

Flood Risk Assessment (FRA) for Planning Application

Site Address: Workshops Rear of 64 The Green, Twickenham

Grid Reference: Easting 515284, Northing 173015

Date: December 2024

Site Area: 0.03 hectares

1. Introduction

This Flood Risk Assessment (FRA) has been prepared for the proposed development at 64 The Green, Twickenham. The purpose of the FRA is to assess potential flood risks from fluvial, surface water, and groundwater sources, and to ensure that the development is resilient to flooding while complying with local and national flood risk policies. The FRA also outlines the mitigation measures required to manage and reduce any identified risks.

The FRA is based on flood risk maps, surface water assessments, and the development's design principles.

2. Site Description

The development site is the workshops to the Rear of 64 The Green, Twickenham, in a predominantly residential area, and covers an area of 0.03 hectares. The site is relatively flat and is classified as being within **Flood Zone 1**, meaning there is a low risk of fluvial or tidal flooding. However, there are some surface water and groundwater risks that need to be managed through appropriate design.

3. Flood Risk Overview

3.1 Flood Zone Classification (Fluvial Flood Risk)

The site is located in **Flood Zone 1**, indicating a low probability of fluvial or tidal flooding. Based on the **fluvial flood risk snapshot** provided (Appendix 1), the site itself is not directly affected by fluvial flood risk, although some areas to the south near Twickenham Green show a susceptibility to flooding during significant events.

3.2 Surface Water Flooding

The **surface water assessment map** (Appendix 2) shows that parts of the surrounding area are at risk of surface water flooding. However, the proposed development will reduce the impermeable area compared to the existing site, which will likely reduce runoff and improve surface water management. This reduction is due to the decreased footprint of the building and hardstanding areas, which will allow for more natural infiltration and better control of surface water flows.

The runoff rates of the proposed development will either remain similar or be improved, and the development will implement **Sustainable Drainage Systems (SuDS)** to further manage surface water effectively. By reducing hardstanding and utilizing SuDS, the development is expected to reduce runoff rates and improve flood movement and resilience on-site.

3.3 Groundwater Flooding

The **groundwater flood risk map** (Appendix 3) indicates moderate risk in the area. To mitigate this, the proposed development will raise the finished floor levels by **100-150mm above the existing ground level**, reducing the risk of groundwater flooding.

3.4 Foul Drainage Strategy

The development will connect to the existing foul drainage system, which serves the local area. It is expected that the development will **utilize existing connections** and secure a connection into either **May Road** or **The Green**, both of which are suitable for foul drainage discharge subject to consultation with the utility provider.

4. Surface Water Management Strategy

As the site is located in a critical drainage area, it is essential to implement a comprehensive **surface water management strategy**. The development will reduce the overall hardstanding areas, leading to improved surface water runoff rates. The principles of the strategy include:

- **Runoff Rate Improvement:** The decrease in impermeable surfaces and the reduced building footprint will lower runoff rates compared to the existing site. This will have a positive impact on surface water movement and create more opportunities to store, manage, and control surface water outfall.
 - **Sustainable Drainage Systems (SuDS):** The SuDS measures will include permeable paving, controlled outflows and infiltration within the gardens by means of soakaways where possible. These systems will promote infiltration and provide on-site storage for excess surface water, ensuring that discharge is controlled and managed appropriately back into the wider network.
 - **Attenuation and Storage:** Attenuation features will be incorporated to store excess surface water during heavy rainfall events, ensuring that runoff rates from the site are controlled to existing brownfield levels or lower.
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5. Foul Drainage Strategy

The foul drainage strategy will involve utilizing the **existing foul drainage connections** to the public sewer network. The proposed connection points will be into **May Road**, subject to detailed design approval by the local utility provider. This approach will minimize the need for new infrastructure and ensure compliance with local drainage requirements. Capacity will be confirmed with the supplier during the course of the detailed design process.

6. Conclusion and Summary

This Flood Risk Assessment demonstrates that the proposed development at 64 The Green, Twickenham can be designed and built in compliance with all relevant local and national flood risk policies.

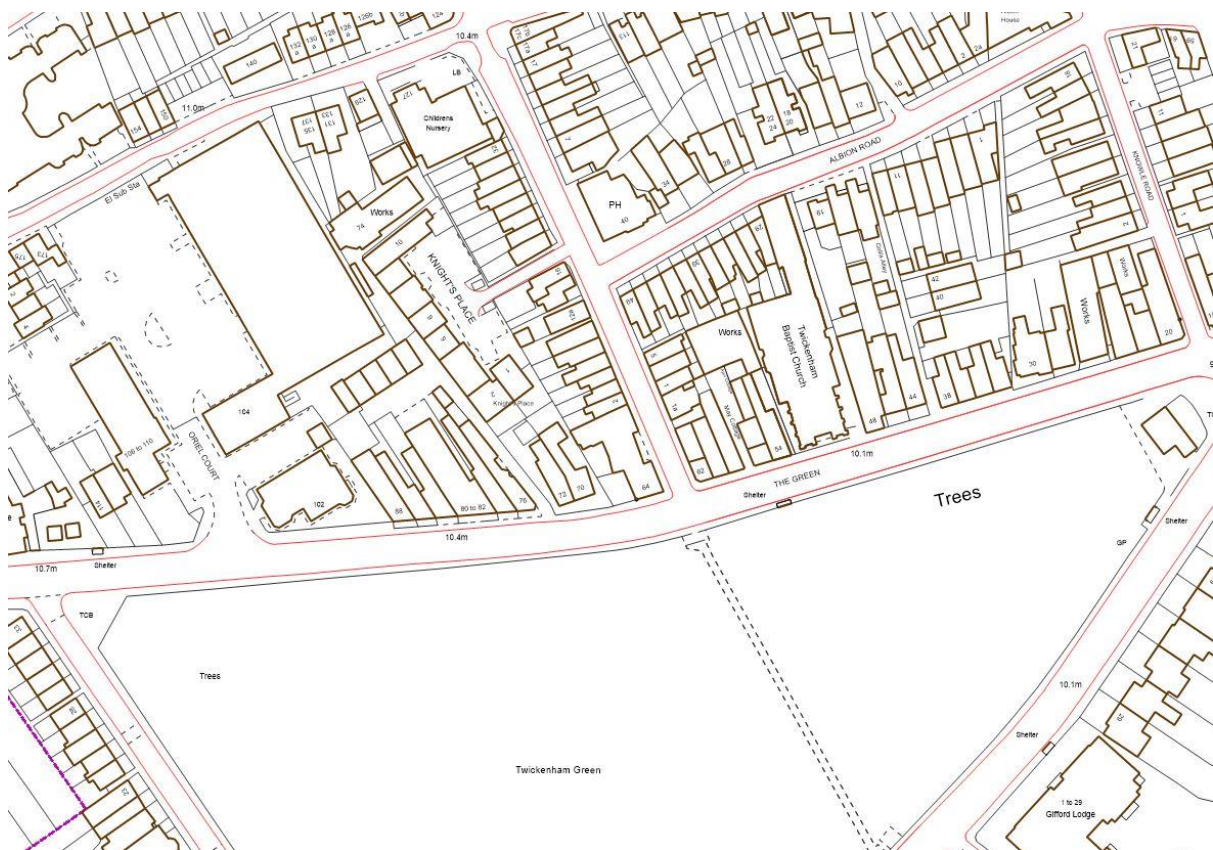
Key points include:

- The site is located in **Flood Zone 1**, indicating a low risk of fluvial or tidal flooding.
- The **surface water management strategy** will ensure that runoff rates from the proposed development are similar to or better than the existing conditions, with reduced hardstanding areas improving infiltration and stormwater management.
- The risk of **groundwater flooding** will be mitigated by raising the finished floor levels by 300mm and installing a floating floor on the GF which lifts the residential accommodation out of the area of risk.
- The **foul drainage** will be connected to the existing network, with connections proposed to May Road or The Green.

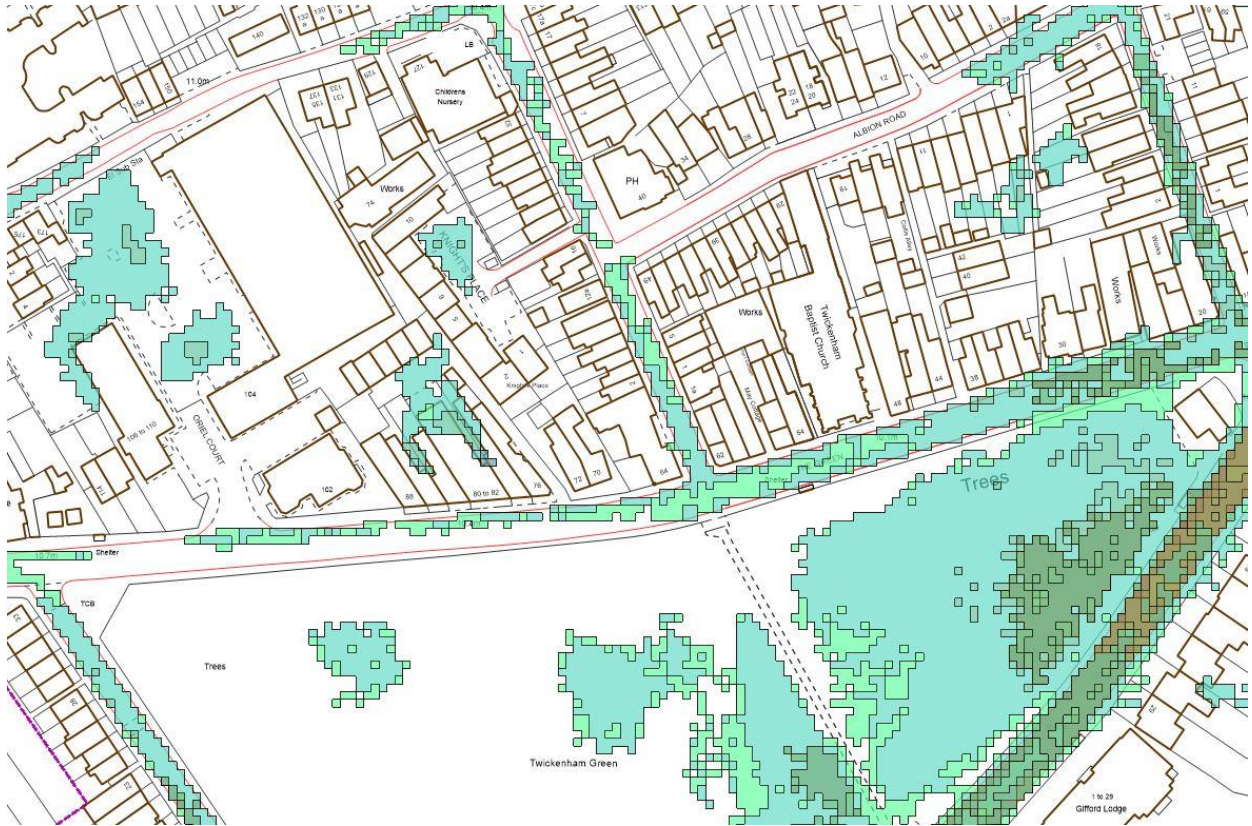
Through the detailed design stage, we expect the principles outlined in this FRA to be agreed upon, with further details to be reviewed and discharged by way of planning condition. The development demonstrates full compliance with both **local and national flood risk policies**, and we see no reason from a flooding perspective why planning permission should not be granted.

Appendices

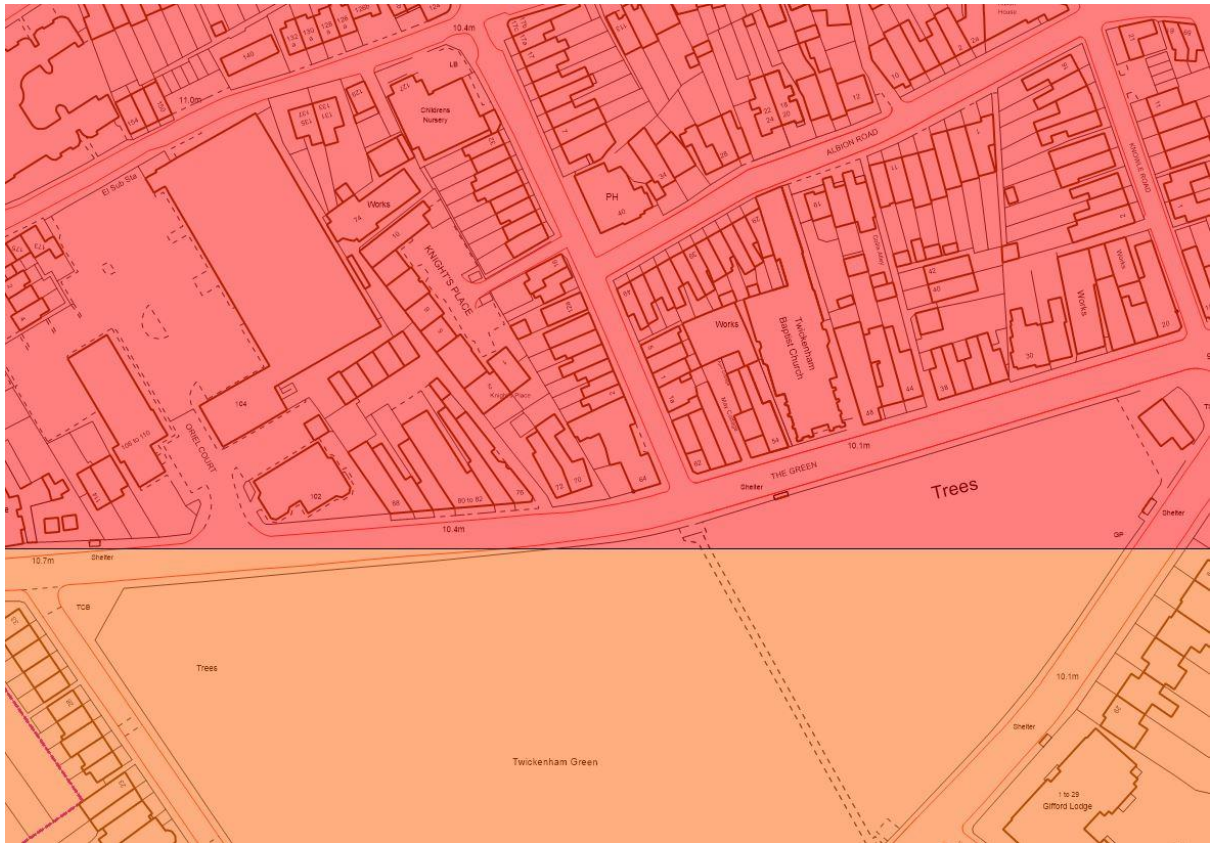
- **Appendix 1: Fluvial Flood Risk Snapshot**



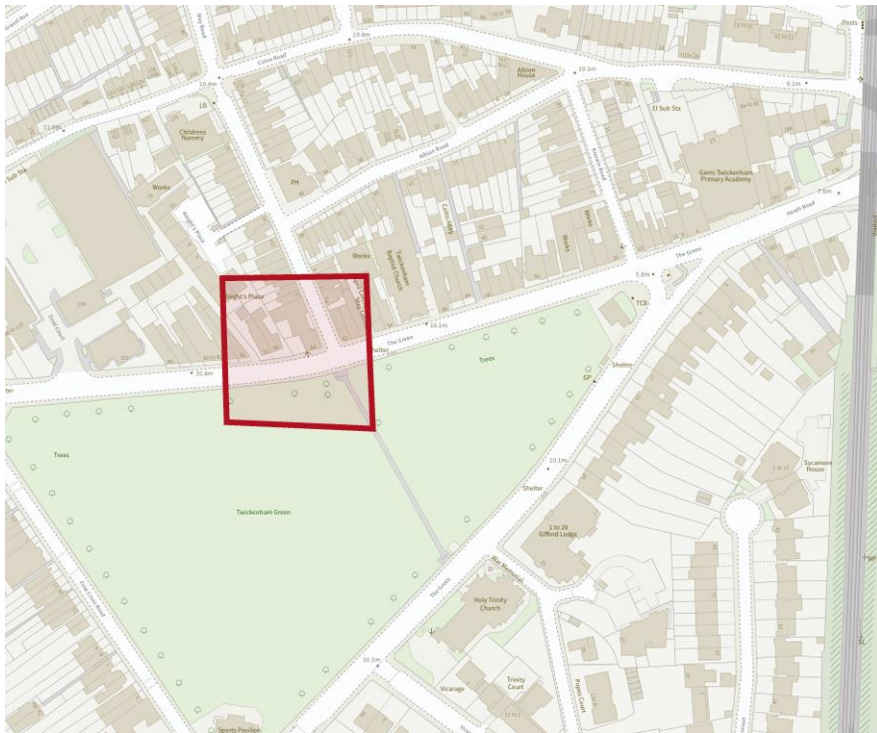
- **Appendix 2: Surface Water Assessment Map**



- **Appendix 3: Groundwater Flooding Map**



- **Appendix 4: Location Plan and Flood Zone Map**



Flood map for planning

Your reference
<Unspecified>
Location (easting/northing)
515284/173015
Scale
1:2500
Created
16 Sep 2024 10:08

-  Selected area
-  Flood zone 3
-  Flood zone 2
-  Flood zone 1
-  Flood defence
-  Main river
-  Water storage area

- **Appendix 5: Site Layout**

