

SUDS Strategy for Planning

Including FLOOD RISK ASSESSMENT for completeness

**Conversion and extension project
Porous and permeable areas maximised
Source Control SUDS are appropriate**

**Sutton Policy 32 Compliant
London Plan Policies SI.12 / SI.13 Compliant**

AT

212 High Street, Sutton, SM1 1NU

October 2023

Flint Energy Ltd

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If this report has been released electronically, the appendices referred to herein can be found in the annexed zip folder/s as .pdf or .dwg files. If this report has been released in hard copy the appendices will be bound into the back of this report. Plans may be annexed separately as A1 or A0 copies where a bound-in A3 copy is not appropriate.

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1.0 Scope

This report contains the details of a flood risk assessment statement for planning carried out by Flint Energy Limited (“FE Ltd”) for 212 High Street, Sutton, SM1 1NU, henceforth referred to as “the site” in this report.

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All parties to this report do not intend any of the terms of the Contracts (Right of Third Parties Act 1999) to apply to this report. Please note this report does not purport to provide definitive legal advice nor can it be used to demonstrate that the site will never flood in the future or provide exact specifications / warranties for the products used.

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2.0 Introduction

The information source used to undertake this FRA & SUDS / Drainage Strategy has been collected from the following sources:

- British Geological Survey Website
- EA Website
- London Plan:
- Flood & SUDS Policies London Plan Policy SI.12 / SI.13.
- Sutton Surface Water Management Plan (2011)
- Sutton Planning Policy 32 compliant
- DRAIN LONDON Preliminary (Surface Water) Flood Risk Assessment for London Borough of Sutton (GLA & Environment Agency) (2011)
- Sutton Strategic Flood Risk Assessment (SFRA) (2017);
- Internet mapping and searches

3.0 Existing Site Status and Environmental Setting

3.1 Site Location and Topography

This site is an existing mixed retail / commercial property with part hardstanding in EA FZ1 and in no – low hazard surface water flooding with access to no hazard surface water flooding on Elm Grove to the rear.

Topography Requirement

The scheme is a change of use and extension to an existing property in FZ1; it is surrounded on all sides by other properties and the highway; a full topographic survey is not required because a raised floor level is not an option that is feasible or required.

A full topographic survey is not required based on the nature of the scheme given no comparison of flood heights vs a structure relative to ordnance datum is required for a FZ1 setting.

3.2 Geology / Hydrogeology

Based on BGS mapping, surrounding borehole records and the council SFRA, the site is underlain by:

Bedrock: Lewes Nodular Chalk Formation, Seaford Chalk Formation and Newhaven Chalk

Formation – Chalk

Superficial Deposits: none noted

Stratum and Drainage / SUDS

Given the main Bedrock is Chalk, infiltration would normally be preferred.

However, the site is relatively very small and is constrained by the existing footprint and immediately adjacent properties / highways such that it is not feasible to meet the easement requirements for the location of a soakaway i.e. 5.0m from the nearest footprint and 3.0m from the site boundary.

Therefore, given the site and size of the scheme, no formal infiltration measures can be used and no BRE365 Testing is required at the planning stage.

3.3 Existing Drainage

The site is an existing operating building with connections to the adjacent sewers in High Street. There is no evidence of any existing SUDS.

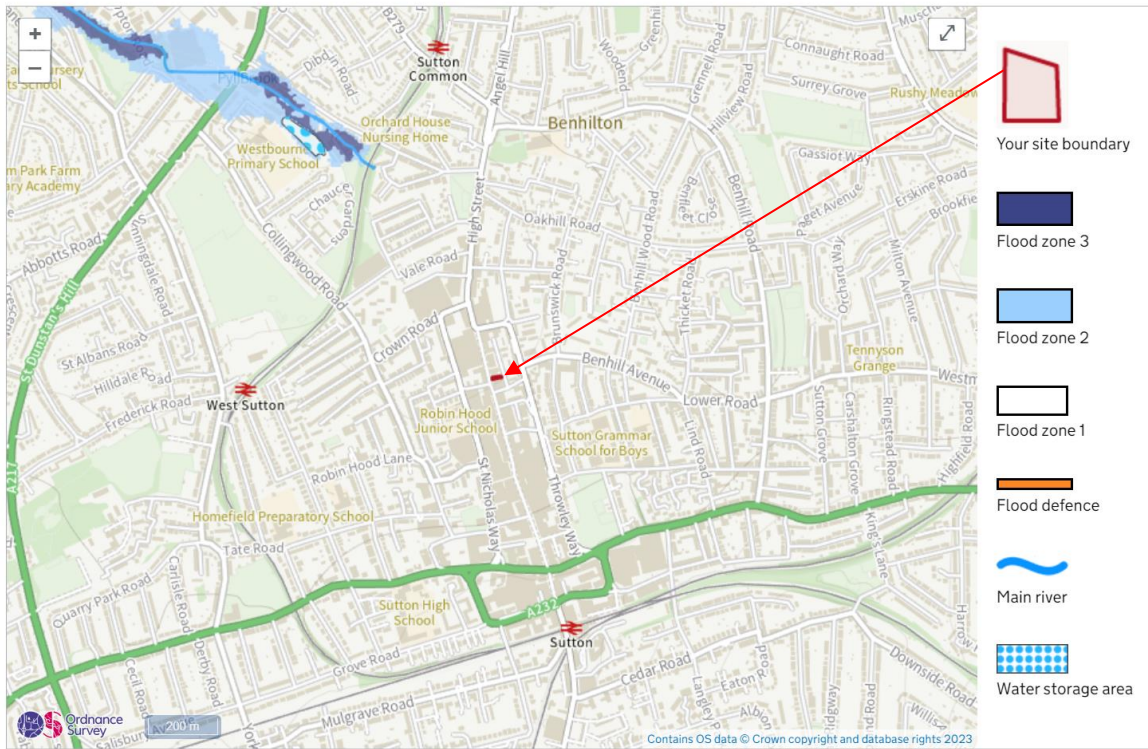
The site currently discharges 100% unattenuated by a combination of:

- Low Order Storms: roof with RWP’s direct to sewer
- Higher Order Storms: majority to sewer as existing

The scheme does not need to and indeed cannot alter the connections.

3.4 Summary of Flood Risks Posed to and From Site and Scheme

Flood Sources	Site Status	Comment on flood risk posed to / from the development
Surface Water	Site is within EA low hazard in all EA risk scenarios Access to Elm Grove to rear is in No-LOW hazard surface water flooding	Scheme will not increase the flood risk posed from this source: retroactive SUDS are appropriate Scheme will not obstruct any surface water flow pathways or ponding areas
Groundwater	Site is not within an area of high potential for elevated groundwater flooding (less than 25% zone)	Scheme will not increase the risk posed to or from groundwater Suitable waterproofing of ground and pool structure below ground
Artificial Sources	Site is not within EA general Reservoir Flood Warning area No other artificial sources with likely flood flowpaths that could reach the site	Low Risk
Climate Change	Not within a fluvial or tidal climate change extent 40% can be used in the SUDS storage calculations	Development will manage the peak flow and volume of discharge from the site Low risk posed to and from the development

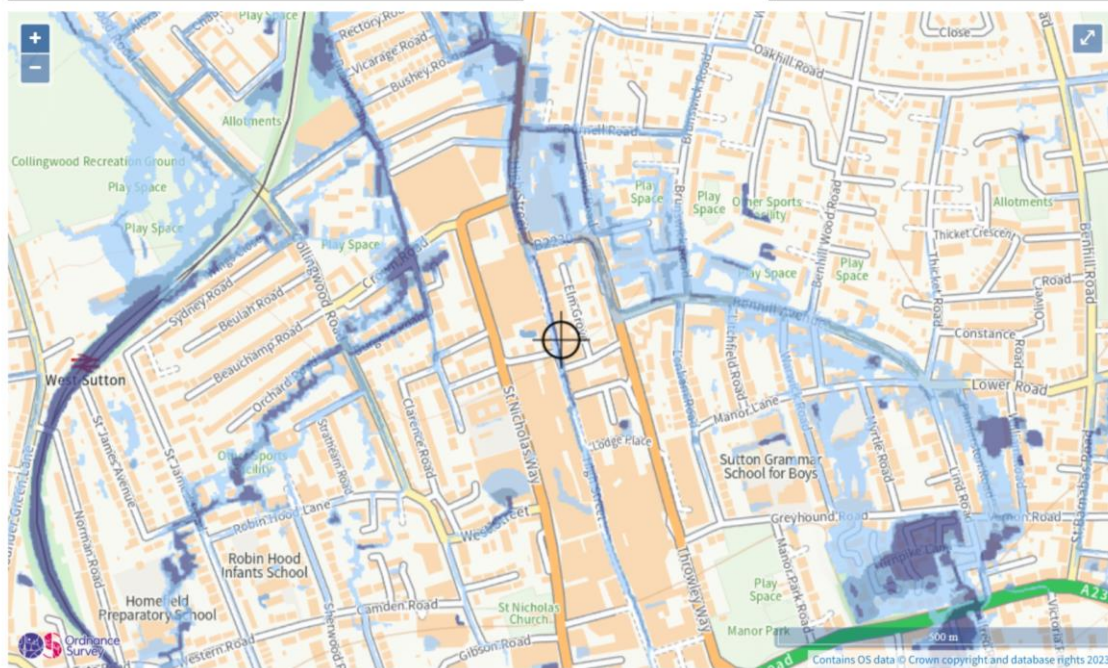


Flood risk

Extent of flooding

Location

Enter a place or postcode



Extent of flooding from surface water

- High
- Medium
- Low
- Very low
- Location you selected

5.0 SUDS Strategy

4.1 Existing site

The existing landscaping comprises existing impermeable hardstanding.

4.2 SUDS Assessment and Specifications

The site is 100% impermeable as existing.

Formal infiltration is not feasible due to the site constraints.

There is no river or drainage ditch to discharge to (for completeness).

The most sustainable approach is a re-use of the existing system with betterment i.e. complemented with additional Source Control SUDS storage.

The existing connections will be retained:

- This is a very important approach to ensure embodied carbon is reduced
- There is anticipated some minor pipe extensions and changes to the manholes connections
 - Importantly: the final discharge arrangement will not be altered by the scheme other than Source Control SUDS proposed will have an overflow to sewer
- Re-use: This is the most sustainable approach to re-use the existing infrastructure (manholes, pipes etc subject to enabling works investigations as standard) where feasible and extend where necessary with SUDS betterment
- New Rain Water Pipes (RWP) where required

SUDS that are suitable for this constrained footprint extension within 100% impermeable existing site surrounded by properties and highways:

- Where there is easy access for maintenance: RWP's can connect to sedum roof / rain planter storage areas of flat roof where feasible
 - Sedum roof / rain planter storage areas to have reservoir storage void (specifications are off the shelf and can be confirmed at detailed design stage)
 - Sedum roof / rain planter storage areas to store low order storms
 - No change to gravity drainage that is operating as existing
 - All inverts to be confirmed

Additional formal extensive SUDS would not be commensurate with the scale and sensitivity of the scheme and indeed would not be feasible.

- Retain all existing porous grassed / planting areas

4.3 Flood resilience for new ground floor footprint

The following flood resilient measures will be incorporated as necessary:

- Electrics to be installed top-down where feasible
- Non-return valves as standard
- Any new waterproofing to be installed to above ground level as appropriate
- Plasterboards will be installed in horizontal sheets on ground & basement rather than

conventional vertical installation methods to minimise the amount of plasterboard that could be damaged in a flood event

- Wall sockets will be raised to as high as is feasible and practicable in order to minimise damage if flood waters inundate the property
- Any wood fixings will be robust and/or protected by suitable coatings in order to minimise damage during a flood event
- Only if required: the concrete sub floor will likely be laid to fall to drains or gullies which will remove any build-up of ground water to a sump pump where it will be pumped into the mains sewer. This pump will be fitted with a non-return valve to prevent water backing up into the property should the mains sewer become full

6.0 Summary

The scheme will be flood future-proofed for the lifetime of the scheme.

There is no other raising of the ground in the floodplain.

The scheme can include informal Source Control SUDS as necessary through the detailed design stages:

Sedum roof / rain storage planters with void storage with direct connection from new RWP's in areas that are accessible if feasible

To retain Low order storms and have overflow to the sewer for higher order storms

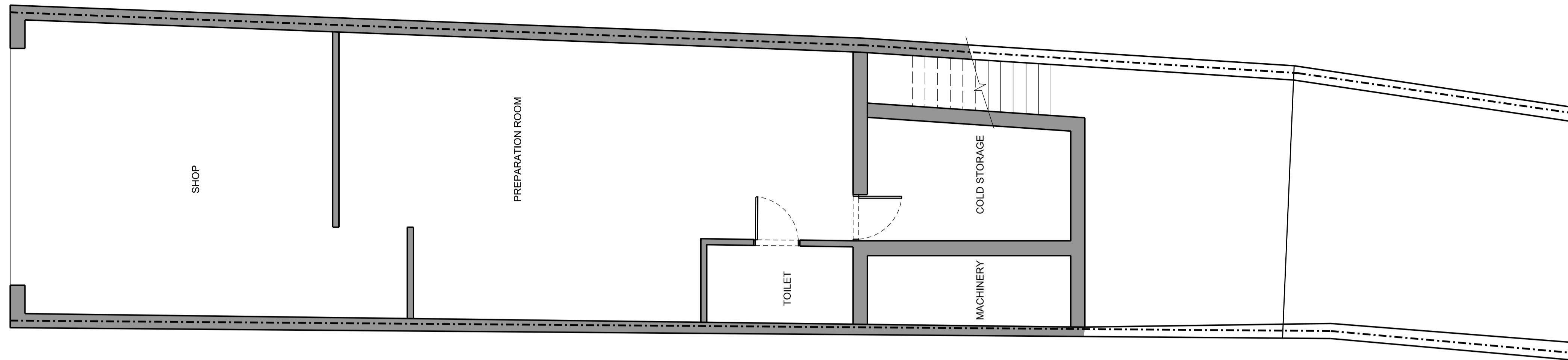
- No further calculations are required
- The scheme includes full height flood resilience
 - There is not a need to compare site and floor levels to any flood levels

The scheme will result in a better flood protected and lifetime flood future-proofed property than existing with SUDS betterment.

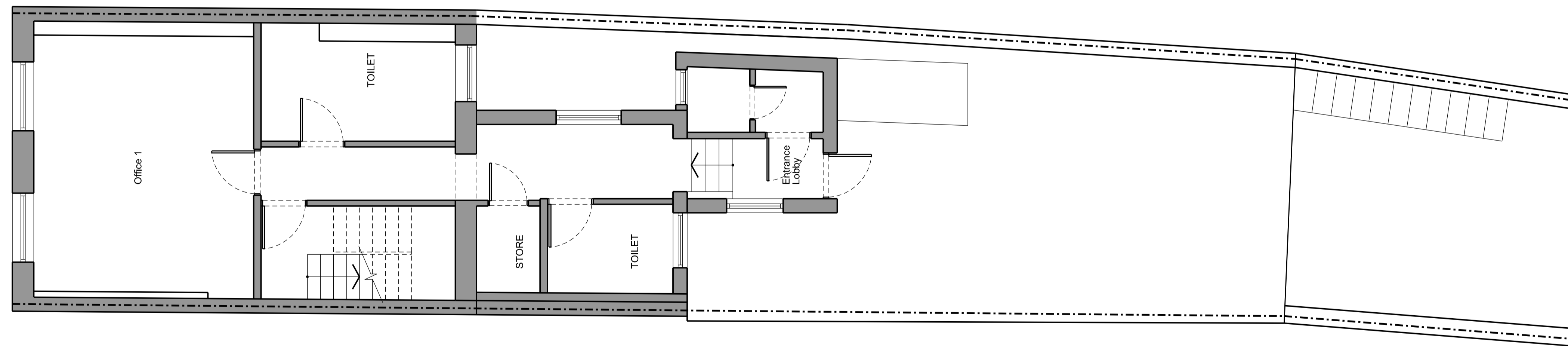
Based on the likely flooding risk, it is considered that the proposed development can be constructed and operated safely in flood risk terms, without increasing flood risk elsewhere and is therefore appropriate development in accordance with the NPPF/PPG.

APPENDICES

APPENDIX A



Existing Ground Floor Plan



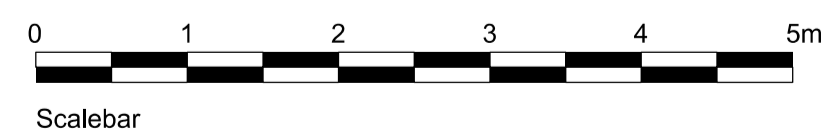
Existing First Floor Plan

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2 Grove Cottage
Old Watercress Walk
Carshalton, SM5 3BD
+44 (0) 20 3745 4405

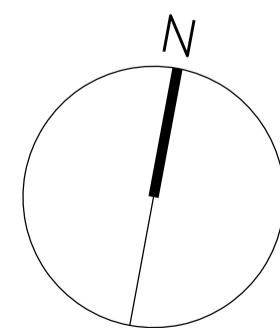
212 High Street
Sutton, SM1 1NU

Existing Plans					
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Project No	Type	Blg	Number	Zone/Lvl	Rev
2322	E	01	0010	ZXX	01



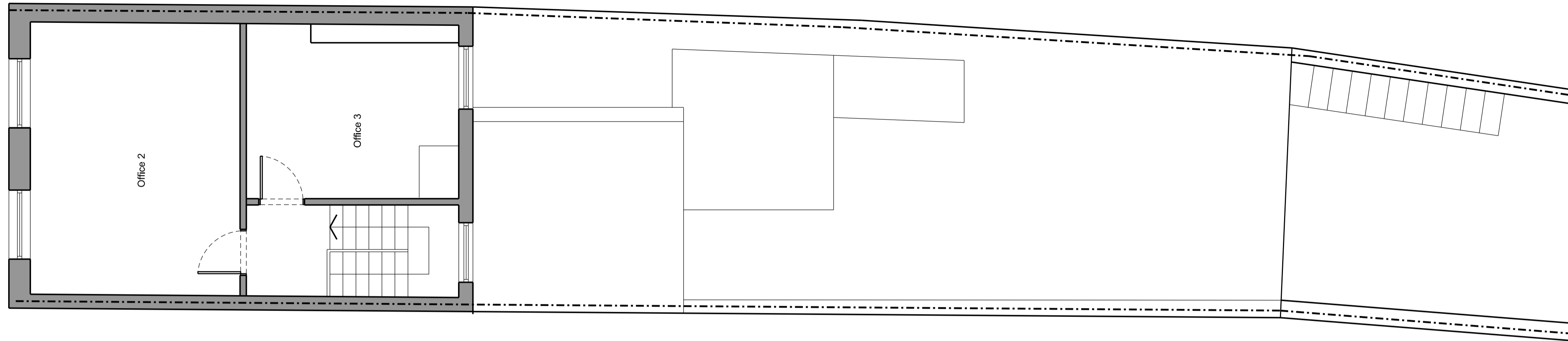
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North

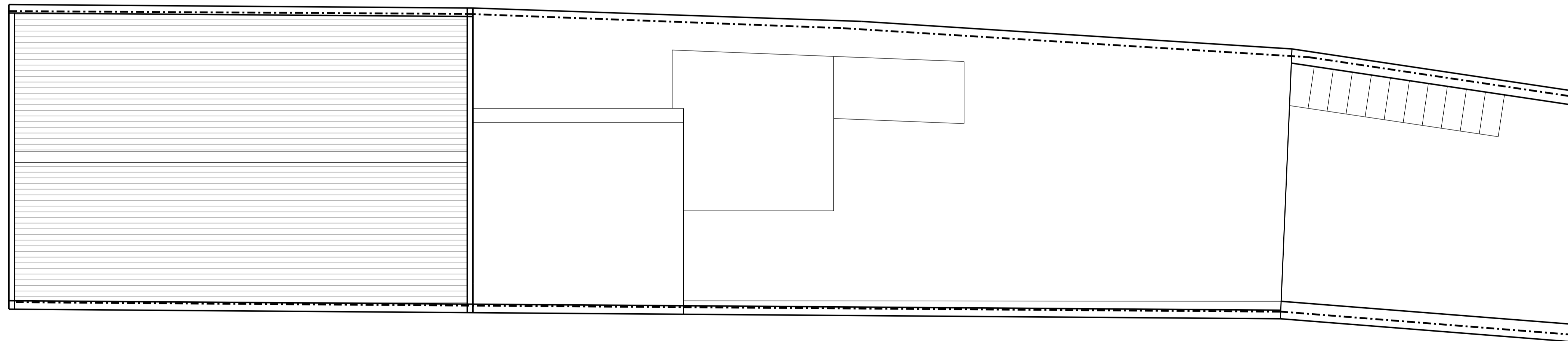


Notes:
1. Do not scale
2. Contractor to Check all dimensions and report omissions and errors to the Architect

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No. Revision	Date	Initial Chkd



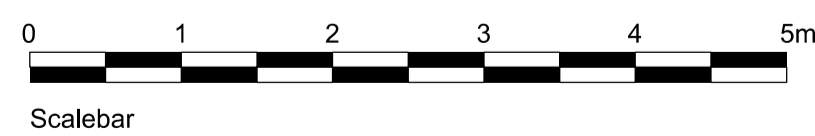
Existing Second Floor Plan



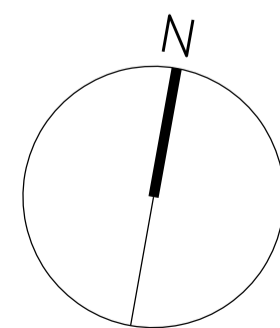
Existing Roof Plan

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2 Grove Cottage
Old Watercress Walk
Carshalton, SM5 3BD
+44 (0) 20 3745 4405



North



--- Area to be removed/demolished

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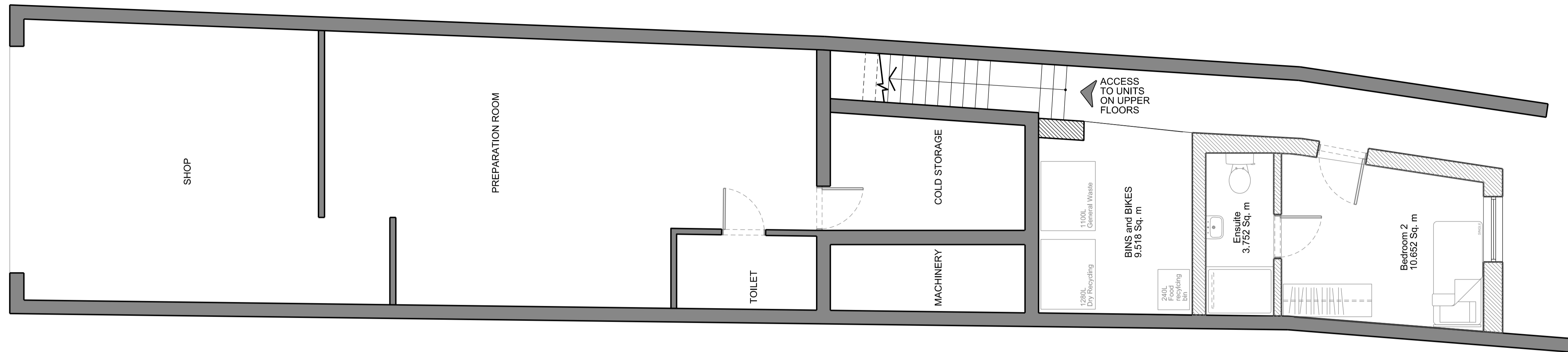
04.09.23 JS KJC
Date Initial Chkd

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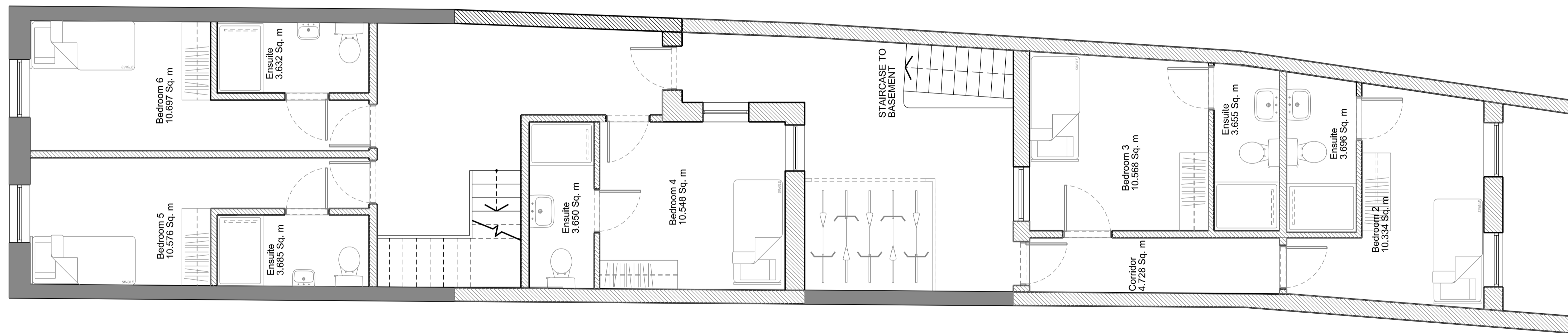
Existing Plans
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Project No	Type	Blg	Number	Zone/Lvl	Rev
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APPENDIX B



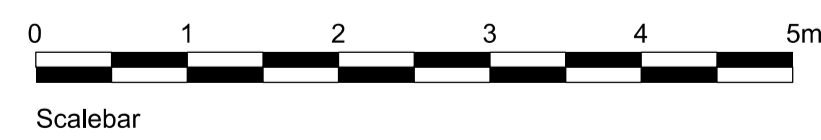
Proposed Ground Floor Plan



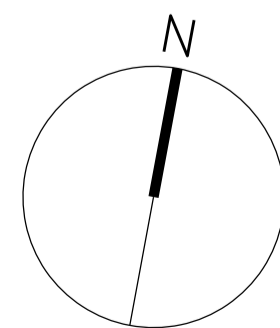
Proposed First Floor Plan

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Old Watercross Walk
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North



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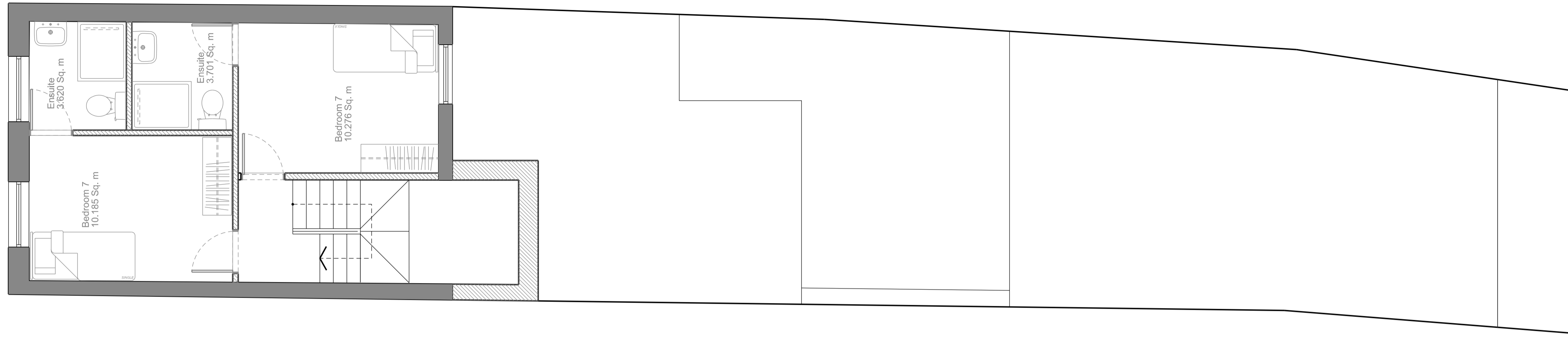
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Date Initial Chkd

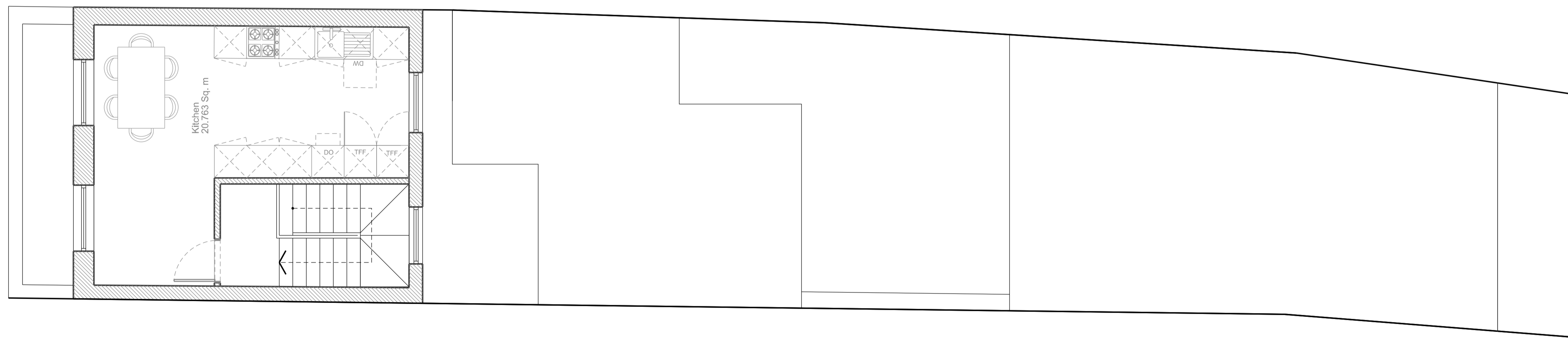
212 High Street
Sutton, SM1 1NU

Proposed Plans
INFORMATION 1:50@A1 or 1:100@A3

Project No	Type	Blg	Number	Zone/Lvl	Rev
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Proposed Second Floor Plan



Proposed Third Floor Plan

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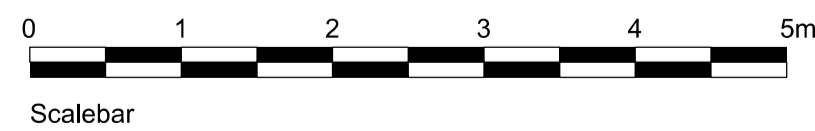
2 Grove Cottage
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Sutton, SM1 1NU

Proposed Plans_FLATS

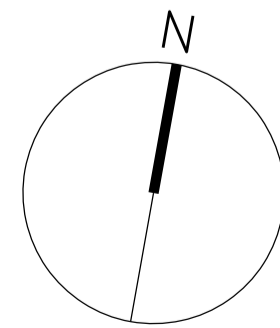
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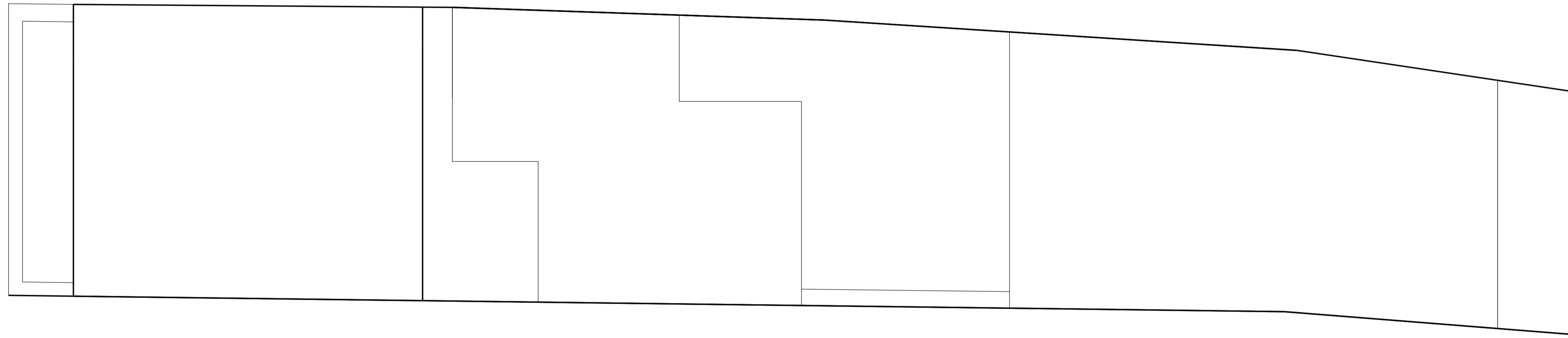
North



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Proposed Roof Plan

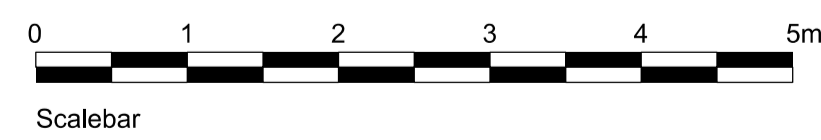
KJC
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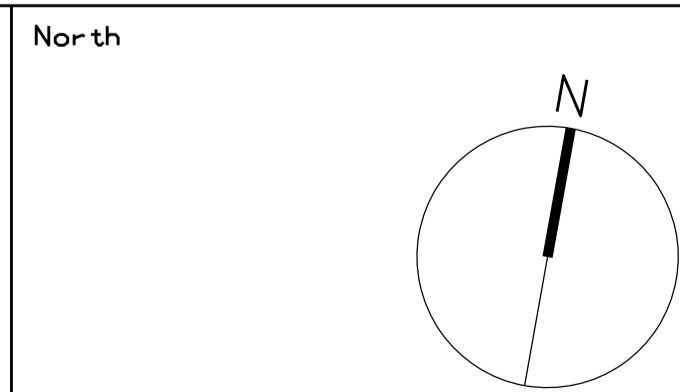
212 High Street
Sutton, SM1 1NU

Proposed Plans

Project No	Type	Blg	Number	Zone/Lvl	Rev
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