



Proposed Research Title: Resilience to Flooding: A Comparison of Modern and Traditional Buildings in London, England

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CHAPTER ONE: RESEARCH PROPOSAL

1.1 Scope of the Chapter

This chapter highlights the proposed design of the study. This includes the background, rationale and the aim and objectives of the proposed research. The chapter highlights the key questions for the proposed research and includes the description of the proposed methodology. Additionally, the chapter presents the ethical considerations related to the proposed topic and the proposed work plan.

1.2 Introduction

Flooding has become one of the most persistent and costly environmental challenges in the United Kingdom, with London being among the high-risk urban centres. According to the Environment Agency (2025), 6.3 million residential and non-residential addresses in England are at risk of flooding due to the risk of rivers, the sea, or surface water. The Agency (2023) has additionally forecasted that the effect of climate change-related rainfall extremes could raise the numbers to 8 million by 2050. The increase in recorded instances of both pluvial and fluvial flooding has been linked to the effects of climate change, urbanisation and outdated drainage systems (O'Donnell and Thorne, 2020). Moreover, London's current vulnerability to flooding has been attributed to the city's drainage system dating back to the Victorian-era, which frequently exceeds capacity during heavy rainfall (Spence, Bridge and McLuckie, 2019).

Furthermore, urbanisation adds to flood risk due to increase in impermeable surfaces that counteract natural infiltration processes, while the ever-growing population puts strain on flood management infrastructure (Freeman, 2024). In London specifically, the high concentration of assets in the built environment and lack of room for water infiltration makes the area highly susceptible to flood risk (Kovats, Pelling and Koniordou, 2016). This makes understanding the

relationship between the built environment and water flow processes a vital area of focus for a more climate-resilient built environment (Kim and Kim 2025).

Notwithstanding the extensive research in urban flood risk management, the fundamental deficit tends to regard the comparison between flood resilience and recovery of traditional and modern structures. Most of the studies relate to the technical perspective at the watershed or regional levels and lack empirical coverage of building-level resilience and recovery dynamics (Twigger-Ross et al., 2020). Traditional buildings, typically constructed with solid masonry, brick, or timber, often exhibit passive resilience through breathable materials that allow moisture dissipation. In contrast, modern buildings, dominated by reinforced concrete, steel framing, and impermeable membranes, prioritise water exclusion (Howard, Hancox and Hanson, 2017). However, these differing strategies, resistance versus tolerance, may yield contrasting outcomes during and after flooding, particularly in London's mixed architectural landscape.

This research, therefore, aims to bridge this gap by critically comparing the flood resilience of modern and traditional buildings in London, focusing on materials, design strategies, and recovery capacities. The findings will inform sustainable planning, construction, and policy, contributing to the UK's broader climate adaptation goals through evidence-based recommendations for improving building-level flood resilience in urban contexts.

1.3 Research Aim

The overall aim of this research is to critically compare the flood resilience of modern and traditional buildings in London, focusing on construction materials, design strategies, and post-flood recovery capacity.

1.4 Research Objectives

The specific objectives of this research will be to:

1. Identify and compare the key architectural design features, construction materials, and foundation systems used in modern and traditional buildings in flood-prone areas of London.
2. Assess how modern and traditional buildings in London perform during and after flooding in terms of structural response and material durability.
3. Analyse the extent of flood damage and post-flood recovery time in modern and traditional buildings in London.
4. Evaluate the cost implications of flood-related damage on modern and traditional buildings in London, with emphasis on repair, maintenance, and adaptation costs.
5. Recommend practical and evidence-based construction and design strategies to enhance building-level flood resilience in both modern and traditional buildings in London.

1.5 Key Research Question

The following are the key research questions for this proposed research:

1. What key architectural design features, construction materials, and foundation systems influence the flood resilience of modern and traditional buildings in London?
2. How do modern and traditional buildings in London perform during and after flooding in terms of structural response, material durability, and drainage performance?
3. How do modern and traditional buildings in London differ in terms of flood damage and post-flood recovery time?
4. What are the economic implications of flood-related damage for modern and traditional buildings in London?
5. What practical construction and design strategies can enhance building-level flood resilience in London?

1.6 Outline of Methodology

The research approach that will be adopted for this research is *Interpretivist philosophy* and a *qualitative comparative method*. Interpretivism allows for the development of insights into the socially created meanings that influence the perceptions of stakeholders towards flood resilience across the various forms of building construction (Creswell and Poth, 2018; Saunders et al., 2019). The qualitative comparative methodology allows the researcher to analyse phenomena as it happens in real life because the focus of the analysis revolves around the explanations of differences rather than the procedures of quantification (Silverman, 2024). Basically, the chosen form of methodology provides room for the development of insights and understanding of the factors of resilience based on materials, designs, and construction methods in a more descriptive form based on observation and living experiences (Bryman, 2016), as compared to the other methodologies such as the quantitative design.

The proposed research will use two qualitative techniques: semi-structural interviews and observations. Semi-structural interviews assist in gaining in-depth information related to the experiences as well as opinions of the participants. Moreover, the researcher has the ability to seek clarification whenever required (Brinkmann, 2022). Site observations complement the interviews mentioned above, as the researcher can gain information related to the physical structure as well as information related to the materials of the structure, foundation type, drainage systems, and whether the structure has been impacted due to floodwater or has been adapted to meet flood requirements. This dual-method approach ensures methodological triangulation, enhancing the depth and validity of findings (Flick, 2022).

The sampling method to be used for the proposed research will be purposive. This will involve soliciting only six participants based on their level of expertise or experience related to the topic. This will include architects, construction practitioners, and individuals occupying the built structures. In some cases, the owners of the structures can also be approached for the interview.

The sample size is justified, as small, focused qualitative studies typically reach data saturation with a limited number of information-rich cases (Guest, Bunce and Johnson, 2006). The sampling method is also appropriate for qualitative inquiry where participants are selected based on their knowledge and ability to provide rich, relevant data (Etikan and Bala, 2017).

Data collection will be through field observation of some of the selected modern and traditional structures built in the flood-prone regions of London, including interviews conducted among the six participants. The interviews will be audio-recorded with consent, transcribed verbatim, and analysed thematically. Data analysis will use thematic analysis, following Braun and Clarke's (2019) six-phase framework to identify, code, and interpret emerging patterns. NVivo software will be employed to assist in coding and theme organisation.

To ensure the reliability of the results obtained from the proposed research study, techniques recommended by Lincoln and Guba (1985) including triangulation techniques, thick description and reflexivity will be employed. However, the proposed research still recognises limitations such as the limited sample population, the risk of observation bias and lack of generalisability because of the site-specific focus. Though the above-mentioned limitations exist in the proposed research scheme, the proposed qualitative comparison design appears credible for formulating flood resilience factors related to different structures in London.

1.7 Work Plan

The whole dissertation would be completed in a period of twelve weeks which would comprise the entire process of completing it. This can be seen clearly in [Figure 1](#) below. The entire dissertation starts with the review of the literature and the approval of the proposal. After this comes the selection of the sites to visit, the pilot visits, the process of data collection, and finally the analysis. The remaining weeks would comprise the preparation of the final report.

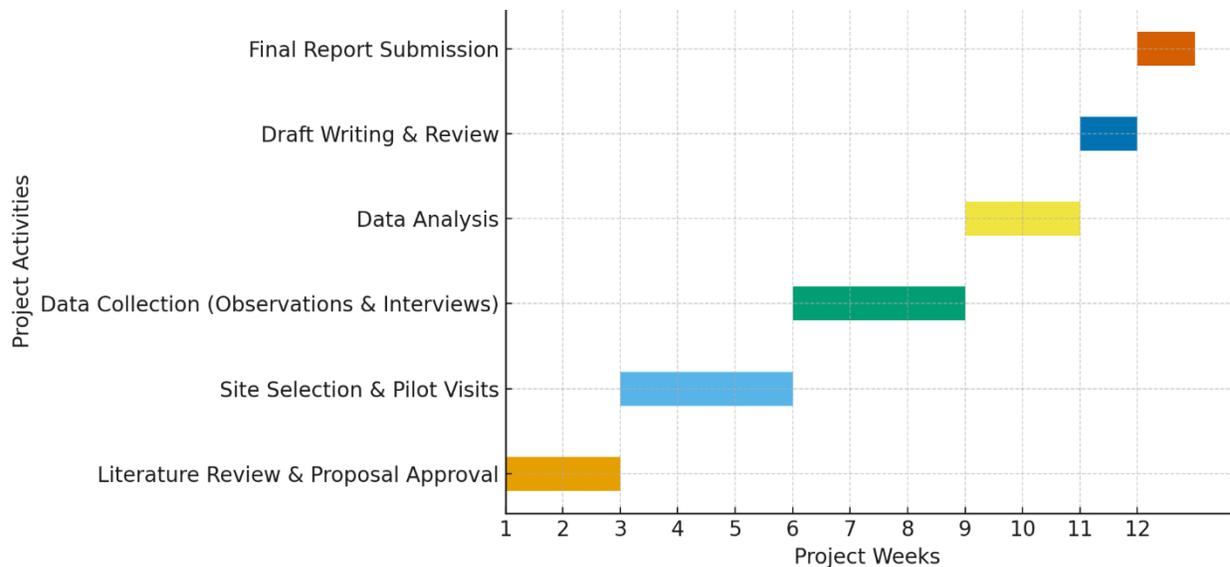


Figure 1: Gantt Chart Showing proposed Timeline for the Research

1.8 Ethical Considerations

This research will strictly follow the University of West London (UWL) procedures for ethical approval for the proposed research. The data collection will not begin until ethical approval has been formally obtained. This proposed research will also comply strictly with the UK GDPR legislation of 2018. Informed consent will be sought from the participants who will be informed of the purpose of the proposed research and their withdrawal at any stage (Orb et al., 2001). Confidentiality and anonymity will also be preserved. Pseudonyms will also be used. Files containing the recordings will only be accessible to the researcher and on a Password Protected One-Drive (Bryman, 2016; Resnik, 2018).

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This review of the current literature critically analyses the available studies related to flood resilience in buildings and highlights the comparison between the effectiveness of traditional and modern structures in the context of the UK. Various important concepts like the definition of flood resilience in theory and practical aspects like legislation and technological advancements have been considered. This review's scope aligns with the aim and objectives of the proposed qualitative comparative study.

2.2 Concepts and Definition

Zevenbergen and Gersonius (2020) define flood resilience as the ability of the system to absorb and adapt to the flood event while continuing to function. Nonetheless, the definition expands when referred to the Intergovernmental Panel on Climate Change (IPCC) (2022), incorporating the concepts of both proactive and reactive measures. On the other hand, Proverbs and Lamond (2017) refer to flood resistance as a defensive strategy focusing on impermeability. Yet, the opposing view has been presented by McClymont et al. (2020), asserting that the overuse of flood resistance affects the adaptability aspect.

Adaptation as identified in the context of Mannucci et al. (2022) refers to long-term adaptation measures like the use of elevated foundations or natural flood defence systems. Such structures and designs as identified in the Construction Industry Research and Information Association (CIRIA) (2021) refer to property flood resilience (PFR), which represents the adaptation aspect of the given measures. Such adaptations are implemented differently across the type of structures. For example, traditional English structures adapt passively through materials and height, while newer structures adapt actively through engineered systems and materials (Ling, 2022).

2.3 Principles or Theories

Resilience Theory represents the indispensable basis for understanding how the built environment can resist and adapt to flood hazards and how flood-affected systems can recover their functions (Ro, 2021). Resilience can, therefore, be considered as a process and outcome that entails resistance, absorption, and reorganisation as a flood-affected area reacts to the hazards (Gomez Rave and Scolobig, 2025). This resilience theory has also been used in built environment studies as a strategy for developing adaptability in socio-technical systems whereby physical systems are linked to non-physical systems like institutions and society (Aniramu and Orimoogunje, 2025). Nonetheless, the resilience theory has been argued to lack clear conceptual definition and applicability in flood management in the built environment (Gomez Rave and Scolobig, 2025).

The Sustainable Construction Theory emphasises the merging of environment, economy, and the societal aspects in construction concepts to improve long-term adaptability. This theory promotes the use of “low-carbon materials,” “effective drainage systems,” and “passive designs” to counter flood threats due to climate change (Jaiswal et al., 2024). This complements Sakthidoss (2025), stating that resilient construction designs should “serve as an infrastructure of survival” through the integration of “ecological design” and the principles of climate adaptation. However, the theory has been argued to more strongly concentrate on the environment than adaptability towards natural disaster threats (Jaiswal et al., 2024).

The Vulnerability-Resilience Framework (VRF) connects both lenses by evaluating the relationship between exposure, sensitivity, and resilience capacity in physical space (Park and Kwon, 2024). Even so, the tool has been shown to have the limitation of a static treatment of exposure and sensitivity and neglecting the changing nature of socio-technical factors (Park and Kwon, 2024). In the context of urban areas, socio-technical resilience focuses on the role of

technological development such as smart flood early warning systems in improving the resilience capacity of cities (Ewa and Ugwu, 2025).

In comparison, Resilience Theory focuses on adaptability as a marker of resilience following a disruption (Gomez Rave and Scolobig, 2025), Sustainable Construction Theory encourages sustainable and adaptive construction techniques that are environmentally efficient (Jaiswal et al., 2024), and the Vulnerability-Resilience Framework focuses on exposure, sensitivity, and adaptation in socio-technical systems (Park and Kwon, 2024). Together, the theories demonstrate how flood resilience must incorporate the structural, environmental, and social aspects of vulnerability and how adaptability can reduce vulnerability related to flooding (Sakthidoss, 2025).

2.4 Legislation and Regulations

In the UK, the management and resilience techniques related to flood risk in buildings can largely be attributed to the regulations set under the Building Regulations Part C (HM Government, 2013), emphasising the preparation of the construction site and the resistance of the structure to contaminants and moisture. While the adaptation strategy has been identified to concentrate more on water exclusion than resilience techniques related to flood adaptation (Alam, 2020), the adaptation strategy has been identified as inefficient in the implementation of climate adaptation principles in the regulations of the increasing flood risk event (McClean, 2025).

Apart from the Building Regulations, the Planning Policy Statement 25 (PPS25) has introduced the risk-based planning approach. This recommends the development control system based on flood zones, sequential tests, and sustainable drainage systems (Yoshida and Banba, 2016). PPS25 has been currently covered under the National Planning Policy Framework (NPPF), focusing more on sustainable development. This recommends the promotion of resilience and flood risk area adaptation (Newson, Lewin, and Raven, 2022). Current scenario shows that the NPPF has been found to have flexibility in implementation and heavily relies on the interpretation

of the concerned local authorities (Bang and Burton, 2021). On the other hand, the link between the design standards (Part C) and the strategic planning policies (NPPF) has been found to remain weaker and demonstrates the imperatives of standardised resilience-focused legislation encompassing the structural, as well as community-based measures for flood management in the built environment of the UK.

2.5 Technologies and Industry Practices

Modern designs in the UK today focus more on how to incorporate flood-resistant designs at structural and material levels. Use of elevated floor levels and flood-resistant materials has become common in flood-susceptible areas. This strategy has reduced flood water entry and flood recovery time (Proverbs and Lamond, 2017). However, their implementation tends to increase the cost of construction. Use of waterproofing membranes has improved watertightness and helped reduce flood-related damage (Liao, Deng, and Tan, 2017). This strategy can, however, promote the buildup of water vapour.

Sustainable Urban Drainage Systems (SuDS) represent the fundamental foundation for flood management in UK cities. They imitate natural hydrological cycles achieved through the use of infiltration basins, permeable pavement systems, and attenuation ponds. SuDS promoted through the SuDS Manual published by CIRIA Document C753 plays a significant role in minimizing the effect of surface runoff and maximizing water quality (Smith and Sajjadian, 2024). On the other hand, the effects of maintenance costs, implementation costs, and lack of space in urbanized areas present a challenge. Green infrastructure (GI), green roofs, swales, and wetlands represent other approaches that gain multiple advantages including flood risk reduction, heat amelioration, and biodiversity creation (Perini and Mosca, 2025). Their effectiveness has been inconsistent during rainfall extremes.

Retrofits in traditional structures using resilient materials and drainage systems continue to play a critical role in existing residential structures, especially in zones where the development of new infrastructure is limited (Appleby, 2025). Retrofitting has, however, remained expensive and quite technical in heritage structures. Low Impact Development methods and nature-based solutions have opened up newer avenues for smaller-scale retrofits even in compact city zones (Iskandar, 2021). Even so, the following factors continue to pose difficulties in the standardisation of the methodologies and financing of GI implementation (Ranasinghe, 2025).

2.6 Current Research and Case Studies

In London, the resilience capacity against flood threats has been a concern despite the robust defense systems put in place. The “Regional Flood Risk Appraisal” conducted by the GLA found many areas at risk of flood due to both surface water and tidal flooding (Mayor of London, 2018). In London, the high degree of urbanization has reduced the potential for measures like SuDS schemes and flood barriers to adapt. Thus, the latest reviews of national flood policies focus on resilience in the design of housing and infrastructure systems through more robust flood regulations and improved drainage systems (Environmental Audit Committee, 2025).

In the case of Somerset, the flood during the winter of 2013–2014 made the area vulnerable to both traditional and more innovative designs. The intensity of the flood in Somerset led to the development of the 20-Year Flood Action Plan, whose focus was resilience at the property level and community preparedness (Cambridge Institute for Sustainability Leadership, 2023). This plan made the implementation of flood resilience by design mandatory for all new schemes. This involved raising electricity infrastructure above the flood level. This should involve water-resistant materials as well as the use of sacrificial plaster. However, the implementation of the above plan appears to have been challenged currently due to cost and planning factors, both in the heritage sites where the disruptions created by more innovative designs could lead to the deterioration of the heritage structures (Cambridge Institute for Sustainability Leadership, 2023). Such heritage

structures continue to pose a significant challenge in finding the balance between preserving heritage status and implementing resilience measures. Community-based insurance initiatives are also important in influencing adaptation at the human level.

Another area of interest is the Yorkshire example, specifically the 2015 “Boxing Day” flood event in the Upper Calder Valley. Forrest, Trell and Woltjer (2019) found that the traditional “stone” construction in Hebden Bridge and York fared better in the long term due to the ability to “breathe” compared to the newer buildings. On the other hand, the newer structures were damp for a longer period. Grassroots efforts involving flood action groups were effective in applying property-level measures such as flood gates and pump systems. Nevertheless, maintaining the community's interest became a challenge as the flood event became history, the area exhibited “active forgetting” (Forrest, Trell and Woltjer, 2019).

In comparison, the above three case studies demonstrate how the form of the city and the type of construction can impact resilience. London shows how robust institutional resources can translate to little adaptability capacity (Mayor of London, 2018), the case of Somerset illustrates how the involvement of the community and the effectiveness of traditional construction can play a pivotal role (Cambridge Institute for Sustainability Leadership, 2023), and the case of Yorkshire demonstrates how material permeability can play a pivotal role in rehabilitation following the flood event (Forrest et al., 2019).

Nonetheless, some important knowledge gaps exist. Very little comparative research has been conducted to evaluate the concurrent performance of different types of structures under authentic flood circumstances (Twigger-Ross et al., 2020). Economic analyses of the cost of resilience investment are under-researched. This is surprising given the findings of cost-benefit analyses demonstrating the potential financial dividend of £5 or more per £1 of investment allocated to flood resilience measures (Adedeji et al., 2024). In addition, adaptation measures rarely account

for specific context. Solutions proven to work in the heavily populated city of London will not adapt to the different context of rural Somerset or semi-urban Yorkshire.

2.7 Conclusion

The reviewed literature indicates the complexity of flood resilience in buildings as a factor of design requirements intertwined with the use of materials, legislation, and socio-technical adaptation. Inherent resilience in traditional buildings has been shown effective due to strong masonry and permeable materials, whereas technological advancements in the form of waterproofing membranes, SuDS schemes, and green roofs and walls have improved the resilience of modern structures. Yet the focus of adopting resilience principles across the spectrum of legislation and implementation shows room for improvement. Research carried out in London, Somerset, and Yorkshire indicates the mix of both positive advancements and resilience deficits, particularly in the context of uprating traditional structures and the adoption of cost-effective resilience measures. Several knowledge deficits remain at present. The main deficits being the lack of specific field-based comparative studies focusing upon the actual effectiveness of modern as opposed to traditional structures under actual flood event circumstances. Such deficits form the underpinning rationale for the present qualitative comparison method employed in this research.

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Appendix

Appendix A: Ethics Application Form



RESEARCH ETHICS AND INTEGRITY

RISK ASSESSMENT FORM

FORM 4

**For all undergraduate and taught postgraduates
Dissertations and Research Projects**

FOR OFFICE USE ONLY

To be completed by module leader/supervisor [subject to confirmation by SCREP]

In the opinion of the module leader/supervisor this application falls into:

- | | |
|--|--------------------------|
| 1a. Literature review – no risk | <input type="checkbox"/> |
| 1b. Literature review - some risk | <input type="checkbox"/> |
| 2a. Secondary data collection – no risk | <input type="checkbox"/> |
| 2b. Secondary data collection – some risk | <input type="checkbox"/> |
| 2c. Primary data collection – some risk | <input type="checkbox"/> |
| 2d. Primary data collection – high risk (send to UREC) | <input type="checkbox"/> |
| 3a. Artefact - no risk | <input type="checkbox"/> |
| 3b. Artefacts - some risk | <input type="checkbox"/> |

Supervisor Name:

Signature:

Date:

SECTION A

PROJECT DESCRIPTION

Please answer the following questions:

1. Do you intend to involve human participants in the conduct of your research?
If no, please skip questions 1a & 1b.

Yes No

1a. Does your research involve vulnerable adults (who are or may be for any reason unable to take care of themselves, or unable to protect themselves against significant harm or exploitation) or under-18s?

Yes No

1b. Could your research potentially expose you, anyone assisting you, or participants to physical, psychological and/or emotional harm? (see Section B, Question 9)

Yes No

2. Will your research involve travelling to geo-politically unstable regions/countries (e.g. areas affected by war, civil unrest, natural disasters, or listed as inadvisable to travel by the UK government)?

Yes No

3. Will your research involve access to security-sensitive material? (see the University's Research Ethics Code of Practice 2018 for a definition of security-sensitive materials and Section B, Question 9 of this form)

Yes No

This proposal **must be completed with the assistance of your supervisor/module leader/tutor**. You can change the size of the boxes (below) by typing or deleting as necessary.

It is very important to convey **with clarity**:

- Your research questions/the problem/the theme or topic you are investigating (what you are proposing to do and to find out or to create)
- The methodology or technical approach (for projects comprising in whole or in part the creation of an artefact) you will adopt – methods, number of participants, who the participants (if any) will be, survey instruments used, technology and equipment employed etc.; and what questions you are planning to ask your respondents (if applicable); how you will deal with technical challenges.

SECTION B

Only complete if you answered YES to Q1 in Section A.

	WHERE APPROPRIATE TO YOUR CHOSEN TOPIC/RESEARCH:	YES	NO	N/A
1	Will you describe in writing the main procedures to participants in advance, so that they are informed about what to expect? A copy of this must be attached to this application	Yes		
2	Will you tell participants that their participation is voluntary?	Yes		
3	Will you obtain written consent for participation and include within this that they have a right to withdraw at any point? A copy of this must be attached to this application	Yes		
4	If the research is observational, will you ask participants for their consent to being observed?	Yes		
5	With questionnaires, will you give participants the option of omitting questions they do not want to answer?	Yes		
6	Will you tell participants that their data will be treated with full confidentiality and that, if published, it will not be identifiable as theirs? This should be evidenced in the consent form and (if applicable) with a signed copy of UWL's data management form, attached to this application.	Yes		
7	Will you debrief participants at the end of their participation (i.e. give them a brief explanation of the study)? A copy of this must be attached to this application	Yes		
8	Will your project involve deliberately misleading participants in any way?		No	
9	If you answered YES to Question 1b (section A) give details on a separate sheet and state what you will tell your participants to do if they should experience any problems (e.g. who they can contact for help).	-		
10	Do participants fall into any of the following vulnerable groups? If they do, please and tick box 2 overleaf. Note that you may also need to obtain satisfactory DBS clearance (or equivalent for overseas students).	Schoolchildren (under 18 years of age)		No
		People with learning or communication difficulties		No
		Patients		No
		People in custody		No
		People engaged in illegal activities (e.g. drug-taking)		No
		Any other groups who could be reasonably argued as representing any form of vulnerability – please specify		No



SECTION C

	WHERE APPROPRIATE TO YOUR CHOSEN TOPIC/RESEARCH:	YES	NO	N/A
11	Will you be accessing materials which may be considered security-sensitive under the Counter Terrorism Act (2015)?		No	
12	Does your project involve work with animals? If yes, please tick box 2 below.		No	

[Note: N/A = not applicable]

There is an obligation on the researcher to bring to the attention of the School Ethics Panel any issues with ethical implications not clearly covered by the above checklist.

PLEASE TICK EITHER BOX 1 OR BOX 2 BELOW AND PROVIDE THE DETAILS REQUIRED IN SUPPORT OF YOUR APPLICATION. THEN SIGN THE FORM.

Please tick

1.	I consider that this project has no significant ethical implications to be brought before the School Ethics Panel.	
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2.	I consider that this project may have ethical implications that should be brought before the School Ethics Panel, and/or it will be carried out with children or other vulnerable populations.	
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I have received guidance on ethical research practices relevant to my subject as part of my preparation for this module.

Signed _____ Print Name _____

Date _____

(UG Researcher(s))

Signed _____ Print Name _____

Date _____

(Supervisor)

Aim: To compare the flood resilience of modern and traditional buildings in London, focusing on how design and construction factors influence performance and recovery.

Research Questions:

1. What key architectural design features, construction materials, and foundation systems influence the flood resilience of modern and traditional buildings in London?
2. How do modern and traditional buildings in London differ in their resilience performance during and after flooding?
3. How do modern and traditional buildings in London differ in the extent of flood damage and post-flood recovery time?
4. What are the cost implications of flood-related damage on modern and traditional buildings, with emphasis on repair, maintenance, and adaptation costs?
5. What practical and evidence-based construction and design strategies can enhance building-level flood resilience in both modern and traditional buildings in London?

Method

This research adopts a qualitative comparative design to explore how modern and traditional buildings in London differ in their resilience to flooding. The research combines two primary methods: site observations and semi-structured interviews.

Participants: Six individuals will be purposively selected to represent different stakeholder perspectives: construction professionals (e.g., architects, engineers, or project managers), building owners, and occupants of flood-prone buildings in London. Participants will be adults (aged 18 or above) with relevant experience or direct involvement in building construction, management, or occupancy.

Data collection methods:

1. **Site observations** will be carried out in selected flood-prone locations to document architectural features, construction materials, elevation, drainage systems, and signs of previous flood adaptation. Observations will be non-intrusive and will not involve any experimental interventions or measurements.
2. **Semi-structured interviews** (15–25 minutes) will be conducted face-to-face or via secure online platforms (e.g., Teams/Zoom). An interview guide will be used to ensure

consistency while allowing participants to share insights freely. Interviews will be audio-recorded with consent and transcribed for analysis.

Data analysis: Transcripts and observation notes will be analysed using thematic analysis to identify recurring patterns and contrasts between modern and traditional buildings. No physical tests, experiments, or manipulations will be undertaken.

All procedures will comply with the University of West London's ethical standards, GDPR (2018), and informed consent principles.

Research design or schedule (for creative artefacts)

This research adopts a qualitative comparative case study design focusing on modern and traditional buildings in flood-prone areas of London. The study proceeds through five structured phases to ensure a systematic and ethical approach.

Phase 1: Literature Review (Weeks 1–2) – Review academic and institutional sources on flood resilience, building materials, and policy frameworks to establish theoretical foundations.

Phase 2: Research Preparation (Weeks 3–4) – Finalise research instruments, including observation checklists and semi-structured interview questions. Seek ethical approval and arrange access to study locations and participants.

Phase 3: Data Collection (Weeks 5–8) – Conduct site observations and semi-structured interviews with six participants representing construction professionals, building owners, and occupants.

Phase 4: Data Analysis (Weeks 9–10) – Transcribe and code interview data; analyse themes and patterns comparing modern and traditional buildings.

Phase 5: Writing and Review (Weeks 11–12) – Integrate findings, write the discussion, and finalise the dissertation for submission.

No creative artefact is produced for this research.

Participants, including (where applicable) collaborators in the making of creative artefacts

The research will involve approximately six participants selected through purposive sampling to provide diverse perspectives on building design, management, and flood experience. Participants will include:

- Construction professionals (e.g., architects, engineers, or project managers) involved in building design or resilience planning;
- Building owners of properties located in flood-prone areas of London; and
- Building occupants or users who have experienced or adapted to flooding events.

All participants will be adults (aged 18 years and above) and will voluntarily consent to take part. No vulnerable groups, minors, or individuals with reduced capacity to consent will be

recruited. Participation will be strictly voluntary, with the option to withdraw at any stage without consequence. No collaborators or creative artefacts are involved in this research.

Materials (to include locations and objects/resources)

This study will be conducted in selected flood-prone areas of London, such as boroughs identified by the Environment Agency as having moderate to high flood risk (e.g., parts of Lewisham, Hammersmith, or Greenwich). Locations will be chosen based on accessibility and relevance to modern and traditional building typologies.

Materials and resources will include:

- Observation checklist developed from the literature to record architectural and construction features relevant to flood resilience (e.g., materials, elevations, drainage, foundations).
- Semi-structured interview guide for discussions with participants.
- Audio recorder or mobile device (for consented recordings of interviews).
- Notebook and camera for field observations and photographic documentation of visible structural elements (no identifiable individuals will be photographed).
- Academic and institutional documents, such as policy reports, building regulations, and journal articles, for secondary data support.

All materials will be stored securely on password-protected devices in accordance with UWL data protection and GDPR (2018) guidelines.

Procedure or details of technical aspects of creative production

The research will follow a clear, structured procedure to ensure transparency, reliability, and ethical compliance:

Preparation: Following ethics approval, relevant literature and policy documents on flood resilience will be reviewed to refine observation and interview instruments.

Site selection: Flood-prone areas in London will be identified using Environment Agency flood maps and accessibility criteria.

Recruitment: Potential participants (construction professionals, building owners, and occupants) will be contacted via professional networks, email, or community groups. Each participant will receive an information sheet and consent form outlining the study's purpose, voluntary participation, and confidentiality measures.

Data collection:

Site observations will be conducted to document architectural and construction features influencing flood resilience.

Semi-structured interviews (15–25 minutes each) will explore participant experiences, design decisions, and adaptation strategies.

Data recording and management: Interviews will be audio-recorded (with consent) and transcribed. Observation notes and photographs will be securely stored on password-protected devices.

Data analysis: Thematic analysis will be used to identify patterns, similarities, and differences between modern and traditional buildings.

No technical or creative artefact production is involved in this research.

Analysis

This project will employ a qualitative analytical approach, consistent with interpretivist research traditions emphasising meaning and context. The data collected from semi-structured interviews and site observations will be analysed using thematic analysis as outlined by Braun and Clarke (2006). This method involves familiarisation with the data, generation of initial codes, identification of recurring patterns or themes, and synthesis of findings to answer the research questions.

Transcribed interviews will be manually coded to identify themes related to building design, material performance, damage experience, and adaptation practices. Observation notes will be used to triangulate these themes, enhancing validity through cross-verification between different data sources.

The analysis will follow a systematic and transparent process to ensure credibility, dependability, and traceability of findings, as emphasised in the UWL Research Methods framework. Quantitative or statistical analysis will not be employed since the study focuses on qualitative insights rather than numerical generalisation.

INSTRUCTIONS TO SCREP/SCREP CHAIR

For applications 1a, 2a, 3a (no risk) – **Applications only need to be moderated by SCREP/SCREP Chair**

For applications 1b, 2b (some risks such as authorisations needed to access data or some emotional risk to students) - Supervisors commit to checking that authorisations have been granted and/or to keep in regular contact with student – **Applications only need to be moderated by SCREP/SCREP Chair**

For applications 2c, 2d and 3b (Some risks as involving human participants). A full application is necessary. **Applications need to be reviewed by SCREP panel and SCREP Chair to moderate**

Moderation is based on the sample

- being equal to 10% of submissions, or 10 submissions, whichever is the greater
- reflecting the whole mark range
- including all rejects and referrals