



Kenilworth Town Council

Application for Community Infrastructure Levy (CIL) Funds

Project Title: Communications Infrastructure for Abbey Fields
Name of Organisation/Group: Abbey Field Augmented Reality (AFAR) Task & Finish Group, Kenilworth Town Council
Address Jubilee House
Smalley Place
Kenilworth
Post Code: CV8 1QG
Contact Name: Councillor Alan Chalmers
Position in Group/Organisation: Chair of T&F group
Telephone: 0782 4540960
Email: alan.chalmers@warwick.ac.uk
Background of your Organisation/Group (Tell us a little about your group/organisation e.g.: what does it do? Who is it for?) The AFAR T&F group was formally (and unanimously) established by Kenilworth Town Council on 25 July 2024. The purpose of the AFAR T&F group is to plan, manage, and deliver a new visitor experience for Kenilworth: The Abbey Fields Augmented Reality (AFAR) experience. The goal of this novel state-of-the-art visitor experience is to encourage (many) new visitors to Kenilworth, to undertake the experience. The experience will include gamification techniques so that (a) the experience is different each time it is undertaken, and (b) the experience will appeal to both young and old visitors. The Communications Infrastructure requested in this CIL proposal is the foundation on which the AFAR experience will be built.
Overview of Project/Scheme (Outline proposed use of CIL funding) AFAR is a visitor's experience that combines the real-world and computer-generated 3D content. The computer content includes visuals and audio to enhance the experience. The key criteria of any Augmented Reality (AR) system are that it (a) needs to be interactive, responding immediately to users as they change their view, (b) accurately registers the real and virtual objects so the virtual content is overlaid in the right position, and (c) either adds virtual content to the real world, or masks the real world with the virtual content. Figure 1 shows an example of Augmented Reality from Locatify. In addition, this new visitor experience needs to be an inclusive experience to all visitors to the site, i.e. the augmented reality experience needs to be available on any visitor's smart phone or tablet. Abbey Fields is a large, open grassy area, Figure 2. I've been in contact with Andrew Quinton, Senior Manager, 5G & IoT Solutions of BT. He kindly shared Figure 3 with me, which shows the location of the mobile masts in the region and the coverage of the site. He confirmed that there is "fairly good" 4G



*Figure 1: Augmented Reality
example from Locatify
(locatify.com)*

coverage from different suppliers. There are plans to upgrade the whole of Kenilworth to 5G in the next year or so. Mr Quinton advised against trying to install wifi coverage across the whole site. BT's experience is that such public, outdoor wifi is very hard to maintain in the longer term.

He also recommended against trying to "live stream" the augmented reality model. While this might work if there were only a few visitors on site accessing the system at once, if there were several visitors, the performance would be poor and thus the AR system would no longer be interactive.

Mr Quinton's suggested solution is thus to rather install powerful "download stations" at the two ends of Abbey Fields where visitors can download the full model, or part of the model, quickly onto their phones via a dedicated App. The Abbey Fields' museum have already said they would be willing to let us use a corner of the museum, Figure 1, to install this equipment. In addition, Rev Eira Hale of St Nicholas church is checking whether the wifi they currently have on site could also be updated (through this CIL proposal) and then shared by AFAR. The cost to install a high-speed "download station" and maintain it is approximately £1,250 per site.

Having downloaded the full model (or a part if the phone is not capable of holding the full model), the user will "experience" with both visuals and audio, St Mary's Abbey, the surrounding area, and the activities both within and without the Abbey, by geolocating their mobile device using a unique pattern (similar to a QR code) engraved on each of 25 ground plaques that will be distributed in a grid across the site. These ground plaques will be similar to the ones already installed at Abbey Fields, Figure 4. In addition to the unique pattern, the plaques will also include additional details of where the plaque is in relation to the Abbey (as the existing ones do) and they will be at ground level which is necessary in order that Abbey Fields can be easily mowed. The final design of the plaques will be agreed with the WDC media team.

Community Communications Infrastructure

This Communications Infrastructure will, of course, not only be available to support the AFAR visitor experience, but will be available to anyone in Abbey Fields, for example parents with children at the play park, or anyone simply enjoying the green space. Abbey Fields is a rich urban wildlife reserve with grassland and marshland habitats with its rich abundance of many birds, trees, insects, and wild flowers (www.friendsofabbeyfields.org.uk/). Additional unique patterns on the plaques could also be used, for example, by people using their mobile device to identify any of the birds, trees, insects or wild flowers in the area.



Figure 2: Abbey Fields site including the museum (part of a former guest hall).

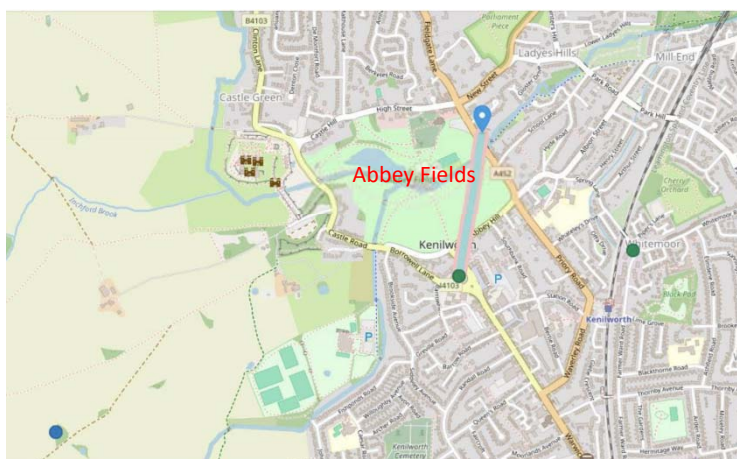


Figure 3: Mobile coverage and locations of masts [courtesy of BT]



Figure 4: Existing marker plaques with a pound coin for scale.

Project Timescales

(Please provide an outline of the implementation timetable including any key milestones. If the project is to be undertaken in this or the next financial year then set out the outline quarterly project plan)

The intention is to get the plaques installed in Abbey Fields ASAP, and certainly before the initial work on the AFAR project is ready. Installation will require permission from WDC and Heritage England. This will be sought with WDC's help (which has already been agreed) immediately this CIL funding proposal is accepted. It is not expected that obtaining the permission to install the plaques should not be too difficult as:

- a) The plaques and installation will be very similar to the ones that are currently installed at Abbey Fields, Figure 4
- b) The location of the plaques will be agreed with the project's stakeholders, including English Heritage, Kenilworth Historical and Archaeological Society, Friends of Abbey Fields, Kenilworth Abbey Advisory Group, Harry Sunley Memorial Project
- c) As with the existing plaques, the new plaques will be installed at ground level so they will not interfere with the mowing of Abbey Fields.
- d) WDC have significant experience working with Heritage England at Abbey Fields and other heritage sites in the region.

Total Amount of Funding Requested

(Please give the total amount of CIL monies sought)

up to £10,000

Costing of Project with Full Detailed Breakdown

25 stone plaques will be positioned in a grid across Abbey Fields to provide adequate coverage for the geolocation of the AFAR project and other interesting aspects of Abbey Fields

- Cutting, engraving, and installing plaques approximately £7,500

The preparation of the plaques will be undertaken by a local stone mason. Their positioning in Abbey Fields will be agreed with our stakeholders. WDC will oversee the installation of them in Abbey Fields.

High speed broadband will be installed at two locations at the site, St Nicholas Church and the Museum:

- Installation of broadband and running cost approximately £2,500

WDC will undertake to maintain the Communication Infrastructure for 10 years after the initial year of operation.

Total request: up to £10,000

**Details of other sources of funding applied for and names of any partner organisations.
Please include any funding applied for by any partner organisations.**

Joanne Randall, Strategic Economic Development Officer, Economic Development and Regeneration of Warwick District Council (WDC) has agreed to support the project and to find a way to host the AFAR system on WDC IT infrastructure and provide access to it and support the Communications Infrastructure for at least the next 10 years after its first year.

In addition, Sally Watts, WDC Green Space Development Officer has agreed to help secure the permissions necessary to install the plaques in Abbey Fields and to facilitate the installation once the permissions have been obtained. She will also engage WDC's media team to help design what will go on the plaques so they are attractive, and look to install signage at the entrances to Abbey Fields which will include (easy to understand) instructions about how to download and use the AFAR App.

A BLEF proposal for £98,500 to fund the development of the AFAR project was conditionally granted on 19 September 2024.

Please specify here the responsibility for ongoing maintenance costs

As mentioned in the previous section, WDC has agreed to maintain the AFAR system, including the Communications Infrastructure for at least 10 years after the first year of operation.

How your Proposal meets CIL Funding Criteria

(Your application may meet some or all of the criteria of the CIL priorities. Please explain, where applicable, how your scheme/project meets these criteria. If the criteria do not apply please mark N/A)

Community Priorities

How the proposal has been identified through consultation with residents and the community

Extensive consultation, in which KTC, as the local authority, has significant experience, has provided the answers to the two key questions underpinning this project:

1. What can be done to maintain and indeed increase visitor numbers to Kenilworth
2. What new visitor experience could take advantage of part of Kenilworth's rich heritage that is not already being communicated to visitors.

A consultation and a survey were undertaken by KTC with local businesses. The survey showed there is "a thirst to drive increased footfall to the centre of Kenilworth" (70% of respondents said having visitors come to Kenilworth was very important and that maintaining footfall was critical [1]). In addition, comprehensive consultation was carried out with all those people in the town, and the district with an interest in Kenilworth's heritage, including Warwick District Council (Green Spaces, Arts & Economy), English Heritage (Visitor Attraction, Education), Kenilworth Historic and Archaeological Society, Friends of Abbey Fields, Kenilworth Abbey Advisory Group, Harry Sunley Memorial Project and several interested individuals. Consultations with our key stakeholders were held at the town's Community Forum on Monday 3 June 2024 and through numerous online meetings. These consultations identified St Mary's Abbey as a key part of

Kenilworth's heritage that could be better communicated to residents and visitors, especially if the narrative was linked to that of Kenilworth Castle.

Based on the strength of this consultation, on 25 July 2024, Kenilworth Town Council formally unanimously approved the establishment of a Task & Finish (T&F) Group, chaired by the Mayor, which would be responsible for preparing the necessary proposals to fund the project (including this CIL proposal), and managing and successfully delivering the AFAR project if the funding applications were successful. The Terms of Reference for this T&F Group specify that the Group comprises 3 Town Councillors, representatives of the key stakeholders, the contractors who undertake the project, and other experts in Augmented Reality or Heritage who may be required.

[1] KTC Business & Visitor Economy Task and Finish Group report, 29 Feb 2024.

How the Project will benefit the community as a whole; for the "Common Good"

The AFAR project, that this Communications Infrastructure will facilitate, will significantly benefit the enjoyment of Abbey Fields without impacting on the existing quality of the green and open space. People will still be able to enjoy the 56 acres of Abbey Fields' urban wildlife reserve (www.friendsofabbeyfields.org.uk/). The Communications Infrastructure will provide a complementary experience and an opportunity to enhance the enjoyment of Abbey Fields, for example, by providing on-line knowledge of fauna and flora within the site, creating an environment that people want to visit.

In addition, the project will also play a key role in helping maintain the overall level of business activity in Kenilworth. Keeping the footfall at least constant, will provide the retail and hospitality sectors with resilience in coping with difficult times and avoid business closures and the accompanying loss of jobs. Kenilworth residents make up a large number of the employees in the town, and thus any closures and/or job losses will be devastating for the town.

Finally, the availability of a new state-of-the-art visitor experience will promote Kenilworth to a wide audience, regionally and nationally. Kenilworth will be able to offer this visitor experience in addition to wider enjoyment of the Castle, and retail, food, drink and leisure.

How the Project will Benefit Young People and their Future

The AFAR project through its narrative linking the Abbey with Kenilworth Castle and the town of Kenilworth will be engaging with a younger audience through the inclusion of boys (including those in the Abbey) and girls in the surrounding region. A key part of the novelty of AFAR is the inclusion of 3D captured re-enactors in the augmented reality system to allow the audience to experience the daily lives of the people within and without the Abbey walls. Previous augmented reality systems have used computer animations (aka avatars) to include people in their systems. Such avatars are never perceived as "realistic" and can have a negative affect on people's perception of the reconstruction [2]. Approximately 70 volunteers from local schools, churches, choirs and theatres will provide the re-enactors. The re-enactors will be provided with the necessary new skills, costumes, and confidence to undertake their performances in an authentic manner.

A number of other aspects of AFAR will also benefit and attract young people, including:

Education: Kenilworth Castle already supports 8650 educational visitors in over 200 visits each year [figures 2023/24 English Heritage]. The times and history of the Castle are a key part of History Curricula from KS1 all the way through to GCSE, for example, KS3 History: Development of Church, state and society in Medieval Britain 1066-1509. Including St Mary's Abbey will add a rich new dimension to these visits for years to come.

Gamification of the Augmented Reality reconstruction: The planned engaging nature of AFAR will enable visitors to learn about the site through an enjoyable game in which they undertake to explore the site in order to "win the game". The goals of game could be different each time they play. This should especially appeal to a young audience.

Development tools and equipment: The equipment and tools developed to achieve aspects of AFAR, for example the 3D capturing equipment, will be available to others after the project, for example to capture a dance class, or theatre production in 3D. Once people become proficient in the skills required to capture and reuse such 3D models, they will then be able to assume the role of trainer, albeit probably informally, to others. The resultant effect of this is that the knowledge can continue to cascade through community groups on a continuous basis. (Note: KTC already has very successful experience with this, where thermal imaging cameras were acquired for community use, and they now are a key part of KTC's offering to residents who wish to check the thermal insulation of their homes.)

[2] Chalmers A. et al, "Realistic Humans in Virtual Cultural Heritage", International Conference on Emerging Technologies and the Digital Transformation of Museums and Heritage Sites, June 2021 (Keynote paper).

Strategic Priorities

How the Project prioritises long-term Investment in Infrastructure

Sustainability is at the heart of the AFAR project and its supporting Communications Infrastructure. As a result, it focuses on facilitating knowledge transfer and providing an experience and infrastructure that can be enjoyed, utilised and built upon well beyond the end of development funding. In particular:

1. Augmented Reality reconstruction of St Mary's Abbey

- Once developed, this "digital asset" will be hosted on WDC infrastructure to ensure that it remains accessible to the general public for at least 10 years after the project completes.
- The digital nature of the reconstruction will allow it to be altered and added to in a straightforward manner for many years to come, for example, to:
 - o Modify aspects of the model to increase authenticity as historical knowledge increases
 - o Provide new views of the Abbey and Abbey Fields through time.
 - o Combine the Abbey's reconstruction with other (future) Augmented Reality experiences in Kenilworth.

2. Linked narrative

- Linking the narrative of the Abbey with that of the Castle and town will encourage people to visit more during their time in Kenilworth.

3. Communications Infrastructure

The Communications Infrastructure that will be put in place to ensure visitors can experience AFAR seamlessly on their own mobile devices will also be available to anyone else in Abbey Fields, including parents looking after children in the Abbey Fields playing ground, or people simply enjoying the green space that Abbey Fields provides.

How the Project Promotes Kenilworth as a Business and Tourist Destination

There is a real concern amongst businesses that Kenilworth will be perceived as "closed off" or "extremely difficult to get to" by HS2 construction. (This is not just a perception, six of the ten routes, in and out of Kenilworth are crossed by HS2). This will result in people rather going to other retail centres, such as Coventry, Leamington Spa and Warwick, or even Birmingham and Leicester that are both less than an hour away. It is not only retail that will be substantially affected by a drop in visitor numbers. Kenilworth has 14 pubs, 11 coffee-shops, 21 restaurants and 13 take-aways [figures KTC]. Once people have chosen to go elsewhere it will be very difficult to get them back, and thus the impact of HS2 is likely to be felt in the town for many years after the construction has finished.

This Communications Infrastructure project is the foundation for the AFAR project that has the goal of providing a compelling new and exciting reason to come to Kenilworth despite the perceived difficulty in getting here. Once they have come, enjoyment of the AFAR experience, and the exposure to the other interesting experiences that Kenilworth has to offer, including Kenilworth Castle and Elizabethan Garden and

the hospitality and retail opportunities, should play an important reason for people wanting to come back again.

Furthermore, the promotion and new enjoyment of a previously little-known part of Kenilworth's Heritage, St Mary's Abbey, offers opportunities for local businesses to innovate to provide related products and services to further benefit from the visitors to the town. In addition, new artisan shops promoting "heritage related products" can be encouraged to be established in the town, reinvigorating our high street.

Finally, AFAR will promote Kenilworth to a wide audience, regionally and nationally. Kenilworth will be able to offer a new state-of-the-art visitor experience in addition to wider enjoyment of the Castle, and retail, food, drink and leisure.

How the proposal addresses demands imposed by the increasing population in the town

The Communications Infrastructure that this proposal will support will be able to be used and enjoyed by anyone visiting Abbey Fields, and indeed provide a compelling reason for new residents to visit and enjoy this key part of Kenilworth.

How the proposal supports Kenilworth Town Council initiatives (e.g., Cycling Strategy Group, Tourism Group, the Town Centre Working Group, Climate Emergency Roadmap).

The key goal of the AFAR project is to promote Tourism to Kenilworth by encouraging visitors to come to Kenilworth to try the new state-of-the-art visitor experience, the Augmented Reality reconstruction of St Mary's Abbey in Abbey Fields. Furthermore, it is hoped that introducing a little-known aspect of Kenilworth's rich heritage will provide opportunities for local companies to benefit from the business opportunities that this may introduce.

Management Priorities

Will the proposal seek joint funding/partnership arrangements with WDC/WCC and external bodies (e.g., universities, Sustrans, English Heritage) for infrastructure?

The following organisations have been consulted about the AFAR project and will be the key stake holders: Kenilworth Town Council, Warwick District Council, English Heritage, Kenilworth Historic and Archaeological Society, Friends of Abbey Fields, Kenilworth Abbey Advisory Group, Harry Sunley Memorial Project.

As specified in the AFAR T&F Group's required formal Terms of Reference, the Group will also comprise representatives of these key stakeholders and other experts in Augmented Reality or Heritage who may be required. These people will be the **Steering Committee** of the project. Chaired by the Mayor, this Steering Committee will also include a representative of the company that is awarded the contract to undertake the project. The Steering Committee will meet every month to produce a progress report and set intermediate milestones against which the progress will be monitored and the different strands integrated, thereby managing the risk of the project. Extensive knowledge exchange between all partners will take place during the regular meetings and site visits. This will contribute to a "dynamic project environment" and constitutes an important part of the training of project partners into highly skilled interdisciplinary team.

How will your organisation/group explain publicly how the CIL receipts are forecast, managed and reported?

The AFAR Task & Finish Group will be providing a report regularly to the Town Council meetings which will include details of how the CIL receipts are forecast, managed and reported.

How will your organisation explain publicly how CIL has been spent and allocated?

A project website will be setup to provide updated information on project progress, interesting developments, etc, to a wide audience. In addition, the AFAR Task & Finish Group will be providing a report regularly to the Town Council meeting which will include details of how the CIL money has been spent.

How will your organisation ensure that the costs of consultation and project management are covered?

The spending of the CIL funds will be managed by the AFAR T&F Group working closely with the Town Clerk and Councillor Richard Dickson, Chair of the Town Council Finance and General Services committee.

Additional Information that may support your Application

The award of BLEF proposal to fund the development of the AFAR experience (£98,500) is **conditional on:**

- Finding **additional funding** to provide the Communications Infrastructure to support the project in Abbey Fields.

This CIL proposal (up to £10,000) will provide those funds.