A word and a glance were all that passed during the dreary march from the station to the Hospital (a distance of two miles).

At last the Hospital was reached. It had an unattractive and deserted appearance. Nevertheless, those weary travellers hailed it with a sigh of relief. The eye scanned quickly the long rows of timber and iron buildings, weather-beaten, unpainted, unkempt, and a little shudder could not be avoided at the prospect of having this for a future home of probable indefinite period. There was no one in sight; everybody looked glum. At occasional intervals one could see small rays of light peeping through the darkness like small guiding stars from the shacks, called wards. Here was home with a vengeance, and here was work to be done. Here was the home that many a fine Australian lad was to be nursed back to life and health again on his return from the battlefields of France and Flanders. Here, under the care of his Australian comrades, Australian sisterhood, and the science of Australian medical and surgical law he was to smile once again.”

Reproduced from Dartford Hospital Histories by Francine Payne.



The Orchard as an Australian Auxiliary Hospital in 1918

The natural heritage value of the site is reflected in the site's diverse range of habitats, including the former hospital orchard which still survives. Part of the Orchard Hospital site lies within the greater Dartford Marshes Local Wildlife Site. The marshes consist of a large area of grazing marsh which supports a wide range of rare plant species, important over wintering and breeding bird populations and the most important water vole population in the north-west of the county. The Orchard Hospital site also lies adjacent to the Greater Thames Marshes Nature Improvement Area (NIA).

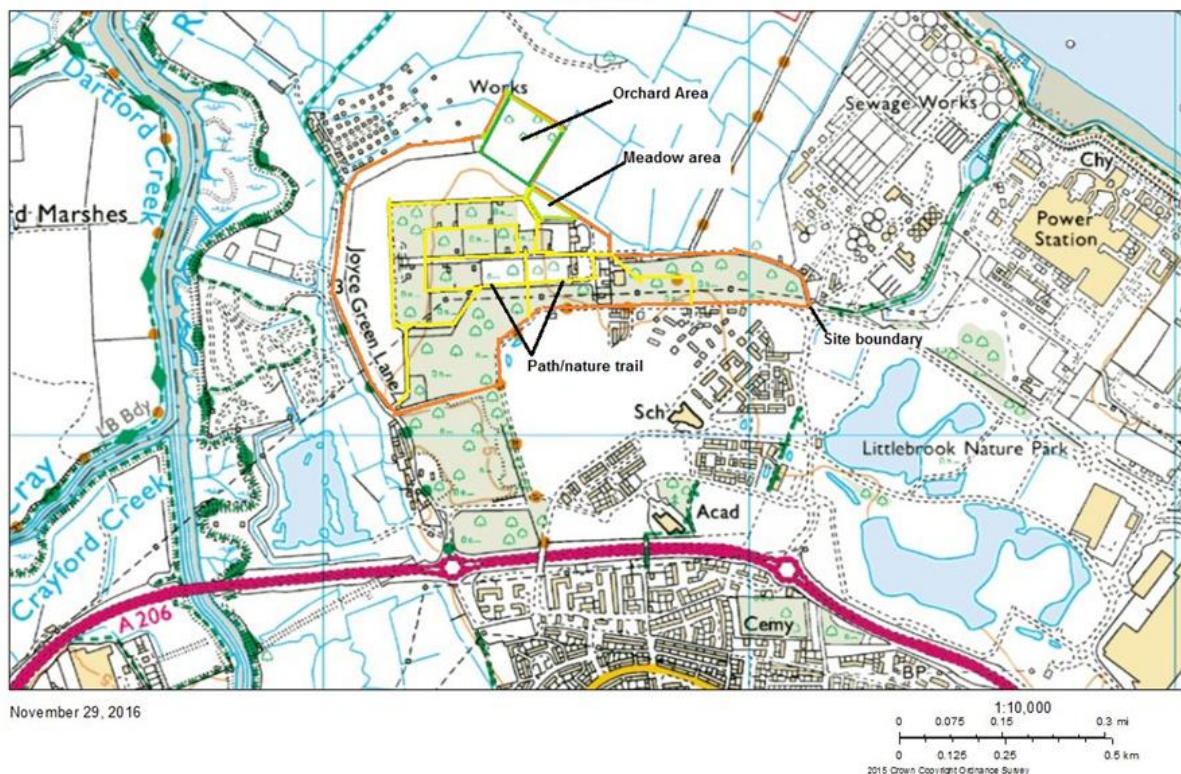


The Orchard Hospital in 1954 with the orchard in the background (<http://dartfordhospitalhistories.org.uk/orchard/orchard-gallery/>)

ISSUES AND THREATS

A current lack of awareness of the cultural and natural heritage amongst residents and visitors represents the main threat to the site. The site's perception as a 'waste ground' has led to its gradual loss and degradation due to a lack of appropriate management and persistent anti-social behaviour. The DVLPS will provide the opportunity to create an accessible and attractive greenspace for the residents of the new Bridge Estate that has been built on the site of the former Joyce Green Hospital, and provide a valuable opportunity for local people and the wider community to re-engage with the area's history and the cultural and natural landscape.

PROJECT DESCRIPTION



It is the long-term aspiration of both Dartford Borough Council and the Bridge Housing Association to manage the site as a community orchard with the fruit being made available for harvesting for local people. The Kent for Orchards Project will provide support to the Residents Association by providing free advice on the management of the orchard and will provide an expert that will be able to identify the different varieties of fruit that are growing on the site. In addition, the Bridge Residents Association will develop links with Brogdale Collections (the home of the National Fruit Collection) by accessing facilities such as their free fruit advice service.

The project will contribute to the aims of the DVLPS by promoting joined up management and partnership working to revive long lost skills (traditional orchard and meadow management). This will be done by empowering local communities and promoting a deeper understanding, appreciation and sustainable conservation of a lost natural and cultural heritage site.

The project will involve Dartford Borough Council, the Bridge Residents Association, the Friends of Dartford Marshes, other local history interest groups (including Dartford Museum) and Francine Payne (author of 'Joyce Green and the River Hospitals') working together to secure the site for the future.

The vision for the site is that by 2022, the historical, natural and cultural heritage of the former Orchard Hospital site will be well known amongst most residents in Dartford and will be a much more valued site. Local communities and interest groups such as the Bridge Residents Association and Friends of Dartford Marshes will have developed the necessary skills and knowledge to be able to sustainably manage the site, and will be actively seeking further funding to take forward long-term plans for the site.

The anti-social activities will have been substantially reduced, and the site will be safer, more welcoming and ecologically diverse. It will be a valued nature and heritage park that provides an improved green space making the area a better place to live, work and visit.



Pear crop from the hospital orchard (Friends of Dartford Marshes)

Theme 2: Historic Darent Valley

2G: DARTFORD MARSHES – ORCHARD HOSPITAL NATURE PARK & COMMUNITY ORCHARD

Activity	Location	Delivery period
Walk over bird survey and report for management plan and orchard restoration plan	Whole site	June 2017 (0.5 days)
Research and collation of information related to the site for Orchard Hospital site management plan	Whole site	December 2017 (2 days)
Management prescriptions for each compartment and habitat type identified on the Orchard Hospital site for management plan	Whole site	July 2017 (2 days)
Botanical survey and report for whole site for management plan including botanical survey and report for orchard restoration plan	Whole site	July 2017 (2 days)
Invertebrate survey and report for management plan and orchard restoration plan	Whole site	July 2017(1 day)
Development of the plan for nature trail.	Whole site	0.5 days in July 2017
Bat survey and report for management for plan and orchard restoration plan	Whole site	August 2017 (0.5 days)
Introduction to conservation skills and ecological site management training course		August 2017 (2 days – prep and delivery)
Practical conservation management – access/rubbish clearance	Whole site	August & October 2017 (2 days)
Practical conservation management – Clearing of bramble	Orchard	Aug–Nov 2017 (2 day/mnth in Aug/Sep and 1 day/mnth in Oct/Nov)
Lichen and bryophyte survey and report for management plan and orchard restoration plan	Whole site	September 2017 (0.5 days)
Fruit Tree Survey and report/orchard restoration plan	Orchard	September 2017 (3days)
Practical conservation management – wildflower meadow creation/management	Wildflower meadow	September 2017 (1 day)
Fungi survey and report for management for plan and orchard restoration plan	Whole site	October 2017 (0.5 days)
Support constitution of volunteer groups and ensure that they have resources to continue work	Whole site/orchard	1 x meeting in Dec 2017 and bi-yearly meetings in 2018/19/20/21
Development of the interpretation plan (in partnership with DVLPs team and local history experts).	Whole site	3 days in 2017
Recruitment of volunteers	Whole site	Ongoing
Orchard Hospital launch event	Whole site	2 days in June 2018
Noble chafer and invertebrate survey and report for restoration plan	Orchard	July 2018 (1.5 days)
Introduction to the management of traditional orchards training course	Orchard	September 2018 (2 days – prep and delivery)
Practical conservation management – orchard	Orchard	2 days per year in 2018, 19, 20, and 21
Wildflower/Orchard walk	Whole site/ orchard	4 x 0.5 days in July, 2018, 19, 20, 21
Bat walk	Whole site/ orchard	4 x 0.5 days in July, 2018, 19, 20, 21
History walk	Whole site/ orchard	4 x 0.5 days in July, 2018, 19, 20, 21
Practical conservation management– access/rubbish clearance	Whole site	2 days per year in 2018, 19, 20, and 21
Practical conservation management wildflower meadow creation/management	Wildflower meadow	2 days per year in 2018, 19, 20, and 21
Implementation of interpretation plan installation etc.	Whole site	2 days in 2020

OUTPUTS AND OUTCOMES

Activity	Outputs	Outcomes
Management Plan	<ul style="list-style-type: none"> • 1 x management plan produced. 	<ul style="list-style-type: none"> • Greater awareness of understanding of the importance of the ecology and heritage.
Orchard restoration plan	<ul style="list-style-type: none"> • 1 x orchard restoration plan produced. 	<ul style="list-style-type: none"> • Traditional orchard management re-introduced.
Orchard management training course	<ul style="list-style-type: none"> • 1 x orchard training course. • 15 participants. 	<ul style="list-style-type: none"> • Greater awareness of traditional orchard management skills.
Conservation management training course	<ul style="list-style-type: none"> • 1 x conservation training course 15 participants. 	<ul style="list-style-type: none"> • Greater awareness of conservation management skills.
Restoration of traditional orchards	<ul style="list-style-type: none"> • 2 hectares of orchard restored. • 140 volunteer days of scrub/bramble clearance/tree management (£50/day). 	<ul style="list-style-type: none"> • Restoration of historic landscape character.
Restoration of wild flower meadow	<ul style="list-style-type: none"> • 200m² of wild flower meadow enhanced. • 90 volunteer days of seeding/plug planting/meadow management (£50/day). 	<ul style="list-style-type: none"> • Restoration of historic landscape character.
Access management	<ul style="list-style-type: none"> • Approx. 2,500 linear metres of access improved. • 100 volunteer days of access management/improvements (£50/day). 	<ul style="list-style-type: none"> • Physical access improved • Local people involved in improving access to heritage.
Interpretation plan	<ul style="list-style-type: none"> • 1 interpretation plan produced. 	<ul style="list-style-type: none"> • Greater awareness of understanding of the importance of the landscape and heritage.
Interpretation/nature trail creation	<ul style="list-style-type: none"> • Approx. 2,500 linear metres of nature trail improved. • 1 x large interpretation boards installed. • 2 x small interpretation boards installed (for orchard and wild flower meadow). • 14 x nature trail way markers installed. • 30 volunteer days of nature trail creation and way marker installation etc. 	<ul style="list-style-type: none"> • Physical access improved. • Local people involved in improving access to heritage. • Greater awareness of understanding of the importance of the landscape and heritage.
Orchard Hospital launch event	<ul style="list-style-type: none"> • 1 x launch event. • 75 people attending. 	<ul style="list-style-type: none"> • Encourages new audiences to engage with a misunderstood site. • Promotes and celebrates the work delivered by the local community and DVLP scheme
Wildflower/Orchard walk	<ul style="list-style-type: none"> • 4 x Wildflower/Orchard walks. • 40 people attending. 	<ul style="list-style-type: none"> • Encourages people to engage with their natural heritage and value it for the future.
Bat walk	<ul style="list-style-type: none"> • 4 x Bat walks. • 80 people attending. 	<ul style="list-style-type: none"> • Encourages people to engage with their natural heritage and value it for the future.
History walk	<ul style="list-style-type: none"> • 4 x history walks. • 40 people attending. 	<ul style="list-style-type: none"> • Promotes awareness and encourages people to take pride in their landscape and value it for the future. • Acts as a vehicle to recruit new supporters and volunteers.



PROJECT RISKS

Risk	How likely	Severity	Consequence	Action required
The remoteness of the location may mean that visitor numbers are low	Medium	Low	Site not utilised to its fullest potential.	Robust publicity through local and social media etc.
Continued occurrences of anti-social behaviour on site	Medium	Low	If it is perceived that the site is unsafe it may deter visitors.	Positive management of the site such as clear site lines and access management will act as a deterrent to those who wish to act irresponsibly on the site. This combined with partnership working with local authority wardens and the police.
Numbers of volunteers is not sufficient to undertake work	Low	Medium	Difficulty in undertaking all the work necessary to restore the site.	Support from the NWKCP volunteers can assist the work in the early stages whilst promotion and publicity work is undertaken to recruit local volunteers.
The Residents Association and the Friends of group do reach the critical mass needed to maintain management of the site	Medium	Medium	The sustainability of the project after the scheme is jeopardised.	NWKCP will remain present in the area after the completion of DVLPS and will be able to supplement the work of the groups when it is required.

TRAINING REQUIRED

Training type	Possible provider
Traditional orchard management training course	Kent Orchards for Everyone Project
Summer & winter pruning course	Kent Orchards for Everyone Project /Brogdale Collections
Grafting	Kent Orchards for Everyone Project/ Brogdale Collections
Management Plan writing	Kent Orchards for Everyone Project
Noble Chafer Beetle – ecology, identification and conservation	Kent Orchards for Everyone Project

MAINTAINING A LEGACY

Beyond the life of DVLPS the vision is that the Orchard Hospital Nature Park will be fully maintained and managed by the Bridge Housing Association in partnership with the Friends of Dartford Marshes. NWKCP will continue working with Dartford Borough Council in supporting the Bridge Housing Association and the Friends of Dartford by offering advice and support where required. NWKCP will also help develop new projects and actively seeking future funding.

The aim is that both The Bridge Residents Association and the Friends of Dartford Marshes will become self-sustaining groups with the skills, knowledge and funding to continue and expand the work at the site, with NWKCP available to provide ongoing support.

LINKS TO OTHER PROJECTS

This project has direct links to the following projects in DVLPS:

- **1C Inspired Palmer Landscapes** – the open landscape of the Dartford Marshes provide inspiration for drawing, painting and other artwork, along with revealing the heritage of the site.
- **1GF Cleaning the Canvas** – This project will support the reporting and collecting evidence of anti-social activities on the site and empowering residents and visitors to reduce unwanted activity.
- **2A Peeling Back the Layers** – Both the DSM and DTM data will be used to inform work on the site, reveal new archaeology and aid the identification of important trees on the site.
- **3A Heart of the Valley: The Darent Valley Path** – The Darent Valley Path runs very close to the site, and the proposed new Darent Valley Cycle Path runs along the old hospital tramline adjacent to the site. By linking to the site and providing interpretation, awareness can be raised amongst a much larger audience.
- **3C Telling the Darent’s Story** – The Orchard and Joyce Green Hospitals have a fascinating and largely lost history for which there is a considerable opportunity to highlight.
- **4B A Woodland Framing** – A direct cultural heritage link exists between the hospital and the Enchanted Woodland at Temple Hill. This link will be emphasised and highlighted through interpretation and events.
- **4C Restoring the Darent** – Works to improve the resilience of the River Darent to the impact of climate change will enhance the setting of the site in this marshland landscape and maintain the character for which it is known.

- **5C Supporting the Land Managers** – The advisory service that will be provided to advise and support with whatever succeeds the Countryside Stewardship Scheme will enable improved management of the surrounding marshland.
- **5D Future Skills** – Vital skills required for managing and interpreting the site will be provided through 5E.
- **5F Engaging New Audiences** – Activities including guided walks and events will be assimilated into this project as part of the wider programme of events.

Theme 2: Historic Darent Valley

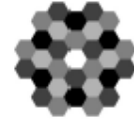
2G: DARTFORD MARSHES – ORCHARD HOSPITAL NATURE PARK & COMMUNITY ORCHARD

PROJECT TIMETABLE

Activity	Year 1			Year 2			Year 3			Year 4			Year 5													
	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May		
Walk over bird survey and report																										
Botanical survey and report																										
Recruitment of volunteers																										
Liaise with Francine Payne, Dartford Museum and local history groups on heritage																										
Management prescriptions for each compartment and habitat typified																										
Invertebrate survey and report																										
Development of the nature trail																										
Introduction to conservation skills and ecological site management training																										
Bat survey and report																										
Access/rubbish clearance work																										
Clearance of bramble																										
Lichen and bryophyte survey																										
Fruit Tree Survey and report/orchard restoration plan																										
Wildflower meadow creation/management																										
Fungi survey and report																										
Research and collation of information related to site for management plan																										
Support constitution of volunteer groups																										
Development of the interpretation plan																										
Orchard Hospital launch event																										
Noble chaffer and invertebrate survey (orchard)																										
Wildflower/Orchard walk																										
Bat walk																										
History walk																										
Introduction to the management of traditional orchards training																										
Practical conservation management – orchard																										
Implementation of interpretation plan installation etc.																										

APPENDIX (2G) 1 LAND REGISTRY INFORMATION

Land Registry



Official copy
of register of
title

Title number K757252

Edition date 27.07.2007

- This official copy shows the entries on the register of title on 27 JAN 2016 at 16:15:47.
- This date must be quoted as the "search from date" in any official search application based on this copy.
- The date at the beginning of an entry is the date on which the entry was made in the register.
- Issued on 27 Jan 2016.
- Under s.67 of the Land Registration Act 2002, this copy is admissible in evidence to the same extent as the original.
- This title is dealt with by Land Registry, Nottingham Office.

A: Property Register

This register describes the land and estate comprised in the title.

KENT : DARTFORD

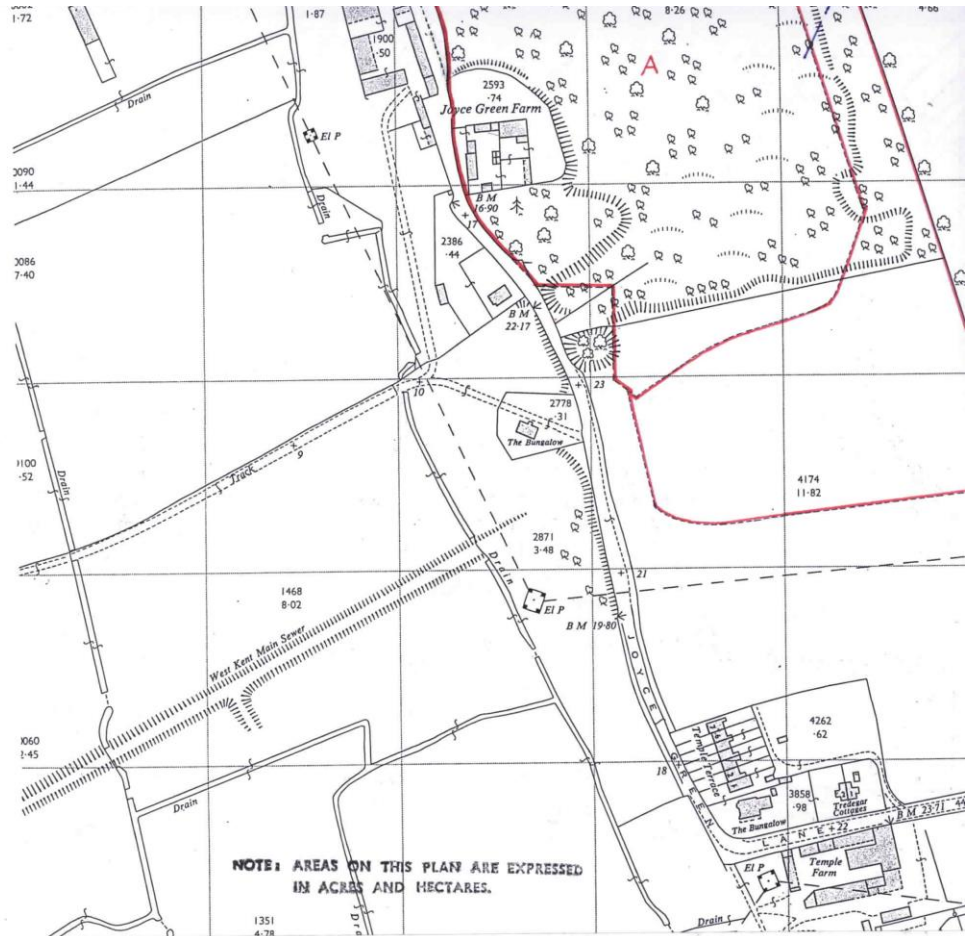
- 1 (05.12.1995) The Freehold land shown edged with red on the plan of the above Title filed at the Registry and being land on the east side of Joyce Green Lane, Dartford.
- 2 (05.12.1995) The land other than that edged and lettered A in red on the title plan has the benefit of the rights granted by but is subject to the rights reserved by the Transfer dated 31 July 1995 referred to in the Charges Register.
- 3 (05.12.1995) The Transfer dated 31 July 1995 referred to in the Charges Register contains provisions relating to light and air the variation of a footpath and other matters.
- 4 (15.12.1997) By a Deed dated 14 October 1997 made between (1) The Secretary of State for Health and (2) University of Greenwich the terms of the Transfer dated 31 July 1995 referred to above were varied.
NOTE: Original filed.
- 5 (15.12.1997) The land edged and lettered A in red on the title plan has the benefit of the rights granted by but is subject to the rights reserved by the Transfer dated 10 November 1997 referred to in the Charges Register.
- 6 (15.12.1997) The Transfer dated 10 November 1997 referred to above contains provisions identical to those contained in the Transfer dated 31 July 1995 referred to above.


B: Proprietorship Register

This register specifies the class of title and identifies the owner. It contains any entries that affect the right of disposal.

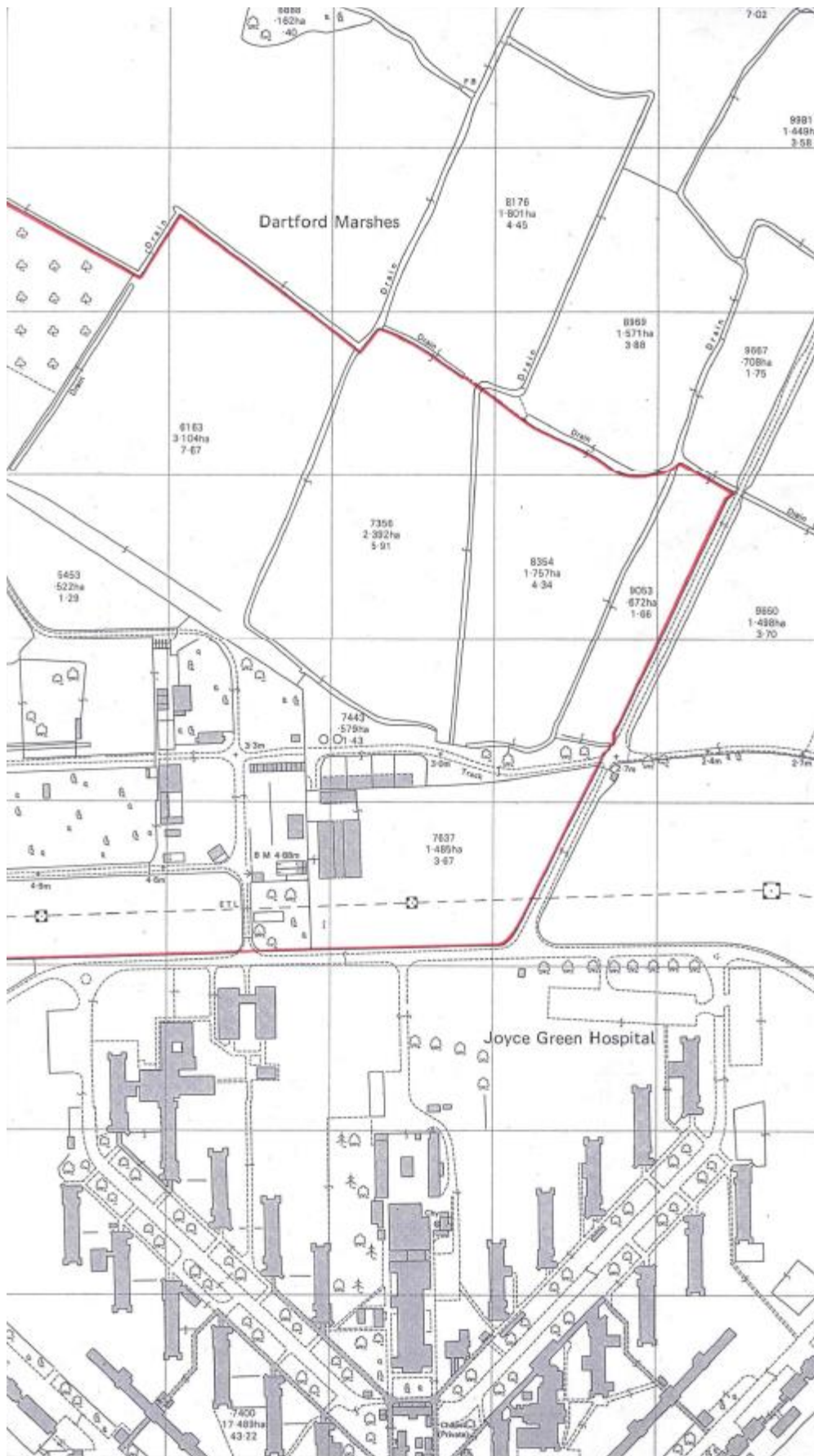
Title absolute

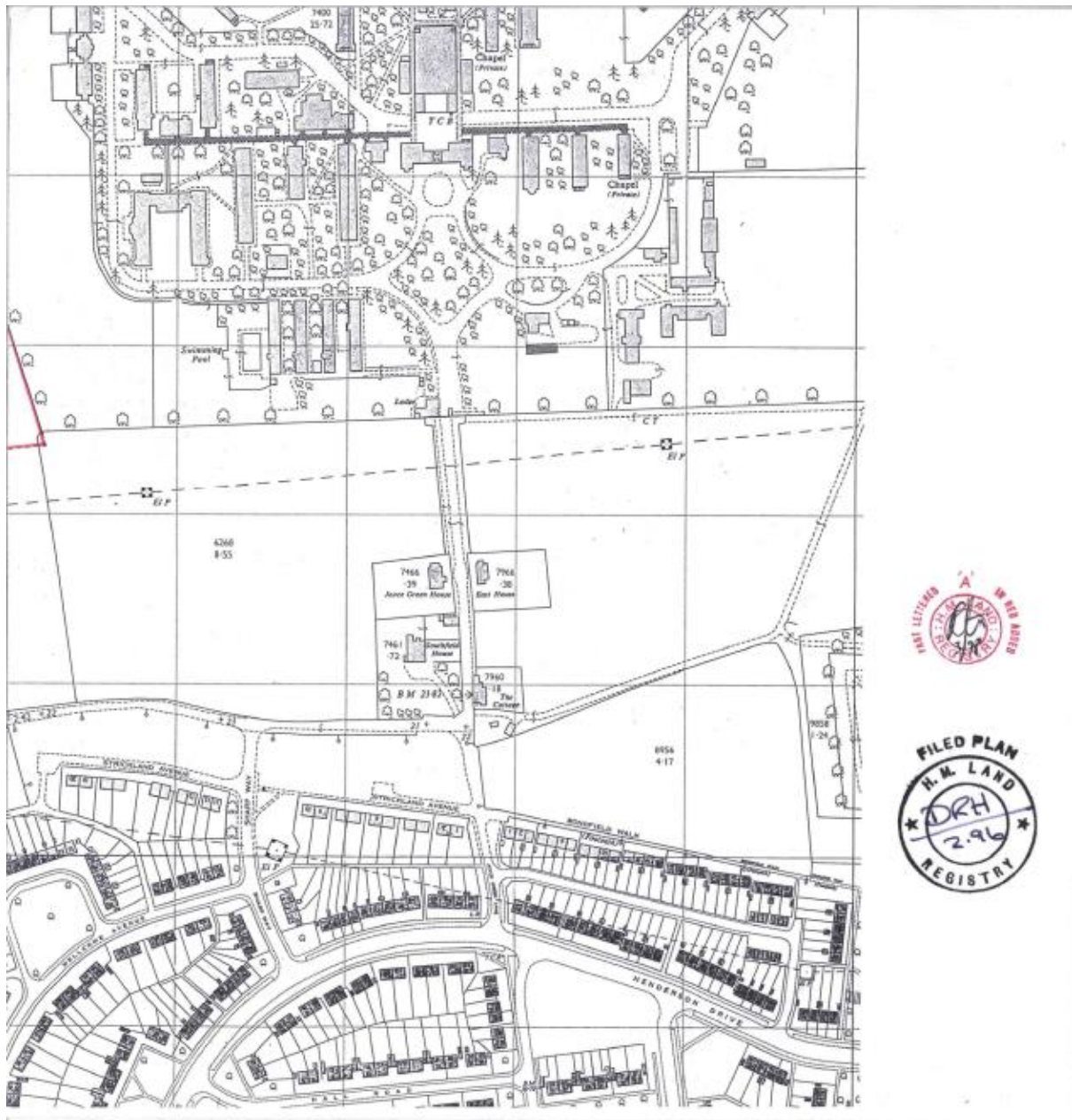
- 1 (31.08.2005) PROPRIETOR: THE DARTFORD BOROUGH COUNCIL of Civic Centre, Home Gardens, Dartford, Kent DA1 1DR.
- 2 (11.10.1999) A Transfer dated 5 August 1999 made between (1) University



H.M. LAND REGISTRY		TITLE NUMBER		
		K757252		
ORDNANCE SURVEY PLAN REFERENCE	TQ 5475 TQ 5476	Scale 1/2500		
COUNTY KENT	DISTRICT DARTFORD		© Crown Copyright	







3A. HEART OF THE VALLEY THE DARENT VALLEY PATH



PROJECT AIM

To improve the standard of the Darent Valley Path (DVP) so that it is befitting of a county promoted route. Where possible make provision for cyclists to either use the path or an alternative parallel route, and enhance links to train stations along the route to encourage sustainable travel. Waymarking and interpretation along the route will be improved and updated to provide a better understanding of the heritage features and will include the launch of Google Trekker street view images of the entire route. The path will be extended from Chipstead to Westerham to provide a 'complete' Darent Valley experience.

DELIVERY LEAD

Darent Valley Landscape Partnership Scheme Delivery Team.

LOCATION AND LAND OWNERSHIP

The Darent Valley Path is 31km long running between the confluence of the River Darent with the Thames, and two end points at Chipstead and Sevenoaks Station. The path runs through multiple land ownership on mainly public rights of way, with two permissive path sections. It passes through Dartford and Sevenoaks, and is close to all the main villages in the valley. The DVLPS already has good

relationships with most landowners and managers on the route. The proposed extension of the path to Westerham is a further 7km in length. Management of the path is undertaken by Kent County Council and is prioritised ahead of other non-promoted routes.

AUDIENCE

The path is a popular route, and at its current length, just about walkable within a day. However, it is mainly used in sections by recreational walkers with some particularly favoured parts. Kent County Council currently promotes a series of circular walks off the Darent Valley Path and these have proven very popular. This project will expand that audience, by promoting access links with train stations and encouraging visitors from outside the valley to reach it by public transport rather than the car. This project will make it easier for novice walkers by improving signage, information and path surface, with a focus on visitors from London who live close to stations that run directly to the Darent Valley. The provision of improved cycle access will also expand the audience to enable greater exploration of the valley without the use of the car.

HERITAGE VALUE

The Darent Valley Path offers the perfect solution for those who want to explore and learn about the valley's heritage. Faithfully following the river along most of its length, it allows walkers to experience the changing landscape, the settlements that have formed along its length and experience much of the heritage found within the valley. There are indications that there may have been an ancient route that followed the floor of the valley, and there is some evidence of this near Darenth. In addition, the route passes by many of the old mill sites along the river as well as some of the important heritage buildings such as Lullingstone Castle, Lullingstone Roman Villa, Eynsford Castle and Dartford Gunpowder Mills. It also provides access to, and views of, much of the natural heritage of the valley. Spectacular views, much enjoyed by locals include that from near Eynsford viaduct overlooking the village of Eynsford, and across the wide expanse of the Dartford Marshes and the mudflats of the River Thames.

ISSUES AND THREATS

Although the Darent Valley Path is a popular route, there are several issues which detract from its potential to enable people to enjoy and experience the heritage of the area. The Darent Valley Path is one of Kent County Council's (KCC's) promoted routes, but there is a clear hierarchy for prioritising investment in public rights of way. The DVP has a Network Priority Status of 'A' within the Kent Countryside Access Improvement Plan, which places it ahead of most rights of way in the county. However, in an environment of reducing revenue budgets, public safety issues, those with legal deadlines, pro-active asset management and obstructions are all prioritised ahead of waymarking.

Many sections of the DVP, especially where it is close to the river, have poor surface conditions. Where there is regular inundation from the river, sections can become almost impossible to use. Some of these have been addressed in recent years, and there has been considerable investment along the DVP where it passes through Dartford. However, as this investment has been focused in specific areas, it has led to an inconsistency in the quality of the path and the walking experience.

There has been considerable demand for more multi-user access along the Darent Valley Path. Consultation carried out for the Sevenoaks Community Strategy demonstrated that many people

would like to see an increase in the availability of traffic-free cycling through the Darent Valley. Currently, the path surface of the DVP is not suitable to provide this, and most of the route is on public footpaths where cycle access is not allowed. Path widths are also not conducive to shared use and there is some concern from local communities as to how this can be delivered with conflict between users.

Car use in the valley is considered by many to be at a level that is largely unsustainable if landscape character and quality of the environment is to be maintained. However, joined-up public transport is not currently provided or sufficiently promoted, and is generally not considered as a viable alternative. In addition, pedestrian links from the railway stations to the DVP require improvement if train travel is to be promoted.

Most of the interpretation along the DVP is aged, dating back around 25 years. The information provided is out of date and many panels and waymarker posts have been vandalised. There is considerable demand for a guidebook, the original and very popular version is now twenty years old and out of print. It was however an extremely popular guide, and a lack of information in this form prevents many from using the route.



PROJECT DESCRIPTION

Sustrans, the sustainable transport charity, was commissioned to undertake a feasibility report on 'Low Carbon Access in the Darent Valley'. This formed the basis for prioritising work on the path and enhancing it for cycle access. The objectives were:

- a) Identify a potential route for a Darent Valley Cycle Way
- b) Identification of linking routes to train stations, neighbouring urban areas and tourist destinations
- c) Identification of potential innovative and creative techniques to further enhance low carbon access to the landscape of the Darent Valley, including:
 - Electric bikes with charge points and possible hire locations
 - Solar powered lighting
 - Regenerative energy surfaces
 - Solar panel embedded cycle paths
- d) Identification of the feasibility of implementing the techniques identified in objective 3, and the identification of potential European partners to share best practice on the development of these options.

This provided a suggested route, specifications and costings for delivering these enhancements. Sustrans estimated that to undertake improvements to the entire DVP between Sevenoaks and the Thames, enable cycle access and provide links to stations would cost £945,400. This is beyond the provision that the DVLPS can provide, and therefore the activities within this project plan will address where the issues are greatest and provide a starting point for further improvements to the path.

At the time of the stage 2 submission to the Heritage Lottery Fund, the DVLP was waiting for a decision regarding an Interreg 2 Seas submission entitled LOWCAR. LOWCAR would deliver against the programme priority of 'Low carbon technologies' and against the specific objective to '*Increase the adoption of low carbon technologies and applications in sectors that have the potential for a high reduction in greenhouse gas emissions*'. This project was resubmitted in December 2016 having been referred back on technical issues. Unfortunately, shortly before submission of this LCAP, the DVLP was informed that LOWCAR had been unsuccessful.

As with other Interreg projects within the DVLPS, there would have been a requirement for co-operative cross-border working in the development of approaches, solutions and specifications. Consequently, the specific project details would have been influenced by the input, knowledge and expertise of UK and European partners. Although this will now not be possible, the project already had clear intentions and indications as to what would be delivered and the outputs and outcomes that will be realised.

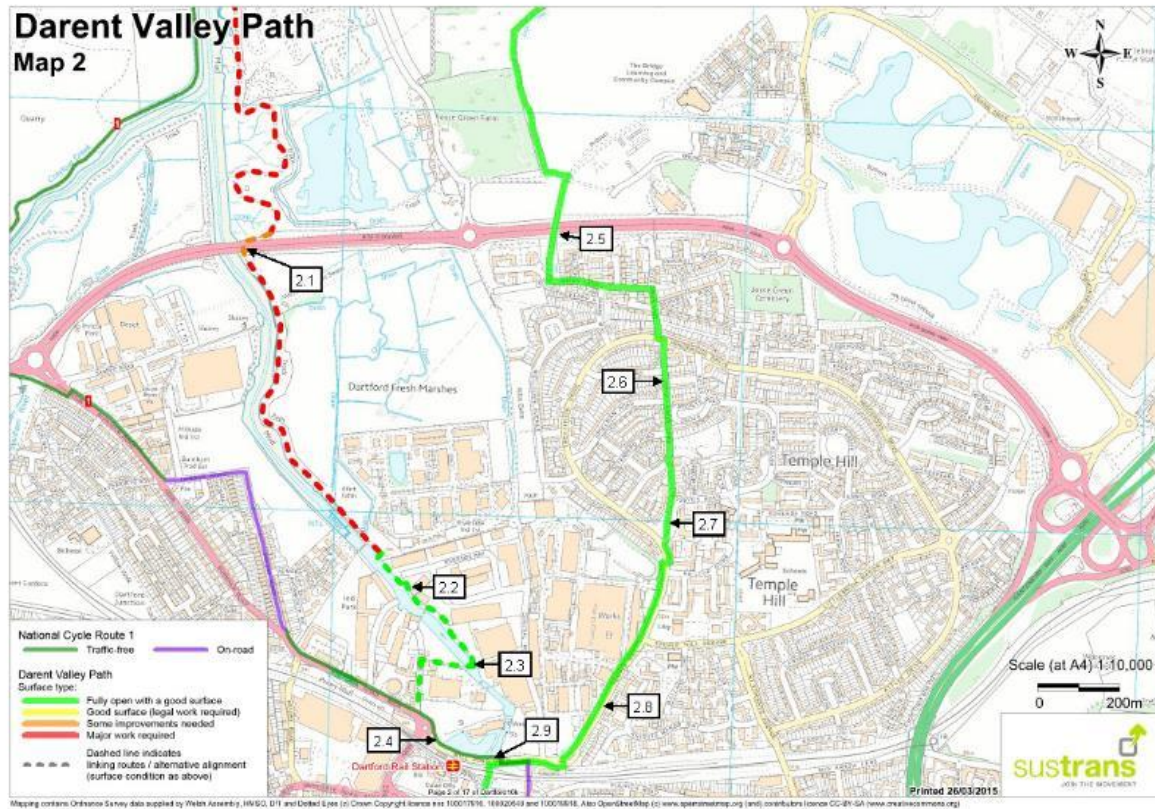
1. DELIVERY OF IMPROVEMENTS ON THE EXISTING DARENT VALLEY PATH

Several sections have been identified for improvement through the low carbon access study. These have been assigned a priority status to enable the most cost-effective allocation of funding. Priority A sections are those requiring the most urgent attention, followed by priority B and then C. Priority A sections are included in the budget for delivery in DVLPS, and priority B and C sections will be included if cost savings are made or further funding becomes available.

The standard specification for surfacing is provided in appendix 1 on page 214.

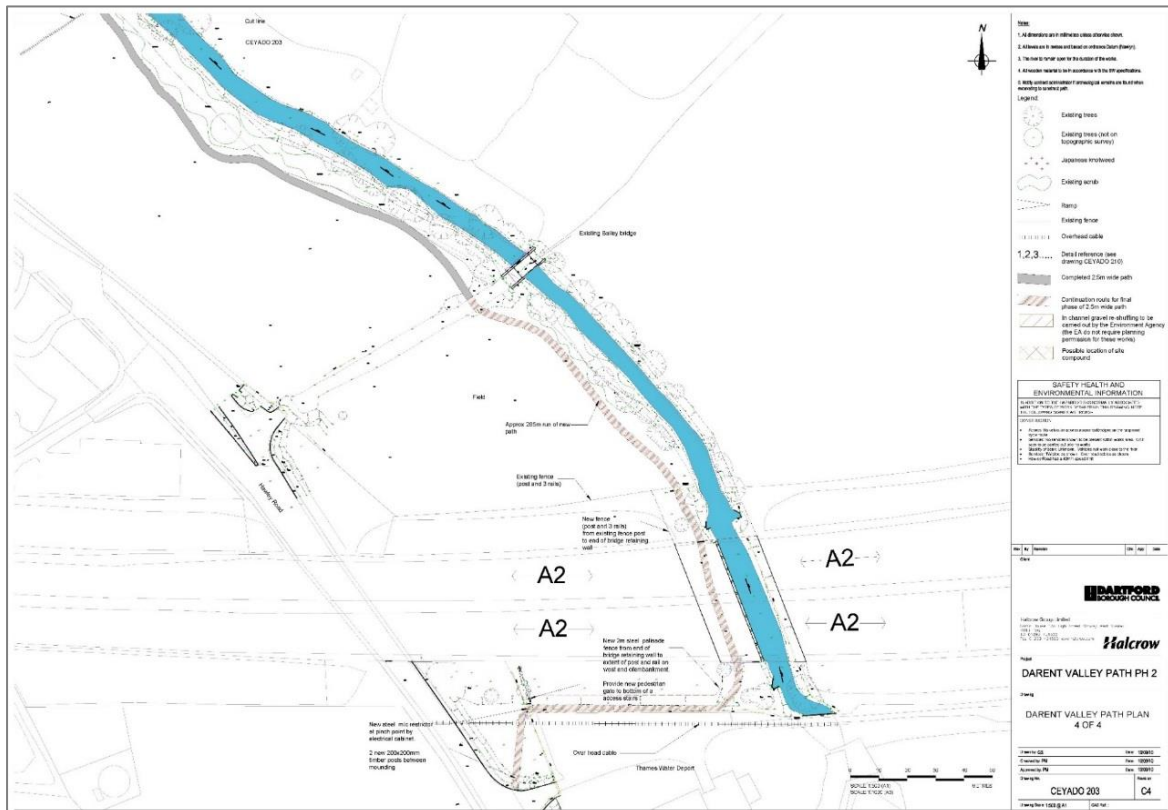
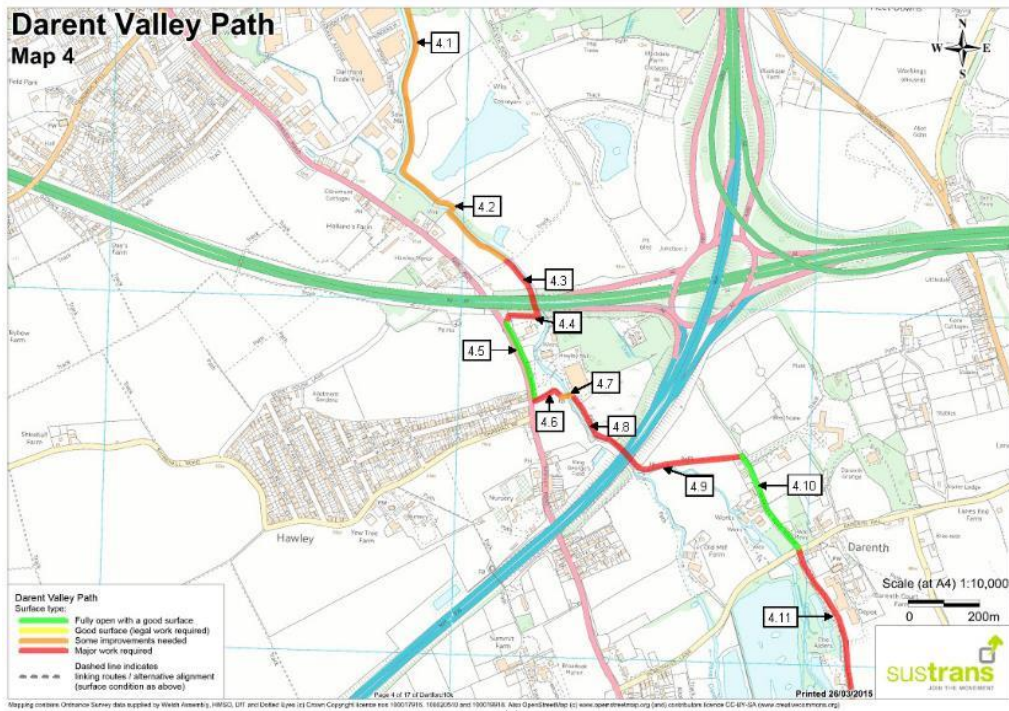
4.1 BOB DUNN WAY UNDERPASS, DARTFORD (ITEM 2.1)

PRIORITY B. Section output: Galvanised raised porous floor to reduce silt accumulation in underpass. Addition of 10m of bespoke security metal post and rail fencing and heavy duty kissing gate to prevent motor cycle access. **Total cost £** [REDACTED]



4.2 A2 UNDERPASS AT HAWLEY (4.3 & 4.4)

PRIORITY B. Section output: Extension of surfaced path by 265m adjacent to river and underneath the A2 bridge and linking back to the A225. Installation of 30m of post and 3-rail fencing under bridge and 60m of black powder coated palisade fencing along new embankment on south side of underpass. Earthworks as required to provide gradient up to A225. Installation of motorcycle inhibitor at A225.
 Cost: £ [REDACTED]



4.3 M25 UNDERPASS BETWEEN HAWLEY AND DARENTH (4.6 - 4.9 ON MAP ON PAGE 196)

PRIORITY A

Section outputs:

Section 4.6: Public footpath leading down from the A225 back to the river currently narrow and overgrown. Construction of new path to standard specifications if landowner consents. If not, clearance and surfacing of existing path to standard specifications.

Section 4.7: Replacement of existing footbridge over river to provide wider access for shared use.

Section 4.8 Widen riverside path for 200 metres to the substantial M25 bridge, with more than adequate headroom.

Section 4.9 Surfacing of public footpath to standard specification splits at a substantial bridge over two branches of the river. One footpath continues beside the river to Old Mill Farm. Another footpath crosses an open field to Darenth Road South to Darenth village.

Cost: £ [REDACTED]

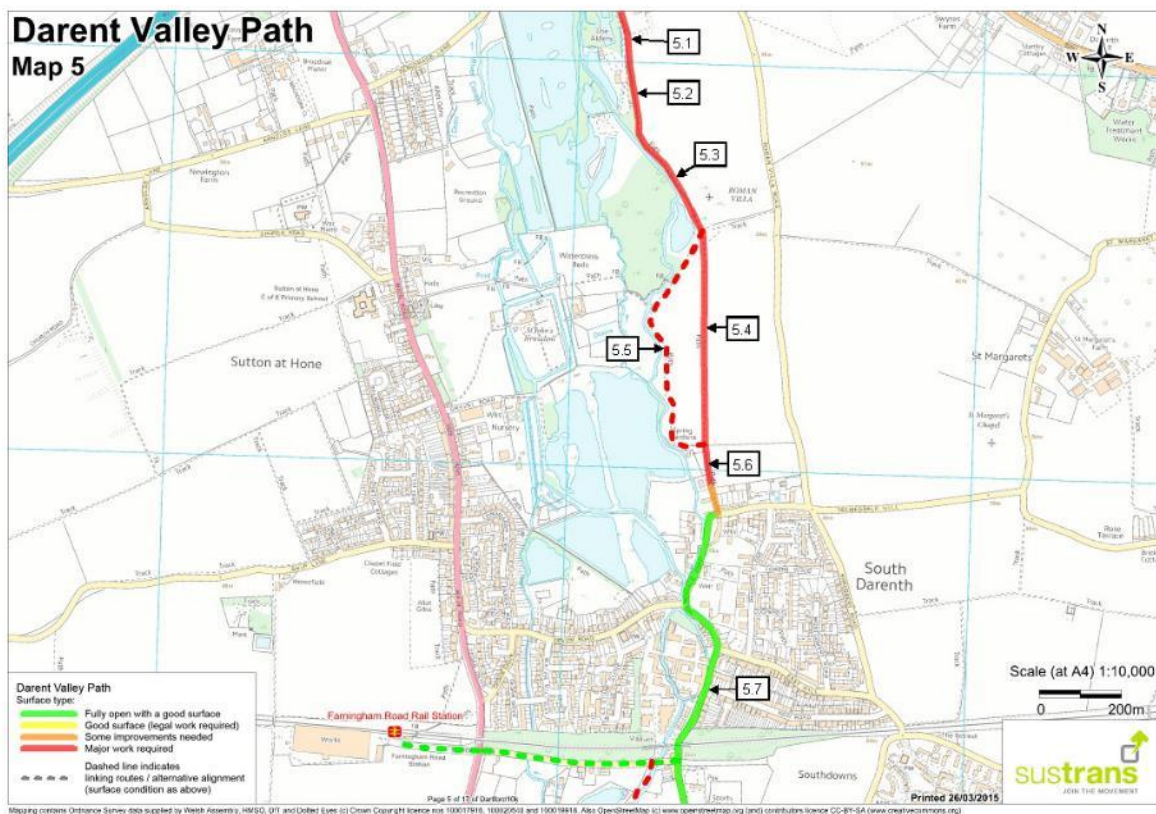
4.4 SOUTH DARENTH (POINTS 5.1 TO 5.6)

PRIORITY B. Section outputs:

Section 5.1: Installation of graded ramp to replace existing steps.

Section 5.2, 5.3, 5.5 and 5.6 Path widening and field edge surfacing (1.3km) to standard specification.

Cost: £ [REDACTED]



4.5 HORTON KIRBY (POINT 6.1)

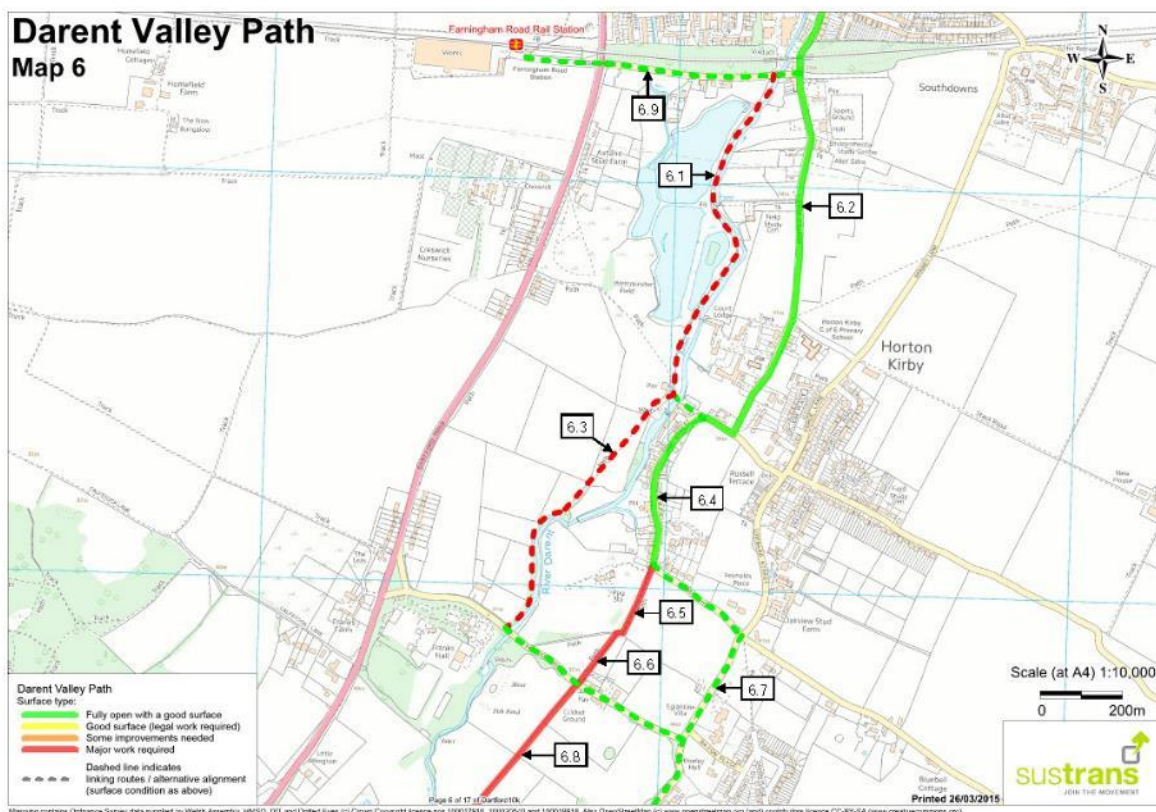
PRIORITY A. Poor quality surface for 800m currently subject to some inundation during high river flows leading to very muddy conditions. Used regularly by Wide Horizons to access Westminster Fields and linking walking route from Horton Kirby to Farningham Road Station.

Section Outputs:

Section 6.1: A popular section of path and request for improvement from Wide Horizons and Horton Kirby and South Darent Parish Council.

Build up and surface to standard shared-use specifications.

Cost: £ [REDACTED]



4.6 FARNINGHAM (7.2 TO 7.5)

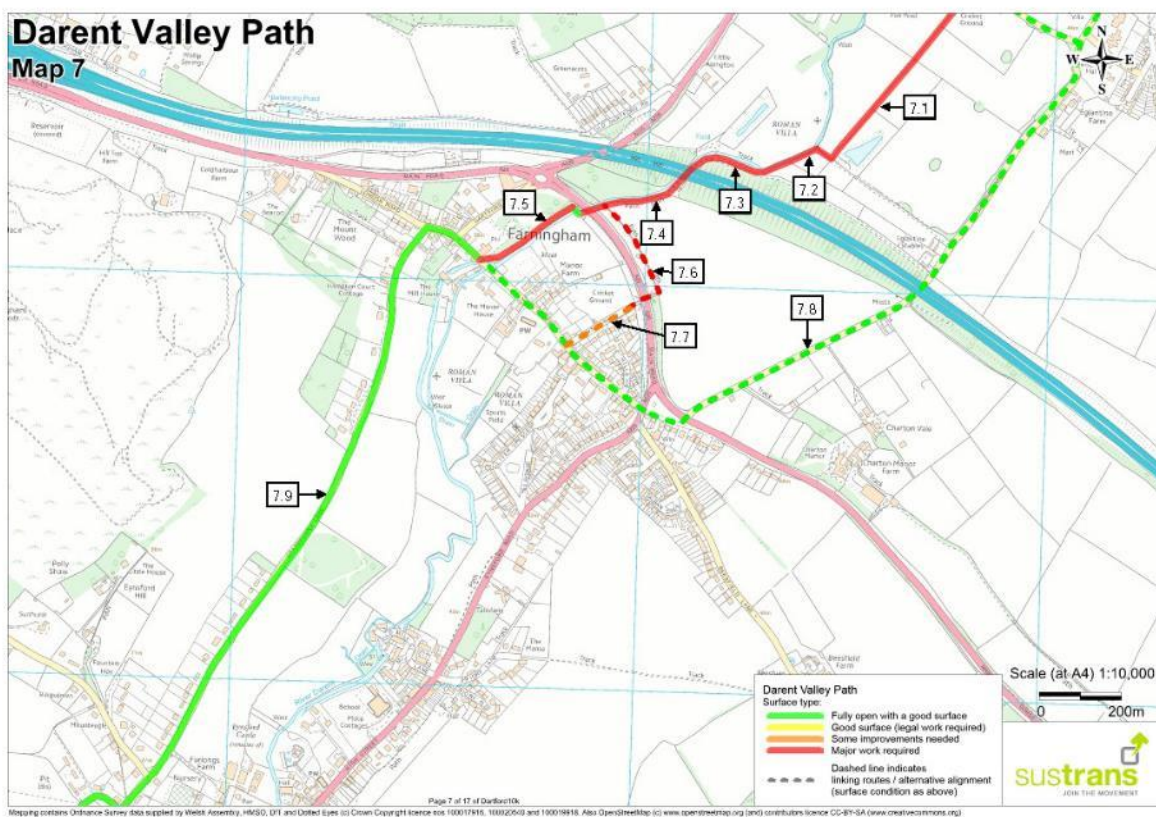
PRIORITY B. Well-used but variable quality section of permissive path. Improvement of surface only required for walkers as recommended route for cyclists will be alternative quiet roads.

Section outputs:

Section 7.2: Replacement of 150m of barbed wire fencing with traditional post and double-rail cleft chestnut fencing adjacent to path in return for widening of path by one metre.

Sections 7.2 to 7.5: Surfacing to standard pedestrian specification for 650m

Cost: £ [REDACTED]



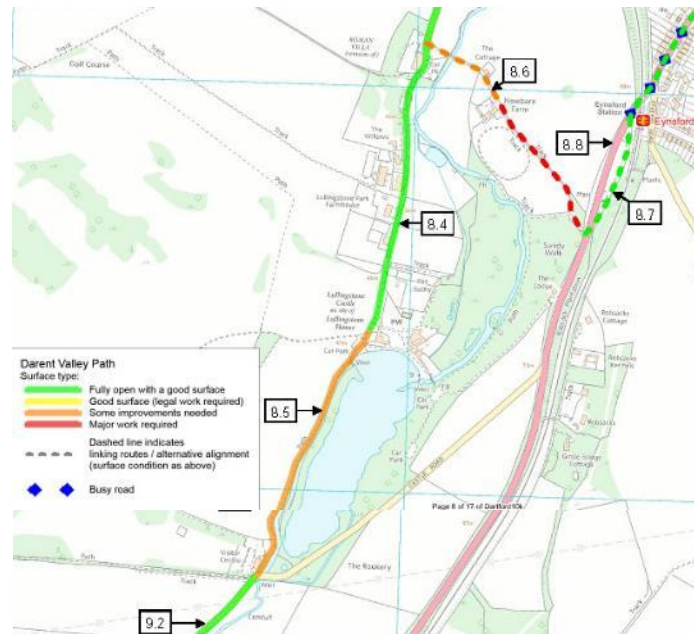
4.7 EYNSFORD (SECTION 8.5)

PRIORITY A. One of the most walked sections of the Darent Valley Path adjacent to the Lullingstone Park Visitor Centre linking the country park to Lullingstone Castle and onto Lullingstone Roman Villa. Entirely a permissive section of path subject to an agreement between Kent County Council and Guy Hart-Dyke of Lullingstone Castle.

Section outputs:

Surfacing and improvement of 676m of riverside path to standard pedestrian specification. Negotiation with adjacent landowners (James and Robert Alexander) to formally adopt the well-used field margin for cycle use.

Cost: £ [REDACTED]



4.8 LINK TO EYNSFORD STATION (8.6 TO 8.8)

An excellent opportunity to provide a usable link from Eynsford Station. Two options investigated:

- a) Path descends directly from Eynsford Station platform via steps or ramp system to recessed layby off A225. Users can then walk or cycle the length of the layby to cross the A225 and down past Newbarn Farm (8.6) to Lullingstone Villa. This requires permission from Network Rail and extension of the 30mph limit out from the village to ensure safe crossing conditions.

Cost: £ [REDACTED]

- b) Alternatively, access from the station is down Upper Austin Lodge Road, cross the A225 and walk on the western verge of the road until reach the path down to Newbarn Farm. This route is less attractive due to difficult road crossing and proximity to fast moving vehicles. Cost:

£ [REDACTED]

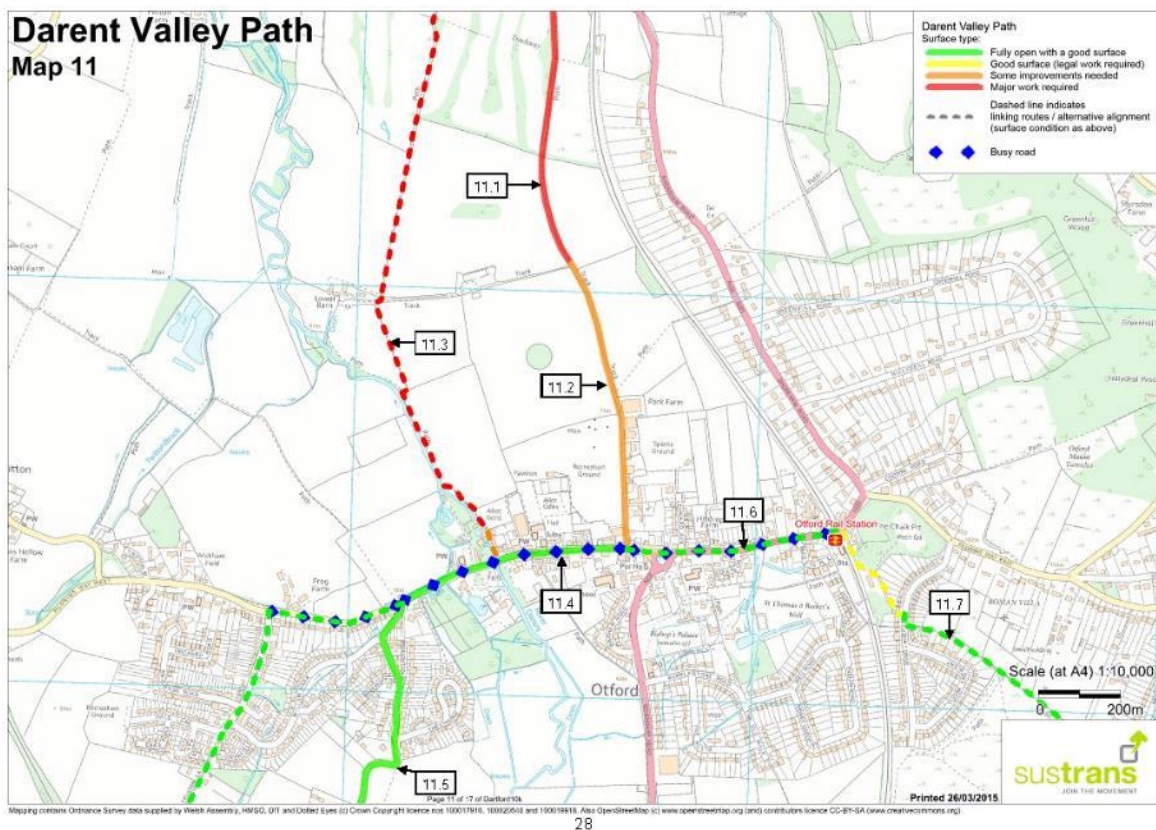
4.9 OTFORD (11.1)

PRIORITY C. The existing Darent Valley Path is of good quality. Bridleway running parallel and adjacent to the Darent Valley Golf Course provides an alternative shared use route to remove conflict. Liaison with horseriders is required to ensure that material used is hard-wearing but conducive to equestrian use.

Section output:

Section 11.1: Requires 760m of surfacing to shared-use specification.

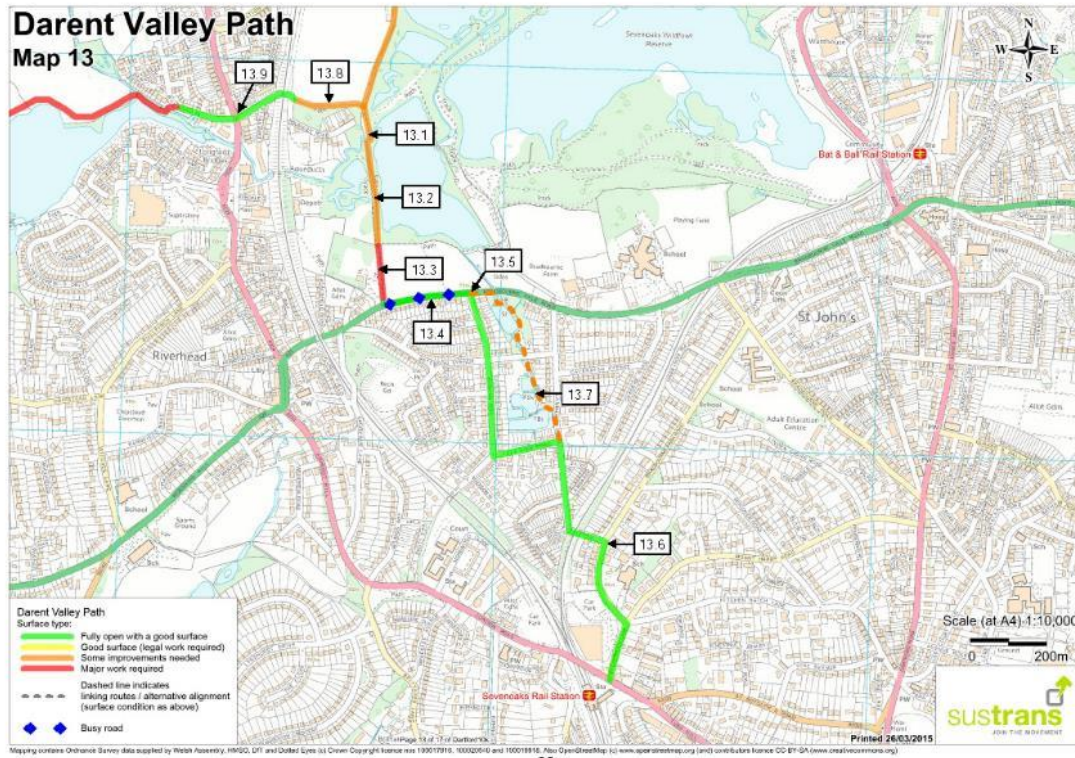
Cost: £ [REDACTED]



4.10 SEVENOAKS (13.8)

PRIORITY A. The proposed extension route to Westerham branches off the existing route on a public footpath which has been surfaced to the same standard. Unfortunately, the two paths are linked with a new flight of shallow steps (section 13.8), to be replaced with a graded ramp.

Cost: £ [REDACTED]



SUMMARY OF COSTS FOR EXISTING PATH

Ref	Section Name	Priority	Cost
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
PRIORITY A TOTAL			[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
PRIORITY B TOTAL			[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
PRIORITY C TOTAL			£75,000

The sections have been prioritised as there is not capacity to deliver all improvements. Priority A projects are included in the DVLPS, whilst lower priority sections will be delivered if further funding becomes available (i.e. through Interreg underspend) or after advice from European partners.

2. EXTENSION OF THE DARENT VALLEY PATH FROM CHIPSTEAD TO WESTERHAM



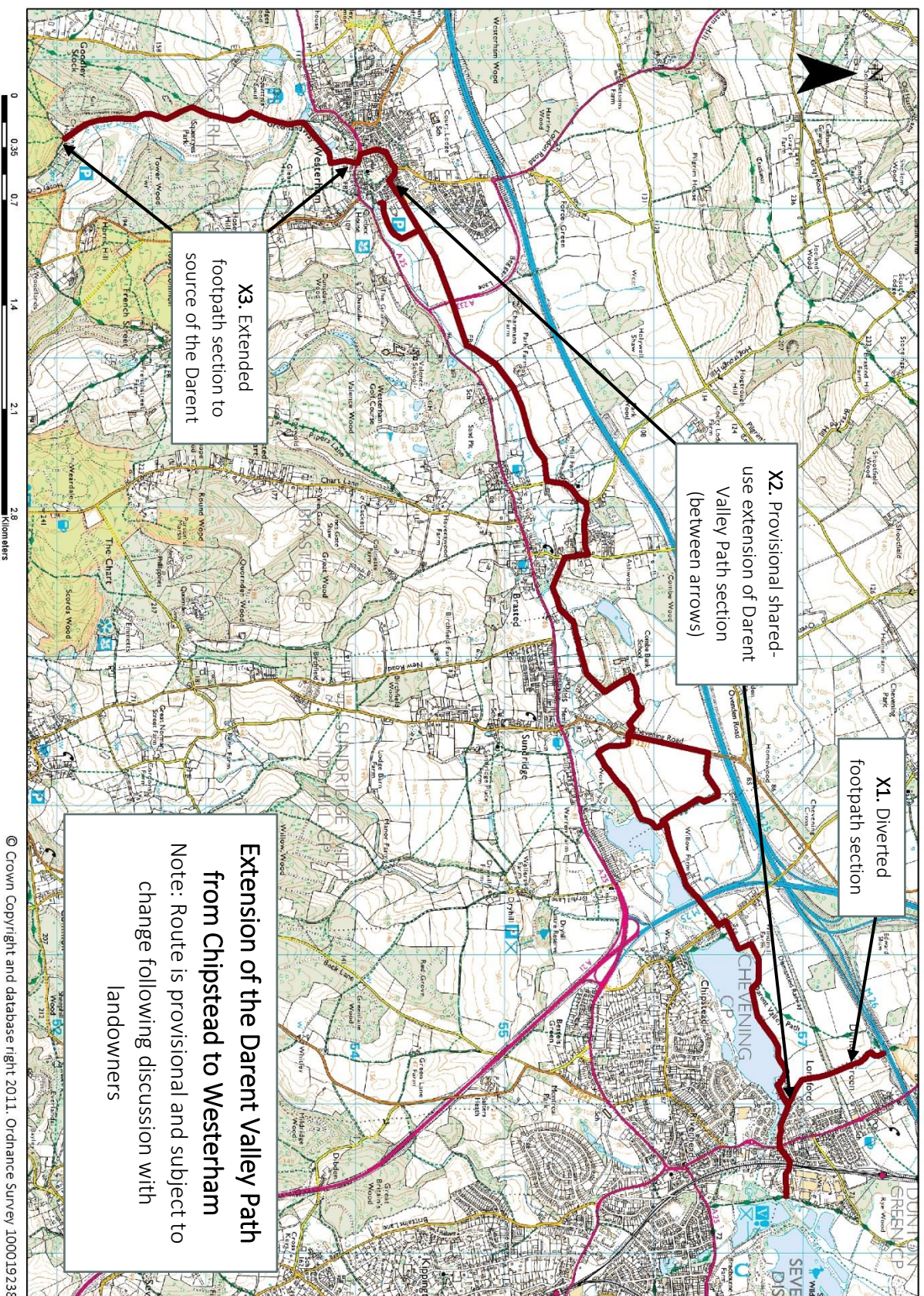
The extension of the Darent Valley Path through the Upper Darent Valley (West) Sub-Character Area was highlighted as a significant priority for the communities found there. Currently there is no facility for walkers or cyclists to travel to Sevenoaks except along the busy A25. This presents a challenge for even the most confident of cyclists and with traffic (including freight) travelling at speeds of 50mph or more in close proximity.

In addition, an extension to the path provides a route that runs through the entire valley. The recently opened Westerham Valley Farm which houses the Squerryes Wine Tasting Room and Westerham Brewery Tap Room and Shop, provides a new tourist destination. With the proposed route passing close to this location, there is a combined will to provide a sustainable transport route.

It is important to note that existing public path provision does not exist for much of this extension, and therefore requires negotiation with individual landowners. The Squerryes Estate, Sundridge-with-Ide Hill Parish Council, Radnor House, Chipstead Lakes have all confirmed that they are open to this path provision, but negotiation is still required with the Chevening Estate and others. Therefore, the route shown on the map overleaf is not confirmed and at the time of submission is provisional. **It does not indicate that there is currently public access or indeed will be in the future, and is subject to negotiation.** Delivery of this project, will follow Sustrans' recommended guidelines. This involves the following stages:

- Discussion and negotiation with landowners to identify preferred route.
- Landowners agreement in principle.
- Enable permissive access along with formal permissive path agreement.
- If considered appropriate, establish designated route either through creation of a public bridleway or through the Cycle Tracks Act.

Surfacing the entire extension route to shared use specifications is not feasible within the budget of the DVLPS as this would require an investment of approximately £240,000. However, there is the potential to use existing farm tracks and access roads in many circumstances, and this would enable use by bicycles with some off-road capabilities e.g. mountain bikes, gravel bikes and hybrids. Depending on the final route agreed, 1,800m of surfacing is anticipated to be required. This will require an investment of £ [REDACTED]



3. WAYMARKING AND INFRASTRUCTURE

Adequate waymarking of the route is vital prerequisite for ensuring that the DVP is usable and fit for purpose. This is particularly important as users have an expectation of what a promoted route will provide and the audience for this project includes those that are less confident in their ability to navigate. Appropriate waymarking and signage instils this confidence and reassures the user that they are not lost and remain on the path. The quality of the waymarking is generally assessed as good, but some posts and signs are reaching the end of their functional life and require replacement.

These posts will be provided as an in-kind contribution by Kent County Council public rights of way and will include oak fingerposts routed with Darent Valley Path specific text, and shorter waymarker posts to provide directional guidance at junctions and reassurance along extended sections of straight paths.

Preliminary surveys suggest that 500 waymarker posts and 40 fingerposts will require installing during the life of the project. These will be installed either by contractors (as part of the KCC contract and therefore an in-kind contribution) or by volunteers under the supervision of one of the conservation organisations that operate in the valley.

In addition, there are approximately 10 stiles that remain on the pedestrian sections of the Darent Valley Path and these will be replaced with kissing gates. KCC will provide a 75% contribution to the cost of these.

SUMMARY OF COSTS FOR WAYMARKING AND INFRASTRUCTURE

Items	Number	Supply	Installation	Cost
Waymarker posts	500	£10	£22	£16,000
Fingerposts	40	£40	£75	£4,600
Kissing Gates	10	£240	£110	£3,500
Motorcycle inhibitors	10	£300	£150	£4,500
				£28,600

4. PATH INTERPRETATION

GATEWAY INTERPRETATION

Existing information boards (pre-1997) will be replaced at gateway locations on the Darent Valley Path and wider landscape. 10 locations are proposed:

1. Dartford Marshes (start/end of DVP).
2. Central Park in Dartford (on library wall to replace existing board. Busy thoroughfare section)
3. Horton Kirby/South Darent (exact location TBC)
4. Lion Inn Farningham on DVP near to Cattle screen
5. Eynsford riverside (popular area for visitors including families)
6. Shoreham riverside (popular area for visitors)
7. Otford car park (main hub for visitors to Otford as no other parking)
8. Chipstead Lakes (start/end of DVP)
9. Sevenoaks train station (start/end of DVP)
10. Westerham Green (as awareness of Westerham as part of DV is low)

Theme 3: Darent Valley Exploration

3A. HEART OF THE VALLEY – THE DARENT VALLEY PATH

The gateway interpretation will incorporate the watercolour style map showing key sites, locations and areas throughout the whole of the Darent Valley. It will be to scale with 'you are here' signs added for each location. An interactive version of this map will also be made available on the DVLPS website. It is anticipated that the panel frame will complement the interpretive text introducing the Darent Valley and perhaps include an arrow to the Darent Valley Path.

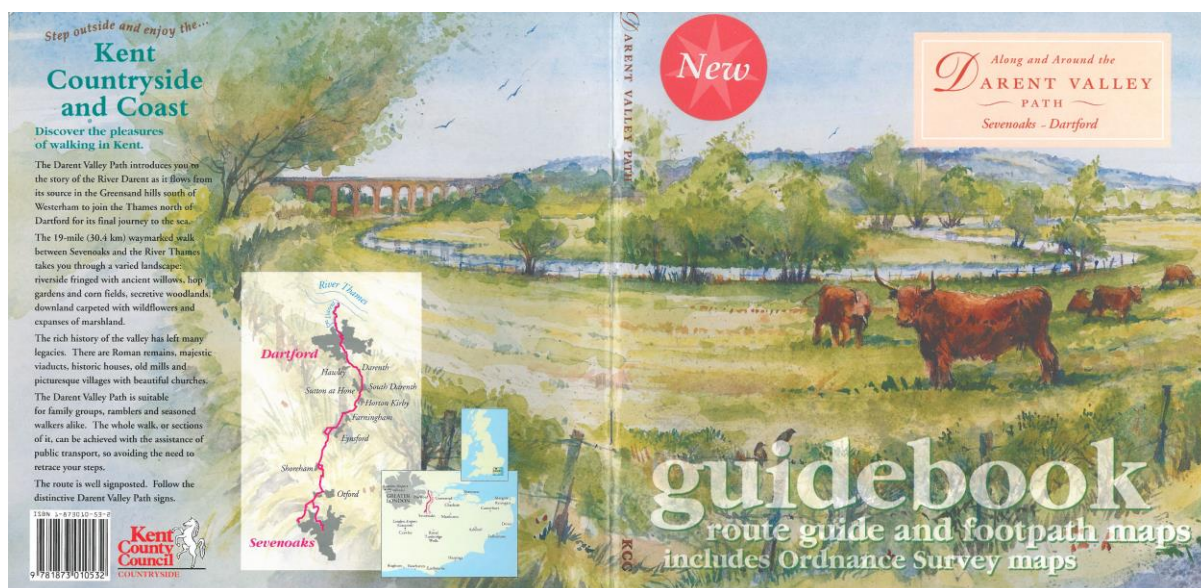
Text will look to enthuse audiences to explore the Darent Valley. Each gateway interpretation is to have relevance to that location i.e.: specific information about things to do in that area, circular routes etc.

Each gateway will have a Near Field Communication (NFC) tag to link to relevant circular walks / other trail downloadable leaflets on the DVLPS website.

The gateway interpretation will be the same at each location, just with some amendments to text to make it more locally relevant to the setting of each gateway interpretation.

Total Cost: £ [REDACTED] (Installation, design of panel, gateway frame – approx. £ [REDACTED] per site).

DVLPS GUIDEBOOK



The Darent Valley Path guidebook which is currently out of print will be reviewed and re-printed. The structure and layout will remain much the same but with updated information and appearance included where necessary. Artwork created through DVLPS inspired landscapes and other projects, will be incorporated into the guidebook where appropriate.

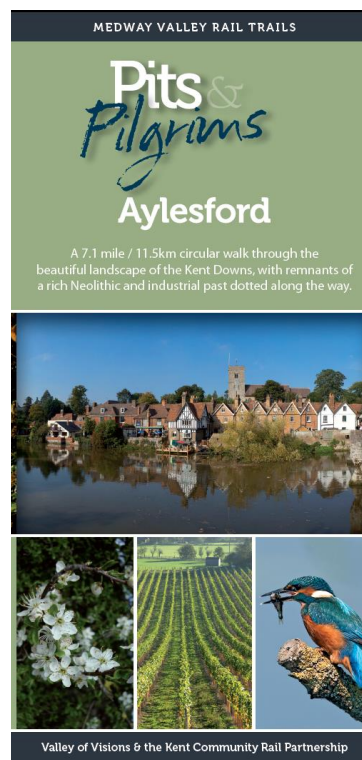
Cost: £ [REDACTED] (design and type setting costs); £ [REDACTED] - Water colour illustrations; £ [REDACTED] - Print costs for 2,000 copies.

Total cost: £ [REDACTED]

DARENT VALLEY RAIL TRAILS

Create 15 circular and linear walks using existing public rights of way and existing walking routes (if appropriate) from and between nine stations in the Darent Valley, promoted in a leaflet pack. Walks will be varying distance and difficulty.

1. Dunton Green train station to Sevenoaks Wildlife Reserve via the Darent Valley Path (circular)
2. Dunton Green train station to Sevenoaks train station (linear)
3. Otford train station to Otford village (village heritage trail) (circular)
4. Otford train station to Kemsing along the North Downs Way (linear)
5. Otford train station to Dunton Green train station along the North Downs Way / Darent Valley Path (linear)
6. Otford train station to Shoreham train station (linear)
7. Shoreham train station around Shoreham village (circular)
8. Shoreham train station to chalk jewels (circular)
9. Shoreham train station to Eynsford train station via Lullingstone Country Park (linear)
10. Eynsford train station to Farningham Road train station (via the Darent Valley Path) (linear)
11. Eynsford train station around the village (circular)
12. Farningham Road station to Horton Kirby (with extension to Farningham) (circular)
13. Farningham Road station to South Darenth and Darenth (SJJ) (circular)
14. Dartford train station to Enchanted Woodland, Dartford Marshes, Dartford Creek (circular)
15. Dartford train station to Central Park, Brooklands lakes and Dartford Gunpowder Mill (circular)



Routes will be devised by DVLPS delivery team in partnership with Explore Kent and other partners, and will make use of existing routes where appropriate. Stations are – Sevenoaks, Bat and Ball, Dunton Green, Shoreham, Otford, Eynsford, Dartford, Farningham Road, Kemsing.

Total Cost: £ [REDACTED] (based on design and print of 15 DL leaflets and 1 insert, encapsulated and presented in clear wallet, 5000 copies)

TRAIN STATION POINTER SIGNAGE

A fingerpost or equivalent will be installed at each of nine train stations in the Darent Valley pointing to the Darent Valley Path (for those that may not have the Rail Trail leaflet pack). Accompanying large posters on platforms at each train station ‘explore the Darent Valley – it’s all around you’ and potentially on the train as well.

Bluetooth Beacon at each train station raising the profile of the Darent Valley and encouraging train users / commuters to consider exploring the area. **Total cost: £** [REDACTED]

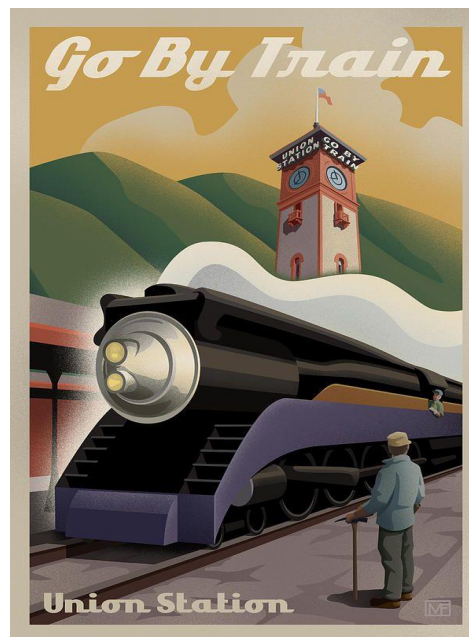
INTERPRETATION AT TRAIN STATIONS OUTSIDE THE DARENT VALLEY

Catford to Swanley – call to action style poster to promote visits to the Darent Valley (include QR code to link to Rail Trails pack) and investigate using Bluetooth beacon to promote Rail Trails.

There are nine stations along the train line from SE London with a direct link into the Darent Valley: Catford, Bellingham, Beckenham Hill, Ravensbourne, Shortlands, Bromley South, Bickley, St Mary Cray, Swanley. It is recommended that posters at all stations are accommodated (dependent on response from Southeastern and Thameslink).

There is also the potential to investigate on-board promotion too.

Total cost: £ [REDACTED]



GOOGLE TREKKER

The DVLPS has already established a good relationship with Google and has used its Trekker image recording along the current route. This was completed during the development phase with local volunteers who captured Street View images of the whole route. This is currently being processed by Google and will be launched online early in year 1 of the scheme. It will enable new visitors to the valley to explore the path before they visit it to act as a 'taster' before they walk it in 'real life'. It will also act to give confidence to novice walkers as to what the terrain is like and what to anticipate before they get there. The hosting is provided for free by Google on their Google Maps page along with other Street View images, and these will also be embedded on the DVLPS website.

The DVLPS is currently negotiating with Google to undertake further Trekker data captures on the Rail Trail routes and the extension path in the later years of the scheme.

This is provided as an in-kind contribution from Google, and although difficult to quantify, its value is considerable.

In-kind cost: £ [REDACTED]



5. DARENT VALLEY PATH WARDENS

A volunteer group of DVP Wardens will be established to undertake surveys, carry out small-scale maintenance, replace waymarking disks and report back any issues should they arise along the path. They will provide the eyes and ears on the ground and aid a fast response to dealing with problems. They will integrate with the existing North Downs Way National Trail Wardens, and perform a similar service. Each volunteer will be assigned a section of path, be provided with training and tools required for the job. Several volunteers who undertook image capture with the Google Trekker have already expressed an interest in participating.

Cost: £■■■■ In-kind contribution (volunteer time): £9,000

OUTPUTS AND OUTCOMES

Activity	Outputs	Outcomes
Delivery of improvements on the existing DVP	<ul style="list-style-type: none"> • 2.5km of path surface brought up to good condition. • 1.8km made suitable for shared use. 	<ul style="list-style-type: none"> • Problem sections of path have been enhanced and enables year-round use. • Public transport and the DVP become a viable and attractive alternative to transport by car in the valley. • A new longer Darent Valley Path created providing access to new parts of the countryside, the river and its heritage. • People can experience a larger part of the valley. • Better linked and co-ordinated rights of way in the upper valley. • Better access to tourist attractions from train stations without using motor transport or travelling through villages. • Increase in public transport usage reducing carbon emissions associated with leisure and tourism travel. • Confidence for visitors in London to know where they can go and what they can do in the Darent Valley. • The heritage of the valley is better communicated and understood by a wider audience. • Local businesses that support the leisure industry and tourism in the valley are engaged with what the landscape offers and are aware of the potential it provides.
Extension of the Darent Valley Path from Chipstead to Westerham	<ul style="list-style-type: none"> • 1.8km of path surfaced. • 9km of new path created. 	
Waymarking and infrastructure	<ul style="list-style-type: none"> • 40km of path waymarking brought up to condition. • 500 waymarker posts installed. • 40 fingerposts installed • 10 stiles replaced with kissing gates • 10 motorcycle inhibitors installed • 1 new bridge installed • Links to 7 stations enhanced • 150 volunteer days contributed 	
Path interpretation	<ul style="list-style-type: none"> • 10 replacement information panels replaced. • Redesign and print Darent Valley Path Guidebook • 2,000 copies of guidebook distributed. • 15 Rail Trail leaflets designed and produced. • 5,000 copies of Rail Trail pack produced and distributed. • Bluetooth beacons installed at 8 stations in the Darent Valley. • Promotional interpretation installed at 8 stations in the Darent Valley. 	

PROJECT RISKS

Risk	How likely	Severity	Consequence	Action required
LOWCAR funding application rejected by Interreg 2 Seas	Medium	High	Loss of match funding reduces what can be delivered.	Decision is likely to be positive, but in the event of it being rejected and no other source of funding being found, the e-bike elements of the project will be removed.
Landowners do not agree to DVP extension	Medium	Medium	Linking extension cannot be delivered.	Build on relationships and discussions developed during the development stage to secure early agreement
Budget not sufficient to deliver physical improvements	Low	Medium	Fewer enhancements can be made.	Budgets based on previous costs for similar projects. Enhancements are scalable if required.
Uptake of e-bike usage is low	Medium	Low	Pilot is considered unsuccessful. Delivering low carbon travel is not possible. Congestion continues.	The nature of this being a pilot means that failure is possible. However, the demand for e-bikes is growing rapidly, particularly on the continent. It is expected that popularity will grow at a similar level here in the UK.
Local opposition to increasing cycle use because of conflict with other users.	Low	Medium	Conflict on proposed paths, and unpopularity of DVLPs and impact on other projects.	Extensive consultation has been undertaken, but some concerns remain. Shared use access will be segregated where possible, and users will be asked to adhere to a code of conduct. Incidents of conflict will be monitored.
Establishing rental service as a CIC not possible because no candidates for taking it on.	Medium	Medium	On-going success of rental scheme jeopardised.	Commercial model may need to be used.

TRAINING REQUIRED

- Google Trekker data capture

MAINTAINING A LEGACY

The Darent Valley Path has long been a popular route and this project returns it to a condition befitting its status as a promoted route. Whilst it does not solve all the issues that exist, it does tackle those which have caused the biggest problems. The extension of the path will also bring connected access where it hasn't before. Although much of this at first will be permissive, formal adoption will be the aim, and the intention will be that KCC adopt it as part of the promoted route. KCC will also

remain responsible for the existing path as it is already, and by addressing issues that required significant capital investment, maintenance will be less and therefore more cost effective.

Similarly, the routes such as the rail trails, where Explore Kent will have an involvement will continue to be promoted, and any arising dealt with.

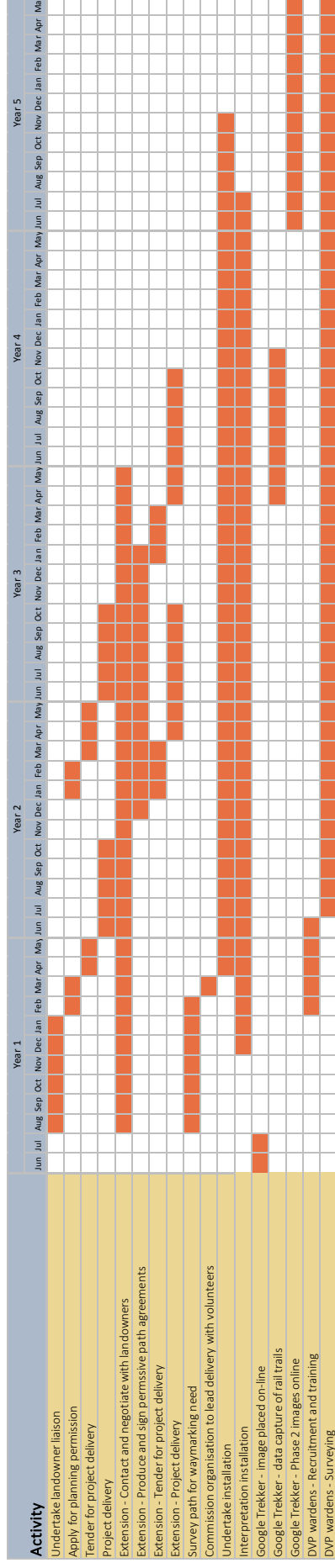
LINKS TO OTHER PROJECTS

- 1A. Samuel Palmer Trail
- 1C. Inspired Landscapes
- 1D. Framing the View
- All theme 2 projects
- All theme 3 projects
- 5D. Future Skills
- 5F. Engaging New Audiences
- 5G. Spreading the Word.

Theme 3: Darent Valley Exploration

3A. HEART OF THE VALLEY – THE DARENT VALLEY PATH

PROJECT TIMETABLE



APPENDIX (3A) – 1: MULTI-USER PATH STANDARD SPECIFICATION

OVERVIEW

The aim of this project is to construct a shared-use path (pedestrians and cycles) of approximately XXkm in length at XXX (see map).

SPECIFICATION

1. Excavate existing track to 2.5m wide and 100mm deep to remove small roots and debris. Roll and compact. Excavated material to be retained. No grading (apart from minor works is required of the path).
2. Lay a single layer of geogrid on excavated surface. Geogrid to be of specification SS40 or TriAX by Tensar International, Miragrid GX by Tencate, or other product that is equal to or exceeds these specifications.
3. 150mm of Type 1 granular material (preferably crushed limestone, but other local and sustainably sourced alternatives of a similar standard are acceptable – please specify) to be laid to Clause 803 of Volume 1 of the Manual of Contract Documents for Highway Works May 1999. Generally graded towards the edges to create a maximum of 25mm central camber. Roll and compact. Compaction shall be to Table 8/1 of Series 800 of Volume 1 of the Manual of Contract Documents for Highway Works.
4. Wearing course shall be limestone dust (3mm – dust) and laid and compacted to 25mm thick with a maximum of 25mm central camber. Compaction shall be to Table 8/1 of Series 800 of Volume 1 of the Manual of Contract Documents for Highway Works. Surface finish shall be free from marks and lines.
5. Path to minimum of 75mm above ground surface. Excavated material should be used to create shoulders, built up level to the path. Shoulders to be rolled and compacted.
6. Where existing trees prevent a full path width of 3m, narrowing of the path is permitted.

Provided the cost is provided for the above specification, the Employer is content to consider alternatives that provide the same finished works to a comparable or greater standard. The specification of these alternatives should be clearly described and costed as a separate pricing schedule.

3B.1 SEVENOAKS WILDLIFE RESERVE - WILDLIFE FOR THE PEOPLE



PROJECT AIM

To improve the wildlife potential and physical access to the iconic Sevenoaks Wildlife Reserve as a gateway to exploring the natural landscape of the Darent Valley. It forms an integral part of Kent Wildlife Trust's plan to provide an enjoyable wildlife experience for families and experienced wildlife watchers alike.

DELIVERY LEAD

Kent Wildlife Trust (KWT) - David Hutton david.hutton@kentwildlife.org.uk; 01622 357805.

LAND OWNERSHIP

KWT is the long term (99yr) leaseholder of the site from Tarmac (copy available if required).

AUDIENCE

The site is visited by many thousands of people throughout the year from families new to visiting wildlife sites to experienced and regular birdwatchers and wildlife enthusiasts.

The reserve currently receives around 50,000 visits per year, but at present no data exists on how these numbers are made up. However, anecdotal evidence suggests that a significant proportion come from Sevenoaks and out of London as well as across Kent. Its location close to mainline train stations enhances the reserve's potential as a gateway site for new visitors from the capital. In August 2016 KWT commissioned Resources for Change to produce an Audience Development Plan which will provide additional data.

HERITAGE VALUE

The site consists of a group of lakes, formed by the flooding of the former gravel workings and fed by the River Darent. Extensive landscaping to create shallows, spits and islands, and the planting of trees and aquatic plants have provided conditions suitable for both breeding and wintering birds. It was established as a nature reserve in 1958 by Jeffery Harrison and is the first example of positive cooperation between the gravel extraction industry and conservationists. The site is designated as an SSSI for its assemblage of wetland, riparian and woodland birds, most notably breeding, wintering and passage wildfowl and passage waders. These include breeding little ringed plovers which is a regular breeding species. There is also a huge diversity of invertebrates as a result of a variety of habitats with thirteen species of *Odonata* (dragonflies) including the locally distributed downy-emerald dragonfly (*Cordulia aenea*). The site is also home to a colony of sand martins.

Prehistoric remains have also been discovered at the site with evidence of a Mesolithic flint working site in the form of a flint axe, blades, flakes and a scraper having been discovered in the late 1970s. These are now held at Dartford Museum. In addition, a Bronze Age palstave (axe head) was discovered here in 1979 during the active gravel working. Remnants of the site's more recent industrial past are also present.

The reserve is well known as a birdwatching site but is increasingly popular as a destination for people to enjoy a quiet walk in the countryside in a safe environment. The site offers attractive views of the Darent Valley and surrounding chalk scarp slopes befitting of its status as a gateway site. It is also an important base for environmental education.

PROJECT DESCRIPTION

The project will ensure that all users of the site can enjoy the environment and wildlife of the site in a sustainable manner whilst making sure that the habitats and biodiversity are enhanced and protected. Many of the habitats, particularly those subject to encroachment and shading at the edges of lakes are experiencing a reduction in diversity that requires enhanced and focused management. The work will be carried out over the lifetime of the project with day to day supervision and management of volunteers and contractors being carried out by two site based wardens. Specifically, the projects include:

- Re-profiling of specific areas in the eastern (formerly less accessible part of the reserve) to improve marginal habitats including shallows and reed beds. This work will be carried out in targeted areas where new hides are proposed.
- Bankside trees such as willow and alder have started to dominate many of the banks of the lakes, shading out the marginal vegetation which provides rich and varied habitat for riparian species of birds and insects. A programme of coppicing and pollarding around the reserve will be undertaken which will provide re-invigorated habitats and

open up lost vistas across the reserve. This will be carried out by contractors and volunteers over the period of the project with contracts let to coppice the larger trees and carry out pollarding. Thereafter and beyond the time of the project, a shorter rotation of coppicing will be carried out by volunteers on what will be much smaller and more manageable sized trees.

- The creation of ten new islands very close to the visitor centre and main public car park will improve and increase diversity within the 'West Lake' and provide an easily accessible wildlife spectacle. This will involve working closely with neighbours, contractors, Natural England, the Environment Agency and the local planning authority.



Artist impression of new islands on the West Lake

Some of the works will require SSSI consent and, planning permission (for hide construction) will be sought from the Local Planning Authority. Forestry Commission felling licences will also be sought.

The site is open to the public seven days a week. The project will create access to a formerly inaccessible part of the reserve whilst creating new habitats and opportunities for quiet observation of wildlife as well as a pleasant experience for those new to this type of environment. Sadly, the open nature of the reserve can attract unwanted unsociable activities by local youth from time to time with damage to hides and other infrastructure. Some parts of the reserve boundaries are particularly vulnerable to unauthorised access and we aim to address these issues in several ways including the encouragement of more local volunteer involvement and 'buy in' to the management and care of the reserve and their local environment.

To maintain a controlled and managed environment it will be necessary to install perimeter fencing on sections of the site which are prone to unauthorised access. This is not a proposal made without considerable thought and angst, but it is felt that without this the current problems of unauthorised access cannot be addressed.

At the end of the project, an extension of the existing path will have created a circular route to new areas of the reserve.

New islands in the West Lake will have been created and re-profiling of marginal areas of the east lake will provide new wildlife watching opportunities for a wide range of visitors.

Many species will benefit including little ringed plover, lapwing, snipe, teal as well as invertebrate species of shallow water including several species of *Odonata* (dragonflies and damselflies) and other aquatic invertebrates. The designs for this are based on detailed project proposals and assessments.

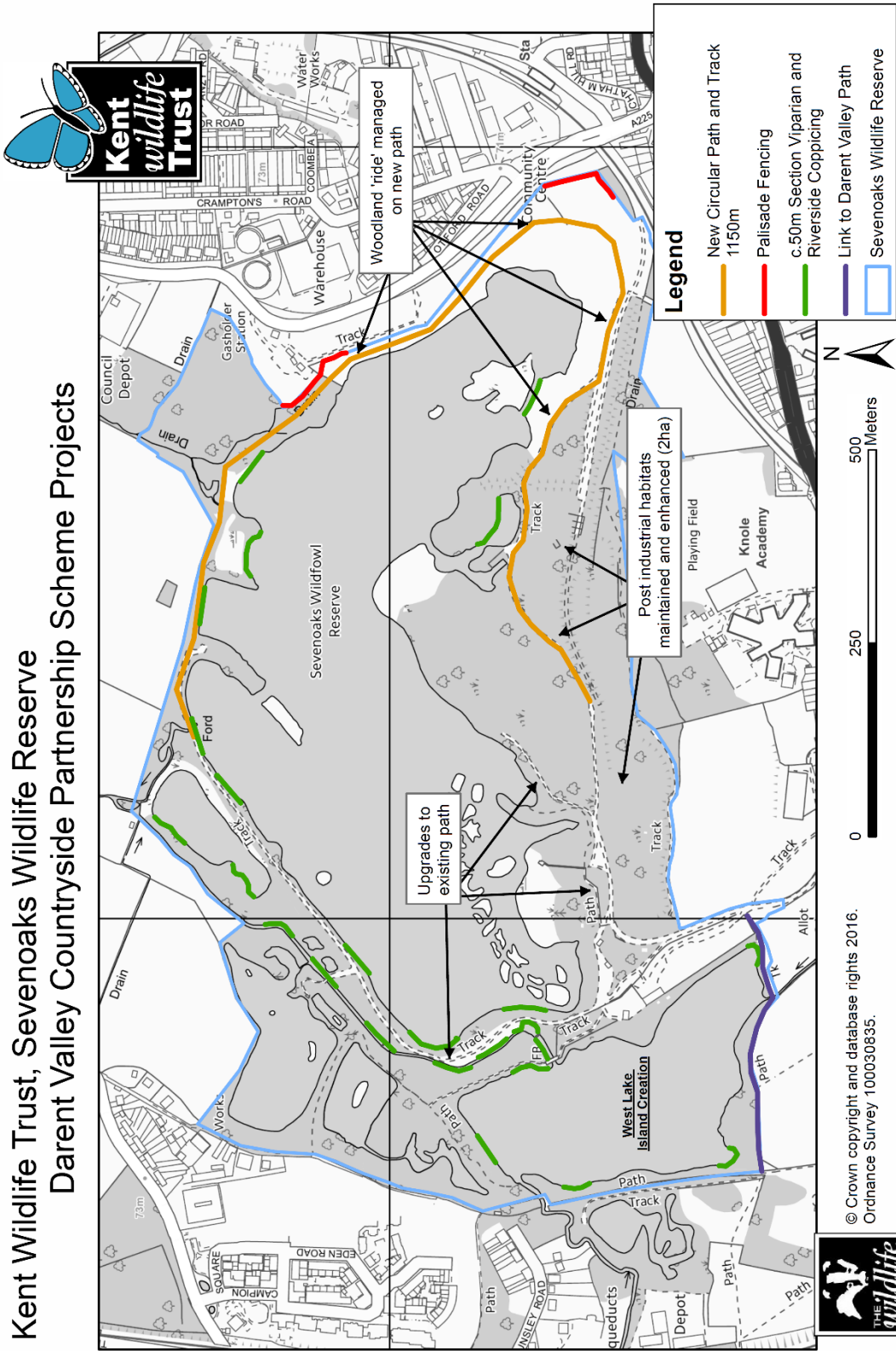
The following plans are attached as appendices from page 224:

- Appendix 1 Specification for Path Surfacing
- Appendix 2 Islands Construction Plan
- Appendix 3 West Lake Islands – Flood Risk Assessment Scoping Study

There will also be improved access, interpretation and at least one birdwatching hide installed at this location to enable visitors to experience and observe some of the species that will be brought into close proximity by this project.

SITE MAP

Kent Wildlife Trust, Sevenoaks Wildlife Reserve
 Darent Valley Countryside Partnership Scheme Projects



Protecting Wildlife for the Future

OUTPUTS AND OUTCOMES

Activity	Outputs	Outcomes
<p>Management of peripheral riparian habitats, woodland, scrub, grassland and post-industrial habitats.</p> <p>This includes the areas of woodland and scrub adjacent to the proposed new circular path.</p>	<ul style="list-style-type: none"> • Coppicing of alder and willow, to increase marginal and other wetland habitats and enhance and maintain as follows: • Enhance condition of 10-15(number) of 50m sections/year lakeside sections. • Enhance condition of 10-15(number) of 50m riverside sections. • Enhance condition of 800m ride management around new paths. • Enhance condition of 10 Veteran trees managed/pollarded. • Maintain extent of 2ha of successional post-industrial habitats 2-3 new breeding pairs of reed bunting. 	<ul style="list-style-type: none"> • Improved species and habitat diversity. • Vistas and views of wildlife will be made more accessible to a wider range of people in more areas of the reserve. • The reserve and its habitats are maintained and enhanced and will continue to provide positive wildlife experiences for casual visitors and more knowledgeable naturalists alike.
Creation of circular path	<ul style="list-style-type: none"> • Creation of 1300m@£35 per meter +VAT 1.5m wheelchair accessible path. • Creation of 250m@£42 per meter+ VAT Vehicle and wheelchair accessible paths. • 10,000 people using the new path (increase from 500). 	<ul style="list-style-type: none"> • Improved access and experience for all visitors including those using wheelchairs, prams and mobility vehicles.
Upgrading of existing path	<ul style="list-style-type: none"> • 100m@£30/m + VAT. • 100m@£40m + VAT. 	<ul style="list-style-type: none"> • Improved access and experience for all visitors including those using wheelchairs, prams and mobility vehicles.
Palisade fencing on periphery of reserve at eastern end	<ul style="list-style-type: none"> • 200m@£50/m +VAT. • 50% reduction in number of unauthorised access events. 	<ul style="list-style-type: none"> • Reduction in unauthorised access and vandalism.
West lake island creation	<ul style="list-style-type: none"> • Ten new islands with a total cumulative area of 5000 square metres in size created near the visitor centre. • 1-2 new pairs of breeding Little Ringed Plovers. • 1-2 new pairs of breeding lapwing. • 10% increase in aquatic and marginal habitat. 	<ul style="list-style-type: none"> • Improved biodiversity and nesting opportunities. • Improved visitor experience close to the existing visitor centre.

Outputs will be monitored and measured by on site staff who manage the work of both volunteers and contractors. This is also monitored by Senior Management of KWT who will report to the HLF Project Officer for the project. Annual species monitoring programmes such as Common Bird Census, WeBS surveys, key species and habitat monitoring will inform population changes resulting from the works.

Outcomes such as how people’s experience, understanding and engagement has been affected will be monitored by undertaking surveys of on and off site users in cooperation with DVLPS Project staff and consultants.

PROJECT COSTS

Element/Item	Year 1	Year 2	Year 3	Year 4	Year 5	Total
	2017/18	2018/19	2019/20	2020/21	2021/22	
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]				[REDACTED]
[REDACTED]	[REDACTED]					[REDACTED]
[REDACTED]			[REDACTED]			[REDACTED]
[REDACTED]	[REDACTED]					[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]						[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Totals	£54,700	£68,000	£53,000	£17,000	£11,000	£203,700

PROJECT RISKS

Risk	How likely	Severity	Consequence	Action required
Failure to secure required planning permissions and consents	Med	Med	Project delayed/not delivered	Early application and consultation with planning authorities/EA and neighbours.
Failure to engage new volunteers	Low	Med	Reduced in kind contribution	Recruitment drive and promotion.
Adverse weather conditions	Med	Low	Delay in achieving outcomes	Ensure minimum slippage during early years of the project.
Vandalism of new work	High	Med	Increased cost	Provision for repairs included in budget.
Engineering issues prevent completion of island creation	Low	High	Project delayed/not delivered/increased cost	Project element is based on sound surveys and engineering plans. KWT also has experience from the creation of similar islands in the main lake.

TRAINING REQUIRED

None required that aren’t cover under other KWT projects.

MAINTAINING A LEGACY

A new long term vision for the development of this important and flagship reserve has the backing of KWT Trustees and staff. Preparations for funding for the creation of a 'Centre for Wellbeing' are underway which will provide further infrastructure and resource for the long-term future of the reserve and its aims. The Designing Nature Project (also part of the DVLPS project) is integral to work on the wider reserve. The reserve is funded through its local and wider membership base with regular support from funds raised from other sources ranging from local authority, European and land fill grants.

LINKS TO OTHER PROJECTS

3A Heart of the Valley – The Darent Valley Path – The Sevenoaks Wildlife Reserve is located immediately adjacent to the Darent Valley and provides an opportunity to raise the profile of the reserve and publicise and explain its importance to an additional audience.

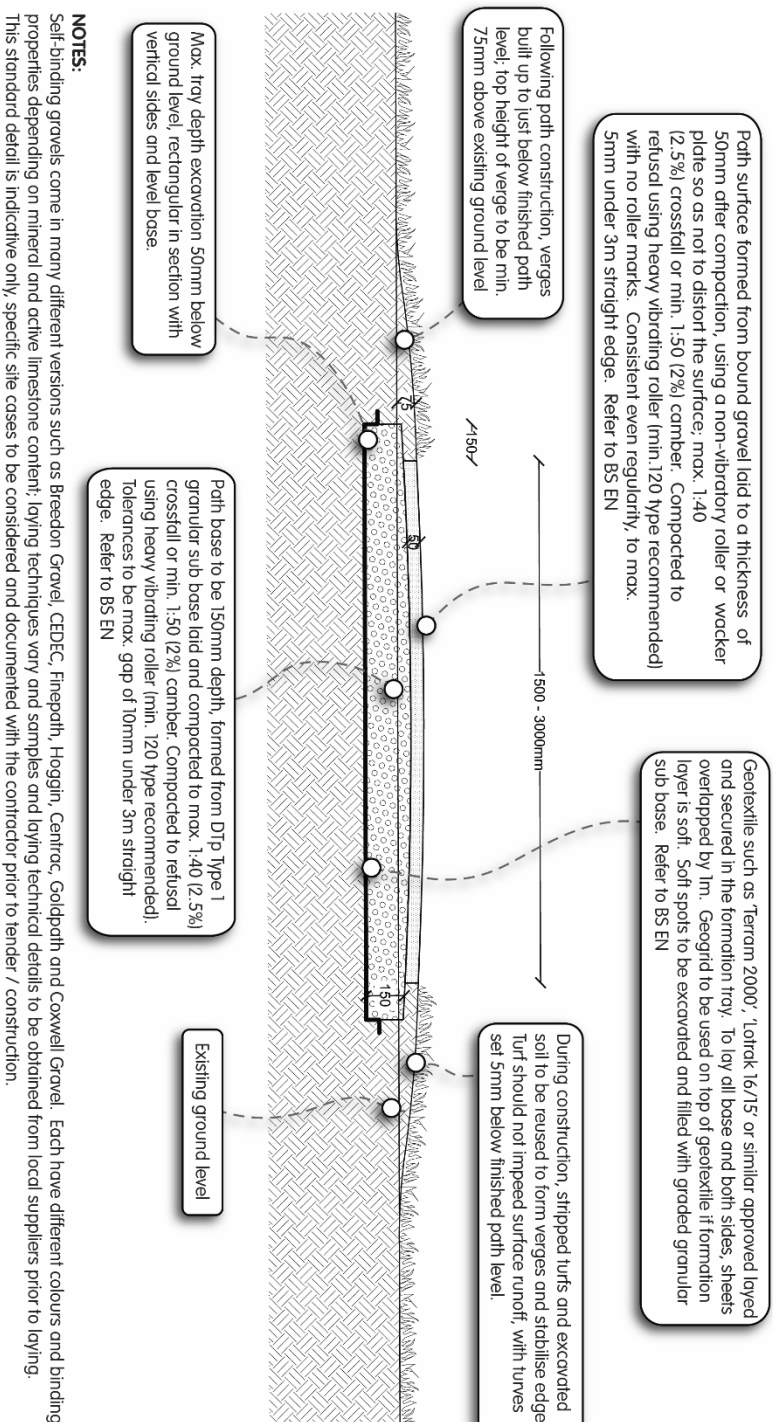
3C Telling the Darent's Story - This project will contribute to the overall communication of landscape importance and significance in the valley.

3D Reducing the Pressure – Sevenoaks Wildlife Reserve has the potential to play a significant role in spreading the load of visitors to the valley. The work being undertaken within both 3B and 5A will increase the capacity of the reserve to accept increases in visitor numbers sustainably.

5G Engaging New Audiences – The accessibility of the reserve along with the forthcoming audience development work currently being undertaken, means that there is a significant opportunity to attract new audiences particularly from London.

APPENDIX (3B.1) – 1: SPECIFICATION FOR PATH SURFACING

Self Binding Gravel Standard Detail



Scale 1:20 @ A4

APPENDIX (3B.1) – 2: ISLANDS CONSTRUCTION PLAN

1. BACKGROUND.

The Sevenoaks Reserve is a 60-hectare restored gravel extraction site, consisting of five lakes bordered by a range of wetland and woodland habitats. It is a designated Site of Special Scientific Interest managed by the Jeffery Harrison Memorial Trust. However as on many former gravel-pit sites the depth of the lakes, the steep gradients of their banks and the scarcity of islands have meant that the area covered by shallow water (less than about a metre in depth) is extremely limited. Since this is generally recognised as one of the richest zones of most lakes, in terms of aquatic plants, invertebrates and the fish and birds which feed upon them, most of the reserve's lakes support significantly less wildlife than might be expected on a shallower, more gently contoured water. Landscaping the margins of the lakes to widen the littoral belt is no longer feasible as this would involve considerable habitat-destruction, including the removal of a large number of mature waterside trees.

Between 1997 and 1998, in an attempt to overcome this problem, inert material from a number of sites was used to create a string of 29 islands in the East Lake (Figures 1 and 2). These have already proved to be extremely successful, providing a habitat for a wide range of birds (particularly waders, wildfowl, herons, kingfishers and grebes), fish, invertebrates and plants. The level of the East Lake can be controlled by means of a sluice which is raised over winter to flood the islands in order to achieve a balance between bare mud, terrestrial and aquatic vegetation. The islands are then gradually exposed during the spring to provide a constant supply of fresh mud for wading birds (the islands have added over two kilometres to the reserve's existing shoreline), nesting sites for birds such as little ringed plovers, a habitat for wetland plants and warm shallow water for spawning carp.

Encouraged by the success of the East Lake islands it is proposed to carry out a similar project on the reserve's other main lake, the West Lake.

2. THE WEST LAKE.

The West Lake is the oldest of the reserve's lakes, excavated during the 1940s, and covers an area of approximately six hectares, with a maximum depth of about twelve metres. Unlike the other lakes on the reserve, which are fed entirely by groundwater, the West Lake is connected directly to the River Darent, which flows in at the north-west corner and out on the eastern side of the lake.

Figure 3 shows the approximate contours of the lake. Three shallow bars divide it into four main pools, the largest and deepest of which forms the northern section of the lake, with two relatively shallow ones at the southern end.

A number of surveys by divers, from about 1985 onwards, have shown that submergent aquatic plants are largely confined to the margins of the lake and to the bars running across it. The central bar (B in figure 3), being the shallowest and most extensive, is particularly rich in submergents.

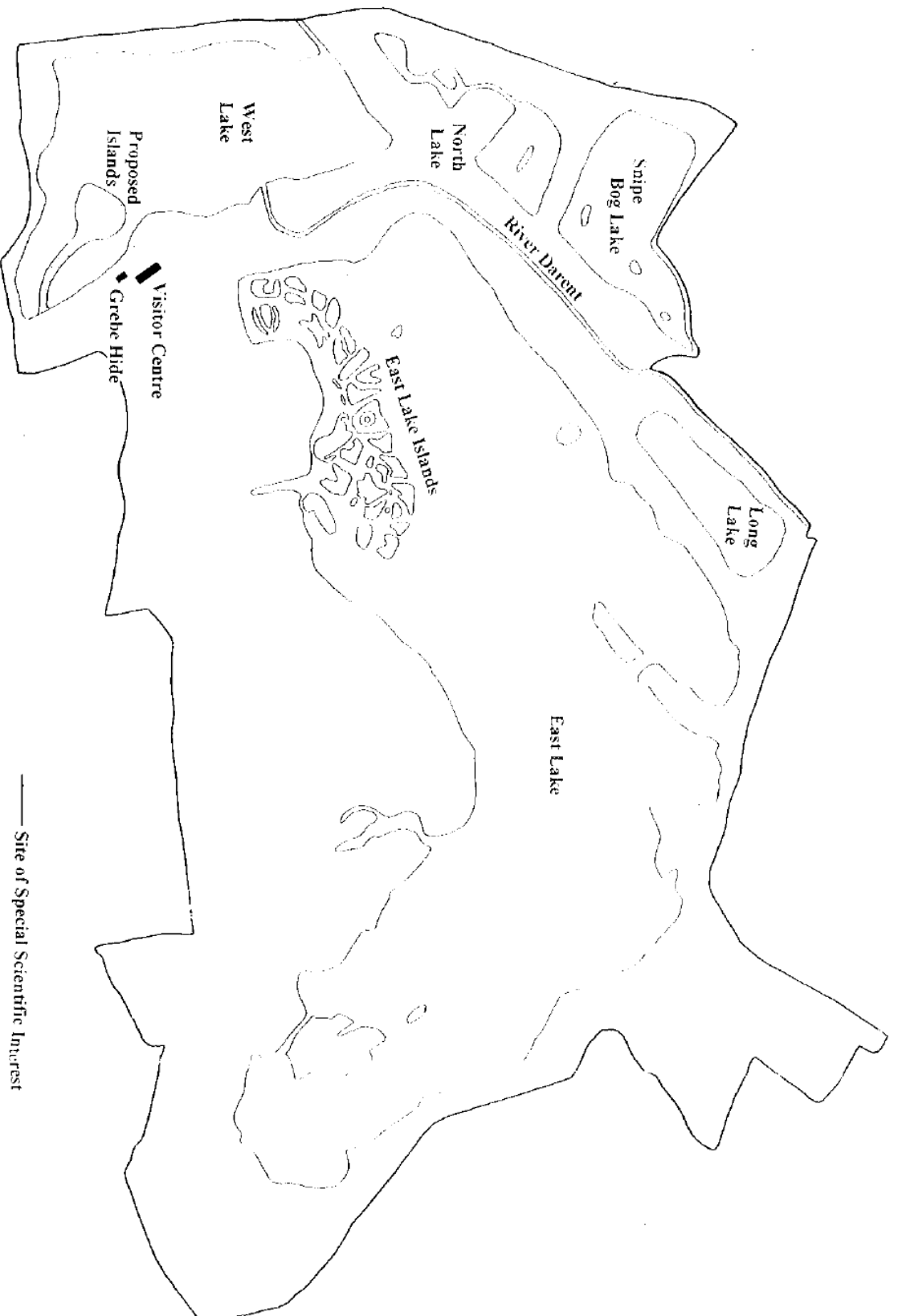


Figure 1 Location of the existing islands in the East Lake

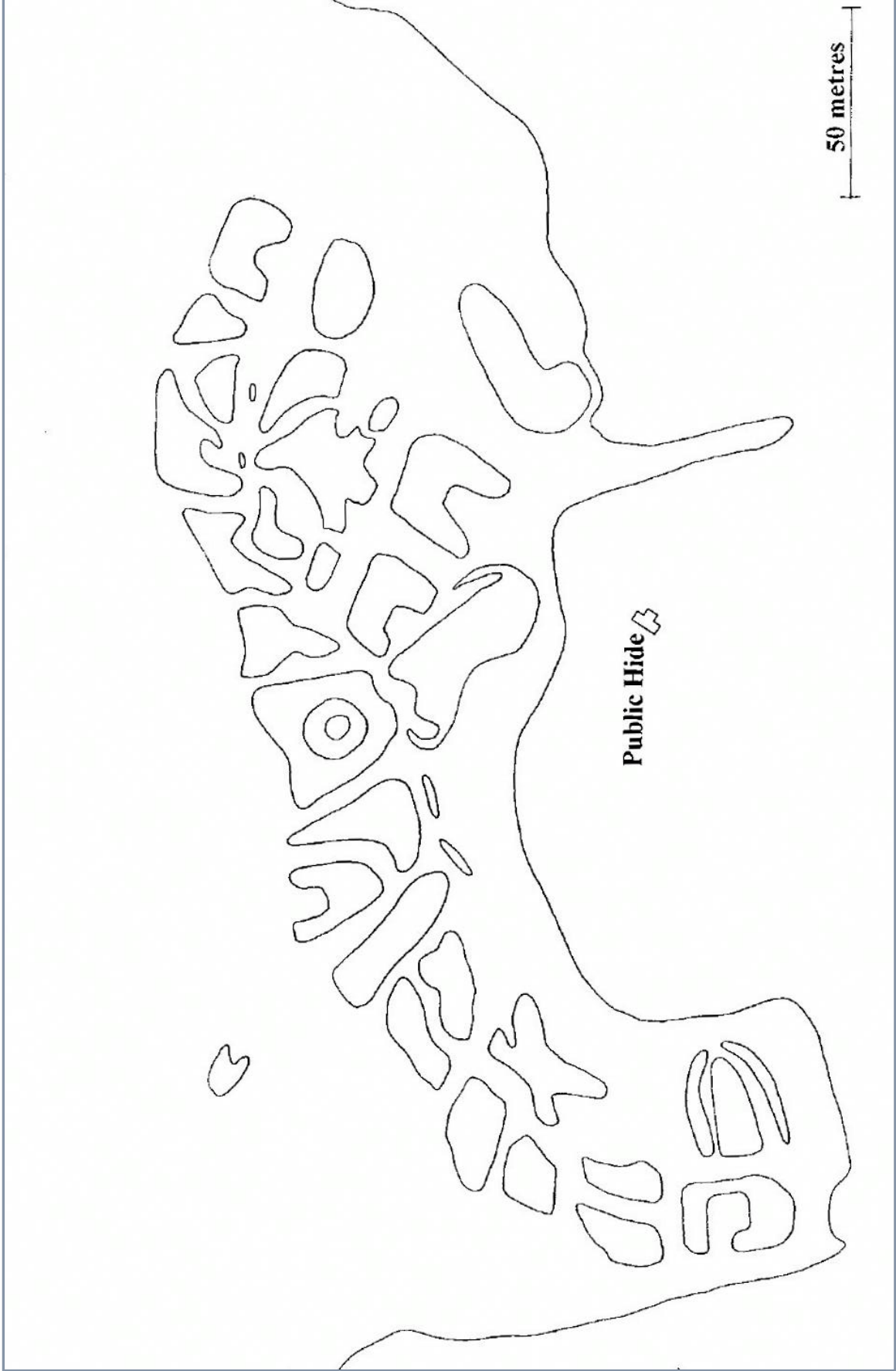


Figure 2 Detail of East Lake Islands

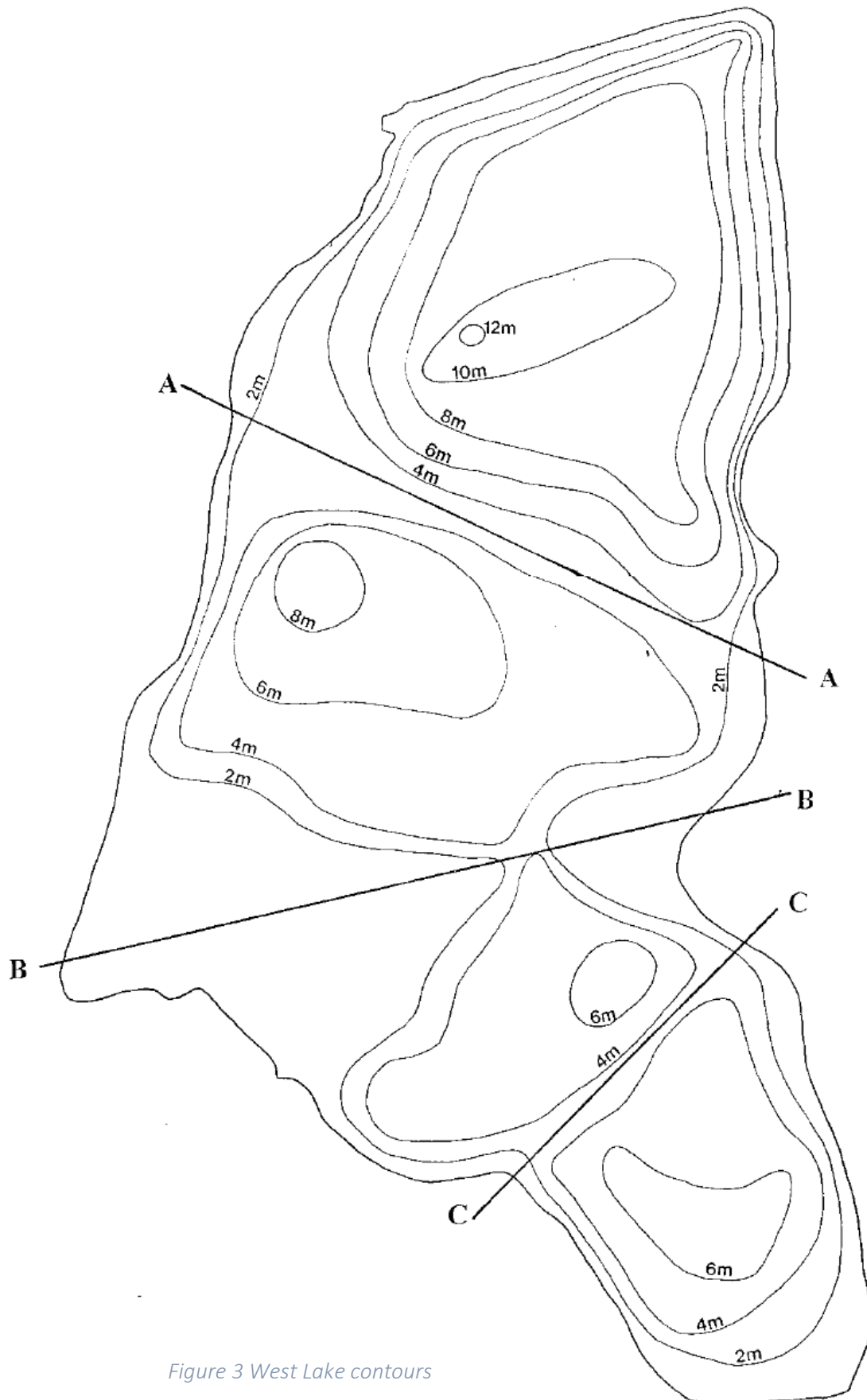


Figure 3 West Lake contours

In 1993 the National Rivers Authority (Southern Region) carried out a survey of the West Lake in order to determine the reasons for the poor quality of the fishery. For some years fish catches had been disappointing, and there was no indication that warm-water species such as carp had ever successfully spawned, so that their population could only be maintained by repeatedly restocking rather than by natural recruitment. The survey (NRA, 1993) found noticeably fewer fish in the West Lake than in the East Lake. It also showed that the surface waters supported healthy populations of zooplankton, which would be expected to provide a rich food source for shoaling open water fish. Similarly the shallow vegetated areas were found to contain an abundance of invertebrates on which bottom-feeding fish species could feed. In contrast, the deeper parts of the lake, below about six or seven metres, held very little invertebrate life. This horizontal boundary between high and low invertebrate diversity, which is also likely to be reflected in fish populations, appeared to correspond to a distinct thermocline at a depth of between six and eight metres, below which both oxygen concentration and temperature fell sharply. Oxygen concentrations of 1% were recorded on the lake bottom, well below the levels needed by fish (most coarse fishes can withstand dissolved oxygen concentrations as low as 30%, while hardier species such as carp, tench and eel have been known to survive down to 5%) The survey results identified the thermocline as the most likely reason for the lake's relatively low populations of invertebrates and fish.

The exact position of the thermocline is likely to vary from year to year, and an earlier study (Worby, 1987) found it at a depth of five metres, at which level it is likely to extend over approximately 40% of the area of the West Lake.

3. OBJECTIVES.

The aim of the proposed project is to create a cluster of islands in the southern section of the West Lake. The islands would be landscaped to a range of heights (which would determine how often they are flooded) and area, and capped with a variety of materials, including sand, clay, topsoil and gravel. Figure 1 shows the location of the proposed project in relation to the reserve's other lakes, the Grebe Hide, the Visitor Centre and the earlier island-building project in the East Lake.

4. BENEFITS.

On the basis of the results from the newly-created islands on the East Lake, this project is expected to enhance the lake's wildlife value in a number of ways:

1. The islands themselves would provide a relatively predator-proof nesting area for birds. Low, gravel-covered islands which flood regularly in the winter are likely to be particularly attractive to species such as little ringed plover, whereas taller islands capped with topsoil should develop a thick cover of brambles and alder/willow scrub, ideal for nesting wildfowl and warblers. In time, when some of these trees have reached maturity, a few would be felled into the water to create nesting sites for coot and great crested grebe.
2. Birds would also benefit from the additional feeding habitat on the islands, with grassland areas for grazing wildfowl and invertebrate-rich mud around the shoreline for waders.
3. The shallow water around the islands, well above the thermocline and the cold oxygen-poor water below, should develop a rich vegetation of submergent aquatic plants, reeds, rushes

and sedges, supporting a variety of invertebrates. The warm shallows would also provide ideal spawning areas for carp and other fish, which would in turn attract herons, grebes and kingfishers.

4. The islands and their associated habitats would offer excellent viewing from the nearby Grebe Hide, which has been specifically designed and located for ease of access for disabled visitors.

5. METHOD.

Inert material imported from greenfield sites would be used to build a spit extending into the lake from the south-east corner. This access point has been chosen in order to minimise disturbance both to visitors and to the existing habitat (the few alders and willows which would need to be felled have already been identified for removal in order to open up the densely shaded bank). At its northern end the spit would be expanded into a broad flat area (Figure 4). In view of the relatively deep water in the West Lake, the club-shaped design is preferable to the chain-like outline of the East Lake islands because it reduces the length of the sloping external margin, and hence the volume of material required to produce a given area of islands. Care would be taken not to encroach onto the large bar (B in figure 3), which already provides a rich habitat for wildlife.

It is clearly essential that the material used in the project should not pose a pollution risk either to the West Lake or to the River Darent which flows through it, and to this end five levels of screening would be adopted:

1. Water samples taken from the West Lake prior to the commencement of the project would be analysed to form a baseline record of the lake's initial composition, and further samples would be taken at regular intervals throughout the duration of the work to ensure that the water quality was not being adversely affected.
2. Only naturally-occurring material, primarily from green-field sites, would be considered for filling. These would include clean soils, chalk, clay, gravel and sand. Spoil from sites which are known to have had a potentially contaminating former land-use would not be considered. Clean hardcore would be used only to provide a capping surface for vehicle access, where it would be kept clear of the water level. Most of it would be scraped off at the end of the project and used to construct a viewing platform overlooking the new islands.
3. Contamination testing would be carried out at each potential source site and the results submitted to the Environment Agency for approval before any material was transferred to the site. Testing would be carried out in accordance with the Environment Agency Interim Guidance on the Disposal of Contaminated Soils (Environment Agency, 1997), at a test frequency of three tests per thousand cubic metres.
4. On arrival at the site each load of material would be subjected to a thorough visual inspection by a trained site foreman, who would be responsible for ensuring that all works were undertaken in accordance with planning requirements and good practice. Any unsuitable loads would be rejected.
5. The tipping point would be enclosed by a floating boom, so that any fragments of litter or other flotsam could be contained and removed.

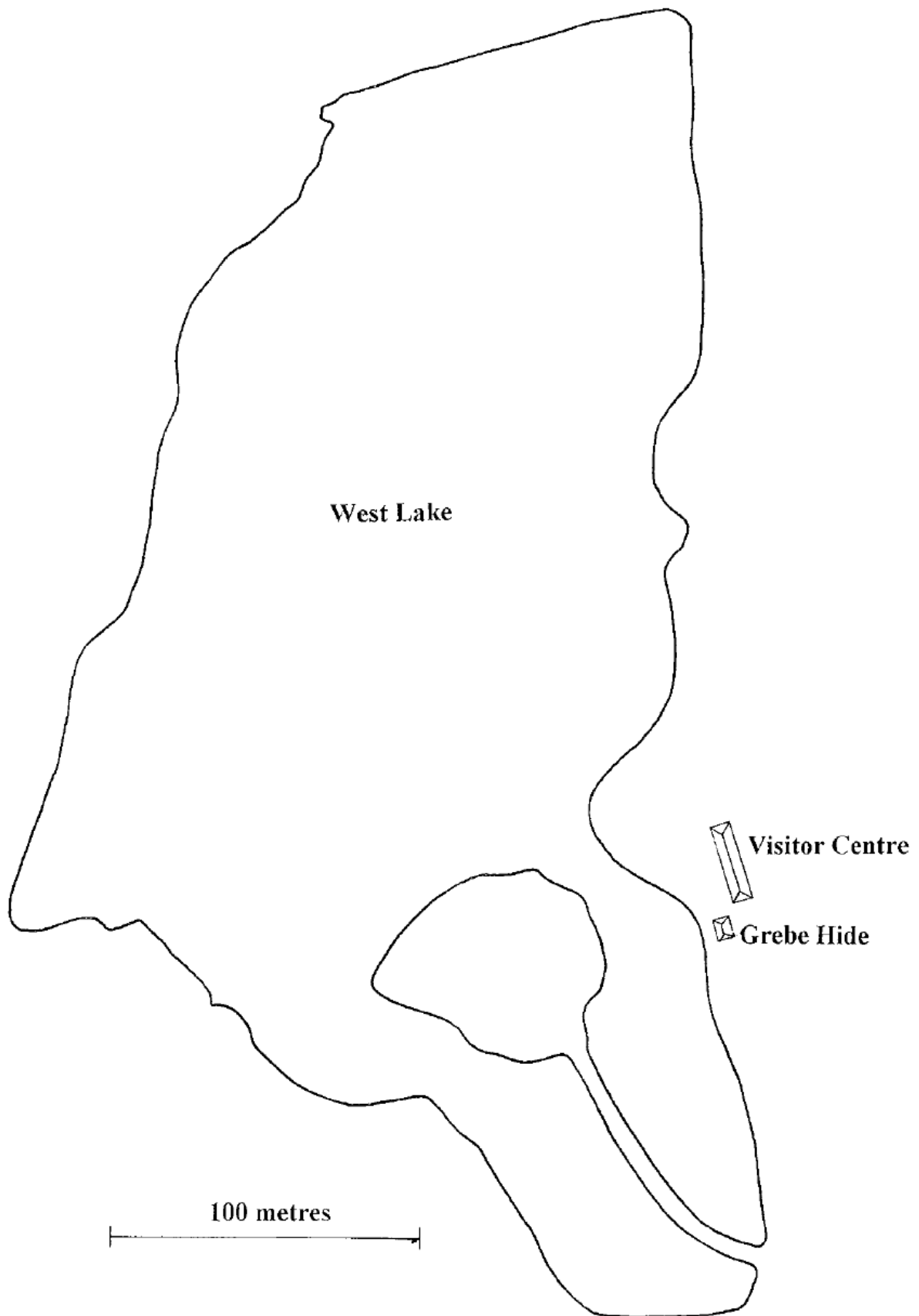


Figure 4 Proposed islands, Stage 1

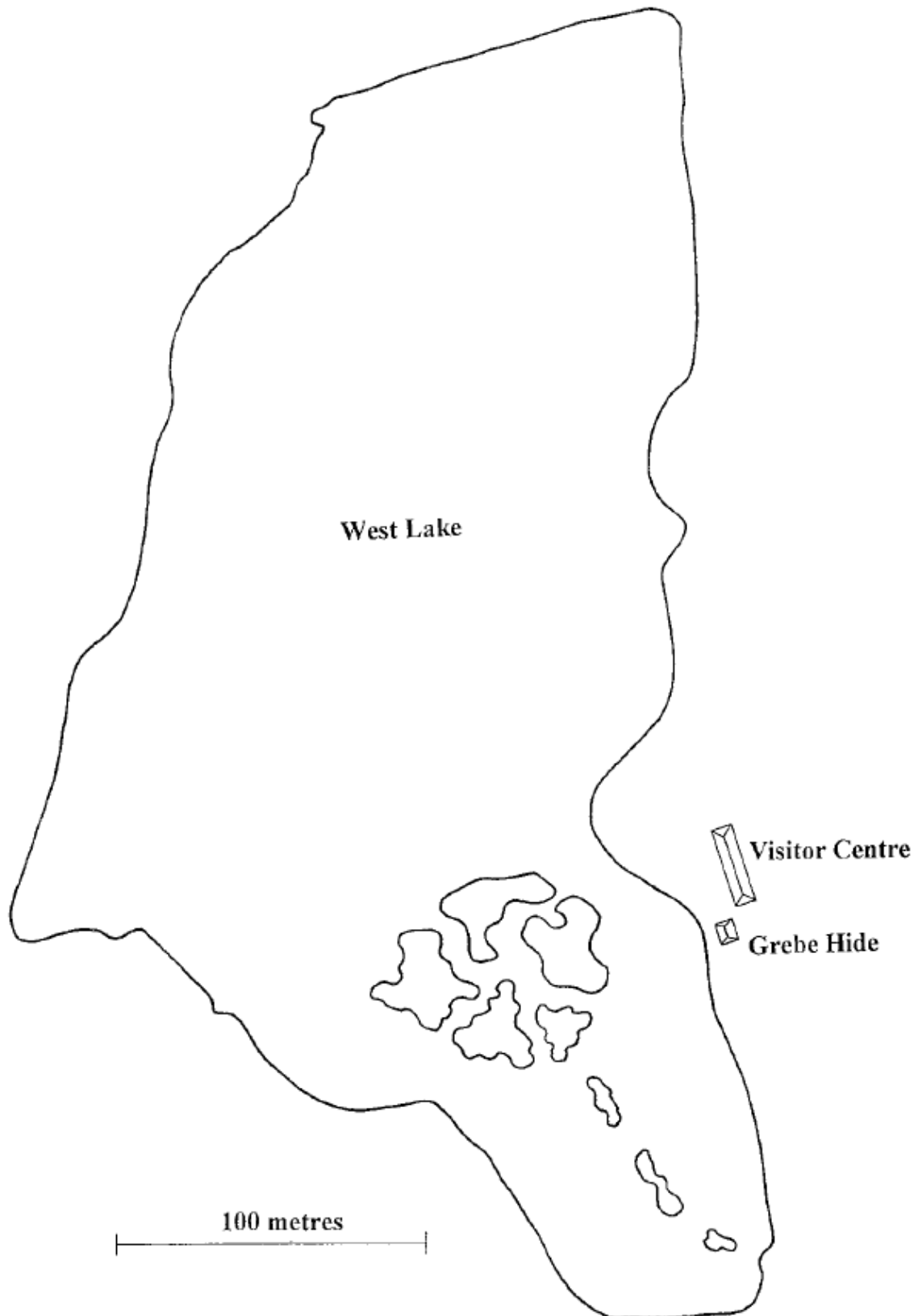


Figure 5 Proposed islands, Completed

Having reached the desired size and shape, the spit would be landscaped to create features such as bays, shallow bars and pools, as well as a range of heights (up to a maximum of about 50cm above the highest flood level) Some islands would be capped with gravel or topsoil, while others would be left uncapped.

Finally, channels would be cut to break the spit into a cluster of islands (Figure 5).

Experience from the earlier project on the East Lake suggests that planting should not be necessary as there will probably be ample quantities of seeds within the imported material itself, in addition to those blown or washed in from the existing bankside vegetation or deposited by birds. In any case natural colonisation is generally preferable as the early successional stages provide habitats for some species (for example little ringed plover) which would be pushed out if the vegetation was allowed to develop too quickly.

The duration of the project will depend on the availability of suitable material and the depth of water encountered (the maximum anticipated being about six metres). It may also be necessary to suspend work between November and February in order to avoid disturbance to overwintering wildfowl. However it is envisaged that the project will extend over at least one, and possibly two, summers and require approximately 20,000 cubic metres of material.

6. LONG-TERM MANAGEMENT.

Once established, the vegetation on the islands should need relatively little management and would be left to develop naturally. Unlike the East Lake, where the water level can be varied, there is no direct control over the level of the West Lake. However, the lake does rise by about 30cm or more during most winters, so it is likely that some of the islands will flood each year. This should encourage a variety of habitats on different islands: low, regularly flooded ones with no topsoil should remain relatively open, whereas taller ones with rich soil are likely to develop a cover first of brambles and nettles and later of willow and alder. In some cases these will be allowed to grow to maturity, while in others they will be coppiced periodically to maintain low bushy cover.

7. REFERENCES.

Environment Agency (1997). Interim Guidance on the Disposal of Contaminated Soils. National Rivers Authority (1993). A bio-physical Survey of Bradbourne East and West Lakes, Sevenoaks, Kent - July 1993. Unpublished.

Worby, S (1987). An Investigation of the Aquatic Ecology of Sevenoaks Wildfowl Reserve. Unpublished.

John Tyler, 20.03.2000

APPENDIX (3B.1) – 3: WEST LAKE ISLANDS – SEVENOAKS WILDLIFE RESERVE
FLOOD RISK ASSESSMENT SCOPING STUDY

Attached as a separate document

3B.2 SHOREHAM WOODS THE DARENT VALLEY'S HIDDEN GATEWAY



View across the Darent Valley from Shoreham Woods Country Park

PROJECT AIM

To enhance the Shoreham Woods Country Park as a key gateway to the wider landscape of the Darent Valley, particularly for nearby urban communities in South East London, by improving the visitor experience and creating a welcoming and safe countryside site. Existing walking routes will be upgraded, improved interpretation provided, and links with surrounding communities (particularly Shoreham) through the development of new additional events.

DELIVERY LEAD

Sevenoaks District Council: David Boorman, Parking and Amenities Officer, Sevenoaks District Council, Direct Services, 2 Main Road, Sundridge, Kent TN14 6EP. Tel 01732 227220
David.Boorman@sevenoaks.gov.uk

LOCATION AND LAND OWNERSHIP

The main entrance and car park to Shoreham Woods Country Park is located off Shacklands Road to the east of Halstead and west of the village of Shoreham on the valley top and side (TQ 50293 61584). It consists of three main woodlands: Barnett's Wood, Andrew's Wood and Pilots Wood. The majority of land is owned by Sevenoaks District Council with a small area under the ownership of Highways England.

AUDIENCE

Shoreham Woods Country Park is the most 'London-facing' of the more formal countryside sites in the Darent Valley with its entrance close to junction 4 of the M25. Therefore, a significantly higher proportion of both existing and potential visitors are from the London suburbs such as Orpington or further afield. However, there are a significant number of visitors from Darent Valley communities, and in particular Shoreham. These tend to be regular visitors and often dog-walkers who know the site well. New target audiences will be individuals and groups that perhaps lack some confidence in exploring the countryside and are looking for a safe but rural site to begin exploration of the valley.



Location context of Shoreham Woods Country Park

HERITAGE VALUE

Shoreham Woods Country Park is a complex of five different woodlands totalling 100ha separated by open grassland that once formed part of the country park. However, these areas were recently sold and are no longer in Council ownership or control. It is located on the scarp slope of the downs above and to the west of Shoreham village.

The woodlands were originally continuous semi-ancient woodland which was mostly felled and replanted by the Forestry Commission during the 1950s. The construction of the M25 in the early 1980s resulted in Barnett's Wood, Andrew's Wood and Pilots Wood being bisected. Then the 1987 and 1990 storms also dramatically altered the woods and a large scale re-stocking programme was undertaken in 1992 giving the current mixed plantations. This was after Sevenoaks District Council purchased the woods in 1991 with the aim of managing them to create a resource for the public to enjoy and to improve wildlife habitats and diversity. The country park is crossed by two public rights of way, but also contains many permissive paths and three circular walks.

The woodlands fall within the Kent Downs AONB and are designated as a Local Wildlife Site (SE09). A mosaic of woodland types is situated mainly on the plateau areas on acidic soils derived from clay with flints and sands. While there are extensive areas of managed chestnut coppice with both sessile and pedunculate oak standards, ancient broadleaved woodland species such as hornbeam hazel, field maple, ash, whitebeam and Midland hawthorn are present both within the coppice and more generally in the derelict woodland areas. Where chalk is exposed on the sides of the dry valleys and on the Polhill scarp, beech is more frequent, although many trees fell in the 1987 storm. Beech and oak plantations occur in the southern part of the site, and some pockets of former conifer plantations are scattered throughout.

Over fifty species of ancient woodland indicator plants have been recorded and several woodland orchids occur including green hellebore (*Helleborus viridis*), white helleborine (*Cephalanthera damasonium*), broad-leaved helleborine (*Epipactis helleborine*) and greater butterfly-orchid (*Platanthera chlorantha*). In addition, over 70 species of bryophyte have been recorded.

ISSUES AND THREATS

Whilst not neglected, shrinking local authority budgets have resulted in investment sufficient only to undertake the minimum maintenance. Public access has reduced since the sale of the grassland areas around Timberden Farm, and the poor condition of waymarking, path surfaces and interpretation, along with steep slopes and dark woodland, have reduced the attractiveness of the country park and increased anxiety with some visitors. In addition, communication of the important natural heritage is somewhat lacking for visitors. The site's three circular walks leaflets are over 20 years old, and the remaining interpretation panels are in very poor condition.



Existing on-site interpretation panel

The M25 bisects the site, and from the main car park the only access to the rest of the country park is crossing a footbridge. Here the noise is substantial, and is not the most welcoming of entrances. However, fortunately the M25 is in a cutting and therefore 'leakage' of noise beyond here is limited.

Awareness of the location of the site is poor despite its location close to junction 4 of the M25, good quality road network to the main entrance, and large car park. Its potential to act as gateway to the Darent Valley, particularly for visitors from the outer London suburbs is considerable. In addition, a history of anti-social and unpleasant behaviour exists, although this is largely controlled and prevented now.

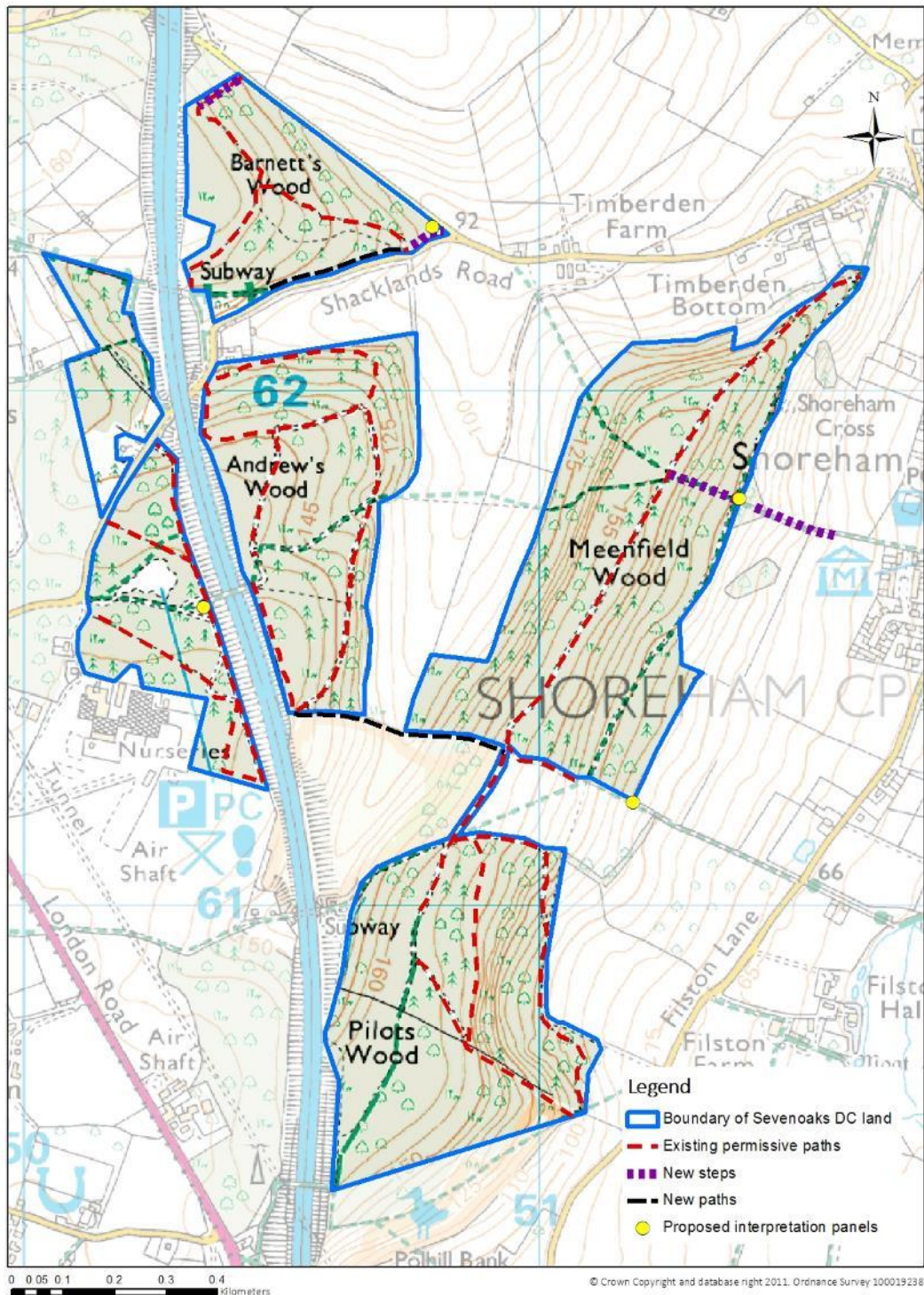
PROJECT DESCRIPTION

This project will deliver considerable access improvements to the existing routes to aid negotiation of the steep slopes and negate the wet and muddy conditions that prevail in the winter. In addition, new routes will be opened to improve accessibility. This will involve extensive path surfacing using either compacted crushed ragstone or MOT Type 1. Clear and improved waymarking will build confidence and encourage nervous countryside users to explore the wider valley along attractive and informative routes. Improved interpretation with appropriately placed panels and revised and renewed circular walk leaflets will be produced.

Work will be led and co-ordinated by Sevenoaks District Council officers and the Senior Countryside Ranger with the support of the volunteers of the North West Kent Countryside Partnership where the scale of work allows. Interpretive work will be undertaken in partnership with the DVLPS Interpretation and Learning Officer.

To ensure connectivity between the woodlands, consent from Highways England to formalise the permissive route across land to south of Andrews Wood will be required and from Kent County Council Public Rights of Way and the landowner for the construction of steps on SR5.

As a result of this work, awareness of Shoreham Woods Country Park will be increased and will receive more visits, and visitors will be better informed about the site's importance, and more likely to return and explore further both within the park and in the wider valley. Links to Shoreham village and throughout the PROW will be improved and users will feel confident and safe when visiting.



Project proposals for Shoreham Woods Country Park

OUTPUTS AND OUTCOMES

Activity	Outputs	Outcomes
<p>1a. New permissive path to be opened along north bank of Shacklands Road in Barnetts Wood to link SR7 to junction of Chelsfield Lane and Shacklands Road and then on to Footpath SR5.</p> <p>1b) Steps built to link north end of existing permissive path to Chelsfield Lane</p>	<ul style="list-style-type: none"> • 360m of path cleared and waymarked with 5 posts. • Two flights of steps built; at eastern end to road level and at northern end of woods on existing path. 	<ul style="list-style-type: none"> • Improves safety of visitors and users of the country park by avoiding a dangerous road. • Supports greater exploration of the park and improved views of the wider landscape. • Increases confidence in users of the park.
<p>2. New permissive path to be opened to link southern end of Andrews Wood to Footpath SR9</p>	<ul style="list-style-type: none"> • 230m of path cleared and waymarked with 5 posts. 	<ul style="list-style-type: none"> • Formalises new access and enables greater exploration of the park. • Provides an improved experience of the Darent Valley landscape.
<p>3. Steps built on escarpment slopes along Footpath SR5</p>	<ul style="list-style-type: none"> • Two flights of steps built to west and east sides of SR20 on Footpath SR5. 	<ul style="list-style-type: none"> • Improves safety of visitors and encourages exploration out of the park and into the historic village of Shoreham.
<p>4. Interpretation boards designed, constructed and installed</p>	<ul style="list-style-type: none"> • Four interpretation boards provided at woodland entry points. 	<ul style="list-style-type: none"> • Improved understanding and appreciation of the Darent Valley landscape and heritage. • Greater awareness of how the site fits in the wider landscape.
<p>5. Benches procured and installed</p>	<ul style="list-style-type: none"> • Six benches purchased and installed at view points and path intersections. 	<ul style="list-style-type: none"> • Visitors encouraged to rest, enjoy views and be more adventurous when walking. • Improved visitor experience, and encourages visitors to spend time contemplating their surroundings and appreciating the tranquillity.
<p>6. Path surfacing</p>	<ul style="list-style-type: none"> • Paths prioritised and worst surfaced with loose bound stone. • 700m surfaced each year for 3 years. 	<ul style="list-style-type: none"> • Physical access improved, visitors encouraged to walk greater distances, not deterred by muddy and uneven surfaces.
<p>7. Production of circular walk leaflets</p>	<ul style="list-style-type: none"> • Revised and improved leaflets produced for three circular walks. 	<ul style="list-style-type: none"> • Greater awareness and valuing of the site's natural heritage. • Wider exploration of the park. • An increase in the number of visitors to the park. • An overall increase in visitors from nearby London suburbs.

Whilst Shoreham Woods has not historically collected visitor data, it will be included in the end of scheme evaluation to assess visitors' views on the site, feelings of safety and understanding of its landscape importance. This will be measured against the audience development work undertaken during the development phase of the scheme.

PROJECT RISKS

Risk	How likely	Severity	Consequence	Action required
Landowners don't provide consent for works	Low,	Medium	Item 2 not possible or deliverable	Open discussions at an early stage and build on existing good relationship.
KCC PROW objections	Low	Medium	Item 3 not possible or deliverable	Open discussions at an early stage and build on existing good relationship.
Sale of part or all of Shoreham Woods	Very low	High	No items possible or deliverable	Monitor Sevenoaks DC members' views and get their commitment to retaining site.

TRAINING REQUIRED

No training required.

MAINTAINING A LEGACY

Shoreham Woods is a key countryside site for Sevenoaks District Council and the works delivered will be maintained through its existing revenue budgets and staff resources.

LINKS TO OTHER PROJECTS

- **1D Framing the View** – Views from the park across the valley are impressive and this project will contribute to enabling people to enjoy and take inspiration from them.
- **1E Rediscovering Tranquillity** – Although close to the M25, the topography of the valley side makes Shoreham Woods a remarkably tranquil location.
- **3C Telling the Darent's Story** – Interpretation elements to this project will play a key role in the wider interpretation strategy for the valley and contribute towards communicating the importance of the wider landscape.
- **3D Reducing the Pressure** – Shoreham Woods is a country park that is currently under-utilised and under-valued. It has the capacity to play an important role in reducing the impact of visitor pressure on other popular locations in the Darent Valley.
- **4E On the Verge – Connecting Opportunities** – With the M25 passing directly through the site, this project can be integrated with 4E to further reduce the negative effects of the road system on the landscape and biodiversity.
- **5F Engaging New Audiences** – Shoreham Woods will provide the Darent Valley countryside experience for visitors towards the capital, providing a gentle and enjoyable introduction to the area.

3C. TELLING THE DARENT'S STORY



PROJECT AIM

Informed by the DVLPS Interpretation Strategy, the story of the Darent Valley will be completed through a comprehensive range of interpretation. Both on and off-site throughout the DVLPS area, interpretation will be delivered through an engaging and appropriate range of interpretive media as specified in the Interpretation Strategy including audio, self-guided trails and Bluetooth beacons. Using a main theme with a series of linked sub-themes to develop a connected and coherent message across the area, new interpretation will communicate with audiences and help them to appreciate, learn about and connect to the interwoven heritage of the Darent Valley landscape.

DELIVERY LEAD

DVLPS Delivery Team

LOCATION AND LAND OWNERSHIP

Multiple locations are proposed for on-site interpretation throughout the DVLPS area with different landowners.

AUDIENCE

Considerable work has been undertaken through the development of the Audience Development Plan which has identified key target groups and what their needs are when it comes to information and communication. Key target audiences identified will be engaged through the interpretation; including residents, visitors within 5km, visitors from South East London, young people, Black and Minority Ethnic people, people with disabilities, families with young children, landowners, deprived communities from Dartford, Swanley and Lewisham.

A specific audience may be the focus for interpretation based at a site depending on who the site is trying to engage with. Each interpretive project, both site-based and scheme-wide off site interpretation, has identified target audiences. These are identified in section 9 of the Interpretation Strategy to ensure interpretive media and content are the most appropriate for the target audience

group(s). Audience groups may have specific requirements or experience barriers to engaging with a site and its interpretation, and this has been considered in the strategy's recommendations, but will be considered during subsequent planning and implementation.

HERITAGE VALUE

The Darent Valley is rich in heritage, cultural and natural assets as well as offering a host of formal and informal attractions to its audiences as conveyed through the detailed summary of assets in section 3 of the Interpretation Strategy.

The Darent Valley is a landscape of considerable time-depth with a complex untold story to tell with evidence of Palaeolithic communities, Roman villa sites, numerous mills, isolation hospitals and an impressive built heritage spanning many centuries. Much of the heritage remains hidden; perhaps justifying the need for interpretation even more with many stories waiting to be shared and told. Its natural heritage is second to none with plenty to engage the audiences from flora and fauna, hop fields, and not forgetting the River Darent. Many of the communities themselves have a deep and complex background with many stories waiting to be shared with other residents and visitors.

An inventory of existing interpretive provision on and off site in the Darent Valley found that there is already a broad range of interpretation within the DVLPS project area. However, analysis has revealed that interpretation is of varying condition and effectiveness with much of what is offered being more information than interpretation;

- Interpretation is very site-based, focusing on what is on the site such as wildlife with very little links to the wider landscape;
- Limited interpretation -guidebook out of print, no leaflet, no dedicated website – google Darent Valley and the first page of websites is about the 'Darent Valley hospital';
- There are a vast range of existing circular and linear walks mainly in the central section of the Darent Valley, focusing on a mix of landscape, heritage and historical figures;
- Events are offered but at key sites and only a few events each year;
- Waymarking of the Darent Valley Path is of a good standard depicting the Darent Valley Path's own logo but there are some missing or defaced waymarkers;
- There is currently very limited interpretation along the Darent Valley Path; a few outdated and faded noticeboards with a map of the route and some site-specific information that merely mentions the Path.

Current interpretive provision is inadequate for communicating the time-depth heritage story of the Darent Valley and providing an opportunity for audiences to learn about, connect to and appreciate its heritage.

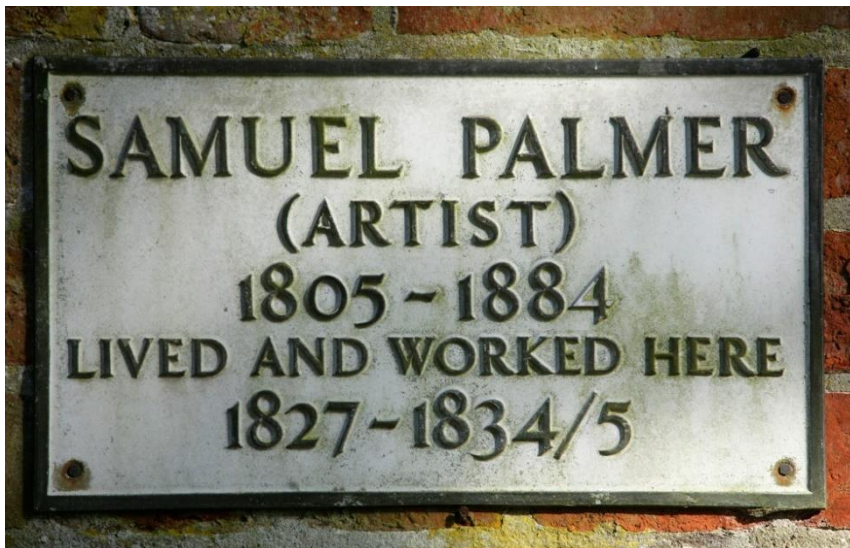
The current interpretation is inadequate, and there is a complex heritage resource covering several time periods, sites and a 137km² area with multiple audiences. The methodical and thorough approach of an Interpretation Strategy has ensured that going forward, the area's heritage resource will be better interpreted, understood and meaningful. The carefully planned and connected main

theme and sub-themes (outlined below), enables all time periods and sites to be included when telling the Darent's story;

Main theme: 'Just a stone's throw from London, it is the once mighty River Darent that has sculpted the Darent Valley landscape over thousands of years that renowned Victorian artist, Samuel Palmer, affectionately called his 'earthly paradise'.

Sub-themes:

1. The River Darent's crystal water is the life blood of the area's bustling past industry (industry).
2. Kent's Suez Canal (transport).
3. The Darent Valley riverside has been a relaxing place to enjoy for hundreds of years (recreation).
4. An abundance of distinctive flora and fauna thrive in the Darent Valley, thanks to the River Darent (wildlife and habitats).
5. Renowned artists and important historical figures are among those that have been drawn to the River Darent and its surroundings for thousands of years (people and communities).



Credit - Explore Kent/John Miller

ISSUES AND THREATS

The audience development consultation found that the Darent Valley's natural heritage is highly valued. However heritage, although valued by some, was valued to a much lesser extent than the natural landscape. This could be for the simple reason of some heritage being hidden, but it is likely the lack of understanding of a heritage asset and the significance of this to the Darent Valley landscape is due to limited interpretation. This is further supported by the fact that audiences are keen to learn more about local heritage and visit heritage sites if they knew where to go. The risk is that hidden heritage and historical assets deteriorate and stories are lost if audiences remain unaware of and disconnected with them, as the desire to protect them will not exist. Audiences not only need to be aware of heritage in the Darent Valley, but need to feel a sense of ownership and a desire to

protect it. Recommendations within the Interpretation Strategy at sites across the Darent Valley will reduce this issue by raising awareness of the Darent Valley's heritage and providing audiences with the opportunity to have a meaningful connection with heritage.



Credit - Explore Kent/John Miller

PROJECT DESCRIPTION

The role of the DVLPS Interpretation Strategy is to provide a holistic and coordinated approach to ensure that new interpretation delivered through DVLPS links back to the overarching theme to convey a clear message. Interpretation is a communication process that makes connections with the audience by revealing the meaning or significance of what they are experiencing through clear messages and provides a thought-provoking experience. In 'Interpretation: the good practice guide', Heritage Lottery Fund (HLF) states that interpretation is the way in which the interest, value, significance and meaning of heritage is communicated to people, therefore DVLPS interpretation must:

- catch the attention;
- provide a connection between the heritage and people's own experiences – make it relevant;
- be pleasurable, interesting and meaningful;
- be well-organised and easy to understand;
- meet the needs of a variety of audiences; and
- have a clear theme or idea to communicate.

There are multiple sites through DVLPS that will be interpreted, all with different assets, audiences, owners, objectives and management implications. A logical and planned approach encompassing information gathering, audience research and analysis (delivered through the Audience Development Plan), inventory of existing interpretive provision in the Darent Valley both on and off-site has been undertaken. This was followed by setting interpretive goals and objectives, devising themes and sub-themes and delivery plans for recommended interpretive media projects to be delivered. An interpretation strategy will ensure that DVLPS has a consistent approach to its interpretation regardless of the type or location of the site or whether interpretation is on or off-site, yet still provides flexibility to accommodate a site's individual requirements.

Many of the interpretation recommendations identified for specific sites are being delivered through (and budgeted under) other projects within DVLPS yet they will still adhere to the main theme, sub-themes and interpretive goals and objectives identified in the Interpretation Strategy; see links to other project section below.



Filston Trackway Information Board
(© Copyright [David Anstiss](#) and licensed for reuse under this [Creative Commons Licence](#))

1. CONTEMPLATION BENCHES

Ten benches with inspiring words routed such as “REST - PONDER – ENJOY”, installed at key locations. Words will vary depending on what is the focus of interpretation for that view. Popular words from audience development consultation when asked ‘what comes to mind when you think of the Darent Valley?’ will be used. Proposed locations are:

1. Nine Hole Wood overlooking Eynsford Castle;
2. Top of North Downs Way / Darent Valley Path on uphill stretch from Dunton Green (overlooking former lime works);
3. Dartford Marshes (on edge of marshes / Thames looking towards QEII bridge);
4. Dartford Marshes (overlooking Orchard Hospital site);
5. Shoreham section – valley side (overlooking view of the valley);
6. Shoreham section – valley bottom along Darent Valley Path;
7. On the Darent Valley Path above Lullingstone Roman Villa overlooking Eynsford Viaduct;
8. Along the North Downs Way in Kemsing overlooking views to south (Cotman’s Ash);
9. Along the North Downs Way at Star Hill Lane (view from Star House (parkland, view to south, Chevening Park. Location is on Ramblers Walk: Chevening to Turvin Farm);
10. A high point within Squerryes Park looking back towards Westerham .

Benches can also be used as locations for audio interpretation (see below) by fixing an audio disc to the bench.

This project will link to the main theme and potentially all sub-themes depending on the words used and all audiences could benefit from this interpretive media. Interpretive objectives to be delivered are LO1, BO7, EO1, EO3, EO4, EO6, and EO7.

2. AUDIO INTERPRETATION

Downloadable audio tracks will be provided at key sites throughout the Darent Valley and along the Darent Valley Path interpreting hidden, former and existing heritage. Each track will be no more than a couple of minutes long to maintain listener interest and to not take too much time to download. Each audio track is designed so it can be listened to in isolation (but will mention 'part of DVLPS project' at end of the track and to look out for other discs throughout the Darent Valley).

Each audio track will be identified by a bespoke designed waymarker disc (see photo) which has a URL to a dedicated page on the DVLPS website embedded into it, using Near Field Communication. The user places their smart phone a few centimetres away from the waymarker disc to receive the URL address and then listens to the audio. Discs could be placed on existing furniture – benches, waymarkers, kissing gates near to the heritage asset being interpreted and new interpretation proposed in this strategy on routed benches and gateway interpretation. Exact locations are to be determined during the delivery phase.



Figure 6. Example of a bespoke waymarker disc

The same disc will be used at each audio point throughout the valley to ensure consistency and help users recognise that each point is part of an area-wide project. There is the potential to use children's artwork on the disc produced as part of DVLPS inspired landscapes project. This project can expand and evolve with new audio points being able to be added with relative ease and low cost.

This project will target all audiences depending on content and location and audiences could be involved by sharing memories, assisting with voice overs and undertaking research of stories and information for audio content. Furthermore, as audio files are stored on the DVLPS website, they are available to people unable to visit a site and could provide a means to encourage people to explore the Darent Valley and users will also be able to listen to other audio tracks as well.

This project will link to the main theme and potentially all sub-themes depending on the words used and deliver multiple interpretive objectives: LO1, LO2, LO3, LO4, LO5, LO7, BO3, BO5, BO7, EO1, EO2, EO3, EO4, EO6, EO7 and EO8.

3. BLUETOOTH BEACONS

DVLPS will use Bluetooth Beacons at locations where people are visiting for primarily a different purpose than to walk the Darent Valley Path i.e.: riverside pubs and car parks to promote awareness and prompt the user to explore the Darent Valley. Locations are likely to include:

- Central Park in Dartford
- Fighting Cock pub at Horton Kirby
- Lion Inn, Farningham
- The Plough, Eynsford riverside
- Pub in Shoreham riverside
- Otford car park
- The Bricklayers Arms, Chipstead Lakes
- The Grasshopper, Westerham Green
- Westerham Brewery

A pilot of this project is recommended at a minimum of two locations to ascertain its effectiveness in encouraging people to explore the Darent Valley (this would need evaluating to identify behaviour change in numbers exploring the Darent Valley). It may be possible to pilot this with the Samuel Palmer trail that proposes to use Bluetooth beacons with delivery in year 1.

Visitors to the area that have not come to the Darent Valley with primary motivation to explore the area. Interpretive objectives to be delivered LO1, LO6, BO1, BO2, BO4, BO9, EO1, EO4, EO6 and EO7.

4. INFO-POINT AT LULLINGSTONE COUNTRY PARK

Info-Point enables the provision of digital visitor information at any locality. Nearby users can browse the Info-Point using any smartphone, or any web-browsing device. The user connects to the Info-Point Wi-Fi 'hot spot' and navigates through information with their browser – just as if they were browsing the public web. As the owner, information is uploaded directly to the Info-Point unit. This is also done via its Wi-Fi connection using a content management interface with a laptop or tablet. This will be integrated with QR codes, NFC tags, Beacons and GIS.

The target audience is visitors within 5km and visitors from SE London who have potentially come to the Darent Valley for alternative reasons i.e. a pub lunch, but may be interested in exploring a circular trail promoted via a Bluetooth electronic beacon.

This project will link to the main theme and potentially all sub-themes depending on the words used. Furthermore, it aims to deliver multiple interpretive objectives: all LO (LO1, LO2, LO3, LO4, LO5, LO6, LO7), BO1, BO2, BO3, BO5, BO6, BO7, BO9, EO1, EO2, EO3, EO4, EO5, EO6, EO7 and EO8.

Proposed interpretation will replace tired signage, improve waymarking, increase awareness and interpret the heritage landscape and its stories to target audiences and offer an engaging experience and greater appreciation of and connection with the landscape.

5. SHOREHAM AIRCRAFT MUSEUM

The hidden gem that is the Shoreham Aircraft Museum is run by a team of volunteers from a small property in the heart of the village of Shoreham. It houses hundreds of aviation relics excavated by the group over many years from crashed British and German aircraft, along with items kindly donated by the public.

Artefacts from a wide range of aircraft including Spitfires and Hurricanes with items including engines, propellers, fuselage & wing sections, instruments, controls, bombs and weaponry.

The exhibits include documents, letters, photographs and eye-witness accounts alongside the artefacts. Together they tell the stories of the men who fought in the skies over Europe during World War II. These stories are central to all the exhibits, and the museum's intention is to provide as much background information as possible.

DVLPS will support the work of the museum by undertaking three projects:

1. LOCAL MEMORIALS PROJECT

In 2006, the museum took the decision to erect permanent memorials to all those Battle of Britain pilots who lost their lives within a ten-mile radius of Shoreham. The DVLPS will fund a permanent memorial stone inscribed with his name to be installed at Noah's Ark near Kemsing in memory of Sgt Jack Hammerton of 615 Squadron at Prestwick. On 6th November 1940, during a squadron patrol, he was last seen at 25,000 feet leaving the formation, apparently in pursuit of enemy aircraft. He was killed when he crashed in bad visibility near the railway line at Noah's Ark. He was only 25.

2. BATTLE OF BRITAIN AUDIO INTERPRETATION

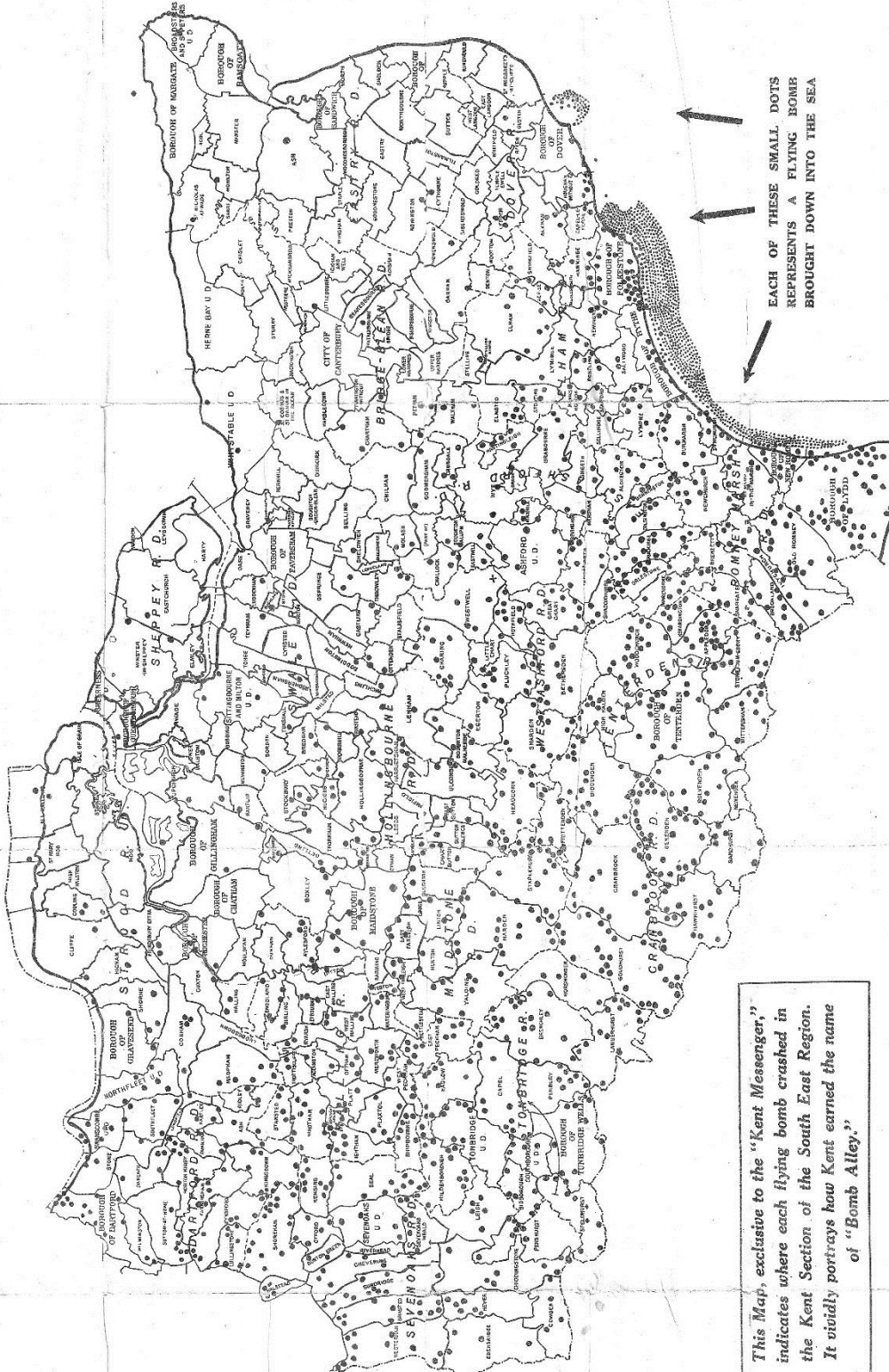
The museum is located at the base of the chalk scarp adjacent to a footpath that leads up the slope towards Shoreham Woods Country Park and adjacent to the World War I chalk cross memorial. A sculptural waymarker will be installed at the top of the slope where people can stop and consider aerial dogfights that occurred over the Darent Valley in the early 1940s. To enhance the contemplation, a series of audio recordings will be made that can be downloaded at the museum. These will use stories taken from transcripts of interviews with Battle of Britain pilots and sound effects to bring the experience of 'Bomb Alley' to life.

3. BOMB AND CRASH SITE RECORDING

Using data from the scheme's LiDAR data and the record of Doodlebug landings (see overleaf), the volunteers at the Shoreham Aircraft Museum will help to identify and provide an accurate record of all bomb and crash sites within the Darent Valley. These will be validated through the LiDAR ground-truthing exercise and mapped through the online mapping system on the DVLPS website.

Summer 1944.

Where the Doodle Bugs Crashed in Kent.



This Map, exclusive to the "Kent Messenger", indicates where each flying bomb crashed in the Kent Section of the South East Region. It vividly portrays how Kent earned the name of "Bomb Alley."

EACH OF THESE SMALL DOTS REPRESENTS A FLYING BOMB BROUGHT DOWN INTO THE SEA

Price 6d.
 ALL PROCEEDS TO SERVICE CHARITIES.

Reprinted from the "Kent Messenger" (the County Paper of Kent) issue of September 15th, 1944.
 Editor and Proprietor: H. R. PRATT, ROOPEMAN, Maidstone, Kent, England.

OUTPUTS AND OUTCOMES

Activity	Outputs	Outcomes
1. Installation of benches with inspiring words	<ul style="list-style-type: none"> • 10 benches installed at key locations. 	<ul style="list-style-type: none"> • A greater awareness of the landscape, wildlife, habitats and heritage of the Darent Valley. • People are more aware of the quantity and variety of heritage in the Darent Valley.
2. Downloadable audio information at locations throughout the Darent Valley	<ul style="list-style-type: none"> • 20 audio tracks created • 20 audio discs installed at locations throughout the Darent Valley 	
3. Electronic Bluetooth Beacons installed	<ul style="list-style-type: none"> • 8 Bluetooth Beacons installed at key locations 	<ul style="list-style-type: none"> • People are aware of other sites outside of the central section of the Darent Valley by which to visit and explore the area. • People over a much larger geographic area are aware of the heritage in the Darent Valley.
4. Info point installed at Lullingstone Country Park	<ul style="list-style-type: none"> • X 1 info point installed 	<ul style="list-style-type: none"> • Promotes awareness and encourages people to take pride in their landscape and value it for the future. • Local people will have explored parts of the valley that they were previously unaware of.
5. Shoreham Aircraft Museum interpretation	<ul style="list-style-type: none"> • 1 x memorial stone installed. • 1 x memorial service held. • 5 x audio tracks created. • 1 x sculptural waymarker installed. • A record established of all WW2 bomb and crash sites in the valley. 	<ul style="list-style-type: none"> • People will have shared stories and memories of the Darent Valley area. • A vivid interpretation of the valley during the Second World War. • People will have a deeper understanding of the impact the Second World War had on the Darent Valley and the scars it left on the landscape. • People will remember the sacrifice that 'The Few' made during the Battle of Britain.

PROJECT COSTS

Element/Item	Year 1 2017/18	Year 2 2018/19	Year 3 2019/20	Year 4 2020/21	Year 5 2021/22	Total
[REDACTED]		[REDACTED]				[REDACTED]
[REDACTED]		[REDACTED]				[REDACTED]
[REDACTED]			[REDACTED]			[REDACTED]
[REDACTED]			[REDACTED]			[REDACTED]
[REDACTED]					[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]					[REDACTED]
[REDACTED]			[REDACTED]			[REDACTED]
[REDACTED]			[REDACTED]			[REDACTED]
[REDACTED]		[REDACTED]				[REDACTED]
[REDACTED]			[REDACTED]			[REDACTED]
[REDACTED]		[REDACTED]				[REDACTED]
[REDACTED]		[REDACTED]	[REDACTED]			[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Totals	£3,300	£9,000	£11,300	£0	£3,850	£27,450

PROJECT RISKS

Risk	How likely	Severity	Consequence	Action required
Vandalism to site-based interpretive media	Low/Medium	High	Not able to use interpretation so audiences have a reduced connection with the site’s heritage and a lower valued experience.	This risk has been taken into consideration at sites where vandalism could be an issue. Media that can be replaced at low cost has been suggested for these locations such as audio interpretation disc.
Audiences do not engage with interpretation	Low	High	Audiences are unaware of a site’s heritage significance and have a less desire to look after it.	Various interpretive media has been recommended for sites to enhance the visitor experience which hopes to peak visitor’s interest to engage with.
Landowner cannot maintain interpretation due to high ongoing cost	Low	High	Audiences would have a reduced experience visiting a site if they interpretation was in a state of disrepair or no longer available.	Discussions with many landowners already held to confirm interpretive media option and are aware of any ongoing maintenance costs. Re-visit this with landowners during the planning process before installing any interpretation.
Audience cannot download audio content	Low	High	Audience would not be able to engage with the heritage of the Darent Valley using audio interpretation on site	Pilot the project to overcome any foreseeable technical issues. Keep audio tracks short so quicker to access on site.
Owner does not consent to Bluetooth Beacon being put in place	Medium	Low	Visitors to that attraction / site continue their visit but are not engaged with the heritage of the Darent Valley	A pilot of the project will help demonstrate the benefit to the owner and encourage them to come on board with the project. Alternative locations can be sought.

TRAINING REQUIRED

Interpretive / creative writing

MAINTAINING A LEGACY

Implementing interpretive media recommendations as outlined in the Interpretation Strategy will enhance existing sites and provide a more rounded and engaging visitor experience than previously. Hidden heritage will be revealed and stories shared and enjoyed by others. Target audiences will have a greater awareness of the Darent Valley’s heritage and the numerous sites where different periods of the Darent’s heritage can be seen and enjoyed. Audiences, particularly residents, will have developed a greater appreciation for the area’s heritage and want to look after it for the future and understand the tangible and intangible values of it for the Darent Valley and its people.

The interpretive planning process adopted in the Interpretation Strategy has ensured that interpretive media proposed is appropriate for the needs of a site, its audience and landowner. Any maintenance and ongoing costs of interpretation have been discussed with the landowner so interpretation will remain in good condition and an asset for the site for many years to come.

LINKS TO OTHER PROJECTS

- 1A. Samuel Palmer Trail
- 1C. Inspired Palmer Landscapes
- 2B. The Darent's Hidden Roman Legacy
- 2C. Eynsford Castle Revealed
- 2D. The Hidden Palace – Otford's Own Hampton Court
- 2E. Royalty and Silk – Exposing Lullingstone Castle
- 2F. Gunpowder and Paper – The Working River
- 2G. Dartford Marshes – Orchard Hospital Nature Park and Community Orchard
- 3A. Heart of the Valley – Darent Valley Path (Darent Valley Path guidebook, Rail Trails and gateway interpretation)
- 3B. Gateways to the Valley
- 3D. Reducing the Pressure (Local Landscape Trails)
- 4A. Uncovering the Herb-Scented Scarp
- 4B. Sustainable Woodlands
- 4D. A Designed Landscape: Protecting Parks, Gardens and Estates
- 5A: Landscape Adventure Learning for All (Toddle Trails)
- 5F. Engaging New Audiences (events programme)
- 5G. Spreading the Word (website)
- General promotion (promotional flyer, illustrative map, launch event)

DVLPS INTERPRETIVE OBJECTIVES (FROM THE INTERPRETATION STRATEGY)

LEARNING OBJECTIVES – WHAT YOU WANT THE AUDIENCE TO LEARN OR REMEMBER

Audiences will...

LO1	Become aware of the area's rich history and value its natural and cultural heritage.
LO2	Know who Samuel Palmer is and appreciate and share in the connection he had with the landscape.
LO3	Understand that the River Darent is at the heart of why the landscape looks like it does today through natural processes and people using it if for thousands of years.
LO4	Understand that it is a partnership of organisations and landowners that work closely together to manage this special landscape.
LO5	Realise that the landscape needs to be carefully managed by people with specialist skills and expertise to keep it looking like it does.
LO6	Recognise that the Darent Valley is not just the popular central Farningham - Shoreham section but it extends to Westerham, Kemsing and Dartford too.
LO7	Understand the challenges and issues the area faces and the potential direct impact their behaviour can have on the landscape.

BEHAVIOURAL OBJECTIVES – WHAT YOU WANT THE VISITORS TO DO

Audiences will...

BO1	Not undertake actions that can have a damaging impact on the landscape.
BO2	Enjoy visits safely and responsibly following appropriate guidelines.
BO3	Experience far fewer barriers to visiting the Darent Valley
BO4	Use sustainable means of travel more often when visiting and exploring the Darent Valley.
BO5	Visit other sites outside of the central section of the DVLPS area to help mitigate visitor pressure on this already popular section.
BO6	Take part in events & training opportunities to learn more about the Darent Valley and how to care for it.
BO7	Tell others of the enjoyable and positive experience had when visiting the Darent Valley.
BO8	Families will understand the importance of children spending time outdoors and take opportunities to explore and interact with nature in the Darent Valley.
BO9	Not knowing where to go is no longer a barrier to visiting the Darent Valley.

EMOTIONAL OBJECTIVES – HOW YOU WANT THE AUDIENCE TO FEEL

Audiences will...

EO1	Be surprised by the extent of the area's history and wish to find out more.
EO2	Be passionate about conserving the Darent Valley from negative impacts.
EO3	Feel content from having a positive enjoyable experience from visiting the Darent Valley.
EO4	Wish to undertake repeat visits and explore other areas of the Darent Valley.
EO5	Be supportive of DVLPS and what it is trying to achieve through its partnership.
EO6	Feel that the Darent Valley is a tranquil and relaxing place to spend time.
EO7	Feel a connection to the landscape as Samuel Palmer did.
EO8	Residents feel a sense of pride of living in the Darent Valley.

Theme 3: Darent Valley Exploration
3C: TELLING THE DARENT'S STORY

PROJECT TIMETABLE

Activity	Year 1			Year 2			Year 3			Year 4			Year 5												
	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	
Sgt Hammerton memorial stone commissioned and installed																									
Confirm proposed location of benches and gain landowner permission																									
Installation of benches																									
Research crash and bomb sites from LIDAR survey and archived records																									
Ground-truth locations and build record notes of each site for uploading.																									
Identify audio interpretation locations																									
Design and installation of Shoreham sculptural waymarker																									
Commission recordings																									
Production of battle of Britain audio files.																									
Promotional disks installed and files available on-line																									
Installation of Bluetooth Beacons																									
Installation of InfoPoint at Lullingstone Visitor Centre																									

Theme 3: Darent Valley Exploration

3C: TELLING THE DARENT'S STORY

3D. REDUCING THE PRESSURE COMMUNITY LOCAL LANDSCAPE TRAILS



PROJECT AIM

Local communities are the ones that know their landscapes most intimately and there are many parts of the valley that are under-explored and contain hidden heritage. The DVLPS will support all the local communities in the valley to improve access to these areas by undertaking projects that make improvements to rights of way, create new permissive paths and develop circular local landscape trails that help introduce others to the heritage of the Darent Valley. These will be accompanied by appropriate interpretation that will encourage visitors to explore the valley away from the traditional 'hot-spots' close to the river and in the villages, to disperse the visitor pressures felt in these areas.

DELIVERY LEAD

Darent Valley Landscape Partnership Scheme, but delivered by the local communities themselves.

LOCATION AND LAND OWNERSHIP

It is intended that every parish with a significant area within the DVLPS area will participate in this project. Communities will be encouraged to work together to develop their trails, and some trails will

serve more than one community. The trails will pass over multiple landownership, but will predominantly use public rights of way and existing permissive paths. Where feasible, communities can negotiate new permissive routes with landowners to enhance existing access.

AUDIENCE

This project will target the local communities to plan and create the trails themselves. These may be parish or town council led, but there will be an expectation that there is the participation and involvement of the wider community. Alternatively, a local community group may be willing to lead the project. In both circumstances. A small informal Local Landscape Trail working group will be established to spearhead the individual projects.

The use of the trails will include the local communities themselves, and visitors from elsewhere within the valley, or from outside the scheme area. The trails will provide the opportunity for people to learn about the local stories that are otherwise missed by the communities, or are not included in other projects within the DVLPS.

HERITAGE VALUE

With an area so rich in multiple layers of history it is difficult for a landscape partnership scheme to encompass all of these stories within its projects. The Local Landscape Trails provide an opportunity for local communities to identify and promote their local heritage within their villages and the surroundings, but also celebrate and reveal the story of their landscape to visitors.

Stories such as Percy Pilcher and the first manned flight (before the Wright Brothers) in his 'Gull' and 'Hawk' gliders from the 'knob' near Eynsford; the Vickers Airfield on Dartford Marshes; the World War II dummy airfield at Lullingstone; the ancient Filston Trackway near Shoreham; or the Westerham Valley Branch Line that ran between Dunton Green and Westerham; are all stories that deserve to be told and communicated to visitors. At the same time, these walks will draw visitors out into the wider valley, reducing the pressure on the valley floor and enhancing enjoyment of the landscape on the valley slopes.



The George, Shoreham

ISSUES AND THREATS

Many of these stories can be easily lost if not retained and passed onto each generation. A component part of the story of the evolution of the Darent Valley landscape is in danger of going missing, particularly if the focus remains on 'big' heritage. With greater mobility amongst the population, if even just one generation misses out on being told these stories, they can be lost forever and the local connection with the landscape is irrevocably broken.

Areas such as Eynsford Riverside are extremely popular and have been so for many decades (see image below). Whilst it is positive to see visitors enjoying the Darent Valley's landscape, at its busiest times numbers exceed the carrying capacity for visitors. This does present many problems including congestion, parking issues, litter and friction between visitors and residents. Similar issues arise in many of the villages along the Darent. This isn't an issue that the DVLPS can solve, however it can help to address the problems caused by encouraging visitors to explore further afield and enjoy the tranquillity of the wider landscape. This also helps to challenge the perception of the river just being about lavender fields, country parks and Roman villas.

The valley has a good and well connected public rights of way network. However, for visitors and residents who are less confident in exploring the countryside, a lack of waymarking can cause anxiety regarding where they can go legally. With the loss of the Parish Paths Partnership in Kent, there is no longer the mechanism to support local communities wishing to undertake improvements to the right of way network themselves. There is a will and enthusiasm from local communities to be proactive in improving their access network, but no resources to support it.



Eynsford Riverside in the 1950s

PROJECT DESCRIPTION

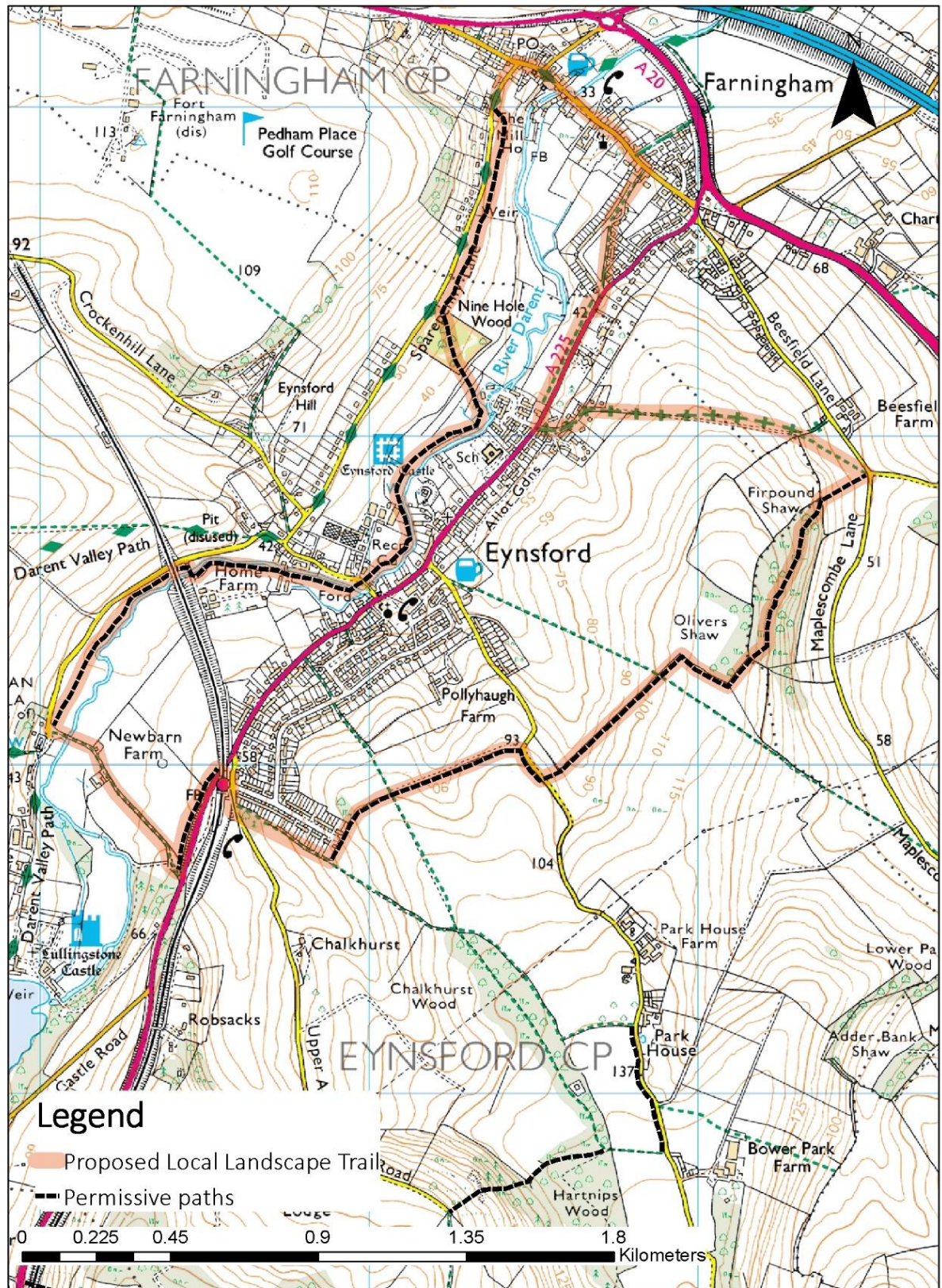
This project will deliver an initiative based on the Parish Paths Partnership (P3) model for local communities to make access improvements. However, the emphasis will not just be on the network itself, but will also be to encourage promotion and interpretation of the heritage that is important to their local community. The initiative will be deliberately broad and flexible in its delivery as it is recognised that the needs will vary across the valley. Key criteria will be:

- A survey is undertaken of the rights of way within the parish area covered by the scheme.
- A circular Local Landscape Trail is identified that takes in local natural and cultural heritage and plotted.
- Identification of the need for waymarker posts, stile replacement, surfacing, steps and vegetation clearance to make the route easily usable. This can be extended to the rest of the access network within the parish if other improvements can be made.
- Kent County Council Area Public Rights of Way Officer (or in Bexley or Surrey where appropriate) is consulted on the route.
- Landownership is identified and in principle agreement gained for any new permissive path creation or replacement of access infrastructure.
- Proposals for content of leaflet guide, and if any other interpretation is proposed.
- An explanation of how local people will be involved in developing and delivering the improvements.
- In-kind contributions such as volunteering, donation of materials or expertise provided free of charge are expected.
- An explanation of how the Local Landscape Trails will be maintained in the future.

The information and images for the Local Landscape Trails will be provided by the communities, but to ensure consistency of style, the design and printing will be co-ordinated and undertaken by the DVLPS. This will ensure cost efficiency, as well as ensuring Darent Valley LPS integration.

There will be an annual application deadline and decisions will be made by a small Darent Valley Access Group consisting of KCC PROW, Explore Kent, DVLPS, North West Kent Countryside Partnership and two representatives from the DVLPS Explore Theme Group. Decisions will be made on how well proposals meet the DVLPS objectives, geographic spread of projects, amount of local community involvement and level of matching contributions.

During the development of the DVLPS some communities proposed such trails for inclusion, and these have formed the basis for the project development. Eynsford Parish Council has submitted the trail shown on the map overleaf. This proposal requires further consultation with landowners as it includes the creation of new permissive paths, and there is a need for interpretation proposals to be included. This, however will form the basis for Eynsford's proposal.



© Crown Copyright and database right 2011. Ordnance Survey 100019238

Theme 3: Darent Valley Exploration

3D: REDUCING THE PRESSURE: COMMUNITY LOCAL LANDSCAPE TRAILS

OUTPUTS AND OUTCOMES

Activity	Outputs	Outcomes
Delivery of Local Landscape Trails	<ul style="list-style-type: none"> • 10 new self-guided circular trails created. • 60km of new self-guided circular trails created. • Series of 10 Local Landscape Trail leaflets created (paper and downloadable). • 200 new waymarker posts installed. • 250 volunteer days contributed (200 unskilled, 50 skilled). • The signing and waymarking of 100km of rights of way is improved. 	<ul style="list-style-type: none"> • Local communities take a leading role in developing improved access in their area. • Local communities and visitors have clearly waymarked trails and rights of way network and feel more confident about exploring the countryside. • Greater awareness and understanding of the heritage immediately around the areas that people live. • Local people will have developed new skills in heritage research and rights of way improvement. • Visitors are encouraged to explore a wider area and reduce pressure on visitor hotspots. • Visitors have a greater understanding of the heritage of the Darent Valley.

PROJECT COSTS

Element/Item	Year 1	Year 2	Year 3	Year 4	Year 5	Total
	2017/18	2018/19	2019/20	2020/21	2021/22	
[REDACTED]		[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]			[REDACTED]	[REDACTED]		[REDACTED]
[REDACTED]		[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]		[REDACTED]	[REDACTED]	[REDACTED]		[REDACTED]
[REDACTED]		[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]		[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Totals	£0	£13,700	£19,200	£18,100	£9,000	£60,000

PROJECT RISKS

Risk	How likely	Severity	Consequence	Action required
Low uptake of project	Low	Medium	Full range of Local Landscape Trails not possible.	Local communities expressed a need for this project and therefore high uptake is expected. The project will be developed with a light-handed and easy to apply initiative to reduce the administrative burden as much as possible.
Local communities unable to commit time to the project	Medium	Medium	Projects are limited in their scope and volunteer contribution is reduced.	Each parish council has a footpaths representative. Support can be provided by the North West Kent Countryside Partnership if required.
Landowners not predisposed to allowing further permissive access	Medium	Medium	Some circular routes may be difficult to deliver without the creation of new permissive paths.	Local communities are most likely to have existing relationships with landowners and are best placed to negotiate. DVLPS and other partners may be able to support if there are issues.

TRAINING REQUIRED

- Rights of way law
- Heritage research
- Rights of way maintenance.

MAINTAINING A LEGACY

Local communities will have a vested interest in maintaining these trails and the skills learnt in their development will support future maintenance. As rights of way, depending on the nature of the paths, the responsibility for their maintenance will either be with Kent County Council or the landowner. Where new permissive paths are created, a logical next step will be to agree a permissive path agreement, or if possible agree to the path’s official dedication.

The Local Landscape Trails themselves will have a life of at least ten years. The designs of the leaflet will be made available to the local communities so that they can be reviewed, revised and reprinted when appropriate. Links will also be established with Explore Kent who will be able to provide ongoing support with access promotion if required.

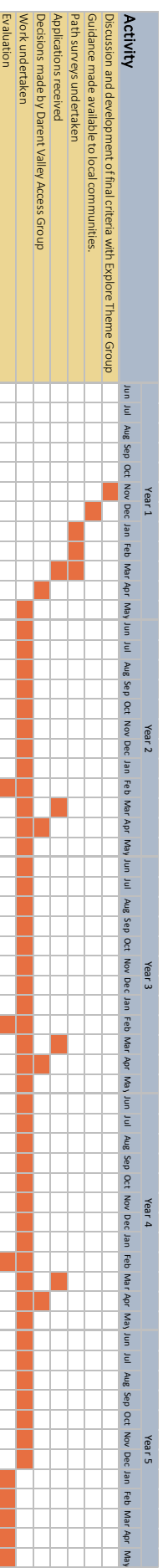
LINKS TO OTHER PROJECTS

- All other projects in the scheme.

Theme 3: Darent Valley Exploration

3D: REDUCING THE PRESSURE: COMMUNITY LOCAL LANDSCAPE TRAILS

PROJECT TIMETABLE



4A.1 JEWELS IN THE DOWNS



View across Fackenden Down and Meadow

PROJECT AIM

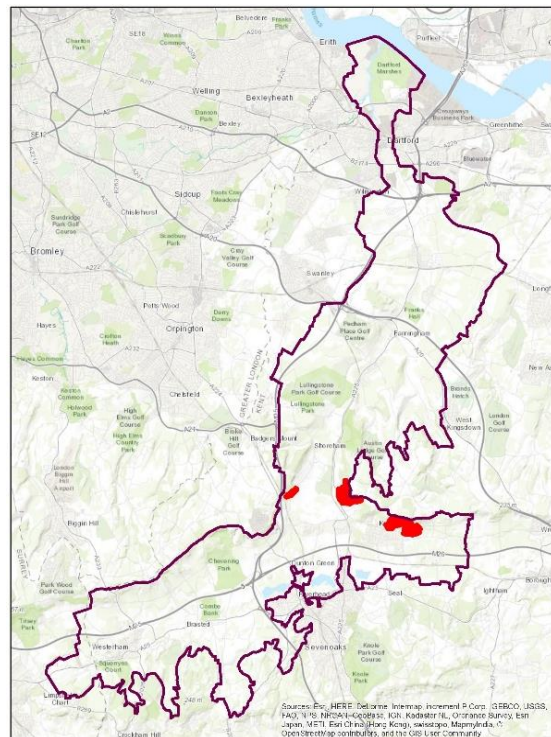
To improve the connectivity and quality of chalk grassland and woodland habitats on Kent Wildlife Trust (KWT) managed sites in its Darent Triangle Living Landscape area and improve connectivity to sites not under KWT control. Emphasis will be placed on the importance of proximity and links between the sites and common links between these and the wider landscape. The biodiversity, management, access and interpretation across the sites in this project will be improved, whilst reducing the potential negative impact of this work on the supply of water to the River Darent.

DELIVERY LEAD

Kent Wildlife Trust - David Hutton, Head of Reserves West
[REDACTED]

LAND OWNERSHIP

- **Fackenden Down and Meadows** - TQ530606; Kent Wildlife Trust has the freehold - KWT; Tenant is John Dinnis, Filston Farm.
- **Green Hill** – TQ534602; Ms Pamela Aisbitt. Kent Wildlife Trust has an informal management and advisory arrangement.
- **Polhill (Sepham Bank)** – TQ508604; Owners of Sepham Farm, Filston Lane, Shoreham, Sevenoaks, Kent, TN14 5JT; Tenant - John Dinnis, Filston Farm. Kent Wildlife Trust has a management arrangement.
- **Kemsing Down Nature Reserve** - TQ550593; Kemsing Parish Council, St Ediths Hall, High St, Sevenoaks TN15 6NA. Managed under agreement with Kent Wildlife Trust.
- **Goss Bank** – TQ554593; Oak Hall, Shorehill Ln, Otford TN15 6XF (Kent Wildlife Trust has a Service Level Agreement until 2021).
- **Green Hill and The Dell** – TQ557591; Kemsing - Kemsing Parish Council, St Ediths Hall, High St, Sevenoaks TN15 6NA.



AUDIENCE

The sites in this project are a suite of well-used sites between Otford and Shoreham with public footpaths and some of the most notable views in the Darent Valley. Whilst the general public and KWT members (mainly local walkers and wildlife enthusiasts) are the current main audience, there is considerable opportunity to raise the profile of these important reserves amongst visitors from further afield. The proximity to the local train stations make many of these sites ideal for short circular walks for those travelling out of London. In addition, they also have a close link to Samuel Palmer's residence in the valley and will figure on the Samuel Palmer Trail (Project 1A) providing interest amongst many who are looking to explore the cultural links.

PROJECT DESCRIPTION

All the sites are prominent parts of the Darent Valley landscape and require regular management to maintain their stunning viewpoints over large areas of the valley, their contribution to landscape character, and their unique and rare wildlife. Fackenden Down and Green Hill are both part of the Otford to Shoreham Downs SSSI, whilst Polhill Bank, Kemsing Down and Goss Bank are designated as Local Wildlife Sites (SE09 and SE12). All of them are designated as such for their chalk grassland, a habitat which has reduced in extent by up to 85% since the 1950s through agricultural improvement, fragmentation and lack of grazing. The remaining sites in this project are recent extensions of these reserves and through a process of reversion are returning from former arable use to this important habitat. Without regular management in the form of scrub clearance and carefully managed grazing pressure these sites quickly deteriorate.

HERITAGE VALUE OF THE SITES

In their most recent assessment by Natural England in 2011, Fackenden Down was considered in 'favourable' condition with a risk from spreading Tor grass, whilst Green Hill was measured as 'unfavourable - recovering'. Both sites have a very diverse flora with over 100 species present. These include fragrant orchid *Gymnadenia conopsea*, stemless thistle *Cirsium acaule*, quaking grass *Briza media* and devil's bit scabious *Succisa pratensis*. Two 'nationally scarce' plants (recorded in less than one hundred 10km squares) in Britain are found growing here: man orchid *Acerus anthropophorum* and chalk milkwort *Polygala calcarea*. The formerly widespread scrub species juniper *Juniperus communis* occurs here at one of its last Kent localities.

The area of downland on the Polhill scarp, now a Kent Wildlife Trust Reserve, is rich in chalk herbs which also include man orchid *Aceras anthropophorum* and fragrant orchid *Gymnadenia conopsea* as well as common rock-rose *Helianthemum nummularium*, bee orchid *Ophrys apifera*, and common-spotted orchid *Dactylorhiza fuchsii*. Dodder *Cuscuta epithymum* occurs in some local profusion at one of its few sites in West Kent.

The very bare chalk cliff above the railway tunnel at Polhill supports a small colony of musk orchid *Herminium monorchis*. Dwarf milkwort *Polygala amarella* has also been recorded here.

Kemsing Down and Goss Bank comprise a mosaic of grassland, scrub and mixed broadleaved woodland on the chalk scarp of the North Downs above Kemsing and Otford. The chalk grassland includes areas that have never been ploughed, but also some areas which were once ploughed but have been allowed to revert to grassland. Many aspects are present on the indented south-facing slope, which adds variety and diversity to the habitat.



Man Orchid at Fackenden Down

The flora is very rich and includes eight species of orchid. Dropwort *Filipendula vulgaris* is present and kidney vetch *Anthyllis vulneraria* and horseshoe vetch *Hippocrepis comosa* occur with adder's tongue *Ophioglossum vulgatum*, as well as many other chalk herbs and grasses. Hawthorn, spindle, buckthorn and dogwood scrub is intruding in some places, but a large part of the site is managed as sheep pasture and is kept open.

The site supports a good invertebrate fauna, with 24 species of butterfly including dingy skipper, grizzled skipper, chalkhill blue and ringlet. Dark green fritillary is a notable species. A good number of grasshopper and cricket species have been recorded, notably the rufous grasshopper *Gomphocerippus rufus* and striped-winged grasshopper *Stenobothrus leneatus*.

In addition to the clear natural heritage value, these sites have a long association with human habitation and use. Two probable prehistoric ring ditches have been located at Fackenden Meadow from previous crop marks, and finds have been discovered at both Fackenden Down and Green Hill including worked flint flakes and a flint scraper.

HERITAGE THREATS AND PLANNED ACTIVITIES

On most of the sites there is a common objective of maintaining and improving the current grassland sward and its complement of associated species plus removal of encroaching shrub species where this is not being achieved by grazing pressure. The sites have slightly different activities proposed according to their specific need.

With recent changes in property prices, changes in agriculture and fragmentation in land ownership, management of ever smaller fragments of land becomes less economically viable and has led to abandonment of sections of chalk grassland and a resultant loss of species. In the meantime, the complexity and reduction in unit area funding from central government for agri-environment schemes (along with the uncertainty that Britain's forthcoming exit from the European Union brings) has brought further budget pressures on those who own grassland sites on the downs.

The scrub clearance proposed is small-scale and does not involve substantial disturbance to soil profiles. The aim is in most cases to return areas of scrub encroachment is relatively recent, back to ancient chalk grassland to maintain the unique flora and fauna of this habitat. It is assumed that this will have a neutral or at least minimal effect on the hydrological balance of the areas concerned.

The investment of new fencing and infrastructure work is urgently needed to maintain adequate levels of grazing pressure, and peripheral areas of scrub threaten the open grassland and needs removing.

The project will improve the management of this precious resource by improving the ability to control grazing, manage scrub encroachment, install additional livestock water supplies, restore and plant new ecological corridors, enhance species richness of grassland swards by introduction of seed and wildflower plugs. Rotational management of peripheral scrub will be introduced to maintain the extremely rich ecotone habitats – and will be extra to the work currently carried out to maintain current extent of chalk grassland habitats.



Kentish Milkwort - Alfred Gay (Kent Wildlife Trust)

The project will deliver a species recovery project involving Kentish milkwort (*Polygala amarella*), a small, short-lived perennial with a very disjunct distribution, and classified as 'Nationally Rare'. It is found only on the North Downs in Kent, the Craven district in Yorkshire, Orton in Cumbria, and Upper Teesdale with the Kent populations now believed to be a distinct subspecies. Its status is classed as 'Vulnerable', meaning there is a high risk that this species may go extinct in the wild with declines of greater than 50% detected since 1930. There are only three extant sites in Kent.

Key to KWT's activities in the area is the involvement of volunteers in most aspects of work. This will include;

- Monitoring the results of management on key reserves using a newly created systematic recording of higher plant species. This will be carried out by the Darent Valley Ecology Group which has recently been set up by KWT's Conservation Evidence Ecologist and consist of a group of staff led volunteers who are trained and supervised in collecting ecological data.
- Monitoring of other key groups such as reptiles, butterflies and birds.
- Involvement in practical management of reserves including training in the use of power tools, health and safety training.
- Involvement in the regular checking of conservation grazing with livestock (with training provided).
- Leading guided walks.

KWT will be working with local people, conservation volunteers, parish councils, Sevenoaks District Council and local contractors and conservation organisations including the North West Kent Countryside Partnership, Plantlife and Kew Millennium Seed Bank at Wakehurst Place.

Using KWT's Sevenoaks Wildlife Reserve and other KWT reserves as a hub for many of its activities in the valley the Trust will work with parish councils such as Kemsing Parish Council to provide support in the management of Kemsing Downs and Green Hill (KWT sits on the 'Downland Management Committee').

KWT will develop its work with Kew Millennium Seed Bank at Wakehurst Place, Plantlife and the Species Recovery Trust on specific species work with an emphasis on the re-introduction of Kentish Milkwort. Though some areas of work are by contract there is a certain amount of 'in kind' support.

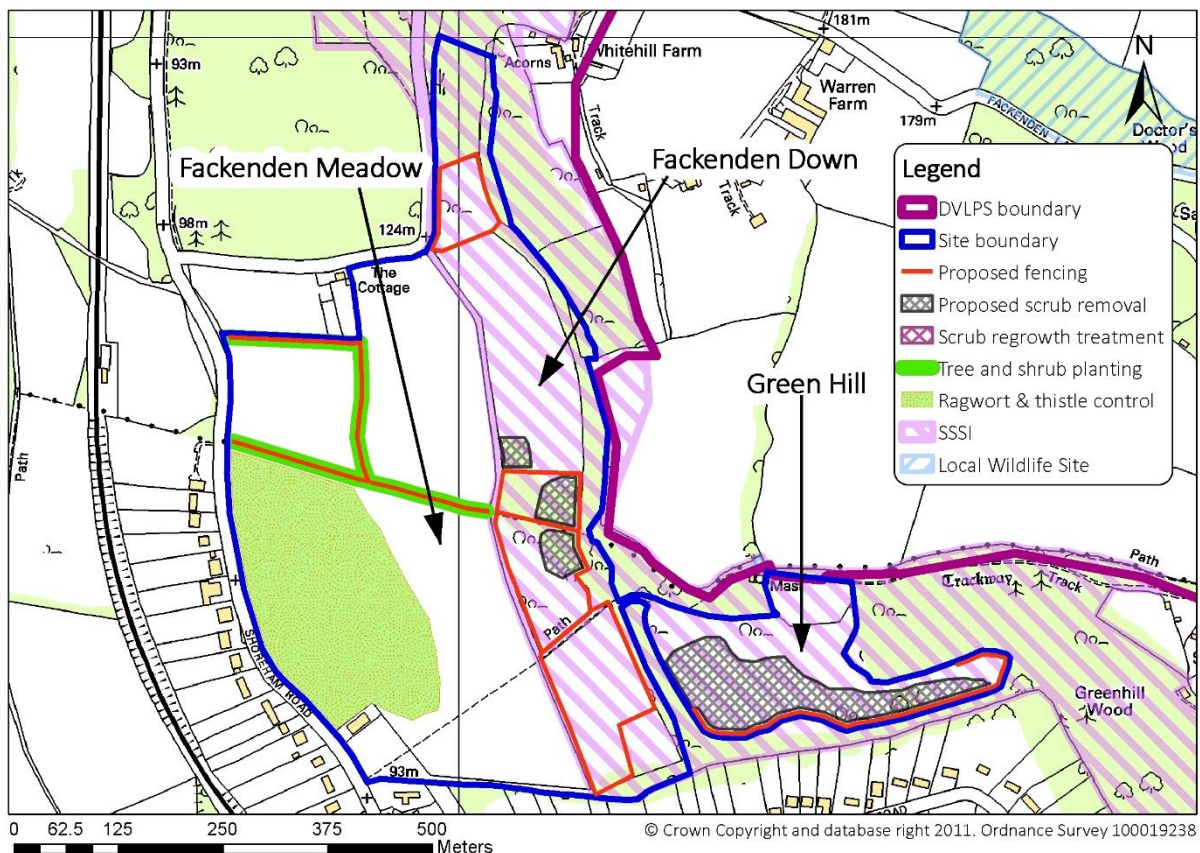
Theme 4: Darent Valley Natural and Historic Landscapes
PROJECT 4A. UNCOVERING THE HERB-SCENTED SCARP

The project will require SSSI consents from Natural England, felling licence from the Forestry Commission and planning permission from Sevenoaks District Council (for interpretation panels).



Green Hill, Kemsing (Explore Kent)

SITE SPECIFICS



FACKENDEN DOWN

This is a 9.7 ha SSSI chalk grassland site which has recently been extended by acquisition of 17.7ha (see Fackenden Meadow below). KWT needs to alter the current access arrangements off Fackenden Lane to facilitate easier livestock loading while at the same time providing improved access for parking of working parties and guided walk visitors. The site requires annual grazing of grassland to maintain its favourable condition for the specialist chalk grassland species which occur on the site. To this end replacement of fencing is required on a regular basis as well as the small-scale removal of scrub and woodland edge where this has not been controlled by grazing. Views from this site over Otford and Sevenoaks provide an ideal location for informing walkers using the North Downs Way about the surrounding area. Various forms of interpretation are being considered in keeping with the overall aims of the project and the specific location.

FACKENDEN MEADOW

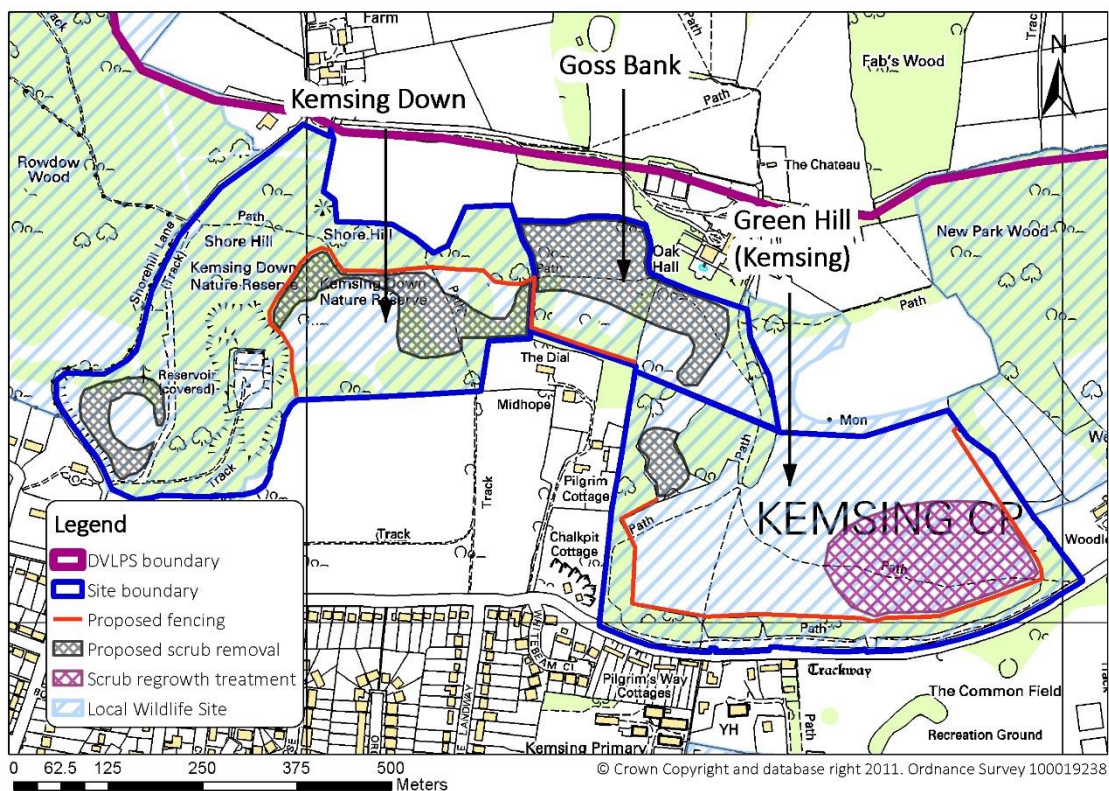
This a recently acquired extension to the Fackenden Reserve (see above) where KWT are managing the site to improve the wildlife potential of former agriculturally managed land and the potential movement of wildlife along corridors.

KWT will be planting a species-rich hedgerow along one boundary of the site, removing several large sycamore trees from a former hedgerow and replanting a species rich show/shelter belt of trees and shrubs. Selected areas of semi-improved and improved grassland will be enriched by the addition of wildflower seed and plugs.

GREEN HILL - OTFORD

This is a privately owned SSSI chalk grassland which KWT has been managing for the owner. In common with most chalk grassland sites it requires grazing and occasional removal of encroaching scrub. This site is particularly important because of its direct links to KWT's Fackenden Down Reserve. Monitoring of adders on the sites has shown that there is significant movement of this species between the two sections of grassland.

Views from this site over Otford and Sevenoaks provide an ideal location for informing walkers using the North Downs Way about the surrounding area. Various forms of interpretation are being considered in keeping with the overall aims of the project and the specific location.



KEMSING DOWN AND GOSS BANK

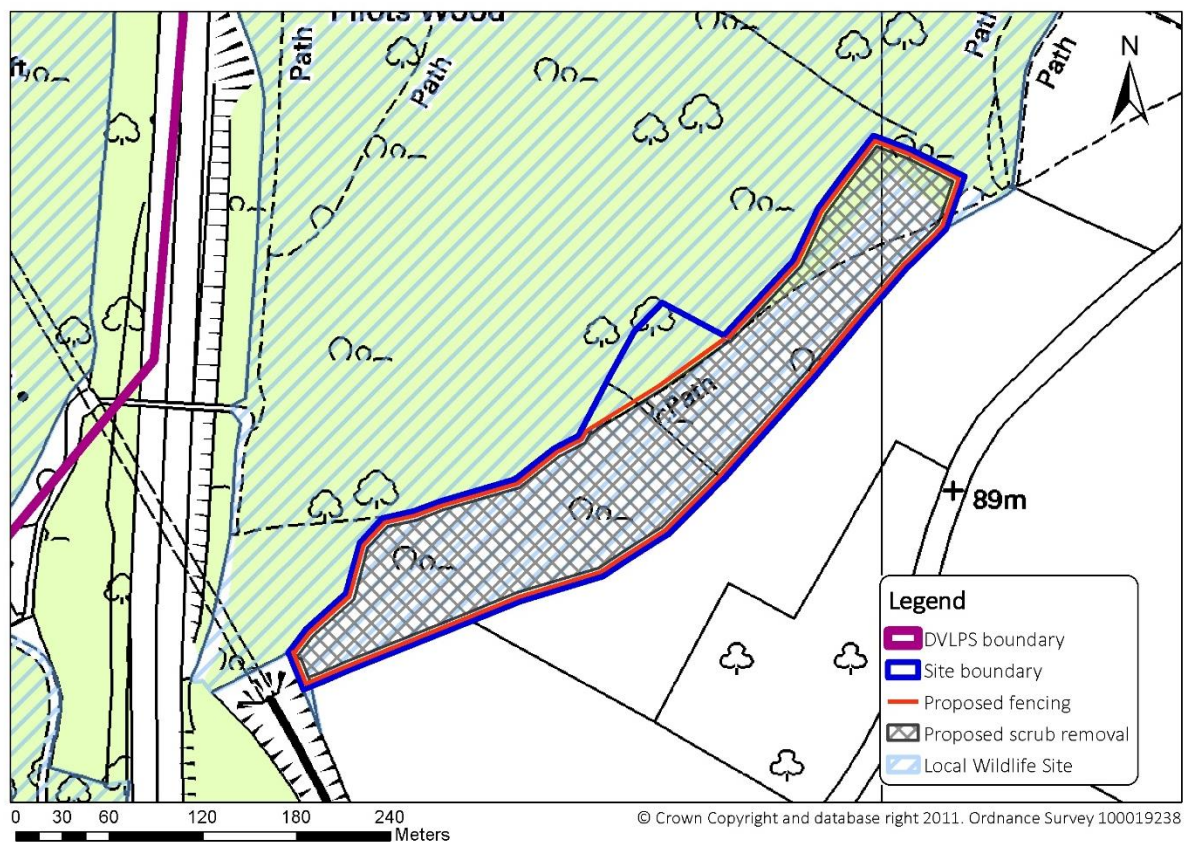
This area of the Downs above the village of Kemsing is directly managed by KWT under agreements with the owners (Kemsing PC and Oak Hall). The aim of work here is to extend and increase the area of chalk grassland by scrub and tree removal. Goss Bank lies between two open areas of chalk grassland and scrub removal on this site is aimed at improving connectivity between the two. Fencing is required to maintain vital grazing on the site.



Scrub encroachment at Kemsing Down

GREEN HILL AND THE DELL

Kemsing is owned and managed by Kemsing Parish Council. The Dell provides a connecting link between Goss Banks (see above) and the much larger Green Hill. Habitat management will include scrub clearance, improvements to livestock handling and loading facilities and fencing to enable grazing of this important chalk grassland Local Wildlife Site. KWT aims to solve a long standing and on-going problem of dog rose re-growth on a significant part of the chalk grassland habitat which requires a contractor to top the site on an annual basis. It intends to commission specialist contractors to treat the plant with herbicide using a weed wiper or by accurate spot spraying. Specific limited areas will be targeted over the project period and results monitored.



POLHILL BANK/SEPHAM BANK

A small Local Wildlife Site chalk grassland reserve which is managed jointly with a local farmer. It is located immediately adjacent to Shoreham Woods Country Park and Highways England grassland. KWT has been carrying out management on the site for over 20 years. Conservation grazing takes place on the site but there is an immediate need for fencing and a new water supply.

PUBLIC BENEFIT

At some sites, such as Kemsing Down and Fackenden Down, improved access infrastructure and provision will enable opportunities for more regular guided walks for local people and other longer distance visitors to be provided. They will be able to learn more about the wildlife of the sites and their biodiversity and their importance in maintaining the character of the landscape of the Darent Valley.

Improved access for instance at Fackenden Downs and Meadows will be provided by an access area for parking cars during guided walks and work parties. Both will contribute towards improvements to biodiversity on sites with superb views of the Darent Valley.

Interpretation provision carefully integrated with that being provided through 1B – The Samuel Palmer Trail will be provided by panels located at specific and carefully chosen locations. These will provide visitors with information and links to further information on cultural, historic and geographical aspects of the area as well as wildlife highlights. Where panels are not appropriate and their use will be detrimental to the landscape character, other forms of media will be used and developed.

MEASURING SUCCESS

By 2022 the works outlined here will have enabled the ongoing management of the sites to be improved considerably so that it is sustainable and maintaining the sites in favourable condition. The sites will be better physically connected both with each other, but also with chalk grassland sites not under KWT management and contributing to the historic landscape character of the valley.

Local visitors and those from further afield will be more aware of these important sites and through provision made in projects within the other DVLPS themes, greater numbers will be visiting them and enjoying them. Through the increased activity which the project will generate, the numbers of volunteers from the local community involved in actively participating in practical management, recording and monitoring on the suite of reserves will have increased.



Brown Argus at Fackenden Down ([Kentish Plumber](#)) Reproduced under a [Creative Commons Licence](#)

OUTPUTS AND OUTCOMES

Activity	Outputs	Outcomes
Restoration of chalk downland	<ul style="list-style-type: none"> • 30ha chalk grassland managed by effective grazing (across 3 sites). • 1.5ha of invasive scrub removed (across 3 sites). • 2.5km of stock fencing installed (3 sites). • c.850 volunteer days of chalk grassland (3 sites) management/ restoration (£50/day). • 20 volunteer days of biological monitoring and recording (3 sites). 	<ul style="list-style-type: none"> • Restoration of historic landscape character. • Traditional grazing management re-introduced. • Improved biodiversity and connectivity. • Local people involved in the conservation of their heritage. • Change in quality of vegetation over time measured.
Species recovery work for dwarf/Kentish milkwort <i>Polygala amarella</i> including propagation, seed transfer, scrub clearance around old quarry	<ul style="list-style-type: none"> • The establishment of at least one additional colony of Kentish Milkwort to add to only three existing sites. 	<ul style="list-style-type: none"> • Kentish Milkwort brought back from the brink of extinction.
Undertake access improvements	<ul style="list-style-type: none"> • 2 stiles replaced with kissing gates (Fackenden). • Management and visitor parking area installed (c. 10 – 15 cars) Fackenden Meadows). • Interpretation boards installed. • Number of boards will depend further specific research and consultation. Alternative media will be used in some areas. (5 sites). 	<ul style="list-style-type: none"> • Physical access improved, local people involved in improving access to heritage. • Improved management for management access and parking guided walks etc. • Improved understanding of the heritage.
Series of guided walks held	<ul style="list-style-type: none"> • 5 guided walks held (3 sites). • 100 people attending walks. 	<ul style="list-style-type: none"> • Greater awareness of understanding of the importance of the landscape and heritage.

Outcomes will be measured in the following ways:

- Grazing management recorded and monitored by movement and grazing records as required by agri-environment scheme.
- Scrub clearance measured by GPS/aerial/satellite mapping before and after. Cleared areas monitored by fixed point photography.
- Stock fencing measured by measuring wheel.
- Volunteer days and attendance at guided walks recorded using KWT established recording systems.
- Kentish milkwort plants recorded growing independently at two new sites in the Darent Valley
- Physical access improvements measured will be recorded by photography.
- Improved understanding of the heritage will be measured by various questionnaires and surveys of users, stakeholders and local residents.

PROJECT COSTS

FACKENDEN DOWN

Element/Item	Year 1	Year 2	Year 3	Year 4	Year 5	Total
	2017/18	2018/19	2019/20	2020/21	2021/22	
[REDACTED]	[REDACTED]				[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]					[REDACTED]
[REDACTED]	[REDACTED]					[REDACTED]
[REDACTED]		[REDACTED]				[REDACTED]
[REDACTED]			[REDACTED]			[REDACTED]
[REDACTED]	[REDACTED]					[REDACTED]
[REDACTED]		[REDACTED]		[REDACTED]		[REDACTED]
[REDACTED]		[REDACTED]		[REDACTED]		[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]						[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Totals	£8,176	£6,196	£5,800	£5,140	£9,100	£35,912

FACKENDEN MEADOW

Element/Item	Year 1	Year 2	Year 3	Year 4	Year 5	Total
	2017/18	2018/19	2019/20	2020/21	2021/22	
[REDACTED]	[REDACTED]					[REDACTED]
[REDACTED]	[REDACTED]					[REDACTED]
[REDACTED]	[REDACTED]					[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]				[REDACTED]
[REDACTED]		[REDACTED]		[REDACTED]		[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]						[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Totals	£13,390	£4,150	£2,500	£3,160	£2,500	£27,200

Theme 4: Darent Valley Natural and Historic Landscapes
PROJECT 4A. UNCOVERING THE HERB-SCENTED SCARP

GREEN HILL - OTFORD

Element/Item	Year 1	Year 2	Year 3	Year 4	Year 5	Total
	2017/18	2018/19	2019/20	2020/21	2021/22	
[REDACTED]	[REDACTED]		[REDACTED]		[REDACTED]	[REDACTED]
[REDACTED]					[REDACTED]	[REDACTED]
[REDACTED]				[REDACTED]		[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]						[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

POLHILL BANK

Element/Item	Year 1	Year 2	Year 3	Year 4	Year 5	Total
	2017/18	2018/19	2019/20	2020/21	2021/22	
[REDACTED]			[REDACTED]			[REDACTED]
[REDACTED]			[REDACTED]			[REDACTED]
[REDACTED]			[REDACTED]			[REDACTED]
[REDACTED]		[REDACTED]		[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]						[REDACTED]
[REDACTED]						[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Totals	£1,500	£2,820	£18,858	£2,820	£2,820	£30,318

Theme 4: Darent Valley Natural and Historic Landscapes
PROJECT 4A. UNCOVERING THE HERB-SCENTED SCARP

KEMSING DOWN AND GOSS BANK

Element/Item	Year 1	Year 2	Year 3	Year 4	Year 5	Total
	2017/18	2018/19	2019/20	2020/21	2021/22	
[REDACTED]		[REDACTED]		[REDACTED]		[REDACTED]
[REDACTED]		[REDACTED]		[REDACTED]		[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]						[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Totals	£1,000	£14,926	£1,000	£14,926	£1,000	£34,352

GREEN HILL – KEMSING

Element/Item	Year 1	Year 2	Year 3	Year 4	Year 5	Total
	2017/18	2018/19	2019/20	2020/21	2021/22	
[REDACTED]		[REDACTED]				[REDACTED]
[REDACTED]			[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]						[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Totals	£1,990	£4,247	£10,537	£8,590	£8,590	£35,454

PROJECT RISKS

Risk	How likely	Severity	Consequence	Action required
Landowner consent not forthcoming on reserves with no freehold	Low	Medium	Project element cannot be delivered and some potential connectivity lost.	KWT has good links with landowners who in turn have SSSI obligations. Most have already agreed to work, and others are currently being chased.
Failure to engage new volunteers	Low	Medium	Reduced in kind contribution and difficulty in completing some elements of work.	Recruitment drive and promotion.
Adverse weather conditions	Medium	Low	Delay in achieving outcomes.	Contingency period allows for some slippage.
Difficulty with Kentish Milkwort re-introduction	Medium	Medium	Population is not sustainable and project is unsuccessful.	KWT will work with experts in their field to maximise success, but as with any species on the brink of extinction, there is an element of risk. Kew already working on best practice for ex situ propagation.

TRAINING REQUIRED

- Training needs include and will be provided through the Future Skills project (5B):
- General Health and Safety/Risk assessment – 5-10 people per year
- First Aid – 3-5 people per year
- Livestock lookering – 5-10 people per year
- Chainsaw training – 2-3 people per year
- Brushcutter training – 3-5 people per year
- Species ID and general ecology courses – 10 people per year
- Volunteer trainee Warden – 2 per year (provided through Landscape Apprentices – 5F)

MAINTAINING A LEGACY

KWT has an ongoing programme of management of its reserves and the potential acquisition of new sites which provide opportunities to increase biodiversity and connectivity in the area. Currently there are 1.8 reserve staff based at the Sevenoaks Wildlife Reserve who spend roughly half of their time managing reserves outside the Sevenoaks Reserve. While management staff are largely funded from core funds (membership contributions), additional funding is sought through a variety of sources including appeals to members and local people, agri-environment schemes and several grant-giving organisations. KWT is committed to a long-term programme of improving connectivity which includes landowner engagement, education, people engagement as well as acquisition of land where this can

demonstrate improvements to connectivity and biodiversity enhancement as per KWT's Strategic Plan (2015).

An active network of volunteers is managed locally and centrally from the Sevenoaks Wildlife Reserve and Tyland Barn with new volunteers being recruited and trained regularly.

To support the additional work generated by the project volunteer trainee wardens will be recruited. KWT has a regular trainee programme of training and on the job training with a track record of preparing people for work in the industry.

LINKS TO OTHER PROJECTS

1A In Search of the Bright Cloud

1D Framing the View

1E Rediscovering Tranquillity

3A Heart of the Valley

3C Telling the Darent's Story

3D Reducing the Pressure

4E On the Verge

5C Supporting the Land Managers

5D Future Skills

5E Landscape Apprentices

5F Engaging New Audiences

Theme 4: Darent Valley Natural and Historic Landscapes
PROJECT 4A. UNCOVERING THE HERB-SCENTED SCARP

PROJECT TIMETABLE

Activity	Year 1			Year 2			Year 3			Year 4			Year 5													
	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May		
Fackenden Down																										
Wildlife monitoring																										
Volunteer conservation work undertaken																										
Fence line modification																										
Install new access route																										
Planning permission submission (for panels)																										
Install 2 new kissing gates																										
New interpretation designed and installed																										
Species recovery - Kentish milkwort																										
Scrub clearance																										
Fackenden Meadow																										
Wildlife monitoring																										
Ragwort/thistle control																										
Volunteer conservation work undertaken																										
Fencing wildlife corridor/hedge/shaw																										
Felling thinning sycamore to reinstate above shaw																										
Tree and shrub planting for the above shaw																										
Wildflower plugs to boost diversity in poorer parts of the site																										
Green Hill - Oxford																										
Wildlife monitoring																										
Volunteer conservation work undertaken																										
Scrub clearance																										
Fencing																										
Interpretation design and installation																										
Polhill Bank																										
Wildlife monitoring																										
Volunteer conservation work undertaken																										
Scrub clearance																										
Interpretation design and installation																										
Additional water supply installation																										
Install livestock fencing																										
Kensing Down and Goss Bank																										
Wildlife monitoring																										
Volunteer conservation work undertaken																										
Installation of fencing																										
Scrub clearance																										
Green Hill and The Dell - Kensing																										
Wildlife monitoring																										
Volunteer conservation work undertaken																										
Scrub regrowth treatment																										
Scrub and tree work																										
Installation of fencing and livestock handling equipment																										

FENCING SPECIFICATIONS

Stock fencing using pig fence Type C8/80/15 surmounted by two stands of high tensile barbed wire (1.6mm) strained and stapled to 1.7 metre chestnut round/cleft intermediate stakes (minimum top diameter 65mm).

The contractor will ensure that:

- Intermediate stakes are driven into the ground to 61cm (24”) and spaced 2.50m apart (max).
- Wire is to be secured to the rounded side of stakes by one staple on each of the top two wires and then every other horizontal, driven to a running fit.
- Pressure treated/chestnut straining posts 2.30m long; top diameter 200mm (min) will be installed at 50m (max) intervals on straight runs and at all ends, corners, changes of direction and acute variations in level. Straining posts are to be dug into the ground to 1.07m (42”), return filled with excavated material and rock wedges.
- All straining posts are to be fitted with 1.65m struts, fitted into a mortised joint with the straining post and fixed with two nails. The base of each strut is to be cut square and bedded on the centre of a 305mm (12”) stake to provide support to the struts.
- The pig mesh (50m rolls) will be strained tightly between each straining post and fixed by two staples, per wire, driven tight.
- The bottom line of the mesh should be 50mm from the ground at each intermediate stake
- The two barbed wires to be fixed to the top of stakes with 50mm gap between the top of the pig fencing and the first wire and then 100mm between that wire and the next.
- All galvanised staples, wire and nails must conform to B.S.S.

MISCELLANEOUS

- The fencing must be set and erected in straight lines or smoothly flowing curves as shown on the maps.
- Post tops should follow the profile of the ground.
- Posts are to be set rigid, plumb and to the specified depth or greater to ensure adequate support.
- Measures must be taken to prevent damage to the heads of stakes when driving.
- The tops should not be sawn off the intermediate stakes.

HEALTH AND SAFETY INFORMATION

The contractor must carry full and valid Public Liability Insurance (minimum of five million pounds) and all operatives working on the site must wear adequate personal protective equipment and adhere to all health and safety requirements, in particular

The Health and Safety at Work Act 1974 and The Management of Health and Safety at Work Regulations 1992.

All operators of power tools and machinery will have the relevant certificates of competence as recognised by the Health and Safety Executive. Copies of these certificates must be made available to the Trust.

The contractor must complete a risk assessment for this work prior to starting on site. A copy must be forwarded to the Trust prior to work starting.

4A.2 PRESTON HILL THE UNKNOWN COUNTRY PARK



PROJECT AIM

Provide resources for restoring and conserving an important SSSI chalk grassland, country park and rich military heritage site to expedite its return to favourable condition. Capital works will be undertaken that will ensure that future management is easier, cheaper and more efficient to support in an anticipated low budget future. Access will be improved and more people will be able to enjoy and understand the site and its heritage resource in a sustainable manner without damaging its special characteristics.

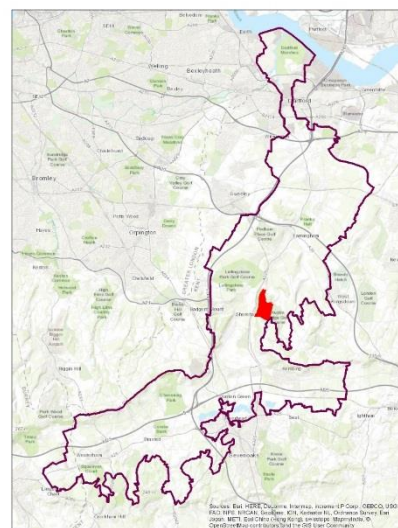
DELIVERY LEAD

Kent County Council Country Parks will lead on the biodiversity and landscape elements of the project and the DVLPS Delivery Team will be responsible for the interpretation and cultural heritage elements.

Country Parks lead contact: Andy Gorman, Head Ranger-West Kent Team, Trosley Country Park, Waterlow Rd, Vigo, Meopham, Kent DA13 0SG. Tel - [REDACTED]

LOCATION AND LAND OWNERSHIP

An extensive site located on and beneath the chalk scarp within the Central Darent Valley Sub-Character Area (LCA) on the east side of the valley. It is 240 hectares in size and is defined on its west side by the A225 Shoreham Road and the railway line. It extends to the wooded scarp top, but is not bound by any other roads. It is within the ownership of Kent County Council and is part of the county's country park network. Several arable or former arable fields are tenanted by local farmers.



AUDIENCE

The site has principally been enjoyed by local people mainly from Shoreham and Eynsford, as well as others from further afield who have a particular interest in wildlife or heritage. Although part of the country parks network, it does not have the infrastructure to support large numbers of visitors. This is mainly due to no car park or on-site staffing. It is therefore much more an informal site. The A225 Shoreham Road is also a significant barrier for those trying to reach it from the nearby Lullingstone Country Park or Shoreham Station. There is an opportunity to expand the reach and audience for the site, but it is important that this is done in a way that does not threaten the tranquillity and ambience of a secluded and special place.

Consequently, whilst proposals do not advocate any extensions to parking arrangements, raising awareness of the site and its accessibility from Shoreham station (except for the road crossing) means that the site should and can be enjoyed by a greater variety of visitors including those from further afield, both inside and outside the valley. It also provides an opportunity for those lacking confidence in countryside exploration to access a less formal but still safe rural site.

HERITAGE VALUE

This is a very heritage-rich site with an extraordinary mix of both natural and cultural heritage. This makes it quite a unique site within the Darent Valley.

It is part of the Shoreham to Otford Downs SSSI which includes the nearby White Hill, Fackenden Down and Green Hill sites. In the past, much of the chalk downland was traditionally managed by grazing, mainly by sheep, which over centuries led to the development of very species-rich chalk grassland. The original SSSI citation document in 1991 recognised that:

“A lack of grazing in recent decades has led to an overgrown form of this grassland over much of the site which is dominated by upright brome grass (*Bromus erectus*). This is still very diverse, supporting over a hundred plant species.



The northern section of the Preston Hill site, 1949

© Historic England

<http://www.britainfromabove.org.uk/image/eaw023114>



The southern section of the Preston Hill site, 1949

© Historic England

<http://www.britainfromabove.org.uk/image/eaw023115>



Aerial image of same area from Google Earth, 2003

Other plants in the sward include sheep's fescue grass (*Festuca ovina*), red fescue (*Festuca rubra*), bird's-foot trefoil (*Lotus corniculatus*), salad burnet (*Sanguisorba minor*), rough hawkbit (*Leontodon hispidus*), ribwort plantain (*Plantago lanceolata*), fragrant orchid (*Gymnadenia conopsea*), stemless thistle (*Cirsium acaule*), quaking grass (*Briza media*) and devil's bit scabious (*Succisa pratensis*). Two nationally scarce plants are found growing here: man orchid (*Acerus anthropophorum*) and chalk milkwort (*Polygala calcarean*). The formerly widespread scrub species juniper (*Juniperus communis*) occurs here at one of its last Kent localities."

There is a greater proportion of scrub and secondary woodland than there was 70 years ago (as demonstrated in the images on the previous page), but the site does also contain important woodland areas; some of which are considered ancient, dominated by beech and ash.

The cultural heritage at the site is also remarkable. A variety of earthworks are found on the site including boundary banks and lynchets, and are considered to possibly date back to from the prehistoric to the mediaeval periods. Several bomb craters exist within the woodland areas, originating mainly from the Second World War when the Darent Valley was severely bombed. Kent was known as Bomb Alley, and this area was particularly targeted due to the decoy airfield that was located just across the valley at Lullingstone to draw enemy bombers away from Biggin Hill.

However, the most prominent heritage feature is the historic rifle range dating from the late 19th century at the base of the scarp. In 2009, Kent County Council commissioned an Historic Environment Assessment by Dr Nicola Bannister, and subsequently also commissioned a Level 2 Historic Building Record in 2012. A summarised extract from the latter report states:

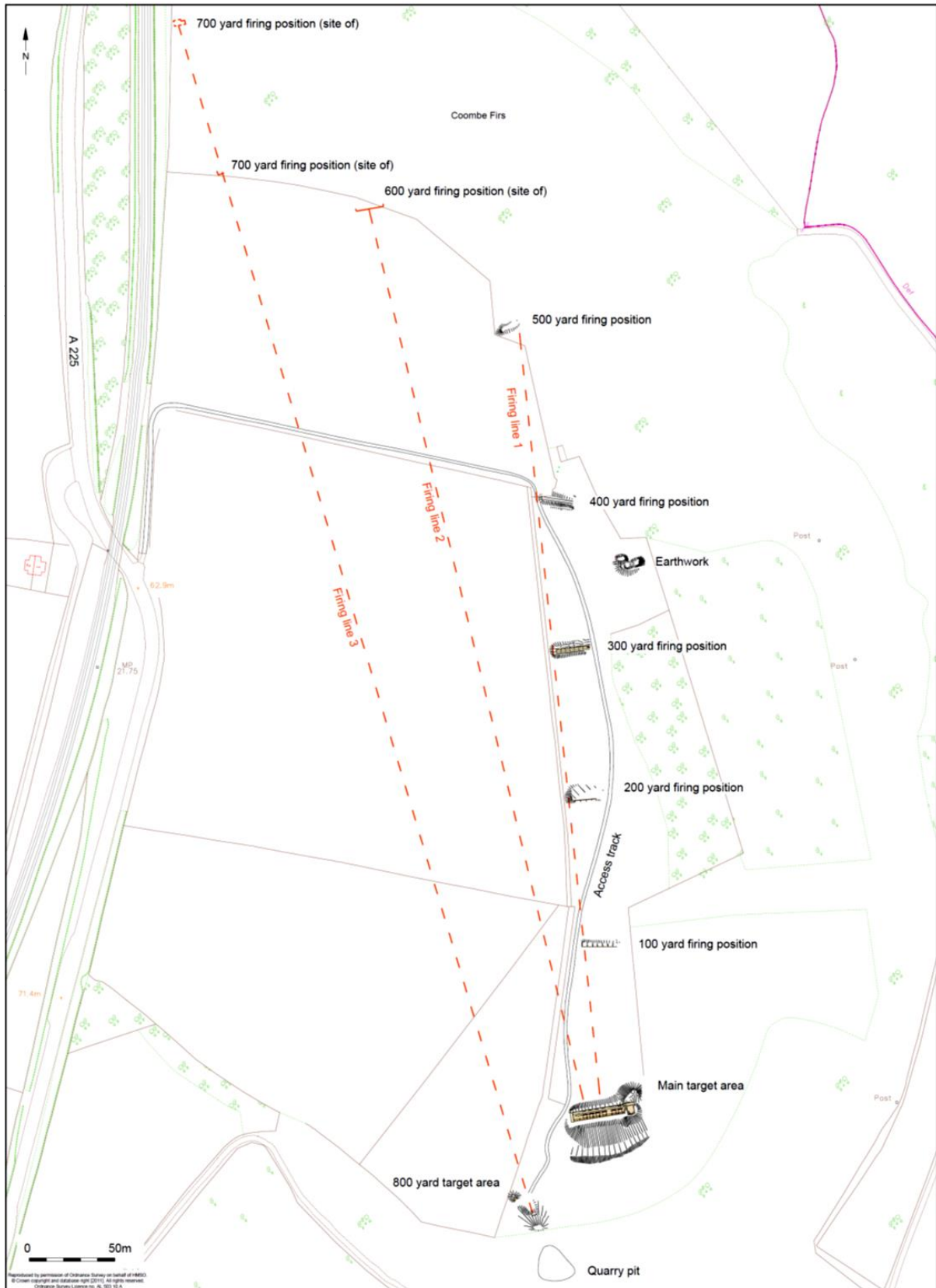
“In 1859 Great Britain’s army was involved in a number of wars around the world, a situation that could result in the nation being left in a potentially undefended state. The Volunteer Force, created in 1859, was designed to solve this problem by recruiting and training civilians to fight in defence of their country in the event of an invasion. Musketry practice was one of the many duties carried out by this part-time army and as a result, rifle ranges began to appear dotted across the landscape.

The site at Preston Hills was identified by Nicola Bannister as being ‘built in 1897 on land owned by Bingham Mildmay and leased to Lt. Col. G. Henderson of The Queen’s Own Royal West Kent Regiment’ (Bannister, 2009). Lieutenant Colonel Henderson was appointed to this position in the 1st Volunteer Battalion, in 1890 (London Gazette, 9 May 1890), thus making it more than likely that the range can be attributed to the Volunteers. In 1908 the Volunteer Force became the Territorial Force (the 1st Battalion Volunteers being renamed as the 4th Territorial Force of the Queen’s Own Royal West Kent Regiment) and while their Garrison HQ was in Maidstone, they were probably recruited in the vicinity of Tonbridge. The range is easily accessible from there, on the Southern Railway line with a station at Shoreham 1.5km to the south.



The 300-yard firing position

The first Ordnance Survey map to show the rifle range, is the 25” 1896 map, corresponding roughly with the date given above (there is certainly nothing marked on the previous 25” map, from 1870). The layout of the of the range from this date is fairly simple, the target position located in the south, with one firing line aligned along an existing field boundary and five firing positions at 100 yard



Plan of Preston Hills Rifle Range (Archaeology South-East, 2012)

north (Coombe Firs) the 600 yard position was sited on an adjacent firing line, to the north-west, downslope and up against the boundary of the woodland. The 700 and 800 yard firing positions were placed yet further downslope, beside the railway utilising an entirely separate, smaller target area to the south-west of the original.



Target raising mechanisms at the southern end of the range (looking northwards up the range)

The 1963 1:10560 Ordnance Survey shows the Coombe Firs woodland area to have encroached on the 600 to 800-yard firing positions and by the 1963 1:2500 map just the one original firing line existed, with the 400-yard position as the maximum extent.

The main target area sits beneath Gold Hill (which forms a natural stop butt) which, conforms broadly to a standard used by the British military from the late 19th Century. The butt lies just upslope and is a sand-filled scoop cut into the slope, into which the bullets that have passed through the paper targets can safely expend their energy. Above this is a second cut into the slope, this time not filled with any material other than natural slumping. Originally it seems this would have presented a near vertical slope for further bullet catchment.

The trench/markers' gallery itself lies roughly east-west. To the immediate north lies the protective embankment wall, made of earth from the trench excavation. A concrete retaining wall, forms the southern side of the embankment and forms the main protective barrier between the firing positions and the markers operating the targets. A covered gallery is formed by the addition of a concrete roof to give further protection for the markers from ricochets and falling debris.



Bullet fragments retrieved from stop butt

The metal target frames are set into troughs within the floor of the markers' gallery. On both long faces of the frame are balanced rectangular carriages into which a removable wooden target frame sits. The motion of raising one unit causes the other to lower via a connecting wire looped over a wheel at the top of the mechanism. This speeds up the process of changing and scoring targets – while one is being assessed the other is raised in a ready position, held in place by a hook on a chain fixed to the highest point of the mechanism.

The targets themselves took the form of paper or canvas tacked onto a roughly square wooden frame which in turn was fixed to taller frame. The latter wooden frame allowed the target firm seating in a carriage with which the targets could be raised and lowered over the embankment. The remains of a least one of these wooden frames is present.

Those sites that remain at the Preston Hills rifle range provide a good cross section of buildings and earthworks associated with the development of rifle ranges from the late 19th Century into the 20th Century. Preservation is generally very good (especially in the markers' gallery), although there is structural damage to the 100 yard position and mantelet, while the 500 yard position is in serious disrepair. There is some difficulty in assigning specific periods of construction to individual elements within the range, but certain factors might provide clues to this extent. The main target area, the 100 yard position and the 300 yard position are all constructed with English bond – these three features all have seven firing platforms or targets and may have been built contemporaneously. The Target store, of Sussex bond, with its roof of corrugated tin, suggests a later build date, perhaps related to the Great War or Second World War. The historic maps therefore, provide the best dating of the features.

The site is highly valued by local residents (particularly those in Shoreham), and responses during the development phase indicated that it was the peaceful and secluded nature of the site that were of particular value as it provided an alternative public site to the nearby and busier Lullingstone Country Park.



Target raising mechanism

ISSUES AND THREATS

LACK OF RESOURCES

For all the heritage features that exist on the site, there are several issues that pose risks to Preston Hill. In 2016, following internal consideration, the decision was taken by Kent County Council to transfer five country park sites to local organisations interested in taking over their management and operation. One of these was Preston Hill.

This decision predicated on the fact that with ever tightening budgets and the need to focus its financial resources where they had the biggest impact for residents. Preston Hill was included in the potential transfer due to its relatively small number of annual visitors. However, following further consultation and a vociferous response from local residents and users of the site, Kent County Council subsequently decided to retain ownership of all five sites.

Despite this, what remains is a situation where it is difficult to maintain appropriate and sustainable management at Preston Hill due to a lack of resources. Having been under-resourced for some time the KCC Country Parks has struggled to undertake even the most basic of conservation management, and there is a need to carry out some significant capital works so that its important features can be maintained in good condition in the future within the budget available.

SITE CONDITION

Most of the site is designated as a SSSI and at its last condition assessment in 2011, the chalk grassland areas were all considered to be in 'Unfavourable – Recovering' condition. Scrub cover was deemed to be at a too high percentage of the site, and along with rabbit grazing pressure, the herb diversity was being negatively affected.



Scrub encroachment in the Castle Farm field at Preston Hill

Whilst the site is recovering, KCC has struggled to maintain the grazing at an adequate level due to poor grazing infrastructure and lack of connectivity through the site to support livestock movement.

Fencing is in a poor condition and although the goats previously on the site were effective at reducing some of the scrub it remained a significant problem in 2016.

The march of scrub and secondary woodland encroachment is significant when examining the images from 1949, and illustrate how much chalk grassland has been lost in the last 70 years.

IMPACT OF OVERHEAD POWER LINES

The 11kV overhead lines run along the entire length of the Preston Hill site. They blight the views and have a major negative impact on what otherwise feels a very rural and secluded location. They do however also offer an opportunity, with the wayleaves providing the potential for improved livestock movement across the site, which will be enhanced when the lines are undergrounded through the 'Framing the View' project (1D).

RAILWAY LINE BANK MANAGEMENT

The railway line forms the western boundary for the northern end of the site. Here, there is regular vegetation management which is done independently of the country park. Some of the vegetation is inappropriate to the landscape, including a number of pine trees, and some of the management is undertaken in quite a harsh manner. This can affect landscape character in particular, but there is the potential for problem plant species to disperse onto the site and cause issues. Conversely, there is perhaps the potential to look at the expansion of the chalk grassland habitat onto the banks with an adjustment in management techniques if Network Rail are conducive.

LACK OF AWARENESS V SMALL CARRYING CAPACITY

There is a general lack of awareness of the site. It is highly valued by many local residents, but there is a significant proportion that has never been to the site. Visitors from further afield tend to be drawn to nearby Lullingstone Country Park with its better facilities, parking and visitor centre. The low number of visitors at Preston Hill adds to its charm and gives it a special character; and it is important that there is little impact on this. However, it is also vital that as a site maintained by public money, it is enjoyed and valued by the public. This engenders a spirit of ownership, a will to protect it, and rekindles the emotional connection with the landscape that Samuel Palmer experienced two centuries ago.

This was echoed during the stage 2 consultation where some residents expressed the concern that many of the countryside sites might become formalised or suburbanised. Therefore, great care needs to be taken to ensure that proposals do not exceed the carrying capacity of Preston Hill and damage the very features that make it a special place. At the same time, its rich heritage is deserving of being enjoyed and understood by a wide audience.

POOR ACCESS PROVISION AND INTERPRETATION

Access to the site is currently largely restricted to parking in one of three laybys on the A225 Shoreham Road. Although these act as a natural restriction on the number of visitors, access across the site is difficult and unclear. This is despite there being (in the most part) general open access across the site. Visiting Preston Hill is currently only really for the experienced countryside user as public rights of way are extremely limited and there are no open access areas or permissive paths

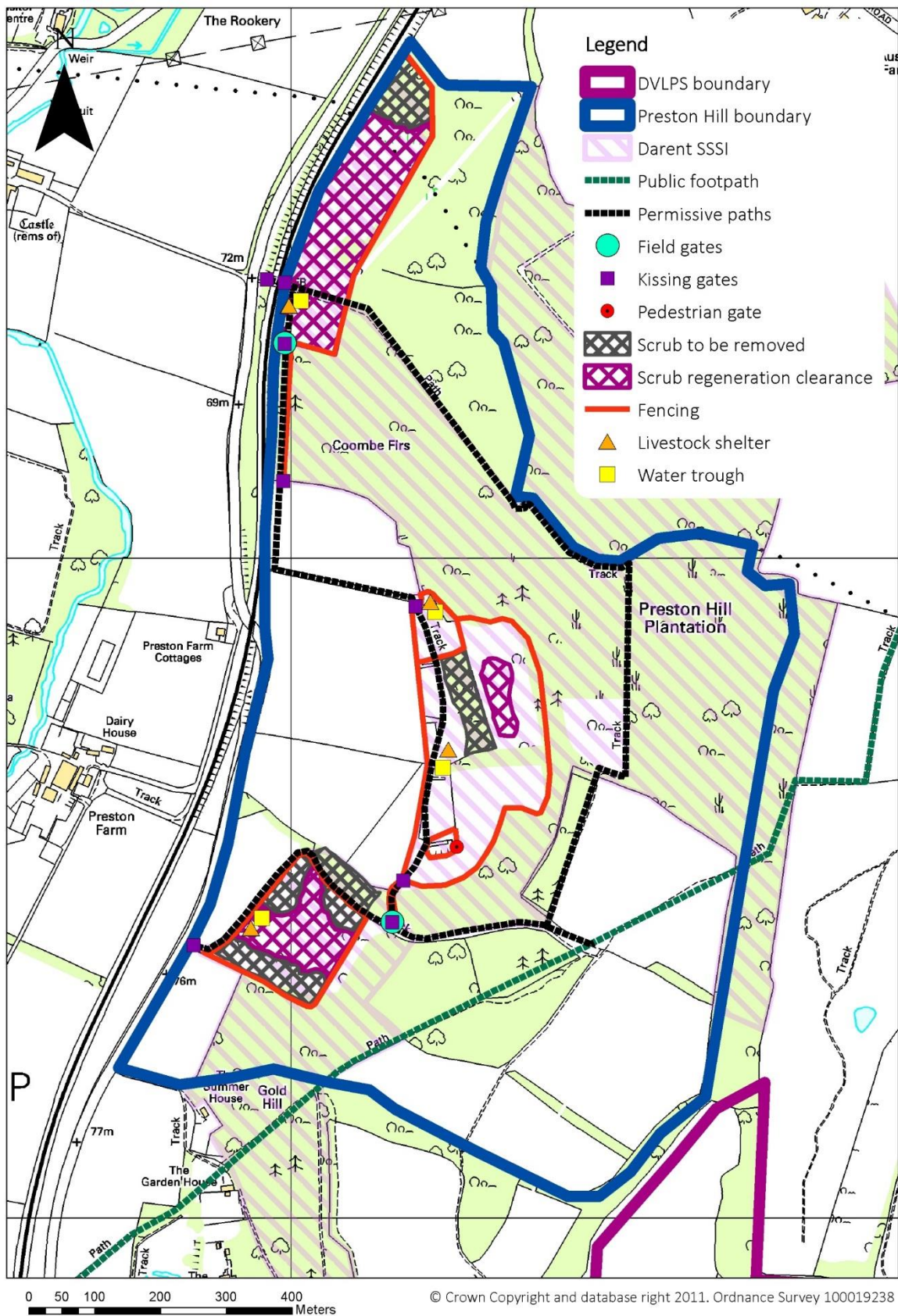
marked on Ordnance Survey maps. Indeed, it is only the latest editions of maps that have removed the danger signs used to mark the rifle range.

There is no waymarking, and except for a single dated interpretation panel at the entrance point opposite Castle Farm's drive there is no signage or interpretation on site. Consequently, unless the visitor has had sight of the reports quoted in this project outline, or undertaken detailed research on the internet, it is difficult to understand the heritage features at Preston Hill.

LACK OF CONNECTIVITY

Although Preston Hill is fairly extensive itself, it is poorly connected to neighbouring chalk grassland sites. There are none to the north and it is cut off from the cluster of sites such as White Hill and Green Hill to the south by woodlands, arable fields and private properties.





PROJECT DESCRIPTION

This project will seek to address some of the key issues highlighted above.

SUSTAINABLE GRAZING ENHANCEMENTS

Part of the reason that maintaining good condition at Preston Hill has been so difficult is that the infrastructure and equipment has been so poor. Derelict fencing will be replaced, and where required, new fencing installed. This will be to the following specification:

- Using 13-125-7.5 x-fence netting installed with a height of 1.25m. Installed with one line of smooth fence wire to top.
- Timber posts to be class 4 - 2.1mtrs 75-100mm
- Staples 30-3.35mm.

This will include installation of two fully meshed deer type field gates from McVeigh Parker (GFM125) and the following in the individual fields:

CASTLE FARM FIELD

New boundary fencing around the entire field totalling 1,076m along with livestock shelters and water trough (including rain water capture mechanism). Following undergrounding of the 11kV wires carried out under project 1D, the previous wayleave will be fenced (total of 350m) and gated to enable stock to be moved from here to the range field. This will also facilitate access along a new permissive path. A new kissing gate will also be installed here at the entrance from the road.

RANGE FIELD

Boundary fencing will be entirely replaced (1,112m) to make the field secure and enable grazing of areas of scrub to be cleared. Two livestock shelters (with roof rain capture mechanisms) and water troughs will also be installed here.

PRESTON FARM FIELD

Complete replacement of fencing (714m) and installation of one livestock shelter and one water trough along with roof rain capture mechanism.

LIVESTOCK MOVEMENT INFRASTRUCTURE

To support ease of movement of livestock between fields and other sites, ten galvanised metal hurdles (alpaca type) – McVeigh Parker (TC8317) will be purchased along with a Bateson 12 LT mini livestock trailer. This will also support easier transport of animals for medical treatment. Whilst these will be held by KCC Country Parks, they will be available to other partners managing chalk grassland sites to support partnership working and reduce costs of management on small sites.

SCRUB CONTROL AND MANAGEMENT

There is a need to undertake significant removal of established scrub across the site. The target areas have been identified from historic aerial photographs to confirm that they were open habitat in relatively recent memory and will still hold a viable seed-bank for chalk grassland restoration.

The removal of the scrub will be undertaken by contractors with young trees and scrub being mulched using a high horse-powered tracked forest mulcher, with the arisings removed and relocated to established wooded areas. Accurate costings have been received for undertaking the work, although these are based on mulch removal using a 360 excavator and blade. More sensitive methods will be investigated to ensure the retention of features such as ant-hills and archaeological features (KCC Heritage will be consulted prior to work being undertaken).

Dispersed and very young scrub will be managed outside of these areas and will be maintained using conservation volunteers (either KCC Country Parks' own or those of the North West Kent Countryside Partnership). To aid this (and other projects under 4A), a power scythe will be purchased to speed up the clearance process. As with the livestock movement equipment, this will be available for use by other partners such as Kent Wildlife Trust and Butterfly Conservation. For all works, SSSI consent will be required from Natural England.

IMPROVED ACCESS PROVISION

To address the issue of poor access and make exploration of the site easier, more enjoyable and attractive, there will be clarification of the permissive routes from the access points on the A225 Shoreham Road. This will include the installation of fingerposts, waymarker posts and kissing gates to formalise the routes and give confidence to users that Preston Hill can be accessed and enjoyed.

Linking the permissive paths to the only public footpath that crosses the site provides a walkable link to Shoreham station.

RESTORATION OF MILITARY HERITAGE

The heritage features relating to the rifle range appear to be largely in good condition. However, they have not been professionally assessed and there are signs that there may be structural issues with some. As a first step, consultants will be commissioned to provide priority action for restoration. This is anticipated to include enhancement work to the target raising mechanisms to ensure that they remain in good and working condition. Identified and remedial work will then be done within the budget available.

Use of data from the LiDAR survey will also provide an insight to the locations and condition of the longer distance firing positions, and whether any access or restoration works are required.

LOW-KEY INTERPRETATION

As the only on-site information visitors receive about the site is the interpretation board at the northern access point, appropriate low-key interpretation will be provided. It is important that this does not negatively affect the natural feel of the site and achieves the balance highlighted in the previous section of this project outline.

The DVLPS interpretation strategy recommends the replacement of the entrance board and the possible installation of a second at the southern entrance. These would orientate visitors give them confidence to explore the site, know where to go and understand the features they will find when they get there. One additional panel located at the targets site will be used to explain the history of the range and how it operated, but this would be the only other physical interpretation provided.

However, audio interpretation in the form of a downloadable audio file available on the DVLPS and KCC websites will be used to bring realism to the site. The Shoreham Village Players have expressed an interest in being involved in the project, and could provide the voice-over for the audio interpretation. In addition, a simple walk leaflet walk will be produced and made available at the Lullingstone Park Visitor Centre to act as encouragement for visitors there to explore this nearby site.

The site is also ideally placed to provide themed guided walks focusing on military heritage, Samuel Palmer and chalk grassland biodiversity.

OUTPUTS AND OUTCOMES

Activity	Outputs	Outcomes
Sustainable grazing enhancements	<ul style="list-style-type: none"> • 3200m of stock fencing installed. • 170.1 hectares of chalk grassland achieved favourable condition (45.9 ha – Castle Farm Field; 94 ha – Range Field; 30.2 ha – Preston Farm Field). • 4 x rain-harvesting livestock shelters installed. • 4 x water troughs installed. • 10 x mobile metal stock hurdles acquired. • 2x fully meshed field gates installed. • 1 x livestock trailer acquired. • 1 x pedestrian gate installed. 	<ul style="list-style-type: none"> • Public awareness of the Preston Hill site raised. • Visitors feel more welcomed to the site and understand where they can go. • Increased knowledge about the heritage importance of the site.
Scrub control and management	<ul style="list-style-type: none"> • 3.7ha of scrub cleared on former chalk grassland. • 68.2ha of regenerated scrub cleared from chalk grassland. • 150 volunteer days contributed. 	<ul style="list-style-type: none"> • Greater understanding for KCC of the value that local people place on the Preston Hill site.
Improved access provision	<ul style="list-style-type: none"> • 2 x access points from A225 Shoreham Road signposted. • 3,289m of permissive path made navigable. • 8 x kissing gates installed. • 1 x new circular route created. • 25 x waymarker posts installed. 	<ul style="list-style-type: none"> • Improved connectivity of habitats within the site.
Restoration of military heritage	<ul style="list-style-type: none"> • 1 x condition assessment of rifle range features. • Rifle target mechanisms restored and conserved. • 6 x shooting position features restored. 	<ul style="list-style-type: none"> • Improved partnership working between active conservation managers and landowners.
Low-key interpretation	<ul style="list-style-type: none"> • 3 x interpretation panels designed, created and installed. • 1 x electronic audio file created. • 2 x volunteer days (skilled) contributed to recording. • 1,000 downloads of audio file. • 8 guided walks provided (2 per year from year 2). • 100 participants. • 1 x new walk leaflet produced. 	<ul style="list-style-type: none"> • Greater public involvement in the conservation and interpretation of Preston Hill. • Sharing of equipment and knowledge between managers of chalk grassland sites in the Darent Valley.
Monitoring	<ul style="list-style-type: none"> • 10 x volunteer days (skilled) contributed to biodiversity monitoring. • Baseline evidence of important species established. • Populations of target species show increase in spread and numbers. 	

PROJECT COSTS

Element/Item	Year 1 2017/18	Year 2 2018/19	Year 3 2019/20	Year 4 2020/21	Year 5 2021/22	Total
[REDACTED]	[REDACTED]					[REDACTED]
[REDACTED]	[REDACTED]					[REDACTED]
[REDACTED]	[REDACTED]					[REDACTED]
[REDACTED]	[REDACTED]					[REDACTED]
[REDACTED]	[REDACTED]					[REDACTED]
[REDACTED]	[REDACTED]					[REDACTED]
[REDACTED]	[REDACTED]					[REDACTED]
[REDACTED]	[REDACTED]					[REDACTED]
[REDACTED]	[REDACTED]					[REDACTED]
[REDACTED]	[REDACTED]					[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]		[REDACTED]				[REDACTED]
[REDACTED]		[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]			[REDACTED]			[REDACTED]
[REDACTED]			[REDACTED]			[REDACTED]
[REDACTED]			[REDACTED]			[REDACTED]
[REDACTED]			[REDACTED]			[REDACTED]
[REDACTED]			[REDACTED]			[REDACTED]
[REDACTED]			[REDACTED]			[REDACTED]
[REDACTED]			[REDACTED]			[REDACTED]
[REDACTED]			[REDACTED]			[REDACTED]
[REDACTED]			[REDACTED]			[REDACTED]
[REDACTED]			[REDACTED]			[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Totals	£37,565	£13,203	£26,660	£20,445	£2,295	£100,168

PROJECT RISKS

Risk	How likely	Severity	Consequence	Action required
Undergrounding of power lines disrupts schedule	Medium	Low	Rescheduling of fencing work in the Castle Farm field will be required.	Maintain close contact with UK Power Networks to allow for as much advanced notice as possible.
Poor weather delays work.	Medium	Low	Schedule cannot be followed.	Schedule allows for work to be undertaken in later years as a contingency.
Lack of availability of contractors to undertake such a large fencing project.	Medium	Low	As above.	As above.
Staffing resources at KCC Country Parks mean that supervision is difficult.	Medium	Medium	Administration and supervision of contracts cannot be completed, delaying delivery of works and jeopardising schedule.	If issues do occur, the DVLPS team can step in to ensure works are completed.
KCC decides to pass management onto another local organisation.	Low	Medium	New arrangement required with new responsible organisation or decision is taken not to maintain works or schedule.	The Kent Downs AONB will be consulted on any future change and the indication is that the likelihood of the previous decision being reversed is highly unlikely. KDAONB has an excellent relationship with any likely organisation that would take over the site.
Local opposition to works due to perception that it may make the site too busy or 'suburbanised'.	Low	Medium	Works must be reviewed and changed.	KCC and the DVLPS team will keep the local community apprised of plans through both the Partnership Board, the Partnership Forum and direct consultation.

TRAINING REQUIRED

- Biodiversity monitoring
- Military history and heritage

MAINTAINING A LEGACY

Following the recent reaction to the planned changes for management at Preston Hill, and KCC's subsequent confirmation that it will retain ownership and management of the site, provides consistency of management for the foreseeable future. The investment that will be undertaken at this site will ensure that the large-scale capital works will have been completed, and ongoing management will be more sustainable.

There is an excellent opportunity to develop the relationship with, and involvement from, the local community in caring for and raising the profile of this wonderful site. Ongoing management will also be supported by a Stewardship agreement, and management should be possible with relatively low further capital investment.

The site's use will need to be carefully monitored to ensure that it retains its current character. However, the site is never likely to become overcrowded due to the inherent obstacles of the A225 and railway.

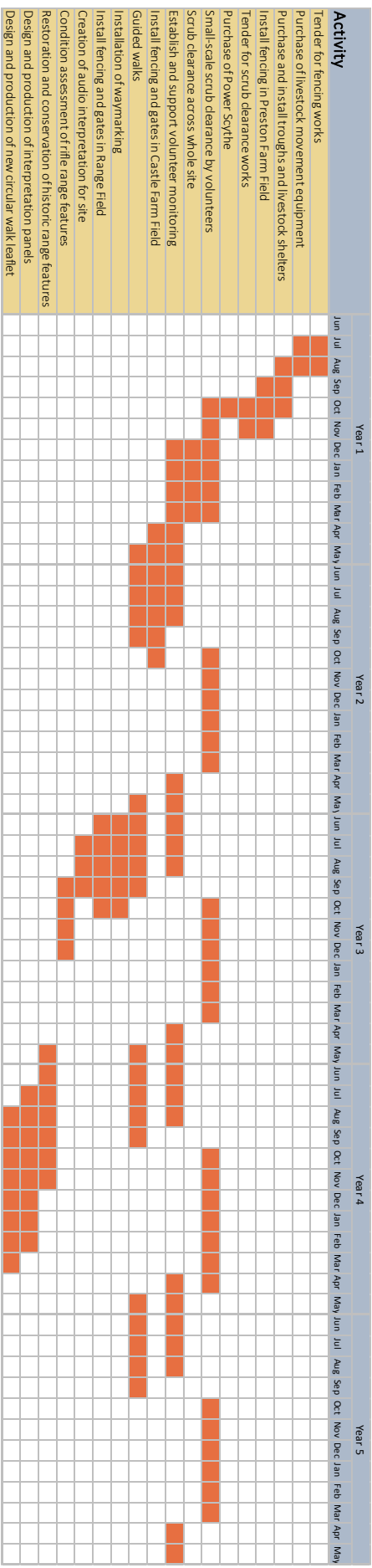
LINKS TO OTHER PROJECTS

- 1A Samuel Palmer Trail
- 1C Inspired Palmer Landscapes
- 1D Framing the View
- 1E Rediscovering Tranquillity
- 2A Peeling Back the Layers
- 3B Gateways to the Valley
- 3C Telling the Darent's Story
- 3D Reducing the Pressure
- 5D Future Skills
- 5F Engaging New Audiences
- 5G Spreading the Word

Theme 4: Darent Valley Natural & Historic Landscapes

4A: UNCOVERING THE HERB-SCENTED SCARP – CONNECTING CHALK GRASSLAND

PROJECT TIMETABLE



4A.3 FLIGHT OF THE BUTTERFLY WHITE HILL RESERVE - SHOREHAM



Chalkhill Blue (Andy Vidler)

PROJECT AIM

The issues with rampant scrub encroachment across the chalk grassland and loss of valuable habitat will be overcome by supporting the volunteers of the local Butterfly Conservation branch. Solutions for manageable and sustainable management will be provided, establishing new partnerships with other organisations tackling similar problems. Improved connectivity with the neighbouring Fackenden Down and Meadow sites will also be delivered.

DELIVERY LEAD

Butterfly Conservation: Peter Kirby, White Hill Reserve Manager; [REDACTED] and Dr Dan Hoare, Head of Regions, Butterfly Conservation, Unit 2 Bull Pens, Manor Farm, Alresford Road, [REDACTED]

Darent Valley Landscape Partnership Scheme Delivery Team.

LOCATION AND LAND OWNERSHIP

The White Hill Reserve is located on the west side of the valley within the Central Darent Valley Sub-Character Area at TQ528611. It lies immediately to the north of Fackenden Lane and is adjacent to the Fackenden Down and Meadow site.

It is located entirely within the Kent Downs AONB and is part of the Otford to Shoreham Downs SSSI. The land ownership is somewhat complicated, but the agents of the life tenant have granted permission to British Butterfly Conservation Kent Branch to manage the land for the conservation of butterflies.



AUDIENCE

The reserve is somewhat hidden and generally not well known except by those who have an interest in butterflies and moths. However, it is less than 300m from Shoreham Station and within easy walking distance of the village and is therefore frequented by local residents. There is the possibility to use the site to communicate the importance of chalk grassland for butterflies and moths and highlight the work that the Kent Branch of Butterfly Conservation is undertaking.

In addition, it is very easy to imagine Samuel Palmer walking from Shoreham and walking up the path that passes the reserve during his many perambulations through the valley. The route of the Samuel Palmer Trail is likely to pass the reserve and it is therefore likely to be opened to a much wider audience.

HERITAGE VALUE

Aerial photographs from 1940 show the site to be largely open chalk grassland. However, the lower western side of the site appears to have been arable during this time. Since the 1960s, the site has battled and almost succumbed to the march of encroaching scrub and resulting succession.

The site was at one time managed by Kent Wildlife Trust, but this arrangement ceased when the owner's sister, sympathetic to conservation, moved to Wales. With no management in place, the site was soon lost to scrub invasion with very little open grassland remaining.

The current conservation interest is principally the remaining chalk downland. Relict populations of downland butterflies remain and, of note, is the chalkhill blue colony and a wide range of moth species is resident including peach blossom and pale pinion. The northern part of the site, whilst not as floristically diverse, is a flight area for species such as dark green fritillary and marbled white. The southern part of the site is more open and a prolific breeding area for chalkhill blues. Early gentians are also present.



Pale Pinion *Lithophane socia* (Derek Parker)
Reproduced under a [Creative Commons License](#)

The reserve is a unit within the same SSSI as Preston Hill and the Jewels in the Downs sites, but differs slightly as its main management objectives focus on Lepidoptera (but does still carefully consider other biodiversity). It is also managed almost entirely by volunteers.

ISSUES AND THREATS

The sites condition has varied considerably. The SSSI condition history has changed from 'Unfavourable Recovering' in 1997 to 'Favourable' in 2002 and 2008, and 'Unfavourable – Declining' in its most recent assessment in 2011. The stated reasons for this latest assessment was due to “undergrazing, lack of corrective works and inappropriate scrub control”. Natural England has commented that whilst scrub removal is taking place, scrub remains a major threat to the site and rabbit grazing is also becoming an issue.



White Hill in 1940 (left) and 2013 (right)

However, this is not for want of trying on Butterfly Conservation’s part. The management of the site is entirely reliant on volunteers. A combination of an explosion in the rabbit population and successive wet springs has led to an explosion of ash and dogwood saplings. The limited number of volunteers Butterfly Conservation has, along with numbers sufficiently trained in brushcutter use means that the group is struggling to cope.

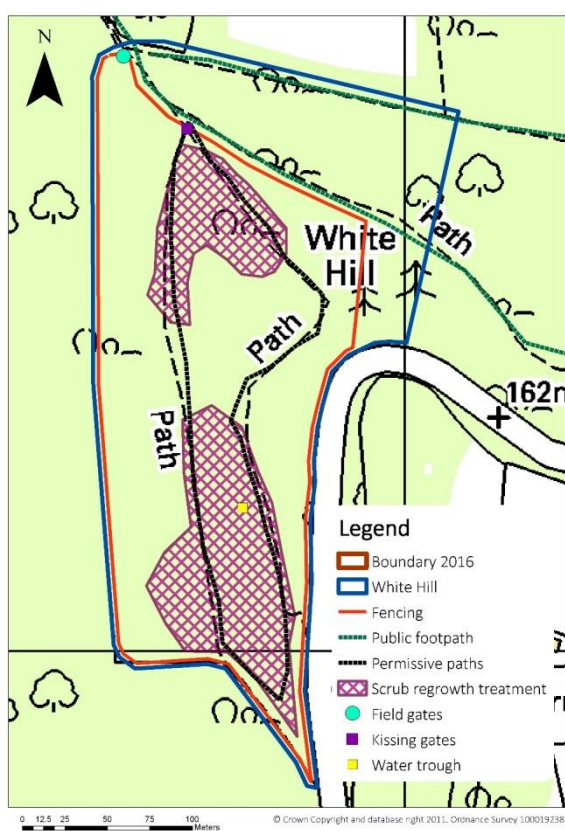
The volunteers are a group of very dedicated, knowledgeable and passionate people. However, they lack the resources to tackle what is a significant problem on the site. There is a degree of frustration in not being able to find a workable solution, but they are prepared to consider new methods. Despite this, there is concern amongst the volunteers about undertaking a drastic shift in the management approach. Butterfly Conservation is understandably concerned that the volunteers they rely on so heavily are consulted and not felt to be left out of any decisions.

White Hill cannot currently be grazed as is not fenced and there is no water supply. Therefore, livestock cannot be introduced to support the clearance work being undertaken. The site is also isolated from other chalk grassland sites, and there is currently no open flightpath for butterflies to move between White Hill and Fackenden Down.

Butterfly Conservation has very limited resources for the management of the site, and large capital investment has not been something that could be considered.

The ownership of the site is somewhat complicated, and this adds a complexity to making management decisions. The indication is that the owner and long-term tenant are supportive of any conservation work, and can delay changes.

PROJECT DESCRIPTION



The proposal for White Hill has not been developed to the same level of detail as other projects within the scheme. This is because Butterfly Conservation wishes to undertake further consultation with the Kent Branch volunteers and understand what the implications are for future management of the site. There is agreement that something needs to be done, and have also been advised as such by Natural England. Therefore, this project assumes that the introduction of grazing is the preferred approach to ensure that a long-term solution is put in place.

Consequently, a caveat is placed on this proposal that it may be subject to some change once the scheme reaches its delivery phase. This approach has been taken as the site is of considerable importance, and its SSSI condition assessment indicates that remedial work is essential to ensure its survival for the future.

To enable the site to be grazed, approximately 1000m of stock fencing will be installed along with associated grazing infrastructure and a water supply. The fencing specifications will be as outlined for Project 4A.1 on page 284. It is intended that a grazing arrangement could be made with Kent Wildlife Trust to share livestock, and the proximity of Fackenden Down would certainly make this feasible.

The work of the volunteers will be supported in several ways. A partnership could be built with either Kent Wildlife Trust or the North West Kent Countryside Partnership to supplement numbers, and training provided to ensure that there are more volunteers able to use the scrub cutters. The use of the Power Scythe purchased through the scheme would also be available and is likely to be a more efficient method of managing regrowth. Again, training will be provided for its use.

However, it is vitally important that the Butterfly Conservation volunteers remain in control of the site's management, and these proposals are simply a way of supporting them. All proposals will require their agreement and that of their Head of Regions.

During the transition between development and the start of the delivery phase of the scheme, further discussions will be held with Butterfly Conservation to determine the specifics of the work to be undertaken. It is possible that the DVLPS Delivery Team will lead the project, working closely with Butterfly Conservation to reduce pressure on their limited resources. The volunteer work could remain focused on maintaining the rides and mosaic of the site, and consideration given to the opening of the site where scrub and secondary woodland has taken a strong hold on the site. Opening of flight-lines between Fackenden Down and White Hill will also be a priority.

In addition, signage at the entrance and a site leaflet will be produced to raise awareness of its location and landscape interest. Two annual guided walks will also be held to reveal and communicate the important invertebrates found there.

OUTPUTS AND OUTCOMES

Activity	Outputs	Outcomes
Management discussions between volunteers, Butterfly Conservation, Kent Wildlife Trust and DVLPS to determine restoration programme.	<ul style="list-style-type: none"> • New partnership management arrangement and restoration plan developed between 4 organisations. • 1 x restoration plan devised. 	<ul style="list-style-type: none"> • Increased awareness of the White Hill Reserve and its natural heritage. • Increased community participation in management of the reserve. • Improved connectivity with neighbouring sites. • Butterfly Conservation better placed to maintain better long-term management of the site. • Improved supportive partnership between conservation managers. • Sharing of equipment and knowledge between managers of chalk grassland sites in the Darent Valley.
Fencing and infrastructure installed to enable grazing.	<ul style="list-style-type: none"> • 1038m stock fencing installed. • 4 hectares secured and grazed by livestock. • 4 hectares of chalk grassland achieving favourable condition. • Populations of target chalk grassland butterfly species achieve an average increase over life of the scheme. 	
Scrub regrowth clearance.	<ul style="list-style-type: none"> • 1.4 hectares of scrub regrowth cleared each year. • New flight path established to Fackenden Down to improve connectivity for butterflies. 	
Increasing volunteer participation on management of the site.	<ul style="list-style-type: none"> • 25% increase on volunteer numbers from 2016 figures. • 50 volunteer person days contributed per year. • 10 x volunteers trained in brush cutting, lookering and ID skills. 	
Site interpretation installed or created.	<ul style="list-style-type: none"> • 1 x new site interpretation leaflet produced. • New signage at entrance to reserve. 	
Determine ongoing long-term management.	<ul style="list-style-type: none"> • Management plan revised to reflect restoration and infrastructure work undertaken. 	

PROJECT COSTS

Element/Item	Year 1 2017/18	Year 2 2018/19	Year 3 2019/20	Year 4 2020/21	Year 5 2021/22	Total
[REDACTED]			[REDACTED]			[REDACTED]
[REDACTED]			[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]				[REDACTED]		[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]		[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Totals	£3,050	£3,350	£22,350	£9,150	£6,950	£44,850

PROJECT RISKS

Risk	How likely	Severity	Consequence	Action required
Landowners or tenant do not agree to proposed works	Low	High	Works unable to go ahead and site continues to decline.	Indications are that all parties will agree, but consultation required.
Recruitment of volunteers not sufficient for work required.	Medium	Medium	Numbers continue to decline and control of scrub is not possible.	Work with other conservation partners to recruit new volunteers and share resources.
Rabbit population continues to reduce diversity of site	Medium	Medium	Loss of sward diversity and increased scrub growth.	Continue to monitor and introduce rabbit control if required.
Grazing relationship can't be established with other partners	Low	Medium	Butterfly Conservation needs to purchase its own stock and have trained volunteers and staff to care for them.	Continue to discuss with KCC and Kent Wildlife Trust who are predisposed to help.

TRAINING REQUIRED

- Brushcutter training
- Biodiversity monitoring (other than Lepidoptera)
- Lookinging.

MAINTAINING A LEGACY

The proposals put in place for this project are aimed at ensuring the appropriate and sustainable ongoing management of the site. They should provide a stable footing rather than the year-by-year struggles just to maintain the status quo. A support mechanism will be in place with partner organisations and a sharing of resources should secure its future for decades. Natural England has recommended that the site is placed under a Stewardship agreement, and this will be a further option to fund ongoing management (depending on what funding mechanism is put in place).

LINKS TO OTHER PROJECTS

- 1A Samuel Palmer Trail
- 1C Inspired Landscapes
- 3C Telling the Darent's Story
- 3D Reducing the Pressure
- 5C Supporting the Land Managers
- 5D Future Skills
- 5F Engaging New Audiences

4A: UNCOVERING THE HERB-SCENTED SCARP – CONNECTING CHALK GRASSLAND

PROJECT TIMETABLE

Activity	Year 1												Year 2												Year 3												Year 4												Year 5											
	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May												
Management discussions with Butterfly Conservation																																																												
Production of restoration plan																																																												
Fencing and infrastructure installed																																																												
Scrub regrowth clearance by volunteers																																																												
Introduction of grazing																																																												
Site interpretation produced																																																												
Large scale scrub clearance																																																												
Management plan revision to reflect works undertaken.																																																												

4B. ENHANCING OXENHILL SHAW AND MEADOW



PROJECT AIM

To support the community led management and improve the visitor experience of a young woodland on a former arable site adjacent to the M26 motorway. This will be achieved by enhancing the paths and rides, introducing and improving interpretation, and developing knowledge and awareness of the site's importance amongst surrounding communities and an engaging series of events and activities.

DELIVERY LEAD

Sevenoaks District Council; David Boorman, Parking and Amenities Officer, Sevenoaks District Council, Direct Services, 2 Main Road, Sundridge, Kent TN14 6EP; David.Boorman@sevenoaks.gov.uk; Tel. 01732 227220

LOCATION AND LAND OWNERSHIP

Located at TQ536588 between the villages of Otford and Kemsing, bounded on the sets side by the railway line and on the south side by the M26 motorway. There are multiple access points including from Tudor Close in Otford; Dynes Road and Beechy Lees Road in Kemsing; and by Public Footpath SR66 across the M26. The land is owned by Sevenoaks District Council (Council Offices, Argyle Road,

Sevenoaks, Kent, TN13 1HG; 01732 227000) and managed by a Joint Management Committee comprising members and representatives from the Parish Councils of Otford and Kemsing, and representatives from Sevenoaks District Council.

AUDIENCE

The principle audience is the communities of Kemsing and Otford, for whom this is an important green space and recreation area. Whilst wider awareness of the area will be encouraged, car parking facilities are poor and there is no intention to improve this as it is anticipated that this will have a detrimental impact on the site.

HERITAGE VALUE

Oxenhill Woods comprise areas of young, naturally-regenerated woodland and transitional scrub, grassy glades & wide rides and an area of more mature secondary woodland (Oxenhill Shaw), located in the Holmesdale Valley between the North Downs and the Greensand Ridge. Situated at the junction of the North Downs and the Gault clay vale near the foot of the chalk escarpment, the woodland is located between the residential areas of Otford to the North & West and Kemsing to the East. The Bat and Ball to Otford railway line adjoins its western side and the southern edge of the site runs close to the M26 motorway, though the road is in a cutting at this point so the woods are not very evident to motorway users. Railway passengers are much more likely to appreciate the woodland since the trains run on an embankment past the woods.

Oxenhill Woods do not occupy a particularly elevated position and are not a prominent feature in the wider landscape, but are of local landscape significance. The woods are particularly valuable as a green space between Otford and Kemsing. The young regenerating woodland forms an increasingly valuable screen to the M26 motorway as the trees fill out and gain height.

The land was acquired in 1997 in two lots. Oxenhill Shaw and the former Keddies Meadow (23.7 ha) was purchased from a private owner. In 1996 the Parish Councils of Otford and Kemsing had taken the option to buy the land. This option was transferred to Sevenoaks District Council for purchasing. The two Parish Councils contributed towards the purchase. The remaining 0.9 hectares of land situated to the southwest of Oxenhill Shaw (the motorway bank) was acquired from Otford Parish Council, the transfer to the District Council forming part of Otford Parish Council's contribution to the acquisition.

Sevenoaks District Council acquired the Shaw and former Meadow with the support of Otford and Kemsing Parish Councils for amenity purposes, to enable it to be managed to encourage greater public access whilst creating varied habitats for flora and fauna. The District Council recognises the value of the area for informal public recreation, for nature conservation and for its position in the landscape. In this respect its objective is to balance the demands of public recreation and amenity with the conservation of the land's wildlife interest and landscape value.

The Sevenoaks District Council Ranger Service regularly visits Oxenhill and oversees the mowing and maintenance of the rides and open areas, clears litter and rubbish and any other obstructions from the paths, and undertakes regular tree safety inspections. Members of the Joint Management Committee, along with others from the local community, take an active interest in the site's management and feed-back information and observations to the Committee. The communities of

both Otford and Kemsing are very proud of their villages' character and amenities, the former having previously won the title of Kent Village of the Year.

SITE DESCRIPTION

Much of this woodland site consists of the former Oxenhill Meadow, which now comprises 19.9 ha (approximately 49.5 acres) of naturally regenerating woodland, interspersed with wide rides, glades and open grassy clearings. Tree ages range from around 12 to 25 years, with the oldest and tallest trees to be found growing close to Oxenhill Shaw, with the areas furthest away from the Shaw being dominated by native woody shrub species such as dogwood, hawthorn & blackthorn. The development and spread of the woodland provides a fascinating insight into the process of natural woodland colonisation.



Oxenhill Shaw & Woodland in 1960



*Oxenhill Shaw & Woodland in 1990
(All images from Google Earth)*



Oxenhill Shaw & Woodland in 2014

Oxenhill Shaw, which is an area of maturing, predominantly broadleaved woodland located to the south-east of the former meadow, accounts for approximately 15% of the site. It currently extends to 3.8 ha, though was at one time larger, an area on the south-eastern edge being removed in the 1970's to make way for the motorway. Several larger trees were brought down in the October 1987 storm, though the Shaw escaped the level of damage which many woods in more exposed positions suffered. Judging by historic map evidence, the Shaw appears to have grown to its present size in several stages. The relative age of the wood thus seems to range from around 75 up to around 150 years.

The dominant tree is ash, with sweet chestnut also strongly represented. Both species are mostly growing with multiple stems (and hence previously coppiced) up to 25m in height over an understorey of hazel, elder and wayfaring tree. There is a scattering of oak standards (maiden stems) of varying ages, and the occasional tall larch, a remnant of once more extensive late 19th century and early 20th century planting, most of which has long since died and collapsed, or succumbed to the 1987 storm.

Up until 2006, it was obvious that the Shaw had remained virtually unmanaged since the 1940s, and probably then only to remove timber of any value. Judging by the age of the coppice stems, this was the last time that the wood was coppiced.

Aside from being in the Metropolitan Green Belt and the former North Downs Special Landscape Area, the site carries no formal nature conservation designations. It is however regarded as of considerable local interest for wildlife. The various habitats contain a range of native plants which in

turn support a range of associated fauna. Oxenhill Shaw however is covered by a Tree Preservation Order (TPO70/04).



Colonies of Bee Orchid, Pyramidal Orchid, Twayblade and Common Spotted Orchid have been noted in more open areas of the transitional scrub in the former meadow. Several anthills have developed in the open areas and green woodpeckers (UKBAP long list, RSPB amber list) can be seen feeding on them. Bats may occasionally use crevices and holes in some of the larger trees within the Shaw as roost sites.

The site receives a small annual Woodland Management Grant payment from the Forestry Commission, and other ongoing management costs are met by Sevenoaks District Council. A comprehensive management plan has been in place since 2011 and will run until 2031.

ISSUES AND THREATS

Due to the clay nature of the soil, the whole of the site can become extremely wet in the winter months and after periods of prolonged rainfall. Consequently, any heavy machinery taken onto the site can result in major ground damage. In addition, wet conditions can also make walking difficult and dangerous, particularly around access points. In addition, with multiple paths, little or no waymarking and interpretation, it can be difficult for visitors to orientate themselves. For infrequent visitors, this can be somewhat unnerving and concerning.

There is also general antipathy towards tree-felling and was demonstrated by the opposition expressed by some members of the local community during coppicing undertaken in 2009. This was

generated particularly by a lack of understanding of the coppicing process. There have been several incidents recently of people setting fire to over-mature coppice trees retained within the area coppiced in 2009. There have also been incidents of fires being deliberately started in 'habitat piles', and larger trunks left for deadwood habitat. In addition, there are occasionally other acts of criminal damage, for example to signs/information boards, benches and trees.

Due to the predominance of ash trees on the site, *Chalara* (Ash Dieback) poses a significant risk to Oxenhill's wooded landscape and sheltering from the effects of the motorway.

Although the site is fenced and vehicle access is strictly controlled, there are frequent incidents of rubbish dumping on the site, both fly-tipping and the dumping of garden rubbish. There are also occasionally problems encountered with the illegal riding of motorbikes through the woods.

Lack of available financial and staff resources (particularly from Sevenoaks District Council) also remains a constant threat as due to the successional nature of the site, if at any time management ceases, glades, paths and rides would become overgrown and quickly scrub over which could seriously threaten the special character of the site.

PROJECT DESCRIPTION

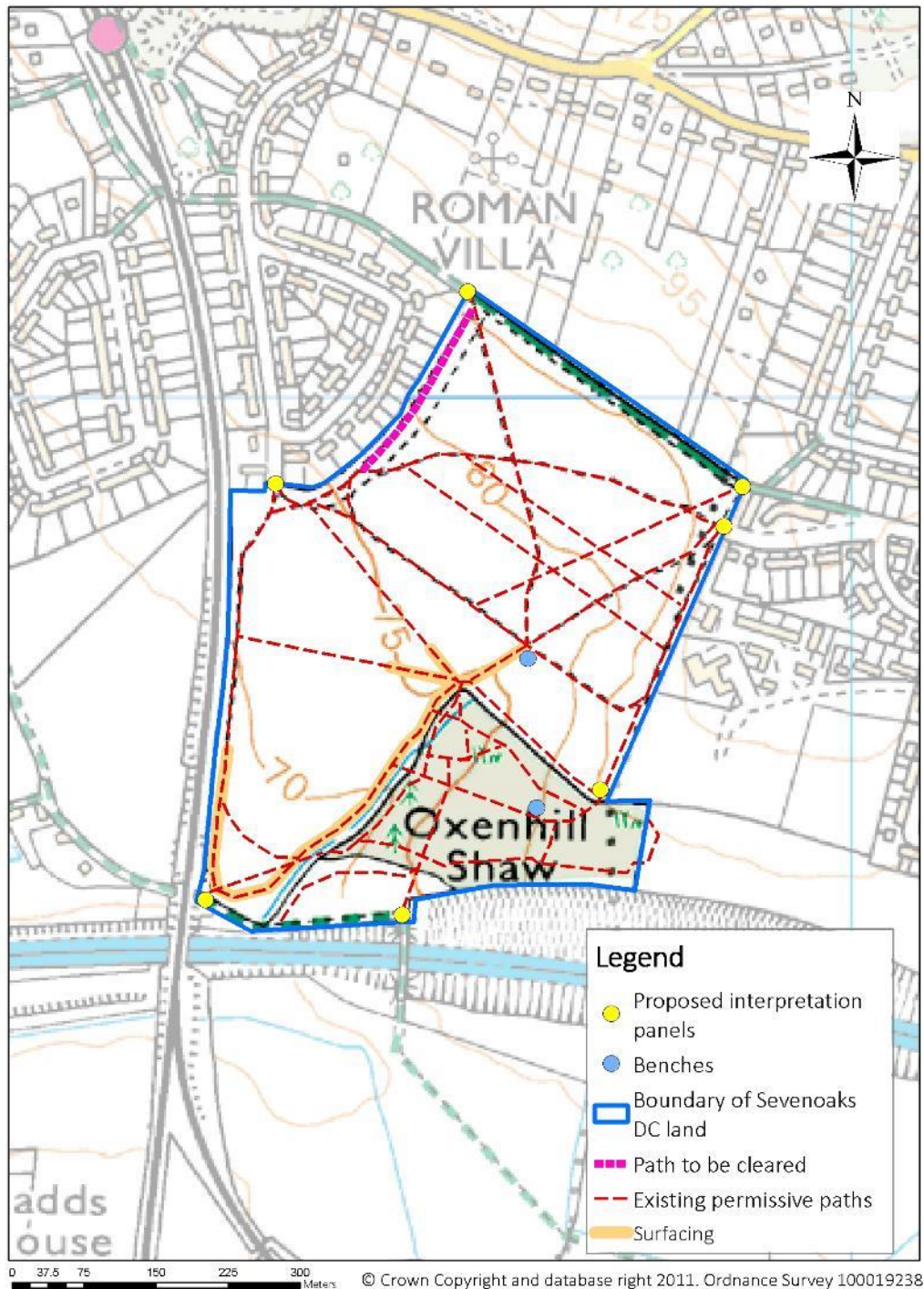
In addition to the general maintenance management undertaken by Sevenoaks District Council, work funded through the DVLPS will include:

1. The clearance and re-opening of 300m of path from the southern end of Tudor Drive to Bridleway SR 49A along the north-west boundary of the site to facilitate access to and from Otford station (undertaken November 2017).
2. Surfacing of 700m of existing permissive path within southern part of the site with compacted crushed ragstone or MOT type 1 to enhance greater usage and aid year-round walking (undertaken September/October 2017).
3. Eight new interpretation panels developed with the DVLPS Delivery Team at entrance points to the sites to aid orientation and provide information on the importance of the site (undertaken 2018)
4. New benches to be installed at viewpoints and path intersections (undertaken September/October 2017).
5. Provision of a range of events (two annually) to inform, educate and encourage engagement with Oxenhill Shaw and Meadow.
6. Installation of waymarker posts to facilitate orientation and create a circular walk around the site.
7. Redesign and production of site leaflet developed with the DVLPS Delivery Team.
8. Establishment and support of 'Friends of Oxenhill Shaw' to undertake ecological monitoring and practical conservation work.
9. Establishment of a permanent orienteering course and mapping for the site.

The project will involve the Oxenhill Shaw and Meadow Management Committee and members/officers of the wider Sevenoaks District Council (including the ranger service), Kemsing and Otford Parish Councils, Dartford Orienteering Klubb and potentially either or both of Kent Wildlife Trust and the North West Kent Countryside Partnership. In addition, closer partnership working with

Highways England and Connect Plus will ensure connectivity with the management of the motorway verge.

Upon completion of the works in 2022, it is anticipated Oxenhill will be a more welcoming site with facilities that encourage safer and more enjoyable use with an improved understanding of its heritage, importance for wildlife and the necessity for appropriate management. As a result, it will receive more visits and there will be greater involvement in its management by local people.



OUTPUTS AND OUTCOMES

Activity	Outputs	Outcomes
Improved path infrastructure through clearance, surfacing, addition of clear waymarking and the installation of benches	<ul style="list-style-type: none"> • 300 metres of path cleared. • 700 metres of path surfaced. • Approximately 3km of path waymarked. • 2 x benches installed. 	<ul style="list-style-type: none"> • Physical access improved and links between villages. Visitors encouraged to walk greater distances. • Visitors not deterred by muddy and flooded surfaces. • Visitors encouraged to rest, enjoy views and be more adventurous when walking. • Improved accessibility for those using sustainable transport options.
Improved interpretation provision (panels and leaflets)	<ul style="list-style-type: none"> • Eight interpretation boards installed. • 1 new site leaflet produced. 	<ul style="list-style-type: none"> • Improved understanding of landscape and heritage.
Events run for public engagement	<ul style="list-style-type: none"> • 2 events run each year. 	<ul style="list-style-type: none"> • Improved local engagement. • Better understanding of site, its heritage and its management. • Increased participation in ecological surveying of the site.
Creation of a permanent orienteering course	<ul style="list-style-type: none"> • 1 new permanent orienteering course. • Orienteering map produced for the site. • 20 new control posts installed. 	<ul style="list-style-type: none"> • Linkage with other projects in the scheme. • Greater use of the site. • Improved accessibility. • Wider range of visitors to the site.

PROJECT COSTS

Element/Item	Year 1 2017/18	Year 2 2018/19	Year 3 2019/20	Year 4 2020/21	Year 5 2021/22	Total
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]					[REDACTED]
[REDACTED]		[REDACTED]				[REDACTED]
[REDACTED]	[REDACTED]					[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]					[REDACTED]
[REDACTED]						[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]				[REDACTED]
[REDACTED]						[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Totals	£13,734	£6,482	£2,342	£2,342	£2,342	£29,742

In kind contributions are in the form of design and production of interpretation vinyls and leaflet, mounting boards and waymarking posts which will be constructed by SDC staff using sweet chestnut materials sourced from Farningham Woods.

PROJECT RISKS

Risk	How likely	Severity	Consequence	Action required
Sale of part or all of Oxenhill.	Very low	High	No items possible / deliverable.	Monitor members' views and get their commitment to retaining site.
Unable to mobilise local community to become involved with the site's management.	Low	Medium	Whilst the work can still be undertaken, it will lack the element of local engagement and potential future appreciation of the site.	The Management Committee has several dedicated individuals and support from locally based conservation organisations will provide the impetus.

TRAINING REQUIRED

- Ecological surveying – with Darent Valley Ecology Group
- Volunteer leadership skills

MAINTAINING A LEGACY

Whilst the site's management can be maintained through the existing SDC revenue budgets and staff resources it assumed that the aspiration of greater local involvement is realised. This will provide an ongoing and sustainable approach to management with local volunteers supporting larger-scale contract work co-ordinated by Sevenoaks District Council and the Oxenhill and Shaw Management Committee. The continued local presence of organisations such as the North West Kent Countryside Partnership and Kent Wildlife Trust will ensure that continued support is available.

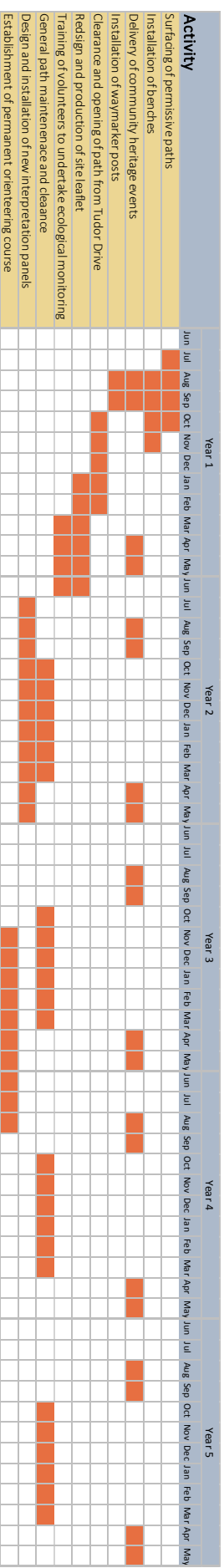
LINKS TO OTHER PROJECTS

- 1A Samuel Palmer Trail
- 1C Inspired Palmer Landscapes
- 3C Telling the Darent's Story
- 3D Reducing the Pressure

Theme 4: Darent Valley Natural & Historic Landscapes

4B: ENHANCING OXENHILL SHAW AND MEADOW

PROJECT TIMETABLE



4C. WHERE TEN THOUSAND FISHES ONCE PLAYED RESTORING THE DARENT



PROJECT AIM

In partnership with organisations across the UK and north-west Europe (Belgium and the Netherlands), a landscape approach will be developed and implemented to make the River Darent more resilient to the impact of climate change. This includes both low flows and increased extreme flood events, and will be delivered in a series of integrated projects that respect landscape character, enhance the biodiversity value and protect the heritage features associated with the river and adjacent land. It will share best practice with partners, involve local stakeholders and directly engage with landowners and management of their land to find new solutions.

DELIVERY LEAD

The Darent Valley Landscape Partnership Scheme Delivery Team in partnership with the North West Kent Countryside Partnership.

LOCATION AND LAND OWNERSHIP

This project will deliver across the entire scheme area but will focus predominantly on the valley bottom close to the river, although delivery elements may include areas of land on the valley slopes where surface run-off is a factor.

AUDIENCE

The audience for this project is broad involving several groups:

- European and UK partners engaged in tackling similar issues to DVLPS including:
 - **Belgium:** City of Ostend, FARYS, Province of East Flanders, Province of West Flanders, Flemish Environment Agency, Province of Antwerp, Inagro, Agro-environmental Management Centre Eco2, and the Vegetable Research Centre East Flanders.
 - **UK:** Brighton & Hove City Council, Somerset County Council, Farming and Wildlife Advisory Group, Devon Wildlife Trust.
 - **Netherlands:** Municipality Middelburg, Waterboard Scheldestromen, Brabantse Delta Water Board, Southern Dutch Farmer and Horticulturists Organisation.
- Local communities affected by climate change issues on the River Darent, particularly with respect to flooding, but also with the aesthetics and attractiveness of the river and its landscape character.
- Landowners and conservation organisations that directly influence the management of, and land adjacent to, the river.
- Recreational and user groups, and particularly the many angling clubs that use the river.
- Visitors to the Darent Valley, for which the River Darent is a component part of the landscape and adds to its attractiveness.

HERITAGE VALUE

Chalk rivers are important both nationally and internationally. They are a priority habitat within the UK Biodiversity Action Plan (having recently been amalgamated into an overarching 'rivers' habitat) and are a key habitat within the Kent BAP. The River Darent is a typical chalk river between Otford and Dartford and has in-channel plant communities characterised by the river water crowfoot and starworts as shown in the photograph at the beginning of this project plan.

Until the late 1800s, the Darent was considered one of the finest trout chalk rivers in the country. Revered for its bountiful supply of fish and popular amongst fly fishermen through the centuries, it not only created this landscape but continues to define it. The quality of the Darent's waters were so good that they warranted a mention in Edmund Spenser's second book of *The Faerie Queen* in 1596, where he stated:

*"The Still Darent, in whose waters cleare
Ten Thousand fishes play and decke his pleasant stream"*

More recently the Darent's situation has waxed and waned. With problems caused by over-abstraction and climate change, the river went through a period of low flows in the late 20th century. Since then, and following the instigation of the Darent Action Plan by the National Rivers Authority in

1992, the river has recovered substantially, and is now beginning to recapture some of its past glory. Key species such as water vole are present on the river, and macrophytes (aquatic plants) such as water crowfoot are well established.

All chalk rivers receive a major proportion of their water from chalk groundwater aquifers. This provides alkaline water that provides good chemical quality, very clear watercourses that remain relatively stable in terms of temperature and flow. Whilst the latter feature has not always been the case for the Darent, it has made a remarkable recovery. In 2011, the Environment Agency named the Darent as one of top ten most improved rivers in England and Wales, partly due to 35 million fewer litres per day being taken from the aquifer.

There is some evidence that the European otter occasionally occurs in small numbers along the river, having returned in the 1990s. Whilst evidence of breeding is not yet apparent, it does appear that they may be using the river whilst passing through, and the increase in bankside buffer strips may be making the area more attractive.

Standing water is an important feature with many sites within the valley adjacent to or fed by the river. Sevenoaks Wildlife Reserve provides the most notable one. Many water birds breed here including great-crested grebe, kingfisher, moorhen and coot. Wintering and passage wildfowl include pochard, shelduck, teal and shoveler, and passage waders are also attracted including greenshank and green sandpiper. The uncommon little ringed plover is a regular breeding species here.

The woodland and reed beds support a typical range of song birds including whitethroat, reed, and sedge warblers. There is also a sand martin colony in a sand face in the south of the site. Sand martins have undergone a major fluctuation in population levels in recent years and this face supports one of the few significant colonies in West Kent.

Elsewhere, the Dartford and Crayford Marshes represent the largest remaining areas of marsh within the Inner Thames estuary close to London. Dartford Marshes are 240ha in size (including the freshwater marshes) and have a vast array of fragmented habitats due to land-use, which have their



View across Dartford and Crayford Marshes

own unique ecological interest. Crayford Marshes on the west side of the river are designated as a Site of Metropolitan Importance for Nature Conservation. These are a further 92 hectares in size and make up a complex of habitats which are essential for the large numbers of birds, bats, water vole and invertebrate species that utilise the Thames corridor. The site's continuity with the Essex marshes is probably of increasing significance, and some rare plants such as dittander have been found. Wetter parts of the Dartford Marshes at Dartford Fresh Marshes (south of University Way) have outstanding water beetle assemblages, largely due to good water quality, lack of invasive non-native species, and the grazing that has until recently kept a mosaic of open water habitats.

Along with Erith Marshes and the Inner Thames SSSI, Dartford and Crayford Marshes form the last significant undeveloped area of the Thames floodplain and grazing marsh habitat within the M25 and are part of the Greater Thames Marshes NIA. Important breeding bird species include redshank, lapwing, yellow wagtail, skylark, turtle dove, nightingale, grasshopper warbler and corn bunting. Whilst non-breeding species such as short-eared owl, long-eared owl, hen harrier and marsh harrier have all been recorded here.

Water voles were recorded at Dartford Marshes in 2016 and the area is a potential long-term stronghold for populations of this species. The site also holds three other species from the Kent Rare and Scarce Species Inventory: divided sedge, annual beard-grass and dittander.

ISSUES AND THREATS

Historically, abstraction of water from the chalk aquifer to meet the supply of a growing London population meant that during natural periods of drought between 1976 and 1991 parts of the river dried up completely. The Darent experienced the impact of this directly from the 1970s, and whilst it is still recovering, it is likely that its response to future climate change can be better understood and mitigated against.



Darent dry riverbed at Eynsford in 1977 (Jan Wilkes)

However, the expected increase in water demand for public use and irrigation in an already over-abstracted catchment presents major challenges for water resource management and potentially the installation of significant new water infrastructure in the landscape. From a biodiversity point of view, the periods of low flows were devastating, and the river is only now returning to something like its previous condition. It however, remains vulnerable to periods of drought when variations in temperature, flow and diversity can cause plant and animal communities to become stressed. This also makes it more susceptible to pollution incidents.

Conversely, the predicted increase and volume of flooding events does present a significant risk as demonstrated by the flood events in the upper Darent in 2014, and there is a danger that responses to this do not respect the landscape character and heritage of the valley.

The reaction to flood events along the Darent in the past has also left a legacy. Within Dartford town itself, for much of its length, the river flows along a concrete-lined channel. Whilst this has had the required effect of reducing the number of flood events, the biodiversity of the river has been substantially reduced with a lack of marginal vegetation and uniform flow for several kilometres. Aesthetically, the river is not a particularly attractive landscape feature within the town.

The river's industrial past also has an impact on its biodiversity. River structures such as weirs and mill-heads have created an impenetrable barrier for fish migration, and these also created impounded sections of river leaving stretches of deep slow-moving water where siltation and loss of channel diversity becomes a problem. Some sections are over-widened (a legacy of the low flows) and here again there is uniformity of flow and siltation of the river bed that remove fish spawning areas and aquatic macrophyte establishment.



Concrete-lined River Darent, Dartford

On the marshes, within the Estuarine Darent Valley Sub-Character Area, water level management is an issue, and a lack of ditch management and control of water has led to a loss of diversity in the



Weir structure on the River Darent near Shoreham

habitat. River flooding seldom occurs, and the multiple landownership and threat of adjacent development has created issues in finding a solution.

PROJECT DESCRIPTION

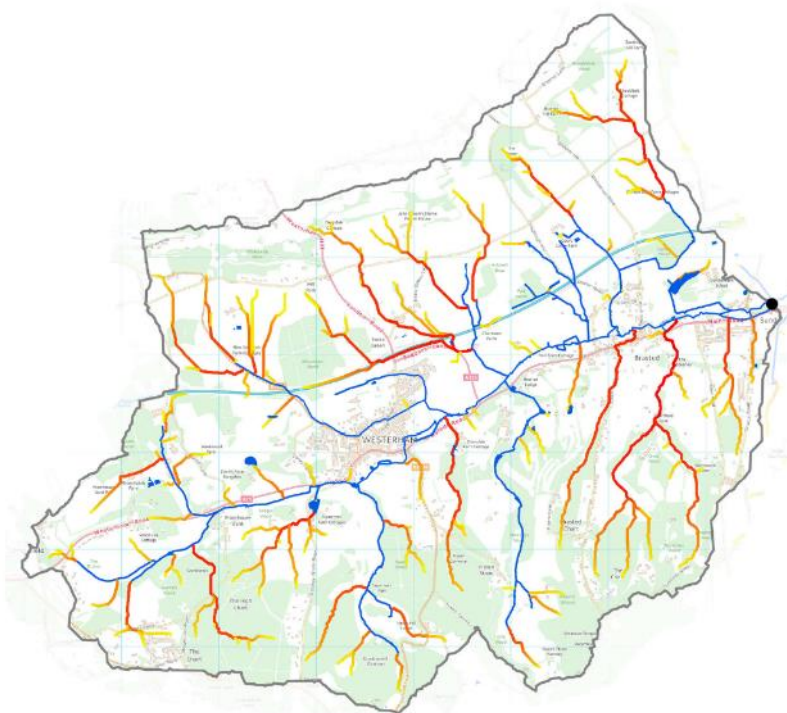
This project is driven by a partnership approach through two Interreg 2 Seas projects that encourages European cross-border co-operation to find solutions to common problems. This approach has attracted a considerable amount of European Regional Development Funding.

Consequently, this has meant that this project plan cannot be prescriptive at this point as the specifics for implementation are developed as a partnership with the European partners, sharing information expertise and alternative approaches. This will strengthen the project and response to the issues considerably, and enable a much more integrated approach.

The project is split geographically to reflect the differences between the two Interreg projects and to ensure that there is separation of approaches. Both projects focus on finding landscape-led approaches to water management issues, but with differences that reflect the issues experienced within different parts of the Darent catchment.



1. UPPER DARENT VALLEY (WEST) – TRIPLE C



This element of the project focuses on the river between Westerham and Sundridge. The issues on the river at this point are less focused on low flows, and more so on flooding and silt loading associated with extreme rainfall events.

In response to several damaging flood events that occurred during the winter of 2013-14, and affected many communities of Westerham, Brasted and Sundridge, a report was commissioned by Kent County Council and the North West Kent

Countryside Partnership and undertaken by the South East Rivers Trust to “Assess the potential application of Natural Flood Management (NFM) techniques in the Upper River Darent Catchment” See project plan appendix. This comprehensive report undertakes a detailed assessment of the conditions that caused the events of the winter of 2013-14 and proposes NFM interventions that could be made to reduce the likelihood of these occurring again in the future.

Particularly within the past decade, there has been an increasing recognition that effective flood risk management cannot be achieved solely by building ‘bigger and taller ‘hard’ flood defences’. Correspondingly, a complementary suite of ‘softer’ Natural Flood Management (NFM) techniques have been developed, which work through “the alteration, restoration or use of landscape features [and natural processes] to reduce flood risk”.

The principal aim of NFM is to slow the rate at which water passes through the catchment, spreading peak discharge over a greater time period and reducing maximum flood water height. NFM techniques are designed to work by one or a combination of the following mechanisms:

- a) storing water in the catchment, either in existing or newly created catchment features;
- b) increasing soil infiltration;
- c) slowing the transit of water through the catchment by increasing resistance to flow or increasing channel length; or
- d) reducing flow connectivity.

Traditional ‘hard’ flood defences are typically expensive to construct and will require further expenditure to maintain them. For example, the Brasted Flood Alleviation Scheme cost around £1 million. Because of the cost of such measures, many rural communities susceptible to flooding – with low densities of population and property – are not eligible for traditional flood defence schemes, due to poor cost-benefit ratios. In comparison, NFM techniques are relatively inexpensive, thus

offering the possibility of providing cost effective flood alleviation for susceptible communities. In addition, through emulating natural features and processes, NFM techniques may enhance habitat provision, limit sediment ingress to watercourses, intercept nutrients and other pollutants and be more respectful of landscape character.

However, the response of NFM measures – particularly the more spatially diffuse methods such as Runoff Attenuation Features – is less certain in comparison to traditional hard flood defences. This uncertainty leads to the continued employment of ‘hard’ flood engineering solutions. However, with limited budgets and flood susceptibility set to worsen for many regions – as a result of climate change and population growth – there is a growing need to develop more sustainable NFM features.

The “Assessing the potential application of Natural Flood Management (NFM) techniques in the Upper River Darent Catchment, Kent” report forms the basis for the works that will be undertaken in this part of project 4C. The individual NFM measures proposed will be assessed as to which will be most effective and implemented. Consultation with landowners such as the Squerryes Estate who are open to having these measures implemented on their land. However, it will also be informed by partners in the Triple C project as concepts and approaches are refined.

The run-off attenuation features will include:

- Overland Flow Interceptors – including ‘leaky’ wooden fences and soil bunds.
- Online Ditch Barriers – normally used in series and comprising of wooden beams, woody debris or living willow.
- Large Woody Debris – large tree trunks and logs spanning the width of the stream and used to increase ‘hydraulic roughness’ of the channel and deflect peak flows towards offline flood attenuation features.
- Offline Ponds – provide temporary water storage.
- Remeandering – increases water transit time and has greater hydraulic roughness. Also provides improved aquatic habitats.



Example of offline pond used as a temporary flood attenuation feature

2. CENTRAL, LOWER AND ESTUARINE DARENT VALLEY – SCAPE

This section of the project focuses on the River Darent where it changes its identity to a chalk river and then onto the tidal area on the open marsh. As with the Triple C project, there is a focus on developing approaches in partnership. Within SCAPE, the DVLPS is partnered with the Flemish Environment Agency and their work on the Zwin area in West Flanders, Belgium. This is a rural catchment with similar issues, but there are also opportunities to learn and share from other partners tackling the issues within urban-fringe and urban catchments.

Initial work will involve utilising updated flow models (carried out by the UK Environment Agency) and then use this information to revise the Darent Valley Strategic Landscape Enhancement Plan (integrating requirements of the Water Framework Directive, Darent Catchment Improvement Plan, European Landscape Convention) alongside work carried out with European partners in the early stages of SCAPE.

The details of the landscape led measures to increase climate resilience will be determined and designed through cooperation with SCAPE partners (and particularly the Flemish Environment Agency). These measures will include:

- The removal or adaptation of ‘in stream’ structures such as weirs and sluices;

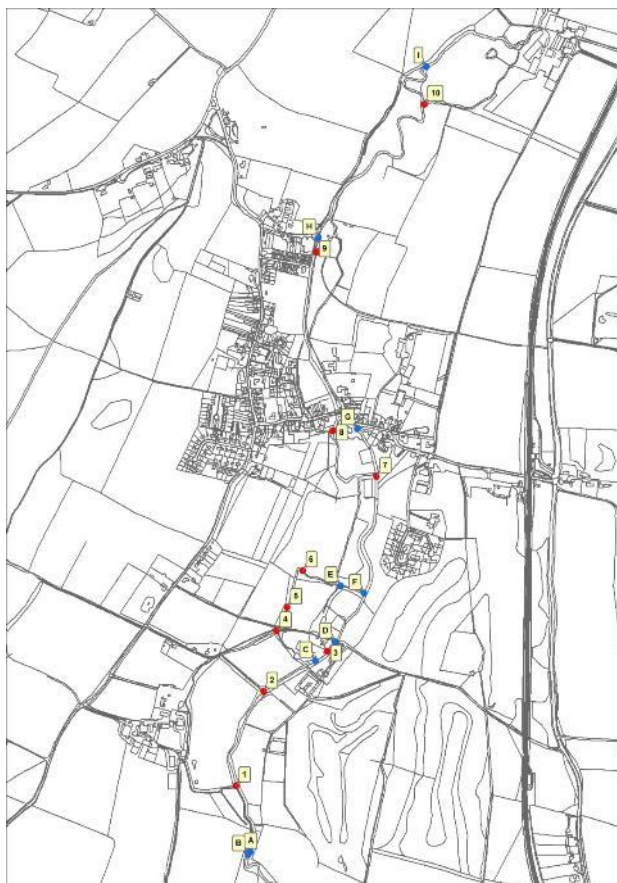
- Naturalising the river by restoring meanders and narrowing of the channel;
- Creating or restoring water meadow systems and flood meadows to slow flows;
- Undertaking appropriate planting to slow surface runoff and increase aquifer recharge;
- Adapting land management and habitat restoration practices on valley sides that may otherwise have a negative effect on climate resilience (e.g. increasing surface flow).

Following the gaining of necessary consents, these measures will be implemented directly as well as influence the work of local land managers through an advisory service. The approaches as well as the guidance of SCAPE partners will be canvassed during this process through one hosted visit each year to enable adaptations and changes to be implemented from other pilots.

OTFORD TO SHOREHAM – CENTRAL DARENT VALLEY SCA

During the stage 2 development of DVLPS, under the direction of the Environment Agency, initial assessment was made of the stretch of the River Darent between Otford and just north of Shoreham. This examined the manner in which the river was controlled and how the various structures had an impact on channel flow with a view to their removal or adaptation. These structures created several impounded areas, poor flow diversity and flood issues for some properties. This work identified several interventions that could reduce flood risk, enhance the river should there be low flow events and improve the biodiversity of the river. Initial consultation has also been held with landowners about delivering these interventions, but further work informed by partners is required to ascertain how these changes will affect each other.

This element of the project will be integrated with work being undertaken under project 4D.2 with Darent Valley Golf Club.



DARTFORD MARSHES – ESTUARINE DARENT VALLEY SCA

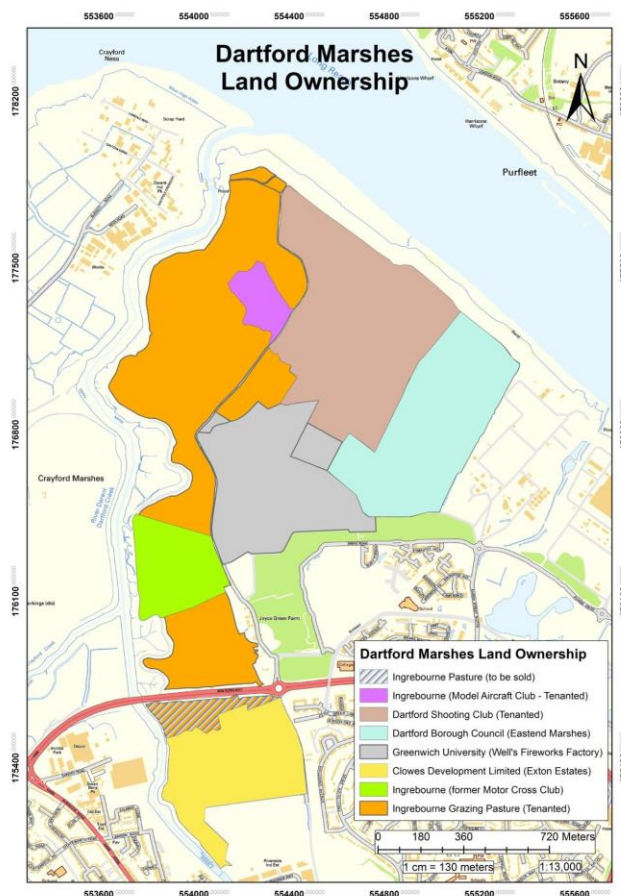
In January 2017 Kent Wildlife Trust completed a revision of the Water Level Management Plan for Dartford Marshes. This included an assessment of the current state of the marshes with a Phase 1 habitat survey along with identification of management works to improve its condition and enhance its biodiversity.

A complimentary ditch condition assessment was undertaken separately to the Phase 1 habitat survey, this allowed for an unbiased analysis of waterway ecological productivity/health. A range of parameters were recorded, including aquatic invertebrates and physical parameters, such as water chemistry, depth and flow rates.

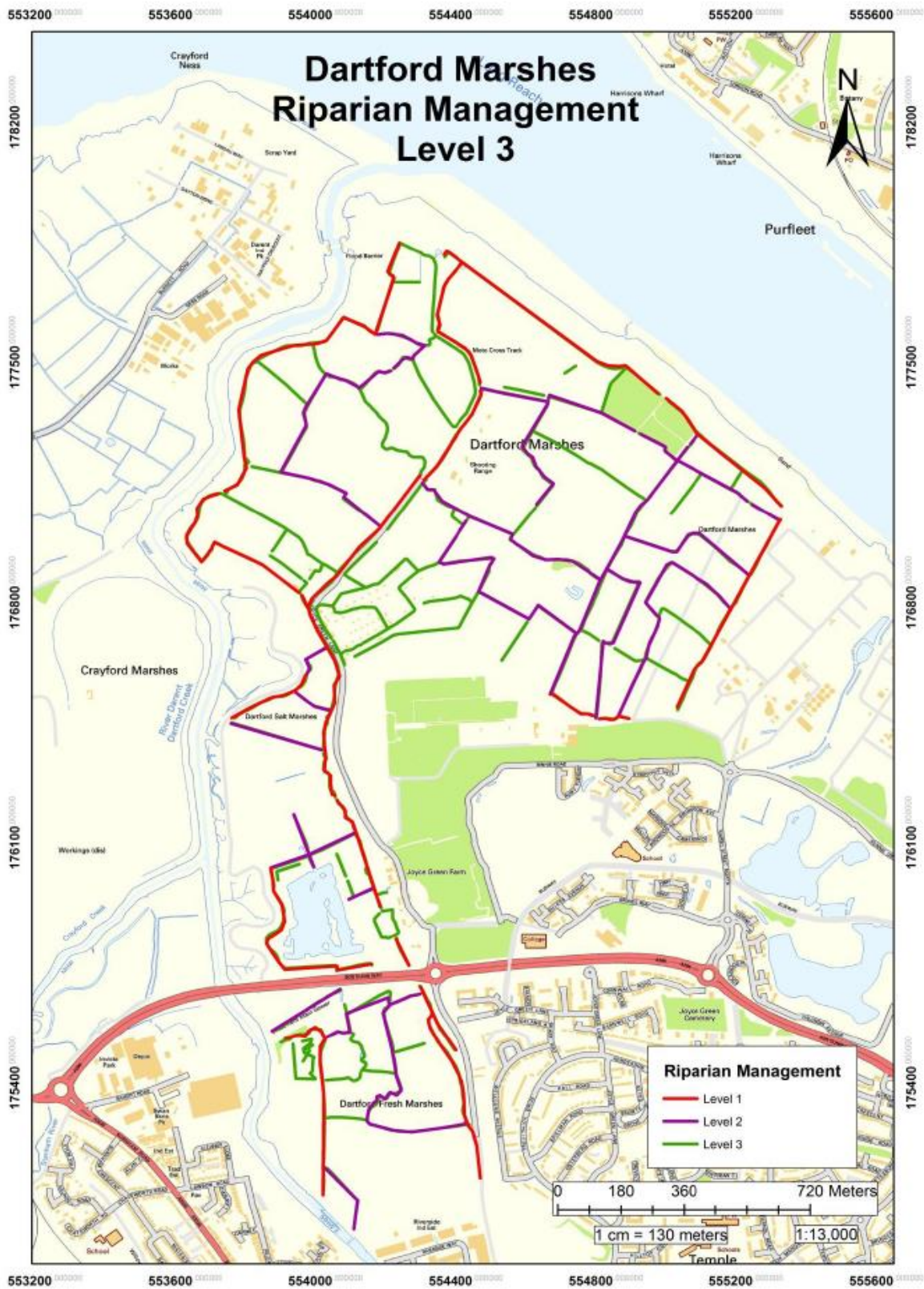
The ditch condition assessments indicate that the ditch network is in poor condition. This is predominantly due to the lack of flow through the ditch system from encroaching vegetation in the waterways. The ditch systems around Dartford Shooting Club are in good health, and should be used as a model of desired management throughout the rest of the ditch systems on-site. The intermittent management of the waterways is not sufficient to address the issues of the ditch system health. It is recommended that continuous lengths of the ditch networks on the furthest West (currently tenanted pasture) and East (East End marshes) side of Dartford Marshes, should be cleared along the outermost boundaries. This will improve the ditch system network considerably, and assist with the overall surface watershed management.

Overall, there is a vast array of complex fragmented habitats throughout the whole of Dartford Marshes, with management the key recommendation for the site. As land areas go, the East End marshes and the Freshwater Marshes need the most management. It is recommended that both of these areas are cut mechanically twice a year between February and March, and then given a secondary cut from October, with vegetative material removed initially in the first year of management. Due to public access throughout East End marshes, it is not recommended to have a grazing contract in this area, unless the risks of livestock worrying are assessed; it is recommended, however, that a grazing contract is established for long-term management of the Freshwater Marshes south of Dartford Marshes.

Dartford Marshes' current condition is poor and could be improved through the introduction of appropriate management. The Kent Wildlife Trust Water Level Management Plan will be used to improve the integrated management of the site, and also enhance its resilience to future climate change.



4C. WHERE TEN THOUSAND FISHES ONCE PLAYED – RESTORING THE DARENT



Improved riparian management on Dartford Marshes (Kent Wildlife Trust)

OTHER LOCATIONS

Several other locations have been identified for enhancements. These include:

- Dartford Town Centre – naturalisation of existing concrete banks.
- Acacia Hall complex, Dartford – bank improvements and habitat enhancements.
- In-stream naturalisation in the Hawley area.

In addition, this project will be integrated with other projects under Theme 4 to deliver water resource management improvements, whether this is through mitigation of the impact of scrub removal from chalk grassland in project 4A, or through strategic planting of hedgerows in project 4G.

OUTPUTS AND OUTCOMES

Activity	Outputs	Outcomes
Revision of Strategic Landscape Enhancement Plan to include landscape-led design approaches to water resource management.	<ul style="list-style-type: none"> • 1 x revised strategy incorporating landscape-led approach to water management. • Approach shared with seven partners. 	<ul style="list-style-type: none"> • Best practice approach to achieving water resource management that respects landscape character established.
Establish catchment based farmer practitioner network in Upper Darent.	<ul style="list-style-type: none"> • 1 x network of landowners established in Upper Darent. • Network of 8+ landowners working together to deliver integrated NFM approach. 	<ul style="list-style-type: none"> • New partnerships established across international borders.
Demonstration events for NFM and landscape-led approach to water resource management.	<ul style="list-style-type: none"> • 4 x workshop hosted for European partners to demonstrate approaches being taken in the Darent Valley. 	<ul style="list-style-type: none"> • Application of new approaches learnt from Europe.
Sharing approaches and methodology with national and international partners.	<ul style="list-style-type: none"> • Contribute to 12 x partner workshops. • Attend 16 steering group meetings. 	<ul style="list-style-type: none"> • Partners within the DVLPS will have learnt new skills and knowledge for applying elsewhere within Kent.
Implementation of NFM in the Upper Darent.	<ul style="list-style-type: none"> • 20 NFM run-off attenuation features installed. • 9,200m³ of extra water retention capacity created that is sympathetic to landscape character. • 1,300 ha of catchment with improved adaptation capacity through natural measures that retain landscape character. • 45 homes protected through the implementation of Natural Flood Measures. • New habitat and biodiversity enhancement features created (numbers to be confirmed) 	<ul style="list-style-type: none"> • Natural flood measures demonstrated as being an effective alternative to hard flood measures. • Demonstration to decision-makers involved in flood prevention the benefits and financial value of implementing NFM. • Fewer low flow incidents on the River Darent than would have otherwise occurred.
Implementation of river enhancements	<ul style="list-style-type: none"> • 8 river structures removed or adapted to enhance fish passage and aquatic habitat connectivity. • 3km of chalk river with enhanced habitat. • Improved climate change resilience for 32km of river. • 8.5km of marshland ditch system improved. • 240ha of marshland habitat and landscape brought into condition. 	<ul style="list-style-type: none"> • Model of how to undertake landscape conservation work without detrimental impact of water resource management.

PROJECT COSTS

Element/Item	Year 1 2017/18	Year 2 2018/19	Year 3 2019/20	Year 4 2020/21	Year 5 2021/22	Total
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]			[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]		[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]		[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]		[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]			[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]		[REDACTED]
Totals	£44,512	£105,562	£91,262	£25,300	£0	£266,635

PROJECT RISKS

Risk	How likely	Severity	Consequence	Action required
Interreg match funding withdrawn due to Brexit.	Low	High	Match funding would need to be sought from elsewhere and projects scaled down.	Government strongly indicated that projects will continue to be supported even after exit from EU. Look to undertake spending as early as possible if issue arises before March 2019.
Landowners do not wish to be involved.	Medium	Medium	Integrated approach is difficult and landscape approach is not achieved.	Initial discussions with major landowner is positive and there are existing links with others. Early discussion will facilitate co-operation.
Natural Flood Measures are not as successful as hoped.	Low	Medium	Impact of using NFM does not achieve outcomes hoped for and is not seen as a viable alternative to hard measures.	This project is piloting the NFM approach and failure or partial success is a possibility. However, evidence suggests that this will not be the case, and any result will still provide useful data.
Riparian landowners object to removal of in-stream structures for aesthetic reasons.	Medium	Medium	Some planned works cannot be undertaken and alternative solutions need to be found.	Early discussion with landowners to ascertain their position.
Failure of existing in-stream structures.	Medium	High	May cause major change of flow that jeopardises delivery of project.	Prioritise at-risk structures for early work.

TRAINING REQUIRED

- Contract management skills
- River restoration techniques.

MAINTAINING A LEGACY

The physical outputs of this work will be maintained by the landowners and in some case by the Environment Agency. However, the true legacy will be in the demonstration of how a landscape-led approach to water management can reduce flooding and low flow scenarios whilst also having a neutral or positive impact on landscape character. This can then be adopted elsewhere in the catchment and beyond. In addition, a sharing and dissemination of the techniques and knowledge gained will ensure that there are much wider benefits and enhancement of similar projects across European 2 Seas area.

LINKS TO OTHER PROJECTS

- All projects within Theme 4.

4D.1 SAMUEL PALMER'S GREAT VETERANS OF LULLINGSTONE PARK

PROJECT AIM

To protect, sustain and manage the great veteran and notable trees of Lullingstone Park to ensure that their longevity is maximised and awareness of their importance raised by visitors and residents alike. To highlight the link with Samuel Palmer and his paintings and sketches of the trees from two hundred years ago.



*Oak tree and beech, Lullingstone Park by Samuel Palmer - Thaw Collection. The Morgan Library & Museum. 2006.53.
Photography by Graham S. Haber 2013*

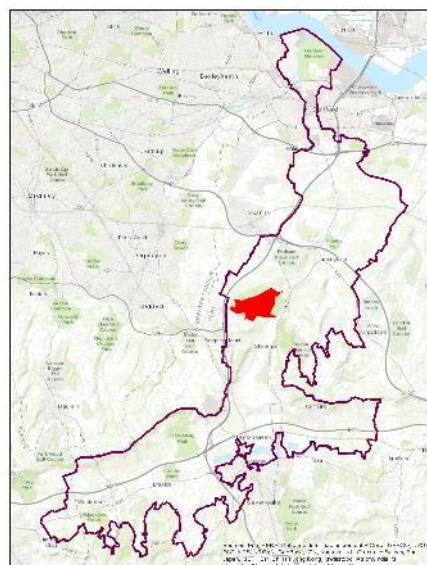
DELIVERY LEAD

Kent County Council – West Kent Country Parks Team. Andy Gorman – Head Ranger; [REDACTED]
[REDACTED] Kent County Council will be responsible for overseeing Sencio Community Leisure, contractors and volunteers for delivery of the project. The DVLPS team will be responsible for delivering the oak processionary moth elements of the project.

LAND OWNERSHIP

Kent County Council; Lullingstone Country Park, Castle Road, Eynsford, Sevenoaks, Kent DA4 0JF.

The land is in the ownership of Kent County Council (copy of deeds in appendix 1). The management of the Lullingstone Golf Course is the responsibility of Sencio Community Leisure who are partners in the project.



AUDIENCE

Lullingstone Country Park receives over 125,000 visitors every year (2014/15 figures from KCC) and is a popular destination for those that live in and outside the valley. The facilities located at the visitor centre along with plentiful parking opportunities mean that it is popular with families. A Parkrun is held every Saturday morning which has been attended by over 750 separate individuals from across Kent, and a permanent orienteering course attracts other runners and walkers. The golf course car park at the western end of the park is particularly attractive for visitors from Crockenhill, Orpington and the London suburbs. The golf course itself is a public course and attracts a significant proportion of its clientele from South East London. Most of the veteran trees are found on and immediately around the golf course. Approximately 1,400 schoolchildren also use the site every year.

HERITAGE VALUE

Lullingstone Park is inextricably linked to Samuel Palmer. His observations of the veteran oak and beech trees are some of his most notable pieces of work and convey the detail and texture of the natural forms. Two of the surviving pieces of work: *Oak Trees, Lullingstone Park*, and *Oak Trees and Beech*, held by the National Gallery of Canada and The Morgan in New York respectively, show the trees as ancient even when Palmer painted them in 1828.



Oak Trees, Lullingstone Park by Samuel Palmer; The National Gallery of Canada

Lullingstone Park itself is a Grade II* Registered Park and Garden and originates from a medieval deer park. It was subsequently laid out as a landscape park in the mid to late 18th Century by Sir Thomas Dyke and his son Sir John Dixon Dyke, and retained many of the historic features including the veteran trees (mainly oak, beech and hornbeam) along with the medieval ditch and bank.

Much of the site (but not all) is contained within the Lullingstone Park SSSI. At its last assessment, all four units of the site were categorised as being in favourable condition. The designation recognises the old pollards and other woodland supporting important communities of invertebrates, lichens, breeding birds and fungi. The rest of the park is designated as a Local Wildlife Site (SE07) for its parkland and open grassland habitats.

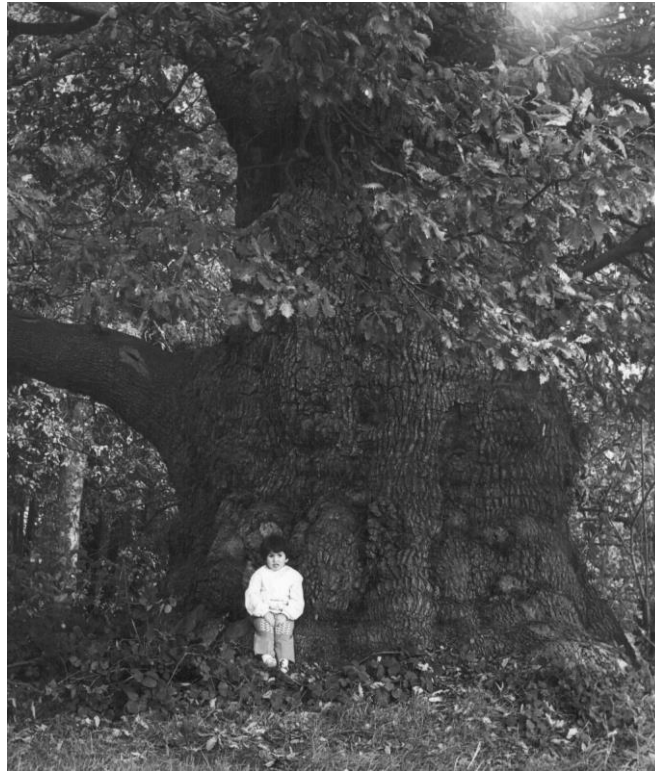


Veteran Oak on Lullingstone Golf Course; Sencio Community Leisure

The barks of the veterans in particular support over 60 species of epiphytic ('growing harmlessly on plants') lichens, and is considered particularly rich despite the proximity of large urban areas and the M25. Over 340 beetles have been recorded, including over 30 nationally scarce and two nationally rare species: a fairy-winged beetle *Ptenidium gressneri*, and a scirtid beetle *Prionocyphon serricornis*. More than 270 moths and butterflies are known to occur; the many scarce moths present include the barred hook-tip *Drepana cultraria* and the satin lutestring *Tetheella fluctuosa*. A scarce moneyspider *Porrhomma microphthalmum* and the scarce Roman snail *Helix pomatia* also occur. Several invertebrates found here have not been recorded elsewhere in Kent.

Over 500 species of fungi have been identified from this site including several rarely recorded in Britain and one, the intriguingly named Unexpected Guest *Lepidella Amanita opinata*, which was new to science when found at Lullingstone in 1987.

Many of the trees at Lullingstone are over 500 years old and indeed there are a significant number of trees that are over 700 years old. One tree has been aged at 1014 years in 2012 (*Dr A. Moir-Dendrochronological analysis of oak trees at Lullingstone Country Park, Eynsford Kent*). This tree was also highlighted in a report carried out in 2000 by Ted Green and Jill Butler stating that “...on a world scale this is one of the top fifty oaks for age, size and wildlife value”.



'The Oldest Oak' photographed in 1984; Joyce Pitt

Most of the park is under the ownership of Kent County Council and managed by the West Kent Country Parks Team. However, part of the site is the public Lullingstone Park Golf Course, and is managed by Sencio Community Leisure (a community benefit society). The organisations all work closely together.

The golf course has its own biodiversity interest with a number of chalk grassland areas that form the roughs adjacent to the fairways. The south-facing, steeply-sloping area of rough, unimproved grassland at TQ519644 supports a rich chalk flora that includes wild thyme *Thymus polytrichus*, wild marjoram *Origanum vulgare*, harebell *Campanula rotundifolia* and hairy violet *Viola hirta*, with upright brome *Bromopsis erecta* as the dominant grass species. A particular feature of the slope is the small colony of lizard orchid *Himantoglossum hircinum*, together with a variety of other orchid species including large numbers of pyramidal orchid *Anacamptis pyramidalis* in addition to excellent colonies of fragrant orchid *Gymnadenia conopsea* and bee orchid *Ophrys apifera*. Henbane *Hyoscyamus niger* is also present and is associated with a large rabbit warren surrounded by scrub.

This area of grassland supports a good variety of common butterflies and twenty-two species, including dark green fritillary, have been recorded regularly on the slope. The lace border moth *Scopula ornata* has also been recorded; this moth has declined in recent years and is now only found locally in the south-east of England. An area of rough grassland found above this slope is cut for hay. This area is not as species-rich as the lower slope because it has been ploughed in the past, but it

does support a number of grass species as well as bee orchid and pyramidal orchid. Grass vetchling *Lathyrus nissolia* and common knapweed *Centaurea nigra* have also been recorded.

An area of rough, north-facing grassland found above the golf course at TQ512643 is also rich in common grassland orchids and invertebrates and an additional grassy area with scattered hawthorn *Crataegus monogyna* scrub at TQ517646 is known to support many notable *diptera* species as well as other invertebrates. The land in this area has been managed well here which has encouraged the spread of orchids and increased the diversity of grassland species, although there has been some encroachment of scrub in recent years.

As a flagship country park site, the existing facilities at Lullingstone Park include an informal classroom and meeting room, toilets and cloakroom. An education is delivered to about 1400 children per year on a range of topics including habitats, early settlers, rivers, mapping and wayfinding, natural art, exploring the senses and forest school.

ISSUES AND THREATS

Whilst Lullingstone Park is a site of great cultural importance with highly valued heritage, there are several threats.

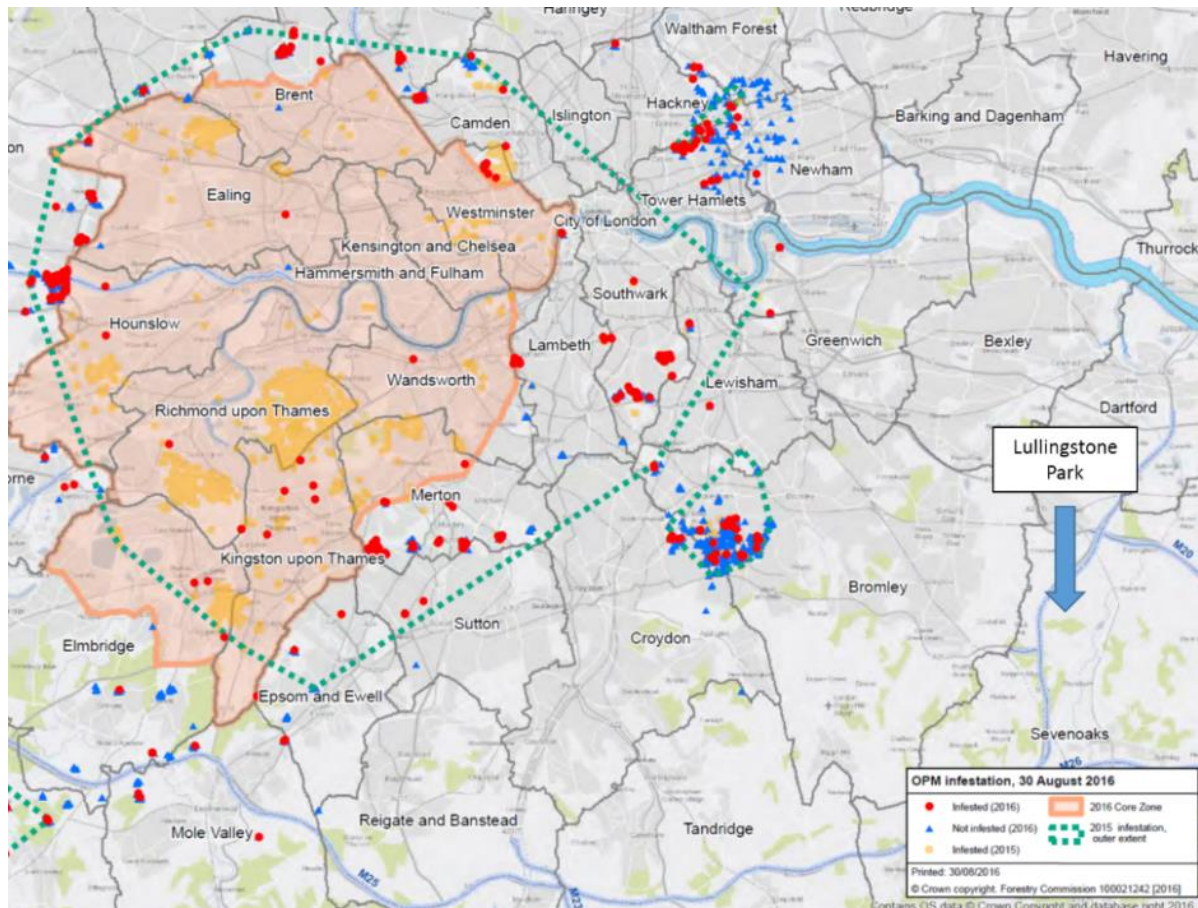
Being a country park, it is publicly owned and consequently resourcing the site's management is difficult, particularly during periods of austerity. The density and number of veteran trees in the park mean that Kent County Council has not been able to undertake all the management it would like to ensure that the longevity of these great trees and their condition is maintained. Work is generally focused on safety procedures rather than essential maintenance as identified by the 2000 report by Green & Butler, "An appraisal of ancient tree and woodland management for biodiversity". Further pressure on local authority budgets means that this issue is unlikely to be alleviated soon.

The oldest tree in the park, despite currently being healthy, is particularly at risk. It is located adjacent to the putting green on the 16th hole of the golf course. Compaction caused by mowers and other machinery and the use of herbicides/pesticides occur within the drip-line of the tree. There is an inevitable impact on a tree of such cultural, historic and natural value. Similar issues occur with other veteran trees located on the golf course.

Veteran tree work demands skilled arboriculture work by trained operatives with a proven track record on veteran trees. This is expensive and requires careful management. Many of the older trees are in advanced decline and to prolong this inevitable stage in the trees' life, as well as the many rare plant and animal species that rely on them, essential work must take place. Without managing the gentle decline of these veteran trees and carrying out work to promote new veterans the long-term future of the site may be jeopardised.

The spread of the oak processionary moth (*Thaumetopoea processionea*) also represents a risk. Its actions in defoliating trees entirely makes the trees vulnerable to other pests and diseases, and to droughts and floods. They also present a health risk to humans and animals due to the irritant hairs from the caterpillars. No records exist at Lullingstone yet, but a certified infestation has been prevalent for the last three years only 12km away at Bethlem Royal Hospital and Langley Park. Its impact on the veteran trees of Lullingstone and other sites in the Darent Valley has the potential to be

significant. The Crown Estate is developing a strategy and response to the threat regarding the veteran trees at Windsor Great Park.



Extent of Oak Processionary Moth spread in August 2016; Forestry Commission

A risk also exists with the lichen species associated with the trees which are reliant on the open habitat that wood-pasture provides. With no grazing present in the park, smothering ground vegetation presents a constant threat to many of the very scarce species found at Lullingstone. Regular management and clearance is therefore required to maintain these conditions. Lichens and other bryophytes such as mosses are also vulnerable to air pollutants. With many of the veteran trees being located within 1½ km of the M25 and in the direction of the prevailing wind, it is remarkable that such a diverse range of rare species survive. However, the increasing traffic volumes present a risk that these populations could be threatened.

Whilst the importance of this collection of great veterans and associated biodiversity is known amongst specialists and experts, awareness amongst the general public is not so good. The trees and this site provide the opportunity to develop a deep connection with the landscape’s past. Being a key attraction within the valley with many thousands of visitors every year, the opportunity to raise awareness is considerable.

In addition to biodiversity and landscape issues at Lullingstone Country Park, the education programme does not focus on the landscape of the Darent Valley in any significant way. Despite its

long history and use, currently only 140 out of 1400 children that visit the park each year study the early settlers program.

PROJECT DESCRIPTION

This project will deliver in seven key areas:

RELOCATION OF THE 16TH HOLE GREEN AWAY FROM THE THOUSAND-YEAR-OLD OAK

The existing green will be extended to the south of the tree and the northern boundary moved away from the drip line of the tree. This is a significant undertaking as it requires the redesigning of the green, removal of the turf and moving the irrigation supply. The final area around the drip line of the tree will be fenced off with a simple low post and rail fence and the installation of interpretation. The work will follow best practice as outlined by the 'USGA Recommendations for Putting Green Construction' in Appendix 3.

To make this action financially viable, it will be delivered through a collaboration between Sencio Community Leisure and Kent County Council to reduce costs. Sencio will supply the labour and expertise as an in-kind contribution, reducing the cost to capital items and machinery hire.

This sub-project will remove a significant risk to this highly important tree that appears to have not yet reached its senescence phase, and is therefore likely to live for several centuries more. The risk of ongoing compaction will be removed, as will the application of chemicals close to the root system. In addition, the awareness of the importance of this tree will be significantly increased with visitors from a large catchment.

The project is planned for starting in October 2017 and is anticipated to last two months' duration with a planned methodology of:

- Remove existing turf and store for re-use.
- Where appropriate the top soil will be removed, and stored for re-use.
- Drainage and irrigation system will be installed by a specialist contractor.
- Root zone and stored soil to be spread and profiled to form the new green surface.
- A new bunker will be constructed to the north side of the new green to encourage play and general footfall to the southern side away from the tree.
- Saved turf will be laid down with brought in turf and other areas seeded with appropriate grass mix.

SURVEY OF VETERANS, POLLARDS AND FUTURE VETERANS

Volunteers from Kent County Council Country Parks, North West Kent Countryside Partnership and those inherited from the Kent Heritage Trees projects will be given training to ascertain and mark the location of all veteran, significant and future veterans in the park. In addition, a condition assessment, and visual record will be made to determine what future management will be required. Additional training and support will be provided by local specialists with an interest in the site to help record key indicator species. All the collected data will be put on to Kent County Council's existing 'My trees' data base with images and recommended management. This will form the basis for

monitoring the ongoing health of the trees and the impact of the management. In addition, location data will be shared with the Kent Heritage Trees online database and the Ancient Tree Inventory.

- August 2017 Recruit volunteers to help survey the veteran trees and train.
- Sept – Dec 2017 Veteran tree survey and GIS plotting. Tag all new trees.
- December 2017 Data entered onto database
- Sept - Dec 2018 Survey trees and update records-check tags
- Sept - Dec 2021 Repeat of veteran tree survey

CARRYING OUT A PROGRAMME OF CLEARANCE AND TREE SURGERY TO STABILISE AND IMPROVE THE CONDITION IDENTIFIED TREES

Following the survey work prioritised tree surgery work will be undertaken. Highly specialised work will be contractor led, but three officers in the Country Parks Ranger team will be put through a climbing course, enabling the bulk of the work in the future to be undertaken by Kent County Council's own staff. This will make this project more sustainable and cost effective, and ensure that the work was carried out using the expertise of the team to deal with this type of specialist activity.

- Aug 2017 – Feb 2018 (and annually) Clear scrub and bramble around identified veteran trees for the benefit of epiphytes.
- Oct 2017 – May 2018 Train ranger arboriculture team in tree climbing, 'Aerial Rescue' and 'Using a chainsaw from a rope and harness', and work from a mobile platform.
- Sept 2018 – Feb 2019 (and annually thereafter) Undertake programme of arboriculture work on prioritised trees.

RAISING THE AWARENESS OF THE 'GREAT TREES OF LULLINGSTONE'

Production of a full colour interpretation panel adjacent between the 16th green and 17th tee to highlight the significance of the trees and their importance ecologically and to the historic landscape. The age and the history of what some trees have lived through will be highlighted and the many different wildlife species that depend on these trees.

Development of a Veteran Tree Trail leaflet that will also be downloadable from the KCC Country Parks and DVLPS websites as a leaflet. Incorporation of a GPS-linked and web-enabled audio-visual content providing engaging information on each of the trees visited as part of the trail.

- Apr – Sep 2018 Development and collation of interpretative content.
- Oct 2018 – Feb 2019 Design, production and installation of on-site interpretation.
- Mar 2019 – May 2019 Production of Veteran Tree Trail leaflet.
- April – Jun 2019 Installation of infrastructure for new veteran tree trail.
- Annual from 2018 Run a series of guided walks focussing on the importance of the veterans and history of the park. These will be delivered through projects 1A (The Samuel Palmer Trail) and 5G (Engaging New Audiences).

PREPARING FOR THE OAK PROCESSIONARY MOTH



Oak Processionary Moth caterpillars (Forestry Commission)

The control of the spread of the Oak Processionary Moth (OPM) and the prevention of its devastating consequences (for veteran trees) is a complex task. There is currently no contingency plan in place should an outbreak occur at Lullingstone Park. Forestry Commission advice is that careful monitoring should be established and any infestation dealt with quickly. Experience shows that the costs and wider impacts are far greater if the outbreak is not quickly brought under control.

The most effective way of dealing with OPM infestations is insecticide spraying. However, the potential impact on the important invertebrate populations (and possibly epiphytes) associated with the trees at Lullingstone means that there are likely to be many negative side effects of this treatment.



Spraying with Bacillus thuringiensis (Forestry Commission)

To ensure that Lullingstone Park and other historic parklands with veteran trees in the Darent Valley are well prepared for any potential outbreak, the DVLPS team will liaise with the Crown Estate which has been very active in preparing for this scenario at Windsor Great Park. To do this, the DVLPS will:

- Jun - Sep 2017 (and then annually April – Sept): Promote the use of the OPAL (Open Air Laboratories) Tree Health Survey app to develop crowdsourced monitoring by the public and give advanced warning of potential outbreaks.
- July 2017 onwards: Work with Connect Plus who have an established monitoring programme on the M25 and use this to provide an early warning system for potential imminent outbreaks emanating from the core area in London.
- Aug 2017 onwards: Establish a Darent Valley OPM Working Group of landowners and managers who are responsible for veteran trees to ensure that there is a joined-up landscape response to OPM outbreaks.
- Sep 2017: Undertake a visit for the working group to Windsor Great Park to review best practice and approach.
- Mar 2018: Produce an OPM Contingency Action Plan for Lullingstone Park and other veteran tree sites to ensure a rapid response to outbreaks and minimise negative side effects.
- Mar 2018 onwards: Introduce effective monitoring with potential use of pheromone traps.

Permissions required for this work will include SSSI consent (where appropriate) and possibly the application for a felling licence if major work is required. Planning permission or advertising consent may also be required for on-site interpretation.

MANAGEMENT OF THE GOLF COURSE ORCHID BANKS

The areas of chalk grassland on the golf course require regular cutting with appropriate equipment to prevent succession to scrub and loss of the important habitat. As the areas are relatively small and in the absence of grazing, rather than contracting an annual cut, a motorised Power Scythe will be purchased for use by KCC Country Park staff. This is capable of removing small scrub and can be manipulated to create a mosaic of different sward heights. This piece of machinery, although under the care of KCC, will be available to all other land managers carrying out chalk grassland management under project 4A. This management technique will require the support of volunteers to remove the cuttings and prevent nitrification of the soil to the detriment of the important species present.

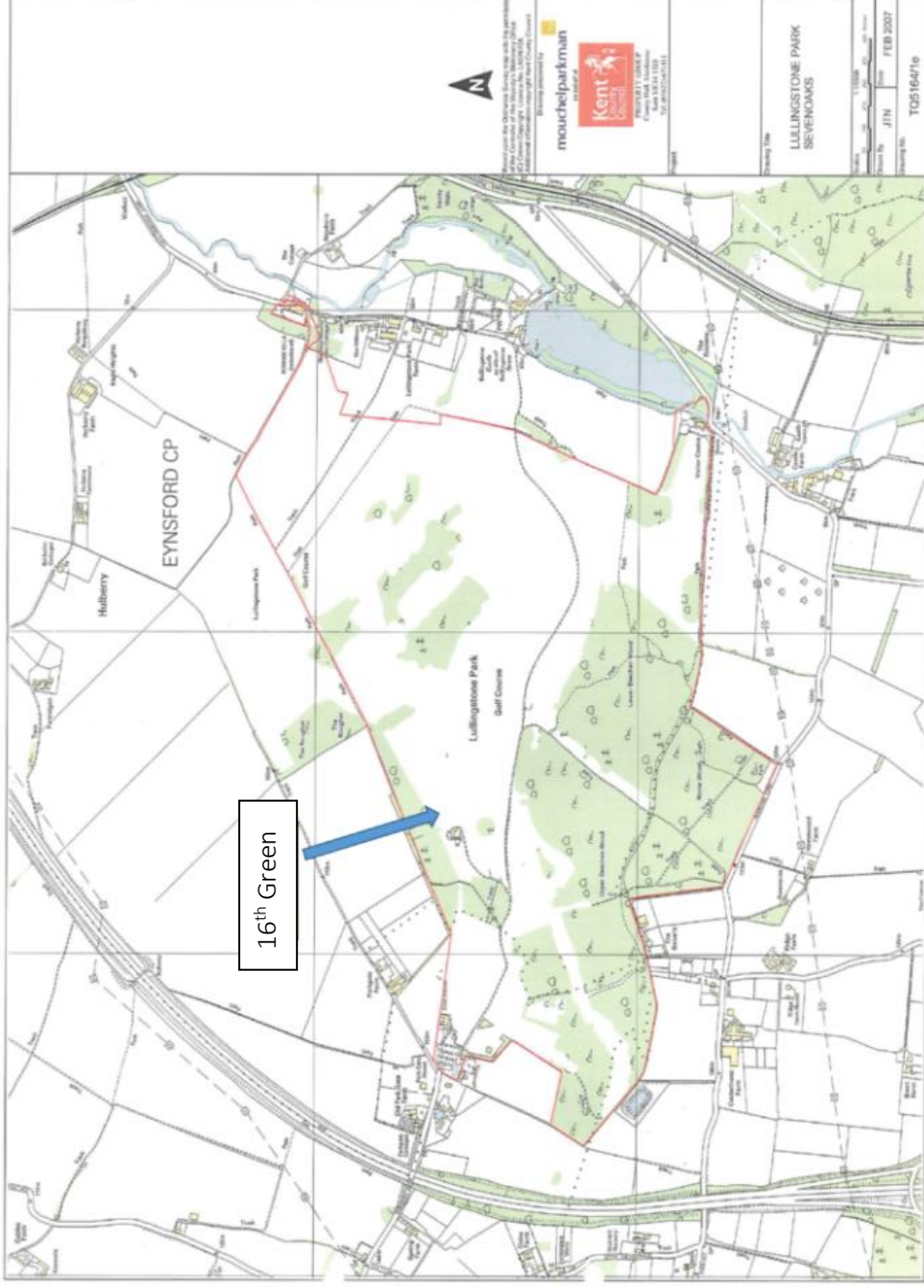
EDUCATIONAL ACTIVITIES WITHIN THE PARK

To enhance the opportunities to deliver education associated with subject of ‘early settlers’, an outdoor shelter in the style of a traditional Iron Age Round house will be designed and installed close to the location of where the remains of the original settlement were found in the park. This will increase the educational facilities available at the park and would mean that education could be delivered to more people, as well as enriching the current topics of study. The concept and design will be developed in partnership with KCC colleagues from the Heritage Team, and will involve volunteers from local historical societies.

This will provide a focus for educational activity, and will have the secondary benefit of providing a base and shelter in the park that can be used for other education and training days.

Theme 4. Darent Valley Natural and Historic Landscapes
PROJECT 4D: A DESIGNED LANDSCAPE – PROTECTING PARKS, GARDENS AND ESTATES

SITE MAP



OUTPUTS AND OUTCOMES

Activity	Outputs	Outcomes
Design and relocation of the 16th hole green away from the thousand-year-old oak	<ul style="list-style-type: none"> • Entire green moved away from ancient oak. • Good condition of ancient tree secured and maintained. • 20m of protective low rail fencing installed. 	<ul style="list-style-type: none"> • Amenity organisation (Sencio) positively engaged in conservation of internationally significant natural heritage asset. • Profile and awareness raised of an important tree. • Improved soil condition around the base of tree.
Survey of veterans, pollards and future veterans	<ul style="list-style-type: none"> • 1 x complete survey of veteran trees at Lullingstone undertaken. • >20 trees added to the database. • 1 x planned record of works produced for 300 trees. • 1 x <u>current</u> associated species list of flora & fauna produced. • 300 recorded trees marked with ID tags. • 5 volunteers trained in veteran tree surveying. • 5 volunteers contributing 50 hours to surveying trees. 	<ul style="list-style-type: none"> • General threats to tree health identified. • Increased awareness and future management needs of the health of the veterans. • Local community participation in monitoring veteran tree population. • Life of veterans prolonged. • Security of replacement trees that are likely to become the veterans of the future.
Carrying out a programme of tree surgery to stabilise and improve the condition identified trees	<ul style="list-style-type: none"> • 2 KCC staff trained in tree climbing. • 2 KCC staff trained in mobile platform use. • 2 KCC staff trained in use of chainsaw from a mobile platform. • 4 KCC staff trained in aerial chainsaw use. • 1 x bat roost survey on managed trees undertaken. • Stabilising works undertaken on 50 trees. • Clearance works undertaken around 50 trees. • 10 volunteers undertaking 350 hours of practical conservation work. • 10 scarce/rare lichen species future secured. • 186 ha of parkland in good condition. 	<ul style="list-style-type: none"> • A new sustainable management system introduced that provides greater certainty for continued management of the trees. • Well-trained and knowledgeable staff involved in the management of the veteran trees. • Local community taking an active role in conservation management with greater awareness of the trees' importance. • An increase in people's awareness of Samuel Palmer's link with Lullingstone Park.
Raising the awareness of the 'Great Trees of Lullingstone'	<ul style="list-style-type: none"> • 1 new trail 4km in length created. • 1 interpretation panel designed and installed. • 1 new walk leaflet (4,000 copies) designed and produced. • 10 guided walks held with 200 attendees. • 1 x web-based audio-visual interpretation provided – 1,000 downloads. 	<ul style="list-style-type: none"> • Visitors explore deeper into the park and experience new parts and heritage. • Greater awareness of understanding of the importance of the parkland landscape and heritage has for the Darent Valley. • Better preparedness for the impact of an OPM infestation. • Closer links between the owners and managers of parkland within the Darent Valley.
Preparing for the Oak Processionary Moth	<ul style="list-style-type: none"> • Establishment of OPM Working Group. • 6 parkland sites prepared for an OPM infestation. • 1 x OPM Contingency Plan produced for the Darent Valley. • Effective OPM monitoring system established in the Darent Valley. 	<ul style="list-style-type: none"> • Sharing of best practice around the country and between the managers of concentrations of veteran trees. • Increase in target species on chalk grassland.
Chalk grassland management	<ul style="list-style-type: none"> • 2ha of chalk grassland maintained in favourable condition. • 1 x Power Scythe purchased 	<ul style="list-style-type: none"> • Improved educational resource and children have a better understanding of the history of the park.
Educational activities	<ul style="list-style-type: none"> • 1 x replica Iron Age Roundhouse constructed. • 1 x new educational facility provided. • 700 children per year benefit from use of structure. 	

PROJECT RISKS

Risk	How likely	Severity	Consequence	Action required
Weather prevents green location work going ahead	Medium	Low	Project is delayed	Relocation is planned for year 1 to ensure that if a delay occurs it can be undertaken in later years.
Green relocation costs are higher than anticipated	Medium	Medium	Additional budget needs to be found from elsewhere, or scale of project reduced.	Costs are as accurate as possible at this stage, and contingency is available if required.
Staff receiving specialist training move leave role	Medium	Medium	Reduced capacity to deliver tree works by KCC staff.	At least two staff trained in each discipline and KCC provide ongoing training provision for new staff.
OPM infestation occurs before contingency plan drawn up.	Low	High	Infestation has a greater impact than might otherwise have occurred.	Activity is planned for year 1.
Insufficient numbers of volunteers recruited	Low	Medium	Difficulty in completing surveys and greater pressure on staff resource.	Ensure that there are close links with other volunteer organisations, and start volunteer recruitment early.

TRAINING REQUIRED

Kent County Council staff:

- Tree climbing
- Aerial rescue and using a chainsaw from a rope
- Mobile platform use
- Using a chainsaw from a mobile platform

Volunteers, Sencio and KCC staff:

- Veteran tree surveying
- Tree health and diseases

MAINTAINING A LEGACY

The activities delivered and management approaches put in place through this project will ensure that future management of veteran trees at Lullingstone Park will be more cost effective and efficient than the options that existed elsewhere. There is recognition that the operational period of DVLPS is a mere moment in the life of these trees but the investment will secure their future for the next few decades.

The investment in raising awareness of the trees and their link to Palmer means that there will be a greater interest in protecting them for the future. Local volunteers will become temporary stewards, observing the trees health and ensuring they live on for the next generation to enjoy.

For the foreseeable future, Lullingstone Park will remain in the ownership and management of Kent County Council as one of its flagship reserves. It has a strong commitment to maintaining the trees and the park in good condition, albeit with a limited budget. However, there is willingness to seek additional funding, and the DVLPS supported work here is seen as a stepping stone towards a possible Parks for People bid in the future.

The golf course will be involved in gaining Golf Environment Accreditation to better support the management of the trees, and the relocation of the 16th green is significant undertaking that Sencio were willing to undertake. This is a major step to protecting one of the most important oak trees on the planet.

LINKS TO OTHER PROJECTS

- 1A: In Search of the Bright Cloud – Creating a Samuel Palmer Trail
- 1B: Samuel Palmer’s Return
- 1C: Inspired Palmer Landscapes
- 2A: Peeling Back the Layers
- 3B: Gateways to the Valley
- 3D: Reducing the Pressure
- 4E: On the Verge – Connecting Opportunities
- 5B: Reading the Landscape
- 5D: Future Skills
- 5F: Engaging New Audiences
- 5G: Spreading the Word

Appendix - Copy of Land Registry entry for Lullingstone Park (3 pages)

TQ 5265A1/01

OFFICIAL COPY OF REGISTER ENTRIES

This official copy shows the entries subsisting on the register on **22 September 2006 at 17:03:08**
This date must be quoted as the 'search from date' in any official search application based on this copy.
Under s.67 of the Land Registration Act 2002, this copy is admissible in evidence to the same extent as the original.
Issued on 22 September 2006.
This title is dealt with by **Land Registry Tunbridge Wells Office.**

Land Registry

Title Number : **K888462**

Edition Date : 22 September 2006

A: Property Register
This register describes the land and estate comprised in the title.

KENT : SEVENOAKS

1. (04.08.2005) The **Freehold** land shown edged with red on the plan of the above title filed at the Registry and being Lullingstone Park Golf Course, Parkgate Road, Orpington, The Roman Villa, Lullingstone Park, Eynsford, Dartford, Kingfisher Bridge, Castle Road, Eynsford, Dartford, and land on the east side of Lullingstone Lane, Eynsford, Dartford.
2. (04.08.2005) The land edged and numbered 1, 2 and 3 in blue on the title plan has the benefit of but is subject to the rights granted by a Deed dated 1 January 1935 made between (1) Sir Oliver Hamilton Augustus Hart Dyke (Grantor) and (2) The Kemp Town Brewery Brighton Limited (Company).

NOTE: Copy Deed filed.
3. (04.08.2005) The land edged and numbered 1, 2, and 3 in blue on the title plan has the benefit of the following rights granted by the Conveyance dated 26 April 1933 referred to in the Charges Register:-

"Together with the right of way for the Council its successors and assigns owners for the time being of the land hereby conveyed and persons authorised by them in common with others entitled thereto at all times and for all purposes over the roadways and tracks coloured mauve on the said plan the Council its successors and assigns owners as aforesaid contributing a fair and reasonable proportion (according to extent of user) to the expense of keeping such roadways and tracks in repair."

NOTE: The land coloured mauve is tinted blue on the title plan.

Continued overleaf Page 1

Title Number : K888462

B: Proprietorship Register

This register specifies the class of title and identifies the owner. It contains any entries that affect the right of disposal.

Title Absolute

1. (04.08.2005) **PROPRIETOR:** THE KENT COUNTY COUNCIL of County Hall, Maidstone, Kent ME14 1XQ.
2. (04.08.2005) The value as at 4 August 2005 was stated to be under £50,000.
3. (04.08.2005) The Conveyance of the land edged and numbered 4 in blue on the title plan referred to in the Charges Register contains purchaser's personal covenants.
4. (04.08.2005) A Conveyance of the land edged and numbered 5 and 6 in blue on the title plan dated 13 December 1955 made between (1) The Kemp Town Brewery Brighton Limited (2) The County Council of the Administrative County of Kent and (3) William Alexander (Eynsford) Limited contains purchaser's personal covenants.

NOTE: Copy filed.

C: Charges Register

This register contains any charges and other matters that affect the land.

1. (04.08.2005) A Conveyance which included the land edged and numbered 1, 2 and 3 in blue on the title plan dated 3 July 1934 made between (1) Sir Oliver Hamilton Augustus Hart Dyke (Vendor) (2) Lina Mary Crivellari and The Honourable Mary Bell (Trustee) and (3) The Kemp Town Brewery Brighton Limited (Purchaser) contains the following covenants:-

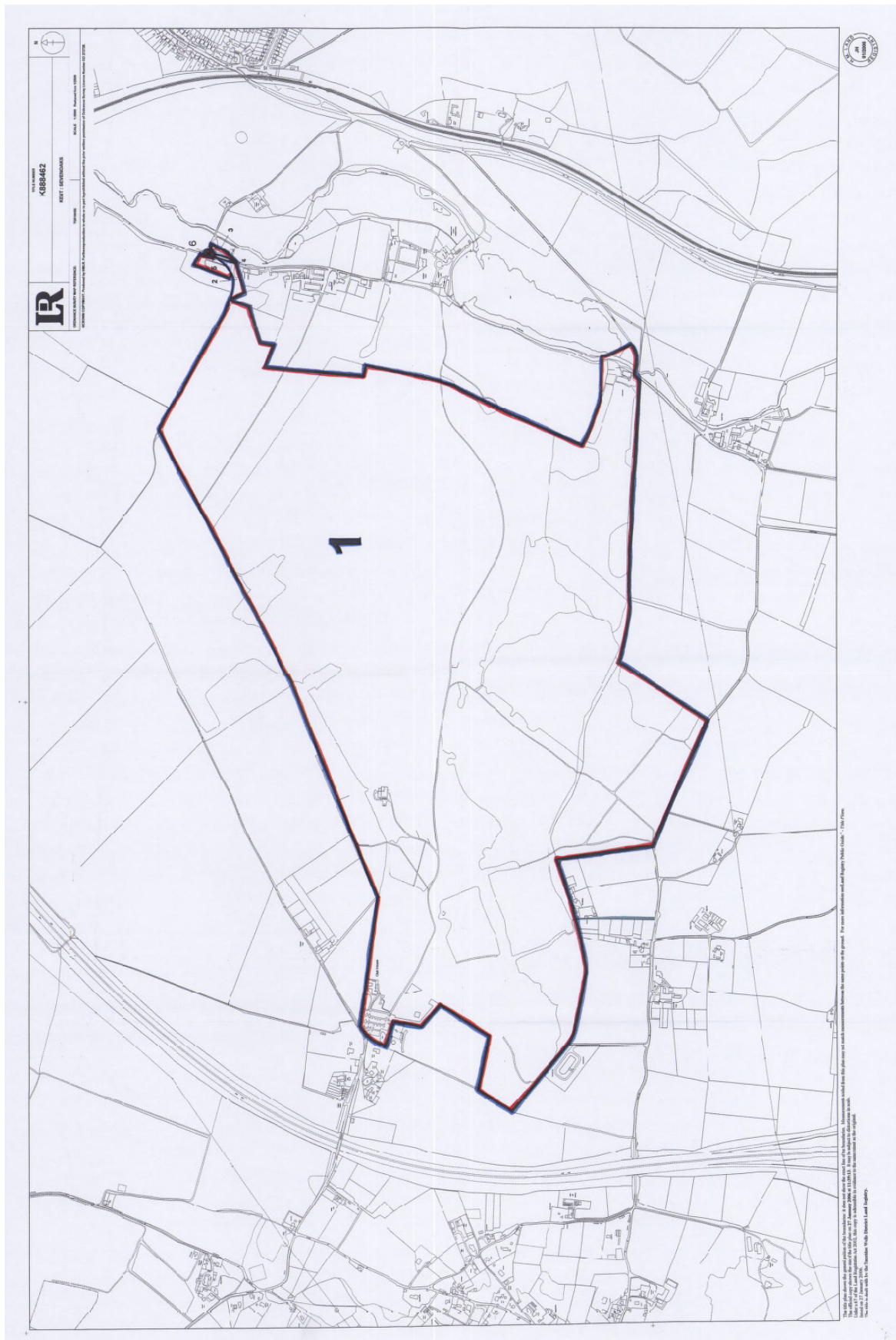
COVENANT by the Purchasers with the Vendor that the Purchasers and their successors in title

.....
Will not so long as the land coloured pink and hatched black on the said plan remained undeveloped by the Vendor or his successors in title or assigns as a building estate erect on the land coloured green and hatched red on the said plan any building whatever provided that if the said land retained by the Vendor and coloured pink and hatched black should at any time be developed or laid out as a building estate and offered for sale generally in building plots or sites then and in that case only should the restrictive covenant thereby imposed on the land coloured green and hatched red on the said plan cease and be inoperative.

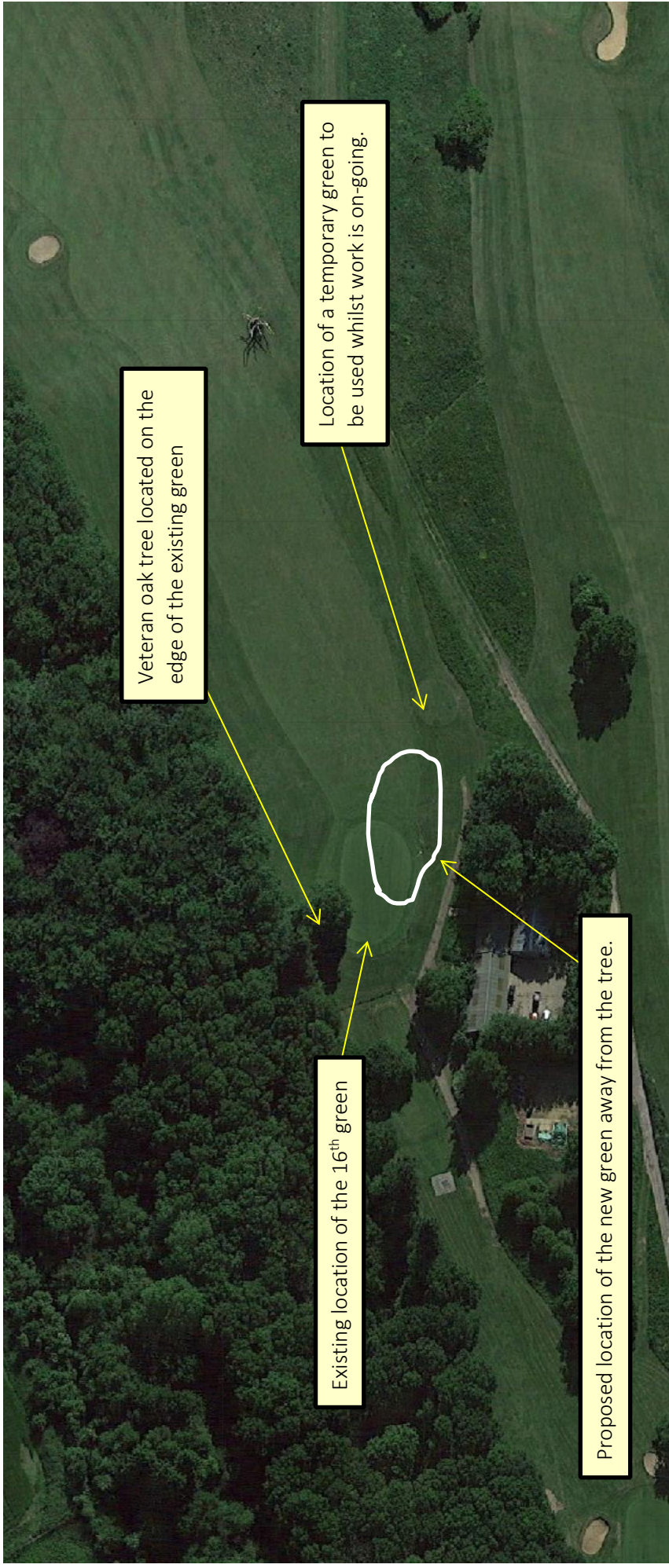
NOTE: Copy plan filed.

2. (04.08.2005) The parts of the land affected thereby are subject to the following rights granted by an Agreement dated 27 August 1936 made between (1) The Kemp Town Brewery Brighton Limited (Vendor) and (2) Southern Railway Company (Purchaser):-

(1) Full and free rights of way and passage for all purposes over any road and paths that the Vendors may form or construct in the development of their said adjoining lands and also full rights for the Purchasers at their own expense to lay down or connect to any existing or future services provided by the Vendors in or under their said adjoining lands the Purchasers making good all damage done thereby and the Purchasers or



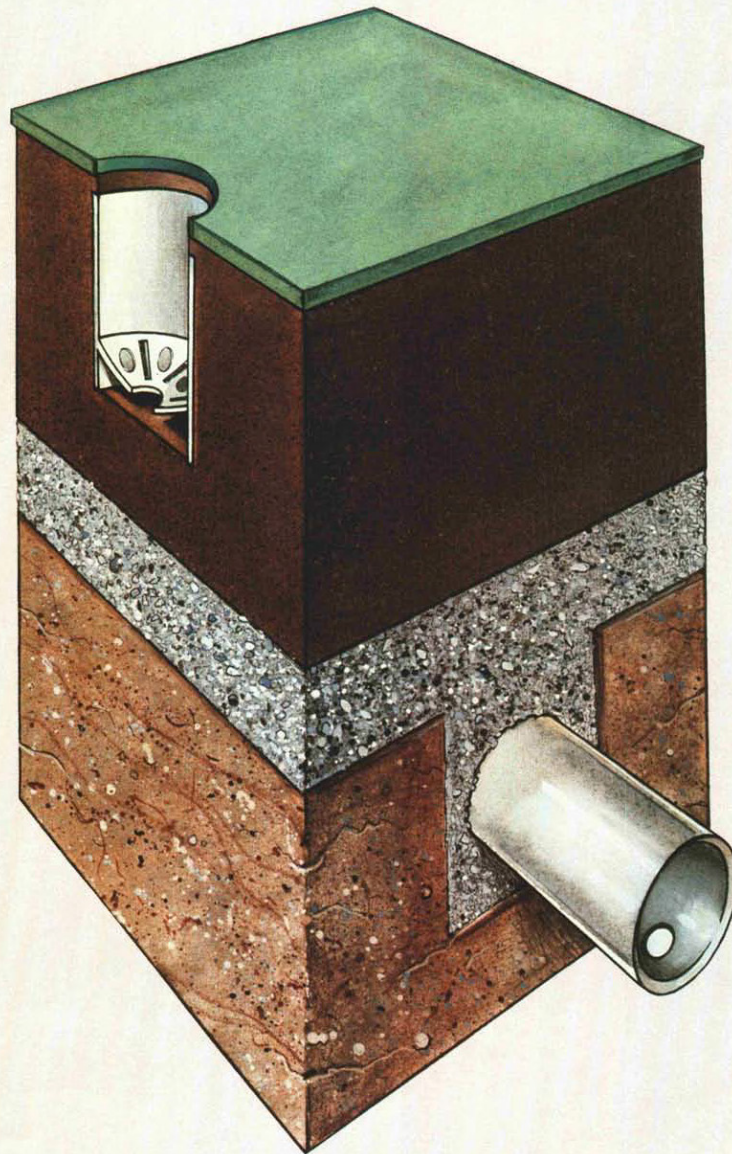
APPENDIX - PLAN OF THE RELOCATION OF THE 16TH GREEN AT LULLINGSTONE GOLF COURSE



APPENDIX – PUTTING GREEN CONSTRUCTION SPECIFICATIONS

USGA Recommendations for Putting Green Construction

*Profile of a green built to USGA Recommendations with the intermediate layer (cover).
When the appropriate gravel is used, the intermediate layer can be eliminated (below).*



THE 1993 REVISION

USGA RECOMMENDATIONS FOR A METHOD OF PUTTING GREEN CONSTRUCTION

by the
USGA GREEN SECTION STAFF



Following is the 1993 revision of the USGA Recommendations for a Method of Putting Green Construction. These recommendations are based on a review of the scientific literature prepared by Dr. Norman W. Hummel, Jr., and advice from the Advisory Committee and Review Panel (see inside front cover).

Step 1. The Subgrade

The slope of the subgrade should conform to the general slope of the finished grade. The subgrade should be established approximately 16 inches (400 mm) below the proposed surface grade — 18 to 20 inches (450 to 500 mm) when an intermediate layer is necessary — and should be thoroughly compacted to prevent further settling. Water collecting depressions should be avoided.

If the subsoil is unstable, such as with an expanding clay, sand, or muck soil, geotextile fabrics may be used as a barrier between the subsoil and the gravel blanket. Install the fabric as outlined in Step 2.

Construct collar areas around the green to the same standards as the putting surface itself.

Step 2. Drainage

A subsurface drainage system is required in USGA greens. A pattern of drainage pipes should be designed so that the main line(s), with a minimum diameter of 4 inches (100 mm), is placed along the line of maximum fall. Four-inch (100 mm) diameter laterals shall run up and across the slope of the subgrade, allowing a natural fall to the main

line. Lateral lines shall be spaced not more than 15 feet (5 m) apart and extended to the perimeter of the green. Lateral lines should be placed in water-collecting depressions, should they exist. At the low end of the gradient, adjacent to the main line's exit from the green, drainage pipe should be placed along the perimeter of the green, extending to the ends of the first set of laterals. This will facilitate drainage of water that may accumulate at the low end of that drainage area.

Drainage design considerations should be given to disposal of drainage waters away from play areas, and to the laws regulating drainage water disposal.

PVC or corrugated plastic drainage pipe is preferred. Where such pipe is unavailable, clay or concrete tile is acceptable. Waffle drains or any tubing encased in a geotextile sleeve are not recommended.

Drainage trenches 6 inches (150 mm) wide and a minimum of 8 inches (200 mm) deep shall be cut into a thoroughly compacted subgrade so that drainage lines slope uniformly. Spoil from the trenches should be removed from the subgrade cavity, and the floor of the trench should be smooth and clean.

If a geotextile fabric is to be used as a barrier between an unstable subsoil and the gravel drainage blanket, it should be installed at this time. Under no circumstances should the fabric cover the drainage pipes or trenches.

A layer of gravel (see Step 3 for size recommendations) should be placed in the trench to a minimum depth of 1 inch (25 mm). It may be deeper, as necessary, to ensure a positive slope along the entire run of drainage lines. If cost is a consideration, gravel sized ¼ to 1 inch (6 to 25 mm) may be used for the drainage trench only.

All drainage pipe should be placed on the gravel bed in the trench, assuring a minimum positive slope of 0.5 percent. PVC drain pipe, if used, should be placed in the trench with the holes facing down. Backfill with additional gravel, taking care not to displace any of the drainage pipe.

Step 3. Gravel and Intermediate Layers

Place grade stakes at frequent intervals over the subgrade and mark them for the gravel drainage blanket layer, intermediate layer (if included), and root zone layer.

MARCH/APRIL 1993 1

Material	Description
Gravel: Intermediate layer is used	Not more than 10% of the particles greater than ½" (12 mm) At least 65% of the particles between ¼" (6 mm) and ⅜" (9 mm) Not more than 10% of the particles less than 2 mm
Intermediate Layer Material	At least 90% of the particles between 1 mm and 4 mm

Performance Factors	Recommendation
Bridging Factor	• $D_{15(\text{gravel})} \leq 5 \times D_{85(\text{root zone})}$
Permeability Factor	• $D_{15(\text{gravel})} \geq 5 \times D_{15(\text{root zone})}$
Uniformity Factors	• $D_{90(\text{gravel})} / D_{15(\text{gravel})} \leq 2.5$ • No particles greater than 12 mm • Not more than 10% less than 2 mm • Not more than 5% less than 1 mm

The entire subgrade then shall be covered with a layer of clean, washed, crushed stone or pea gravel to a minimum thickness of four inches (100 mm), conforming to the proposed final surface grade to a tolerance of ±1 inch.

Soft limestones, sandstones, or shales are not acceptable. Questionable materials should be tested for weathering stability using the sulfate soundness test (ASTM C-88). A loss of material greater than a 12% by weight is unacceptable.

The LA Abrasion test (ASTM C-131) should be performed on any materials suspected of having insufficient mechanical stability to withstand ordinary construction traffic. The value obtained using this procedure should not exceed 40. Soil engineering laboratories can provide this information.

The need for an intermediate layer is based on the particle size distribution of the root zone mix relative to that of the gravel. When properly sized gravel (see Table 1) is available, the intermediate layer is not necessary. If the properly sized gravel cannot be found, **an intermediate layer must be used.**

A. Selection and Placement of Materials When the Intermediate Layer Is Used

Table 1 describes the particle size requirements of the gravel and the intermediate layer material when the intermediate layer is required.

The intermediate layer shall be spread to a uniform thickness of two to four inches (50 to 100 mm) over the gravel drainage blanket (e.g., if a 3-inch depth is selected, the material shall be kept at that depth across the entire area), and the surface shall conform to the contours of the proposed finished grade.

B. Selection of Gravel When the Intermediate Layer Is Not Used

If an appropriate gravel can be identified (see Table 2), the intermediate layer need not be included in the construction of the green. In some instances, this can save a considerable amount of time and money.

Selection of this gravel is based on the particle size distribution of the root zone material. The architect and/or construction

superintendent must work closely with the soil testing laboratory in selecting the appropriate gravel. Either of the following two methods may be used:

1. Send samples of different gravel materials to the lab when submitting samples of components for the root zone mix. As a general guideline, look for gravel in the 2 mm to 6 mm range. The lab first will determine the best root zone mix, and then will test the gravel samples to determine if any meet the guidelines outlined below.

2. Submit samples of the components for the root zone mix, and ask the laboratory to provide a description, based on the root zone mix tests, of the particle size distribution required of the gravel. Use the description to locate one or more appropriate gravel materials, and submit them to the laboratory for confirmation.

Gravel meeting the criteria below will not require the intermediate layer. It is not necessary to understand the details of these recommendations; the key is to work closely with the soil testing laboratory in selecting the gravel. **Strict adherence to these criteria is imperative; failure to follow these guidelines could result in greens failure.**

The criteria are based on engineering principles which rely on the largest 15% of the root zone particles “bridging” with the smallest 15% of the gravel particles. Smaller voids are produced, and they prevent migration of root zone particles into the gravel yet maintain adequate permeability. The $D_{85(\text{root zone})}$ is defined as the particle diameter below which 85% of the soil particles (by weight) are smaller. The $D_{15(\text{gravel})}$ is defined as the particle diameter below which 15% of the gravel particles (by weight) are smaller.

- For **bridging** to occur, the $D_{15(\text{gravel})}$ must be less than or equal to five times the $D_{85(\text{root zone})}$.

- To maintain adequate **permeability** across the root zone/gravel interface, the $D_{15(\text{gravel})}$ shall be greater than or equal to five times the $D_{15(\text{root zone})}$.

- The gravel shall have a **uniformity coefficient** (Gravel D_{90} /Gravel D_{15}) of less than or equal to 2.5.

Furthermore, any gravel selected shall have 100% passing a ½" (12 mm) sieve and not more than 10% passing a No. 10 (2 mm) sieve, including not more than 5% passing a No. 18 (1 mm) sieve.

Step 4: The Root Zone Mixture

Sand Selection: The sand used in a USGA root zone mix shall be selected so that the particle size distribution of the **final root zone mixture** is as described in Table 3.

Soil Selection: If soil is used in the root zone mix, it shall have a minimum sand content of 60%, and a clay content of 5% to 20%. The final particle size distribution of the sand/soil/peat mix shall conform to that outlined in these recommendations, and meet the physical properties described herein.

Organic Matter Selection:

Peats— The most commonly used organic component is a peat. If selected, it shall have a minimum organic matter content of 85% by weight as determined by loss on ignition (ASTM D 2974-87 Method D).

Other organic sources — Organic sources such as rice hulls, finely ground bark, sawdust, or other organic waste products are acceptable if composted through a thermophilic stage, to a mesophilic stabilization phase, and with the approval of the soil physical testing laboratory. Composts shall be aged for at least one year. Furthermore, the root zone mix with compost as the organic amendment must meet the physical properties as defined in these recommendations.

Composts can vary not only with source, but also from batch to batch within a source. Extreme caution must be exercised when selecting a compost material. Unproven composts must be shown to be non-phytotoxic using a bentgrass or bermudagrass bioassay on the compost extract.

Inorganic and Other Amendments:

Inorganic amendments (other than sand), polyacrylamides, and reinforcement materials are not recommended at this time in USGA root zone mixes.

Physical Properties of the Root Zone

Mix: The root zone mix shall have the properties summarized in Table 4, as tested by USGA protocol (proposed ASTM Standards).

Under the heading **Saturated Conductivity** in Table 4, **Normal range** refers to circumstances where normal conditions prevail for growing the desired turfgrass species. **Accelerated range** refers to conditions where water quality is poor, cool-season turfgrass species are being grown out of range of adaptation, or dust storms or high rainfall events are common.

Related Concerns

IT IS ABSOLUTELY ESSENTIAL TO MIX ALL ROOT ZONE COMPONENTS OFF-SITE. No valid justification can be made for on-site mixing, since a homogeneous mixture is essential to success.

A QUALITY CONTROL PROGRAM DURING CONSTRUCTION IS STRONGLY RECOMMENDED. Arrangements should be made with a competent laboratory to routinely check gravel and/or root zone samples brought to the construction site. It is imperative that these materials conform to the recommendations approved by the laboratory in all respects. Some tests can be performed on site with the proper equipment, including sand particle size distribution.

Care should be taken to avoid over-shredding the peat, since it may influence performance of the mix in the field. Peat should be moist during the mixing stage to ensure uniform mixing and to minimize peat and sand separation.

Fertilizer should be blended into the root zone mix. Lime, phosphorus, and potassium should be added based on a soil test recommendation. In lieu of a soil test, mix about ½ pound of 0-20-10 or an equivalent fertilizer per cubic yard of mix.

Name	Particle Diameter	Recommendation (by weight)	
Fine Gravel	2.0 - 3.4 mm	Not more than 10% of the total particles in this range, including a maximum of 3% fine gravel (preferably none)	
Very coarse sand	1.0 - 2.0 mm		
Coarse sand	0.5 - 1.0 mm	Minimum of 60% of the particles must fall in this range	
Medium sand	0.25 - 0.50 mm		
Fine sand	0.15 - 0.25 mm	Not more than 20% of the particles may fall within this range	
Very fine sand	0.05 - 0.15 mm	Total particles in this range shall not exceed 10%	
Silt	0.002 - 0.05 mm		Not more than 5%
Clay	Less than 0.002 mm		Not more than 3%

Physical Property	Recommended Range
Total Porosity	35% - 55%
Air-filled Porosity (at 40 cm tension)	15% - 30%
Capillary Porosity (at 40 cm tension)	15% - 25%
Saturated Conductivity	
Normal range:	6-12 inches/hr (15-30 cm/hr)
Accelerated range:	12-24 inches/hr (30-60 cm/hr)
Organic Matter Content (by weight)	1% - 5% (ideally 2% - 4%)

Step 5. Top Mix Covering, Placement, Smoothing, and Firming

The thoroughly mixed root zone material shall be placed on the green site and firmed to a uniform depth of 12 inches (300 mm), with a tolerance of ± ½ inch. Be sure that the mix is moist when spread to discourage migration into the gravel and to assist in firming.

Step 6. Seed Bed Preparation

Sterilization: Sterilization of the root zone mix by fumigation should be decided on a case by case basis, depending on regional factors. Fumigation always should be performed:

1. In areas prone to severe nematode problems.
2. In areas with severe weedy grass or nutsedge problems.
3. When root zone mixes contain unsterilized soil.

Check with your regional office of the USGA Green Section for more information and advice specific to your area.

Fertilization

Contact your regional USGA Green Section office for establishment fertilizer recommendations and grow-in procedures.

4D.2 LANDSCAPE ON COURSE INFLUENCING GOLF COURSE MANAGEMENT



Lullingstone Park Golf Course (Sencio)

PROJECT AIM

The four golf courses in the valley will be engaged to advise how they can adjust land management to respect the landscape character of the Darent Valley. This will be achieved using the certification process associated with the Golf Environment Organisation to provide an industry standard mechanism for engaging clubs and achieving all-round benefits for the landscape, communities and golf.

DELIVERY LEAD

Darent Valley Landscape Partnership Scheme Delivery Team.

LOCATION AND LAND OWNERSHIP

The targeted golf courses are:

1. Pedham Place Golf Centre; London Road, Swanley, Kent, BR8 8PP; TQ535669.
2. Darent Valley Golf Course; Station Road, Shoreham, Sevenoaks, TN14 7SA; TQ523607.
3. Lullingstone Golf Course; Parkgate Road, Crockenhill, Orpington, BR6 7BX; TQ518645.
4. Westerham Golf Club; Valence Park, Brasted Rd, Westerham TN16 1QN; TQ464540.

With the exception of Lullingstone Golf Course (which is owned by Sevenoaks District Council and management by Sencio) all the courses are privately owned.

AUDIENCE

Golf courses represent an alternative use of the landscape and also an alternative audience. As they tend to cover a significant amount of land, the impact they have (whether it is good or bad) can be substantial. The principal audience is the golf clubs themselves, so that an understanding can be developed as to how the landscape impact can be improved and enhanced. Secondly, the users of the golf courses themselves will be targeted. Many are visitors from outside the valley with a high proportion coming from the London suburbs as well as the urban centres of Sevenoaks and Dartford.

HERITAGE VALUE

The four courses vary considerably in terms of their character.

PEDHAM PLACE GOLF CENTRE

Largely an open links style course set on the chalk soil tops on the boundary of the Central and Lower Darent Valley Sub-Character Areas and entirely within the Kent Downs AONB. Located on what was once an area used for market gardening and included many top fruit orchards, it is now close to junction 3 of the M25 where it meets the M20. Particularly of note is that the remains of Farningham Fort, a London Mobilisation Centre and scheduled monument (1019246), located in the centre of the course.



Fort Farningham 1948 (©Historic England)

LULLINGSTONE PARK GOLF COURSE



Lizard Orchid (Natural England)
Reproduced under the [Creative Commons Licence](#)

Over 500 hectares in size, this course has both an 18 hole course and a nine hole course. It is very different in character to Pedham Place being set amongst woodland but with wide fairways, magnificent views and many ancient and veteran trees located across the course (see project 4D.1). Several of the holes run adjacent to the Lullingstone Park SSSI, and the entire golf course is located within the Lullingstone Park Local Wildlife Site (SE07), Kent Downs AONB, and Lullingstone Castle Registered Park (Grade II).

The south-facing, steeply-sloping area of rough, unimproved grassland at TQ519644 supports a rich chalk flora that includes wild thyme *Thymus polytrichus*, wild marjoram *Origanum vulgare*, harebell *Campanula rotundifolia* and hairy violet *Viola hirta*, with upright brome *Bromopsis erecta* as the dominant grass species. A particular feature of the slope is the small colony of lizard orchid, *Himantoglossum*

hircinum, together with a variety of other orchid species including large numbers of pyramidal orchid *Anacamptis pyramidalis* in addition to excellent colonies of fragrant orchid *Gymnadenia conopsea* and bee orchid *Ophrys apifera*. Henbane *Hyoscyamus niger* is also present and is associated with a large rabbit warren surrounded by scrub.

The course also includes a former dummy airfield used in the Second World War to draw bombs away from the nearby Biggin Hill airfield.

DARENTH VALLEY GOLF COURSE

An 18 hole golf course located in the bottom of the valley within the Central Darent Valley SCA and close to the River Darent. It is entirely within the Kent Downs AONB. Whilst it has no biodiversity or heritage designations, the location of what is known locally as the Filston Trackway crosses east to west through the centre of the course. This is believed to be where the route of the ridgeway (largely followed by the North Downs Way) crossed the Darent Valley. Although, only remnants survive, it is marked by the parish boundary and is clearly visible on maps from the late 19th century.



WESTERHAM GOLF COURSE

Situated within the Upper Darent Valley (West) SCA, this course is located on the southern side of the valley on the rising dip slope of the Greensand Ridge. Again entirely within the Kent Downs AONB, it is largely within a wooded landscape with a number of artificial features. It has no designated biodiversity or heritage features but lies adjacent to one of the springs that feeds the River Darent.

ISSUES AND THREATS

Historically, the golf industry's impact in the environment has been generally negative. Audobon International states that potential impacts have included:

- Pollution of ground water and surface water caused by the use of pesticides, fertilizers, and other contaminants
- Poor stream water quality due to eroding banks
- Withdrawal of large quantities of water for irrigation
- Degradation or loss of natural areas
- Health hazards from chemical handling and applications
- Negative impacts of chemical use on “non-target” wildlife
- Unsound turf management driven by increasing and unrealistic golfer expectations and demands
- Loss and fragmentation of wildlife habitats
- Alteration or damage to wetlands
- Replacement of natural plant communities with intensively managed landscapes and non-native plants
- Increased conflicts with wildlife

In addition, the consequences for landscape character are also significant with often a wholesale shift in the appearance of the land that sits uncomfortably with the surroundings.

In the Darent Valley, these risks are exaggerated due to all four courses being within a protected landscape and with the River Darent being a sensitive chalk river. Although there has been a recent reduction in the number of people playing golf in the UK, there are still 3.3 million adult players, and demand is high in the landscapes around London.

PROJECT DESCRIPTION

The scheme will use the Golf Environment Organization model to influence how the golf courses in the Darent Valley can be managed in a way that improves their contribution to landscape character as well as water resource, biodiversity and heritage management.

GEO is the sustainability group founded to support the industry, helping golf deliver and be recognized for a positive impact for the people and nature it touches, now and in the future. It aims to inspire golf to fully embrace sustainability and promoting a shared understanding of issues and solutions, working

with and through industry associations and businesses.

GEO provides three programmes and also administers golf's sustainability assurance, GEO Certified® - the symbol of great golf environments worldwide, available for club and course operations, for developments, and for renovations.

In many ways, from ecosystem services, landscape management and restoration, conservation of wildlife, to health and well-being for all ages, to jobs and economic value through local supply chains, golf has considerable potential to be good for nature and communities.

Following years of research, professional expertise, and assessment, the industry is entering a new phase of activity to collectively and credibly represent its contribution while also pledging to do more and more – to drive sustainability in and through golf. This effort is delivered in partnership with the Golf Environment Organization, GEO, the international non-profit body dedicated entirely to providing a credible and accessible system of sustainability standards, support programmes, recognition, and capacity building for the golf industry.

The starting point is for Clubs to actively decide to pursue a positive future based on sustainable principals, building on existing operations, initiatives and knowledge. The GEO has a network of sustainability Associates "GEOSAs" who work with and guide Clubs through initial steps of partnership with GEO through delivery of initiatives (providing guidance and feedback) and then through the process of Certification.

OnCourse® is a free online programme giving a club everything needed to record the work it is doing, providing stepping stones for improvement over time, and to be able to confidently promote a great golf environment. OnCourse® acts as a club's policy and plan so it can start immediately – following a step by step guide with practical ideas relevant to the Club's day to day work.

Key mandatory themes include community, landscape, biodiversity, cultural heritage, energy, water, chemicals, waste and wellness.

Endorsed by a wide variety of industry associations and hundreds of participants worldwide, OnCourse® is a straightforward, effective approach, unlocking more and more business benefits and generating a positive, credible and interesting report, sharing your commitment to sustainability. The report can then be used to earn golf's ecolabel, GEO Certified®, the symbol of great golf environments worldwide. This process can be therefore aligned to the objectives for the DVLPS and Heritage Lottery outcomes.

The project will be delivered in the following way:

- Commissioning of a GEO certified expert.
- Development of draft objectives with consultant and devising of engagement plans including liaison with GEO and Royal & Ancient Golf Club (R&A).
- Consultant makes initial engagement, site visit, preliminary review of sustainability information/projects, scope of improvements and helping them make the OnCourse pledge (and identify how each club can contribute to DVLPS objectives).
- Support to complete the OnCourse programme and achieve certification.
- Identification of specific projects that can be undertaken by the golf courses within the life of the scheme and beyond.
- Delivery of identified projects through part funding from DVLPS.

OUTPUTS AND OUTCOMES

Activity	Outputs	Outcomes
Engaging with golf courses.	<ul style="list-style-type: none"> • 4 x courses in the Darent Valley visited and advised. • Improved sustainability credentials and environmental management of four courses. • Improved water management and reduced impact on the River Darent from pollution and chemical use. • 4 x courses achieve accreditation from the On Course programme. • Training provided to green-keeping staff from four courses (8 participants). 	<ul style="list-style-type: none"> • Greater awareness of the impacts that golf courses have on the landscape and how these can be reduced. • Improved sustainability in the way the golf courses in the Darent valley are run. • Pride in the accreditation received by the golf clubs, and an active promotion on websites and literature. • Champions identified within each golf club, prepared to carry on the work achieved during the scheme delivery period.
Practical enhancements made to deliver outputs identified	<ul style="list-style-type: none"> • Habitat enhancements identified and implemented (to be specified upon completion of advisory visits). • Interpretation provided to inform golfers of importance of the courses within the landscape. 	<ul style="list-style-type: none"> • Reduced impact of the golf courses on landscape character. • Golfers understand and appreciate the qualities of the landscape around them.

PROJECT COSTS

Element/Item	Year 1 2017/18	Year 2 2018/19	Year 3 2019/20	Year 4 2020/21	Year 5 2021/22	Total
[REDACTED]						
[REDACTED]						
[REDACTED]						
[REDACTED]						
[REDACTED]						
[REDACTED]						
[REDACTED]						
[REDACTED]						
[REDACTED]						
[REDACTED]						
[REDACTED]						
[REDACTED]						
[REDACTED]						
[REDACTED]						
[REDACTED]						
[REDACTED]						
[REDACTED]						
[REDACTED]						
[REDACTED]						
[REDACTED]						
Totals	£1,100	£3,300	£9,100	£6,900	£0	£20,400

PROJECT RISKS

Risk	How likely	Severity	Consequence	Action required
Golf clubs not willing to participate	Low	High	Delivery of physical changes not possible	Both Lullingstone Park and Darent Valley have been approached and are keen to be involved. Partners have links with Westerham Golf Club which will be used.
Funding for consultancy insufficient	Low	Medium	Delivery has to be reduced thereby limiting outputs and outcomes.	Estimates have been provided by a consultant specialising in this work and are considered accurate. Consultant will be appointed through competitive process.
Clubs do not implement activities identified through consultant's work	Medium	Medium	Physical enhancements and improvements are limited.	DVLPS has no control over the implementation of findings. However, there is a certain amount of prestige associated with having the accreditation and the endorsement of DVLPS and Kent Downs AONB.

TRAINING REQUIRED

- Green keeping and environmental enhancement
- Golf and water management
- Shared workshop with European partners through SCAPE and Triple C Interreg projects.
-

MAINTAINING A LEGACY

This project deliberately takes the OnCourse approach rather than direct advice and discrete enhancements. It integrates the whole course management into the landscape approach and will provide a blueprint for each course to enhance their environmental credentials. All the courses promote themselves through the quality of the landscape in which they are located, and there are indications that golfers themselves are making their decisions on where to play using this criteria. By part funding some of the priority enhancements that fit with the DVLPS objectives, it acts as an incentive to undertake further work and improve their GEO accreditation. Consequently the outputs and outcomes will have a far longer legacy than if standalone improvements were made.

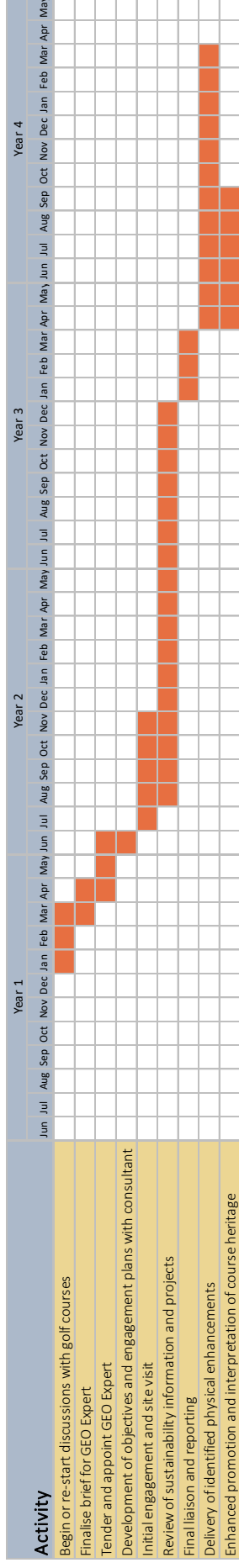
LINKS TO OTHER PROJECTS

- 1D. Framing the View
- 3B. Gateways to the Valley
- 3C. Telling the Darent's Story
- 4A. Uncovering the Herb-Scented Scarp
- 4B. A Woodland Framing
- 4C. Where Ten Thousand Fishes Once Played
- 5E. Future Skills

Theme 4. Darent Valley Natural and Historic Landscapes

PROJECT 4D: A DESIGNED LANDSCAPE – PROTECTING PARKS, GARDENS AND ESTATES

PROJECT TIMETABLE



4D.3 COMBE BANK – THE DIVIDED PARK



PROJECT AIM

To put in place a co-ordinated conservation plan to restore the landscape of a registered park lying between Brasted and Sundridge. Bring together the multiple landowners to identify how by working together, they can ensure that the important heritage features and parkland landscape can be protected for the future and prevented from deteriorating any further so that it can be removed from the Heritage at Risk Register.

DELIVERY LEAD

Darent Valley Landscape Partnership Scheme Delivery Team.

LOCATION AND LAND OWNERSHIP

The Combe Bank historic parkland is in the Upper Darent Valley (West) Sub-Character Area to the north of the A25 between the villages of Brasted and Sundridge. Its northern boundary is to the north of the M25 with the original park being bisected by the motorway. It is located across the parish boundary, falling in both Brasted and Sundridge-with-Ide Hill Parish Councils. The centre of the park is located at TQ478557. It is in multiple landownership including the Radnor House Independent School located at Combe Bank itself, and Sundridge-with-Ide Hill Parish Council, the Chevening Estate, various small private landowners, and an area including the lake recently sold as six separate plots.

AUDIENCE

Combe Bank is an important parkland landscape but does not have any public rights of way across it. However, it is enjoyed by pupils at the school, members of the fishing club, and the Sundridge Recreation Ground is frequently used by the public for recreation and sports. It is intended that the extension of the Darent Valley Path will be routed along the southern part of the parkland, and this will open the opportunity for it to be enjoyed by a much wider audience of residents and visitors.

HERITAGE VALUE

Combe Bank is a Grade II* historic parkland with Combe Bank House itself (a five bay Palladian villa) being a Grade I building. Many of the other buildings associated with it are also listed.

Lt-Col John Campbell (1693-1770), later fourth Duke of Argyll, bought Combe Bank from William Ash in 1720 and the following year commissioned Roger Morris to build a new mansion. The family had close links with the Burlington Circle, Alexander Pope, and William Kent. Work on the gardens presumably stems from this time although most of the design dates from the 1740s.



Combe Bank House ([Ben Godfrey](#))
Reproduced under a [Creative Commons License](#)

The northern section of the park is entirely covered by the extensive Combe Wood (known as Combebank Wood to the north of the motorway) and the land between the house and the wood, together with that to the east of the house, is under agricultural use and appears never to have been fully imparked. The wood was cut through by a railway, now disused, the cutting for which was used in the late 20th century to carry the M25. The land to the south and west of the house remains under grass and some mature park trees survive here. Lying to the north of the ridge on which the house and its gardens stand, and c.300m to the west of the house, is a lake, only the southern tip of which is visible from the house. Originally two smaller ponds, the lake was enlarged in 1745 as part of the mid-18th century landscape works. Halfway along its northern bank is the rock-arch facade of a boathouse, while on the opposite bank is a semi-circular stone seat.

Many features exist within the immediate garden of the house including several urns and stone arches which are all listed, and a cave and tunnel. A Grade II listed icehouse also exists. Notably the remains of a Victorian lido can be found at the southern end of the park. The lido was used until the 1950s and was fed directly from the River Darent. Today the site is derelict with much of the stonework remaining but covered in trees and vegetation. In addition, ornate marble floorwork can also be found beneath the leaf litter and soil.



The Brasted Lido at Combe Bank (unknown source)



Remains of the Brasted lido in December 2016



Derelict stonework from the lido complex

The entire parkland is within the Kent Downs AONB, and Combebank Wood and Coombe Wood together form a Local Wildlife Site (SE50). The citation states:

“This ancient mixed broadleaved woodland on heavy soils derived from Gault Clay was formerly managed as coppice-with-standards, but is now derelict, apart from some minor management to retain paths and clear rhododendron in Coombe Wood. Some amenity planting of conifers – Douglas fir and pine – and broadleaved species including turkey oak, lime and sycamore has occurred in the past. A large area of Combe Bank Wood was cleared and further amenity planting of broadleaved and conifer undertaken following the construction of the M26 motorway, which has bisected the woodland.

However, native broadleaved species still form the principal habitat, with ash, hazel and hornbeam the main coppice species. Alder coppice is occasional in the damper areas, with chestnut on drier soils. Midland hawthorn, willow, holly and birch are widespread. An old wood bank is present along the northern edge of the woodland.

The ground flora is dominated by heavy bramble cover over bluebell, but other woodland herbs present include wood-sedge, primrose, goldilocks buttercup, early dog-violet, yellow pimpernel, pignut, wood spurge and yellow archangel. Cuckooflower, marsh marigold and various ferns also occur. At least 20 ancient woodland indicator plant species have been recorded.

A large woodland pond is present at the eastern end of Combe Wood and a stream follows the eastern boundary of the wood. A smaller pond lies within Combe Bank Wood, and another small pond is located at the western end of Combe Wood. Bogbean is a notable species. Great crested newt and smooth newt were recorded from ponds within the woodland in 2003.

Prior to disruption caused by the construction of the motorway, heronries existed in Combe Wood, and the species was also present in Combe Bank Wood. Although they still visit the large pond, no breeding has been known to occur in recent years.

Elsewhere in the park, there are several large specimen trees, but these have yet to be surveyed and recorded.

ISSUES AND THREATS

Combe Bank has been on the Heritage at Risk Register for a significant period. The assessment states that the parkland has extensive significant problems and has high vulnerability. Furthermore, the trend is declining. This assessment was made due mainly to the estate being sold and divided up after the First World War. Although the northern section of the park had already been split from the rest of the site by the Westerham Branch Line, the construction of the M25 in the 1980s made the separation complete and it fell into dereliction. The gardens suffered from considerable damage in the 1987 storm, and this was followed by the purchase of land between Combe Bank House and Combe Wood by a Canadian land speculator. Three applications were made to site up to 10,000 green burial plots on this land between 2007 and 2011, but all were rejected after considerable local opposition. This land and the lake have recently been sold as six separate plots.

Historic England has identified an urgent need to develop a joined-up conservation-led management approach with sufficient resources.

PROJECT DESCRIPTION

This very worthwhile project came to the development team's attention at a very late stage and close to submission of the stage 2 paperwork. However, contact has already been made with Historic England, the Radnor House School and Sundridge-with-Ide Hill Parish Council. There is considerable enthusiasm to find a solution amongst all three parties, and with the recent change of ownership of the plots to the north of the school, the DVLPS presents an opportunity to take the first steps towards recovery for this important site.

Historic England has offered to fund the development of the conservation management plan by offering a grant to Radnor House to be the lead. The DVLPS team will be brought in to facilitate the process and develop a partnership of local landowners and stakeholders to develop a plan for the conservation of the park.

This process will be used to identify priority projects and encourage the landowners to work together. There has been considerable caution from all parties regarding working together, mainly due to the issues experienced with the planning applications for the green burial ground, but the presence and resources of the DVLPS provides both an incentive and independent expertise to take it forward.

Consequently, it is not possible to present the specifics of what will be delivered through this project until the conservation management plan commences. However, priority actions are likely to be:

- Restoration and partial reconstruction of the lido structures along with new access in the form of the extension of the Darent Valley Path along with appropriate interpretation.
- Potential management within Combe and Combebank Woods.
- Veteran tree management and planting of replacement trees.
- Conservation of important garden features e.g. urns and icehouse.
- Restoration of traditional boundary features.

The impact of the motorway on the parkland also means that Connect Plus Services has attracted funding from the Highways England Environment Designated Fund. Therefore, it is likely that it will

have a direct positive contribution to the development of plans, assessing feasibility and supporting the delivery of proposals.

OUTCOMES AND OUTCOMES

Activity	Outputs	Outcomes
Production of conservation management plan	<ul style="list-style-type: none"> • Bring together 8+ landowners and stakeholders to form a ‘parkland partnership’ and develop a co-ordinated and integrated plan for restoration and management of the parkland and grounds. • 1 x historic parkland conservation management plan produced. • Identification of clear actions to be taken to achieve agreed objectives for Combe Bank. • Combe Bank removed from the Heritage at Risk register. 	<ul style="list-style-type: none"> • Increased awareness of the parkland amongst the local community and landowners of its history and the issues it faces. • Improved partnership working between landowners, stakeholders and the local community to achieve heritage objectives.
Delivery of identified activities	<p>Outputs will depend on the objectives determined through the management plan process, but are likely to include at least some of:</p> <ul style="list-style-type: none"> • Restoration and partial reconstruction of Brasted lido features. • New access with new path through southern section of the park (delivered through project 3A). • Biodiversity and heritage survey of Combe/Combebank Woods to determine if appropriate management can be re-introduced. • Assessment of veteran and specimen trees, and subsequent management and planting of future replacements. • Conservation of heritage garden features. • Restoration of traditional boundary features. 	<ul style="list-style-type: none"> • Future and legacy secured for the park, with a clear direction for future management. • Connect Plus Services and Highways England engaged in a positive conservation project. • An enhanced record of the heritage within the parkland has been developed.
Raise awareness of Combe Bank parkland and its heritage	<ul style="list-style-type: none"> • Interpretation of heritage features where new access has been provided. • 5 x guided walks (1 per year) to enable the local community and visitors to enjoy and experience the heritage of the parkland. • Develop learning opportunities for pupils at the school to understand and interpret the heritage of Combe Bank. 	

TRAINING REQUIRED

- Guided walk training
- Veteran tree surveying
- Local history research

MAINTAINING A LEGACY

Developing a conservation management plan provides a structure to future activities and enables the planning over a longer period. By creating a partnership, it provides greater impetus to the landowners working together productively towards a common goal. With funding already allocated to the project from Highways England for feasibility studies, there is a clear indication that future funding will be available providing a route for continued work beyond the DVLPS operating. Kent County Council Heritage and potentially an organisation such as the North West Kent Countryside Partnership (with training) can be involved to provide continued support after 2022.

LINKS TO OTHER PROJECTS

- 2A. Peeling Back the Layers
- 3A. Heart of the Valley – The Darent Valley Path
- 3C. Telling the Darent’s Story
- 4B. A Woodland Frame
- 4C. Where Ten Thousand Fishes Once Played
- 4E. On the Verge – Connecting Opportunities
- 4G. Restoring the Hedgerow Mosaic
- 5A. Landscape Adventure For All
- 5D. Supporting Land Managers
- 5E. Future Skills
- 5G. Engaging New Audiences.

4D.4. SQUERRYES ESTATE PARKLAND THE SOURCE OF THE RIVER DARENT



PROJECT AIM

To clarify and improve access provision to Squerryes Park by undertaking surface treatment, improved waymarking and clarification of permissive paths. A circular trail will be created around the park with new interpretation to bring the heritage of the park to life.

DELIVERY LEAD

The Darent Valley Landscape Partnership Scheme Delivery Team working in partnership with the Squerryes Estate and Westerham Town Partnership.

LOCATION AND LAND OWNERSHIP

Squerryes Park is located immediately to the south of Westerham within the Upper Darent Valley (West) Sub-Character Area, on the dip slope of the Greensand Ridge. It is entirely in the ownership of the Warde family at the Squerryes Estate:

Squerryes Estate Office, Westerham Valley Farm, Westerham, Kent, TN16 1QP

AUDIENCE



Churchill's statue in Westerham Town Square

The park is currently principally a resource for local people who live within 5km of its boundary. However, Westerham is a popular tourist destination as an attractive market town located on the A25 with many antiques shops and cafes. This project hopes to expand the current audience and encourage visitors to explore the outstanding surrounding landscape and learn about its heritage. It will also take in part of the National Trust's Westerham to Chartwell Trail that passes through the park.

HERITAGE VALUE

Squerryes was a lesser manor of the manor of Westerham, which was recorded in the Domesday Book. It was occupied by a family called de Squerie in the 13th century after which it had many owners, becoming Crown property during the reign of Henry VIII. It was in the possession of Sir John Strood in 1635 and later was sold to the diarist Sir John Evelyn's son-in-law, William Leech, Evelyn visiting him at Squerryes in 1658. In 1680 it was purchased by Sir Nicholas Crisp who built the present house, his son selling it on in 1700 to Edward Villiers, Earl of Jersey, who was Lord Chamberlain and Queen Mary's Master of the Horse. The second Earl's son sold the property in 1731 to his friend John Warde, whose descendants still live at Squerryes.

Part of the estate is a Grade II registered park. The 69ha registered site comprises 9ha of formal and ornamental gardens and 60ha of parkland and woodland. It is divided by the north to south Goodley Stock Road. On the west side, it is laid to grazing and largely open in character. The scattered trees

shown in 1869 were largely gone by 1909, except for two limes marking the line of an avenue shown on the estate map of 1686.

It is well served by public rights of way, and the estate allows permissive access along many other paths. It is well used by local people and offers expansive views across Westerham towards the scarp slope of the downs. The Greensand Way passes through the estate and is a well-used path

ISSUES AND THREATS

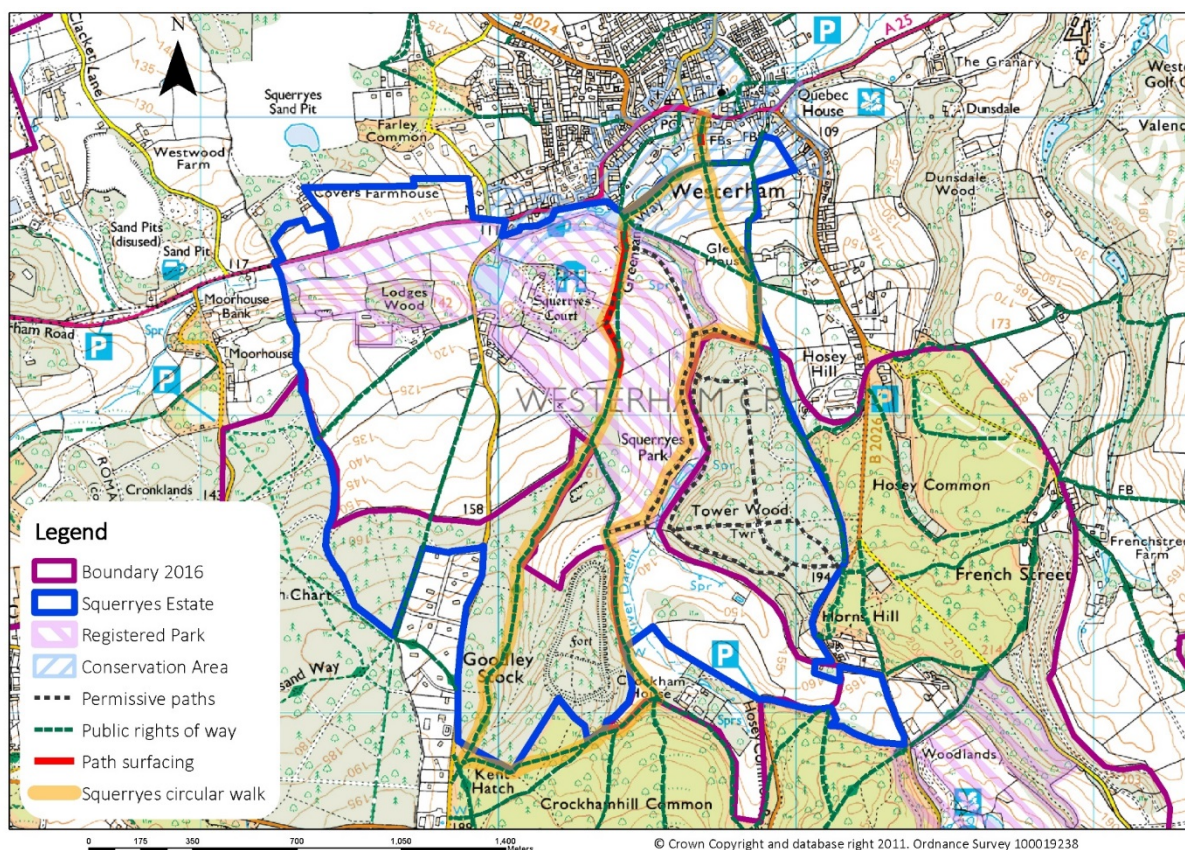
The park is well managed and maintains much of its historic character. However, some conflict does occur due to a lack of clarity with where access is allowed and where it is not. This is largely tolerated by the estate, but it is a working landscape, and unrestricted access can cause problems.

There is hardly any interpretation across the park, and consequently the casual visitor learns very little about Squerryes Park and its history.

With the high level of use, some paths are in bad condition. In particular, as the Greensand Way rises the ridge dip slope from Westerham, it is extremely muddy during the winter. Coupled with the quite steep gradient, this does pose something of a health and safety risk. In addition, other parts of the Greensand Way closer to the village suffer from poor surface condition in the winter.



PROJECT DESCRIPTION



This project will provide clearer information on permitted access within the park by installing waymarker posts at all junctions of rights of way and permissive paths. The Squerrys Estate does not want to impose access control, but by providing clearer information it hopes that issues can be avoided whilst letting visitors enjoy the parkland landscape.

A new circular walk will be created enabling people to explore the park as close to the source of the River Darent and as possible. This is shown on the map above. This will also link up with the Westerham to Chartwell Trail.

The circular walk will be accompanied by a trail leaflet and PDF download. It will include audio points along the route to interpret features of interest such as the hillfort and source of the Darent. The leaflet will be made available at community outlets in Westerham including shops/pubs, the church, and the Westerham Brewery for passing visitors. A Bluetooth beacon will also be installed on the green in Westerham centre informing people of trail.

Surfacing will take place on the most problematical sections of the Greensand Way to ensure that the route is safe and navigable. This will be undertaken to the following specification:

1. Excavate existing track to full width (2m wide) and 100mm deep to remove debris. Roll and compact. Excavated material to be retained. No grading (apart from minor works is required of the path).

2. Lay a single layer of geogrid on excavated surface. Geogrid to be of specification SS40 or TriAX by Tensar International, Miragrid GX by Tencate, or other product that is equal to or exceeds these specifications.
3. 150mm of Type 1 granular material (preferably crushed limestone,) to be laid to Clause 803 of Volume 1 of the Manual of Contract Documents for Highway Works May 1999. Generally graded towards the edges to create a maximum of 25mm central camber. Roll and compact. Compaction shall be to Table 8/1 of Series 800 of Volume 1 of the Manual of Contract Documents for Highway Works.
4. No wearing course is required.
5. To offset gullying, drainage provision should be considered due to steep gradient of path.

OUTPUTS AND OUTCOMES

Activity	Outputs	Outcomes
Improved waymarking	<ul style="list-style-type: none"> • 20 waymarker posts installed. • 1 x new fingerpost installed. • 30 x volunteer days contributed 	<ul style="list-style-type: none"> • Improved understanding of the heritage of Squerryes Park. • More confidence for walkers that they are accessing permitted areas. • Reduction in issues where public access interferes with farming practices. • Improved safety for visitors.
Circular walk creation	<ul style="list-style-type: none"> • 1 x new circular route • 5km of new self-guided route created • New walk leaflet produced. • Audio interpretation created. • 1 x Bluetooth beacon installed 	
Path improvements	<ul style="list-style-type: none"> • 530m of path surfacing completed 	

PROJECT RISKS

Risk	How likely	Severity	Consequence	Action required
Volunteer support for practical works is less than anticipated.	Low	Low	Another mechanism for post installation needs to be found.	Notice given to volunteer groups to undertake work.
Weather conditions or river flooding prevents surfacing works.	Medium	Medium	Work is delayed to a later year.	Work has been scheduled for year 3 to allow slippage if issues arise.

TRAINING REQUIRED

None identified.

MAINTAINING A LEGACY

The Squerryes Estate will be responsible for the works once completed, and the Westerham Town Partnership will assimilate the circular walk into their own series of walks. Additional work to maintain surfacing will be undertaken by Kent County Council as it falls on a promoted route and will also form part of the extension of the Darent Valley Path being delivered through project 3A.

LINKS TO OTHER PROJECTS

- 3A. Heart of the Valley – The Darent Valley Path
- 3C. Telling the Darent’s Story
- 3D. Reducing the Pressure

PROJECT TIMETABLE



4E. ON THE VERGE

INTEGRATING ROADSIDE MANAGEMENT INTO THE LANDSCAPE



PROJECT AIM

Through an innovative partnership with Connect Plus Services, deliver new approaches to management of the soft estate beside the motorway network of the M25, M26, M20 and A2 within the Darent Valley to enhance and better integrate with the area's landscape character, provide improved natural habitat, conserve cultural heritage and enhance tranquillity with reduced noise pollution.

In addition, working with Kent Wildlife Trust, support management and extension of key roadside nature reserves to connect important habitats and provide important biodiversity areas.

DELIVERY LEAD

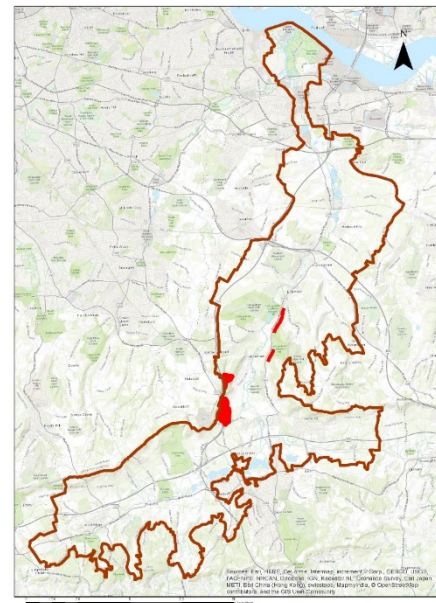
Connect Plus Services will lead on the delivery of enhancements to the Highways England soft estate and Kent Wildlife Trust will lead on the delivery of activities on roadside nature reserves.

LOCATION AND LAND OWNERSHIP

The two Highways England sites are located at Polhill (TQ505594) and adjacent to Shoreham Woods Country Park (TQ506612), both just south of junction 4 on the M25. Whilst owned by Highways England, they are managed by Connect Plus Services.

The Roadside Nature Reserves (RNRs - both referenced SE05) are wide verges located next to the A225 Shoreham Road at TQ528623 and TQ532639. As a highways verge, they are owned by and the responsibility of the highways authority, Kent County Council.

Several other sites on the motorway network may also be considered for further work.



AUDIENCE

All sites have some public access associated with them. The northern Highways England Site (referred to as the Shoreham Woods site) is designated open access land and has a public footpath running along its southern boundary. Being adjacent to the country park, there are extensive paths running from it.

The southern Highways England site (referred to as the Polhill site) has a public bridleway running through it and passing through and underpass under the M25. With the valley side rising on the west side, it is a wide, highly visible site with over 100,000 vehicles passing along this section of motorway every day. Although many travellers do not realise it, except for Dartford Marshes, this is probably the most viewed part of the Darent Valley.

The Shoreham Road RNRs are also highly visible to travellers, and the extensive colonies of pyramidal orchids are obvious in the summer months.

HERITAGE VALUE

The Polhill site is a legacy of the building of the M25 in the 1980s. Open farmland prior to the motorway being built, it was compulsory purchased, and largely left to its own devices since. There has been some intermittent grazing, and has also been used illegally by motorbikes and for flytipping. However, it has undergone ecological succession and is a mosaic of open chalk grassland, scrub and secondary woodland (see images overleaf). Whilst a valuable habitat, if managed appropriately it has the potential to provide an important chalk grassland habitat connecting with the adjacent Polhill Bank nature reserve.

Similarly, the Shoreham Woods site was previously open grassland, but is gradually developing into secondary woodland.



Polhill 1960



Polhill 2013

The roadside nature reserves are designated for their floristic diversity. Among the varied flora six orchid species have been recorded: bee orchid *Ophrys apifera*, common spotted-orchid *Dactylorhiza fuchsii*, man orchid *Orchis anthropophora* (NS nationally scarce & KRPR), white helleborine *Cephalanthera damasonium* (UK BAP C), pyramidal orchid *Anacamptis pyramidalis* and green-flowered helleborine *Epipactis phyllanthes* (CR County rare, KRPR). Other chalk grassland habitat indicator species include: wild marjoram *Origanum vulgare*, salad burnet *Sanguisorba minor*, yellow-wort *Blackstonia perfoliata*, bladder campion *Silene vulgaris*, fairy flax *Linum catharticum*, Quaking grass *Briza media*, hairy violet *Viola hirta* and kidney vetch *Anthyllis vulneraria*, which is an uncommon plant in the area and is the food plant of the rare small blue butterfly.

Nine species of butterfly including Chalkhill blue *Lysandra coridon*, brown Argus *Aricia agestis* and grizzled skipper *Pyrgus malvae* butterfly were recorded in 2009 and 2010.

The site is located adjacent to Preston Hill and Fackenden Down and is an opportunity to connect the chalk grassland resource.

ISSUES AND THREATS

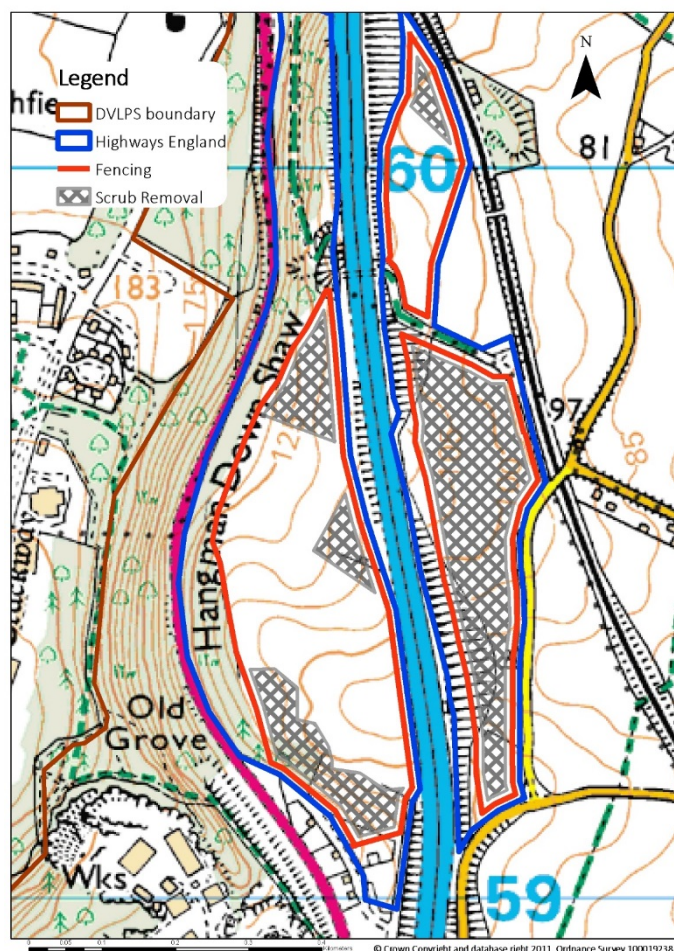
The Polhill and Shoreham Woods sites are under threat from lack of management to maintain an open chalk grassland habitat. They present what could be a lost opportunity to provide an important extension of the chalk grassland resource. The Polhill site had potentially been identified for further tree planting, and could have presented a missed opportunity. As a site largely left to its own devices, it has been subject to several unwanted activities including flytipping and motorbike use. Both have reduced in recent years but remain a threat and one that could increase again. In addition, if not managed sympathetically to the surrounding character, these sites can draw attention to the motorway within the landscape.

The RNRs rely on management by volunteers to ensure that the correct conditions are maintained for the important chalk grassland species found there. Consequently, it is a resource that relies on people giving up their time for free. Lack of road verge management in this area has made it very difficult to safely monitor and carry out roadside management (with volunteers). The vegetation now hangs out into the road. The increased sapling and scrub growth is reducing light to the verge and so, urgent habitat restoration is needed. In addition, the risk remains that contractors inadvertently cut the verge during the flowering season and jeopardising the important species present.

PROJECT DESCRIPTION

This project intends to introduce management to the Polhill site that will enable it to be maintained and developed as an open chalk grassland site and maximise connectivity with the nearby Polhill Bank Nature Reserve. This will entail the removal of scrub and secondary woodland where it has encroached on previously open grassland and installing stock fencing to allow subsequent grazing of the site. Initial discussions have been held with a local farmer who is predisposed to providing stock to graze here.

However, as this is a location adjacent to part of the Strategic Road Network (SRN) and under the control of Highways England, it is necessary for extensive feasibility work to be undertaken in the first instance to ascertain if there will be any negative impact and to determine future management implications. Therefore, detailed specifications have not yet been agreed. However, there has been an in-principle agreement.



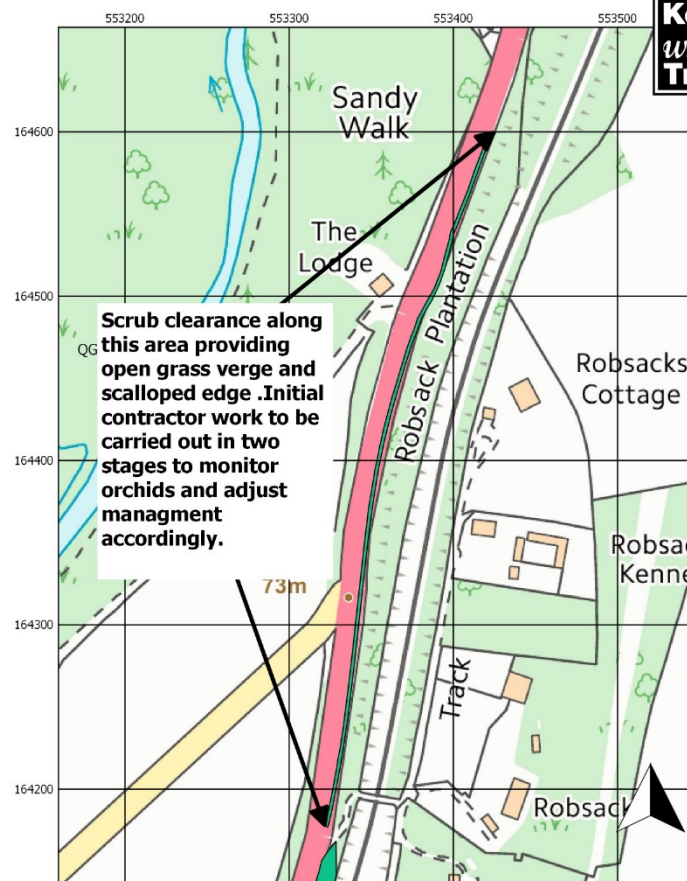
Feasibility work will include an ecological survey as well as other investigations required for the work to be undertaken. This will also include an investigation into the potential at the Shoreham Woods site and other areas within the Darent Valley where habitat works can be undertaken to integrate with landscape character.

Subsequently, it is the intention that the whole of the Polhill site will be fenced, scrub and secondary woodland growth removed and appropriate grazing introduced.

For the Shoreham Road RNR the proposals are:

- Year 1 and 2 - highways contractor to deliver initial cutting and clearing of roadside scrub and saplings/trees to help create a more open verge (currently vegetation overhanging into road in sections) – additional costs to fund removal of cuttings.
- Year 3, 4 and 5 – scrub clearance undertaken by RNR team to maintain open verge and create mosaic habitat.
- Power tools purchased and training provided for volunteers to enhance easier management.
- 3 guided walks held to increase awareness of the RNRs and their importance.
- Ecological monitoring to record species present and assess success of management.

Conservation connection project in the Darent Area of restoration down to Robsack



0 25 50 75 100 m

© Crown copyright and database rights 2016. Ordnance Survey 100019238.

OUTPUTS AND OUTCOMES

Activity	Outputs	Outcomes
Polhill site Feasibility study and ecological/heritage survey undertaken	<ul style="list-style-type: none"> Survey undertaken to assess the viability, cost and practicality of introducing management appropriate to the habitat and landscape character. 	<ul style="list-style-type: none"> Biodiversity of the site recorded and assessed.
Shoreham Woods site Feasibility study and ecological/heritage survey undertaken	<ul style="list-style-type: none"> Survey undertaken to assess the viability, cost and practicality of introducing management appropriate to the habitat and landscape character. Management proposals made for the site. 	<ul style="list-style-type: none"> Biodiversity of the site recorded and assessed.
Polhill site Restoration of chalk grassland site	<ul style="list-style-type: none"> 12.6 hectares of chalk grassland restored. 3.9km of fencing installed. 7.5 hectares of scrub removed. Grazing re-introduced to 12.6 hectares of grassland. 	<ul style="list-style-type: none"> Biodiversity of site enhanced. Site management appropriate to landscape character. Appropriate land management in the valley seen by many people. Traditional management introduced. Unwanted activities reduced. Innovative relationship with Connect Plus developed. Greater awareness amongst partners of the need to integrate landscape character considerations.
Shoreham Woods site	<ul style="list-style-type: none"> 10.8 hectares of grassland and scrub mosaic brought into good condition. 	<ul style="list-style-type: none"> Biodiversity of site enhanced. Site management appropriate to landscape character.
Shoreham Road RNR Restoration and enhancement of 450 metres of roadside nature reserve (woodland on chalk with grassland verge)	<ul style="list-style-type: none"> 450 metres of road verge restored. 32 volunteer days for scrub clearance and cutting and raking restored grassland. 20 volunteer days of biological monitoring and recording. 	<ul style="list-style-type: none"> Improved biodiversity and connectivity. Local people involved in the conservation of their heritage. Restoration of chalk grassland verge.
Shoreham Road RNR Undertake access improvement	<ul style="list-style-type: none"> Create a safe path along road verge to enable physical access and enable future management and monitoring. 	<ul style="list-style-type: none"> Physical access improved. Local people involved in improving access to heritage.
Shoreham Road RNR Series of guided walks	<ul style="list-style-type: none"> 3 guided walks held. 10 people attending walks (maximum per walk). 	<ul style="list-style-type: none"> Greater awareness of understanding of the importance of the landscape and heritage.

TRAINING REQUIRED

- Brushcutter training
- Ecological monitoring training

MAINTAINING A LEGACY

Undertaking this work on the SRN Highways Soft Estate is a significant contribution and Connect Plus are well resourced to maintain the management well into the future.

The RNR team at Kent Wildlife Trust have operated for many years, and are sufficiently resourced to maintain this verge once the larger scale works have been undertaken.

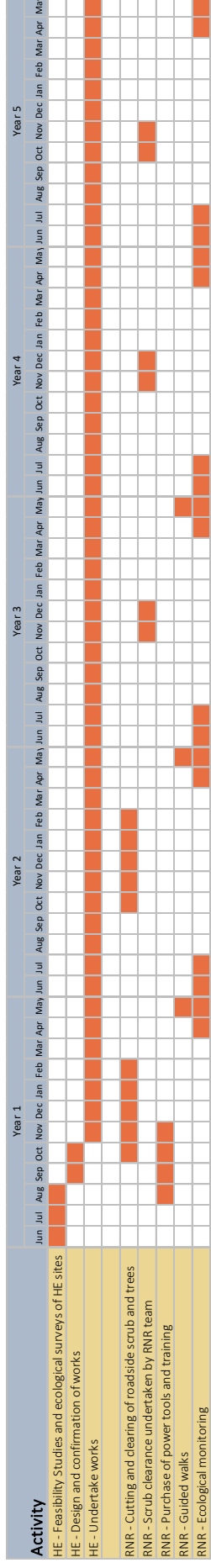
LINKS TO OTHER PROJECTS

- 1D. Framing the View
- 1F. Restoring the Canvas
- 4A. Uncovering the Herb-Scented Scarp
- 4G. Restoring the Hedgerow Mosaic

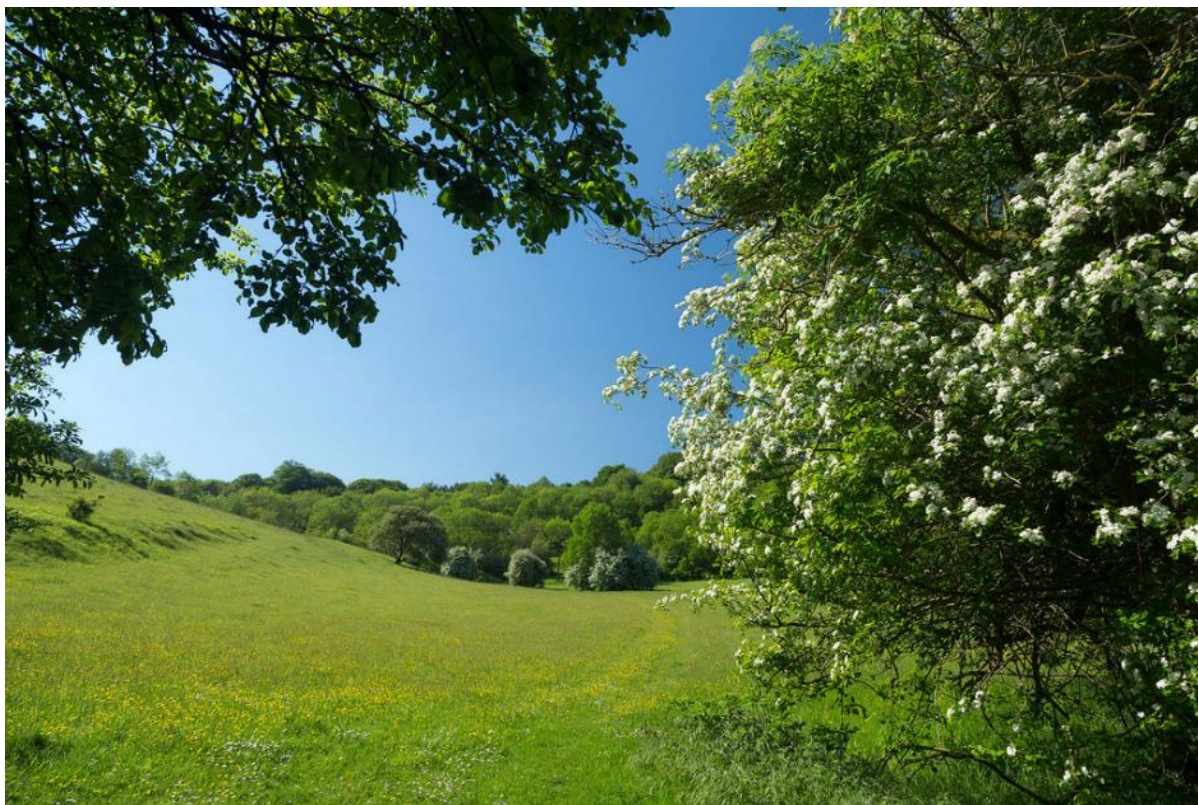
Theme 4: Darent Valley Natural & Historic Landscapes

4E: ON THE VERGE – INTEGRATING LAND MANAGEMENT INTO THE LANDSCAPE

PROJECT TIMETABLE



4F. LOCAL LANDSCAPES GRANTS



PROJECT AIM

To provide a facility for the local community to deliver small-scale projects that contribute to the objectives of the Darent Valley Landscape Partnership Scheme, and deliver a mechanism to contribute new projects during the life of the scheme.

DELIVERY LEAD

Darent Valley Landscape Partnership Scheme Delivery Team.

LOCATION

The grants programme will fund and facilitate projects throughout the scheme area as well as outside provided they deliver outcomes that raise the awareness of the value of the heritage for existing and potential visitors.

AUDIENCE

Local communities, community groups and other organisations.

ISSUES AND THREATS

Applicants will be required to highlight the issue, threat or opportunity that will be addressed through their project and how it relates to the DVLPS vision, aims and objectives. From a broader scheme-wide perspective, it addresses the high likelihood that new projects will be presented by the local community once delivery starts, and for which there is no facility to deliver within the existing framework of projects.

PROJECT DESCRIPTION

The Local Landscape Grants programme (LLG) will offer grants of between £1,000 and £15,000 to support the delivery of projects that:

- conserve and enhance the historic and natural landscape of the DVLP scheme area;
- help more people, and a wider range of people, to learn about and enjoy the heritage of the Darent Valley.

Details and a draft scheme guidelines are attached in this project plan appendix.

The LLG will be available to deliver projects across the range of all five themes of the DVLPS as well as projects that promote awareness of heritage of the Darent Valley in neighbouring urban areas, provided sustainable transport options for new visitors are encouraged.

The Landscape and Access Officer will be responsible for the delivery of the LLG, but will be closely supported by the rest of the delivery team due to the range of projects that are likely to be submitted. Depending on the focus of submitted projects, responsibility may be passed on to other team members to make the initial assessment.

A LLG grants panel will be established to make decisions on the offering of grants, and will be constituted of one agreed (by the Partnership Board) representative from each of the five theme groups. This will ensure the breadth of knowledge exists within the panel to make balanced decisions and identify where there are connections with other projects. The panel will meet three times a year and there will be corresponding deadlines for the submission of grants. The Landscape and Access Officer will present a recommendation to the panel, who will then make the final decision.

The LLG programme will begin in year 2 of the scheme and run for four years. A total budget of £80,000 will be available during the life of the scheme.

TRAINING REQUIRED

None required, but additional training may be identified within grant proposals.

MAINTAINING A LEGACY

Applicants will be asked to demonstrate how they will maintain their project once funding comes to an end. In addition, local communities taking ownership of their projects increases the likelihood of maintained projects.

LINKS TO OTHER PROJECTS

- Potential links to all other projects within the scheme.

Theme 4: Darent Valley Natural & Historic Landscapes
 4F. LOCAL LANDSCAPES GRANTS

PROJECT TIMETABLE

Activity	Year 1			Year 2			Year 3			Year 4			Year 5													
	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May		
Confirm grant guidelines																										
Promote grant to communities																										
Form Local Landscapes Grant Panel																										
Deadline for submissions																										
Assessment of grants by Landscape & Access Officer																										
Panel meetings and grant decision																										
Implementation of projects																										
Evaluation																										

DRAFT GUIDELINES- DARENT VALLEY LOCAL LANDSCAPES GRANTS

We think that the Darent Valley is a special place and that is what you have told us too. The Darent Valley Landscape Partnership Scheme is delivering a Local Landscapes Grants programme and we are inviting you to make applications for the funding of interesting and exciting projects that help people care for, explore, enjoy, learn about and celebrate the wonderful landscape of the Darent Valley.

BACKGROUND

In 2017, the Kent Downs Area of Outstanding Natural Beauty secured a grant of £2.1 million from the Heritage Lottery Fund for the landscape and heritage of the Darent Valley. With further funding from several other sources £3.6 million will be invested in the valley for five years. The scheme has the following vision:

“Using the inspiration of Samuel Palmer, our unique partnership of organisations has worked with and empowered local communities to ensure the survival and flourishing of an exceptional landscape and its heritage.

Through them, the Darent Valley’s natural and cultural heritage is being sustainably conserved, current threats are mitigated, and the landscape is more resilient to future threats. The communities that live within and around the valley feel emotionally and physically reconnected with their landscape, and there is a sense of pride and strong will to protect it for future generations.

A clear plan exists for the landscape’s ongoing conservation and enjoyment; and organisations, communities and individuals have the skills, knowledge and ability to deliver it over the coming years.”

If you have an idea that can help us achieve that vision, then we may be able to help you.

OUR AIMS

The Local Landscapes Grants programme has two key aims:

- conserving and enhancing the historic and natural landscape of the DVLP scheme area;
- helping more people, and a wider range of people, to learn about and enjoy the heritage of the Darent Valley.

The Landscape Heritage Grants programme is seeking to improve landscape features and access to them. It is not intended to improve agricultural production and in many cases, may by the nature of the works decrease productivity of the land concerned.

WHO CAN APPLY

Use these application materials to apply for a grant under this programme if:

- your project meets the aims of the Landscape Heritage Grants programme;
- you need a grant of between £1,000 and £15,000.

We fund projects which promote benefits for the public rather than those which are mainly for private gain:

- we welcome applications from individuals and organisations, including public bodies, community groups, private landowners and farmers;
- we will accept applications from single organisations and partnerships - for example, a partnership between a heritage organisation and a community group;
- bids from commercial organisations, including farmers and landowners will be accepted only where the applicant is a Small/Medium Enterprise (SME).

SMEs are defined as being enterprises which:

- have fewer than 250 employees; and/or
- have either an annual turnover not exceeding 50 million euros or an annual balance sheet not exceeding 43 million euros; and
- conform to specified criteria of independence in general, not more than 25% of an SME can be owned by other companies.

OUR CONTRIBUTION TO YOUR PROJECT

We will offer grants of up to 90% of eligible project costs up to a maximum of £15,000. The level of funding available will vary depending on the type of applicant and where EU State Aid regulations need to be considered. Each project will be expected to have an element of partnership funding provided by the applicant.

We can provide the following levels of funding:

- up to 50% for local authorities, private individuals and profit-making organisations;
- up to 70% for registered charities and companies limited by guarantee;
- up to 90% for non-registered charities, voluntary and community groups, parish and town councils.

A minimum of 50% of the Partnership funding must be cash. Volunteer time delivering projects can be used for the remaining amount of Partnership funding but this will be determined during the application process and will depend on the nature and scope of the proposals. If you wish to use volunteer time as Partnership funding the equivalent amount will need to be included as a cost to the project. Volunteer time can be claimed at the following rates:

- Unskilled - £50 per day
- Skilled - £ 150 per day
- Professional - £350 per day

The above is subject to State Aid regulations if the organisation is involved in economic activities.

WHAT WE CAN FUND

We can only fund projects that:

- take place within the DVLPS area; and
- adhere to the Landscape Character Area recommendations and deliver the objectives of the Landscape Conservation Action Plan (this document can be found on our website)

By a project, we mean work or an activity that:

- is not part of the everyday work of your organisation;
- has a schedule for completion; and
- has specific aims.

We can support:

- capital work (including conservation, repair and related activities); or
- activity-only projects.

Works we can fund include:

1. Restoration and/or sustainable management of landscape character and habitats
2. Hedge-laying, hedge planting and other habitat connectivity work, including screening unsympathetic development
3. Improvement to biodiversity through habitat creation
4. Protection, preservation, restoration, enhancement and appropriate use of historic built features
5. Preservation, restoration and enhancement of archaeological remains
6. Conservation of historic features such as round barrows and ancient parish boundaries
7. Educational and recreational initiatives on historic or ecological themes
8. Increased public access where this can be balanced with conservation of landscape fabric, including bridleways, cycling and walking tracks
9. Interpretation of landscape features, plants, animals, and their habitats, built and cultural heritage and geology
10. Surveying, recording and monitoring of the archaeological resource
11. Investigation and recording the human history of the area, especially oral histories of the rural hinterland
12. Initiatives to train and develop people's heritage skills.

WHAT WE CAN'T FUND

We will not give grants for the following works:

- feasibility studies;
- schemes in which a significant proportion of costs could be met by other grant schemes;
- costs relating to the conversion of buildings for use as dwellings or tourist accommodation;

- projects with little or no public benefit (for example conserving buildings in active use for domestic, agricultural or commercial purposes; vehicles, machinery or transport for private use or benefit);
- projects solely involving the purchase of land or buildings;
- acquisition of assets in excess of £5,000 value per item, including legal or other transfer costs;
- the main organisational staffing and running costs of an organisation;
- projects of little clear heritage value (for example sports or leisure facilities, civil engineering work, new roads, bridges or traffic systems, new buildings where existing heritage areas could be adapted);
- academic research;
- statutory obligations;
- costs relating to the preparation of grant applications for this or other schemes; or
- schemes where the match funding is state aid based (such as Environmental Stewardship monies) and would exceed the levels allowable under EU regulations.

OTHER RESTRICTIONS ON FUNDING

We will not fund projects or types of work that are not good practice for the heritage or landscape of the Darent Valley area. We only fund certain types of work if they form part of a wider project that meets our aims. We cannot fund them as standalone projects. These include:

- visitor facilities such as cafes, car parks or toilets;
- putting together or publishing research findings;
- creating digital materials (for example, websites or DVDs);
- creating replicas (models or exact copies) of historic structures or objects.

For collections-based projects:

- we will only consider supporting a new museum or other new heritage attraction if it is based on an existing collection recognised as important by the appropriate heritage organisation (for example, the Museums, Libraries and Archives Council in England);
- we will only consider buying heritage items if the item (or most of a collection) is more than 10 years old.

Contact us if you are not sure whether we can fund your project using the pre-application enquiry form.

OWNERSHIP REQUIREMENTS

If you are successful with a Landscape Heritage Grant application, we expect you to own and be the only organisation entitled to use any property (land, buildings and heritage items) on which you spend the grant. We will need to see proof of your ownership, as referred to in the list of supporting documents you must send with your application form. If you do not own the property, you must tell us who does.

LAND AND BUILDINGS

For projects which involve carrying out capital work to land or buildings, we normally expect you to own the freehold or have a lease with at least 10years left to run at the date we award any grant. Otherwise, you will need to provide a letter from the owner, saying that you have the owner's permission to carry out the work. The owner will also need to sign a letter that we will prepare, agreeing to keep to our standard terms of grant.

We would not expect a Local Landscapes Grant to involve buying land or buildings. However, if it does, you must buy them either freehold or with a lease with a term of at least 80 years left to run at the date we award any grant.

We do not accept leases with break clauses (these give one or more of the people or organisations involved the right to end the lease in certain circumstances).

You must be able to sell on, sublet or mortgage your lease, but if we award you a grant you must first have our permission to do any of these.

HERITAGE ITEMS

For projects involving buying or carrying out work to a heritage item we expect you to buy or own the item outright.

INTELLECTUAL PROPERTY

For projects involving creating or using intellectual property (for example, creating a database, digital images or audio or other multimedia applications) we expect you to get all permissions, waivers and licences from any other person or organisation who may be entitled to any intellectual property rights which either exist or will be created to allow you to carry out and complete the project in line with your application, and we reserve the right to request copies of any such permissions, waivers or licences.

YOUR APPLICATION

WHAT TO READ

As well as this document and the help notes on the application form, we would advise that you read the relevant sections of the Landscape Conservation Action Plan, including the actions proposed for the Landscape Sub-Character Area relevant to your project.

PRE-APPLICATION ENQUIRY

Contact us for advice before you apply by using the pre-application enquiry form. We will discuss your project with you in more detail and let you know whether your project is likely to meet our priorities for funding. We will give you advice on what you should do next.

YOUR APPLICATION

Once you have filled in your application and sent it to our office, we will acknowledge receipt. We have three deadline dates for applications each year. They fall at the end of April, August and December. We aim to give you a decision on your application within six weeks of the closing date.

WHAT WE WILL ASSESS

When we assess your application, we will take account of the value for money your project offers, the overall benefits of the project in relation to the costs, and the amount of grant you want from us. We will also assess how far your application shows that:

- your project supports relevant landscape guidelines for the DVLPS area;
- your project is an appropriate response to a need or opportunity;
- your project will meet our aims for either conservation or learning (or both)
- your project is well planned and your proposals for managing it are sound;
- your organisation can carry out the project;
- your project is financially realistic and there is a clear need for funding; and
- your project promotes far greater levels of public benefit than private gain.

SUPPORTING DOCUMENTS

You will be required to submit supporting documents as part of your application. These will include:

- a copy of your organisation's constitution or set of rules, etc.;
- copies of deeds, leases, mortgages or other proof of ownership if your project involves work to land or buildings;
- signed copy of most recent annual accounts or bank statements;
- letters of support;
- evidence for cost calculations; and
- job descriptions for any new staff.

All guidance and other documents referred to in the application materials can be found on our website.

SUCCESSFUL APPLICATIONS

MANAGING YOUR GRANT

If your application is successful we will send you a formal grant offer letter, together with a contract for you to sign and return to us. You will be able to start your project as soon as you have our written permission and all other funding is in place.

We will send you documents on Managing your Grant which will contain information on drawing down your grant money and how you should keep us informed of the progress of your project in achieving its aims.

PAYING GRANTS

We will normally pay your grant in three instalments:

1. When you have our written permission to start the project, we will pay 50% of your grant upfront.
2. When you apply for the next 40% of your grant, you will need to send us proof that you have spent the first 50%. We will only accept proof that relates to work and activities you have described in your application and that we have agreed to fund.
3. We will pay the final 10% of your grant when your project is complete.

You must send us a completion report at the end of your project. We require this to enable us to release the final grant instalment.

MONITORING

In your application you will be asked to identify project aims and outputs. Monitoring of your project will be based on these aims and outcomes, so it is very important that they are realistic and achievable. Failure to achieve them may result in grant monies being withheld.

COMPLETING AND EVALUATING YOUR PROJECT

You must send us a completion report at the end of your project. It is within this report that you will tell us whether the project has been a success and all the outputs have been achieved.

BUYING GOODS, WORK AND SERVICES

If you receive a grant you will be expected to adhere to the following procurement thresholds:

Value Band For the total value of any individual contract or purchase	Action required
£200 - £5,000	To seek at least one written quote
£5,001 - £75,000	To seek at least three written quotes

If you do not accept the lowest quote you will need to tell us why.

PROJECT PUBLICITY AND ACKNOWLEDGEMENT

Public support, understanding and appreciation are vital to the success of the Darent Valley Landscape Partnership Scheme and the Local Landscapes Grants programme.

If we give you a grant you must publicise and acknowledge it. We can contribute to the costs involved if you have included them in your project budget. We will expect you to publicise and promote your project as widely as possible to:

- make sure that the public understand the project;
- make sure that people have opportunities to take part;
- contribute to the sustainability of the project; and
- make sure that the Darent Valley Landscape Partnership Scheme and Heritage Lottery Fund contribution is recognised.

Acknowledgement of your grant must be clear to all visitors using your site, on publications or displays, or to people taking part in activities.

OTHER INFORMATION

FREEDOM OF INFORMATION

We have a duty to adhere to the Freedom of Information Act 2000. When you sign the declaration at the end of the application form, you are confirming that you have no objection to us releasing details from the application form to anyone who asks to see them. If there is any information in the form that you do not want made publicly available, please say in the space provided and explain your reasons. We will take these into account when we respond to any request for information. However, we will always consult you first and will take account of your rights and expectations under the Freedom of Information Act 2000 and Data Protection Act 1998.

DATA PROTECTION ACT

Under the Data Protection Act 1998, we will process personal information relating to your organisation, its officers and staff or any other people you refer to in your application, for:

- assessing your grant application and how we handle it;
- handling the terms of our grant;
- sharing information with our specialists and monitors;
- keeping you informed of our work;
- publicising information about your application;
- research related to your application;
- other legal or regulatory purposes, or other purposes reasonably related to making grants.

COMPLAINTS

If you are not happy with the service you have received, please contact the Darent Valley Landscape Partnership Scheme Manager.

HOW TO CONTACT US:

...

4G. RESTORING THE HEDGEROW MOSAIC



PROJECT AIM

A team of volunteer hedgerow surveyors will be recruited, trained, deployed and managed by a consultant organisation. An analysis of the existing hedgerow network compared to the historical network will be made along with an assessment of where additional planting might be undertaken to create, reinforce or enhance landscape character. This information will be used to determine where management advice, support for management and new planting can be undertaken, and will then subsequently be delivered.

DELIVERY LEAD

External consultant appointed and managed by the DVLPS Delivery Team.

LOCATION AND LAND OWNERSHIP

Across the Darent Valley Landscape Partnership Scheme area, but informed by the Darent Valley Strategic Landscape Enhancement Plan and relevant landscape character assessments.

AUDIENCE

The audience can be categorised into three groups:

1. Landowners and land managers who are responsible for field boundaries and their management.
2. Local communities and students that wish to be involved learning new skills and participating in improving their landscape.
3. Local communities and visitors who will enjoy a landscape with its character reinforced and quality improved.

HERITAGE VALUE

According to the Campaign to Protect Rural England (CPRE), “we have lost more than 200,000 miles of hedgerow since 1947 owing to changes in farming methods, roads and development.” As well as a loss of individual habitats, this represents a devastating loss of habitat connectivity for wildlife. The contribution to landscape character is significant, and several of Samuel Palmer’s paintings depict a strong hedgerow network, with “The Timber Wain” and “The Golden Valley” illustrating them as a key component of the landscape. These paintings depict scenes from the Greensand Ridge above the Darent Valley looking south and represent the views and elements of the landscape that Palmer loved so much.

ISSUES AND THREATS

The hedgerow network changes considerably through the valley, influenced by geology and historic land use as well as the management styles of individual farms and estates. In many locations, there is either too little or too much management, resulting in poor quality hedgerows, and in some cases, inappropriate management leading to degradation and dereliction.

Alternative boundary treatment such as inappropriate fencing (including electric), the ‘effect of the suburbs’ where non-native species such as laurel or Leyland cypress are planted, can have a highly noticeable and jarring impact upon the landscape. In addition, even native hedgerow planting can have a negative impact where it is planted in unsuitable locations that don’t respect natural landform.

There is the opportunity through this project to not only restore historic landscape character, but to also redefine it where modern infrastructure such as overhead lines and motorways have become dominant features.

PROJECT DESCRIPTION

The project will restore natural and historic landscape character, inspired by Samuel Palmer; and also where landscape character has been lost, identify where it can be created. It will respect the working agricultural landscape, bring significant benefits to the wildlife of the DVLPS area, and identify and implement hedgerow planting as a natural flood management technique. Following the landscape-scale survey, a programme of enhancements will be identified and working with landowners, appropriate measures undertaken. These measures will be essentially offered as a grant to landowners with an expectation that they will provide a partial contribution. Depending on

circumstances and the priority of the works identified, offers to 100% fund the enhancements will be made.

METHODOLOGY

The project will be led by the DVLPS Delivery Team, but contracted out to specialists in this field. This will be split into two elements: the survey (draft brief for survey in project plan appendix) and subsequent delivery; and these may be undertaken by different consultants or the same one depending on performance for the first element.

- Year 1: Consultant appointed and hedgerow survey volunteers recruited and trained. Desktop survey using aerial photos, historic maps, LIDAR data and other sources, is carried out by consultant and volunteers and all hedgerows for survey are identified.
- Year 2 – 3. The hedgerows are systematically surveyed for condition (using the DEFRA Hedgerow Survey handbook – see appendix) and results are recorded both photographically, visually (on a map) and in tabular form.
- Year 3: The results of the surveys are submitted to the DVLPS in report form with recommendations for improvements where appropriate.
- Years 3 and 4: Practical works implemented.

The historic views of a Darent Valley, cross-crossed with green fields and hedgerows, will be protected and restored for all visitors and inhabitants of the valley to enjoy into the future. The public will also benefit from richer biodiversity in the valley, thanks to the improved habitat. Flooding may become less of an issue for the valley, with an increase in hedgerows planted.

OUTPUTS AND OUTCOMES

Activity	Outputs	Outcomes
Recruitment, training and deployment of team of hedgerow survey volunteers.	<ul style="list-style-type: none"> At least 10 volunteers will be recruited and trained in hedgerow surveying. 	<ul style="list-style-type: none"> Local people will have gained new skills. Local people will have had the opportunity to join a team and feel less isolated as a result.
Desktop research, ground-truthing and identification of all hedgerows in the DVLPS area.	<ul style="list-style-type: none"> All existing hedgerows in the DVLPS area will have been identified – numbers and length tbc. Any historical hedgerows that have since disappeared will have been identified– numbers and length tbc. 	<ul style="list-style-type: none"> Local people involved in the conservation of their heritage. A comprehensive record of all hedgerows of the DVLPS area will have been produced.
Practical hedgerow surveys carried out by volunteers.	<ul style="list-style-type: none"> At least 10 volunteers trained carry out surveys. 90 volunteer days contributed to the project. Every existing hedgerow in the DVLPS area will be surveyed. Results of surveys will be recorded photographically, in tabular form and on a map. 	<ul style="list-style-type: none"> Volunteers will have gained a greater awareness of understanding of the importance of the landscape and heritage. Volunteers will have benefitted both physically and mentally from volunteering outdoors and working as a team. The state of DVLPS hedgerows will have been recorded.
Report on hedgerow condition produced.	<ul style="list-style-type: none"> A comprehensive report on the condition of the DVLPS hedgerows will be produced, with recommendations for improvements. 	<ul style="list-style-type: none"> The DVLPS team will be able to make an informed decision on what practical works to undertake on the area’s hedgerows.
Delivery of hedgerow management, enhancements, restoration and creation.	<p>Outputs dependent on results of survey but anticipate:</p> <ul style="list-style-type: none"> 2km of hedgerow created/restored 5km of hedgerow management improved. 	<ul style="list-style-type: none"> Hedgerows will be protected and properly managed into the future.

PROJECT COSTS

Element/Item	Year 1 2017/18	Year 2 2018/19	Year 3 2019/20	Year 4 2020/21	Year 5 2021/22	Total
Totals	£7,470	£6,502	£23,376	£13,926	£0	£61,274

PROJECT RISKS

Risk	How likely	Severity	Consequence	Action required
Landowner unwilling to grant permission to survey.	Low	Low	Project left with gaps	Open discussions at an early stage and build on existing good relationships.
Low volunteer numbers.	Medium	Medium	Project delayed	Early engagement with local community to recruit necessary.
Uptake of projects for restoration is low.	Low	Low	Priority restoration/creation projects not delivered.	Financially, this will require little outlay from landowners, and priority hedgerows will be 100% funded where required.

TRAINING REQUIRED

- Hedgerow survey techniques.
- GIS data manipulation
- Map regression

- Contract management skills

MAINTAINING A LEGACY

The skills learned by the volunteers through this project will remain within the community, and repeat surveys could now be very easily carried out in the future to monitor the condition of the hedgerows for very little funding. NWKCP could make a bid for a repeat set of surveys as a follow up, five years after the project has been completed.

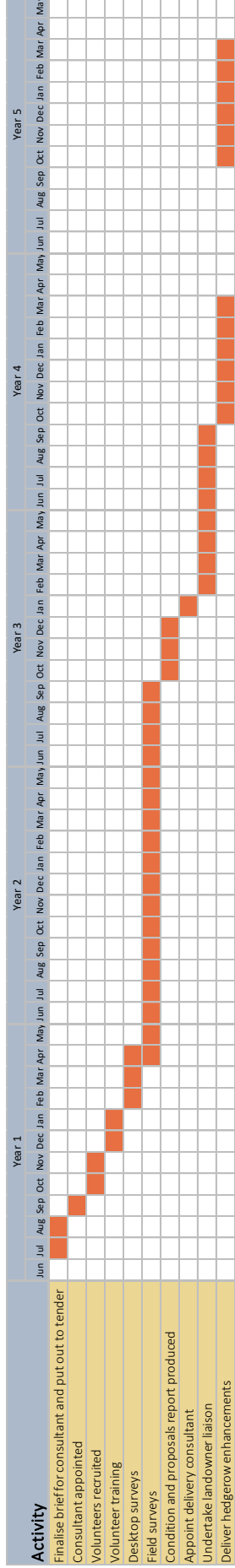
The report and survey findings will be a permanent resource and record for the Darent Valley. Local landowners will have learned more about how to maintain their hedgerows for wildlife and landscape value, and will be able to continue their improved practices into the future.

LINKS TO OTHER PROJECTS

- 1D. Framing the View
- 2A. Peeling Back the Layers
- 5C. Supporting the Land Managers
- 5D. Future Skills

Theme 4: Darent Valley Natural & Historic Landscapes
4G: RESTORING THE HEDGEROW NETWORK

PROJECT TIMETABLE



APPENDIX 4G – 1: EXAMPLE OF DEFRA FIELD SURVEY FORM

Local Hedgerow Field Survey Form												
PART A - ESSENTIAL ASSESSMENTS (To be completed for all local hedgerow surveys)												
TITLE OF SURVEY:												
Grid Ref	100km	Easting					Northing					
	Letters or numbers	10km	1km	100m	10m	1m	10km	1km	100m	10m	1m	

Date											Hedgerow No			
Surveyor(s):										Side Surveyed - Both Y/N				
										Side A	N	E	S	W
										Side B	N	E	S	W

WHOLE HEDGEROW		
1 - NAME OF LANDOWNER/CONTACT DETAILS		
Name:	Address	Tel:
1a - Permission granted to enter details onto database YES/NO		
1b - Permission granted to publish ownership information (if relevant) YES/NO		

2 - SURVEY TIMES AND WEATHER/OTHER CONDITIONS THAT MAY AFFECT THE SURVEY		
2a – Start time:	2b - Finish time:	2c - Weather:
2d - Were there any difficulties in surveying the hedgerows? If so please describe.		YES
		N O
Difficulty(ies):		

3 - HEDGEROW TYPE		
3a - Shrubby hedgerow	3b - Line of trees	3c - Shrubby with line of trees

4 - LENGTH (m) - between nodes or intersections with other hedgerows, to nearest 5m	
---	--

5 - CONNECTIONS - total number of other hedgerows connected to each end of the hedgerow	End 1	End 2	Total

6 - EXTENT OF SURVEY	6a - Whole hedgerow	6b - 30m Section(s)	

WHOLE HEDGEROW OR 30m SURVEY SECTION (Sections 7-16)

7 - ADJACENT LAND USE							
		Side A	Side B			Side A	Side B
7a - Arable	Arable crop			7e - Road/Route	Major Road		
	Uncropped margin				Minor Road		
7b - Grass	Improved				Track (unsurfaced)		
	Semi-improved				Footpath		
	Unimproved				Rail		
7c - Woodland	Young				Canal		
	Semi-mature			7f - Water	River		
	Mature				Stream		
7d - Other					Lake/pond		








8 - ASSOCIATED FEATURES – See also Part B section 18				
	Side A	Side B		
8a - Bank - Height (in metres) to nearest 25cm			8f - Ditch - internal - Dry (tick)	
8b - Average herb vegetation height (cm) to nearest 5cm			8g - Ditch - internal - Wet (tick)	
8c - Fence (tick)				
8d - Ditch - external - Dry (tick)				
8e - Ditch - external - Wet (tick)				

9 - UNDISTURBED GROUND (measured from the centreline of the hedgerow)			Side A	Side B
9a - Average width of undisturbed ground (m) to nearest 50cm*				
9b - Average width of perennial herbaceous vegetation (m) to nearest 50cm*				
NB * mark N/A or road etc if a road or built feature or hedge is adjacent to grassland or woodland				

10 – NUTRIENT ENRICHMENT GROUND FLORA INDICATOR SPECIES								
Estimate % cover of each species within a 2m wide band alongside the hedgerow (to nearest 5%)								
10a – Nettles	Side A	Side B	10b - Cleavers	Side A	Side B	10c - Docks	Side A	Side B

11 - RECENTLY INTRODUCED, NON-NATIVE SPECIES			
11a - RECENTLY INTRODUCED, NON-NATIVE GROUND FLORA SPECIES			
	Species	Side A	Side B
% cover of introduced species in the hedge-bottom (to nearest 5% or enter just the name if <5%)			

11b - RECENTLY INTRODUCED, NON-NATIVE WOODY SPECIES			
	Species	Side A	Side B
% cover of introduced species in the shrub layer (to nearest 5% or enter just the name if <5%)			

12 - HEDGEROW SHAPE – See also Part B section 19a			
What shape is the hedgerow? - Circle diagram of cross-section that most closely resembles hedgerow.			
			
a) Trimmed & dense	b) Intensively managed	c) Untrimmed	d) Tall & leggy
			
e) Untrimmed, with outgrowth	f) Recently coppiced (facing view)	g) Recently laid (facing view)	h) Other - Sketch

13 - DIMENSIONS			
13a - Average Height (m) Excluding bank, to nearest 25cm		13b - Average Width (m) At the widest point of canopy; excluding bank, to nearest 25cm	

14 - INTEGRITY - Continuity and height of canopy along hedgerow			
14a - % GAPS - percentage gaps, to nearest 5%			
14b - Any gaps >5m? (Y/N)		14c - Average height of base of canopy (m) to nearest 25cm	

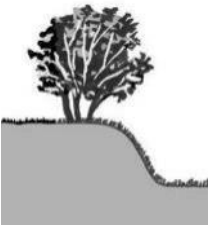
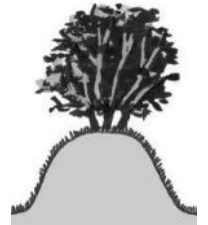
15 - ISOLATED HEDGEROW TREES – See also Part B section 21			
Use one row per specimen or one row and a number if there are many individuals of the same species in the same size class. Estimate DBH to nearest 5cm or nearest 1cm if DBH less than 5cm.			
Species	DBH (cm)	Species	DBH (cm)

16 – NOTES – Whole hedgerow or 30m survey section			
16a - Fauna (evidence of)			
16b - Features (including evidence of recent planting)			
16c - Photograph numbers (and locate on map)			

30m SURVEY SECTION ONLY

17 - WOODY SPECIES IN 30m SURVEY SECTION ONLY – Add any others, including non-natives.

Species	Shrubs % cover	Trees No.	Species	Shrubs % cover	Tr ee s No .
Alder, common (<i>Alnus glutinosa</i>)			Plum, wild (<i>Prunus domestica</i>)		
Apple, crab (<i>Malus sylvestris</i>)			Poplar, black (<i>Populus nigra betulifolia</i>)		
Ash (<i>Fraxinus excelsior</i>)			Privet, wild (<i>Ligustrum vulgare</i>)		
Aspen (<i>Populus tremula</i>)			Rose, dog- (<i>Rosa canina</i>)		
Beech (<i>Fagus sylvatica</i>)			Rose, field- (<i>Rosa arvensis</i>)		
Birch, downy (<i>Betula pubescens</i>)			Rose (<i>Rosa</i> sp.)		
Birch, silver (<i>Betula pendula</i>)			Rowan (<i>Sorbus aucuparia</i>)		
Blackthorn (<i>Prunus spinosa</i>)			Spindle (<i>Euonymus europaeus</i>)		
Broom (<i>Cytisus scoparius</i>)			Sycamore (<i>Acer pseudoplatanus</i>)		
Buckthorn (<i>Rhamnus cathartica</i>)			Wayfaring-tree (<i>Viburnum lantana</i>)		
Cherry, wild (<i>Prunus avium</i>)			Willow, grey (<i>Salix cinerea</i>)		
Dogwood (<i>Cornus sanguinea</i>)			Willow, goat (<i>Salix caprea</i>)		
Elder (<i>Sambucus nigra</i>)					
Elm, English (<i>Ulmus procera</i>)					
Elm, wych (<i>Ulmus glabra</i>)					
Elm, (<i>Ulmus</i> sp.)					
Gorse (<i>Ulex europaeus</i>)					
Gorse, western (<i>Ulex gallii</i>)					
Guelder rose (<i>Viburnum opulus</i>)					
Hawthorn (<i>Crataegus</i> sp.)					
Hazel (<i>Corylus avellana</i>)					
Holly (<i>Ilex aquifolium</i>)					
Hornbeam (<i>Carpinus betulus</i>)					
Lime, large-leaved (<i>Tilia platyphyllos</i>)					
Lime, small-leaved (<i>Tilia cordata</i>)					
Maple, field (<i>Acer campestre</i>)			Bramble (<i>Rubus fruticosus</i> agg.)		
Oak, pedunculate (<i>Quercus robur</i>)			Honeysuckle (<i>Lonicera periclymenum</i>)		
Oak, sessile (<i>Quercus petraea</i>)			Ivy (<i>Hedera helix</i>)		
Pear (<i>Pyrus communis</i> sensu lato)			Traveller's-joy (<i>Clematis vitalba</i>)		
Pine, Scots (<i>Pinus sylvestris</i>)			% Gaps/access openings		

Local Hedgerow Field Survey Form									
PART B - OPTIONAL ASSESSMENTS									
18 - ASSOCIATED FEATURES									
18a – Banks									
Typical cross section of hedgerow-banks where present (please circle one)									
									
a) Half-bank			b) Full hedge-bank			c) Other (sketch)			
Bank type and management									
	Bank type			Bank Management					
	Stone	Earth		None	Fenced off	Grazed	Mown/cut		
Side A									
Side B*									
18b - Ditches/Streams									
								Side A	Side B*
Ditch/stream - Width at base (m) to the nearest 25cm									
18c - Walls and Fences									
Fence	Side A	Side B*	Dry-stone Wall - Condition				Side A	Side B*	
Height (m), to nearest 25cm			Good						
Type	Side A	Side B*	Poor						
Post & rail			Remnant						
Post & netting			Other feature - State				Side A	Side B*	
Post & wire									
Other fence - state	Side A	Side B*							
* Where visible									
19 - HEDGEROW/MARGIN MANAGEMENT									
19a - Hedgerow Management				Flailed/trimmed	Coppiced	Laid	Planting/Gapping	Pollarding trees	None
Signs of Recent Management <2 years									
Signs of Management 2-10 years									
Signs of older Management >10 years									
19b - Hedge-bottom Management				Mowing/cutting	Herbicides	Cultivation	Grazing	None	
Signs of Recent Management <2 years									
Signs of Management 2-10 years									
19c - Margin/Headland Management									
Average width (m)	Side A		Side B*						
Margin Management									
Grazed	Side A	Side B*	Cut	Side A	Side B*	Unmanaged	Side A	Side B*	
* Where visible									

20 - GROUND FLORA SPECIES PER 30M					
Species	% cover		Species	% cover	
	Q1	Q2		Q1	Q2
<i>Agrostis</i> sp. Bent			<i>Plantago lanceolata</i> - Ribwort plantain		
<i>Alopecurus pratensis</i> - Meadow foxtail			<i>Plantago major</i> - Greater plantain		
<i>Anthoxanthum odoratum</i> - Sweet vernal-grass			<i>Potentilla reptans</i> - Creeping cinquefoil		
<i>Arrhenatherum elatius</i> - False oat-grass			<i>Primula vulgaris</i> - Primrose		
<i>Cynosurus cristatus</i> - Crested dog's-tail			<i>Pteridium aquilinum</i> - Bracken		
<i>Dactylis glomerata</i> - Cocksfoot			<i>Ranunculus repens</i> - Creeping buttercup		
<i>Elytrigia repens</i> - Couch			<i>Rubus fruticosus</i> - Bramble		
<i>Festuca rubra</i> - Red fescue			<i>Rumex</i> sp. - Docks		
<i>Holcus lanatus</i> - Yorkshire fog			<i>Senecio jacobaea</i> - Ragwort		
<i>Holcus mollis</i> - Creeping soft-grass			<i>Silene dioica</i> - Red Campion		
<i>Lolium perenne</i> - Perennial rye-grass			<i>Stellaria holostea</i> - Greater stitchwort		
<i>Phleum pratense</i> - Timothy			<i>Trifolium pratense</i> - Red clover		
<i>Poa annua</i> - Annual meadow-grass			<i>Trifolium repens</i> - White clover		
<i>Poa trivialis</i> - Rough meadow-grass			<i>Urtica dioica</i> - Common nettle		
			<i>Veronica chamaedrys</i> - Ivy-leaved speedwell		
			<i>Viola</i> sp. - Violet		
<i>Achillea millefolium</i> - Yarrow					
<i>Alliaria petiolata</i> - Garlic mustard					
<i>Anemone nemorosa</i> - Wood anemone					
<i>Anthriscus sylvestris</i> - Cow parsley					
<i>Arum maculatum</i> - Lords-and-ladies					
<i>Centaurea nigra</i> - Common knapweed					
<i>Cirsium arvense</i> - Creeping thistle					
<i>Cirsium vulgare</i> - Spear thistle					
<i>Galium aparine</i> - Cleavers					
<i>Galium mollugo</i> - Hedge bedstraw					
<i>Geranium dissectum</i> - Cut-leaved cranesbill					
<i>Geranium molle</i> - Dove's-Foot cranesbill					
<i>Geranium robertianum</i> - Herb-Robert					
<i>Glechoma hederacea</i> - Ground ivy			Bryophytes - mosses & liverworts		
<i>Hedera helix</i> - Ivy			Bare ground		
<i>Heracleum sphondylium</i> - Hogweed			Location of quadrats		
<i>Hyacinthoides non-scripta</i> - Bluebell			Under canopy		
<i>Mercurialis perennis</i> - Dog's mercury			Bank		

DRAFT BRIEF FOR COMMISSIONING HEDGEROW SURVEY

Specification

Undertake a condition survey of all hedgerows (to include shaws and shelterbelts) in the Darent Valley and provide detailed specifications for improving them.

1. Desktop study of aerial photos, historic maps and data using the DVLPS LiDAR survey and other sources

- Identify locations of all hedgerows to be surveyed
- Identify locations for possible re-instatement of hedgerows based on historic locations of hedgerows
- Identify locations for possible planting of new hedgerows which may have not historically existed in that location

2. Identify the landowners and any tenants for all hedgerows

- Liaise with DVLPS in the first instance as it knows 90% of the landowners in the survey area
- Consultant to find out contact details (name, address, email, telephone number) of any unknown landowners required for the hedgerow survey

3. Undertake a condition survey of all hedgerows in parishes within the Darent Valley

- All hedgerows within the Darent Valley LPS area (Enclosed map of the Darent Valley provided)
- On the ground surveys are to be conducted using the survey methodology as outlined in the DEFRA Hedgerow Survey Handbook. Both essential assessment and optional assessments are to be undertaken for each hedgerow.
- Both sides of hedgerow to be surveyed (where possible)
- Hedgerows are to be surveyed from public rights of way where possible. Where access to private land is required, consult DVLPS in first instance

4. Provide detailed specifications of how each hedgerow could be improved for landscape and wildlife

- Specifications are predominantly to enhance the local landscape with the secondary benefit of improved wildlife habitat
- Specifications to include detailed recommendations for how each hedgerow could be improved (gapping up, hedgelaying, which species, etc), maintenance requirements (immediate and longer term) and a method plan for undertaking this.

- Recommended specifications for hedgerow improvements need to take into consideration:
 - The current Kent Downs AONB management plan 2009 - 2014
 - The Kent Downs AONB Landscape Design Handbook (with particular reference to section 3 – Landscape Character Design Guidance)
 - Landscape Assessment of Kent 2004 and other appropriate landscape character assessments.
 - Strategic Landscape Enhance Plan
- Include detailed specifications for re-instating hedgerows that have been removed and where recommending new planting to link fragmented habitats. Species selected are to be based on those found in the local area.

5. Identify potential locations of new hedgerow planting that will support landscaping and reduce the visual impact of overhead power lines and motorways, and provide detailed specifications of each new hedgerow

- Any proposals for new planting should fit within the guidelines stated above

6. Provide a photographic record for all hedgerows surveyed

- Photographic record of all hedgerows is required. Photos are to show hedgerow in landscape setting as well as close up photos of individual hedgerows.
- Photos are to be labelled in a logical format and two copies of all photos are to be provided to DVLPS on separate CDs on completion of the contract.

7. Written report of all survey findings and specifications for hedgerow improvements

- Survey findings and specifications are to be presented in a separate section for each parish, with accurate 6 figure grid references for locations of hedgerows provided
- Description and location (using 6 figure grid reference) of access points for each hedgerow to be provided i.e.: footpath number each hedgerow can be accessed from, proximity of roads for vehicular access etc.
- Photos to be utilised within the report to illustrate condition and specifications of individual hedgerows
- One overarching map identifying all hedgerows that have been surveyed to be provided. Also one map per parish showing location of all surveyed hedgerows and specifications is to accompany the report. Information to be provided in map form in both a shape file for use with Esri ArcView and in pdf format.

Timetable

Tender submission date	TBC
Completion of first draft	TBC
Completion of contract	TBC

What Consultants should include in their tender return

1. A full method statement setting out how the project would be approached and delivered with acknowledgement of health and safety considerations and risk assessments
2. Brief CVs for all personnel working on the project
3. Clear indication of who will be carrying out the desktop study and on the ground surveys of hedgerows
4. Evidence that personnel have relevant recent experience and a portfolio of previous commissions in this field of work evidenced by relevant samples
5. Detailed costings for carrying out the study, including allowances for consultant project risks.

Resources

The resources outlined below will assist consultants and should be referred to, available from DVLPS.

- Kent Downs AONB management plan 2009 - 2014
- The Kent Downs AONB Landscape Design Handbook (with particular reference to section 3 – Landscape Character Area Design Guidance)
- Landscape Character Assessment of Kent 2004
- Medway Landscape Character Assessment (Draft)
- DEFRA Hedgerow Survey Handbook

Requirements

Consultants will be prepared to submit the following to DVLPS:

1. A written report species selected based on what is found in the area etc on the findings from the hedgerow survey and specifications for improvements with accompanying photos and maps. A draft report is to be provided to DVLPS for comment before final report is produced
2. A map in shape file format for use with Esri ArcView showing location of all hedgerows for whole area and parish. Provide two copies on separate CDs

3. Two copies of all photographs taken to be provided on separate CDs
4. Full copyright on all reports produced and photos taken
5. Computerised draft copy of final report on date agreed with DVLPS
6. An electronic version (PDF) of final report
7. Five hard colour copies of final submission with agreed format

Management Information

The successful Consultant should be able to produce such management information as the council may require from time to time. As a minimum DVLPS requires the following management information:

- Start-up meeting
- Meeting after completion of desktop study to discuss plan for surveying
- Fortnightly email to update on progress
- Monthly meeting to discuss progress and any issues
- End meeting including presentation of final report to DVLPS and others

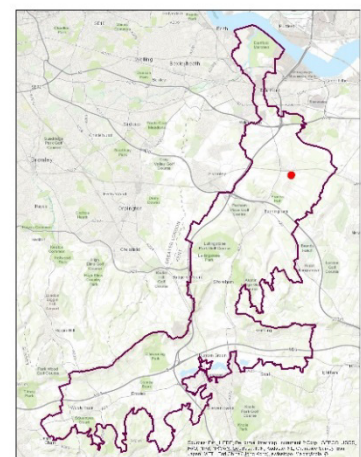
5A.1 ADVENTURE LEARNING FOR ALL AT WIDE HORIZONS



PROJECT AIM

This project will engage, inspire and educate disadvantaged children and young people from London about the landscape and natural environments of the Darent Valley. Through Adventure Learning, it aims to address the disconnect between children and their environment and ensure that a new young generation has a genuine bond with the landscape of the Darent Valley.

Wide Horizons will provide inspirational outdoor learning and adventure experiences linked to the natural and cultural heritage of Darent Valley. These sessions will connect children and young people with their local nature, inspire them to learn, and improve their social and personal skills.



DELIVERY LEAD

Wide Horizons - Hannah Moir, Adventure Learning Manager [REDACTED]

LOCATION OF PROJECT

Located a stone's throw from the River Darent is the Wide Horizons Horton Kirby Centre. This will be the base for Adventure Learning but activities will be delivered throughout the Darent Valley. With access to farmland, woods, Lullingstone Country Park, the Farningham Woods nature reserve and the River Darent the centre is able to facilitate wonderful opportunities for learning and discovery. Through the DVLPS, Wide Horizons will build new partnerships and opportunities to visit a wider range of sites in the valley.

Wide Horizons have recently acquired a new ten-year lease for the land that is adjacent to its Horton Kirby centre which permits full access to the grounds. This will run until 2025 and their intention is to renew it in advance of this. All other spaces that are accessed throughout the Darent Valley are open to the public.

AUDIENCE

The project will engage with disadvantaged children (ages 3 to 11) by pre-dominantly working with schools from across the London Boroughs of Lewisham and Greenwich. The aim of Wide Horizons is to make adventure accessible to all children, particularly those from deprived or disadvantaged communities who usually would not be able to afford to go away on educational or day trips.



PROJECT DESCRIPTION

Today, children and young people are less connected with the natural environment that surround them than ever before. Research and personal experience shows that generations of our children are growing up without hands on real and meaningful experiences of their natural environment:

- More than one in nine children in England have not set foot in a park, forest, beach or any other natural environment for at least 12 months (Natural England, 2016);

- Only 8% of children (aged 6-15) in England visited the natural environment with their schools in an average month (Cambridge Primary Review Trust, 2015);
- Children from low-income families (65%) are markedly less likely than those from higher income families (77%) to frequently visit urban or rural wild places (Natural England, 2016);
- Children from London are less likely to take visits to natural environments than children in most other regions in England (Natural England, 2016).

There are several barriers that children face that limits their opportunity to access green spaces. Teachers often rely on technology and computer generated images to explore areas of the curriculum. Parents and carers often cite a perception of danger as a reason to not allow children to explore natural areas. This creates a significant risk that the natural and cultural heritage of the Darent Valley could be lost and forgotten by future generations.

This project aims to address this by creating opportunities for 8,000 visits for children each project year. It will target disadvantaged children who have limited opportunities to access beautiful landscapes such as the Darent Valley. It will offer a range of fun and adventurous opportunities for children to enjoy, improve their understanding of nature and how it is impacted by the actions of people. For example, children will be able to immerse themselves in activities such as habitat learning, open air laboratories, wildlife sessions, river dipping, archaeological digging and cave painting with natural materials.

Adventure Learning activities will be delivered in the heart of Darent Valley and aim to educate and inspire children about the landscape's natural and cultural heritage. Wide Horizons' expert team will thread curriculum focused on local heritage into adventurous experiences to enthuse learners, bringing subjects to life. For example, they will develop activities that explore the biodiversity of the landscape and study the work of local artist Samuel Palmer.

To achieve this, Wide Horizons will carry out the following:

CLASSROOM REFURBISHMENT (YEAR 1 – Q1 / Q2)

Wide Horizons will create a more enriching and inspiring learning environment for children by refurbishing and redecorating the classrooms. The improved area will be a space for children to reflect and further their learning about the Darent Valley. They will create picture and information boards to be displayed around the classroom that will showcase children's Darent Valley adventures.

Specifically, the small classroom and resource preparation area will be redecorated. Wide Horizons will explore opportunities to work with local artists and heritage groups through its role on the DVLPS Partnership Board to support the local and landscape flavour of the refurbishment. New flooring will be installed and a stud wall removed to increase the size of the smaller classroom which would make the space suitable and fully accessible for children who use a wheelchair.



Theme 5. Darent Valley Learning and Future Skills

PROJECT 5A: LANDSCAPE ADVENTURE LEARNING FOR ALL

LAND DEVELOPMENT (YEAR 1 – Q1 OR Q2)

Transformation of the unused space adjacent to Wide Horizon's Horton Kirby centre to create an exciting accessible space that encompasses the biodiversity of the Darent Valley. It will include interactive features such as minibeast hotels, a bird hide, a stone-age dig site, allotment beds, and a raised pond area.

This space will be utilised to deliver Adventure Learning sessions using the different features to increase children's learning and awareness of the Darent Valley. Furthermore, the area will be fully accessible which will allow disabled children and those with poor mobility opportunity to fully participate with Adventure Learning.

Wide Horizons will work with the North West Kent Countryside Partnership to recruit local conservation volunteers who will support the development, conservation and maintenance of the improved land. One-off and longer-term activities will be provided for the volunteers to get involved in. Volunteers supporting the project will provide greater opportunity to learn, explore and value the Darent Valley landscape and its heritage.

BURSARY FUND (OFFERED THROUGHOUT THE LIFE OF PROJECT)



To encourage and provide opportunities to the most disadvantaged children who may have never had an opportunity to access and learn about landscapes such as the Darent Valley. The bursary fund would assist schools from disadvantaged and deprived areas with transport and other related costs to access the Darent Valley through Adventure Learning.

The fund would be made available to schools with a high free school meals (FSM) uptake to increase opportunities for children from low-income families. This will create new opportunities for inner-city children who have limited contact with the nature and will hopefully inspire them to value and protect the natural environments that surround them.

STAFF AND VOLUNTEER TRAINING (OFFERED THROUGHOUT THE LIFE OF PROJECT)

Wide Horizons will provide learning, development and training opportunities to both their staff and volunteers to enable them to be suitably knowledgeable and skilled to effectively support the project during the life of the grant and beyond.

They will work with staff and volunteers to identify their development needs and, where appropriate, encourage individuals to work towards gaining a qualification or accreditation. This may include training opportunities to develop skills around conservation management, Forest School, project management or horticulture.



DELIVERING AS A PARTNERSHIP

Wide Horizons will utilise the relationships they have with schools in South London to raise awareness of the project and offer them a bespoke adventure learning programme to enable children to enjoy, appreciate and engage with the landscape.

They will also seek to work alongside project partners, in particular heritage organisations to develop heritage focused Adventure Learning activities. By combining their skills and expertise they will aim to provide adventurous experiences that are not only fun and exciting but inspire children to learn and engage with the natural and cultural heritage of the Darent Valley. The key aim is to develop adventure learning activities that will explore the fauna and flora that populates the Darent Valley as well as studying the paintings produced by Samuel Palmer.

PERMISSIONS

A long-term lease has recently been acquired for land that is adjacent to Wide Horizon's Horton Kirby centre. The landowner has granted permission to allow the re-development of the land so long as all appropriate planning permissions are sought in accordance to any plans for the area. It is not envisaged that planned development of the land will warrant applying for planning permission.

PUBLIC BENEFIT

Through the planned activities there will be a wide range of public benefit, particularly to the local community:

- The planned land development at Horton Kirby will enhance the biodiversity of the site and create a new space for children to examine and learn about the habitats and species that exist in the Darent Valley.

- As a result of improving the appearance of the land there will be more opportunities created for local people to visit, use, get involved with, and enjoy heritage. By offering access to residents and community groups such as the Scouts the expectation is that they report that they feel greater pride in the local area.
- The project will create more opportunities for children to learn about the natural and cultural heritage of Darent Valley.
- The project seeks to engage a new wider audience from targeting disadvantaged children from South London. It will provide them with new opportunities to learn about the landscape and engage with its heritage for the very first time.
- By engaging a new younger audience and inspiring them to learn about the heritage of the area they will develop a deeper connection with the Darent Valley. This is expected to lead to young people becoming activists that will seek to conserve and protect the area for the future.
- Wide Horizons will create new partnerships with heritage organisations that they will work alongside to develop and enhance the adventure learning opportunities provided. These partnerships will last beyond the life of the project as they seek to adapt and develop new Adventure Learning activities that inspire children to learn and engage with local heritage.

PROJECT IMPACT AFTER 5 YEARS

It is anticipated that at the end of the project's five years, opportunities will have been created for 40,000 visits for children to learn and enjoy heritage of the Darent Valley. Through offering high quality adventure learning experiences these children will have developed a long-lasting connection with the Darent Valley and, more generally the natural environments that surround their daily lives.

This connection will contribute to creating a more engaged generation of young people that will appreciate the significance of the Darent Valley's heritage and seek to ensure its long-term protection. This could be through becoming actively involved in the conservation of the region or communicating its importance and sharing their experiences with friends, family, teachers and others.

Through the Adventure Family Days that will be provided during the project, Wide Horizons will provide parents with the confidence to engage more with the environment and create their own outdoor adventures with their children. This is expected to last beyond the end of the project and lead to a life-habit for families with them continuing their interaction with outdoor spaces and local natural environments.

Using their expertise and experience of Adventure Learning Wide Horizons will support and encourage visiting teachers to be more creative in their teaching when they return to the school environment. Particular attention will be given as to how schools can best utilise local green spaces to facilitate teaching in spaces outside the school. The aim is to provide teachers with the tools and resources that will enable them to provide further opportunities for children to engage with heritage.

A unique range of Continuous Professional Development (CPD) courses is also offered to provide teachers and educators with the necessary skills and knowledge to teach outside the classroom and embed Adventure Learning within their schools. Each course costs £100 per participant and will be provided through the Future Skills project (5E).

SITE MAP



OUTPUTS AND OUTCOMES

Activity	Outputs	Outcomes
Re-development of land adjacent to Horton Kirby centre	<ul style="list-style-type: none"> • A new accessible outdoor teaching space to include: minibeast hotels, a bird hide, allotment beds, and a raised pond area (approx. 2,000m²). • 150 adventure learning sessions delivered on re-developed land each year. 	<ul style="list-style-type: none"> • Improved biodiversity of the land. • Improved access to natural environments in Darent Valley leading to enhanced learning. • Wider range of children will have engaged with the Darent Valley.
Classroom refurbishment	<ul style="list-style-type: none"> • Newly re-decorated classrooms and resource preparation area. 	<ul style="list-style-type: none"> • Improved facilities and more enriching environment to learn. • More children will have engaged with and learned about the Darent Valley's heritage.
Adventure Learning delivered to disadvantaged children from inner London	<ul style="list-style-type: none"> • 8,000 child visits (3 to 11) to the Darent Valley each year. • 67 primary schools from London visit Darent Valley each year. • 300 adventure learning sessions delivered in the Darent Valley. • 20% of children who visit will be from low-income families each year (in receipt of free school meals). 	<ul style="list-style-type: none"> • Children will have improved personal and social skills. • More children will have engaged with and learned about the Darent Valley's heritage. • Children will have greater awareness and skills of how to care for natural environments. • Wider range of children will have engaged with the Darent Valley.
Staff and volunteer training	<ul style="list-style-type: none"> • 3 Wide Horizons staff participate in training. • Recruit and train 10 volunteers. • 1,000 volunteer hours provided. 	<ul style="list-style-type: none"> • Staff and volunteers know more about the natural environment. • Staff and volunteers have increased skills to care for the natural environment. • Staff and volunteers have increased skills and confidence to help others to learn.

PROJECT RISKS

Risk	How likely	Severity	Consequence	Action required
Landowner decides to sell the land	Low	Medium	Could prevent delivery of Adventure Learning activities; would need to find alternative locations risking delay to project.	Lease agreement recently signed. Landowner must provide 6 months' notice of their intention to end the agreement.
Trespass or vandalism of the newly developed land	Medium	Medium	Damage caused could prevent some delivery of Adventure Learning activities.	Ensure adequate secure fencing and signs are installed. Regular site check for damage and litter (e.g. broken glass etc.)

TRAINING REQUIRED

Forest School Level 3 Training- this certified programme will be delivered in-house

MAINTAINING A LEGACY

Wide Horizon's aim is to ensure that the activities offered throughout the life of our project will continue to have long-lasting benefits for the children and young people, staff and volunteers involved. The project's legacy will be maintained through the following:

- Continue delivering these Adventure Learning activities for children and young people from London, providing further opportunities to experience and learn about the Darent Valley by assimilating the approach into our work. It is intended that this will be funded through Wide Horizon's successful fundraising programme.
- Continue to work with schools in deprived areas to create more opportunities for disadvantaged children, where possible subsidising the cost to ensure that it remains affordable to those who come from low-income families. This will ensure that a wide range of people continue to access the Darent Valley once the project finishes.
- The land that will be redeveloped to include a range of new habitats will be carefully maintained to ensure children can enjoy and explore the area beyond the life of the project.
- The intention is to sustain volunteer involvement by working with new partners from the DVLP by offering opportunities to be involved with the ongoing maintenance and conservation of the newly developed land.
- Classrooms will remain in active use by future visiting groups of children, making use of the space to further their learning about the natural environments of the Darent Valley.

- Develop and maintain partnerships with heritage organisations who are involved with the project to develop new heritage focused Adventure Learning sessions. Additionally, Wide Horizons plans to create new project proposals and seek funding (from HLF and others) that will provide more opportunities for children and young people to further engage with a range of different heritage.



PROJECT LINKS

- 1C Inspiring Palmer Landscapes
- 3A Heart of the Valley – The Darent Valley Path
- 3B Gateways to the Valley
- 3C Telling the Darent’s Story
- 5D Future Skills
- 5F Engaging New Audiences

Theme 5. Darent Valley Learning and Future Skills

PROJECT 5A: LANDSCAPE ADVENTURE LEARNING FOR ALL

PROJECT TIMETABLE

Activity	Year 1			Year 2			Year 3			Year 4			Year 5												
	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	
Classroom refurbishment																									
Development of newly acquired land as educational resource																									
Staff and volunteer training																									
Bursary Fund																									

Theme 5. Darent Valley Learning and Future Skills

PROJECT 5A: LANDSCAPE ADVENTURE LEARNING FOR ALL

5A.2 DESIGNING NATURE AT SEVENOAKS WILDLIFE RESERVE



View from hide at Sevenoaks Wildlife Reserve

PROJECT AIM

To enhance the knowledge and understanding of local communities about the wildlife on their doorstep and to promote awareness of biological diversity through a participatory design process for an accessible and iconic interpretation, observation and discovery structure. This structure will be designed by both disabled and non-disabled young people working with conservationists, architects and designers and will form the basis for a build project that will delivered as a separate element outside of DVLPs.

DELIVERY LEAD

Kent Wildlife Trust; Tyland Barn, Chatham Rd, Maidstone ME14 3BD
Stevie Rice - Head of People Engagement;

[REDACTED]

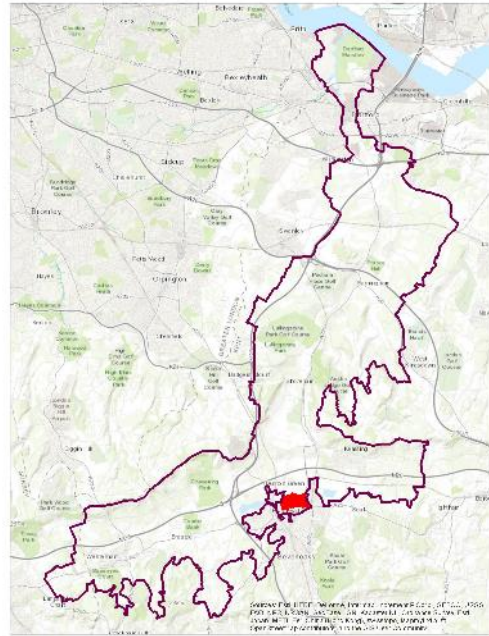
LAND OWNERSHIP

Kent Wildlife Trust is the long term (99yr) leaseholder of the site from Tarmac.

AUDIENCE

The anticipated audience for this project is significant. The design and development phase of the project will have an audience of a large number of visitors from across Kent and from South East London, as well as the direct involvement of students, visitors, schoolchildren and communities from nearby Sevenoaks. These include:

- 8,700 visitors to the Jeffery Harrison Visitor Centre during the exhibition in June, July, August and September 2018 (based on 2016 figures).
- 3,500 visitors to the Jeffery Harrison Visitor Centre during the Festival of Wildlife.
- 90 young people in 3/4 schools with the expectation that approx. 30 of these will be young people with disabilities.
- 6 architecture students.
- 3 teachers plus additional support staff.
- 120 people attending the celebration event.



The beneficiaries of the final output of this project i.e. the final structure will be the 48,000+ visitors to the reserve per annum. It is anticipated that the final structure will have a lifetime of 20 years and so the numbers of people benefiting from this public amenity is likely to be significant. The proposed school partners will be:

- Grange Park School, Wrotham, Kent - a specialist provision for children and young people with an Autism Spectrum Condition.
- Knole Academy, Sevenoaks – a secondary school that opened in 2010, and who will be working with:
- Valence School, Westerham - a Kent County Council all age residential and day school for children and young people with physical disabilities, complex medical needs and associated learning and communication difficulties.
- The New School at West Heath - Specialist Independent School catering for a diverse range of needs for boys and girls age 11-19, many of whom have emotional and social communication difficulties

HERITAGE VALUE

The Sevenoaks Wildlife Reserve falls within the Upper Darent Valley East Landscape Character Area. The site is a group of lakes formed by the flooding of the former gravel workings and fed by the River Darent. It is designated a SSSI mainly for its breeding bird populations and is assessed by Natural England as being in 'favourable' condition. Extensive landscaping to create shallows, spits and islands,

and the planting of trees and aquatic plants have provided conditions suitable for both breeding and wintering birds.

The most numerous breeding species are Canada and greylag geese, mallard and tufted duck. Many other water birds breed including great-crested grebe, kingfisher, moorhen and coot. Wintering and passage wildfowl include pochard, shelduck, teal and shoveler, and passage waders are also attracted including greenshank and green sandpiper. The uncommon little ringed plover is a regular breeding species here.

The woodland and reed beds support a typical range of song birds including whitethroat, reed, and sedge warblers. There is also a large rookery, and a sand martin colony in a sand face in the south of the site. Sand martins have undergone a major fluctuation in population levels in recent years and this face supports one of the few significant colonies in West Kent.

The botanical and entomological interest of the site is also known to be developing. Thirteen species of Odonata (dragonflies) are present including the locally-distributed downy-emerald dragonfly *Cordulia aenea*. Plants of note include small cud-weed *Filago minima*, dwarf elder *Sambucus ebulus*, and slender bird's-foot trefoil *Lotus angustissimus*.



ISSUES AND THREATS

This project will address the growing concern of young people's disconnect from the natural world. Recent research reveals that children now spend more than five hours in front of a screen each day, and the increasingly sedentary nature of modern life has paralleled a rise in both childhood obesity and mental health problems.

There is much evidence to show that practical outdoor learning provides numerous health and well-being benefits, and with a recent RSPB report finding that four out of five children are not connected with nature, there has never been a greater need for practical, outdoor work of this kind. Coupled

with this there are precious few opportunities for disabled young people to access nature and the environment in ways that cater for their specific access requirements. Disabled young people are at a considerably increased risk of experiencing a disconnection from nature and all its benefits, particularly with regard to wellbeing.

KWT's 'Designing Nature' project aims to re-connect young people with outdoor spaces, bringing them to life through exciting design workshops, in which students will have creative freedom to explore how people observe and experience the natural world.

By placing students at the heart of the design process, the project will give young people a sense of ownership over the project and a greater affinity with their local wildlife reserve. It is hoped that the programme will continue to inspire young minds long after the home time bell, encouraging individuals to pass on what they have learnt to family and friends, encouraging greater awareness, and enjoyment of wild spaces.

This project will also tackle practical needs at the site. At present limited education space and wet weather provision at the reserve, inhibits the delivery of educational activities, limiting the number of students able to visit at one time and leading to cancellations in poor weather. This project will ultimately result in the provision of increased educational facilities at the site, as well as providing a unique learning and observational resource for general visitors, thereby increasing intellectual access to the site.

Similarly, some of the older bird hides at the reserve are no longer operational and are closed for health and safety reasons. Phase three of the full project will provide a unique and informative space for the thousands of individuals who visit the site each year and will further enhance access and educational opportunities for disabled visitors and young people into the future.

PROJECT DESCRIPTION

Designing Nature will focus on developing a partnership to design an educational and observational structure in partnership with potential future users both with and without specialist educational needs. It will utilise new technologies and new methodologies to raise awareness of the importance of biological diversity and the wider landscape and enhance young disabled and non-disabled people's understanding of environmental and conservation issues. The project will further enhance access for young people on our Kingfisher trail following support from Ibstock Cory Environmental Trust to create family friendly interpretation.

It will engage local young people in visits to Sevenoaks Wildlife Reserve during which it will introduce them to the wildlife important to the site, the wider Darent Valley landscape and the ways in which Kent Wildlife Trust is enhancing the biological diversity of the reserve and undertaking habitat management to reintroduce certain species and enhance the populations of others. Students will encounter a range of habitats, including reedbed and woodland, as well as a host of colourful flora and fauna, and particularly bird species, from little ringed plover and great crested grebe, to woodpeckers and warblers, at a site supporting well over 2000 species. It will then introduce students to ways in which an interest can be encouraged and inspired in the public about the natural world and their relationship with the Darent Valley landscape.

Kent Wildlife Trust will then work with local young disabled and non-disabled people and our partners in a series of nine charrettes (the word charrette may refer to any collaborative session in which a group of designers drafts a solution to a design problem) to create a new space or spaces from which

visitors to Sevenoaks Wildlife Reserve can enhance their understanding and knowledge of ecology and landscape. The project will utilise architectural design principles as an educational tool. The children and young people will need to learn more about bird movement patterns and migration routes and habitats, to design a structure that is best placed and best suited to observe and learn about different birds and wildlife. The Norwegian architects, Biotope, will use aerial technology (a quadrocopter drone) to better understand the landscape and habitats and movement of birds. This technology will provide a useful and engaging tool for young people, enhancing their understanding and enabling them to create their own inspirational models of bird hides based on informed knowledge.

It is envisaged that the development of a series of inspiring charrettes within local schools that enable the children to think about wildlife, their habitats and the natural world. These will be led by Design South East, conservation educationists from Kent Wildlife Trust with small groups being facilitated by architecture students from the University for the Creative Arts. These charrettes will include field trips to the Sevenoaks Wildlife Reserve to explore the site. The young people will provide a series of visual briefings to professional architects who develop the concepts that they then pitch to the young people. In this way, the young people become both the stakeholder group and the client and retain ownership of the project. As part of the evaluation process, these charrettes will be recorded and filmed (permissions allowing) to demonstrate best practice.

Young people will be encouraged to work on design concepts for a new and accessible space which they will then build into models. They will be engaged in the innovative design and build of small scale bird boxes that can be sited on Sevenoaks Wildlife Reserve.

The project will raise awareness amongst student and professional architects and agencies about wildlife which Kent Wildlife Trust hopes will inform their design concepts in the future.

Whilst Designing Nature focuses on the design and participation element of the project, it provides the basis for attracting funding from the Ibstock Cory Environmental Trust for the building phase. It is anticipated that this will be completed by 2022, when an iconic structure will be in place, designed and conceived by disabled and non-disabled young people that will support their greater appreciation of the natural world. This structure will serve to provide an accessible means of engaging disabled people and the wider community in the work of Kent Wildlife Trust. It will play a key role in developing a more accessible and higher quality visitor infrastructure on the reserve in tandem with our plans for a new Nature and Wellbeing Centre at the site. More children and young people, more families and more disabled people will be visiting the site and using the facilities.

PROJECT PARTNERS

Kent Wildlife Trust: the leading conservation charity in Kent and Medway, established in 1958 and part of the national movement of Wildlife Trusts.

Design South East - the region's leading source of built environment design support for local authorities, the development sector and communities.

University for the Creative Arts - a specialist university with over 150 years of experience in supporting and developing creative arts students (including architecture).

Biotope - Norway's first and only architectural office with special expertise on birds and bird watching utilising architecture as a tool to protect and promote birds, wildlife and nature.

OUTPUTS AND OUTCOMES

Activity	Outputs	Outcomes
Planning of programme with project partners	<ul style="list-style-type: none"> • 1 full day meeting with project partners from Biotope, Design SE, University for the Creative Arts and teachers from schools partners where possible. 	<ul style="list-style-type: none"> • Informed and well-designed programme of delivery in place to support the process of engaging local disabled and non-disabled children and young people.
Delivery of design process for a new hide structure	<ul style="list-style-type: none"> • 4 schools engaged in educational activities and design. • 90 young people involved in educational activities and design. • 9 charrettes/workshops provided. • 3 field trips to Sevenoaks Wildlife Reserve. 	<ul style="list-style-type: none"> • Enhanced capacity to engage schools at Sevenoaks Wildlife Reserve. • Plan for enhanced facilities for disabled visitors and for people with pushchairs. • Enhanced knowledge of the environment and biodiversity amongst local disabled and non-disabled young people. • Enhanced knowledge of the environment and biodiversity amongst our partners. • Increased ownership of local children and young people of a local heritage site. • Increased connection amongst disabled and non-disabled young people to their local environment and landscape.
Delivery of an exhibition of designs and concepts by children and young people engaged in the project	<ul style="list-style-type: none"> • 1 exhibition held. • 4 schools participate in the exhibition. • 8700 people see exhibition within the centre. 	<ul style="list-style-type: none"> • Local young people are able to celebrate their engagement with the project.

EVALUATION

- Monitoring of quality of workshops through questionnaires/appropriate methods for the participants (young people, teachers and partners).
- Monitoring number of young people engaged with project, number of schools, number of charrettes.
- Monitoring of knowledge and skills of participants about the environment and biodiversity.
- Monitoring of sense of connection with nature and landscape amongst participants.
- Monitoring engagement and skills development amongst partners.
- Monitoring of number of visitors to the exhibition.
- Photos, designs and imagery from exhibition.
- Collection of comments from both public and participants.

PROJECT COSTS

PROJECT RISKS

Risk	How likely	Severity	Consequence	Action required
Project partners engaged in other delivery as it is some time since this concept was conceived.	High	Medium	Should previous schools not be able to commit to this project, KWT will engage new schools and/or local youth groups. They are confident that there will be a level of interest amongst schools or youth groups. The key concern amongst partner interest is likely to be Biotope having alternative commitments. Should this happen, it is believed that there is enough resource with the other project partners to deliver.	Contact all of our key partners in advance of the project to reignite their enthusiasm for the project.
Maintaining buy in from schools over a prolonged period. Demand on teachers' time is high, priorities change and staff leave.	Medium	Medium	The continuity of engagement with young people could be compromised if schools pull out.	KWT will endeavour to engage teachers early on in the process and invite them to be a part of the planning and design of the project to secure buy in. The programme will be a quality design which hopes to maintain interest levels. The notion of a signed agreement will be discussed.
Project goes over budget and over schedule.	Low	Medium	Funding reporting schedule is delayed. The project may lose engagement with schools as their term times may not match our overrun.	KWT employs a dedicated Head of Bid Development and Project Administration to ensure that project milestones are met on the ground and financially.
Project partners engaged in other delivery as it is some time since this concept was conceived.	High	Medium	Should previous schools not be able to commit to this project, KWT will engage new schools and/or local youth groups. They are confident that there will be a level of interest amongst schools or youth groups. The key concern amongst partner interest is likely to be Biotope having alternative commitments. Should this happen, it is believed that there is enough resource with the other project partners to deliver.	Contact all of our key partners in advance of the project to reignite their enthusiasm for the project.
Maintaining buy in from schools over a prolonged period. Demand on teachers' time is high, priorities change and staff leave.	Medium	Medium	The continuity of engagement with young people could be compromised if schools pull out.	KWT will endeavour to engage teachers early on in the process and invite them to be a part of the planning and design of the project to secure buy-in. The programme will be a quality design which hopes to maintain interest levels. The notion of a signed agreement will be discussed.
Project goes over budget and over schedule.	Low	Medium	Funding reporting schedule is delayed. The project may lose engagement with schools as their term times may not match our overrun.	KWT employs a dedicated Head of Bid Development and Project Administration to ensure that project milestones are met on the ground and financially.

TRAINING REQUIRED

Staff and volunteers to receive Disability Equality Training to ensure that they have the right approach towards engaging young disabled people. This will be provided through the Future Skills project (5E).

MAINTAINING A LEGACY

Kent Wildlife Trust has ambitious plans in place to undertake a major redevelopment of the Sevenoaks Visitor Centre. A vision of a new Nature and Wellbeing Centre has been drawn up and approved by Trustees and an Expression of Interest to Heritage Lottery Fund has been submitted. This proposal dovetails with our ambition to rejuvenate the entire site and to engage new audiences in understanding the value of connections with nature. This proposal will provide high quality engagement opportunities with disabled and non-disabled young people, bringing them into the heart of the redevelopments and providing an accessible and iconic space in which to experience nature from. This forms part of a wider plan for enhancing access across the site ensuring that disabled people have better access to our reserve for many years to come.

LINKS TO OTHER PROJECTS

1D Restoring Landscape and Vision – The project represents an opportunity to integrate the interpretation of landscape and design elements with project 1D.

3A Heart of the Valley – The Darent Valley Path – The Sevenoaks Wildlife Reserve is located immediately adjacent to the Darent Valley and provides an opportunity to raise the profile of the reserve and publicise and explain its importance to an additional audience.

3B Gateways to the Valley – Sevenoaks Wildlife Reserve is a key landscape gateway and the work within this project will be closely integrated to the access and habitat improvements being undertaken in 3B.

3C Telling the Darent's Story - This project will contribute to the overall communication of landscape importance and significance in the valley, but using a medium and techniques that engage with audiences that often miss out.

3D Reducing the Pressure – Sevenoaks Wildlife Reserve has the potential to play a significant role in spreading the load of visitors to the valley. The work being undertaken within both 3B and 5A will increase the capacity of the reserve to accept increases in visitor numbers sustainably.

5D Future Skills – Whilst not delivered directly through courses, the engaging nature of this project will provide young people with the skills to have a direct input to the design process and develop an understanding of the importance of landscape and biodiversity.

5F Engaging New Audiences – By focusing on young people and also those with specialist educational needs it is providing an important opportunity for them to have an input to the scheme and the future management at the reserve.

5A.3 THE ENCHANTED WOODLAND

PROJECT AIM

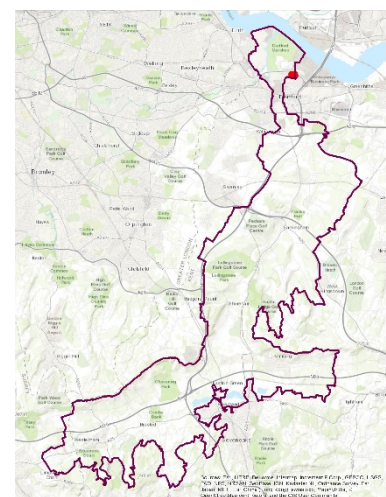
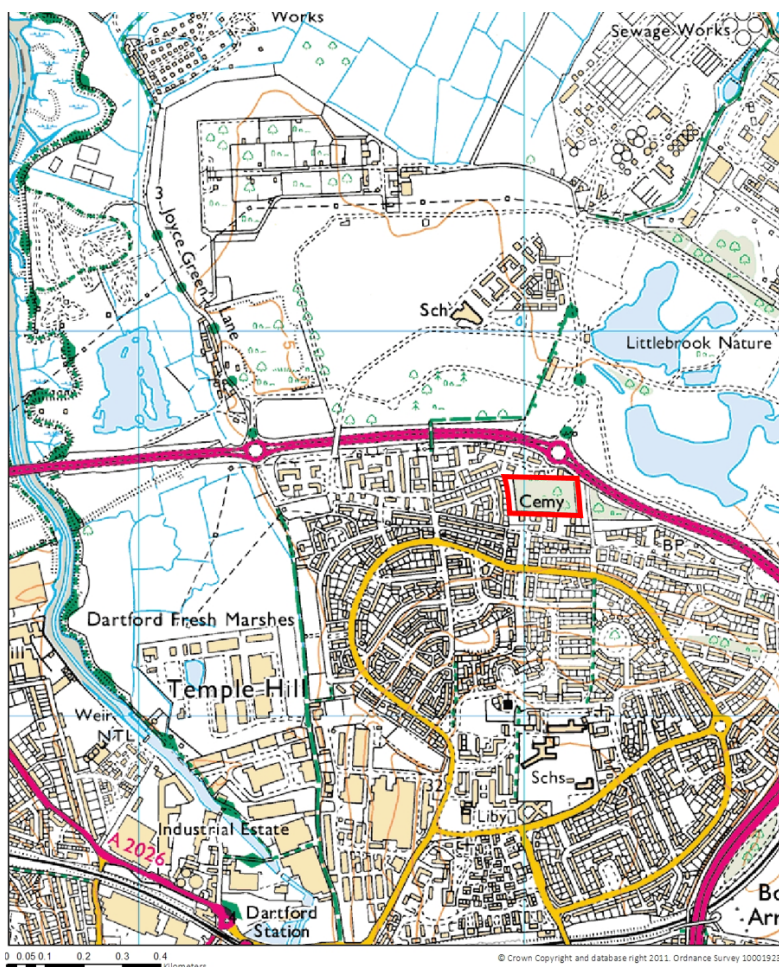
To support a community and primary school led project create and develop a forest school location and enhance a community greenspace for the Temple Hill community to enjoy and care for. The rich and unusual heritage of the Enchanted Woodland and its links to Joyce Green Hospital and the Dartford Marshes will be revealed and communicated to visitors.

DELIVERY LEAD

The DVLPS Delivery Team will lead the project working in partnership with the Temple Hill Primary Academy: Contact – Louise Neaves (Outdoor Learning Leader),



LAND OWNERSHIP



The Enchanted Woodland is situated within the Temple Hill area of northern Dartford between, Marsh Road, Cornwall Road (DA1 5QG) and Barnwell Road. Land ownership is currently in the process of being transferred from the Temple Hill Trust to Temple Hill Primary School.

AUDIENCE

The main audience is school children from Temple Hill Primary Academy and also from its partner school; Oakfield Community Primary School. Temple Hill Primary Academy serves an area rated amongst the 1% most deprived in the country. Over 23% of pupils are registered for free school meals, and 29% of the pupil's first language isn't English. The Enchanted Woodland also provides an important community greenspace for local residents in an area where little exists.

HERITAGE VALUE

SITE HISTORY

The Enchanted Woodland is the site for the cemetery for the old Joyce Green Hospital that was built on Dartford Marshes in 1901 (along with Orchard and Long Reach hospitals) to care for people with infectious diseases. It along with others is recognised as one of the lost hospitals of London.

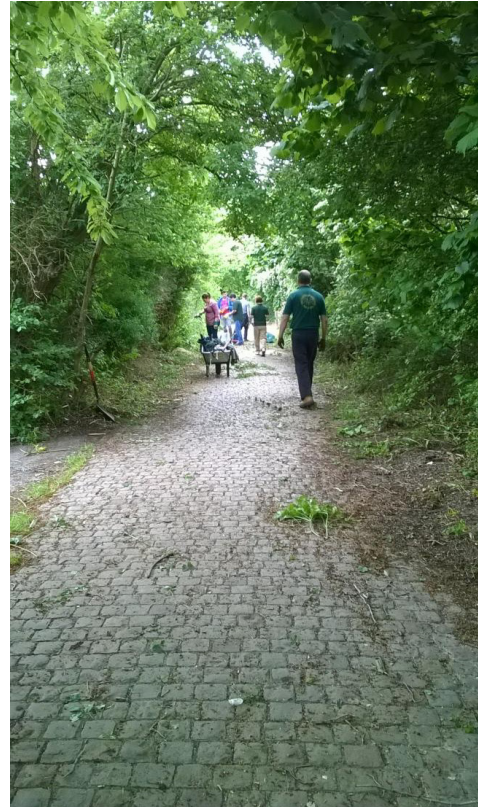
People with small pox were shipped down by barge along the Thames from London and transported along the Joyce Green tramway (now part of a national cycle route) to the hospitals. These hospitals replaced the Ambulance Ships which had been used to care for small pox patients, closing in 1902. Although many burials took place in its grounds up until 1951, over 80% of the burials occurred in just one year in 1902. This was the year that saw London and surrounding areas devastated by a severe small pox epidemic.



Aerial view of Joyce Green Hospital with the cemetery in the bottom-right corner (Dartford Hospital Histories)

Small pox began to decline at the turn of the 20th century so there was no longer a need for three hospitals to treat the disease, so the decision was taken to leave the Long Reach and Orchard hospitals as they were and convert Joyce Green into an infectious disease hospital treating all other infectious cases. Diphtheria and scarlet fever patients were admitted from 1907, and later measles and whooping-cough patients. The hospitals were used as general hospitals to care for military and civilians during WWI and WW2.

Joyce Green Hospital was closed in 2000 and the grounds fenced off and the cemetery became a forgotten area and dumping ground for fly-tipping until the 1990s. Other than just one remaining gravestone of Ethel Chapman, the only other signs that this area was a burial ground - 1039 bodies in just 292 graves - are the yew trees which are traditionally planted in churchyards and cemeteries. The site where Joyce Green Hospital once stood is now part of the Bridge Community; 1500 homes, leisure and community spaces, business accommodation and a learning community campus which incorporates The Bridge Primary School.



The 1902 cobbled trackway that links the cemetery to Joyce Green Hospital (Temple Hill Primary Academy)

SITE FEATURES

Most of the plants and trees found at the site have developed naturally since the early 1950s when use of the area by the Joyce Green Hospital ended. The site is predominantly woodland made up of hawthorn, alder, ash, limes, horse chestnuts and yew trees and is a haven for many species of birds, wildlife and wild flowers.

There are five access points; two of which have anti-motor cycle barriers. There are informal paths around the site and an amphitheatre and cut up logs to provide seating. There is a large lockable container used to house maintenance equipment for the volunteers who look after the site.



SITE MANAGEMENT

The 3.5 acre site has been owned and managed by the Temple Hill Trust since 2009; a charity managed by a group of dedicated volunteers and trustees that serves the 4,000 plus households of the Temple Hill Estate. Since 1996, it has provided events, training courses, run a young persons' Caribbean Steel Band and set up the Working Lunch. The Enchanted Woodland has been one of the Trust's main projects.

Funding from various sources has helped the Temple Hill Trust to secure, improve and transform this once neglected area into a community asset for Temple Hill residents. The site is now in transition of ownership to Temple Hill Primary Academy who expressed an interest in 2015 to take over the site to use it for their school's forest school area.

ISSUES AND THREATS

The site continues to suffer from occasional vandalism (mainly graffiti, litter, small fires) but nowhere near to the extent to which it once suffered. The site is accessible to the public at all times so there is a potential risk from anti-social behaviour.



The extensive and intriguing history of the site as the cemetery to the former Joyce Green Hospital is currently little known and poorly understood with only one grave visible and predominantly covered by undergrowth. There is risk of the site becoming overgrown and paths and widened areas disappearing if site maintenance is not undertaken. Ground flora would also be susceptible to reducing if areas are not maintained so natural light can reach the ground.

The aim is to make the woodland a large and important part of the community, through the school, and hopefully foster a caring approach to it by locals, which should lead to it being respected more.

PROJECT DESCRIPTION

This project will deliver in six key areas:

1. DEVELOPMENT OF A FOREST SCHOOL AT THE ENCHANTED WOODLAND

The School's main aspiration for the Enchanted Woodland site is for it to be used as their main area to deliver forest school sessions. Both improvements to the site and the provision of materials will enable not only forest school but other outdoor sessions to be led at the site, providing children with an immersive outdoor experience.

- Provision of seating areas around the site created from log stumps;
- Materials/equipment to deliver sessions such as magnifying glasses, binoculars, a large portable fire pit, wildlife identification charts;
- Training provision – forest school training for other staff.



2. ENHANCING THE OUTDOOR LEARNING AREA AT THE SITE'S EXISTING AMPHITHEATRE

The site has an existing amphitheatre but requires improvement to make it into a suitable and useable resource for forest school sessions, community events and visitors to sit and enjoy the surrounding woodland area. New rustic seating will be installed along with robust log benches to extend the seating and teaching area.



Amphitheatre and teaching area

3. RAISING AWARENESS OF THE SITE'S HERITAGE LINK TO LONDON'S LOST HOSPITALS

The site has an interesting history being the site of the cemetery to the former Joyce Green Hospital which treated people with infectious diseases, mainly small pox. Awareness about the site's heritage

is likely to be limited, but work by the Temple Hill Trust to enhance the site's presence has seen appreciation of the site amongst local residents increase. However, the site's past remains poorly communicated, and predominantly hidden and unknown.

Audio points identified by a small waymarker size disc at key locations including the two main access points and in the vicinity of the last remaining gravestone, will interpret the site's heritage. Audio files will be downloadable to a mobile phone *in situ* or from the DVLPS website to listen to at home. Further details will be made available on the DVLPS website for those interested in exploring further detail of the site's heritage.

An activity trail around the site will share stories of the site's heritage and will also be linked to forest school sessions, getting children to look for seasonal items around the site. A PDF download on the DVLPS website and printed copies for the school and at St Edmunds Healthy Living Centre in Temple Hill will be produced.



Waymarker disk for audio point

4. ENHANCING SITE MAINTENANCE AND MANAGEMENT THROUGH PROVISION OF MATERIALS, SKILLS AND FACILITIES

Although the site is accessible, improvements including waymarking will encourage people to explore more extensively and have confidence that they are free to discover more about the area.

Ecological surveys will provide a greater insight into the flora and fauna present and to develop appropriate management for the site. These will then be incorporated into the forest school sessions. The school children will be involved in undertaking surveys as part of their forest skills session through the use of Open Air Laboratory (OPAL) techniques, helping to further foster a sense of looking after a local area.

Cleft chestnut fencing will be installed around parts of the perimeter of the site to provide better security and demarcation of the woodland. A site management plan will also be produced to ensure that the site is maintained in good condition and management undertaken is appropriate and supportive of the site and school's objectives. Tools will be provided to support local volunteers undertaking necessary site management as identified in the management plan will be provided to ensure management requirements can be achieved.

5. PROVIDE OPPORTUNITIES FOR COMMUNITY PARTICIPATION AND ENGAGEMENT FOR LOCAL RESIDENTS

Residents local to the Enchanted Woodland site have been identified in the DVLPS Audience Development Plan as a target audience due to being a deprived community therefore traditionally less likely to engage with the countryside due to often experiencing barriers to engagement such as transport issues. The Enchanted Woodland is an accessible resource, open at all times and within walking distance for many local residents.

A range of events including family-orientated activities such as a treasure hunt, family forest skills day, bushcraft skills and storytelling aim to engage local residents and encourage them to visit and learn about the Enchanted Woodland site and surrounding area of Dartford Marshes and further afield.

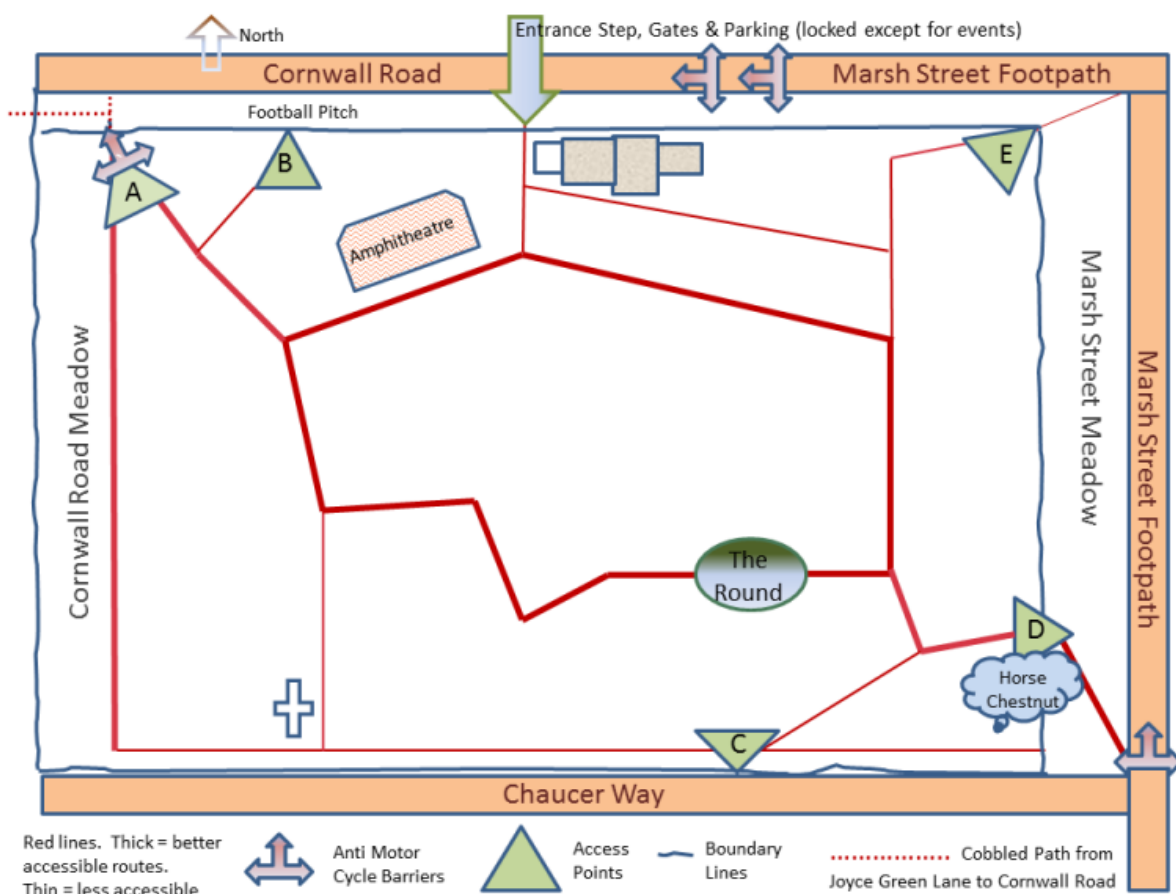
Increasing awareness and use of the site aims to foster a caring approach for this community asset on the doorstep and hopefully deter any anti-social behaviour. Events will link with and support activities undertaken in Forest School sessions for school children to experience and share with their families outside of school.

Items such as a forest school kit containing a magnifying glass, pen and paper and bug box will be provided to children attending a family forest skills day encourage them to visit the site again with their family.

6. ORIENTEERING AT THE ENCHANTED WOODLAND

Dartford Orienteering Klubb (DFOK) will map the Enchanted Woodland as part of the school based orienteering project being delivered through DVLPS – see project 5C. The Enchanted Woodland has also been identified as one of the potential sites for proposed geocaches as part of this project. Family-orienteering activities could be undertaken at the site with the potential for ‘string courses’ to be used for smaller children.

SITE MAP



OUTPUTS AND OUTCOMES

Activity	Outputs	Outcomes
1. Development of Forest school at the Enchanted Woodland	<ul style="list-style-type: none"> • New seating areas around the site. • Forest School sessions delivered on site. • Materials/equipment to deliver sessions such as magnifying glasses, binoculars, a large portable fire pit, wildlife id charts. • Training provision – forest school training for other staff. 	<ul style="list-style-type: none"> • School children directly engaged and experiencing the outdoors and in an area on their doorstep that they can visit with family outside of school hours.
2. Enhancing the outdoor learning area at the site's existing Amphitheatre	<ul style="list-style-type: none"> • 1 x amphitheatre created. • Install log benches to provide additional seating. 	<ul style="list-style-type: none"> • Amphitheatre available to use by other community groups. • Area created for large group activities during forest school sessions.
3. Raising awareness of the site's heritage link to London's lost hospitals	<ul style="list-style-type: none"> • 3 x audio info of the site's heritage via audio disc at two main entrances to site and near gravestone. • 2 x seasonal activity trail (spring/summer and autumn/winter) about heritage of the site and flora and fauna to spot on the site (PDF download and printed copies to the school and St Edmunds Healthy Living Centre). 	<ul style="list-style-type: none"> • Local residents have a greater awareness of the site's heritage and link to Dartford Marshes. • Local community taking an active role in visiting the site and helping out with its conservation management due to greater overall awareness of the site.
4. Enhancing site maintenance and management through the provision of materials, skills and facilities	<ul style="list-style-type: none"> • Waymarking installed around the site. • 4 x 'Welcome to the Enchanted Woodland' signage installed on other access points. • 2 x ecological surveys undertaken. • 1 x creating a natural boundary fence. • 1 x site management plan produced. • 1 x illustrated site map produced. 	<ul style="list-style-type: none"> • People will explore new areas and learn of the wildlife they may encounter on their visits.
5. Provide opportunities for community participation and engagement for local residents	<ul style="list-style-type: none"> • 6 x family-orientated events delivered. 	<ul style="list-style-type: none"> • People will visit the Enchanted Woodland and learn about the site's heritage and learn skills of outdoor activities that can be repeated with their families.
6. Orienteering at the Enchanted Woodland	<ul style="list-style-type: none"> • 1 x surveyed orienteering map based on International (IOF) and British Orienteering (BO) guidelines for the site produced. • 1 x geocache (potentially) installed at the site as part of the wider DFOK proposal of 20 new geocaches throughout the DVLPS area. 	<ul style="list-style-type: none"> • Improved map reading skills and knowledge of orienteering maps amongst teachers and pupils. • A greater understanding of landform and landscape and the identification of their features. • Greater confidence to explore and access the landscape.

Whilst the outputs can be measured relatively easily by the school and event providers, the outcomes are more difficult. Feedback after events will be gathered as well as getting the children's views on activities undertaken as part of Forest School sessions.

TRAINING REQUIRED

- Forest schools training
- Ecological surveying
- Practical conservation skills

MAINTAINING A LEGACY

The activities delivered and management approaches put in place through this project will ensure that the Enchanted Woodland is a well-used and cared for community asset. The site will become an integrated part of Temple Hill School with many children experiencing and benefiting from hands-on learning in an outdoor setting through forest school sessions.

Awareness of the site's heritage among local residents will be improved through on-site audio interpretation and events, ensuring that the site and heritage of the wider area of Dartford Marshes is not lost.

Families will be encouraged to undertake repeat visits to enjoy and experience the site through their children being involved with forest school and from attending family-orientated community events run at the site.

For the foreseeable future, the Enchanted Woodland will remain in the ownership and management of Temple Hill Primary School and is already very much seen as an extension to the school's learning environment. It has a strong commitment to maintaining the site for the benefit of the school children and continuing the vision of former owners Temple Hill Trust who nurtured this unforgotten area into an asset for the community.

LINKS TO OTHER PROJECTS

- 1B: Samuel Palmer's Return
- 1C: Inspired Palmer Landscapes
- 2A: Peeling Back the Layers
- 3C: Telling the Darent's Story
- 5B: Reading the Landscape
- 5D: Future Skills
- 5F: Engaging New Audiences
- 5G: Spreading the Word

Theme 5. Darent Valley Learning and Future Skills

PROJECT 5A: LANDSCAPE ADVENTURE LEARNING FOR ALL

PROJECT TIMETABLE

Activity	Year 1			Year 2			Year 3			Year 4			Year 5												
	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	
Forest School Training provided for staff																									
New seating installed																									
Ecological surveys undertaken																									
Forest School sessions delivered																									
Amphitheatre created/enhanced - log seating installed																									
Delivery of family orientated events																									
Management plan produced																									
Mapping of Enchanted Woodland for orienteering																									
Audio interpretation installation																									
Conservation management undertaken by local volunteers																									
Installation of boundary fencing																									
Activity trails created																									

Theme 5. Darent Valley Learning and Future Skills

PROJECT 5A: LANDSCAPE ADVENTURE LEARNING FOR ALL

5A.4 THE QUADRANGLE FOREST GARDEN: A COMMUNITY PERMACULTURE PROJECT



PROJECT AIM

This project will build a community of partners to develop The Quadrangle Forest Garden next to the River Darent near Shoreham. This will be an educational and therapeutic landscape resource for children, young people, adult groups, the local community and visitors to the Darent Valley. A productive forest garden based on permaculture principles will be created through the regeneration of a degraded field for food production. It is a project that will improve the microbiology of the soil and the biodiversity of the field and surrounding area. The resulting increase in the soil's capacity for water retention will benefit the river and reduce flooding risk.

Through the establishment of an outdoor classroom space, people will learn about the importance of natural eco-systems. It will be a model for edible gardening, permaculture and sustainability.

Camping spaces will be provided for groups of children and adults from the local community and from disadvantaged groups to reconnect with the natural landscape. The addition of an outdoor pizza oven



Location of the Quadrangle Trust

will make the camping experience feel more genuine and give opportunities to the children to participate in preparing food.

DELIVERY LEAD

The Quadrangle Trust; www.thequadrangletrust.com



LOCATION AND LAND OWNERSHIP

The project is located at The Quadrangle and is owned and managed by The Quadrangle Trust. The site is run as a centre for sustainable living and the creative arts. This project will utilise the buildings on the site which include the Main Barn, the Shepherd's Barn, The Dormitory as well as the adjacent gardens and field.



The site is only 45 minutes from central London by train and is within walking distance of Shoreham Station. It is accessed down a narrow track from the A225 (main road in the Darent Valley) and located between the Darent Valley Golf Course and the river itself.

The Trust is a not-for-profit social enterprise and although is not a registered charity, has charitable aims: to secure a sustainable future for the Quadrangle both for the preservation of its architectural heritage and the conservation of the natural and manmade environment of its setting, seeking to develop and nurture appropriate, inclusive relationships with the local and wider community.

AUDIENCE

The project will have an outreach programme targeting:

- Nurseries and Primary schools (North West Kent/Darent Valley).
- Secondary Schools (Kent, South-East and London, specifically where they have restricted access to green space/outdoor education and eco-school programmes).
- A wide range of further education institutions including agricultural colleges such as Hadlow College in Tonbridge.
- Local communities in Shoreham, Otford, Eynsford and Sevenoaks and Dartford.
- Local allotment and horticultural societies and interest groups.
- University of the Third Age.
- Community Rehabilitation programmes. i.e. working with West Kent Extra's youth, community and volunteer teams.
- Refugee and victims of torture groups (through the Quadrangle's charity partners). The Trust has worked with the Refugee Council and the charity Refugee Youth for four years running residential programmes for young people.

The Trust will host a nursery or primary school class one day a year. This will be a whole class with teachers and helpers. The Trust will work with the teacher in charge to devise a programme for the day that will involve examining the soil and discussing the creatures that live in it, finding and identifying certain plants and trees, drawing.

It will also host one secondary school class per year. The numbers will depend on what the teachers wanted the group to study, whether it was to be for example, a general introduction to the principles of permaculture, soil study or the basic geology of the North Downs.

With youth groups and refugee groups (ideally up to about 15 people), the approach will be less formal with walks around the area with a talk about the Darent Valley, raising general awareness of environmental issues, visits to a local farm and learning about camping.

This outreach will be achieved with the support of our existing partners, which include:

- The Permaculture Association
- The National Forest Garden Scheme (a new project just launched at the Quadrangle Trust)
- Kent Wildlife Trust
- Way of Nature UK
- First Hand Experiences
- North West Kent Countryside Partnership

And potential new partners such as

- The Ash Project
- The Wild Network
- The Soil Association
- The SoilBioLab

HERITAGE VALUE



The Quadrangle is a Victorian model farmstead built in 1870 as a model dairy farm by Henry Bingham Mildmay, who was owner of a large estate of several farms around Shoreham.

As Samuel Palmer had noted and was concerned about, it was a period of change and invention in the agricultural world. Mildmay, like many landowners of the time, was interested in the new ways of farming.

The Quadrangle continued as a farm until 1970 when it was broken up into lots and sold. When Mark Lintell (Chairman of Land Use Consultants 1990-2006) bought it in 1974 it was in a poor state of repair. He then started a long and meticulous programme of restoration.

After Mark's death in 2006, ownership of half of The Quadrangle (the Granary with associated buildings and land) was transferred to the Quadrangle Trust. In 2011, the Quadrangle Trust started to convert a former pasture field of 2.3 acres within its grounds into a forest garden using permaculture principles. For the first stage of planting the Trust received a small grant for woodland planting from the North West Kent Countryside Partnership.

The site is located within the Central Darent Valley Sub-Character Area, in the valley bottom but not within the river floodplain. The surrounding landscape is impressive and the chalk grassland slopes are within easy walking distance. The River Darent flows immediately alongside the site, and it provides an idyllic setting to return to nature and explore and enjoy the natural landscape.

The Trust already runs Ashram Weekends. Traditionally, an ashram is a spiritual residence and a centre for cultural activity such as yoga, music study or religious instruction. In India, an ashram would typically, but not always, be located far from human habitation, in forests or mountains, amidst refreshing natural surroundings conducive to spiritual instruction and meditation. The Trust now offers a similar communal experience that has been created close to London, offering people the opportunity to explore mindfulness during their everyday life. What has emerged is inspired by tradition, whilst fuelled by contemporary practices, art and culture, and very much relates to connectedness with the landscape.



Wild swimming in the River Darent at the Quadrangle

ISSUES AND THREATS

This project seeks to address several issues. Firstly, the Forest Garden itself will demonstrate how the use of permaculture can be used to tackle the issues of unsustainable agricultural practices. Samuel Palmer's great concern in the 19th century was the industrialisation of the countryside, and the impact that it might have on not just the landscape but also rural society. Many modern agricultural practices create poor soil health, are less capable of supporting biodiversity, are high carbon consumers and lead to less resilient natural ecosystems (particularly to climate change).

Secondly, it will also address the lack of awareness of how the landscape provides many of the resources needed by modern society and how they need to be managed in a sustainable. The lack of connectedness between the landscape and food on our plates is a growing phenomenon.

Thirdly, this project offers the opportunity for people to re-integrate with the landscape. It will target individuals and groups that are least likely to engage with rural greenspace due to a wide variety of reasons, and provide special and unique experiences that not only improve their well-being, but also enhances their appreciation of the qualities of the Darent Valley landscape.

PROJECT DESCRIPTION

A forest garden is an orchard of food-producing trees and other plants modelled on the structure of young natural woodland. As in a natural woodland the plants are mainly perennial and are multi-layered with a canopy layer of tall fruit trees such as apples and pears, a shrub layer of soft fruit bushes such as blackcurrants and raspberries and the herb layer of perennial herbs and vegetables.

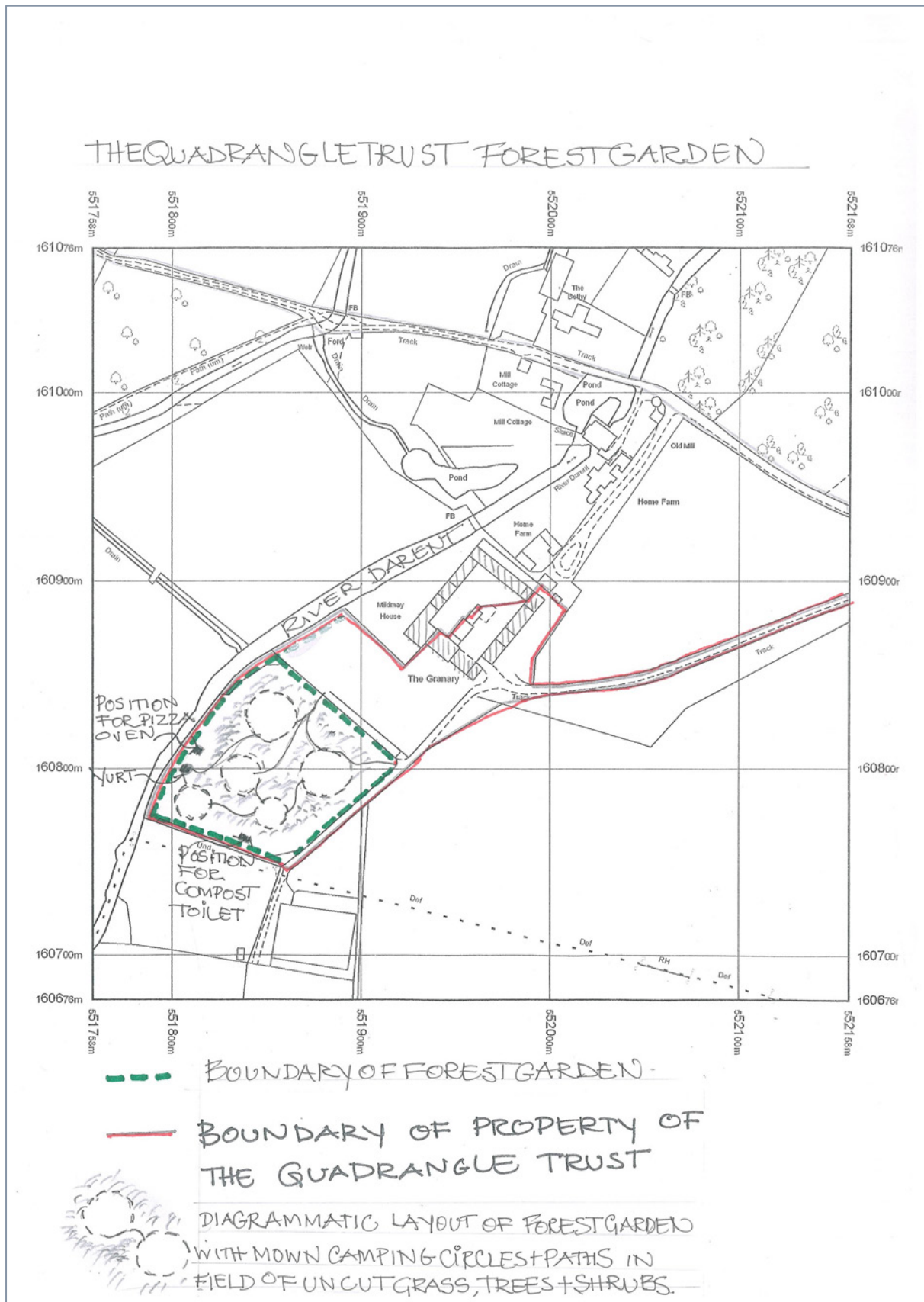
Forest gardens are classic examples of permaculture in action. The word 'permaculture' was coined by two Australians, Bill Mollison and David Holmgren in the 1970s to describe a design approach to food production that was based on working with nature and natural ecosystems.



The basis of healthy plant growth is a healthy soil. A healthy soil is of vital public interest and is an essential part of the heritage that needs to be protected and enhanced within the landscape. There is an urgent need to raise awareness of this and the need to decarbonise our agricultural systems.

Forest gardens can play an important role in this as field centres and education resources where people from all backgrounds can learn about where our food comes from and how to live more in-balance with the ecosystems that sustain us. Through observation of natural systems, the aim in permaculture is to:

- make land productive
- create the diversity, stability and resilience as in natural ecosystems
- look after the health of the soil, land and wildlife
- reduce our dependence on fossil fuels
- reduce our carbon footprint



At The Quadrangle, the combination of forest gardening, education and camping in a former pasture field will be created.

Planting started over the winter of 2011/12 with part of the canopy layer, and every year complexity has been added to this young 'woodland'. So far, a canopy and shrub layer have been planted and the next stage is to increase the density of the woodland and add a herb layer.

The Quadrangle Trust will recruit new partners and local people (both children and adults) who will join them to continue planting the forest garden. A planting plan cannot be supplied at this stage as the permaculture approach dictates that this is influenced by the current conditions of the site and may therefore differ later. Volunteers will also maintain and harvest the produce from the forest garden and promote the benefits of following permaculture principles. The Trust finds that many of the people who come to the Quadrangle want to volunteer in the forest garden. Working with the earth and with plants is always popular and rewarding and the principles of permaculture are of great interest to our visitors.



As a Darent Valley education resource the Quadrangle Forest Garden will provide an opportunity to work with local people to harness local knowledge of the valley's soil, climate and trees and plants, and with the wider community celebrate the valley's landscape.

To support the volunteering events and residential stays by the targeted groups, through this project the Trust will install a compost toilet and an outdoor oven. This will enhance the outdoor learning opportunities and provide the various visiting groups with a special 'landscape experience'.

What has been learnt and achieved at the Quadrangle Forest Garden will be documented and communicated through:

- A blog: <http://forestgarden.thequadrangletrust.com>
- Information-sharing workshops (e.g. the 'edible forest gardening courses' The Trust runs).
- Volunteer gardening workshops i.e. 'Permablitz' days.
- Forums with other Forest Gardeners, Permaculturists and soil scientists.
- A 3-minute animation film that will be free to view on our and our partners' websites and social media platforms.

The Quadrangle Trust also aim to make produce available for the local community through pick your own days and having a stall at local events. It is clear that working outside, working on the land and growing food helps build people's awareness and understanding of nature as well as promoting well-being and sense of community.

The project will be delivered by the following team:

- Head Designer and Gardener: Deborah Wolton - Trustee of the Quadrangle Trust and landscape historian.
- Site Manager: Gideon Payne - responsible for grounds maintenance.

Theme 5. Darent Valley Learning and Future Skills

PROJECT 5A: LANDSCAPE ADVENTURE LEARNING FOR ALL

- Creative Director Jessie Teggin – responsible for outreach, co-ordination, publicity and communications.
- Designer: Pascoe Lintell – Trustee of the Quadrangle Trust. Responsible for design of structures.

Advisors/Consultants who support the project:

- Kevin Mascarenhas – Natural Flow.
- Paul Pivcevic – National Forest Garden Scheme.
- Richard Flenley – Quadrangle Trustee and former chairman of Land Use Consultants.
- Michel Thill – Social Landscapes.



OUTPUTS AND OUTCOMES

Activity	Outputs	Outcomes
Establishment and enhancement of the forest garden, picking fruit and general maintenance.	<ul style="list-style-type: none"> • 25 volunteer sessions (5 a year). • 125 volunteer days contributed. • 0.8ha field converted to a forest garden. • 50 trees planted. 	<ul style="list-style-type: none"> • Increased density of planting in forest garden. Herb layer planted. • Forest garden managed and supported. • Increased understanding of permaculture principles and its relation to landscape conservation.
Provision of forest gardening workshops	<ul style="list-style-type: none"> • 10 2-day workshops provided (2 a year for general public and partner groups). • 100 people attending workshops. • 10 volunteer days contributed. 	<ul style="list-style-type: none"> • Greater understanding of ecology, permaculture principles, mycorrhizal networks and the importance of our natural heritage and soil health.
Provision of Permablitz events	<ul style="list-style-type: none"> • 10 one-day events held to undertake planting and general maintenance work in the forest garden in return for teaching of the basis of permaculture. • 80 volunteer days contributed. 	<ul style="list-style-type: none"> • Help with planting and maintenance in the forest garden. • Increased understanding of regeneration of land and sustainable food production.
Gardening ‘team building’ days	<ul style="list-style-type: none"> • 10 days of gardening in the forest garden offered to local businesses and charities • 100 volunteer days contributed 	<ul style="list-style-type: none"> • Team building. Raising awareness of issues around food production. Bringing a sense of wellbeing and community.
Construction of facilities to aid camping and outdoor living in the forest garden.	<ul style="list-style-type: none"> • Design and construction of an outside oven in the forest garden. • Provision of a compost toilet in the forest garden. • 2 volunteer days contributed. 	<ul style="list-style-type: none"> • Cooking for campers in the forest garden will bring sense of community and wellbeing. • Compost toilet enhances sustainability credentials of the site. • Enhances connection with the landscape and provides visitors with genuine outdoor experience.
Production of an Animation Film about Forest Gardens	<ul style="list-style-type: none"> • Formation of a film making team to make an animated film of the life of a forest garden. • Put on DVLPs and Quadrangle website and offered to our partners, associated organisations and educational institutions. • Distributed to 20 schools and colleges. • Viewed by 1000 people. 	<ul style="list-style-type: none"> • An educational resource and teaching tool. Will be used in schools and colleges. • For all people interested in forest garden this will show how the creation of a forest garden improves the soil, increases biodiversity, produces food as well as being a tranquil and beautiful place.
Communicating how the forest garden is developing and what we are observing	<ul style="list-style-type: none"> • On-line blog maintained and populated. • 500 hits on the blog. 	<ul style="list-style-type: none"> • Sharing knowledge and experience.

At the beginning of each year the Quadrangle forest garden team will plan and set targets for the year. Monitoring will be done through documenting and evaluating each workshop together with feedback from participants.

PROJECT RISKS

Risk	How likely	Severity	Consequence	Action required
Unable to recruit volunteers.	Low	Medium	Difficulty in completing all the work required.	Build links with DVLP partners.
Weather prevents practical work being undertaken	Medium	Low	Planting to timetable not possible.	As permaculture involves working with nature, planned activities will simply be rescheduled.
Disease issues causes plant failure	Low	Medium	Delayed completion of the forest garden.	Permaculture approach should mean that the forest garden is less prone to disease.

TRAINING REQUIRED

- Forest gardening workshops
- Principles of permaculture

MAINTAINING A LEGACY

A forest garden is designed to be low maintenance. A proportion of the plants are chosen because they bring fertility, for example nitrogen fixing trees and plants with long taproots (mineral accumulators). Most of the work in a forest garden is done at the beginning of its life as it is being planted. As it matures the soil changes to a woodland soil and systems such as the fungal networks develop to support the abundance found in a natural woodland. The intention is that it will become a model of regenerative agriculture and a place of surprise and delight.

LINKS TO OTHER PROJECTS

- 1A Samuel Palmer Trail
- 1B Samuel Palmer's Return
- 1C Inspired Palmer Landscapes
- 1F Rediscovering Tranquillity
- 5D Future Skills
- 5F Engaging New Audiences

5A.5 OTFORD CHALK PIT NATURE AREA



Otford Chalk Pit (© Copyright [N Chadwick](#) and licensed for reuse under this [Creative Commons Licence](#))

PROJECT AIM

Otford Chalk Pit is an area of green open space that lies at the heart of the village of Otford. Located next to the village railway station, the chalk pit lies immediately alongside the North Downs Way National Trail. It has been a long-term aspiration of the Parish Council to encourage local people, visitors and schools to enjoy and use the site for recreation and as an educational resource. The Parish Council, Otford Scout Group, Otford Primary School and North West Kent Countryside Partnership (NWKCP) have a shared vision to enhance the green space by making the wooded slopes of the site more accessible, whilst also creating wildlife features that can be utilised by the Primary School and Scout group for outdoor activities and as an education resource.

DELIVERY LEAD

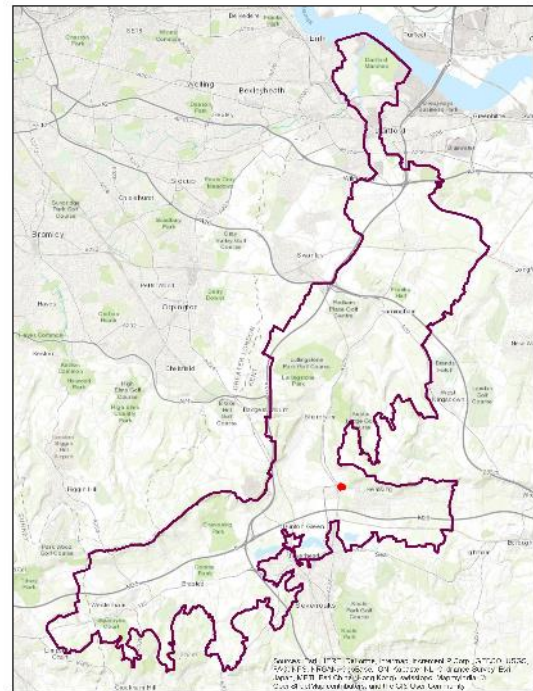
Otford Parish Council (Mrs Sharon Palmer (Parish Clerk) 01959 524808, parishcouncil@otford.net in partnership with NWKCP (Mark Gallant- mark.gallant@kent.gov.uk) 03000 417665).

LOCATION AND LAND OWNERSHIP

Located at TQ533594 on the eastern side of Otford. It is bound between the Shoreham Road, Pilgrims Way, Tudor Drive and the railway line. Ownership is with Sevenoaks District Council; Council Offices, Argyle Road, Sevenoaks, Kent, TN13 1HG; 01732 227000; David.Boorman@sevenoaks.gov.uk.

AUDIENCE

The principal audience for this are residents local to Otford. In particular, both Otford Primary School (who wish to use the site for a Forest School and other educational activities) and Otford Scout Group who intend to use it for outdoor activities. The local community is also likely to use it for recreational purposes. In addition, with its location close to Otford Station and the North Downs Way National Trail, a wider audience from South East London and elsewhere in Kent are anticipated to use the site.



Location of Otford Chalk Pit

HERITAGE VALUE

Originally excavated by the Otford Lime Company in about 1870, the Chalk Pit is an important part of the village's industrial and nature heritage. The eastern wooded slopes are home to the endangered Roman Snail and unusual wildflowers such as the nettle-leaved bellflower *Campanula trachelium* (the nature trail will be designed to avoid any ecologically sensitive areas).

The Chalk Pit lies within Metropolitan Green Belt (MGB), the Kent Downs Area of Outstanding Natural Beauty (AONB), and a former Special Landscape Area (SLA).



A Geologists' Association excursion on 3rd. July 1909, investigating 'chalky rainwash' at the old pit near Otford Station (Otford.info)

Its value is as a local and accessible green space that can be explored by local people and schoolchildren in a relatively safe environment, yet still with a feeling of adventure. Its location makes it a particularly popular location for the Otford Scouts who use it for den-building and overnight camping. It is also within easy walking distance of the primary school.

ISSUES AND THREATS

The main issue being addressed by this project is that the Chalk Pit is currently underutilised by local people and visitors. The Chalk Pit is located within walking distance from the Primary School but due to the lack of safe access through the wooded areas of the site on the side of the slopes, the chalk pit is currently not utilised to its full potential. The Chalk Pit may further become neglected if the site's potential as a local recreational and educational facility is not realised.

This project will address many of the overarching issues covered by the Landscape Adventure Learning for All project regarding lack of access for nature and reduced connection with the natural environment (see project 5A.1).

PROJECT DESCRIPTION



Otford Primary School children using the Otford Chalk Pit
[\(http://www.otford.kent.sch.uk/forest-school/\)](http://www.otford.kent.sch.uk/forest-school/)

The project will begin with undertaking a baseline ecological survey to ensure that proposed work will not have a detrimental impact on existing natural heritage. NWKCP will work with Otford Primary School and the Otford & District Historical Society to build a picture of the origins of the quarry, and how it had an impact on the local landscape and the people of Otford. In addition, they will help the pupils develop ideas for what they would like to see happen within the proposed nature area. Support for this will be available from the Wide Horizons team if required.

The activities will be implemented by local and NWKCP volunteers (and where appropriate the primary school and scouts) supervised by members of the NWKCP staff. This will culminate in a launch event and the production of a management plan for the site to ensure appropriate ongoing management.

Key works will include habitat creation works to increase diversity across the site and will include a new wildlife pond, planting of hedgerows, creation of a new wildflower meadow and the installation of palisade fencing to enhance safety.

Access improvements will be undertaken to aid better exploration of the site. Secondary woodland limits access to some parts of the woodland, and this will be enhanced whilst retaining the adventurous atmosphere that exists within the chalk pit.

Otford Primary School already has a fully qualified Level 3 Forest School Leader and is providing training for other staff at the school. The Forest School is currently run two days per week with each class being taken out once a week for six weeks. Activities include:

Theme 5. Darent Valley Learning and Future Skills

PROJECT 5A: LANDSCAPE ADVENTURE LEARNING FOR ALL

- Games
- Storytelling
- Natural art activities
- Use of tools (if skills and behaviour indicators secured)
- Exploring, nature-watching and bug-hunting
- Climbing, rolling
- Practical woodland skills (e.g. willow weaving)
- Building dens
- Time to be quiet, reflect or talk



Otford Primary School children using the Otford Chalk Pit
(<http://www.otford.kent.sch.uk/forest-school/>)

The aim is that as children grow in confidence, they will be encouraged to set their own projects, applying skills they have already acquired and experimenting with new ones, under appropriate supervision.

In addition, some small-scale interpretation will be undertaken to highlight the past use of the site and will be developed between NWKCP, the Otford Historical Society and the DVLPS Team.

SITE MAP SHOWING PLANNED WORKS



OUTPUTS AND OUTCOMES

Activity	Outputs	Outcomes
Ecological surveys	<ul style="list-style-type: none"> • 1 x endangered species (Roman Snail) survey. • 1 x botanical survey. • 1 x bird survey. 	<ul style="list-style-type: none"> • Greater awareness of nature heritage.
Habitat creation	<ul style="list-style-type: none"> • Approx. 2.6 hectares of former quarry having brought into good condition. • 1 x wildlife pond created. • Approx. 40 linear metres of native hedgerow created. • Approx. 40 linear metres of palisade fencing installed. • Approx. 20 sq. metres of wild flower meadow created. • 80 volunteer days undertaken. 	<ul style="list-style-type: none"> • Creation of natural heritage feature. • Local people involved in the conservation of their heritage.
Undertake access improvements	<ul style="list-style-type: none"> • Approx. 0.4 km of new routes created. • 60 volunteer days. 	<ul style="list-style-type: none"> • Physical access improved • Local people involved in improving access to heritage
Community events	<ul style="list-style-type: none"> • 1 x community event. • 100 people attending event. 	<ul style="list-style-type: none"> • Greater awareness of understanding of the importance of the landscape and heritage. • Promotes and celebrates the work delivered by the local community and DVLP scheme.
Educational events - Ongoing school sessions held at the Chalk Pit	<ul style="list-style-type: none"> • Number of pupil visits – approx. 30 per visit = 360 pupil visits per year (1,440 pupil visits over 4 years). • Number of sessions – 2 visits per term = 12 visits per year (2018 – 2022). 	<ul style="list-style-type: none"> • Encourages young people to engage with their natural heritage and value it for the future.
Ongoing scouting outdoor activities at the Chalk Pit	<ul style="list-style-type: none"> • Number of scout group visits – approx. 36 visits per year (144 visits over 4 years) • Number of sessions – 36 per year. 	<ul style="list-style-type: none"> • Encourages people to engage with their natural heritage and value it for the future.
Determining ongoing management	<ul style="list-style-type: none"> • Production of 1 x management plan. 	<ul style="list-style-type: none"> • Promotes a greater understanding of the local natural and historical heritage. • Ensures that the natural and historical heritage is managed in an appropriate and sustainable way in the future.
Interpreting the cultural and natural heritage of the pit	<ul style="list-style-type: none"> • On-site or audio interpretation provided. 	<ul style="list-style-type: none"> • An understanding of how and why the Chalk Pit was created, and the natural heritage found there. • A closer connection with the landscape and an interest in the future of the pit.

PROJECT RISKS

Risk	How likely	Severity	Consequence	Action required
Vandalism to the pond area	Low	Low	Damage to the liner or wildlife in pond.	Otford Scout Group to take ownership of the pond.
Lack of commitment to ongoing maintenance	Low	Medium	Deterioration of nature trail and wildlife pond.	Undertaking from Otford Parish Council to ensure maintenance is carried out. Empower local people, Otford Primary School and Scout Group to take ownership.
Anti-social activities become prevalent once site is opened	Low	Medium	Deterioration of nature trail and wildlife pond.	Positive management of the site such as clear site lines and access management will act as a deterrent to those who wish to act irresponsibly on the site. This combined with partnership working with Otford Parish Council, residents, the Scout Group, community wardens and the police.

TRAINING REQUIRED

Teachers from Otford Primary School are fully trained to deliver Forest School activities; however the scout group and school will receive training to enable them to manage the pond appropriately.

MAINTAINING A LEGACY

Otford Primary School and the Scout group have agreed in principle to take ownership of the pond and NWKCP will seek additional funding in partnership with Otford Parish Council for continual maintenance of the nature trail etc.

The aspiration of Sevenoaks District Council is to hand over ownership of the site to Otford Parish Council. There is also an aspiration in the future to seek further funding to improve the woodland areas by reducing the number of sycamore and replacing them with a more diverse range of native tree and shrub species. Also, to improve the grassland/meadow area by appropriate management and introduction a more diverse range of grasses and wild flowers that reflect the geology of the site.

LINKS TO OTHER PROJECTS

- 1C Inspired Palmer Landscapes
- 1E Rediscovering Tranquillity
- 5B School Run – Reading the Landscape
- 5D Future Skills
- 5F Engaging New Audiences

5A.6 ENCOURAGING ADVENTURE PLAY REDUCING BARRIERS TO WILD TIME



PROJECT AIM

To provide guidance to parents, education establishments and education providers about how to develop a balanced and proportionate approach to play and risk in the outdoors. This will enable children to benefit from the element of risk that is an essential part of children's development and to create a love and understanding of the outside environment.

DELIVERY LEAD

Darent Valley Landscape Partnership Delivery Team.

AUDIENCE

Parents of children across and close to the Darent Valley, teachers at schools considering outdoor learning and Forest School activities and providers of educational services and outdoor activities.

ISSUES AND THREATS

The level of risk that parents, carers and educators of children perceive exists in the outdoors, is increasing. The distance our children stray from home on their own has shrunk by 90% since the 1970s and 43% of adults think a child shouldn't play outdoors unsupervised until the age of 14. More children are now admitted to British hospitals for injuries incurred falling out of bed than falling out of trees. The Council for Learning Outside the Classroom has identified the costs of not letting children experience risk, challenge and adventure.

Human	Social	Environmental	Financial
<ul style="list-style-type: none"> • Poverty of spirit • Low levels of fitness • Obesity • Inability to manage risk • Low self-esteem • Limited horizons 	<ul style="list-style-type: none"> • Irresponsible risk-taking Poor public health (including mental health) • Lack of purposeful activity among young people • Lack of active citizenship 	Lack of: <ul style="list-style-type: none"> • environmental awareness • environmental concern 	Lack of: <ul style="list-style-type: none"> • innovation • entrepreneurship • enterprise

The risk for the landscape and heritage of the Darent Valley is that the next generation of children will be the one that has the least connection to their natural surroundings, and are unable to appreciate what they may lose when it is at risk. As the many pressures that the valley is under grow, it is today's children that will be the ones that stand up for it... or don't.

PROJECT DESCRIPTION

This project will deliver through three activities: the production of a locally relevant risk-benefit toolkit for schools, education providers and formal outdoor sites such as country parks; a viewing of the Project Wild Thing film for parents at every primary school within the valley; and the running of Adventure Family Days to inspire parents with ways to have 'wild time' and micro-adventures with their children.

RISK BENEFIT TOOLKIT FOR SCHOOLS, COUNTRY PARKS AND GREEN SPACES

When working with children in the country parks, nature reserves and green spaces in the Darent Valley there is often risk in everything they do. On the face of it, the presence of risk can restrict or prevent children's enjoyment of the natural environment. However, by identifying the benefits that can be gained from risk it can promote personal development and help children discover their limitations and the world around them.

To encourage this approach, a Risk Benefit Toolkit will be developed that promotes a healthier relationship to risk and enables children to have greater interaction with the natural environment.

The toolkit will be used by other organisations and people working with children to assess the risks present, identify what benefits can be gained from having these risks in a play setting and how to effectively manage them. It is aimed to keep children safe from serious injury while helping them get maximum benefit from their interaction with the landscape of the Darent Valley.

A specialist outdoor learning organisation will be commissioned to use their expertise of Adventure Learning and delivering outdoor activities to lead on developing the toolkit working collaboratively with partner organisations and local community groups through the Learning Theme Group. A series of participatory workshops will be run along with consultation groups to collate experiences and best practice that will inform and shape the toolkit.

VIEWINGS OF 'PROJECT WILD THING'

The Project Wild Thing film was launched in 2013 and is an engaging real-life story of one man's determination to get children out and into the ultimate, free wonder-product: Nature. As the film's summary states:

"David Bond is concerned. His kids' waking hours are dominated by a cacophony of marketing, and a screen dependence threatening to turn them into glassy-eyed zombies. Like city kids everywhere, they spend way too much time indoors. He decides it's time to get back to nature – literally. In an attempt to compete with the brands, Bond appoints himself Marketing Director for Nature. Like any self-respecting salesman, he sets about developing a campaign and a logo. With the help of a number of bemused professionals, he is soon selling Nature to British families. His humorous journey unearths some painful truths about modern family life. His product is free, plentiful and has proven benefits – but is Nature past its sell-by date?"



Project Wild Thing

DVLPS will use the film as a light-hearted and thought-provoking way of getting parents to think about how their children engage with nature. Several free screenings will be shown throughout the valley, along with refreshments and incentives to attend. These screenings will not be used in a campaigning or 'preaching' way, but purely to provoke and consider how well their children are connected with the Darent Valley landscape. Each screening will be used to introduce the activities being delivered through other projects in Theme 5 of the scheme.

ADVENTURE FAMILY DAYS

An annual adventure family day event will be run for parents and their children to experience and get involved in a range of fun and educational outdoor activities. The aim of the session is to inspire parents and provide them with skills and confidence to take their children out more into natural places.

Family workshops or simple open access sessions will be provided that are activity focused and fun for the whole family. It will encourage parents to be more creative when accessing outdoor spaces and will help overcome attitudinal barriers and concerns (e.g. risk of injury) that they may have that restricts them currently from doing more outside.

The days will be targeted at both families based locally within the Darent Valley and from inner-city London and make use of sites such as the Horton Kirby Environmental Study Centre and The Quadrangle site near Shoreham.

OUTPUTS AND OUTCOMES

Activity	Outputs	Outcomes
Risk Benefit Toolkit	<ul style="list-style-type: none"> A locally relevant toolkit provided free to all schools, education providers and formal green space areas. The toolkit is adopted by 75% of the schools in the valley, and all the country parks. 	<ul style="list-style-type: none"> Schools and parents organise and participate in more adventure learning activities with a healthier approach to the balance of play and risk. Parents are more proactive in helping their children engage with their natural surroundings.
Project Wild Thing screenings	<ul style="list-style-type: none"> 10 screenings of Project Wild Thing 300 participants. 	<ul style="list-style-type: none"> Children (and parents) are more connected with the landscape and heritage of the Darent Valley.
Adventure Family Days	<ul style="list-style-type: none"> 5 x Adventure Family Days provided. 100 families participate (150 adults, 180 children) 	<ul style="list-style-type: none"> The next generation values and is protective of the characteristics that make the Darent Valley special.

PROJECT COSTS

Element/Item	Year 1 2017/18	Year 2 2018/19	Year 3 2019/20	Year 4 2020/21	Year 5 2021/22	Total
Totals	£7,150	£1,650	£1,650	£1,650	£1,650	£13,750

PROJECT RISKS

Risk	How likely	Severity	Consequence	Action required
Adoption of the toolkit is low.	Medium	Medium	No change in the attitude to risk within schools, country parks and greenspaces.	Use the Learning Theme Group to generate inclusivity and buy-in to the project and to ensure that it is relevant to users.
Attendance is low at Project Wild Thing screenings.	Medium	High	Parents don't consider how they can help their children reconnect with nature.	Ensure that the screenings are scheduled at appropriate times and are engaging and encouraging in their delivery.
Low uptake of adventure family days.	Medium	Medium	No change in the way that children interact with the Darent Valley's landscape.	Publicise widely and ensure that the events are engaging.

TRAINING REQUIRED

The activities are inherently training in their own right.

MAINTAINING A LEGACY

Each of these activities is a legacy building exercise and the ultimate outcomes will not be realised until several years, if not decades after the scheme is completed.

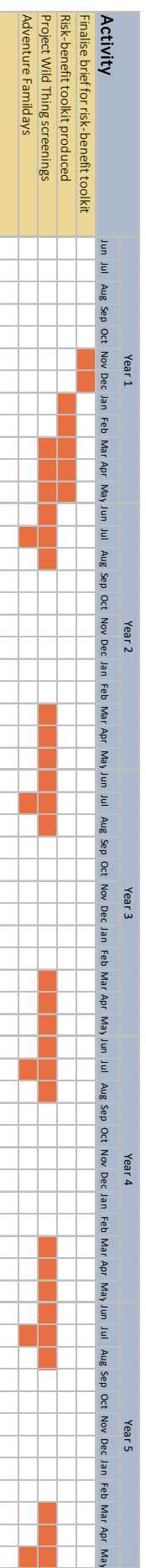
LINKS TO OTHER PROJECTS

- All other projects in the scheme.

Theme 5. Parent Valley Learning and Future Skills

PROJECT 5A: LANDSCAPE ADVENTURE LEARNING FOR ALL

PROJECT TIMETABLE



5B. SCHOOL RUN READING THE LANDSCAPE

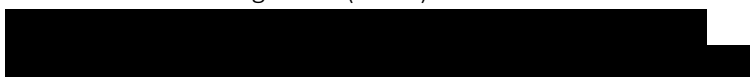


PROJECT AIM

To utilise the outdoor sport of orienteering to enable schools and pupils to engage with and better understand the landscape of the Darent Valley, and to enable them to embed orienteering within the National Curriculum. During this time, pupils will have developed a better understanding and appreciation of their local heritage as well as a keen interest in a growing outdoor sport that uses the landscape as a canvas for its activities. It will also support a wide audience to engage in more challenging tests for navigation skills in the local countryside.

DELIVERY LEAD

Dartford Orienteering Klubb (DFOK)



LOCATION

The project will take place mainly in the schools within the valley. More generally based activities will be delivered in areas of the local countryside lending themselves to orienteering i.e. Lullingstone Country Park, Beacon Wood Country Park and Shoreham Woods Country Park, all of which already sponsor orienteering through permanent orienteering courses or other orienteering activities.

AUDIENCE

Whilst this is primarily aimed at school children and teachers in both primary and secondary schools operating through their own school curriculums, the project will provide opportunities for parents, local residents and visitors to experience the heritage of the local countryside through the permanent orienteering courses and other activities. In addition, DFOK will also work with Wide Horizons to use

PROJECT 5C. SCHOOL RUN – READING THE LANDSCAPE

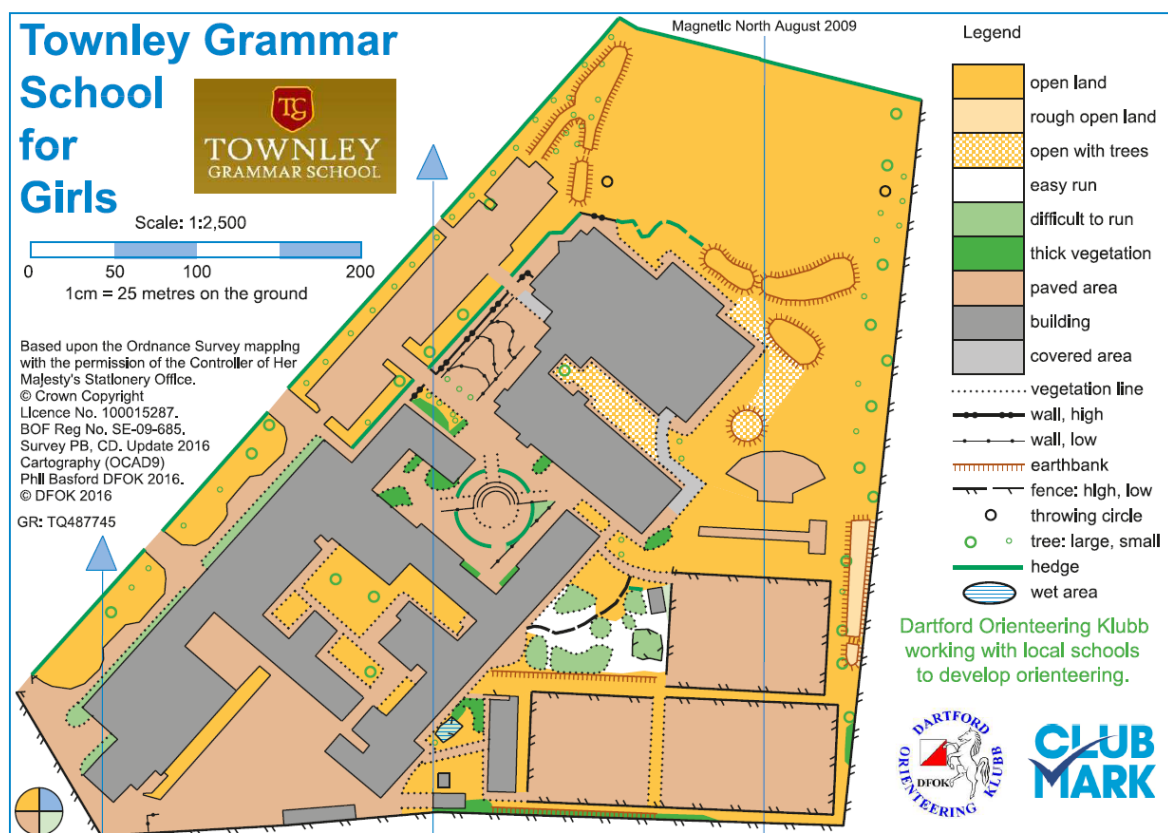
orienteeing to support project 5A. ‘Adventure Learning for All’ with its target audience of school children from south-east London.

PROJECT DESCRIPTION

‘School Run’ will enable a better understanding and reading of landscape form, features and influences, as well as a pathway to exploring new areas providing a direct engagement with the natural space and features of importance. As an extension to DFOK’s existing school programme, mapping workshops and exercises in the school grounds will enable children to read the immediate landscape and learn how to use maps and compasses.

Opportunities will be provided to schools to use the many existing ‘permanent’ orienteeing courses at heritage sites such as Beacon Wood CP, Lullingstone CP to provide more challenging tests of navigation skills. Mapping will be undertaken at appropriate new sites (supplemented by LiDAR data gained under project 2A) and new permanent courses. Creation of the concept of new specially designed heritage orienteeing courses and events for families, that link navigation to accessing heritage features and knowledge of their relevance and importance. In addition, new heritage ‘geocaches’ will be created as a stepping stone to encourage deeper independent exploration in the valley and understanding of the landscape.

The Project Leader will identify one school to set up a regular liaison where much of the material to be prepared can be trialled and a school map produced early in the project. This will enable all the training that is required to be held on this site where there are ‘models’ to be shown for the future use of the schools.



Schools involved in the project will have given their permission for the survey and cartography of their school. Potential locations of new Permanent Orienteering Courses (POCs) will be identified and

PROJECT 5C. SCHOOL RUN – READING THE LANDSCAPE

permission gained from landowners to survey their land and establish the course. DFOK already has a strong orienteering relationship with KCC and other landowners in the valley and these will be enhanced to the benefit of the schools and the general public.

At the end of the 5 years we expect to see the majority of the schools to have embedded orienteering into the curriculum as well making full use of the other heritage sites within the valley.

OUTPUTS AND OUTCOMES

Activity	Outputs	Outcomes
A1: Provide a series of activities, both online and face-to-face, enabling teaching staff to better understand the role of orienteering within the curriculum.	<ul style="list-style-type: none"> • Provide an online information ‘package’ for schools about orienteering and how, as a model, it will assist in reading the local landscape. • Hold 2 study sessions to inform teaching staff on the role of orienteering in the curriculum. • 36 teaching staff from 18 schools attend study sessions. 	<ul style="list-style-type: none"> • Teaching staff will be able to: • Demonstrate an understanding of the importance of the landscape and its heritage and how this might be assisted by orienteering; • Recognise the cross-curricular benefits of orienteering; • Utilise their skills of organisation and delivery within curricular and extra-curricular settings. • Promote safe introduction into the curriculum. • Greater use of orienteering to teach skills across the curriculum.
A2: Establish a programme of surveying and cartography of the participating schools and their grounds.	<ul style="list-style-type: none"> • 5 DFOK members trained in the use of OCAD. • 18 schools receive a surveyed orienteering map based on International (IOF) and British Orienteering (BO) guidelines. • Advice on how to install a Permanent Orienteering Course (POC) within the school grounds. • Training in how to use FREE software, Purple Pen, for drawing up their school courses. • 18 school courses created. 	<ul style="list-style-type: none"> • Improved map reading skills and knowledge of orienteering maps amongst teachers and pupils. • A greater understanding of landform and landscape and the identification of their features. • Increased use of school grounds as a learning resource. • Greater confidence to explore and access the landscape.
A3: Provide certificated training for staff.	<ul style="list-style-type: none"> • 2 ‘Teaching Orienteering Pt 1’ Courses by BO Qualified Tutors. • 36 teachers achieve certification. 	<ul style="list-style-type: none"> • Teachers are able to apply acquired knowledge and skills required to undertake safe orienteering activities with their pupils. • Teaching staff able to read maps with a greater understanding and ability.
A4: Promote the interaction of orienteering between the schools.	<ul style="list-style-type: none"> • Establish a central resource of equipment in addition to the individual school resource. • Develop an annual school league that utilises the landscape of the Darent Valley. 	<ul style="list-style-type: none"> • Schools work together more closely in utilising the landscape of the Darent Valley for orienteering. • Sharing resources also enables skills-sharing and passing on of knowledge between teaching staff. • School league encourages legacy and sustainability for outdoor learning.
A5: Introduce teaching staff to the wider use of the valley through POCs and heritage POCs	<ul style="list-style-type: none"> • 1 introductory course at Lullingstone Country Park. • 18 teaching staff attend course • 1 course within Eynsford village utilising key heritage features. • Liaise with other partnerships to produce an interactive online program for the school intranet demonstrating how the valley was formed many years ago. 	<ul style="list-style-type: none"> • Appreciate an awareness of the surrounding natural landscape. • Explore Darent Valley landscape in greater depth.

PROJECT 5C. SCHOOL RUN – READING THE LANDSCAPE

<p>A6: Identify ‘less able’ groups in the valley and provide facilities for their participation in orienteering.</p>	<ul style="list-style-type: none"> • Provide 1 suitable course for the ‘less able’ each year. Trail-O. 	<ul style="list-style-type: none"> • Increased awareness amongst this group that there is a form of orienteering that might meet their needs for more outdoor activities. • New opportunities for individuals and groups that have difficulty in accessing and enjoying the landscape of the Darent Valley.
<p>A7: Encourage a deeper independent exploration of the valley.</p>	<ul style="list-style-type: none"> • Provide 20 new, heritage focussed, geocaches within the valley. 	<ul style="list-style-type: none"> • More people explore the Darent Valley landscape in greater depth. • Reduced pressure on honeypot sites in the valley. • Greater understanding of the breadth of natural and cultural heritage in the valley.

EVALUATION

- Measurement of actual take up and involvement by schools and teachers against proposed target numbers.
- Formal evaluation of each course will be carried out on completion.
- An annual, formal evaluation of progress based on relevant activities, outputs and outcomes will be undertaken using bespoke evaluation tools.
- An extensive, in depth evaluation of each Activity, Output and Outcome will be carried out at the end of the project using a variety of evaluation strategies including face to face interviews and the use of paper based/computer based questionnaires. This will be fed into the overall scheme evaluation.

PROJECT COSTS

Element/Item	Year 1 2017/18	Year 2 2018/19	Year 3 2019/20	Year 4 2020/21	Year 5 2021/22	Total
	£2,100	£11,800	£6,100	£5,250	£500	£26,985

PROJECT RISKS

Risk	How likely	Severity	Consequence	Action required
Lack of uptake from schools	Low,	High	Outputs and outcomes may not be achieved at the level anticipated.	Audience development work has suggested that there is genuine enthusiasm amongst many schools. Orienteering is identified within the new national curriculum and this is therefore likely to popular route to providing this learning experience.
Reluctance from landowners to give permission for new POCs.	Low	Low	Less able to provide opportunities for new participants in the activity.	DFOK has good experience of working with landowners and will also draw upon partners' links to gain permission.
DFOK unable to commit enough volunteer time to deliver the project.	Low	High	Project may not be deliverable.	DFOK has a broad volunteer base and a lack of commitment is unlikely. Also able to call upon other orienteering experts out with the Klubb.

TRAINING REQUIRED

- Training five experienced Klubb members in use and application of OCAD design software. (1 day)
- Training the same five Klubb members in specialised surveying of school grounds. (½ day).
- Training 18 school teachers in use of Purple Pen for designing school courses. (2 x ½ day).

These will be provided through the Project 5E: Future Skills.

MAINTAINING A LEGACY



Schools will be supported, with the help of DFOK, to set up and maintain an equipment base within the Valley focused on one identified school and enable their continued use for the proposed Darent Valley School League and other orienteering activities.

In addition, DFOK (within its regular events programme) already utilises sites within the valley for orienteering events and this will continue. These all provide courses relevant to children, family groups and newcomers and will be promote to the participating schools.

DFOK also has a dedicated Klubb member whose responsibility is to monitor POC's and liaise with local landowners. All maps are readily available to download from the DFOK website at no charge.

LINKS TO OTHER PROJECTS

This project has direct links to the following projects in DVLPS:

- **2A Peeling Back the Layers** The building of maps and permanent orienteering courses and the planning of events in new locations will utilise the DTM data from the commissioned LiDAR survey to accurately inform the maps and act as an educational tool.
- **3B Gateways to the Valley** The project will utilise locations at Shoreham Woods Country Park and Lullingstone Country Park for map reading and orienteering activities. New permanent orienteering courses will be investigated at other 'gateway' sites.
- **3C Telling the Darent's Story** The project will support the interpretation of the landscape for the younger generation helping to reveal the way in which the landscape was formed and created.
- **3D Reducing the Pressure.** Encourages more active exploration by children and families to alternative sites away from 'hotspots' and to remoter parts of the valley.
- **4D A Designed Landscape.** Lullingstone Country Park through its permanent orienteering course and other events will be a key heritage asset used through this project.
- **5A Landscape Adventure Learning for All** This project will directly link with the work being done with Wide Horizons who will work closely with DFOK.
- **5C Future Skills** This project not only provides new skills to schoolchildren, but will also provide training to DFOK Klubb members to undertake work and extend it in the future.

Theme 5. Darent Valley Learning and Future Skills

PROJECT 5C. SCHOOL RUN – READING THE LANDSCAPE

PROJECT TIMETABLE

Activity	Year 1			Year 2			Year 3			Year 4			Year 5												
	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	
A1a: Identify all interested schools within the DVP catchment area.																									
A1b: Notify schools of online orienteering package & how it will assist reading the landscape.																									
A1c: 2 Study Days to identify the role of orienteering in the curriculum.																									
A1d: From activities above clarify which schools wish to be involved.																									
A2a: Training in OCAD to 5 Klubb members in preparation for survey and cartography																									
A2b: Acquire school OS data sheets from KCC																									
A2c: Prepare 'base maps' for each school																									
A2d: Commence survey of school grounds																									
A2e: Advise on setting up a permanent orienteering course (POC) in school grounds																									
A2f: 2 Training Days in using Purple Pen to draw up school courses																									
A3a: 2 "Teaching Orienteering Pt 1" Courses																									
A4a: Guide the schools in establishing central equipment resource.																									
A4b: Promote interest in establishing annual school league to commence in year 5.																									
A5a: First orienteering course in Lullingstone Country Park.																									
A5b: Second orienteering course in Eynsford village utilising key heritage features.																									
A5c: Finalise online interactive learning package demonstrating formation of the valley.																									
A6: Provide event for the 'less able (Trail-O) for schools to consider in future activities.																									
A7: Identify new geocache sites within the valley heritage sites.																									

5C. SUPPORTING LAND MANAGERS IN A PERIOD OF CHANGE A COLLABORATIVE ADVISORY SERVICE



PROJECT AIM

To provide land managers support, advice and guidance for environmental land management as the UK leaves the European Union. In a post-Brexit and Common Agricultural Policy, there is likely to be a lack of information and guidance for agri-environment schemes which DVLPS can address and support with a free expert service that will encourage joint working and protection of existing farmed landscapes.

DELIVERY LEAD

Direct delivery by the Darent Valley Landscape Partnership Scheme through contracted consultants.

LOCATION AND LAND OWNERSHIP

Available throughout the scheme area but focused initially on where there are existing Countryside Stewardship agreements (particularly where they are coming to an end) and the existing Countryside Stewardship target areas.

AUDIENCE

All landowners eligible for agri-environment grants within the scheme area.

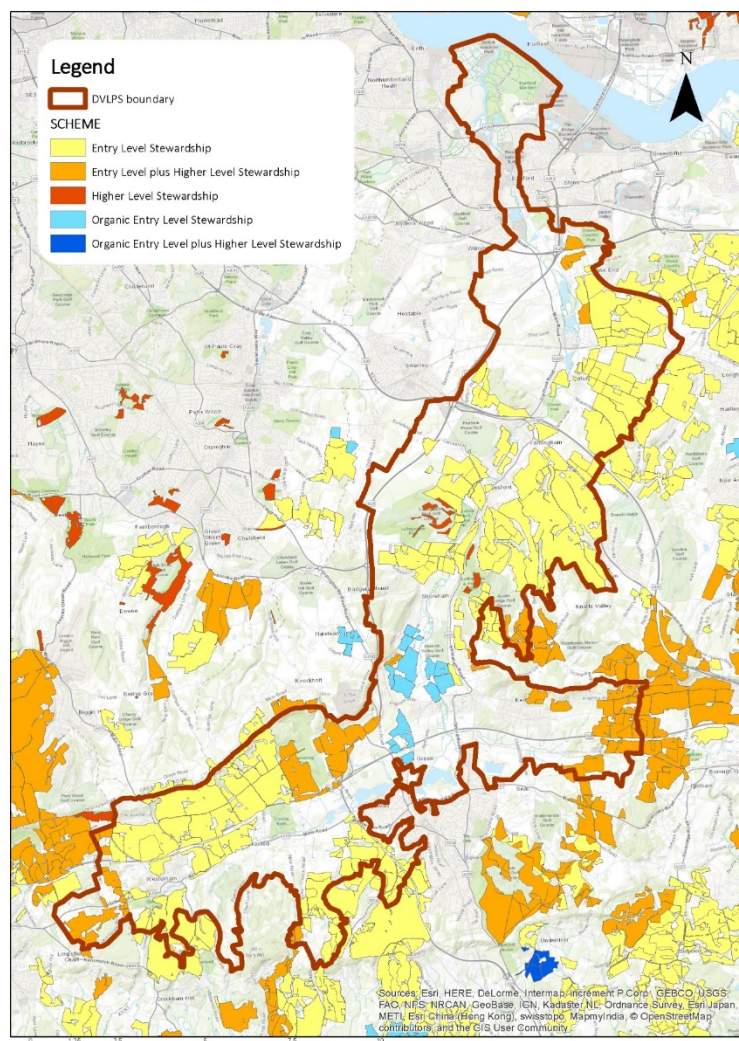
HERITAGE VALUE

As a largely rural landscape, the farmed environment makes up most of the Darent Valley land use and is responsible for the creation, maintaining and protection of important habitats, landscape and heritage features. There has been a high take up of Environmental Stewardship and its replacement Countryside Stewardship in the valley and it has been a major mechanism for supporting land management that enhances landscape character. Many of the chalk grassland sites are covered by agreements, and it remains an important tool for conservation organisations working with land managers.

ISSUES AND THREATS

Following the UK’s recent decision to exit the European Union, the country is entering a period of considerable uncertainty. The impact on landscape conservation is unclear and extremely complex. However, one of the outcomes of Brexit will be the requirement of the UK to develop its own policy towards agriculture and rural land to replace the Common Agricultural Policy. Whilst this uncertainty and likely change does present a high degree of concern, there are many that argue that it presents an opportunity.

Professor Ian Hodge of the Department of Land Economy at the University of Cambridge suggests that the development of the new policy should reflect a move to an ecosystem approach with the potential to have a British Ecosystem Service Policy rather than a British Agricultural Policy. He also advocates landscape partnerships as being a mechanism for delivering this at the local level (Hodge, 2016).



Such a move could be extremely positive, but regardless of this, there will be change. The DVLPS is likely to be operating through the two-year transition period once Article 50 is triggered, and will be in

place as the subsequent recalibration inevitably occurs. There is the potential for DVLPS to influence and advise with whatever will replace Countryside Stewardship, and take advantage of any opportunities that may arise, even if they are unforeseen now.

Potentially, the UK will no longer be governed by EU environmental legislation, and could choose to weaken or strengthen its current laws. Recent UK government policy has tended to favour deregulation and competitiveness over environmental regulation, so leaving the EU would result (in the immediate term at least) in considerable uncertainty for wildlife, and for business investment in green infrastructure (Institute for European Environmental Policy, 2016).

PROJECT DESCRIPTION

There is a need for this project to remain flexible to adapt to what is likely to be a fast-changing environment. At the time of writing of this project proposal, little is known about what will happen with agri-environment schemes when the UK leaves the European Union, although Countryside Stewardship remains open to new applications. This project exists to ensure that there is a mechanism to inform, advise and where necessary and appropriate, help land managers to apply for whatever scheme is introduced post-Brexit.

Consequently, it is not possible to define precisely what this project will deliver, or indeed when it will provide it. However, it is highly likely that it is a project that will be needed to ensure that land management that takes into consideration the conservation and protection of landscape character, and natural and cultural heritage will be needed.

The service is likely to be provided under contract by a specialist farm advisory service. A draft brief based on a farm environment planning service provided in the Medway Gap is attached as a draft brief, and may provide the basis for the service provided in the Darent Valley. This integrated Historic Landscape Surveys within the service and if appropriate will be included again. In addition, the scheme intends to have a focus on actions to support the conservation of the Turtle Dove within the valley.



Turtle Dove ([Andy Morffew](#)) Reproduced under a [Creative Commons Licence](#)

The DVLPS has worked with Operation Turtle Dove in the South-East, and the valley has been identified as an area where there is still a breeding population. With any replacement agri-environment scheme, provision for the conservation of this species will be included where possible.

OUTPUTS AND OUTCOMES

• Activity	• Outputs	• Outcomes
<ul style="list-style-type: none"> • Advice on agri-environment scheme provided to land managers in the Darent Valley. 	<ul style="list-style-type: none"> • 10 landowners advised • 1 x workshop provided for land managers. • Other outputs as appropriate when outcome of Brexit is understood. • Turtle Dove population remains stable or increases. 	<ul style="list-style-type: none"> • Improved understanding of any new agri-environment scheme introduced. • Land managers in the Darent Valley landscape are as well prepared as possible following Brexit. • Reduced likelihood of detrimental impact on landscape and heritage because of withdrawal from the Common Agricultural Policy. • Ongoing financial support for land management that supports the objectives of DVLPS, and projects delivered through it are more likely.

PROJECT COSTS

Element/Item	Year 1 2017/18	Year 2 2018/19	Year 3 2019/20	Year 4 2020/21	Year 5 2021/22	Total
Totals	£0	£6,600	£5,500	£5,500	£5,500	£23,100

PROJECT RISKS

Risk	How likely	Severity	Consequence	Action required
Extended withdrawal from the EU results in too much uncertainty to deliver project.	Medium	High	Unable to provide any constructive advice due to lack of information.	Remain informed on progress and ready to provide service when information becomes clear. Remain adaptable to issues.
Participation from land managers lacking due to other issues caused by withdrawal from the CAP.	Medium	Medium	Uptake may be low due to higher priorities for land managers. May result in reduction in land management that is beneficial to landscape and heritage management.	As above.
No experts with sufficient knowledge of changes available.	Medium	High	Advice cannot be provided resulting in reduction in land management that is beneficial to landscape and heritage management.	Information regarding changes to scheme may not be detailed enough for expert advisors to provide appropriate advice. DVLPS to monitor situation and remain in contact with potential providers.

TRAINING REQUIRED

- Moving towards a British Agricultural Policy.
- An introduction to ‘the new agri-environment scheme’.

LINKS TO OTHER PROJECTS

- All projects in theme 4.
- 5D. Future Skills.

DRAFT BRIEF FOR A COLLABORATIVE ADVISORY SERVICE

Run the Collaborative Advisory Service for the duration of the DVLPS project (scheduled to finish May 2022). This will have three main strands: Countryside Stewardship applications, Historic Landscape Surveys, and follow up monitoring and advice.

1. Countryside Stewardship applications

- Hold initial discussions with landowners/ tenants identified by DVLPS and Natural England to assess suitability for grants.
- Survey and completion of Farm Environment Plans (FEPs)
- Work with landowners/ tenants and DVLPS to maximise the benefit of Countryside Stewardship (CS) to them and the wider aims of DVLPS.
- Assist Natural England and Applicant to achieve an offer of a CS agreement. If the landowner/ tenant unwilling or unable to enter into a scheme, identify other grants that could be of benefit.

2. Historic Landscape Surveys

- Appoint Historic Landscape Advisor, subject to approval by KCC Heritage Conservation.
- Conduct Historic Landscape Survey in conjunction with the FEP surveys. The Historic Landscape Survey will include an appraisal of readily available historic maps and aerial photographs, and a site walkover so that earthworks or other features of heritage interest are plotted and briefly recorded. This work will be done to a method statement to be agreed with KCC Heritage Conservation.
- Utilise the results of the Historic Landscape Survey to inform the FEP and support CS applications. Review the current Natural England guidelines and FEP process and suggest amendments which would encourage take up of Heritage options.

3. Follow up monitoring and advice

- After applications, provide 15 days of support and advice for successful applicants as well as continuing to work with other landowners/ tenants in the project area and DVLPS to achieve further agreements or grants.
- The identification and recruitment of volunteers (preferably from the local area) to carry out follow up surveys to monitor success of implemented schemes for 18 days over the life of the project. The necessary training will be provided through the DVLPS Training Programme.
- Willingness to continue involvement with the FEP Service and the project area after the life of the DVLPS project in its current form.
- Produce a final report detailing the successes, failures and lessons learned from the project, with emphasis placed on the results and recommendations of the Historic Landscape Survey and follow monitoring and advice.

5D. FUTURE SKILLS

EMBEDDING KNOWLEDGE AND SKILLS IN COMMUNITIES AND PARTNERS



PROJECT AIM

To ensure that partners, communities and those contributing to the objectives of the scheme have the skills and knowledge to ensure that projects are a success during the delivery period of the scheme and can be sustained after the DVLPS comes to an end in 2022.

DELIVERY LEAD

Darent Valley Landscape Partnership Delivery Team delivering through partners and other experts.

AUDIENCE

‘Future Skills’ is available to and targeted towards all communities, visitors and partner organisations working on projects being delivered through the scheme. In addition, the learning opportunities provided will be used to inform and disseminate knowledge and best practice gained during the delivery of the project. This will include UK and European partners working on the elements of DVLPS delivered as part of Interreg 2 Seas funding for the scheme, and for the wider family of Landscape

Partnership Schemes and other organisations addressing similar issues and problems. The learning opportunities provided to support specific DVLPS projects will be targeted at the audiences identified in the dedicated project plans, but will be available to others involved with the project too.

ISSUES AND THREATS



Sharing approaches to common problems on an Interreg exchange visit

Many of the projects being delivered through the DVLPS rely heavily on local community involvement and participation as well as the support and expertise of delivery partners. The need for training and the development of skills and knowledge is two-fold. Firstly, there is great enthusiasm and motivation amongst communities to participate and where possible lead on projects. However, many recognise that they do not have the necessary skills to do this. The partnership recognises that there is a huge benefit to having local participation right from the beginning of projects. This ensures that there is a 'buy-in' and ownership to the work that will be undertaken, and a corresponding will to see it succeed.

At all stages of development with DVLPS, a key question has been 'How will you maintain what is achieved during the life of the DVLPS?', and this has encouraged partners and communities to closely consider what they will need to do after five years and the resources that they will need to do it. In turn, they have critically analysed where they are missing skills.

Secondly, some of the key organisation that will play an important role in securing and supporting the scheme's legacy recognise that they do not have the knowledge to provide the expert help that some elements of the scheme may need. Some have already undertaken internal skills audits to support

where they will need to enhance their knowledge, and this will play an important role for the long-term success of what DVLPS will achieve.

PROJECT DESCRIPTION



'Future Skills' is seen by the Partnership as very much an evolving project plan. Experience amongst partners that have previously been involved in Landscape Partnership Schemes is that it is vital that any training programmes adapt to the needs to the scheme as it progresses. It is impossible to predict precisely what training and learning is required, or the best way to deliver it. This is because it is influenced by unknown factors such as the recruitment of new volunteers for whom it is not known what their training needs will be, or what they find is the most effective way of learning. Also, new opportunities may arise within projects which demand a new skill-set that cannot be anticipated at this stage. The number of people that require training may also vary, and therefore the method for delivering it may either be through a pre-designed course at which only one space is required, or if there are many individuals requiring training, it provides the opportunity to design and commission bespoke training.

It is therefore important that the 'Future Skills' project is not overly prescriptive and is flexible and resourced enough to cope with the unknown requirements.

All projects within this LCAP have identified the training required. This has formed the basis for the training needs analysis and provides the core of this project plan. It identifies the training need, the scheme projects that they contribute to, and the broad audience groups that they will be provided to. The specifics in terms of numbers participating or the precise medium for learning are not specified for the reasons explained above.

Theme 5: Darent Valley Learning and Future Skills

5D. FUTURE SKILLS - EMBEDDING KNOWLEDGE AND SKILLS IN COMMUNITIES AND PARTNERS

TRAINING NEEDS

TRAINING NEED	PROJECT REF	PROJECT NAME	Local Comm'ty	Del'y Partner	Staff	Other vols	Other orgs
Walk leadership and curating	1C, 4D,3, 5F	Inspired Landscapes The Divided Park Engaging New Audiences	✓				✓
Creative writing and poetry	1C	Inspired Landscapes	✓				
Artistic skills	1C	Inspired Landscapes	✓				
Sketching / painting	1C	Inspired Landscapes	✓				
Music composition	1C	Inspired Landscapes	✓				
Tranquillity consultation training	1E	Finding the Earthly Paradise	✓	✓			
Arc GIS Packages	1E, 2A, 4G	Finding the Earthly Paradise, Peeling Back the Layers Restoring the Hedgerow Mosaic			✓		✓
Intelligence gathering	1F	Restoring the Canvas	✓				
Apprenticeship/Graduate training	1F	Restoring the Canvas		✓		✓	
Trend analysis and spatial assessment (GIS)	1F	Restoring the Canvas		✓		✓	
LIDAR data interpretation and manipulation (staff and volunteers).	2A	Peeling Back the Layers	✓	✓	✓	✓	
Ground-truthing and feature interpretation for volunteers.	2A	Peeling Back the Layers	✓		✓	✓	
Flying drones (staff).	2A	Peeling Back the Layers			✓	✓	
Skills and knowledge exchange for remote sensing	2A	Peeling Back the Layers		✓	✓	✓	✓
Community archaeology skills	2B	Roman Darent	✓	✓	✓	✓	
Flying and control of UAVs	2C	Eynsford Castle			✓	✓	

Theme 5: Darent Valley Learning and Future Skills

5D. FUTURE SKILLS - EMBEDDING KNOWLEDGE AND SKILLS IN COMMUNITIES AND PARTNERS

TRAINING NEED	PROJECT REF	PROJECT NAME	Local Comm'ty	Del'y Partner	Staff	Other vols	Other orgs
Audio editing	2C	Eynsford Castle	✓		✓		
Event management	2C	Eynsford Castle	✓		✓		
Being an effective trustee	2D	Otford Palace	✓				
Heritage interpretation skills	2D	Otford Palace	✓		✓	✓	✓
Fundraising	2D	Otford Palace	✓				
Introduction to archaeological skills	2E, 2F	Lullingstone Castle Dartford Gunpowder Mill	✓			✓	
Researching historic gardens and varieties of plants	2E	Lullingstone Castle	✓			✓	
Reconstruction and restoration of historic gardens	2E	Lullingstone Castle	✓		✓		✓
Heritage, archive and historical research skills	2F, 3D, 4D.3	Dartford Gunpowder Mill Reducing the Pressure The Divided Park	✓				✓
Volunteer leadership skills	2F, 4B, 5A.3	Dartford Gunpowder Mill Enhancing Oxenhill Shaw & Meadow The Enchanted Woodland	✓				
Power tool training	2F	Dartford Gunpowder Mill	✓				
Health and safety training, Risk assessment	2F, 2G, 4A.1, 5F	Dartford Gunpowder Mill Orchard Hospital Jewels in the Downs Engaging New Audiences	✓	✓	✓	✓	✓
Traditional orchard management training course	2G	Orchard Hospital	✓				✓
Summer & winter pruning course	2G	Orchard Hospital	✓				✓
Grafting	2G	Orchard Hospital	✓				✓
Management plan writing	2G	Orchard Hospital	✓				

Theme 5: Darent Valley Learning and Future Skills

5D. FUTURE SKILLS - EMBEDDING KNOWLEDGE AND SKILLS IN COMMUNITIES AND PARTNERS

TRAINING NEED	PROJECT REF	PROJECT NAME	Local Comm'ty	Del'y Partner	Staff	Other vols	Other orgs
Noble Chafer Beetle – ecology, identification and conservation	2G	Orchard Hospital	✓		✓		
Business development	3A	The Darent Valley Path	✓				
Google Trekker data capture	3A	The Darent Valley Path	✓				✓
Interpretive / creative writing	3C	Telling the Darent's story	✓	✓			
Rights of way law	3D	Reducing the pressure	✓				
Rights of way maintenance	3D	Reducing the pressure	✓				
First Aid	2F, 2G, 4A.1	Dartford Gunpowder Mill Jewels in the Downs Orchard Hospital	✓				✓
Livestock lookering	4A.1, 4A.3	Jewels in the Downs Flight of the Butterfly	✓				✓
Chainsaw training	4A.1	Jewels in the Downs	✓				✓
Brushcutter training	4A.1, 4A.3, 4E	Jewels in the Downs Flight of the Butterfly The Divided Park	✓				✓
Species ID and general ecology courses	4A.1, 4A.2, 4A.3, 4E, 5A.3	Jewels in the Downs Preston Hill Flight of the Butterfly On the Verge The Enchanted Woodland	✓				✓
Military history and heritage	4A.2	Preston Hill	✓	✓			✓
Contract management skills	4C, 4G	The River Darent Restoring the Hedgerow Mosaic		✓	✓		✓
River restoration techniques	4C	The River Darent		✓	✓		

Theme 5: Darent Valley Learning and Future Skills

5D. FUTURE SKILLS - EMBEDDING KNOWLEDGE AND SKILLS IN COMMUNITIES AND PARTNERS

TRAINING NEED	PROJECT REF	PROJECT NAME	Local Comm'ty	Del'y Partner	Staff	Other vols	Other orgs
Tree climbing	4D.1	Samuel Palmer's Great Veterans of Lullingstone Park		✓			
Aerial rescue and using a chainsaw from a rope	4D.1	Samuel Palmer's Great Veterans of Lullingstone Park		✓			
Mobile platform use	4D.1	Samuel Palmer's Great Veterans of Lullingstone Park		✓			
Using a chainsaw from a mobile platform	4D.1	Samuel Palmer's Great Veterans of Lullingstone Park		✓			
Veteran tree surveying	4D.1, 4D.3	Samuel Palmer's Great Veterans of Lullingstone Park The Divided Park	✓	✓		✓	✓
Tree health and diseases	4D.1	Samuel Palmer's Great Veterans of Lullingstone Park	✓	✓		✓	✓
Green keeping and environmental enhancement	4D.2	Landscape On Course					✓
Golf and water management	4D.2	Landscape On Course					✓
Landscape-led approach to water management	4D.2	Landscape On Course					✓
Guided walk training	4D.3	The Divided Park - Combe Bank	✓				✓
Local history research	4D.3	The Divided Park - Combe Bank					
Hedgerow survey techniques	4G	Restoring the Hedgerow Mosaic	✓				✓

Theme 5: Darent Valley Learning and Future Skills

5D. FUTURE SKILLS - EMBEDDING KNOWLEDGE AND SKILLS IN COMMUNITIES AND PARTNERS

TRAINING NEED	PROJECT REF	PROJECT NAME	Local Comm'ty	Del'y Partner	Staff	Other vols	Other orgs
Map regression	4G	Restoring the Hedgerow Mosaic	✓		✓	✓	✓
Forest School Level 3 Training	5A.1, 5A.3, 5A.5	Wide Horizons		✓			✓
		The Enchanted Woodland					
		Oxford Chalk Pit					
Disability Equality Training	5A.2	Designing Nature at SWR	✓	✓		✓	✓
Forest gardening workshops	5A.4	The Quadrangle Trust	✓			✓	✓
Principles of permaculture	5A.4	The Quadrangle Trust	✓			✓	✓
OCAD design software	5B	School Run		✓			
Specialised surveying of school grounds for orienteering	5B	School Run		✓			
Training teachers in use of Purple Pen for designing school courses	5B	School Run		✓			✓
Moving towards a British Agricultural Policy	5C	Supporting Land Managers		✓	✓		✓
An introduction to the new agri-environment scheme	5C	Supporting Land Managers		✓	✓		✓
Leading guided walks	5F	Engaging New Audiences	✓	✓	✓	✓	✓
WordPress use and website management	5G	Spreading the Word	✓	✓	✓		✓
Use of social media	5G	Spreading the Word	✓	✓	✓	✓	✓

OUTPUTS AND OUTCOMES

Activity	Outputs	Outcomes
Provision of a wide range of training courses and learning opportunities across the scheme's activities	<ul style="list-style-type: none"> • 80 training courses/ learning opportunities facilitated during the scheme's delivery. • 400 people trained in skills required to deliver and sustain the work of the DVLPS. 	<ul style="list-style-type: none"> • Local people have the skills and knowledge to help manage and care for the landscape and its heritage. • Increased knowledge and awareness of the heritage of the Darent Valley landscape, its importance and the threats facing it. • People encouraged to get more involved with their local heritage and its conservation. • Local people celebrate their local heritage. • Traditional heritage skills passed on for the future.

PROJECT COSTS

	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Element/Item	2017/18	2018/19	2019/20	2020/21	2021/22	
Totals	£9,845	£10,945	£10,945	£10,945	£10,945	£53,625

PROJECT RISKS

Risk	How likely	Severity	Consequence	Action required
Low uptake for training courses.	Low	Medium	Skills and knowledge not embedded in the community or with partners. Outputs and outcomes from DVLPS projects not sustained as well.	Training provision remains adaptable and changes to fit with need and responds to feedback. Ensure wide promotion using multiple media.

LINKS TO OTHER PROJECTS

- All other projects in the scheme.

5E. LANDSCAPE APPRENTICES TRAINING THE NEXT GENERATION OF LANDSCAPE MANAGERS



PROJECT AIM

To provide an opportunity for two placements a year wishing to enter a career in landscape and biodiversity management to gain experience and new skills in a wide variety of projects with Kent Wildlife Trust. Each graduate will spend a year with the Trust working on reserves in the Darent Valley.

DELIVERY LEAD

Kent Wildlife Trust - David Hutton, Head of Reserves West

LOCATION AND LAND OWNERSHIP

The apprentices will form part of Kent Wildlife Trust's Volunteer Trainee Warden programme and will be based at the Sevenoaks Wildlife Reserve. They will also work on the KWT reserves at Polhill Bank, Fackenden Down and Meadow as well as the sites included in the Jewels in the Downs project (4A.1). They will also support monitoring of other sites that form part of the DVLPS through the Darent Ecology Group.

AUDIENCE

This project is targeted at individuals who are currently undertaking or have recently completed an HND/degree in countryside management or equivalent, or have a proven interest in the environment and are actively seeking employment in this field.

PROJECT DESCRIPTION

Kent Wildlife Trust staff will interview for the positions each year to ensure that both the apprentice and the Trust benefit from the role, and will be encouraged to enable them to work with other delivery partners as well to provide a variety of skills and experience. At the end of their placement, a feedback evaluation will be undertaken to understand how well it has worked and to identify if any improvements can be made in the next year.

ROLE OUTLINE

To provide assistance to Reserves Wardens on sites within the Darent Valley Landscape Partnership Scheme area, to assist with the following:

1. Practical management
2. Working with/leading volunteers
3. Working with stock graziers and Trust livestock
4. Surveys and monitoring
5. Publicity and promotion of the Trust and its work within the Darent Valley LPS.
6. Health and safety

Training and certification will be given in specific skills where this is required. The trainee will be offered a combination of training tailored to their needs, these may include:

- NPTC Certificate of Competence in chain saw operation.
- NPTC Certificate of Competence in Herbicide application.
- First Aid.
- Work Party Leadership.
- Livestock welfare checking.
- Brushcutter operation.

PRINCIPAL DUTIES

PRACTICAL MANAGEMENT

- Carrying out habitat and estate management work on reserves in line with management plans.
- Using and supervising the use of hand tools.
- Using, maintaining and supervising the use of power tools.
- Practical management will include coppicing, scrub clearance, stock fence construction, livestock handling, and mechanical/chemical control of pest species.

WORKING WITH VOLUNTEERS

- Carrying out and leading tasks on reserves both during the week and at weekends.

WORKING WITH STOCK GRAZIERS AND TRUST LIVESTOCK

- Helping Trust staff to oversee management of land by Trust-owned stock with tasks including welfare checks, and movement between sites.

SURVEYS AND MONITORING

- Helping to carry out survey and monitoring work on reserves. This may include fixed point photography and monitoring BAP target species.
- Recording volunteer time and work as appropriate.

PUBLICITY AND PROMOTION OF THE TRUST AND ITS WORK

- Liaising with and maintaining good relations with reserve visitors and the public generally.
- Promoting the work of Kent Wildlife Trust by assisting with special events on reserves.
- All staff share a common duty to recruit members and volunteers, raise funds and enhance the good reputation of Kent Wildlife Trust wherever the opportunity arises.
- KWT aims actively to enhance, wherever possible, the opportunities for people with disabilities to experience, understand and enjoy the natural environment. All staff share the responsibility in achieving this. Further information is available from the Head of People Engagement.

HEALTH AND SAFETY

- Ensuring that all works by volunteers are in accordance with the Health & Safety at Work Act 1974.

SKILLS, KNOWLEDGE & EXPERIENCE

QUALIFICATIONS

- Currently undertaking or recently completed an HND/degree in countryside management or equivalent OR having a proven interest in the environment and actively seeking employment in this field.

ESSENTIAL

- Proven interest in the environment
- Full clean driving licence
- Basic IT skills

DESIRABLE

- Experience of practical habitat management work
- Some experience in volunteering/leading volunteers

PERSONAL QUALITIES

- A mature approach and the ability to communicate effectively with the public.
- An ability to work on your own initiative.
- A willingness to undertake outdoor work in all weather conditions.
- Understanding of, and sympathy with, the Trust's role as a conservation body would be very helpful.

OTHER CONSIDERATIONS

- The post is unsalaried but there is a budget for travelling expenses and training.
- It is hoped that the volunteer will be with KWT for at least three days per week so that both parties can each get the most from the volunteering experience. However, KWT is flexible about when you work (within the constraints of drawing up a rota) so please inform them if you would prefer a different arrangement.
- KWT hopes the role to stretch over 11 month so that both parties can each get the most from the volunteering experience and to ensure completion of the training programme provided.
- No person shall be treated less favourably than another on the grounds of sex, sexual orientation, marital status, race, ethnic or national origin, religion, colour, age or disability.
- *DBS Disclosure statement is not required.*
- Kent Wildlife Trust is an equal opportunities employer and applicants for volunteer roles shall be short-listed for interview and appointed purely on the grounds of their suitability for the role as laid out in the advertised role description (subject to 7 below).
- Appointment is conditional upon receipt of satisfactory references.
- KWT aims actively to enhance, wherever possible, the opportunities for people with disabilities to experience, understand and enjoy the natural environment. All staff share the responsibility in achieving this. Further information is available from the Head of People and Wildlife.
- Under Section 7 of the Health and Safety at Work Act 1974, all staff have a legal responsibility to:
 - take all reasonable care of their health and safety while at work;
 - ensure as far as reasonably practicable the safety of other persons,
 - whether other employees or members of the public, who may be adversely affected by their own actions
 - co-operate with the Trust to enable it to discharge its obligations satisfactorily.

EXPENSES

KWT will reimburse certain out-of-pocket expenses incurred in connection with volunteering for us. Details of these expenses and how to claim them are set out below:

When claiming mileage expenses the volunteer rate of 25p per mile will apply. Trainees may claim for their travel to and from work. A £100 per month cap will apply unless agreed otherwise with the Section Head. The cost of journeys made on Trust business during the working day will not be included in the

Theme 5: Darent Valley Learning and Future Skills

5E: LANDSCAPE APPRENTICES – TRAINING THE NEXT GENERATION OF LANDSCAPE MANAGERS

£100 cap. The above is to ensure that we have the maximum budget available to spend on your training program.

OUTPUTS AND OUTCOMES

Activity	Outputs	Outcomes
Provision of landscape apprenticeship scheme	<ul style="list-style-type: none"> • 10 individuals provided with apprenticeship opportunity. • 300 volunteer days (skilled) per year contributed. 	<ul style="list-style-type: none"> • Apprentices gain new skills and knowledge to prepare them for a future career in landscape/biodiversity management. • The pool of skilled individuals is increased to support future biodiversity and landscape management. • Increased support for the management of sites within the Darent Valley. • Greater understanding of the valley's heritage and its importance.

PROJECT COSTS

	Year 1	Year 2	Year 3	Year 4	Year 5	Totals
Totals	£17,000	£17,000	£17,000	£17,000	£17,000	£85,000

PROJECT RISKS

Risk	How likely	Severity	Consequence	Action required
Poor uptake or unable to recruit the right people for the role	Medium	High	Lack of impact for the project and support for habitat management at KWT sites is compromised.	Utilise wider partnership to advertise opportunities, and advertise the significant benefits of the initiative.
Poor retention of apprentices	Low	High	Lack of impact for the project and support for habitat management at KWT sites is compromised.	Use the training opportunities as an incentive spread throughout the year.

TRAINING REQUIRED

A training needs assessment will be undertaken by KWT staff at the start of the apprentice placement.

MAINTAINING A LEGACY

Although it is hoped that they will, there can be no guarantee that the apprentices' careers will continue within the Darent Valley. However, by providing these opportunities, the resource of future landscape and biodiversity managers will be stronger and better qualified.

LINKS TO OTHER PROJECTS

- 4A. Uncovering the Herb-Scented Scarp
- 4B. A Woodland Framing
- 4C. Where Ten Thousand Fishes Once Played – Restoring the Darent.
- 4D. A Designed Landscape
- 4E. On the Verge
- 4G. Restoring the Hedgerow Mosaic
- 5E. Future Skills.

Theme 5: Darent Valley Learning and Future Skills

5E: LANDSCAPE APPRENTICES – TRAINING THE NEXT GENERATION OF LANDSCAPE MANAGERS

PROJECT TIMETABLE

Activity	Year 1			Year 2			Year 3			Year 4			Year 5													
	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May		
Advertising of apprentice roles																										
Interview and recruit																										
Training needs analysis undertaken																										
Apprenticeship period																										
Evaluation of role																										

Theme 5: Darent Valley Learning and Future Skills

5E: LANDSCAPE APPRENTICES – TRAINING THE NEXT GENERATION OF LANDSCAPE MANAGERS

5F. ENGAGING NEW AUDIENCES WALKS, TALKS AND EVENTS TO INSPIRE AND LEARN



PROJECT AIM

To engage target audiences as identified in the Audience Development Plan (residents, visitors, Black and Minority Ethnic (BAME) people, people with disabilities, young people, families with young children and deprived communities) to explore, enjoy and discover the heritage of the Darent Valley through an exciting annual events programme.

DELIVERY LEAD

This project will be led by the DVLPS Delivery Team but events will be delivered by multiple providers including some partner organisations.

LOCATION AND LAND OWNERSHIP

The events programme will be delivered at multiple sites, greenspaces, attractions and community facilities throughout the DVLPS area. Where not already provided, land ownership permission will be sought in advance where it is required by either the DVLPS delivery team or the event leader.

AUDIENCE

Direct guided interaction with heritage and landscapes is a highly effective way of communicating the importance of landscapes such as the Darent Valley, and is an important element of this scheme. This

project will engage with all target audiences as stated in the Audience Development Plan through the events programme.

Current audiences in the Darent Valley include residents and visitors as well as nationally identified ‘under-represented groups’ of Black and Minority Ethnic people, young people, people with disabilities, families, elderly (65+) people and deprived communities. Other groups include educators (primary, secondary and tertiary education providers), community groups (parish councils, village societies), specialist interest groups, farmers and landowners, local businesses and conservation volunteers.

The level of engagement and connection with the Darent Valley’s heritage by some groups and within groups varies considerably. Prohibitive barriers identified through the audience development consultation are experienced by many groups which can have a significant impact on an individual’s engagement with the landscape. Generally, there is a high level of awareness of the Darent Valley among groups except visitors from South East London, compounding findings that awareness decreases as distance from the valley increases.

Consultation revealed that when asked what they would like to know more about; places to visit, nature areas and wildlife, circular walks, history and heritage, self-guided walks were the most popular choices among all audience groups. The events programme provides the direct opportunity to introduce new audiences to alternative places to visit, nature areas and wildlife, circular walks, history and heritage. Interpretive media recommendations in the Interpretation Strategy will fulfil the desire for self-guided walks through Local Landscape Walks and Rail Trails.



HERITAGE VALUE

The Darent Valley’s natural beauty is already highly appreciated, particularly among residents. Yet although its heritage is valued, this is to a lesser extent than natural beauty. However, there is much interest to know more about the area’s heritage. Many visitor attractions and existing sites offer a means to visit the Darent Valley and a way of starting that connection.

ISSUES AND THREATS

Audience development consultation revealed that barriers to visiting the Darent Valley and engaging with its heritage currently exist, many of which cross multiple audience groups.

Not knowing where to go is the single biggest barrier to visiting experienced by all groups (except some residents). It was the most frequently cited reason among audience survey consultation respondents for not visiting the Darent Valley and was particularly acute among BAME, young people, visitors from South East London and Swanley residents. Not knowing where to go and therefore not appreciating the heritage value of the area is a significant threat to the Darent Valley. People do not have the desire to care for an area if they do not know it is there or value its significance.

Consequently, if visitors from South East London don’t know where to go, they are likely to opt to visit greenspaces local to them instead. Alternatively, they will stick to more well-known sites in the Darent Valley, most of which are already at carrying capacity during summer months.

Other barriers are an issue for the Darent Valley and unless mitigated, will remain a threat to people engaging with and valuing the area’s heritage. Too busy, health (poor health, old age and a physical disability) and transport (no access to a car and a lack of public transport) were also barriers frequently stated for not visiting the Darent Valley. Too expensive was a concern among some audience groups – BAME, people with disabilities, visitors - but this was rated lower than other issues by each group. Very few people mentioned not feeling welcome and safety as reasons for not visiting, yet nationally this is a significant barrier to not visiting the countryside experienced by many under-represented groups.



Removal of barriers (where possible) will open opportunities for existing audiences to develop a deeper connection and understanding of the Darent Valley's heritage and provide opportunities for new audiences to explore, enjoy and value this landscape. Section 8 of the Audience Development Plan assesses barriers to engaging with the area's heritage and makes realistic recommendations for their removal to increase engagement amongst a wider cross section of audiences. This is being tackled through many individual projects being delivered through the scheme. Events provide the opportunity to mitigate many of these barriers and enable new audiences to visit and connect with the Darent Valley and its heritage.

Villages and attractions within the Central Darent Valley Sub-Character Area were the most frequently stated across all audience groups of places they visited. Guided events and walks at alternative sites provide a means for audiences to become aware of and experience other areas of the valley that they may not have considered. Furthermore, considering access links between event locations and public transport (where possible) when planning events, may help reduce transport barriers and encourage travel to the Darent Valley by sustainable means rather than by car.



Figure 1. A guided walk underway

REMOVING BARRIERS THROUGH THE EVENTS PROGRAMME

Factors to consider as a means of mitigating barriers and maximising engagement opportunities among audience groups through the events programme are as follows:

- Use a range of media to promote events and opportunities; website, Facebook, existing community groups, parish newsletters.
- Promote one off events/activities particularly family-orientated to engage busy people in the heritage of the Darent Valley.
- Consider proximity of public transport (and also the service on particular days/times) when planning events / activities. Ease of access by train needs to be considered with the locations, times and days of activities offered in the events programme.
- Promote the benefits of sustainable travel i.e.: making the journey part of the whole experience / day out, for families with young children.
- Offer activities free of charge and in multiple locations including village and town centres (to minimise travel costs).
- Offer alternative provision virtually via DVLPS website for those unable to access an event in person
- Offer talks as well as walks for those less mobile but want to engage with DVLPS.
- Consider and adopt access for all in all projects (as much as possible).

- Look to remove physical barriers on walks.
- Offer activities that require no prior knowledge/awareness and are socially orientated.
- Offer opportunities and activities in contained environments i.e.: Eynsford Castle and at gateway locations
- Make heritage accessible for all and focus on promoting different aspects of DV heritage; villages, enjoying the countryside (natural heritage), visiting heritage attractions.
- Offer a range of fun activities to engage with different aspects or locations of DVLPS i.e.: family orientated taster activities, tree climbing, survival skills etc.

PROJECT DESCRIPTION

EVENTS PROGRAMME

Informed by the interpretation strategy, the events programme brings together an exciting mix of conventional and less traditional events including walks, talks, presentations from experts in their field, character-led walks, animated events among others. Events will offer a range of topics to hopefully offer something for everyone and some events will be aimed at a particular target audience such as family-orientated events. Activities that require no prior knowledge/awareness will be offered and some events within contained gateway sites such as Lullingstone Country Park. Events will include a mix of heritage, art, nature and other activities¹.

A host of individuals, organisations and experts will lead the various events, many of which have been included within individual project plans to deliver a scheme-wide integrated events programme. Sites throughout the Darent Valley will be used to deliver events including heritage attractions, wildlife sites, town-based locations such as Central Park in Dartford. This will ensure as wider coverage and ease of access for target audiences as possible. DVLPS can not only engage new audiences in the heritage of the Darent Valley through its events programme, but have an influence on them considering sustainable means to access events and encouraging visits to alternative sites and areas, particularly those outside of the popular central section.

A programme of events will be offered annually providing flexibility to adopt new style and focused events as new opportunities arise. Formative



Figure 2. Sound gathering walk

¹ Walking was the most popular activity but other activities - watching wildlife, spending time with family and friends and to enjoy local history/heritage site - were also popular. Arts activities, horse riding, fishing and field sports, geocaching, photography, practical projects and cycling were far less popular activities among many audience groups, yet among families and offered free of charge in local, accessible locations, these less traditional activities may be of interest, particularly to families with young children looking for something different to do.

evaluation will provide useful feedback on popularity and demand for particular types of events which can be usefully accommodated in events programmes of coming years.

These events will be used as an initial engagement tool with the public, to stimulate interest and entice a proportion to become more actively involved in volunteering opportunities offered through many projects being delivered under DVLPS.

YEAR 1 EVENTS PROGRAMME

Year 1 events will offer a mix of traditional guided walks, events and talks and less traditional events such as Sky Watch, treasure hunts, art walks, photography (see table overleaf). This will be used as a pilot to test the water with information from feedback from event attendees being used to influence the future year's programme. Year 1 events will be run between start of April 2018 and end of October 2018 (Easter to end of half term). Providing a variety of events will hope to attract a wide cross-section from target audiences.

Events will deliver the main theme and all sub-themes stated in the Interpretation Strategy along with a multitude of the learning, behavioural and emotional objectives for interpretation.

Theme 5: Darent Valley Learning and Future Skills

5F: ENGAGING NEW AUDIENCES – WALKS, TALKS AND EVENTS TO INSPIRE AND LEARN

No	Event	Location	Provider	Time of year	Target audience
1	Autumn leaves of the Darent Valley	Darenth Country Park	NWKCP	October half term	Families with young children
2	Christmas traditions from yesteryear	Lullingstone Country Park	NWKCP	Christmas holidays	Families with young children
3	Pond and river dipping	Lullingstone Country Park	NWKCP	Easter (April)	Families with young children
4	Wildflower crafts and bug hunts	Darenth Country Park	NWKCP	Summer holidays (July/August)	Families with young children
5	TBC	Shoreham Woods	NWKCP	Feb half term	Families with young children
6	TBC	Shoreham Woods	NWKCP	May half term	Families with young children
7	North Downs Way walk	Westerham – Chevening	NDW trail manager	May	Residents Visitors within 5km
8	North Downs Way Walk	Kemsing – Otford	NDW trail manager	September	Residents Visitors within 5km
9	Samuel Palmer trail walk	Shoreham	Sarah/Victoria as part of SP trail	June (link in with Shoreham Midsummer Festival)	Residents Visitors within 5km
10	Samuel Palmer trail walk	Shoreham	Sarah/Victoria - part of SP trail	September	Residents Visitors within 5km
11	Family orienteering	Lullingstone Country Park	Dartford Orienteering Klubb	Easter (April)	Families with young children
12	Family orienteering	Lullingstone Country Park	Dartford Orienteering Klubb	Summer holidays	Families with young children
13	History of Otford	Otford village	Rod Shelton		Residents
14	History of River Darent	Otford – Shoreham along DVP	Rod Shelton		Residents
15	Guided walk around marshes and Enchanted Woodland	Dartford	Temple Hill Trust	Summer holidays	DA1 residents
16	Veteran tree walk	Lullingstone Country Park	Kent Country Parks ranger	Spring	Residents
17	Veteran tree and fungi walk	Lullingstone Country Park	Kent Country Parks ranger	Autumn	Residents

Theme 5: Darent Valley Learning and Future Skills

5F: ENGAGING NEW AUDIENCES – WALKS, TALKS AND EVENTS TO INSPIRE AND LEARN

18	Sevenoaks Wildlife Reserve guided walk	Sevenoaks Wildlife Reserve	Kent Wildlife Trust		Visitors within 5km Visitors from SE London
19	Arts and craft at Sevenoaks Wildlife Reserve	Sevenoaks Wildlife Reserve	Kent Wildlife Trust		
20	First steps into archaeology	TBC (Spilman's mill / Lullingstone Roman Villa)	Andrew Mayfield		
21	Wildlife photography	TBC	TBC		Young people
22	Chalk grassland walk	Kemsing Down	Kent Wildlife Trust		
23	Shoreham Woods trail	Shoreham Woods	SDC Ranger		
24	Shoreham Woods trail	Shoreham Woods	SDC Ranger		
25	Storytelling	Darenth Country Park	Consultant – storyteller		
26	Storytelling	Sevenoaks Wildlife Reserve	Consultant – storyteller		
27	Sky watch	Lullingstone Country Park	Consultant		Young people
28	Sky watch	Shoreham Woods	Consultant		
29	Lullingstone Castle heritage tour	Lullingstone Castle	Tom Hart-Dyke		
30	Lullingstone Castle heritage tour	Lullingstone Castle	Tom Hart-Dyke		

EVENTS BOOKLET

A printed booklet will be used to promote the DVLPS events programme. It is anticipated that events by other providers and information on sites to visit with the Darent Valley are included within the booklet. Valley of Visions LPS (scheme completed) adopted this approach with the events booklet which proved popular among many audiences and attendees for promoting the annual events programme over three years, with anecdotal evidence of the booklet being retained as a reference point of sites to visit in the area.

WIDER PROMOTION OF EVENTS PROGRAMME

Events will be promoted through a combination of media channels alongside the printed events booklet and will also be available as a PDF download from the DVLPS websites. Audience consultation findings revealed that website was by far the most preferred media preference from the audience development survey findings and will be a primary means of communication for DVLPS. Social media particularly Facebook was popular, especially among younger audiences, with printed materials such as leaflets also being preferred by many.

Some events will be filmed and electronically recorded and made available online as audio downloads, videos and other interactive media. Others will be streamed live using sites such as Facebook Live. This provides the opportunity for those that cannot attend an event to share in it and will assist with further engaging with audiences from further afield.

The barrier of not knowing where to go is being tackled throughout all projects with ensuring promotion and communication of engagement opportunities and sites to explore are at the forefront and done so in a variety of ways.

ONLINE BOOKING SYSTEM

An online booking system will be to help manage the events programme and ascertain popular events and those with a low level of attendance. Contact details will be provided in advance by attendees with the option to sign up the DVLPS mailing list to receive further communication from DVLPS.

TRAINING FOR VOLUNTEERS GUIDED WALK LEADERS

As part of the legacy of DVLPS, key community individuals that express an interest in leading guided walks will receive training to be able to lead events outside of the DVLPS events programme and continue to do so beyond the life of DVLPS delivery.

OUTPUTS AND OUTCOMES

Activity	Outputs	Outcomes
Annual events programme	<ul style="list-style-type: none"> • 150 events run. • 3000 attendees or participants • 100 community and partner events are promoted alongside DVLPS events. 	<ul style="list-style-type: none"> • A greater awareness of the landscape, wildlife, habitats and heritage of the Darent Valley. • Barriers experienced to visiting the Darent Valley and engaging with its heritage will be reduced. • People are more aware of the quantity and variety of heritage in the Darent Valley. • People are aware of other sites outside of the central section of the Darent Valley by which to visit and explore the area. • People over a much larger geographic area are aware of the heritage in the Darent Valley. • People will consider travelling to events by sustainable means. • Learn of other sites to visit throughout the Darent Valley. • A greater understanding of DVLPS and what is delivering in the Darent Valley. • Promotes awareness and encourages people to take pride in their landscape and value it for the future. • Local people will have explored parts of the valley that they were previously unaware of. • Acts as a means to recruit new supporters and volunteers for DVLPS projects. • Members of the local community are equipped with new skills to lead guided walks. • Greater awareness of Samuel Palmer and his relationship with the landscape and the Darent Valley.
Events booklet produced	<ul style="list-style-type: none"> • X 5 events booklet designed. • 2000 copies per annum of events booklet printed and distributed through local community outlets. • X 1 PDF of the events booklet available to download on the DVLPS website. 	
Online booking system produced	<ul style="list-style-type: none"> • X 1 events booking system produced on the DVLPS website 	

TRAINING REQUIRED

- Leading guided walks
- Risk assessments

MAINTAINING A LEGACY

An extensive programme of engaging events, talks and activities throughout the scheme's life will provide both new and existing target audiences with a range of opportunities to explore, enjoy and connect with the heritage landscape of the Darent Valley. Offering a range of traditional and contemporary events with consideration of public transport, cost, safety and accessibility to mitigate barriers (where possible) currently experienced by many audience groups in visiting the Darent Valley, aims to increase awareness of where to go among new audiences to continue to explore, enjoy and connect to the heritage of the Darent Valley after the end of DVLPS project delivery.

Furthermore it is anticipated that the events programme will be the start point for many to gain the confidence to undertake further visits to the same or other sites within the Darent Valley and will hopefully look to take the next step by using self-guided trails such as Local Landscape Walks, Toddler Trails and Rail Trails delivered as part of DVLPS.

Using less familiar and less popular sites for delivering events as part of the events programme will help reduce risk to the heritage resource from high visitor numbers and in turn increase awareness of alternative sites to visit among target audiences.

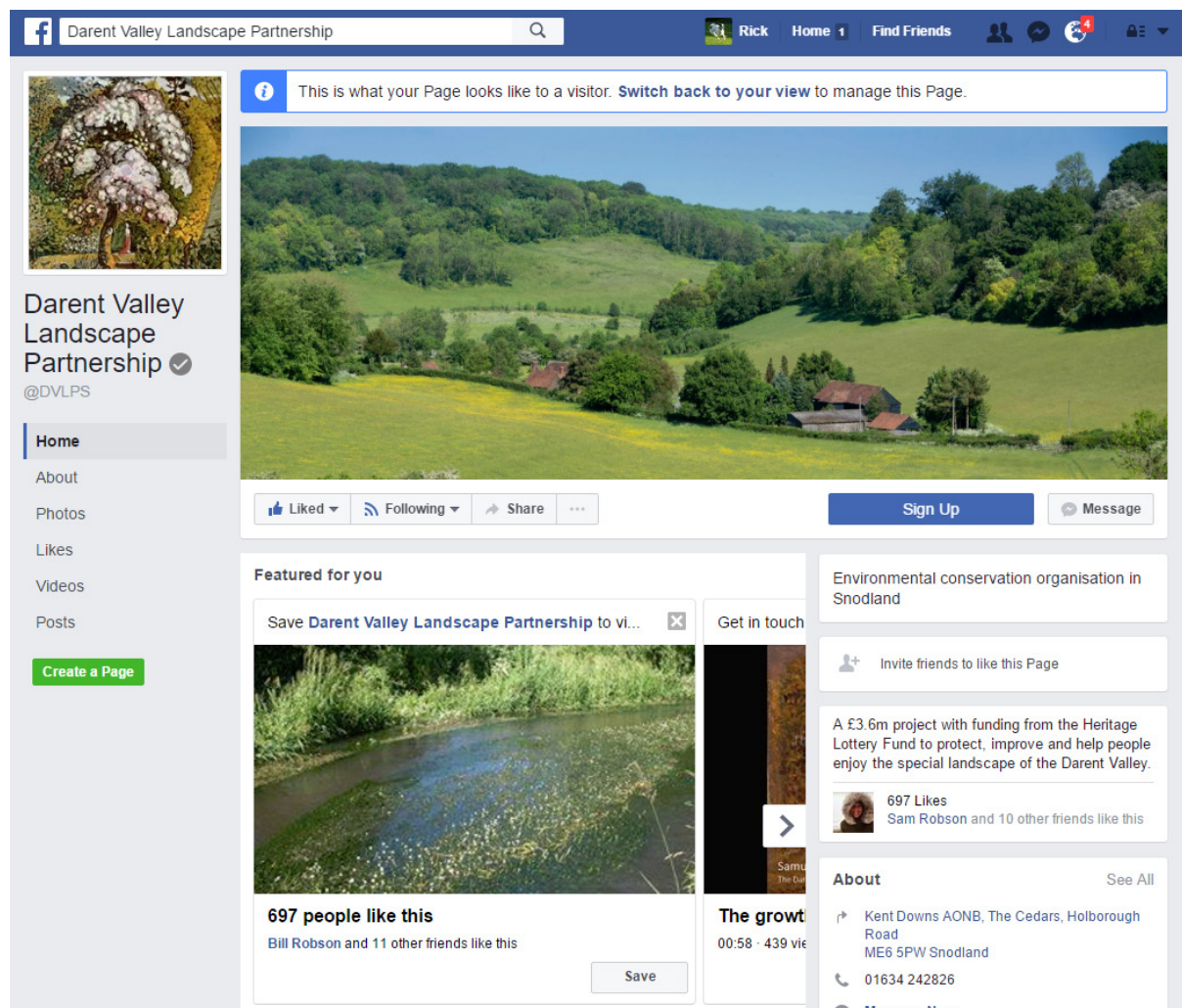
By promoting events of partners and other providers within the area, audiences will increase their awareness of other providers that are likely to continue delivering events outside the project delivery phase of DVLPS and will provide a continued means to exploring the Darent Valley. Additionally equipping key community individuals with the skills to lead guided walks will enable guided walks to continue to be led within communities once DVLPS comes to an end.

LINKS TO OTHER PROJECTS

- 1A. Samuel Palmer Trail
- 1C. Inspired Palmer Landscapes
- 2B. The Darent's Hidden Roman Legacy
- 2C. Eynsford Castle Revealed
- 2D. The Hidden Palace – Otford's Own Hampton Court
- 2E. Royalty and Silk – Exposing Lullingstone Castle
- 2F. Gunpowder and Paper – The Working River
- 2G. Dartford Marshes – Orchard Hospital Nature Park and Community Orchard
- 3A. Heart of the Valley – Darent Valley Path
- 3B. Gateways to the Valley

- 3C. Telling the Darent’s Story
- 3D. Reducing the Pressure
- 4A. Uncovering the Herb-Scented Scarp
- 4B. Sustainable Woodlands
- 4C. Where Ten Thousand Fishes Once Played: Restoring the River Darent
- 4D. A Designed Landscape: Protecting Parks, Gardens and Estates
- 5A: Landscape Adventure Learning for All
- 5B: Reading the Landscape
- 5D. Future Skills
- 5G. Spreading the Word

5G. SPREADING THE WORD AN ON-LINE RESOURCE



PROJECT AIM

Provide a comprehensive and up-to-date on-line presence through a variety of media to ensure that residents, visitors and others from further afield can remain informed of the scheme's work and progress and discover how to learn about, understand and enjoy the heritage of the Darent Valley.

DELIVERY LEAD

Darent Valley Landscape Partnership Scheme Delivery Team.

AUDIENCE

The audience survey undertaken for the DVLPS Audience Development Plan found that for most people, the most favoured way of learning more about the Darent Valley was through a website. In addition, this was demonstrated across all target audience groups including those from older generations.

ISSUES AND THREATS

Not knowing where to go is the main barrier to visiting the Darent Valley among those that currently do not visit.

For instance, the DVLPS audience survey showed that whilst most survey respondents from south east London undertake visits to the countryside, most do so to more local countryside areas. Even amongst those that have heard of the Darent Valley, many did not visit because of a lack of information. Many survey respondents from south east London expressed an interest in visiting the Darent Valley if they knew where to go; as this is the main barrier stopping them from visiting the Darent Valley.

Dartford residents are also keen to learn more about the Darent Valley, particularly where to go and opportunities available to explore and learn about nature areas and wildlife, self-guided and circular walks and the area's history and heritage.

Less than half of Black and Minority Ethnic respondents to the audience survey had heard of the Darent Valley (42%) and only one third of this figure visited, with half stating not knowing where to go as the reason for not visiting.

Research for the scheme's interpretation strategy also demonstrated that websites currently promoting the Darent Valley as a destination as well as online information about the area's heritage is severely lacking and disparate.

PROJECT DESCRIPTION

The DVLP intends to embrace the opportunities that modern media provides for providing information on the Darent Valley and utilising them to disseminate information on the scheme's work and progress. It will also provide functionality to allow interaction and target groups engage with the work of the scheme through on-line means. It will be the source of downloadable PDF trail leaflets, audio and video files and where NFC tags on-site interpretation will link to obtain specific information.

A new website will be established. Through Explore Kent, which sits on the DVLP Partnership Board, the scheme will be able to construct a website using a framework model that has proven to be very successful and achieve the outputs and outcomes that the scheme is looking to achieve through its on-line presence.

This model allows for an adaptive and evolving approach for a website that also enables integration with other DVLPS partners such as Explore Kent, the North West Kent Countryside Partnership and the Kent Downs AONB.

The domains, www.darent-landscape.org.uk and www.darent-valley.org.uk have already both been secured and will form the core of the DVLPS presence.

In addition, the social media outlets for the scheme will be strengthened. The DVLPS Facebook page has been established for several years and has been used as an outlet for promoting the scheme’s work and undertaking research for supporting and evidencing its work. It currently has 697 followers and provides a direct link to those that have expressed an interest in the scheme’s work. The project will also utilise live streaming functions on Facebook and Twitter for events, walks and talks to provide information to those that are unable to directly attend these. Vimeo will be the preferred outlet for providing audio-visual content.

Interpretive theme and sub-themes addressed (see interpretation strategy): Main theme ST1, ST2, ST3, ST4, ST5
Interpretive objectives: All LO (LO1, LO2, LO3, LO4, LO5, LO6, LO7); BO1, BO3, BO6, BO9; EO1, EO4, EO5, EO6, EO7

OUTPUTS AND OUTCOMES

Activity	Outputs	Outcomes
Website design and production	<ul style="list-style-type: none"> • 1 x website produced and maintained on-line during the life of the project. • Website hits will be measured with expectation of annual increase. 	<ul style="list-style-type: none"> • Increased reach in awareness of what the DVLPS is doing. • Greater awareness of the Darent Valley’s landscape and heritage. • More people able to contribute to the work of the DVLPS. • A direct communication medium to target audiences. • Improved focus and targeting of audiences.
Social media accounts (Facebook, Twitter)	<ul style="list-style-type: none"> • 2 x social media accounts maintained. • Increase in followers of 20% per year. 	
Vimeo video posting	<ul style="list-style-type: none"> • 30 events per year posted. • Number of views of videos will be measured. 	

MAINTAINING A LEGACY

It is intended that the website will be maintained after 2022 in a more static form to inform of the scheme's work in the past and act as a source for future information. An assessment will be made at the end of the scheme, but due to the shared model for the website, it is likely to be transferred to one of Explore Kent, North West Kent Countryside Partnership or Kent Downs AONB.

LINKS TO OTHER PROJECTS

- All other projects in the scheme.



Darent Valley Landscape Partnership

Website scope & costing

Website development

You're looking for a new site to promote the project and promotions of the Darent Valley region and its rich regional offer and geography. Through having a new website, we'll look to improve on the promotional opportunity of the river Darent region and the surrounding towns and villages.

Using the technical development of the current system build for Explore Kent, and in partnership with the team there, we'll look to develop a new website system for the Darent Valley project.

We'll utilise the WordPress framework for the project, and would look to build out from the basic version we have developed for the Countryside Management Partnerships across the region.

Website Features

Initial features available for the Darent Valley Landscape Partnership (DVLP) will be based on the layout and functionality that you see here - <http://www.khwp.org.uk> - an example of one of the Countryside Management Partnerships.

Key features we'll develop for DVLP include:

Branded Design

Whilst we're proposing to use the same technical structure and layout of the Explore Kent and CMPs websites such as the High Weald example, we'd encourage branding the site as your own, your own logo, colour palette and sponsors, funders and partners logos on the site. We'd help you with this ensuring that the site style matched your brand.

CMS management of your content

With any site, of course you'll need the ability to edit and change content as required, which will be powered by WordPress as mentioned.

You'll be able to edit all images, copy and media on all pages

You'll be able to assign events to appear on the main Explore Kent website if you need them to as part of the partnership with Explore Kent.

Content pages

You'll have the ability to create multiple content pages, and manage your own core navigation.

Within content pages, you can add links, media, buttons and general copy.

Events

You'll have the ability to add a new event to your feed of events.

Within this area, we'll include the ability for you to assign an event to also show on the main Explore Kent site as mentioned.

Information against an event can cover date, time, cost, location, imagery and an introduction for the site.

Darent Valley Blog/News posts

As part of the site development we'll include a blog/news functionality that will allow you to create articles and press releases to post to the site. As required we can include categories for future easy filtering of articles for users.

Mailing List

We'll integrate a new mailing list function for you which will be developed in MailChimp.

This will include a template style for you to use as part of the system.

Users can sign up and manage their mailing list subscription settings and details through the MailChimp web interface. If required, you can export mailing list contacts.

Brand Identity (optional)

For more design support, such as a completely different design layout or helping you define your brand identity fully with font, logo, brand palette etc., we have included these as optional costs.

Brand identity would include:

- Brand workshop

- Logo design

- Brand identity definition

- Brand pack including logo in various formats, guidelines and example use for print elements as required (letterheads, business cards...)

Budget breakdown



[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]