

Glengarnock Castle

2022 Updated Project Design for a Community Archaeological Investigation

This document has been prepared as an Updated Project Design for a second season of community-based archaeological investigation at Glengarnock Castle, North Ayrshire. It outlines the aims, objectives and methodology of the proposed research.

Project Details and Document Control Grid

Title:	Glengarnock Castle, 2022 Updated Project Design for a Community Archaeological Investigation
Author(s):	Ben Swain
Derivation:	1. 2021 Project Design: Forster and Noon (2021) 2. 2021 Assessment and Data Structure Report: Swain et al (2022)
Origination date:	18/02/2022
Reviser:	Ben Swain
Date of Last Revision:	06/05/2022
Version:	2.0
Status:	Final
Summary of Changes:	Final edits and Re-structure completed
Circulation:	Project team and stakeholders
Required Action:	None
File Name/Location	GAR22_UPD_V2.0/Garnock Connections Project Folder, DigVentures online server
Approval:	Project Executive
Project code and type	GAR22 community archaeological investigation
National Grid Reference	NS 31029 57355
OASIS ID	digventu1-506627
Canmore ID	42179 (https://canmore.org.uk/site/42179)
Designations	Scheduled Monument SM318 http://portal.historicenvironment.scot/designation/SM318
County	North Ayrshire

Part One: Description of the Project

SUMMARY DESCRIPTION

The Garnock Connections Landscape Partnership has commissioned a second season of community archaeological investigation at Glengarnock Castle, North Ayrshire. The overarching purpose of the research is to characterise the nature and significance of surviving archaeological remains and to understand their potential to inform our knowledge of the history and development of the castle within a regional and national context (Forster and Noon, 2021), whilst providing opportunities for local people to engage with their cultural heritage.

BACKGROUND

Project Background

The Garnock Connections Landscape Partnership (hereafter, "GCLP"), commissioned DigVentures to deliver part of a Community Heritage and Archaeology Project (CHAP) at Glengarnock Castle. The project consists of a range of community-based archaeological activities that will promote culture and heritage around the River Garnock. To date, the project has delivered an initial season of archaeological fieldwork in addition to a number of online and in-person events with the results available in Swain et al (2022). The next delivery stage of the CHAP involves further archaeological investigation at Glengarnock Castle planned to be delivered between 14th-22nd May 2022. The project is contextualised to the research, strategic and corporate priorities of the Scottish Government and Historic Environment Scotland (hereafter, "HES"). It was motivated by the needs of the local and regional community, many of whom are experiencing difficulties with access to heritage (Forster and Noon 2021, section 4).

Site Location and Description

Appendix 1 provides a detailed description of the site and its location. In summary, Glengarnock Castle (NGR: NS 31029 57355) is situated two miles north of Kilbirnie, North Ayrshire, KA25 7JZ (Figure 1) on an igneous geological outcrop at the end of a steep-sided promontory protruding from the east bank of the River Garnock. The castle ruins are substantial and located at the far western end of a promontory with obvious earthworks suggestive of buildings visible along most of its northern edge.

Historical and Archaeological Background

Appendix 2 provides a comprehensive overview of the historical and archaeological background of Glengarnock Castle produced by Turner and Rees (2021). In summary, the overview found documentary references from the 12th century indicating the Barony of Glengarnock was in ownership of the Riddell family before passing to the Cunninghames in the mid-13th century and may also have been the primary seat of the de Morevilles. Throughout the 15th and 16th centuries, the Cunninghames of Glengarnock and the Montgomeries of Ayrshire were involved in regular feuding. Glengarnock Castle was well situated as a defensive structure in a very defensible location to provide protection from the violence. It is likely the castle's stone structure originates in the first half of the 15th century immediately preceding the North Ayrshire feuds, with the main tower house built in the mid 15th century as Cunninghame power grew in the region.

The castle remained in the hands of the Cunninghames before being sold to Patrick Lindsay of Kilbirnie in the 1670s. The fourth Earl of Glasgow would then inherit the baronies of Kilbirnie and Glengarnock in 1833, with the castle being significantly damaged by storms in 1839 and left to its current ruined form.

There appears to have been no antiquarian or 20th century excavation at the castle, with a focus instead on descriptions of the site through drawings, paintings and regional historical accounts. Glengarnock Castle was designated an ancient monument in 1935.

2021 Fieldwork

The first season of fieldwork took place on the 10th and 11th July 2021, investigating the extent, nature and significance of the surviving archaeological remains by historic building recording and geophysical survey, whilst characterising earthworks and refining the chronology of the site through a programme of trial-trenching. The results of this work are detailed in the assessment and data structure report (Swain et al, 2022) with a summary of these results available in Appendix 3.

RESEARCH AIMS AND OBJECTIVES

The overarching aim of the research is to characterise the nature and significance of surviving archaeological remains and to understand their potential to inform our knowledge of the history and development of the castle whilst providing opportunities for local people to engage with their cultural heritage.

The project aims and objectives are expressed as a series of questions providing a framework for the methods, stages, products and tasks detailed in Part 2 of this Updated Project Design. The aims remain unchanged from the project design at initiation written by Forster and Noon (2021), but some of the objectives have been revised to reflect new research questions raised by the results of the first project execution stage.

"Aim 1 – Identify the physical extent and character of the castle keep, courtyard and associated occupation across the promontory." (Forster and Noon, 2021 section 5.2)

- Q1: What features can be identified in the immediate landscape of the site which may inform our understanding of the development, chronology and layout of associated structures?
- Q2: Can we identify any phasing from the survey data indicative of an extended period of use?
- Q3: Can the layout of the castle keep, courtyard and ancillary buildings across the promontory be established by survey and recording?
- Q4: Can we establish the current risk to the archaeological remains from undergrowth damage and natural erosion?

"Aim 2 – Characterise the results of non-invasive survey, refining the chronology and phasing of the site with a programme of targeted excavation." (Forster and Noon, 2021 section 5.3)

- Q5: Can we refine the chronological narrative for the occupation identified across the promontory, including the presence of earlier and later features and their relationship with the castle keep and courtyard?
- Q6: What are the typical and atypical features of the castle and associated structures in the vicinity and how did this influence the functions/activities that took place?
- Q7: Can we establish the physical extent, character and chronology of the large rectangular structure visible as earthworks, identified through non-invasive survey and previous excavation on the promontory, and how does this relate to the castle?
- Q8: What is the landscape setting and character of Glengarnock Castle, and how did this shape its design and development?

“Aim 3 – Understand the site’s archaeological and palaeoenvironmental conditions.” (*Forster and Noon, 2021 section 5.4*)

- Q9: What is the current state of preservation of the archaeological and palaeoenvironmental material across the sites?
- Q10: How well do deposits and artefacts survive, and how deeply are they buried?
- Q11: What is the range and spatial patterning of ecofacts and artefacts recovered from the site?

“Aim 4 – Make recommendations, analysis and publication” (*Forster and Noon, 2021 section 5.5*)

- Q12: What can an integrated synthesis of the results of this and previous fieldwork with studies of contemporary regional sites tell us about the castle keep, courtyard and its setting?
- Q13: What recommendations can be made to protect, conserve and enhance the site?
- Q14: What strategies should be put in place in order to protect archaeological remains and deposits at Glengarnock Castle for the enjoyment of future generations?

“Aim 5 – Engage and train local people in the research of Garnock Connections Study Area, and provide opportunities for public engagement” (*Forster and Noon, 2021 section 5.6*)

- To further the study, understanding and enjoyment of the Garnock Connections Study Area by interested individuals and community groups.
- To provide training, guidance and technical support to members of the community in the methods and techniques used in archaeology and the investigation of the historic environment.

BUSINESS CASE

The project has a solid research, corporate and strategic context in line with the priorities of the Scottish Archaeological Research Framework (ScARF), the Scottish Government and Historic Environment Scotland. It also fulfils the social benefit motivations of the GCLP and DigVentures as a community focused social enterprise.

Glengarnock Castle covers the medieval and modern periods of ScARF, with the Medieval framework suggesting that castles in Scotland belonging to ‘lesser knights or landowners,’ such as at Glengarnock, have been subject to poor levels of research with very little study from a cultural or social perspective (ScARF, 2012a pg. 40). Additionally, the Modern framework also suggests that research on castles can inform how community attitudes to land use changed and developed into a modern landscape context, informing the setting in which they sit today (ScARF, 2012b pg. 106, 109).

The project directly addresses the main strategic priorities of the Scottish Government’s Historic Environment Strategy ‘Our Place in Time’ (Scottish Government, 2014). The research will contribute to our knowledge and understanding (Priority B: Understand, Investigate and Record), provide baseline data to assist in the future management and preservation of the site (Priority C: Care and Protect), with an emphasis on public participation and providing opportunities for access to heritage (Priority D: Value, Share and Celebrate).

Additionally, the project also directly addresses a number of the main corporate outcomes of Historic Environment Scotland’s Corporate Plan ‘Heritage for All’ (Historic Environment Scotland, 2022b). Community

participation providing opportunities to break down barriers to heritage access (Outcome 1: The historic environment makes a real difference to People's Lives), new knowledge that will help facilitate the future care and protection of the site (Outcome 2: The historic environment is looked after, protected and managed for the generations to come).

The motivation for the GCLP commissioning the project to take place at this particular time is based on the needs of the local and regional community, particularly those of nearby areas with high levels of deprivation experiencing difficulties with access to heritage (Section 4 of Forster and Noon, 2021). The project will provide free opportunities within the Garnock Connections area in person, online and at schools to learn about archaeology, placing it in the centre of the community as a focal point to help address their needs. The significant role that the heritage and archaeology plays in sustaining, growing, and re-developing communities and their cultural identity is a key driver of the overall project. See appendix 4 for a more detailed breakdown of the project context and motivation.

PROJECT SCOPE

It was recommended in the assessment report (Swain et al, 2022) that future archaeological investigations focus on a programme of non-invasive survey and archaeological evaluation trenching on and around the castle promontory to contextualise the results of the 2021 fieldwork and build on the project aims and objectives. These recommendations form the scope within which work should be carried out at this stage of the project.

The following statements identify what is to be considered within and outside of the scope of this project for the methods of archaeological research summarized in Part 2 of this document deemed to have the potential for scope-creep.

Historic Building Recording and Photogrammetric Survey

This survey should only focus on the key structural elements and fabric relationships identified in the results of the 2021 survey. Any additional survey conducted would be considered outside the scope of the project at this time.

Geophysical and Topographic Earthwork Survey

This survey should only focus on the area of the castle promontory and adjacent hillside. Any additional survey conducted outside this defined area would be considered beyond the scope of the project at this time.

Excavations

Trench 4 and Trench 5 will be prioritized, with the decision to excavate Trench 6 being made on site by the fieldwork strategy expert in liaison with the project manager on the basis of available time and resources. Any excavations undertaken in addition to these would be considered outside the scope of the project at this time.

Project Outputs

An assessment and data structure report will be produced at the end of this second execution stage of the project, providing detailed assessment of the results with specialist reporting, scientific analysis and recommendations for analysis. Upon the recommendations of that report, either an updated project design for a subsequent execution stage or a Post-Excavation Research Design (PERD) will be produced in advance of a final analysis report collating and synthesizing the results from all fieldwork. Any specialist reporting or

analysis conducted in addition to the above by the project team would be considered outside the scope of the project at this time.

INTERFACES

Links and connections have been established where the Glengarnock Castle project will interface with a number of other projects, stakeholders and entities. The Glengarnock Castle project forms one of the deliverable elements of the wider CHAP commissioned by the GCLP and as such its delivery interfaces with the aims and objectives of the CHAP.

The historic building recording survey is to be carried out by Rathmell Archaeology on behalf of DigVentures, bringing in a specialist skillset to deliver this specific research outcome. The project also links with research excavations by Rathmell Archaeology at Ardrossan Castle in May 2019, which formed the first deliverable element of the wider CHAP. Therefore, the opportunity for DigVentures and Rathmell Archaeology to work together on the Glengarnock castle project represents a connection where both entities can interface to deliver the wider CHAP.

Upon completion, the results of this project will be disseminated to the GCLP team to ensure delivery of the wider CHAP can continue and its aims and objectives can be successfully achieved. Please see Appendix 5 for more details of project interfaces.

COMMUNICATIONS

Day to day communications between the project team, stakeholders and sponsors will be conducted via email, telephone or video call where appropriate. Scheduled meetings between the project team, sponsor and relevant stakeholders for monthly progress updates and at each project review point (see Table 1) will occur via video call where possible. Highlight reports will accompany these meetings, detailing the status of the project's schedule, budget and resources. They will be created monthly and at each review point to the format and structure as specified in the MoRPHE Project Manager's Guide (Historic England, 2015 pg. 34), being disseminated to the project team, client and main stakeholders. Processes of information dissemination, reporting and archiving will be conducted in accordance with the respective methods statements in part 2 of this document and in appendix 7.

PROJECT REVIEW

Table 1 below provides a detailed breakdown of the project-specific formal review points, expected completion dates of each stage and the stakeholders/project team members involved in each review. The formal and continuous review process will be overseen by the Project Executive and is programmed to include the wider project team and main stakeholders at each RV point, excepting where stated otherwise in Table 1 below. However, it may be determined as the project progresses that attendance is not required by every team member at every review. The process itself will be conducted in accordance with the communications methods as stated above.

The tolerance of the project schedule and costs is dependent on the overall programme delivery for the wider GCLP CHAP, of which the Glengarnock Castle project forms one part. Any changes to the project's schedule, stages, tasks and programme detailed in Tables 1 and 3 will be discussed and agreed with the GCLP and HES.

Stage	Description	Review Point	Reviewed By	Completion Date
Start-Up	Creation and consideration of Project Proposal	RV1 – Project Proposal	Project Executive, Project Manager, GCLP, HES	February 2021
Stage 1	Initiation and Project Design	RV2 – Site Visit and project team/stakeholder pre-delivery meeting. RV3 – Sign-off on Project Design.	Project Executive, Project Manager, Assurance officer, Expert project team, HES, GCLP	March 2021 June 2021
Stage 2	Team mobilisation; surveys and community excavation of archaeological test pits	RV4 – Execution of Fieldwork	Project Executive, Project Manager, Assurance officer, Expert project team, HES, GCLP	July 2021
Stage 3	Assessment of survey and excavation results and potential for analysis and/or future work	RV5 – Post-excavation assessment and updated project design	Project Executive, Project Manager, Assurance officer, Expert project team, HES, GCLP	March 2022
Stage 4	Approval of Updated Project Design	RV6 – Sign-off on updated project design	Project Executive, Project Manager, Assurance officer, Expert project team, HES, GCLP	May 2022
Stage 5	Second Stage of archaeological investigation and public participation	RV7 – Execution of Fieldwork	Project Executive, Project Manager, Assurance officer, Expert project team, HES, GCLP	May 2022
Stage 6	Assessment of survey and excavation results and preparation of a Post-Excavation Research Design detailing potential and methodologies for analysis. Draft and final technical analysis report.	RV8 – Post-excavation assessment and Post Excavation Research Design RV9 – Final draft technical report RV10 – Final technical report	Project Executive, Project Manager, Assurance officer, Expert project team, HES, GCLP	July 2022 December 2022
Stage 7	Project closure	RV11 – Archive deposition and results dissemination RV12 – End of Project Report	Project Executive, Project Manager, Assurance officer, Expert project team, HES, GCLP	March 2023

Table 1: Project Review Points

HEALTH AND SAFETY

Please refer to Appendix 6 for a summary of DigVentures' Health and Safety policies relating to all works planned for this project. A Risk Assessment Methods Statement (RAMS) will be prepared and disseminated to all project staff in advance of works being undertaken.

Part Two: Resources and Programming

PROJECT TEAM STRUCTURE

Team and Responsibilities

The table below details the MoRPHE-compliant project management structure and team roles, including who they are held by and a summary of their responsibilities. They include staff from DigVentures, Rathmell Archaeology and a number of independent project specialists. All team members have been made aware of their roles, responsibilities and expected time commitments.

Name / Organisation	Project role / area of responsibility
Lisa Westcott Wilkins Managing Director, DigVentures	Project Executive - Strategic decision-making, approval of review points and project stage progression, resource and budget allocation.
Brendon Wilkins Projects Director, DigVentures	Project Assurance Officer – Quality assurance processes, project progress monitoring, contract fulfilment, compliance and stakeholder representation.
Manda Forster Director of Operations, DigVentures	Project Manager – Project design, planning and delivery. Operations, resource and risk management.
Stephanie Duensing Project Officer, DigVentures	Expert - Fieldwork strategy, volunteer management and training, co-ordination.
Georgina Cole Community Archaeologist, DigVentures	Expert - Volunteer relationship management, community management, on-site and online communication.
Kimberley Teale Programme Manager – Digital, DigVentures	Expert - Coordination of the geophysical and topographical fieldwork survey and assessment
Harriet Tatton Community Archaeologist, DigVentures	Expert Team Leader – Liaison with expert team, project partners and project manager. Monitoring of risks and issues. On site volunteer management and training.
Ben Swain Community Archaeologist, DigVentures	Expert - Volunteer management and training, fieldwork supervisor, post-excavation processes and assessment/analysis reporting
David Wallace Community Archaeologist, DigVentures	Expert - Volunteer management and training, fieldwork supervisor
Louise Turner Rathmell Archaeology	Expert - Historic building recording, community archaeology workshops and specialist small finds and pottery assessment. Availability agreed for May 2022 with 2 weeks notice of intent to begin fieldwork.

Name / Organisation	Project role / area of responsibility
Claire Williamson Rathmell Archaeology	Expert - Historic building recording and community archaeology workshops. Availability agreed for May 2022 with 2 weeks notice of intent to begin fieldwork.
Ellen Simmons University of Sheffield	Expert – Paleoenvironmental specialist – sample processing, assessment and reporting of remains.
Hannah Russ Zooarchaeologist	Expert – Specialist assessment and reporting of faunal remains – animal bone and marine shell.

Table 2: Project Team Roles and Responsibilities

METHODS STATEMENTS

Appendix 7 provides detailed methods statements for each of the proposed elements of archaeological research, including project archiving and dissemination, for this stage of the Glengarnock Castle project. These statements, explaining the techniques and approaches employed to maximise the potential to provide information, are summarised below. Additionally, Table 5 in Appendix 7 details how each of these research methods links to the Project Aims and Objectives.

Historic Building Recording and Photogrammetric Survey

Historic building recording in the form of targeted digital photography, measured elevation drawings and 3D photogrammetric modelling is proposed to map in more detail the key structural elements and the distribution/inter-relationships of the six different fabric types identified in the 2021 survey. This will be delivered as a volunteer training workshop led by a professional archaeologist.

Geophysical and Topographic Earthwork Survey

A programme of geophysical survey conducted as part of a volunteer training workshop will aim to clarify the presence of possible archaeological remains on the castle promontory. A magnetometer survey will be carried out over the entirety of the promontory and a portion of the hillside immediately adjacent. Any anomalies of interest will then be surveyed using targeted earth resistance to help clarify the presence of any built foundations or walls. Any areas of the promontory and adjacent hillside that cannot be surveyed by geophysical techniques due to unsuitable terrain, excessive vegetation undergrowth or time constraints will be subject to a topographic earthwork survey using a dGPS to establish the layout and extent of any surviving earthwork features.

Archaeological Excavations

Excavations in 2022 will focus on further characterising and contextualising the structures on the promontory already identified by the 2021 trial trenches at Glengarnock Castle and ground-truthing geophysical results suggesting the possible presence of archaeological features nearby (Swain et al, 2022).

Three further evaluation trenches (Figure 2) are proposed as follows:

- Trench 4 (16 x 5m) – targeting the footprint of the structure visible as earthworks on the promontory, in the geophysics results and from the walls identified in Trenches 2 and 3 during the 2021 season.
- Trench 5 (5 x 5m) – targeting a sub-rectangular geophysical anomaly interpreted as possibly relating to a destroyed feature associated with the castle, internal and adjacent to the boundary of the scheduled monument.
- Trench 6 (5 x 5m) – contingency trench aimed at ground-truthing geophysical anomalies identified at the east of the site tentatively interpreted as geological features.

These targeted interventions have the potential to address Aims 2 and 3 of this updated project design, refining the chronology and phasing of the structures identified on the promontory in the 2021 season and assessing their state of preservation.

Dissemination and Reporting

Timely dissemination of the project's results to its stakeholders including (but not limited to) the GCLP, HES, the Project Team and local HER (WOSAS) officer is a priority throughout its lifecycle. This will be implemented through a number of channels, including:

- A digital archive of the excavation data.
- Distribution of the project's internal progress, specialist assessment and final technical analysis reports direct to the main project stakeholders.
- Assessment and final technical reports will be published via the DigVentures website with links to the OASIS and Canmore record.
- A Project summary will be included in the *Discovery Excavation Scotland* journal of HES.
- Publication in a local or national journal with the final results from the analysis report.

Project Archive

Preparation of the project archive will be made according to guidelines provided by Historic Environment Scotland (2022a) Archives and Collections Policies, Treasure Trove Scotland (2014) and ClfA (2014) guidance. Please refer to the project's Data Management Plan (DMP) in Appendix 8 for a detailed description of DigVentures' policy for the management and archiving of digital data.

STAGES, PRODUCTS AND TASKS

Table 3 below outlines the project's stages, products and tasks, after RV1 and the approval of the project proposal, adapted from Forster and Noon (2021). It provides a summary of each of these elements and how they relate to the project's aims and objectives. It is expected there will be a total of 7 stages consisting of 23 products and their associated tasks. Stages 1 to 3 have already been completed and relate to the first execution stage of this project. Stages 4 to 7 relate to the methodology outlined in this Updated Project Design. Appendix 9 provides a more detailed set of compiled products descriptions from those outlined in Table 3 below.

Stage and Completion Date	Description	Project Aims / Questions	Products	Task
Stage 1 (Completed June 2021)	Initiation and Project Design	Aim 1-5, Q1-13	1. Finalised Project Design and Risk Log. 2. Permissions (Landowner, Scheduled Monument Consent) 3. Risk Assessment, Health and Safety Plan	Project team and stakeholders meet to discuss and define deliverables, milestones and timetable. Resultant Project Design created and submitted in support of appropriate permissions alongside risk log and health and safety plan.
Stage 2 (Completed July 2021)	Team mobilisation; surveys and community excavation of archaeological test pits	Aim 1-2 and 5, Q1-8	4. Field Archive 5. Social timeline/dig broadcast	Site preparation and execution of archaeological investigations with online and community participants. Field archive consolidated and site re-instated.
Stage 3 (Completed March 2022)	Assessment of survey and excavation results and potential for analysis and/or future work	Aim 3-4, Q8-14	6. Stratigraphic assessment 7. Specialist finds assessments 8. Integrated assessment report 9. UPD	Assessment of both the archaeological survey results, finds and environmental material by specialist expert team members with an integrated assessment report of potential for analysis and recommendations for further work.
Stage 4 (May 2022)	Approval of Updated Project Design	Aim 1 – 5 Q1 – 13	10. Finalised UPD & Risk Log 11. Permissions (Landowner, Scheduled Monument Consent) 12. Risk Assessment & Health and Safety Plan	Project team and stakeholders meet to discuss and define updated deliverables, milestones and timetable. Resultant Updated Project Design created and submitted in support of appropriate permissions alongside updated risk log and health and safety plan.
Stage 5 (May 2022)	Second Stage of archaeological investigation and public participation	Aim 1 – 2 and 5 Q1-8	13. Field Archive 14. Social timeline / dig broadcast	Site preparation and execution of archaeological investigations with online and community participants. Field archive consolidated and site re-instated.
Stage 6 (December 2022)	Assessment of survey and excavation results and preparation of a Post-Excavation Research Design	Aim 3-4 Q8-14	15. Stratigraphic assessment 16. Specialist finds assessments 17. Integrated assessment report	Specialist finds and paleoenvironmental assessments integrated with a post excavation assessment report detailing the potential for analysis.

Stage and Completion Date	Description	Project Aims / Questions	Products	Task
	detailing potential and methodologies for analysis. draft and final technical analysis report.		18. Post-Excavation Research Design 19. Draft synthesis of research and a technical analysis of the excavation results as defined by the PERD. 20. Final technical analysis report produced and approved.	Post Excavation Research Design detailing the methodologies for final post excavation analysis and technical reporting. Draft technical analysis report produced and circulated to the project team and stakeholders. Approval of technical analysis report.
Stage 7 (March 2023)	Project Closure		21. Full dissemination of final project results. 22. Project Archive preparation for deposition. 23. End of Project Report	Preparation of physical and digital site archive for deposition and dissemination in accordance with guidelines as described in methods statements. Final review and identification of any outstanding project elements. Preparation of end of project report to identify areas of success and lessons learned.

Table 3: Stages, Products and Tasks

OWNERSHIP

Please refer to Appendix 10 for a summary of DigVentures' policies relating to the copyright and ownership of all materials, products and outputs relating to this project.

RISK LOG

The risk log was created at initiation in the project design of Forster and Noon (2021). The following version in Table 4 below is a revision made at project Stage 3 (RV5) in March 2022. Upon the approval of this UPD and risk log in Stage 4 (RV6), an Issues Log will be created to the format and standards of the MoRPHE Project Manager's Guide (Historic England 2015, pg. 33). This will document all unforeseen events impacting the delivery of this project as specified in this UPD and their proposed solutions.

Risk number	1	2	3	4
Description	Inclement weather - prolonged periods of rain	Exceptional weather (drying exposed archaeology)	Absence of core team member	Absence of specialist team member
Probability	Medium	Low	Low	Low

Impact	Delay programme of work	Slow progress	Delay programme of work	Delay programme of work
Countermeasures	Provision of site hut, and planned indoor archiving tasks with flexible programme	Provision of water bowser + spray	Reallocate responsibilities or appointment of alternative	Reallocate responsibilities or appointment of alternative
Estimated time/cost	3 Days	None	Minimal if done by adjustment	Minimal if done by adjustment
Owner	Project Manager/Field Team Leader	Project Manager/Field Team Leader	Project Executive/Manager	Project Executive/Manager
Risk number	5	6	7	8
Description	Equipment theft/breakages	Serious site injury (slips, trips, falls – uneven ground and high ravine escarpment)	Cost uplift due to unexpected archaeology requiring additional work	COVID-19
Probability	Medium	Low-Medium	Medium	Medium-Low
Impact	Delay programme of work	Delay programme of work	Reallocation or variation to agreed budget	Delay programme of work
Countermeasures	Removal of finds material and digital equipment from site	Detailed H&S Risk Assessment + daily safety briefing, barrier fencing erected around excavation areas	Comprehensive estimate of specialist costs undertaken at PD stage	Reschedule or delivery alternative virtual activities. Reallocate responsibilities/appointment of alternative
Estimated time/cost	3 days	3 days	Minimal if done by adjustment	Minimal if done by adjustment
Owner	Project Executive/Manager	Project Executive/Manager	Project Executive/Manager	Project Executive/Manager

Table 4: Risk Log

BUDGET

The project is budgeted to cost £36,455 (excluding 10% overheads and 20% VAT). See Figure 3 for a more detailed budget and Figure 4 for a GANTT chart that outlines the programme, schedule, resources and costs associated with carrying out the Glengarnock Castle project. These are also available in a separate document submitted as supporting documentation (GAR22_Budget_GANTT_V2.0).

BIBLIOGRAPHY

ClfA, 2014 'Standard and Guidance for the Creation, Compilation, Transfer and Deposition of Archaeological Archives,' Available at: <https://bit.ly/3Ff3iZn> (Accessed: 01/05/2022)

Chartered Institute for Archaeologists (ClfA), 2019, 'Dig Digital: A Guide to Managing Digital Data Generated from Archaeological Investigations,' Available at: <https://bit.ly/3q3z8lw> (Accessed: 02/03/22)

Forster, M., Noon, S., 2021 'Glengarnock Castle: Project Design for a Community Archaeological Investigation,' Available at: <https://bit.ly/37dZaMH> (Accessed: 15/03/2022)

Historic England, 2015 'Management of Research Projects in the Historic Environment: The MoRPHE Project Managers' Guide' Available at: <https://bit.ly/3KOkVQR> (Accessed: 10/03/2022)

Historic England, 2017 'Photogrammetric Applications for Cultural Heritage: Guidance for Good Practice', Available at: <https://bit.ly/3ydx8fj> (Accessed: 04/05/2022)

Historic Environment Scotland, 2019 'Historic Environmental Policy for Scotland.' Available at: <https://bit.ly/3LOtCMw> (Accessed: 15/04/2022)

Historic Environment Scotland, 2022a 'Archives and Collections Policy' Available at: <https://bit.ly/3MOnJyR> (Accessed: 26/04/2022)

Historic Environment Scotland, 2022b 'Heritage For All: Corporate Plan' Available at: <https://bit.ly/3w6JAuD> (Accessed: 04/05/2022)

Historic Scotland, 1997 'The Treatment of Human Remains in Archaeology' Available at: <https://bit.ly/3yeoZHN> (Accessed: 18/04/2022)

Historic Scotland, 2004 'Measured Survey and Building Recording for Historic Buildings and Structures Practitioners Guide 4,' Available at: <https://bit.ly/3KCVGkA> (Accessed: 21/04/2022)

MacGibbon, D., Ross, T., 1887-92 'The castellated and domestic architecture of Scotland from the twelfth to the eighteenth centuries,' Vol.3, D Douglas, Edinburgh

MVGLA, 2017 'Garnock Connections Landscape and Heritage Study,' Available at: <https://bit.ly/39rgPBi> (Accessed: 04/05/2022)

Office for National Statistics, 2020 'Labour Market Profile: North Ayrshire,' Available at: <https://bit.ly/3sk6Cxf> (Accessed: 08/05/2022)

Paterson, J. 1852 'History of the County of Ayr: With a Genealogical Account of the Families of Ayrshire' Vol. 2, T G Stevenson, Edinburgh

Robertson, G., 1820 'Topographical description of Ayrshire, more particularly of Cunninghame: together with a genealogical account of the principal families in that bailiwick,' Cunninghame Press, Irvine

Scottish Archaeological Research Framework (ScARF) 2012a, 'Medieval Scotland: A Future for its Past' Available at: <https://bit.ly/382fxfG> (Accessed: 29/04/2022)

Scottish Archaeological Research Framework (ScARF) 2012b, 'Modern Scotland: Archaeology, the Modern Past and the Modern Present' Available at: <https://bit.ly/3vHzhyj> (Accessed: 29/04/2022)

Scottish Government, 2014 'Our Place in Time: The Historic Environment Strategy for Scotland,' Available at: <https://bit.ly/3OZy796> (Accessed: 04/05/2022)

Scottish Governemnt, 2020 'Scottish Index of Multiple Deprivation', Available at: <https://bit.ly/3FpBJwy> (Accessed: 08/05/2022)

Swain, B., Tatton, H., Teale, K., Forster, M., Turner, L., 2022 'Glengarnock Castle: 2021 Assessment and Data Structure Report,' Available at: <https://bit.ly/3w6dINH> (Accessed 11/05/2022)

Treasure Trove in Scotland, 2014 'A Code of Practice,' Available at: <https://bit.ly/3w6MQGD> (Accessed: 04/05/2022)

Turner, L., Rees, T., 2021 'Section 3: Historical, Archaeological and Cultural Background,' Desk Based Assessment, Rathmell Archaeology, in Forster, M., Noon, S., 2021 'Glengarnock Castle: Project Design for a Community Archaeological Investigation,' Available at: <https://bit.ly/37dZaMH> (Accessed: 15/03/2022)

University of Strathclyde, 2018 'North Ayrshire Economic Review' Available at: <https://bit.ly/3wfjQwi> (Accessed: 08/05/2022)

Urquhart, R., 1845 'The Statistical Accounts of Scotland 1791-1845, Kilbirnie, County of Ayrshire,' NSA, Vol V Available at: <https://bit.ly/3MVyqQx> (Accessed: 04/05/2022)

Part 3: Appendices

APPENDIX 1: SITE LOCATION AND DESCRIPTION

Extract from Forster and Noon (2021, Section 2)

Location, topography and site visit

"The area covered by the Garnock Connections Landscape Partnership encompasses one of the largest valley landscapes in Ayrshire, running from Lochwinnoch to Irvine Bay, and extending over 385km². The project area includes the water catchment of the River Garnock up into the Clyde Muirshiel Hills, Lochwinnoch and Castle Semple Loch, and Irvine Bay round towards Troon. The area is close to the Clyde and Glasgow, and forms an important lowland link between Irvine Bay and Glasgow, which gave it the potential for settlement, transport and industry at an early stage. Railways played a critical transport role for industry in the area in the past, and with a continuing connection to the coast and Glasgow, and the modern road network, these contribute to the accessibility of the area today. The Garnock Connections landscape was a glaciated valley, and as such provides a broad flat-bottomed valley that was ideal for settlement in historic times, and continues to be an important area for agriculture, industry and settlements today.

The Garnock Connections area lies within the Midland Valley of Scotland, at the western end of the band of relatively low-lying land between the Highland Boundary Fault and the Southern Upland Fault. The bedrock geology of the Garnock Connections area mainly comprises sedimentary rocks laid down during the Ordovician and Silurian ages (c.500-400 million years ago), with the main rock types being mudstones and sandstones forming from deposits laid down in oceans and waterbodies, though these are often interspersed with coal seams where there was land and vegetation. Volcanic activity introduced granites and basalts which form the higher hills and some of the more prominent scarps and hills. The distribution of igneous (volcanic) and sedimentary (formed from ocean and land-based sediments) across the Garnock catchment is not simple, as the rocks have been shattered by a series of faults that have fractured the rocks and left a patchy distribution of rock types. The superficial geology in the Garnock Connections area include deep peats on high ground, and mixed glacial tills over much of the Garnock catchment. Fluvial deposits are found along the river valley floors (MVGLA. 2017).

Glengarnock Castle (SM318), (NGR: NS3102957355) is located in the parish of Kilbirnie in North Ayrshire 2 miles (3 km) north of Kilbirnie in North Ayrshire KA25 7JZ (Figure 1). The castle ruins are located in the northern part of the Garnock Connections area, north of Kilbirnie and southwest of Lochwinnoch. The castle lies within an irregular area of ground on the east bank of the River Garnock and sits on an unnamed Igneous intrusion of unknown age comprising Microgabbro Igneous bedrock. The superficial geology formed through glacial action creating till and glaciofluvial deposits of sand and gravel during the Devension period of the Quaternary up to 2 million years ago. The area is also interspersed with alluvial deposits of clay, silt, sand and gravel resulting from the fluvial processes of the rivers that once existed here (BGS, <http://mapapps.bgs.ac.uk>).

The standing remains of the castle are impressive and located at the end of a natural promontory created by the river, with steep sided slopes on the north, west and southern sides. Access to the site from the eastern side is across a narrow promontory, which includes visible earthworks on the northern edge. The building remains are significant although ruinous, with standing walls extant on all sides and indications of the original structural form suggested by both architectural features and wall footings within the castle structure. Historical accounts indicate that the ruins have suffered extensive damage from storms and had seen some repair in the 1800s, and that the site was utilised as a quarry for building stone."

APPENDIX 2: HISTORICAL AND ARCHAEOLOGICAL BACKGROUND

Summarised from Turner and Rees (2021)

12th to 14th centuries

Two sources provide some insights relating to this period. Both suggest that the Barony of Glengarnock was held by a branch of the Riddell family, more usually associated with Teviotdale in the Scottish Borders. The link with the Riddells ended when this line terminated with an heiress, who married a son of the Cuninghame family, named variously as Reginald, 2nd son of Sir Edward Cuninghame of Kilmaurs (Paterson 1852, 117) and Hervey Cuninghame of Kilmaurs, who supposedly distinguished himself in the Battle of Largs of 1263, and established the line of Glengarnock through his second son, Galfidus (Urquhart 1845, 701).

Glengarnock's imposing character and impressive situation may also have contributed to an alternative hypothesis, that it formed the primary seat of the de Morevilles in the area (Paterson 1852, 113).

15th and 16th centuries

Despite their adherence to the cause of Edward I during at least the opening stages of the Scots Wars of Independence, the Cuninghames of Glengarnock emerged with their lands and titles intact. The senior branch of the family – the Cuninghames of Kilmaurs – had been created the Lords Kilmaurs by the early 1460s, in the reign of James II. The Cuninghames remained in favour with James III, and in 1488, Alexander, 1st Lord Kilmaurs was elevated to the status of 1st Earl of Glencairn.

As the fortunes of the Cuninghames had improved following the eclipse of Douglas power from the 1460s onwards, so too did those of another family based in the north of Ayrshire: the Montgomeries. The death of King James III and the instability which followed the regime change brought about a period of violent unrest in Ayrshire as the Cuninghames and the Montgomeries vied for political supremacy.

Throughout this extensive period, Glengarnock Castle must have provided its residents with a solid defensive structure, conveniently situated on the periphery of those places which tended to be the main focus of unrest. MacGibbon and Ross's observations that the castle's fabric is likely to have its origins in the first half of the 15th century would suggest that the castle was constructed during the relatively peaceful period which predated the almost-constant feuding of the late 15th and 16th centuries. It is likely that the main portion of the structure – the tower-house – was constructed around the mid-15th century, when the Cuninghames were beginning to come into their own as major regional and even national players. This was a period when even their cadet branches would have had sufficient wealth and status to construct such an imposing structure.

The 17th century

The barony of Glengarnock passed into the hands of another branch of the Cuninghame family: the Cuninghames of Robertland. David Cuninghame of Robertland, who made the purchase, had six sons: one of his younger sons, Alexander, whose residence was at nearby Ladyland, joined the rebellion of the Marquis of Montrose in 1647 (*ibid.*).

Further information relating to this period, and the years of the Commonwealth which follows, is elusive. If Glengarnock was indeed brought into use as a garrison for a short period during the late 1640s, then some of the later structures observed by MacGibbon and Ross (in particular, the external buildings and ranges which about the barmkin wall) may well have their origins in this period. The role Glengarnock Castle played cannot, however, have been a significant one, as the site was never subject to the attentions of Cromwell in the succeeding Commonwealth period, either as a potentially useful defensive site or as a latent threat which required to be destroyed.

Glengarnock's decline is mirrored in the failing fortunes of the Robertland Cunninghames who purchased it. Richard Cuninghame inherited the barony of Glengarnock from his father David when still a minor, and Paterson notes that the young heir's education was neglected on account of the dire financial circumstances of his father. The barony was sold, apparently in two lots, to Patrick Lindsay of Kilbirnie in 1672 and 1677 (Paterson 1852, 121), thus ending the long association between the Cunninghame family and the barony of Glengarnock.

1670-1839

The purchaser of the barony of Glengarnock was Patrick Lindsay, second son of the Earl of Lindsay. He had established links with north Ayrshire through his marriage to Margaret Crauford, heiress to the barony of Kilbirnie which lay adjacent to the lands of Glengarnock.

Their eldest son, John, took the Crauford name and established himself both politically and militarily in the Revolution of 1688. He served as a member of the Scots Parliament for Ayr on several occasions, and was elevated to the peerage, being granted the title Viscount Mount Crauford, which he later changed to Viscount Garnock. His eldest daughter married David, 1st Earl of Glasgow, and ultimately it was the 4th Earl of Glasgow who would inherit the baronies of Kilbirnie and Glengarnock in 1833, following the death of Lady Mary Lindsay Crauford of Crauford, Lindsay and Garnock, unmarried, and without issue.

Antiquarian and archaeological involvement

The later 18th century saw an increasing interest in Scottish history and traditions, albeit in an idealised form. This interest provided the backdrop to a range of antiquarian and archaeological events undertaken at the castle during the first half of the 19th century in particular. One of the earliest descriptions of the castle comes from George Robertson (1820, p260), who describes the traditional and local link between the castle and a well-known historical event (the Battle of Largs), but also refers to the long-term history of the site, commencing with the Riddells and then moving on to the Cunninghames.

A fuller description is afforded us from the New Statistical Account (Urquhart 1845, 706-7). A detailed reading of Urquhart's account ends with an extremely significant piece of information: the fact that the remains of the castle suffered catastrophic damage in January 1839 when winter storms brought down the north wall of the tower. MacGibbon & Ross (1887-92, p 293-296) also recorded Glengarnock Castle as part of their compendium of castellated architecture and is quoted in full as part of Turner and Rees (2021), available as part of the Glengarnock Castle community archaeology project design (Forster and Noon, 2021).

Designations, HER entries and 20th century interventions

Glengarnock Castle is recorded in Canmore under Id 42179 and within the West of Scotland Archaeology Service HER as Pin 6750. Glengarnock Castle and its immediately surrounding environment are designated as a scheduled monument (Index No.: 318) under the Ancient Monument and Archaeological Areas Act 1979. This ancient monument was added to the schedule in May 1935.

There appear to have been no 20th century intrusive investigations or historic building recorded work on the castle. Works appear to have focused on capturing images and to a lesser extent earthwork survey. The NRHE holds a plan of the castle from 1911 and a limited series of monochrome images from a May 1947 emergency survey of the monument and inspection images from 1983. A range of low-level oblique aerial images are also held by the NRHE from 2006.

The archaeology notes within the NRHE are dominated by the MacGibbon & Ross (1889) description as well as field comments from site inspections by the Ordnance Survey Archaeology Section in 1956, 1964 and 1983.

These inspections focus on descriptions of the ditch cutting across the promontory, the mound (assessed to be natural) and the identification of the footings of a building on the north side of the promontory.

APPENDIX 3: 2021 FIELDWORK

Extract from Swain et al (2022, pg.5)

“The historic building recording revealed six fabrics of varying character and of these six, only one could be closely dated to a re-built section of wall destroyed by storms in 1839. The earliest phase of construction surviving in the castle must pre-date the 1700s, whilst comparison with other buildings of confirmed late medieval or post-medieval date suggests a probable late 15th to late 17th century date range.

The magnetometer survey produced a series of negative linear trends running ENE-WSW along the promontory. One of these trends aligns with a wall revealed in Trench 3, suggesting the others may also relate to buried wall remains or foundations. Readings to the south-west imply further possible archaeological remains, such as a sub-rectangular negative anomaly near to the castle’s entrance. The highly magnetic results at the eastern end of the site may represent curvilinear remains, but more likely relate to geological features.

Three trenches were excavated on and around the castle promontory. No archaeological features were discovered in Trench 1 to the east, but two walls were observed in Trenches 2 and 3 corresponding with extensive earthworks interpreted as a rectangular stone-built structure eroding into the northern escarpment of the promontory. The picture emerging is the development of the castle promontory with ancillary buildings, possibly of 19th century date, including a large rectangular structure of as yet unknown function. However, the differences in construction and observed abutment between the walls discovered suggests different phases of structure on the promontory, some of which may relate to the earlier occupation of the castle.”

APPENDIX 4: PROJECT CONTEXT AND MOTIVATION

Extract from Forster and Noon (2021, Section 4)

“Strategy and national policy

The project accords with priorities articulated in the Scottish Government’s Historic Environment Strategy – Our Place In Time (2014), detailing how heritage organisations will work together to benefit the historic environment. In addition to these priorities, the project drivers also concord with the fundamental principles of Historic Environment Scotland Corporate Plan, Heritage for All (2019) and Scotland’s Archaeology Strategy (2015).

The project will be delivered with local people and visitors, working alongside a professional team to investigate the site, as well as its wider context and setting. The positive role that the historic environment can play in maintaining, developing, and regenerating communities and their identity, culture and economy is a key driver in the overarching programme. This fieldwork element forms one of several community-based activities delivered via the Garnock Connections Landscape Partnership, aiming to enhance, improve access to and promote heritage around the region.

The wider research context

The community archaeology aspects of the Garnock Connections Landscape Partnership will provide the participants with new skills and knowledge about the region, as well as supporting the development of

connections to both people and place. In addition, they are built on a sound research framework with an aim to contributing new research data and enhance understanding of past human activity in the region. Glengarnock Castle spans both the medieval and modern periods of Scotland's Archaeological research framework (ScARF). Medieval Scotland: A Future for its Past suggests that, compared with England and Wales, castles have been investigated and excavated on a diminutive scale within Scotland (ScARF Summary Medieval Panel Document, 2012, 7). Modern Scotland: Archaeology, the Modern past and Modern present indicates that the characteristic pattern of landholding in Scotland today – the large estate – emerged from changes in the way land was controlled and managed in the 16th and 17th centuries and studies of Early Modern castles in their landscape context have analysed some of the ways in which feudal lords or clan chiefs transformed their landscape relationships to become modern landowners (Dalglish 2005, cited in the Scarf Summary Modern Panel Document. 2012, 109).

Understanding the late medieval control of landscapes in the north from tower houses on the transitional slopes and more extensive estates in the south, with families like the Sempills and Earls of Eglington influencing the development of each area respectively, has also been highlighted in the Garnock Connects Landscape and Heritage Study (MVGLA, 2017). In addition, the study highlights the issue of the erosion of cultural heritage features without measures to conserve and protect them including damage by vegetation and erosion of the fabric of upstanding structures and buildings (MVGLA, 2017).

Addressing the research themes and questions posed in the Scottish research framework documents (ScARF, 2012) as well as those raised more recently by the Garnock Connections Landscape and Heritage Study will ensure maximum impact and legacy for the Garnock Connections Landscape Partnership and Natural Heritage Scotland in the archaeological sphere.

The investigations at Glengarnock Castle can therefore address some a number of themes;

- Lifestyles and Living Spaces: Holistic approaches to exploring medieval settlement should be promoted, combining landscape studies with artefactual, environmental, and documentary work. Understanding the role of individual sites within wider local, regional and national settlement systems should be promoted, and chronological frameworks developed to chart the changing nature of Medieval settlement.
- Humanity - Archaeological research into the modern past should be ambitious in seeking to contribute to understanding of the major social, economic and environmental developments through which the modern world came into being. Modern-world archaeology can add significantly to knowledge of Scotland's historical relationships with the rest of the British Isles, Europe and the wider world. Archaeology offers a new perspective on what it has meant to be a modern person and a member of modern society, inhabiting a modern world.
- Perspective - Research into the modern past provides a critical perspective on the present, uncovering the origins of our current ways of life and of relating to each other and to the world around us. It is important that this relevance is acknowledged, understood, developed and mobilised to connect past, present and future. The material approach of archaeology can enhance understanding, challenge assumptions and develop new and alternative histories. Archaeology can evidence varied experience of social, environmental and economic change in the past. It can consider questions of local distinctiveness and global homogeneity in complex and nuanced ways. It can reveal the hidden histories of those whose ways of life diverged from the historical mainstream. Archaeology can challenge simplistic, essentialist understandings of the recent Scottish past, providing insights into the historical character and interaction of Scottish, British and other identities and ideologies (ScARF, 2012).

Social context

The project is keen to address to the needs of the surrounding community, particularly those of nearby urban areas recorded as having high levels of deprivation. The towns in the north and south of the project area show a clear divide in terms of deprivation. The towns in the south of the project area (Ardrossan, Saltcoats, and Stevenson - known locally as the Three Towns) and Irvine reveal large areas that are in the red zone indicating 5% most deprived. Whereas in the north there are no 'red zones' (Scottish Government, 2020). The project area has an unemployment rate average that is lower than the rest of Scotland as a whole and a lower employment rate than the national average (Office for National Statistics, 2020).

North Ayrshire is the 5th most deprived local authority in Scotland, ranking as high as 3rd weakest in the income domain. The decline in the economy of the area can to some extent be traced to de-industrialisation in the of 1970s & 80s along with barriers from social deprivation and health inequalities and the squeeze on local budgets. The economic performance of North Ayrshire lags behind most other areas of Scotland: economic output per head is around 60% of the Scottish average. This gap has increased over the last 20years. North and East Ayrshire have a lower healthy life expectancy than the Scottish average at 62 years of age. Ayrshire's population has been on the decline since the early nineties, with the population of East Ayrshire falling the most amongst the three local authorities and the age of the population is increasing (University of Strathclyde, 2018).

This project will respond to this by offering free enjoyable learning opportunities, both online, within the Garnock Connections area and at local schools, bringing archaeology into the heart of the community to help address these strong social and educational needs. Participant recruitment will be planned in liaison with Historic Environment Scotland and Garnock Connections staff to engage volunteers already linked to local networks and organisations, as well as widening participation to include audiences who have not previously engaged with heritage or archaeology. Glangarnock Castle is near the centre of the project area which is also ideally located for bringing the north and south communities closer together."

APPENDIX 5: INTERFACES

Interfaces	Description
Core Project Team	The core project team are actively engaged in a range of multi-disciplinary projects across the country and beyond, allowing this project to interface with a number of others, past and present, that have served to develop the skills, experience and knowledge-base of its staff and specialists.
Local Stakeholders	The Glengarnock Castle project forms one part of the Community Heritage and Archaeology Project (CHAP), commissioned by the GCLP and funded by the NLHF. As such, the project aims to interface with a variety of local communities in the North Ayrshire region experiencing high levels of deprivation and difficulties with access to heritage. The project will create opportunities to provide locals with access to digital and physical heritage skills, allowing them to better understand and appreciate their local heritage environment through free and enjoyable learning experiences.

Advisory Group	An advisory group composed of academic subject leads, local and regional community stakeholders and heritage representatives including HES and the West of Scotland Archaeology Service (WOSAS) will be formed. This will ensure the project remains focused and interfaces with a range of relevant aims including increasing academic knowledge and providing social benefit for the local communities.
----------------	---

APPENDIX 6: HEALTH AND SAFETY

Extract from DigVentures Health and Safety Statement (2022)

“DigVentures will undertake all works in accordance with Health and Safety requirements and a Health and Safety Plan. This document will take account of any design information pertaining to above and below ground hazards. DigVentures will ensure that all work is carried out in accordance with its company Health and Safety Policy, to standards defined in The Health and Safety at Work etc. Act 1974, and The Management of Health and Safety Regulations 1992, and in accordance with the SCAUM (Standing Conference of Archaeological Unit Managers) health and safety manual Health and Safety in Field Archaeology (1996).”

APPENDIX 7: DETAILED METHODS STATEMENTS

Includes extracts from Forster and Noon (2021, Appendix 1)

Historic building recording and photogrammetric survey

A visual record of the site will be collected by volunteers under supervision, focusing on the interior of the castle keep and courtyard buildings, and external walls where accessible. Areas of focus will be informed by the results of the 2021 historic building recording survey and the aim will be to record any relevant features and relationships between construction fabrics to complete a comprehensive visual record of the structures with both general and detailed photos and measured elevation drawings. It will be undertaken using methodology suggested by Historic Scotland (2004) and using DigVentures pro forma recording system to compile a photographic and drawn record. The survey will require string lines to be pinned into the wall and ground (using nails, chaining arrows and road pins as appropriate) as well as use of tripods (with feet pushed into sod).

The survey will consist of:

- a general view or views of the castle keep and courtyard in its wider setting.
- the castles external appearance with a series of oblique views showing all external elevations of the building, and giving an overall impression of its size and shape.
- individual drawn elevations will include complex historical information views of construction fabrics at right-angles to the plane of the elevation.
- further views to reflect the original design intentions of the builder or architect, where these are known from documentary sources or can be inferred from the castle or its setting.
- the overall appearance of the principal rooms and circulation areas.
- any external or internal detail, structural or decorative, which is relevant to the castles design, development and use, with scale where appropriate.

- any dates or other inscriptions; any signage, makers' plates or graffiti which contribute to an understanding of the building.
- a transcription of dates or transcriptions where characters may be difficult to interpret on the photographic image.
- any building contents which have a significant bearing on the building's history.

Photogrammetric recording will utilize Agisoft PhotoScan 3D Modelling software to detect the feature points of the structures, and match these in different images to create a point cloud. The camera positions will be calculated automatically by the software and a dense reconstruction or geometric model will be built to create a DSM. The resulting model can be manipulated for viewing from any angle using a variety of artificial light and shading techniques to highlight certain features, or overlaid or draped with the original photographs for true colour representation. Images will be captured perpendicular to the structure using telescopic mounted cameras, to deliver optimum results requiring little or no rectification. All images are taken with a 16-megapixel digital camera (unless other cameras are specified) with a variety of standard and other lenses and are captured in RAW format for later processing into high resolution JPG and TIF files, and downloaded directly on to the hard disk of the laptop. Where access is restricted a pole-mounted camera can be operated by a single person, can be used for perpendicular positioning and for close up detailed images of masonry features etc.

Topographic survey

Topographical survey work will be carried out using a Trimble Real Time Differential GPS survey system. The Trimble VRS system is used in conjunction with a GPS Rover unit. It allows for surveying without the use of a site-specific fixed base station. This is achieved by connecting to Trimble's network of fixed base stations by means of mobile phone communication. This method is highly efficient and accurate (+/- 2cm) when good signal is available. The survey data is exported from the data logger as a comma delimited file (csv) and a Trimble data collector file (dc). Either of these files can be imported into Trimble GeoSite Communicator, which recognises the feature code library and plots all strings, polygons and labels as intended. All survey and excavation data will be stored within a GIS environment, which will remain the principle conduit for all spatial data throughout the project. Survey will be undertaken to standards identified in best practice guidance, including HE Traversing the Past 2016 and HE Understanding the archaeology of landscapes 2017.

Geophysical survey

The geophysical surveys will encompass magnetometry and earth resistivity surveys over the castle promontory and adjacent hillside.

Magnetometer survey is generally considered as the quickest and most widely used geophysical survey technique for the detection of buried archaeological remains. It is efficient for detecting features that have been thermoremanently magnetised, such as kilns, as well as ditches and pits that have been backfilled. Earth resistance is effective at detecting wall foundations and is efficient at identifying garden feature remains and is more useful in areas of magnetic interference where magnetometry survey would otherwise be affected.

The geophysical surveys will be undertaken to the specifications provided by ClfA (2014) and the EAC (Schmidt et al. 2016). The survey will be conducted across a series of 30m survey grids, which will be set out using a Trimble GPS using real time corrections to an accuracy of <0.05m. The survey grids will either be pre-defined before the survey commences or set out in the field using a best-fit methodology and tied in and recorded using the GPS. Control points will also be recorded at adjacent buildings and stationary features by way of assessing the accuracy of the GPS in post-processing. The survey grid will be delineated using bamboo canes as temporary markers which will be removed following completion of the survey.

A Bartington Grad601-2 magnetic gradiometer will be used for the magnetometer survey. The Bartington Grad601-2 is a dual sensor instrument, incorporating two Grad-01-1000 sensors set at 1m apart. Readings are

taken on the 100nT range (0.1nT sensitivity), at 0.25m intervals on zig-zag traverses 1m apart within a 30m grid, equating to 3600 readings per grid. The instrument will be checked for electronic and mechanical drift at regular intervals and calibrated as necessary. The data will be downloaded using Bartington's Grad601 download software and imported into Geoplot v4.0 (Geoscan Research) for data processing. The gradiometer data will be georeferenced in QGIS and presented in the report as greyscale data plots. Interpretations of the data will also be created in QGIS as line and polygon data and these interpretive figures will also be presented in the report.

An RM85 resistivity meter (Geoscan Research) will be used to undertake the earth resistance survey. The RM85 earth resistance meter will comprise of two probes in a twin electrode configuration, which is capable of detecting archaeological remains to a depth of 1m below the surface. The survey will be conducted along an east-west alignment in a zig-zag fashion across a 30m grid, utilising a sample interval of either 0.5m or 1m with a traverse interval of either 0.5m or 1m. The data will be downloaded and processed using Geoplot v4.0 (Geoscan Research) in order to produce greyscale plots of the data. The data will be georeferenced in QGIS and presented in the report alongside interpretations of the data, created as lines and polygons in QGIS.

Archaeological Excavation

Archaeological interventions will be targeted based on the results of the 2021 fieldwork, including geophysical survey and trial trenching. It is proposed that this second season aims to establish the physical extent, character and chronology of the archaeological features and targeted geophysical anomalies identified in 2021, their state of preservation and their relationship to the castle, its immediate environs and wider landscape setting. Following this, an assessment report informing the potential for analysis of the resource and either a Post-Excavation Research Design (PERD) detailing the methodologies for this analysis or an Updated Project Design detailing recommendations for further fieldwork will be produced. The evaluation trenches proposed for the 2022 (Figure 2) fieldwork will comprise:

- Trench 4 – an area c. 16m x 5m in plan, aligned approximately northeast to southwest, targeting the footprint of the structure visible as earthworks on the promontory, in the geophysics results and from the walls identified in trenches 2 and 3 during the 2021 season.
- Trench 5 – an area c. 5m x 5m in plan, targeting a sub-rectangular geophysical anomaly interpreted as possibly relating to a destroyed feature associated with the castle, internal and adjacent to the boundary of the scheduled monument.
- Trench 6 (contingency) – an area c. 5m x 5m in plan, aimed at ground-truthing geophysical anomalies identified at the east of the site tentatively interpreted as geological features.

Topsoil will be removed by hand, then the trenches will be cleaned, planned and photographed prior to any further excavation. A representative section, not less than 1m in width, of the entire deposit sequence encountered will be recorded. If complex stratigraphy and/or significant remains (e.g. structural remains, artefact scatters, remains clearly of a funerary nature etc.) are encountered, these may only be excavated to the minimum requirement in order to satisfy the project objective, to avoid compromising the integrity of remains that may be either (a) preserved in situ, or (b) excavated in detail during any next phase of research excavation. Interventions will focus on feature intersections to establish relative chronologies, and 'clean' sections to maximise retrieval of stratigraphically secure dating evidence and environmental samples.

Full written, drawn and photographic records will be made of each trench, even where no archaeological remains are identified. A plan at an appropriate scale (1:50 or 1:100) will be prepared, showing the areas investigated and their relation to more permanent topographical features, and the location of contexts observed and recorded during the investigation. Plans, sections and elevations of archaeological features and

deposits will be drawn as necessary at an appropriate scale (normally 1:20, or 1:10 for complex features). Drawings will be made in pencil on permanent drafting film.

Each trench will be recorded using pro forma context records based on DigVentures' single context recording system. Digital photography and 3D photogrammetry will be used to record all significant features, finds, deposits and general site working. The photographic record will illustrate both the detail and the general context of the principal features and finds excavated, and the Site as a whole.

Where turf is removed it will be stacked away from the trench edge, maintaining their integrity by ensuring that the turves are placed in a correct position (turf side up) and are watered frequently and monitored daily. Topsoil and subsoil will be removed and retained separately for reinstatement.

Palaeoenvironmental sampling and bulk sampling strategy

All deposits with good palaeoenvironmental potential will be sampled; bulk samples shall be taken from the section as appropriate, under advisement from the project specialist. Context specific samples will be taken by the most appropriate means (kubiena tins, contiguous columns, incremental block, bulk etc.) for multi-disciplinary analysis. All aspects of the collection, selection, processing, assessment and reporting on the environmental archaeology component of the evaluation shall be undertaken in accordance with the principles set out in *Environmental Archaeology: a guide to the theory and practice of methods, from sampling and recovery to post-excavation* (English Heritage 2011) and with reference to the Association for Environmental Archaeology's Working Paper No. 2, *Environmental Archaeology and Archaeological Evaluations* (1995).

Bulk samples will usually be 40 litres in size, depending on the likely density of macrofossils. Ten-litre samples will only be used for the recovery of plant macrofossils from waterlogged contexts. Samples will be stored in ten-litre plastic buckets with lids and handles. A waterproof label will be fixed to the bucket and will record site code, context number and sample number and number of buckets in comprising the sample. A duplicate label will be retained inside the bucket. Samples will be protected from temperatures below 5° and above 25° Celsius and will be prevented from either wetting or drying out.

- Bulk samples selected for processing shall be wet-sieved/floted and washed over a mesh size of 250 microns for the recovery of palaeobotanical and other organic remains, and refloted to maximise recovery;
- Non-organic residues shall be washed through a nest of sieves of 10mm, 5mm, 2mm, 1mm and 250 micron mesh to maximise finds recovery;
- Both organic and non-organic residues shall be dried under controlled conditions;
- The dried inorganic fractions shall be sorted for small finds or any non- buoyant palaeoenvironmental remains, and scanned with a magnet to pick up ferrous debris such as hammerscale;
- The dried organic fractions shall be sorted under a light microscope to identify the range of species or other material on a presence/absence basis, the degree of preservation of the bio-archaeological material and the rough proportions of different categories of material present;
- In the event that waterlogged deposits are identified and sampled, further processing shall be undertaken as appropriate and agreed, including paraffin flotation to recover insect remains. Any such remains shall be scanned to identify and assess their potential;
- Selection of other types of sample for processing and the methods to be used for processing and assessment shall be undertaken on the advice of the relevant specialist and shall be agreed with the Garnock Connections project team and Historic Environment Scotland before implementation.

Contexts that are well stratified and potentially datable are all of value, so a systematic approach to selecting samples for processing and assessment will be taken. These will be divided into three categories:

- Category A (always sampled): contexts where the composition of the sediments are likely to inform us of the use of a particular structure or feature or if the deposits are waterlogged. These will include: *in situ* occupation deposits and fills/layers associated with particular activities; hearths; destruction deposits; basal pit/slot trench fills; waterlogged deposits, cesspits or latrines.
- Category B (always sampled, though discretion should be exercised): deposits identified as containing material that could yield information regarding their origin or the process that produced them. These will include: dumps, middens, upper pit fills with evidence for charred material, shell, bone and industrial waste.
- Category C: deposits containing material which is not necessarily related to the function of the feature to which they are related, but which can characterise deposits from different areas of the site. These will include: secondary and tertiary fills, postholes, levelling deposits, spreads etc.

Category A and B deposits should always be sampled, and Category C deposits sampled on a random basis (such as 1 in 5). These samples can help to characterise the background noise of a site, so as to highlight spatial or temporal trends and provide material that can be directly compared with those from Category A and B. All samples will be taken in large white 10 litre tubs, with labels placed inside with the deposit and attached to the bucket. All samples will be processed on site in a dedicated flotation and wet sieving area.

Zooarchaeology

If large deposits of bone or marine shell are encountered advice of the project zooarchaeologist Dr Hannah Russ will be sought as regards further sampling. If large deposits of bone or marine shell are encountered the project zooarchaeologist advice will be sought as regards further sampling. If articulated groups of bones are encountered they will be surveyed, recorded *in situ*, (including digital photography and planning), and then excavated to retain the group's integrity. Bones from each articulated limb will be bagged separately. If inhumations or cremation burials are encountered and excavated the surrounding soil will be sampled to retrieve any loose teeth or bone fragments.

All hand collected animal bones and bones from processed samples will be assessed, following Historic England's Animal Bones: Recovery to Archive (2019). If warranted by the size of the recovered assemblage, it will be assessed using two different quantification methods to determine the most suitable for full analysis, taking into account methods used in comparative assemblages. The assessment will not distinguish between certain taxonomic groups, for example equids (horse and donkey); full speciation should be carried out as part of any recommended analysis, using a vertebrate comparative collection. In addition to quantification of domestic species and occurrence of wild species, the assessment will consider the number of articulated bone groups, and the prevalence of aging, sexing and osteometric data available for full analysis, following standard published conventions. The assessment report will comment on the potential of the assemblage, particularly in the context of the excavation's research questions and current understanding of comparative assemblages. It will also provide recommendations for any necessary future analysis.

Human osteoarchaeology

In the event of the discovery of human remains (inhumations, cremations and disarticulated fragments) they will be left *in situ*, covered, protected and otherwise treated in accordance with the guidelines of Historic Scotland (1997) 'Treatment of Human Remains in Archaeology.'

Finds

Finds will be treated in accordance with the relevant guidance given in the Chartered Institute for Archaeologist's Standard and Guidance for Archaeological Evaluation (2008), excepting where statements made in this appendix supersede them. All artefacts will be retained from excavated contexts, except features or deposits undoubtedly of modern date. In these circumstances sufficient artefacts will only be retained to elucidate the date and function of the feature or deposit. All artefacts from the evaluation works will, as a minimum, be washed, marked, counted, weighed and identified.

Should material culture be recovered, finds will be researched at DigVentures office (Barnard Castle) and an application to remove finds for research purposes has been made to Treasure Trove to support that process.

Conservation

Artefacts will be recovered as a matter of routine during the excavation. When retrieved from the ground finds will be kept in a finds tray or appropriate bags in accordance with First Aid for Finds (Watkinson and Neal 2001). Where necessary, a conservator may be required to recover fragile finds from the ground depending upon circumstances.

After the completion of the fieldwork stage, a conservation assessment will be undertaken which will include the X-radiography of all the ironwork (after initial screening to separate obviously modern debris), and a selection of the non-ferrous finds (including all coins). A sample of slag may also be X-rayed to assist with identification and interpretation. Wet-packed material, including glass, bone and leather will be stabilised and consolidated to ensure their long-term preservation. All finds will be stored in optimum conditions in accordance with First Aid for Finds and Guidelines for the Preparation of Excavation Archives for Long-Term Storage (Watkinson and Neal 2001).

Scientific dating

Where uncontaminated deposits are recorded which can inform understanding of the research aims appropriate samples will be taken. Radiocarbon dating will be appropriate for clarifying and linking aspects of archaeological and environmental chronologies, and a strategy for this will be agreed following discussion with Historic Environment Scotland and the relevant specialists.

Dissemination

All reports produced by the project detailing results of research will be openly and freely disseminated through the National Record of the Historic Environment, Canmore, OASIS portal and the project website. Reports produced will be sent directly to the Project team, the local HER (WOSAS) and HES, who will also be consulted throughout analysis and reporting stages. Copyright on all reports submitted will reside with DigVentures, although a third party in-perpetuity licence will automatically be given for reproduction of the works by the originator, subject to agreement in writing with DigVentures.

Project Archive

The project archive will be prepared in accordance with the deposition guidelines provided by the National Record of the Historic Environment, Canmore, and the excavation finds will be declared to the Treasure Trove Panel in line with Treasure Trove in Scotland. The archive will be prepared in line with guidelines set out in Historic Environment Scotland's Archives and Collections Policies (Historic Environment Scotland, 2022a) and ClfA Standards and Guidance for Archaeological Archives (2014).

APPENDIX 8: DATA MANAGEMENT PLAN

DigVentures standardised template and format as per guidance from ClfA (2019)

Section 1: Project Administration

Project ID / OASIS ID
- Project code: GAR22 - OASIS ID: digventu1-506627
Project Name
Glengarnock Castle
Project Description
Community archaeology project - Targeted excavation and recording of structures identified on the castle promontory - Historic building and Photogrammetric survey of extant remains of the castle - Geophysical and topographic earthwork survey of the castle promontory and adjacent hillside - Community outreach and engagement
Project Funder / Grant reference
- Project funder: Garnock Connections Landscape Partnership, under grant funding from the NLHF - Client: Garnock Connections Landscape Partnership
Organisations
DigVentures – lead archaeological contractor
Project Manager
Manda Forster, DigVentures
Principal Investigator / Researcher
Stephanie Duensing, Project Officer, DigVentures
Data Contact Person
Stephanie Duensing, Project Officer, DigVentures
Date DMP created
01/07/21
Date DMP last updated
02/05/22
Version
Version 2.0
Related data management policies
- Deposition guidelines provided by the National Record of the Historic Environment, Canmore, Treasure Trove Scotland, Historic Environment Scotland Archives and Collections Policies. - ADS Guides for Good Practice - ClfA Standards and guidance for Archaeological Archives, including AAF and Arches guidance documents - Dig Digital / ClfA data management guidance document

Section 2: Data Collection

What data will you collect or create?

The following table outlines the types of files we will collect, and an estimate of the selected data archive.

Type	Format	Estimated volume of Data Archive
Spreadsheets	Excel (.xlsx)	3 spreadsheets objects (size <2MB total) - Context Register / Finds & Samples Register / Photo Register / Drawing Register - Context descriptions and data - Specialist data tables
Text / documents	Word (.docx)	11 word documents (size <100MB) - Project Proposal - Project Design - Assessment report and Updated Project Design - Assessment report and Post Excavation Research Design - Final Technical Analysis Report - Individual Specialist Reports x 6
Vector graphics	Scalable Vector Graphics (.svg)	Site drawings x 10, av size 5MB
Images	Uncompressed (.tiff) Lossy graphics file (.jpg)	Archive shots x 100, av size 4MB Orthoimages x 10, av size 10MB Images for 3D models x 300, av size 4MB
GIS	ESRI Shapefile (.shp & .shx & .dbf, plus associated files)	Overall GIS files x 10, including 6 shp layers <10MB
Survey	Comma Separated Version (.csv)	Survey data x 1, av size <1MB
Video	Moving Picture Expert Group-4 (.mp4)	Video files x 5, av size 500MB to 1GB
Photogrammetry	Models hosted on Sketchfab (.obj, .jpg, .mtl)	3D models x 3, 20MB

How will the data be collected or created?

Data Standards / Methods

- Standard methods of data collection will be applied throughout the project, working to best practice guidance where applicable / available. In general, data acquisition standards are defined against ADS Guides to Good Practice. Specific or additional guidance relevant to this project are listed below, and will be updated as the project progresses.

- Methods of collection are specified within the Project Design (see DV_GAR22_ProjectDesignV2.0.pdf) and will meet the requirement set out in the organisation recording manual and relevant ClfA Standards and Guidance.
- Where appropriate, project contributors external to the organisation will be required to include data standards, collection methodology and metadata with individual reports and data.
- Specific guidance:
 - HE Digital Image Capture and File Storage: Guidelines for Best Practice 2015
 - HE Photogrammetric Applications for Cultural Heritage: Guidance for Good Practice 2017

Data storage / file naming

- The working project archive will be stored in a project specific folder or data specific folder on the internal organisational server. The internal organisation server is backed up twice daily to maintain an up to date security copy of the organisation wide data.
- Project folders are named following established organisational procedures.
- Data collected will be downloaded and raw data will be stored in the appropriate folder.
- File naming conventions following established organisational procedures, based on ADS file naming guidance, and include version control management.
- All files included as part of this project archive will include an organisational identifier (DV), the Site ID (GAR22), the file descriptor (eg ProjectDesign) and Version number (eg v2.0).

Quality Assurance

- Instruments used in the collection of data are calibrated prior to use and checked to ensure they are in full working order.
- All site records and data collected will be checked during project delivery.
- Data collection and management are reviewed regularly as part of the organisational Quality Policy (DV_Quality_Policy_v1.pdf). This includes a quarterly review of internal project folders to ensure our organisational data management standards are being met.

Section 3: Documentation and metadata

What documentation and metadata will accompany the data?

- Data collected will include standard formats which maximise opportunities for use and reuse in the future (see Section 2, above).
- A Collection Level Metadata Summary will be completed as the project is delivered. A working copy will be kept on the organisational server in the Project Folder. The Collection Level Metadata Summary brings together the overarching project details and includes a register of data types and number of objects included in the archive, along with all other archive components.
- Metadata tables for each data type will be populated as the project progresses and will use the standard format for each data type as recommended by ADS, who are the intended repository for the digital data archive.
- Data documentation will meet the requirement of the Project Brief and Digital Repository Guidelines, following the methodology described in the Project Design methodology.

Section 4: Ethics and legal compliance

How will you manage any ethical, copyright and Intellectual Property Rights (IPR) issues?

- The project archive will include the names and contact details of individuals who intend to volunteer or participate in the excavation and post excavation stages. We have a GDPR compliant Privacy Policy which underpins the management of personal data; any personal data is managed through a secure cloud-based database and not retained on the project specific folders.
- Personal data will be removed from the archaeological project archive and permission to include individual's names in any reporting is gained prior to use.
- DigVentures will retain copyright in pre-existing data, GCLP and Historic Environment Scotland will be granted a third-party licence in perpetuity for project materials.
- Where formal permissions and/or license agreements are linked to data sharing, they will be included in the project documentation folders and will accompany the archaeological project archive.

Section 5: *Storage and Backup*

How will the data be stored, accessed and backed up during the research?

- Organisational IT is managed internally by the Projects Director and Digital Imaging Manager, who is also responsible for the management and verification of our back-ups and who supports access to security copies as needed.
- Sufficient data storage space is available via the organisational server, which includes two-factor authentication and permissions-based access. The server is accessible by staff on- and off-site through a secure log-in.
- Off-site access to the project files on the organisation's server is provided to support back-up of raw data while fieldwork is ongoing. Where internet access for data back-up is not possible, the raw data will be backed up to a separate media device (such as laptop and portable external hard drive).
- Project files will be shared with external specialists and contractors directly using the same system, with the wider project team gaining access to only the files needed using permissions-based access.

Section 6: *Selection and Preservation*

Which data should be retained, shared, and/or preserved?

- The Selection Strategy and DMP will be reviewed and updated as part of the Post Excavation Assessment and Updated Project Design, and following full analysis. Updated documentation will be included in all reporting stages.
- Prior to deposition, the Selection Strategy and DMP will be updated and finalised in agreement with all project stakeholders (including HES, GCLP, ADS).
- Selection will be informed by the Project Design, defined against the research aims, regional and national research frameworks, specialist advice and the significance of the project results.
- The project results are likely to provide new research data which can be included in the Historic Environment Record and will contribute to the knowledge of the early medieval period at the site, and aiding the future management of the archaeological site.

The data archive will be ordered, with files named and structured in a logical manner, and accompanied by relevant documentation and metadata, as outlined in Sections 2 and 3 of this DMP.
What is the long-term preservation plan for the dataset?
- The digital archive will be deposited with the Archaeology Data Service, which is a certified repository with CoreTrustSeal. - The archive will be prepared for deposition by the project team and the costs for the time needed for preparation, and the cost of deposition have been included in the project budget.
Have you contacted the data repository?
ADS have also been contacted as the intended repository for digital data and a copy of this Data Management Plan has been forwarded to ADS.
Have the costs of archiving been fully considered?
- A costing estimate has been produced using the ADS Costing Calculator and sufficient resources to cover these costs, and to allow for the preparation of the archive, have been included in the project budget. - The costing estimate is based on the estimated project archive shown in the table above (Section 2), and £400 has been ringfenced in the project budget for digital data deposition with ADS.

Section 7: Data Sharing

How will you share the data and make it accessible?
- A summary of the project will be included and updated on the OASIS Index of Archaeological Investigation as the project progresses. - The investigations are likely to result in a number of documents: Project Design, Post Excavation Assessment and Updated Project Design, Post Excavation Assessment and Post Excavation Research Design, Final Technical Analysis Report, Journal submission. - The final report is expected to be completed within 18 months of the completion of fieldwork. - As the project progresses reports will be attached to the project OASIS record. - A final version of the project report will be supplied to the Historic Environment Record via OASIS, and any data which they request can also be provided directly. - The location (s) of the final Archaeological Archive will be added to OASIS when appropriate. - The ADS will disseminate the digital elements of the Archaeological Archive online under a creative commons licence and the dataset will receive a DOI.
Are any restrictions on data sharing required?
- A temporary embargo may be required on the sharing of the project results. If this is the case, specific details once agreed will be included in the updated version of this DMP and will be documented in the overarching Project Collection Metadata. - Data specific requirements, ethical issues or embargos which are linked to particular data formats will be documented within the relevant metadata tables accompanying the project archive.

Section 8: Responsibilities

Who will be responsible for implementing the data management plan?
- The Project Manager will be responsible for implementing the DMP, and ensuring it is reviewed and revised at each stage of the project. - Data capture, metadata production and data quality is the responsibility of the Project Team, assured by the Project Manager. - Storage and backup of data in the field is the responsibility of the field team. - Once data is incorporated into the organisations project server, storage and backup is managed by the Projects Director and Director of Operations. - Data archiving is undertaken by the project team under the guidance of the Programme Manager, who is responsible for the transfer of the Archaeological Project Archive to the agreed repository. - Details of the core project team can be found in the Project Design.

APPENDIX 9: PRODUCTS DESCRIPTION

Product No.	1
Product title	Finalised Project Design and Risk Log
Purpose of the product	To set out the project aims/objectives, business case, approach, methodology, plan, schedule and programme for the delivery of the stages, products and tasks.
Composition	Report
Derived from	Project Proposal, key stakeholder/sponsor desired outcomes, project team recommendations
Format and presentation	Document (PDF)
Allocated to	Project Manager in liaison with expert project team
Quality criteria and method	Project Team and stakeholder sign off / Review Point 3
Person/group responsible for quality assurance	Project Assurance Officer
Planned completion date	Completed June 2021
Product No.	2
Product title	Permissions: Landowner and SAM Consent application
Purpose of the product	To gain consent from the landowner and Historic Environment Scotland to undertake the proposed fieldwork
Composition	Formal written correspondence/Formal Application Form

Derived from	Project Design
Format and presentation	Document (PDF)/Written email or physical letter correspondence
Allocated to	Project Manager
Quality criteria and method	Project Team and stakeholder sign off / Review Point 3
Person/group responsible for quality assurance	Project Assurance Officer
Planned completion date	Completed June 2021
Product No.	3
Product title	Risk Assessment/Health and Safety Plan
Purpose of the product	To identify the health and safety risks associated with carrying out the fieldwork and the steps taken to mitigate against these.
Composition	Report
Derived from	Site Visit/Project Design
Format and presentation	Document (PDF)
Allocated to	Project Manager
Quality criteria and method	Project Team and stakeholder sign off / Review Point 3
Person/group responsible for quality assurance	Project Assurance Officer
Planned completion date	Completed June 2021
Product No.	4
Product title	Field Archive
Purpose of the product	To create a physical and digital archive of the data gathered during fieldwork as the primary research record for use in assessment and analysis stages by specialists, and for future knowledge/research.
Composition	Digital data files/physical records
Derived from	Fieldwork results
Format and presentation	Compiled digital data records according to DMP. Physical finds and site excavation records formatted according to ClfA guidance
Allocated to	Project experts – field team

Quality criteria and method	Project Team and stakeholder sign off / Review Point 4
Person/group responsible for quality assurance	Project Assurance Officer
Planned completion date	Completed July 2021
Product No.	5
Product title	Social timeline/dig broadcast
Purpose of the product	Publish online timeline of fieldwork and broadcast across community engagement platforms
Composition	Webpage/Web database/project microsite
Derived from	Project Design: Scheduled fieldwork programme
Format and presentation	Digital/social media/dedicated project web page
Allocated to	Expert – community management, on site and online communication
Quality criteria and method	Project Team and stakeholder sign off / Review Point 4
Person/group responsible for quality assurance	Project Assurance Officer
Planned completion date	Completed July 2021
Product No.	6
Product title	Stratigraphic Assessment
Purpose of the product	To understand the site's chronological sequence of archaeological deposition.
Composition	Stratigraphic site narrative
Derived from	Field Archive
Format and presentation	Document (PDF)
Allocated to	Expert – post excavation processes and assessment/analysis reporting
Quality criteria and method	Project Team and stakeholder sign off / Review Point 5
Person/group responsible for quality assurance	Project Assurance Officer
Planned completion date	Completed March 2022
Product No.	7

Product title	Specialist finds assessment
Purpose of the product	To provide specialist assessment of the finds and environmental samples recovered to help refine and characterise the archaeological deposits and the chronological narrative.
Composition	Specialist Reports
Derived from	Field Archive
Format and presentation	Documents (PDF)
Allocated to	Experts – Finds and Paleoenvironmental specialists
Quality criteria and method	Project Team and stakeholder sign off / Review Point 5
Person/group responsible for quality assurance	Project Assurance Officer
Planned completion date	Completed March 2022
Product No.	8
Product title	Integrated Assessment Report
Purpose of the product	To integrate products 6 and 7 to produce a unified assessment of the archaeological results and potential for analysis
Composition	Report
Derived from	Field Archive, Stratigraphic assessment, specialist finds reports
Format and presentation	Document (PDF)
Allocated to	Expert – post excavation processes and assessment/analysis reporting
Quality criteria and method	Project Team and stakeholder sign off / Review Point 5
Person/group responsible for quality assurance	Project Assurance Officer
Planned completion date	Completed March 2022
Product No.	9
Product title	Updated Project Design
Purpose of the product	Recommendations to revise the project aims/objectives, business case, approach, methodology, plan, schedule, programme for the delivery of the stages, products and tasks originally set out by the Project Design at Stage 1 (Product 1) in support of further research.
Composition	Report
Derived from	Project Design, Integrated Assessment Report

Format and presentation	Document (PDF)
Allocated to	Project Manager in liaison with expert project team
Quality criteria and method	Project Team and stakeholder sign off / Review Point 5
Person/group responsible for quality assurance	Project Assurance Officer
Planned completion date	Completed March 2022
Product No.	10
Product title	Finalised UPD and Risk Log
Purpose of the product	Upon consultation with stakeholders and expert team, the approval of revisions to the project aims/objectives, business case, approach, methodology, plan, schedule, programme for the delivery of the stages, products and tasks originally set out by the Project Design at Stage 1 (Product 1) in support of further research. Preparation of revised project Risk log.
Composition	Report (PDF)
Derived from	UPD, Integrated Assessment report, key stakeholder/sponsor desired outcomes, project team recommendations
Format and presentation	Document (PDF)
Allocated to	Project Manager in liaison with expert project team
Quality criteria and method	Project Team and stakeholder sign off / Review Point 6
Person/group responsible for quality assurance	Project Assurance Officer
Planned completion date	May 2022
Product No.	11
Product title	Permissions: Landowner and SAM Consent application
Purpose of the product	To gain consent from the landowner and Historic Environment Scotland to undertake the proposed fieldwork
Composition	Formal written correspondence/Formal Application Form
Derived from	Updated Project Design
Format and presentation	Document (PDF)/Written email or physical letter correspondence

Allocated to	Project Manager
Quality criteria and method	Project Team and stakeholder sign off / Review Point 6
Person/group responsible for quality assurance	Project Assurance Officer
Planned completion date	May 2022
Product No.	12
Product title	Risk Assessment/Health and Safety Plan
Purpose of the product	To identify the health and safety risks associated with carrying out the fieldwork and the steps taken to mitigate against these.
Composition	Report
Derived from	Updated Project Design, revised previous risk assessment
Format and presentation	Document (PDF)
Allocated to	Project Manager
Quality criteria and method	Project Team and stakeholder sign off / Review Point 6
Person/group responsible for quality assurance	Project Assurance Officer
Planned completion date	May 2022
Product No.	13
Product title	Field Archive
Purpose of the product	To create a physical and digital archive of the data gathered during fieldwork as the primary research record for use in assessment and analysis stages by specialists, and for future knowledge/research.
Composition	Digital data files/physical records
Derived from	Fieldwork results
Format and presentation	Compiled digital data records according to DMP. Physical finds and site excavation records formatted according to ClfA guidance
Allocated to	Project experts – field team
Quality criteria and method	Project Team and stakeholder sign off / Review Point 7

Person/group responsible for quality assurance	Project Assurance Officer
Planned completion date	May 2022
Product No.	14
Product title	Social timeline/dig broadcast
Purpose of the product	Publish online timeline of fieldwork and broadcast across community engagement platforms
Composition	Webpage/Web database/project microsite
Derived from	Updated Project Design: Scheduled fieldwork programme
Format and presentation	Digital/social media/dedicated project web page
Allocated to	Expert – community management, on site and online communication
Quality criteria and method	Project Team and stakeholder sign off / Review Point 7
Person/group responsible for quality assurance	Project Assurance Officer
Planned completion date	May 2022
Product No.	15
Product title	Stratigraphic Assessment
Purpose of the product	To understand the site's chronological sequence of archaeological deposition.
Composition	Stratigraphic site narrative
Derived from	Field Archive
Format and presentation	Document (PDF)
Allocated to	Expert – post excavation processes and assessment/analysis reporting
Quality criteria and method	Project Team and stakeholder sign off / Review Point 8
Person/group responsible for quality assurance	Project Assurance Officer
Planned completion date	December 2022
Product No.	16
Product title	Specialist finds assessment

Purpose of the product	To provide specialist assessment of the finds and environmental samples recovered to help refine and characterise the archaeological deposits and the chronological narrative.
Composition	Specialist Reports
Derived from	Field Archive
Format and presentation	Documents (PDF)
Allocated to	Experts – Finds and Paleoenvironmental specialists
Quality criteria and method	Project Team and stakeholder sign off / Review Point 8
Person/group responsible for quality assurance	Project Assurance Officer
Planned completion date	December 2022
Product No.	17
Product title	Integrated Assessment Report
Purpose of the product	To integrate products 15 and 16 to produce a unified assessment of the archaeological results and potential for analysis
Composition	Report
Derived from	Field Archive, Stratigraphic assessment, specialist finds reports
Format and presentation	Document (PDF)
Allocated to	Expert – post excavation processes and assessment/analysis reporting
Quality criteria and method	Project Team and stakeholder sign off / Review Point 8
Person/group responsible for quality assurance	Project Assurance Officer
Planned completion date	December 2022
Product No.	18
Product title	Post Excavation Research Design (PERD)
Purpose of the product	To detail the aims, approach, methodology, schedule and delivery of the tasks required to carry out final analysis of all results recommended in the assessment report.
Composition	Report
Derived from	Integrated assessment report, Field Archive

Format and presentation	Document (PDF)
Allocated to	Expert – post excavation processes and assessment/analysis reporting in liaison with project specialists and expert project team
Quality criteria and method	Project Team and stakeholder sign off / Review Point 8
Person/group responsible for quality assurance	Project Assurance Officer
Planned completion date	December 2022
Product No.	19
Product title	Draft analysis report with synthesis of results
Purpose of the product	To provide a draft for approval of the final technical analysis, as required by the PERD, and a synthesis of results from all stages of fieldwork and research carried out as part of the project.
Composition	Report
Derived from	UPD, PERD, Field Archive
Format and presentation	Document (PDF)
Allocated to	Expert – post excavation processes and assessment/analysis reporting in liaison with project specialists and expert project team
Quality criteria and method	Project Team and stakeholder sign off / Review Point 9
Person/group responsible for quality assurance	Project Assurance Officer
Planned completion date	December 2022
Product No.	20
Product title	Approval of Final analysis report with synthesis of results
Purpose of the product	To provide a final, approved technical analysis, as required by the PERD, and a synthesis of results from all stages of fieldwork and research carried out as part of the project.
Composition	Report
Derived from	Draft analysis report, UPD, PERD, Field Archive
Format and presentation	Document (PDF)
Allocated to	Expert – post excavation processes and assessment/analysis reporting in liaison with project specialists and expert project team
Quality criteria and method	Project Team and stakeholder sign off / Review Point 10

Person/group responsible for quality assurance	Project Assurance Officer
Planned completion date	December 2022
Product No.	21
Product title	Full dissemination of final project results
Purpose of the product	To provide dissemination of final project results to all project stakeholders and publication to the wider research community and the general public.
Composition	Project archive, Reports, journal publication
Derived from	All previous products
Format and presentation	Various documents (PDF), digital archive
Allocated to	Project manager in liaison with full project team and stakeholders
Quality criteria and method	Project Team and stakeholder sign off / Review Point 11
Person/group responsible for quality assurance	Project Assurance Officer
Planned completion date	March 2023
Product No.	22
Product title	Project Archive preparation for deposition
Purpose of the product	To provide a stable and comprehensive digital and physical archive of the archaeological research ready for deposition
Composition	Various
Derived from	All previous products
Format and presentation	Compiled digital data records according to DMP. Physical finds and site excavation records stored and formatted according to ClfA guidance ready for deposition
Allocated to	Project manager in liaison with project specialist expert team members
Quality criteria and method	Project Team and stakeholder sign off / Review Point 11
Person/group responsible for quality assurance	Project Assurance Officer
Planned completion date	March 2023
Product No.	23
Product title	End of Project Report
Purpose of the product	To provide an evaluation of the project to identify areas of success and lessons learned.
Composition	Report

Derived from	All previous products
Format and presentation	Document (PDF)
Allocated to	Project manager in liaison with expert project team
Quality criteria and method	Project Team and stakeholder sign off / Review Point 12
Person/group responsible for quality assurance	Project Assurance Officer
Planned completion date	March 2023

APPENDIX 10: OWNERSHIP

Extract from Forster and Noon (2021, Section 9)

“The Copyright on all reports submitted will reside with DigVentures and project partners, and a third party in-perpetuity licence will automatically be given for reproduction of all products, subject to agreement with Historic Environment Scotland and GCLP. The original copyright holder will retain copyright in pre-existing data and Historic Environment Scotland, National Record of the Historic Environment: Canmore, and DES will be granted a third party licence in perpetuity for project materials.”

Finds and materials recovered from the excavation will remain in Scotland with project partners Rathmell Archaeology until completion of post-excavation analysis, whereupon they shall be considered the property of the Crown in accordance with guidelines issued by Treasure Trove Scotland (2014). A decision will then be made by the Treasure Trove panel concerning allocation of the physical finds and materials to a museum. Throughout this process, all finds will be treated in accordance with the HES (2017) archives and collections policies and ClfA (2014) guidance.



Figure 1. Site location



Figure 2, Part 1 - Proposed Trench 4 and 5 Locations

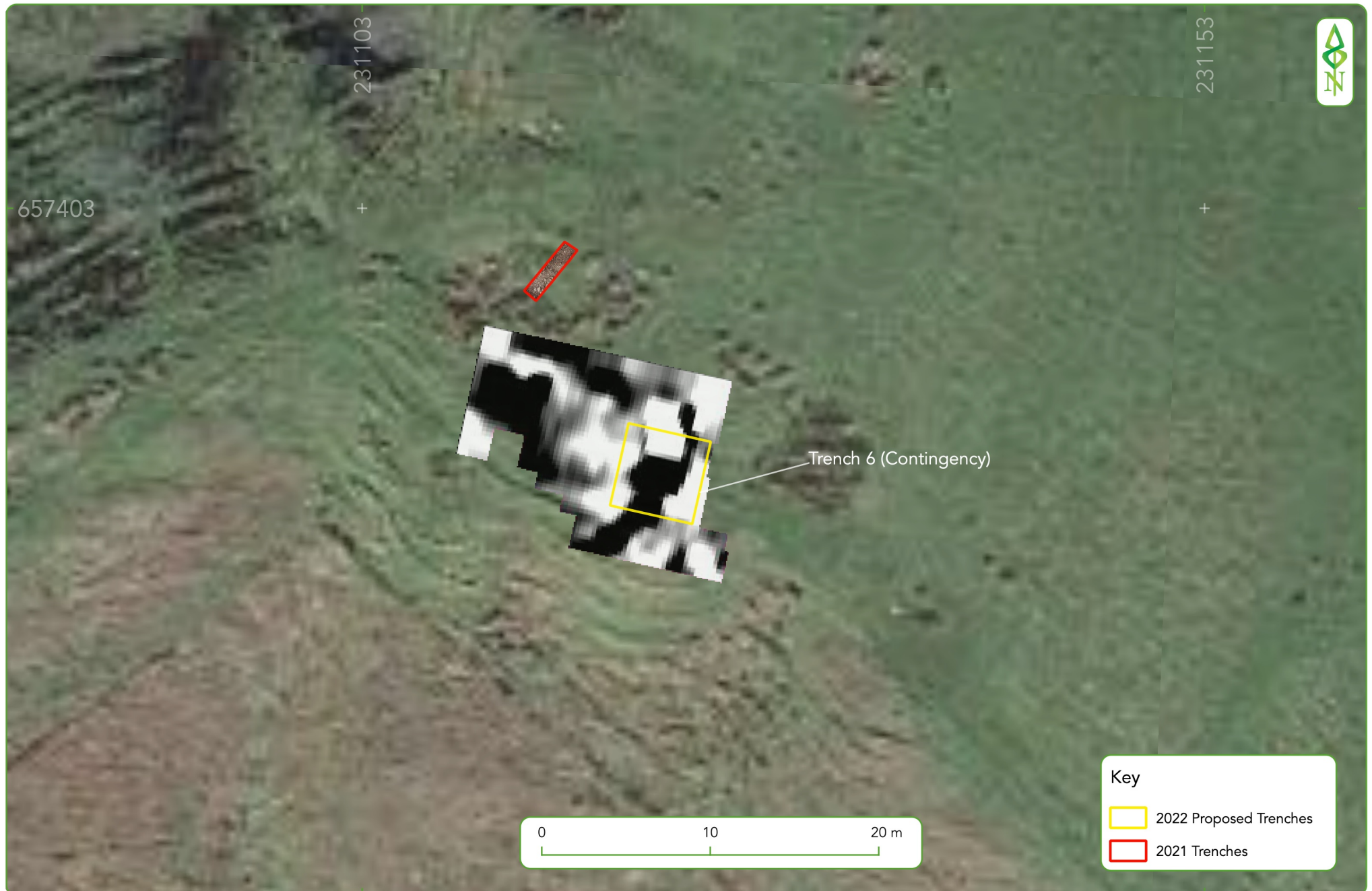


Figure 2, Part 2 - Proposed Contingency Trench 6 Location

Figure 3: Budget

Glengamock Castle - Community Archaeology Project				
BUDGET				
Resource	Rate	Days	Sub total	Total
Project Team				
Project Executive	£250	5.5	£1,375.00	
Project Assurance Officer	£250	5.5	£1,375.00	
Project Manager	£200	36.0	£7,200.00	
Expert Team Leader	£170	9.0	£1,530.00	
Expert - Fieldwork Strategy	£140	11.0	£1,540.00	
Expert - On site and online communication	£120	11.0	£1,320.00	
Expert - Geophysical and Topographical Survey and reporting	£180	10.0	£1,800.00	
Expert - Fieldwork Supervisor, Post excavation processes, assessment/analysis reporting	£130	27.5	£3,575.00	
Expert - Fieldwork Supervisor	£120	8.5	£1,020.00	
Expert - Historic Building recording Fieldwork, pottery and small finds specialist assessment reporting and analysis	£180	14.0	£2,520.00	
Expert - Historic Building recording Fieldwork and specialist reporting and analysis	£180	10.0	£1,800.00	
Expert - Specialist zooarchaeological assessment reporting and analysis	£200	10.0	£2,000.00	
Expert - Specialist Paleoenvironmental assessment reporting and analysis	£200	12.0	£2,400.00	
				£29,455.00
Other costs				
Travel / expenses			£1,500.00	
Accommodation			£2,000.00	
Van Hire			£300.00	
Site Consumables (Finds Bags, sample bags, labels, records sheets etc)			£200.00	
Site Welfare			£1,800.00	
Archive Deposition Fees			£1,200.00	
				£7,000
	SUB-TOTAL	170.0		£36,455.00
Overheads (10% of sub total)				
				£3,645.50

TOTAL

£40,101

(Please note: For the purposes of this assignment, all budgeted rates and costs are fictional)

Figure 4: GANTT Chart

