

Former Novartis Site, Parsonage Road, Horsham Phase 1

Water Neutrality Statement

Muse Developments Ltd
/Lovell Partnerships Ltd



Issue and Revision Record

Rev	Date	Revision	Reason for Update
P1	17.01.23	Planning Issue	
P2	20.01.23	Planning Issue	Updated to comments
P3	20.01.23	Planning Issue	Updated to incorporate Lovell Comments
P4	23.01.23	Planning Issue	Updated to incorporate Planning Consultants comments
P5	05.03.25	Planning Issue	Updated to latest site configuration

This document has been prepared for the titled project or named thereof and should not be relied upon or used for any other project without an independent check being carried out as to its suitability and prior written authority of Waterstone Design Building Services Consultants Ltd being obtained. Waterstone Design Building Services Consultants Ltd accepts no responsibility or liability for the consequences of this document being used for a purpose other than the purposes for which it was commissioned. Any person using or relying on the document for such other purpose agrees and will by such use or reliance be taken to confirm his agreement to indemnify Waterstone Design Building Services Consultants Ltd for all loss or damage resulting there from. Waterstone Design Building Services Consultants Ltd accepts no responsibility or liability for this document to any party other than the person by whom it was commissioned.



Contents

1.0 EXECUTIVE SUMMARY	4
2.0 INTRODUCTION	5
2.1 THE PROPOSED SCHEME	5
2.2 BACKGROUND OF THE SITE	5
2.4 METHODOLOGY	5
3.0 WATER USAGE CALCULATION	7
3.1 BASELINE CALCULATION	7
3.2 PROPOSAL DEMAND SCENARIO CALCULATIONS	7
3.3 PROPOSAL DEMAND TOTALS	9
4.0 LIMITING WATER USAGE	11
5.0 WATER HARVESTING	12
5.1 RAINWATER HARVESTING	13
5.1.1 What is Rainwater Harvesting	13
5.1.2 What is being incorporated into this scheme	14
5.2 GREYWATER HARVESTING	14
6.0 OFFSETTING WATER USAGE	15
7.0 CONCLUSION	15
APPENDIX 1 – ACCOMMODATION SCHEDULE & SITEWIDE PLAN	16
APPENDIX 2 – COMPARISON OF SYSTEMS	17

1.0 EXECUTIVE SUMMARY

The Need for Water Neutrality

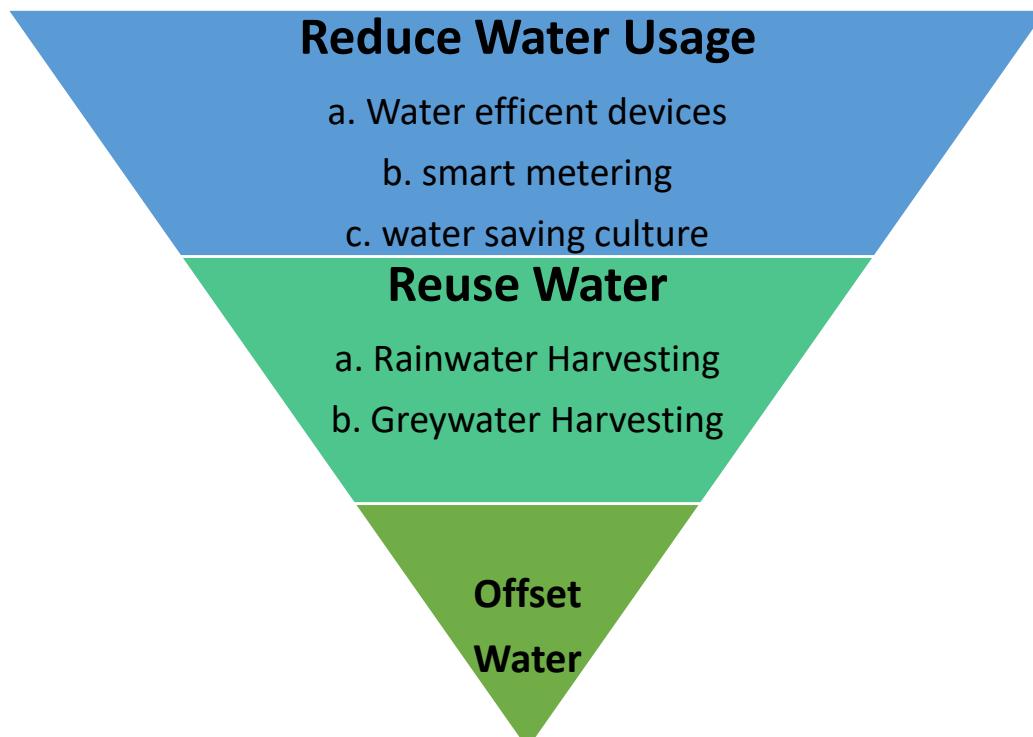
Horsham District Council is located within an area of serious water stress and information collected by Natural England has demonstrated that water abstraction for drinking water supplies is having a negative impact on wildlife in the Arun Valley. Furthermore, Natural England has advised that new developments must not add to the negative impact and Horsham District Council now requires an assessment of water neutrality for new developments.

Natural England define water neutrality as:

"For every new development, total water use in the region after the development must be equal to or less than the total water-use in the region before the new development"

This report shall investigate the anticipated water usage that the scheme will require, then review three passive steps to reducing consumption, moving towards water neutrality. It looks at their viability and associated concerns with each step, and shall provide calculations within the Appendices of this report for the following areas in-line with the associated standard:

- Water Saving Calculation
- Rainwater Harvesting BS 8515 & Greywater Harvesting BS 8525
- Offsetting existing housing stock



Water Neutrality Hierarchy



2.0 INTRODUCTION

This Water Neutrality Report has been prepared on behalf of Muse Developments Ltd & Lovell Partnerships Ltd in support of Phase 1 application relating to the Former Novartis Site, Parsonage Road, Horsham, pursuant to the outline planning permission ref: DC/18/2687 (as amended by s96a application DC/22/1724).

The description of development is as follows:

Phase 1 application (covering appearance, landscaping, layout and scale) pursuant to outline permission DC/18/2687, proposing the erection of 209 residential units (with associated infrastructure); and including the details required by outline condition 21 (the scheme of noise and vibration attenuation) and outline Condition 24 (Cedar Tree Reports).

The application is submitted to Horsham District Council as the Local Planning Authority (“LPA”). This report should be read in conjunction with other technical documents submitted in support of the application, as listed in the Cover Letter.

2.1 THE PROPOSED SCHEME

In Summary, the outline permission allows for the following:

- Up to 209 dwellings (C3 Use Class), of which 11% is to be affordable;
- 254 Parking Spaces, of which 127 will be equipped with electric vehicle charging points.

2.2 BACKGROUND OF THE SITE

The proposed development sits on the site of the former Novartis Pharmaceuticals facility. This included headquarters office functions as well as on site industrial processes. The site was vacated in 2015 up until which time Novartis were based there and had full use of the facilities. Much of the industrial facility has been demolished; however, two large office structures of a total of c.10,000m² remain and are to be converted.

At this time, and based upon CIBSE and IOP guidelines, the daily occupancy of the remaining office buildings on site could have been in the order of 625 people (A modest consideration based on Stanhope survey commissioned 2001 – Ref CIBSE Guide A. This figure is well below that of the BCO guideline documentation which would place occupation at a level of 1,000 personnel on site in the retained buildings).

While this facility has not been in use for a number of years, it was only vacated three years before the submission of the Outline planning application in 2018. This site was a major water user in occupation and the loss of this user and its replacement with a new, water efficient development should be accounted for.

2.4 METHODOLOGY

In order to establish the route to a “water neutral” scheme, we must understand the baseline positions of the site and the scheme. Therefore, we will first review the expected water usage of the existing



site and the anticipated water usage based on the expected average occupancy of the proposed scheme.

N.B., We have been informed that as the site has been vacant for an extended period of time, the existing water usage is nil. We have used this as our baseline approach. However, we recognise in the guidance that the approach to existing buildings is “evolve[ing]” and therefore, we wish to discuss this further during determination.

On the expectation of a nil water usage, the anticipated water usage on site will be a net increase. Therefore, it is necessary to explore steps to reduce water usage on site to ensure the scheme has a net zero effect on the water supply.

The Outline planning permission was granted before Natural England sent their Position Statement to Horsham District Council in line with the Habitat Regulations (2017), dated September 2021. Therefore, the issue of water neutrality was not captured here. Condition 10 requires that the scheme limits water usage on site to 110l/p/d. This water usage must be considered the baseline for the site.

We will look to reduce water on site to the net zero position by the following:

- 1) Limiting – we will limit water usage to the minimum realistically achievable
- 2) Harvesting – we have reviewed the possibility and viability of rainwater and greywater harvesting
- 3) Offsetting – we will need to offset the remaining water usage to net zero

3.0 WATER USAGE CALCULATION

3.1 BASELINE CALCULATION

We understand that HDC believe that the existing water usage of the site is nil. This is because the existing buildings have not been used for over 3 years. Therefore, for the purpose of this statement, we are using a baseline water usage of nil.

However, we recognise that the guidance states that it will “evolve”, so we therefore request that this is revisited. The site was occupied until 2015 and we understand that the Outline application was submitted in 2018 (at a time when water neutrality was not a consideration). We would argue that this site is being unfairly penalised for a change in circumstance. The offices could still be occupied following a minor refurbishment and fit-out and this should be accounted for in any figures.

The guidance on the Horsham website also does not refer to any cut off date. Instead, this talks about either producing historic water bill data or by estimating this using Building Regulations or BREEAM water calculators.

“Baseline Calculations

It is critical that the statement clearly establishes what the baseline water consumption rate is for the existing or most recent use. Where historic water bills for the site are not available, alternative data using the Building Regulations Part G or BREEAM water calculators should be used, along with appropriate occupancy rates and consumption data for any industrial processes being undertaken at the site. The data should be presented in litres per person per day. Further information is set out separately below. It is critical that existing baseline consumption is fully evidenced to give certainty of the actual mains water being used at a site. Metered water bills are the best way to achieve this certainty.”

As water bills and consumption figures are not available for the site in line with Local Policy Guidance, we have had to rely on expected occupancy rates, as per the guidance on the Horsham.gov.uk website. Extrapolating daily water usage from the occupancy density given in section 2.2 above provides a daily water usage figure of 25,000 litres per day being used at the facility purely for staff welfare facilities. Water usage from process equipment is typically vast by comparison and as a result of the equipment in use being completely unknown has been omitted from these calculations in full. A report published in 2012 by the EPA suggests that water use for general purposes (not process equipment) in laboratories exceeded that of human consumption by over 150%.

We conclude that, as a result of these references above the MINIMUM PERCEIVABLE, typical daily water consumption for the remaining office buildings on site was 62,500 litres per day with an annual consumption of 52 x 5 x 62,500, totalling 16,250,000 litres per annum. This does not take into account the industrial processes that likely occurred within, now demolished, buildings on the site.

3.2 PROPOSAL DEMAND SCENARIO CALCULATIONS

For compliance with the relevant planning policy and Local Plans, the outline permission seeks that the water usage of each dwelling is limited to 110 litres per day (Condition 10). This figure is an improvement on the Building Regulations standard for new build housing which should achieve a minimum of 125 litres per person per day.

The requirement is for a move towards Water Neutrality for the purposes of the “Water Neutrality Study: Part B” (April 2022); this also demonstrates a tighter target water usage.

The current scheme Phase 1 proposals can demonstrate compliance with policy documents, these being a ‘tighter target’ water usage of 110 l/p/d and the Southern Water “Target 100” programme (100l/p/d).

The calculations for these water demand scenarios are outlined below:

Building Regs. Optional (adopted 2015 Local Plan) – 110 l/p/d

				HOUSE - 110 LPD			
Installation type	Unit of measure	(2) Use factor	(3) Fixed use (litres/person/day)	(1) Capacity/flow rate	Litres/person/day = [(1) (2)] + (3)		
WCs (multiple fittings)	Average effective flushing volume (litres)	4.42	0.00	3.99	17.64		
Taps (excluding kitchen/utility room taps)	Flow rate (litres/minute)	1.58	1.58	5.00	9.48		
Bath (where shower also present)	Capacity to overflow (litres)	0.11	0.00	170.00	18.70		
Shower (where bath also present)	Flow rate (litres/minute)	4.37	0.00	8.00	34.96		
Bath only	Capacity to overflow (litres)	0.50	0.00	0.00	0.00		
Shower only	Flow rate (litres/minute)	5.60	0.00	0.00	0.00		
Kitchen/utility room sink taps	Flow rate (litres/minute)	0.44	10.36	6.00	13.00		
Washing machine	Washing machine installed?	2.10	0.00	No	17.16		
	Litres/kg dry load			8.17			
Dishwasher	Dishwasher installed?	3.60	0.00	No	4.50		
	Litres/place setting			1.25			
Waste disposal unit	Waste disposal installed?	3.08	0.00	No	0.00		
	Litres/use			0.00			
Water softener	Water softener installed?	1.00	0.00	No	0.00		
	Litres/person/day			0.00			
(5)	Total calculated use = (Sum column 4)				115.43		
(6)	Contribution from greywater (litres/person/day) from Table 4.6						
(7)	Contribution from rainwater (litres/person/day) from Table 5.5						
(8)	Normalisation factor				0.91		
(9)	(CSH)				105.0		
(10)	External water use				5		
(11)	Total water consumption = (9) + (10) (litres/person/day) (Part G)				110.0		

- Taps (ex kitchen taps) – 6 litres/min
- Baths – 170l capacity to overflow
- Taps (kitchen/utility room sinks) – 6 litres/min
- Dishwasher – N/A (default)
- Washing Machine – N/A (default)
- Showers – 8 litres/min
- WCs – 6/4 litres (dual flush)

3.3 PROPOSAL DEMAND TOTALS

To calculate the expected water usage of the Reserved Matters submission, we must calculate the expected occupancy. We have followed the Statistical Occupancy Rate by Type, taken from Horsham Council Guidance on website:
www.horsham.gov.uk/planning/water-neutrality-in-horsham-district/water-neutrality-and-planning-applications.

Property Type (Bedrooms)	Occupants (Per Type)
1	1.32
2	1.88
3	2.47
4	2.86
5	3.09

Unit Type	Beds	Dwelling Type	Quantity	Total Population
Phase 1				
C01	3	House	2	4.94
C02	4	House	2	5.72
C03	4	House	2	5.72
C04	4	House	2	5.72
C05	4	House	2	5.72
C06	4	House	2	5.72
C07	2	House	4	7.52
C08	3	House	1	2.47
	4	House	1	2.86
C09	3	House	4	7.41
C10	2	House	2	3.76
C11	1	Apartment	15	19.8
	2	Apartment	18	33.84
C12	1	Apartment	13	17.16
	2	Apartment	8	15.04
C13	1	Apartment	13	17.16
	2	Flat	8	15.04
C14	1	Flat	15	19.8
	2	Flat	34	63.92
	3	Flat	1	2.47
C15	1	Flat	19	25.08
	2	Flat	15	28.2
	3	Flat	1	2.47
C16	3	House	4	9.88
C17	3	House	1	2.47
	4	House	1	2.86
C18	3	House	1	2.47
	4	House	1	2.86
C19	3	House	4	9.88
C20	3	House	1	2.47
	4	House	1	2.86
C21	3	House	3	7.41
C22	3	House	1	2.47
	4	House	1	2.86
C23	3	House	2	4.94
C24	4	House	1	2.86
C25	4	House	1	2.86
C26	4	House	2	5.72
TOTAL SITE OCCUPANCY				382.41
TOTAL DAILY WATER DEMAND BASED ON OUTLINE PLANNING 110l/p/d				42,065.1
ANNUAL WATER CONSUMPTION				15,353,761.5

Utilising the Planning requirement target of 110 l/p/d as the development baseline and with a site occupancy of 382 residents water demand is 42,065 litres per day. The annual water consumption resulting is 15,353,762 litres which rests above the very conservative estimate for the site usage in its previous life.

As such the following section of the report looks to minimise this excess water usage through reduction and conservation methods.

4.0 LIMITING WATER USAGE

To reduce the water consumption on site, on the journey to a water neutral scheme, we will fit technology to water valves to limit flow rates and reduce individual water usage.

We have prepared calculations based upon a “realistic achievable” water usage target of 85 l/p/d. This is the target that we intend to design to.

‘Realistic achievable’ – 85 l/p/d

Installation type	Unit of measure	(2) Use factor	(3) Fixed use (litres/person/day)	85	
				(1) Capacity/flow rate	litres/person/day = [(1) (2)] + (3)
WCs (multiple fittings)	Average effective flushing volume (litres)	4.42	0.00	3.06	13.53
Taps (excluding kitchen/utility room taps)	Flow rate (litres/minute)	1.58	1.58	1.60	4.11
Bath (where shower also present)	Capacity to overflow (litres)	0.11	0.00	155.00	17.05
Shower (where bath also present)	Flow rate (litres/minute)	4.37	0.00	6.00	26.22
Bath only	Capacity to overflow (litres)	0.50	0.00	0.00	0.00
Shower only	Flow rate (litres/minute)	5.60	0.00	0.00	0.00
Kitchen/utility room sink taps	Flow rate (litres/minute)	0.44	10.36	3.00	11.68
Washing machine	Washing machine installed?	2.10	0.00	Yes	12.89
	Litres/kg dry load			6.14	
Dishwasher	Dishwasher installed?	3.60	0.00	Yes	2.41
	Litres/place setting			0.67	
Waste disposal unit	Waste disposal installed?	3.08	0.00	No	0.00
	Litres/use			0.00	
Water softener	Water softener installed?	1.00	0.00	No	0.00
	Litres/person/day			0.00	
(5)	Total calculated use = (Sum column 4)				87.90
(6)	Contribution from greywater (litres/person/day) from Table 4.6				
(7)	Contribution from rainwater (litres/person/day) from Table 5.5				
(8)	Normalisation factor				0.91
(9)	Total water consumption = [(5) – (6) – (7)] = (8) (CSH)				80.0
(10)	External water use				5
(11)	Total water consumption = (9) + (10) (litres/person/day) (Part G)				85.0

- Taps (ex kitchen taps) – 1.6 litres/min
- Baths – 155l capacity to overflow
- Taps (kitchen/utility room sinks) – 3 litres/min
- Dishwasher – 0.67 (supplied) litres per kg dry load
- Washing Machine – 6.17 (supplied) litres per place setting
- Showers – 6 litres/min
- WCs – 4/2.6 litres (dual flush)

We are aware that the use of restricted flow devices may raise concerns with new residents that their systems are not operating as they have become accustomed to, and as such the home user pack will need to include information about the water conservation measures in place. This will promote the sustainable benefits of the home and encourage the residents to further consider their water usage and carbon footprint associated.

The water usage results of the site on this basis are detailed below.

TOTAL SITE OCCUPANCY	382.41
TOTAL DAILY WATER DEMAND BASED ON 85L/P/D	32,504.85
ANNUAL WATER CONSUMPTION	11,864,270.25

5.0 WATER HARVESTING

The JBA Water Neutrality Study which forms the planning authority's basis of report, sets an "Ambitious" water usage target of 62l/p/d. However, this report and the Horsham guidance recognises that this is only achievable with a combination of water limiting AND installation of water harvesting technologies.

Further reductions can be made to reduce water usage in line with the 'Ultra-low Water Usage' through the combination of water efficient fittings and/or the incorporation of rainwater harvesting. However, WSD have highlighted concerns with the methodology of this approach, and this will be outlined later in this report.

Below is the water Calculator which achieves this ambitious target along with the issues faced in implementing this.

Ambitious Water Usage – 62 l/p/d

Installation type	Unit of measure	(2) Use factor	(3) Fixed use (litres/ person/ day)	Ambitious	
				(1) Capacity/ flow rate	Litres/person/day $y = [(1) (2)] + (3)$
WCs (multiple fittings)	Average effective flushing volume (litres)	4.42	0.00	3.06	13.53
Taps (excluding kitchen/utility room taps)	Flow rate (litres/minute)	1.58	1.58	1.60	4.11
Bath (where shower also present)	Capacity to overflow (litres)	0.11	0.00	155.00	17.05
Shower (where bath also present)	Flow rate (litres/minute)	4.37	0.00	6.00	26.22
Bath only	Capacity to overflow (litres)	0.50	0.00	0.00	0.00
Shower only	Flow rate (litres/minute)	5.60	0.00	0.00	0.00
Kitchen/utility room sink taps	Flow rate (litres/minute)	0.44	10.36	3.00	11.68
Washing machine	Washing machine installed?	2.10	0.00	Yes	12.96
	Litres/kg dry load			6.17	
Dishwasher	Dishwasher installed?	3.60	0.00	Yes	2.41
	Litres/place setting			0.67	
Waste disposal unit	Waste disposal installed?	3.08	0.00	No	0.00
	Litres/use			0.00	
Water softener	Water softener installed?	1.00	0.00	No	0.00
	Litres/person/day			0.00	
(5)	Total calculated use = (Sum column 4)				87.96
(6)	Contribution from greywater (litres/person/day) from Table 4.6				
(7)	Contribution from rainwater (litres/person/day) from Table 5.5				30
(8)	Normalisation factor				0.91
(9)	Total water consumption = [(5) – (6) – (7)] ÷ (8) (CSH)				52.7
(10)	External water use				5
(11)	Total water consumption = (9) + (10) (litres/person/day) (Part G)				57.7

- Taps (ex kitchen taps) – 1.6 litres/min
- Baths – 155l capacity to overflow
- Taps (kitchen/utility room sinks) – 3 litres/min
- Dishwasher – 0.67 (supplied) litres per kg dry load

5.1 RAINWATER HARVESTING

5.1.1 What is Rainwater Harvesting

Rainwater Harvesting is rainwater is collected from large external surfaces (most commonly the roof of a building) and stored in tanks sized to accommodate the likely usage profile of the building, the size of store achievable and the economic viability of the system. When needed by the household the water is pumped or drained from the tank to an outlet as and when required. This is a separate system to the potable water feeding domestic taps inside the dwelling.

5.1.2 What is being incorporated into this scheme

We have completed an in-depth review of rainwater harvesting on the scheme. Unfortunately, due to the limited space available to the dwellings and their footprint, along with significant presence of roots from the mature trees across the development it is not deemed feasible to include full rainwater harvesting to the Phase 1 development.

However it is deemed feasible to incorporate rainwater butts to each house on the scheme, which will significantly reduce the 5l/p/d of external water use. All Houses can support the installation of a water butt, we anticipate the maximum capacity being 200 litres.

As such it is proposed to provide water butts to the houses in phase 1 to minimize water usage and offset external usage from the water calculation.

This now leads to the houses being 80 l/p/d and the apartments at 85 l/p/d which equates to a total of 31,917L per day or 11,649,851 litres per annum.

This is a saving of 588L per day or 214,561 litres per annum.

5.2 GREYWATER HARVESTING

The provision of Greywater Harvesting for the scheme has been considered and investigation undertaken to consider an appropriately sized system to make an impact on the daily water usage of the scheme.

Through these investigations and discussions with the planners to develop the initial scheme proposal it has become apparent that we are unable to design Greywater recycling in to the scheme due to the space constraints underground with site wide service provision, existing tree roots, high operating costs and high installation costs.

Refer to the comparison of systems within the Appendices.

6.0 OFFSETTING WATER USAGE

Assuming the existing site usage is nil, then the scheme will need to offset the remaining water usage. This is calculated at 31,197 litres per day.

We have explored options available for offsetting the water usage of the scheme. We understand that HDC are producing a strategic solution to water neutrality – Part B of this solution has been published and it is expected to be available by the end of 2023. As a scheme with outline planning permission, we understand that this site has been captured in the calculations for the early phases of this solution and, as such, will be able to participate in the scheme. We understand that it is likely that we will need to pay a levy, likely based on residual water usage per day. This is currently our preferred solution to meet the requirements of water neutrality.

We have also reviewed the possibility of offsetting privately, by retrofitting existing Housing Association stock with the same flow restriction technology that we will be using in our scheme; thereby reducing water usage from an estimated c.140l/p/d to c.100l/p/d. In order to achieve water neutrality using this method, we will likely need to retrofit existing property and assuming a 40l/p/d saving and using 3 bed housing as a benchmark would need to fund retrofit in 316 homes.

Finally, we would still like to discuss the existing use of the site with the local authority further to establish a more appropriate baseline position. With evolving guidance on this item, we believe it would be fair and appropriate to account for water usage of the existing use.

7.0 CONCLUSION

This report set out the baseline water usage figures and reviewed options for the reduction of water usage to achieve water neutrality.

We can commit to a realistic target level of 85l/p/d and will achieve this through water limiting fixtures and fittings.

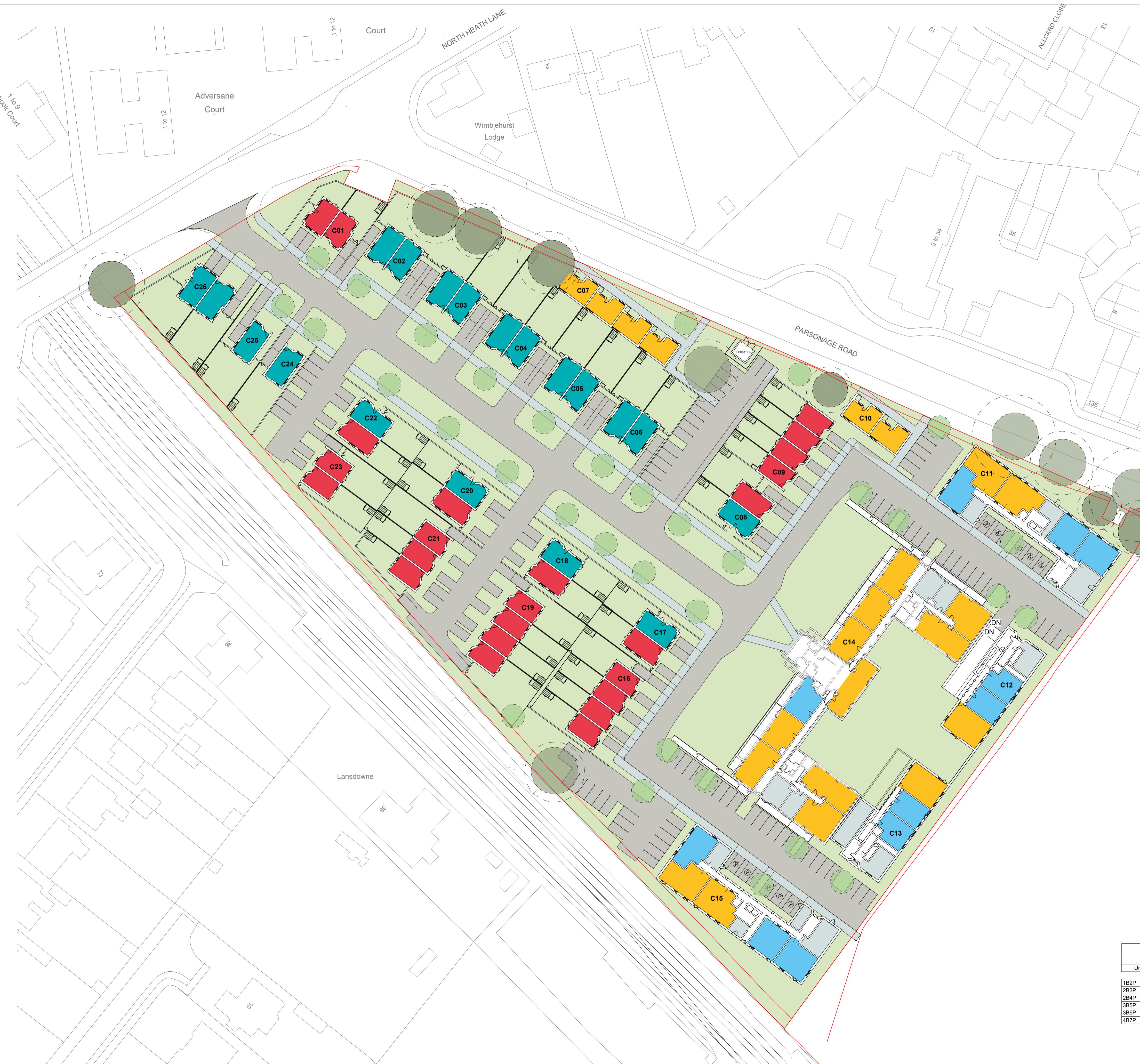
We are unable to include comprehensive rainwater or greywater harvesting on the site. Therefore, we are unable to achieve the Ambitious 62l/p/d target.

However, we are able to incorporate some rainwater harvesting through water butts. Therefore, our expected blended water usage for the proposed scheme is 83.4l/p/d. At 83.4l/p/d, we calculate that the total daily water usage of the scheme is 31,197 litres.

To reach water neutrality, we will need to offset the remaining 31,197 litres using the methods discussed in the report.



APPENDIX 1 – ACCOMMODATION SCHEDULE & SITEWIDE PLAN



Unit Types Schedule				
ACG_Unit Type Required	Department	ACG_Unit Tenure	ACG_Unit Count	
C01	3B6P	House	Market	2.0
C02	4B7P	House	Market	2.0
C03	4B7P	House	Market	2.0
C04	4B7P	House	Market	2.0
C05	4B7P	House	Market	2.0
C06	4B7P	House	Market	2.0
C07	2B4P	House	Market	4.0
C08	3B6P	House	Market	1.0
	4B7P	House	Market	1.0
C09	3B6P	House	Market	4.0
C10	2B4P	House	Affordable Rent	2.0
C11	1B2P	Apartment	Market	15.0
	2B3P	Apartment	Market	2.0
	2B4P	Apartment	Market	16.0
C12	1B2P	Apartment	Affordable Rent	13.0
	2B4P	Apartment	Affordable Rent	8.0
C13	1B2P	Apartment	Market	13.0
	2B4P	Apartment	Market	8.0
C14	1B2P	Apartment	Market	15.0
	2B3P	Apartment	Market	7.0
	2B4P	Apartment	Market	27.0
	3B5P	Apartment	Market	1.0
C15	1B2P	Apartment	Market	19.0
	2B3P	Apartment	Market	2.0
	2B4P	Apartment	Market	13.0
	3B5P	Apartment	Market	1.0
C16	3B6P	House	Market	4.0
C17	3B9P	House	Market	1.0
	4B7P	House	Market	1.0
C18	3B6P	House	Market	1.0
	4B7P	House	Market	1.0
C19	3B6P	House	Market	4.0
C20	3B6P	House	Market	1.0
	4B7P	House	Market	1.0
C21	3B6P	House	Market	3.0
C22	3B6P	House	Market	1.0
	4B7P	House	Market	1.0
C23	3B6P	House	Market	2.0
C24	4B7P	House	Market	1.0
C25	4B7P	House	Market	1.0
C26	4B7P	House	Market	2.0
				209.0

Parking Required		
Unit Type	Units	Parking Req
1B2P	75.0	67.5
2B3P	11.0	12.1
2B4P	78.0	69.3
3B5P	2.0	3.4
3B6P	24.0	40.8
	19.0	41.8
4B7P	209.0	251.4

Parking Achieved			
Parking Type	Level	Spaces	
Disabled Parking Bay	00	10	
Disabled Parking Bay	Basement	2	
		12	
Standard Parking Bay	00	167	
Standard Parking Bay	Basement	75	
		242	
		254	

@ Copyright Ayre Chamberlain Gaunt
SCALE As indicated
0 2 5 10 20 25m

NOTES:
The copyright of this drawing is held by Ayre Chamberlain Gaunt Ltd. Not to be used for any purpose without consent.
Existing Trees
Proposed Trees
Existing Root Protection Zones

Key
1 bedroom home
2 bedroom home
3 bedroom home
4 bedroom home
ACGARCHITECTS.CO.UK
Ayre Chamberlain Gaunt
Belvedere House
Basing View
Basingstoke
Hampshire, RG21 4HG
+44 (0)20 3909 5750
mail@acgarchitects.co.uk

**AYRE
CHAMBERLAIN
GAUNT**

PROJECT
Former Novartis Site
Parsonage Road, Horsham

DRAWING TITLE
Site Plan - Unit Types Lovell Site

REV. DATE DESCRIPTION
P1 17.01.25 Masterplan update
P2 24.01.25 For Coordination

DRWN BY CHKD BY APPD BY
RB RB MA

DRAWING NO.
project code - originator - volume - level - type - role - number
HOR-ACG-XX-00-DR-A-1069

STAGE SUITABILITY
RIBA stage code description
2 S1 Suitable for Co-ordination

APPENDIX 2 – COMPARISON OF SYSTEMS

System	Pros	Cons
Rainwater Harvesting	<p>Used for irrigation or drinking water when treated correctly.</p> <p>Renewable source of water</p> <p>Collected on existing structures such as roofs, free standing objects and solar panels etc.</p> <p>Decreases stormwater runoff.</p> <p>Individual plot or shared storage tanks available.</p>	<p>Collection only available when there is rainfall.</p> <p>Potential overfills risks in excessive rainy periods.</p> <p>Some forms of rainwater collection can have contamination risks.</p> <p>Buried storage tanks come with extra digging cost.</p> <p>People will not know how to maintain them etc.</p> <p>Costly if this goes wrong for the tenant. If tanks are shared it may be difficult share responsibility.</p> <p>Expensive to set up – see section 3.4.</p>
Grey Water Harvesting	<p>When used for non-potable water it saves water and reduced demand from the local water storage.</p> <p>Can reduce water usage per day per person by 30%.</p> <p>Individual plot or shared storage tanks available.</p>	<p>Dual plumbing is required.</p> <p>Difficult to maintenance and costly</p> <p>Expensive to set up – see section 4.3</p>
Reducing water usage	Reduces demand on the local water storage.	<p>Low flush and litre per minute fittings do not provide the end user with a great experience – smaller baths, weak showers, and toilet flushes.</p> <p>Homeowners are limited on appliances they can install in the future.</p>
Offsetting	<p>Cheaper in comparison to rainwater or grey water harvesting.</p> <p>Easy to install.</p> <p>No work for future tenants, extra purchasing if they are eco-friendly etc.</p>	<p>House owners need to be willing to have flow restrictors installed.</p>