Introduction

5 Prior to the first occupation of the development, full details to demonstrate:

a) the proposed internal water efficiency and/or water recycling equipment to ensure that the development will pose no additional strain on adjoining sites or the existing drainage infrastructure; and
b) the proposed internal measures to ensure the development has been designed to cope with potential flooding;

shall be submitted to and approved in writing by the Local Planning Authority. The approved details shall be implemented prior to the first occupation/use of the development.

Reason: To ensure that the development will pose no additional strain on adjoining sites or the existing drainage infrastructure and to ensure the development has been designed to cope with potential flooding in accordance with the provisions of the NPPF (2012) and Class PA of Part 3 of Schedule 2 of the Town and Country Planning (General Permitted Development) (Amendment) (England) Order 2016.

The following document is a response to the condition noted adjacent.

Summary

It is proposed to provide low flush WCs and water efficient appliances to help reduce water consumption and foul discharge in the post development scenario.

Whilst the proposals will not result in an increase in surface discharge rate and the applicant is limited as to what SUDS techniques can be provided, it is proposed to provide rainwater butts to the rear rainwater pipes to recycle roof water for irrigation.
Their use will reduce run-off in the more regular rainfall events and will result in an increase in time of entry into the public sewer network.

In order to guard against the potential future flooding of the building, it is proposed to fit flood resistant doors to the entrances. The rear terrace has been built on pedestals to allow rainwater to filter down between slabs. This detail allows for the maximum capacity for controlling the risk of floording.

Site Location

35a Broadhurst Garden is located on the edge of the South Hampstead conservation area and is not listed. The neighbouring buildings are predominantly made of red brick with decorative brick bonds over windows and on projecting bays.

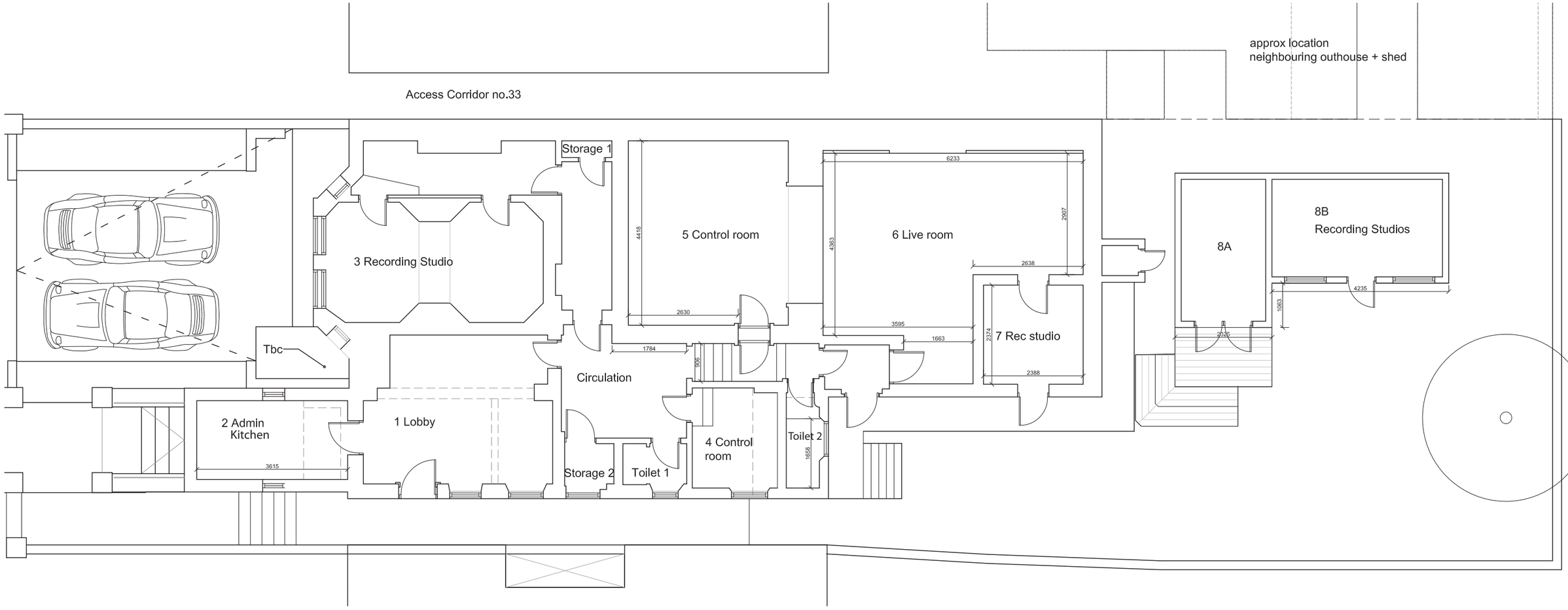
Existing Property Lower Ground Floor Flat

The original layout of the property was as a recording studio.

The following items would cause water consumption:
2x Toilets with traditional cisterns
2x Wash hand basins
1x Kitchen Sink
1x Kitchen dishwasher
1x Washing machine

Based on the quantity of recording studios we can estimate that the occupancy rate would be between 3 and 14 staff plus visiting performers. A maximum total would be 30 people.

For calculations we would work to a total of 15 people including staff and performers



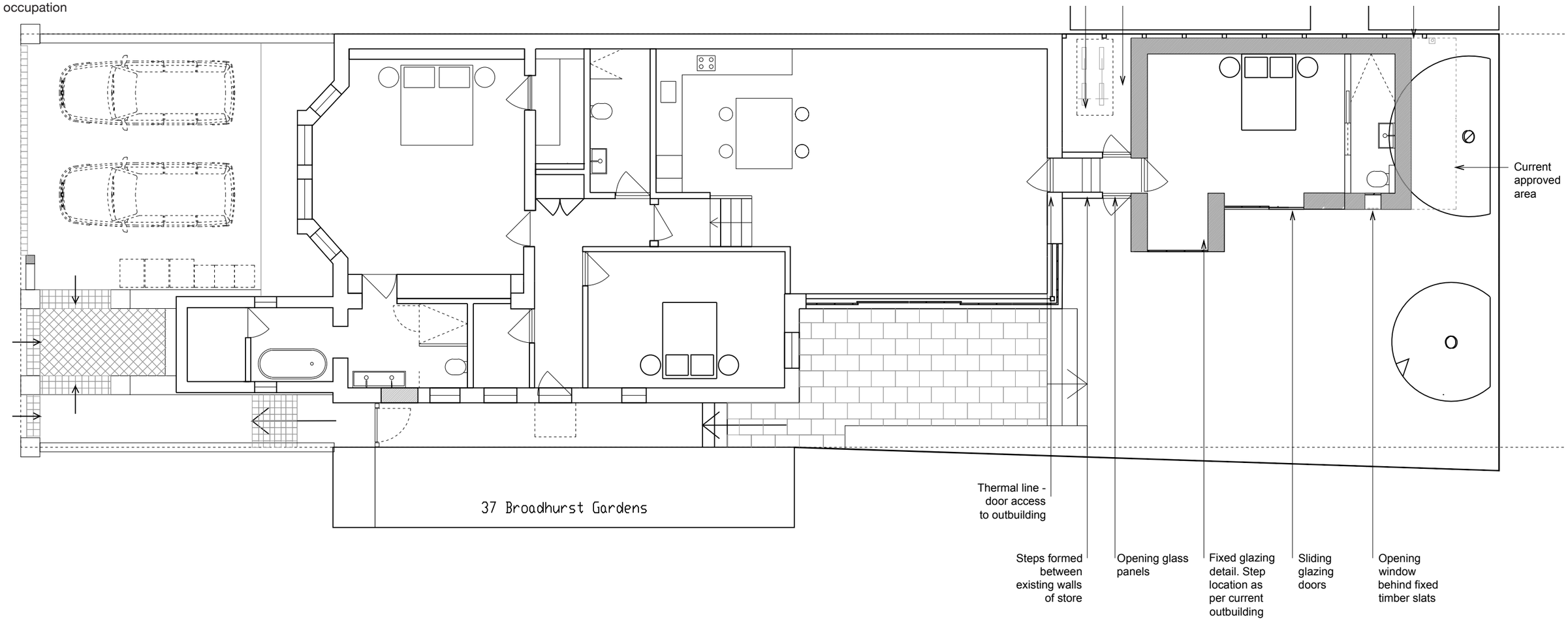
Built Plan

The built layout of the property is for residential habitation.

The following items would cause water consumption:
3x Toilets with eco cisterns
3x Wash hand basins
1x Kitchen Sink
1x Modern and economical kitchen dishwasher
3x Showers
1x Bath
1x Washing Machine

Although the quantity of equipment is higher, the occupancy would be considerably lower. A maximum of 6 people can live in the property.

For calculations we would use a total of 4 people as this is the likely level of occupation



Existing Water Efficiency Totals

Installation Type	Unit of Measure	Capacity/Flow rate (1)	Use Factor (2)	Fixed use (litres/person/day) (3)	Litres/person/day = [(1)x(2)] + (3) (4)
WC (single flush)	Flush Volume (litres)		4.42	0.00	0
WC (dual flush)	Full flush Volume (litres)		1.46	0.00	0
	Part flush Volume (litres)		2.96	0.00	0
WC (multiple fittings)	Average effective flushing Volume (litres)	13.00	4.42	0.00	57.46
Taps (excluding kitchen/utility room taps)	Flow rate (litres/min)	15.00	1.58	1.58	25.28
Bath (where shower also present)	Capacity to overflow(litres)		0.11	0.00	0
Shower (where bath also present)	Flow Rate(litres / minute)		4.37	0.00	0
Bath Only	Capacity to overflow(litres)		0.50	0.00	0
Shower Only	Flow Rate (litres/minute)		5.60	0.00	0
Kitchen/Utility room sink taps	Flow rate (litres/minute)	20.00	0.44	10.36	19.16
Washing Machine	(Litres/kg dry load)	180.00	2.1	0.00	378.00
Dishwasher	(Litres/place setting)	1.25	3.6	0.00	4.50
Waste disposal unit	(Litres/use)	☐ Present	3.08	0.00	0
Water Softener	(Litres/person/day)		1.00	0.00	0
	(5)	Total Calculated use (litres/person/day) =SUM(column 4)			484.40
	(6)	Contribution from greywater (litres/person/day)			0
	(7)	Contribution from rainwater (litres/person/day)			0
	(8)	Normalisation factor			0.91
	(9)	Total internal water consumption = [(5)-(6)-(7)]x(8) (litres/person/day)			440.80
	(10)	External water use			5.0
	(11)	Total water consumption (Building Regulation 17.K) =(9)+(10)(litres/person/day)			445.8

Installation Type	Make/Model (mandatory)	Litres/Person/Day
WC (multiple fittings)	Existing	57.46
Taps	Existing	25.28
Kitchen Taps	Existing	19.16
Washing Machines	Existing	378.00
Dishwasher	Existing	4.50

As Built Water Efficiency Totals

Installation Type	Unit of Measure	Capacity/Flow rate (1)	Use Factor (2)	Fixed use (litres/person/day) (3)	Litres/person/day = [(1)x(2)] + (3) (4)
WC (single flush)	Flush Volume (litres)		4.42	0.00	0
WC (dual flush)	Full flush Volume (litres)		1.46	0.00	0
	Part flush Volume (litres)		2.96	0.00	0
WC (multiple fittings)	Average effective flushing Volume (litres)	4.50	4.42	0.00	19.89
Taps (excluding kitchen/utility room taps)	Flow rate (litres/min)	5.00	1.58	1.58	9.48
Bath (where shower also present)	Capacity to overflow(litres)		0.11	0.00	0
Shower (where bath also present)	Flow Rate(litres / minute)	9.00	4.37	0.00	39.33
Bath Only	Capacity to overflow(litres)		0.50	0.00	0
Shower Only	Flow Rate (litres/minute)		5.60	0.00	0
Kitchen/Utility room sink taps	Flow rate (litres/minute)	5.00	0.44	10.36	12.56
Washing Machine	(Litres/kg dry load)	50.00	2.1	0.00	105.00
Dishwasher	(Litres/place setting)	0.70	3.6	0.00	2.52
Waste disposal unit	(Litres/use)	☐ Present	3.08	0.00	0
Water Softener	(Litres/person/day)		1.00	0.00	0
	(5)	Total Calculated use (litres/person/day) =SUM(column 4)			188.78
	(6)	Contribution from greywater (litres/person/day)			0
	(7)	Contribution from rainwater (litres/person/day)			0
	(8)	Normalisation factor			0.91
	(9)	Total internal water consumption = [(5)-(6)-(7)]x(8) (litres/person/day)			171.79
	(10)	External water use			5.0
	(11)	Total water consumption (Building Regulation 17.K) =(9)+(10)(litres/person/day)			176.8

Installation Type	Make/Model (mandatory)	Litres/Person/Day
WC (multiple fittings)	Existing	57.46
Taps	Existing	25.28
Kitchen Taps	Existing	19.16
Washing Machines	Existing	378.00
Dishwasher	Existing	4.50

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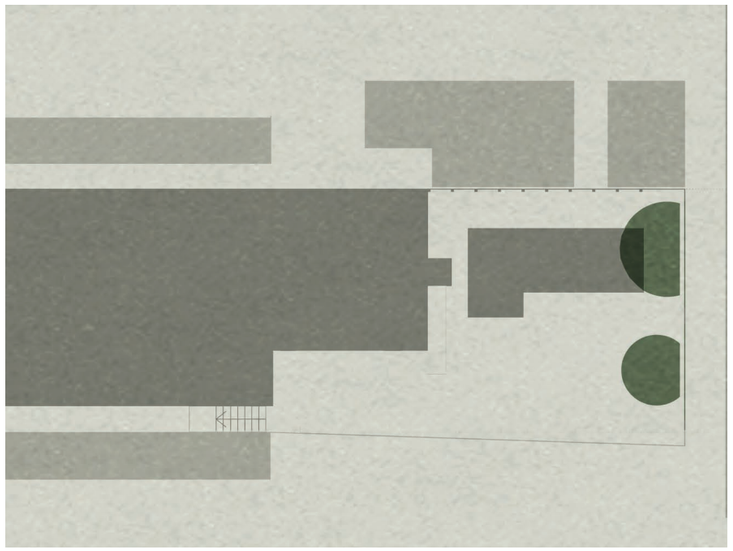
Terms and Conditions
System Requirements

Grey Water

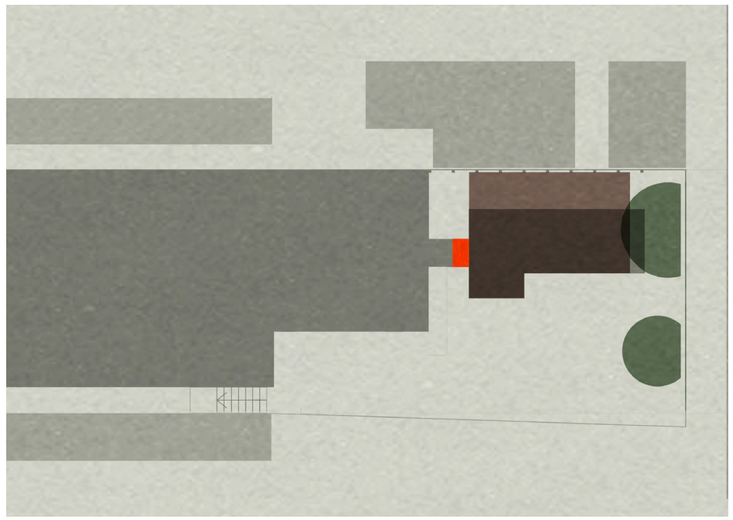
As the property is just the lower ground floor of an existing property there are no new roof areas to increase the volume of rainwater passing into gutters.

The outbuilding size is modestly larger. To offset this increase we have:
1. Added a water butt to aid storm surge capacity
2. Added a green planted roof to reduce the volume of water entering gutters.

Together the measures noted above work to result in a very small volume of water entering the drainage system.

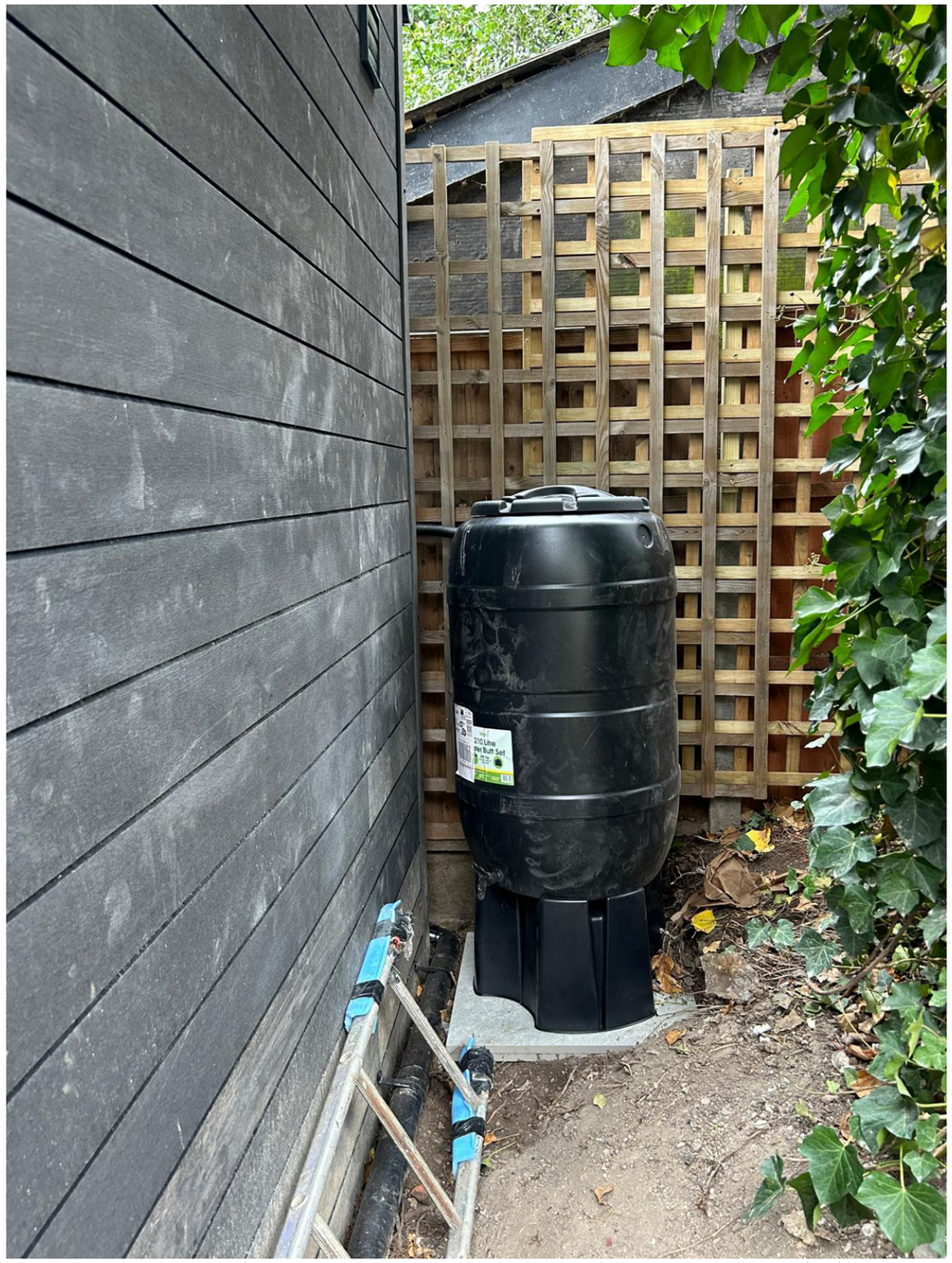


Existing Plan



Proposed Plan of Extension

Photographic Evidence



Water butt installed to ensure control of storm flood water and reduce water usage for watering plants

Dealing With Flooding

1. Paving installed on pedestals
2. Water Butt
3. Green Roof

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