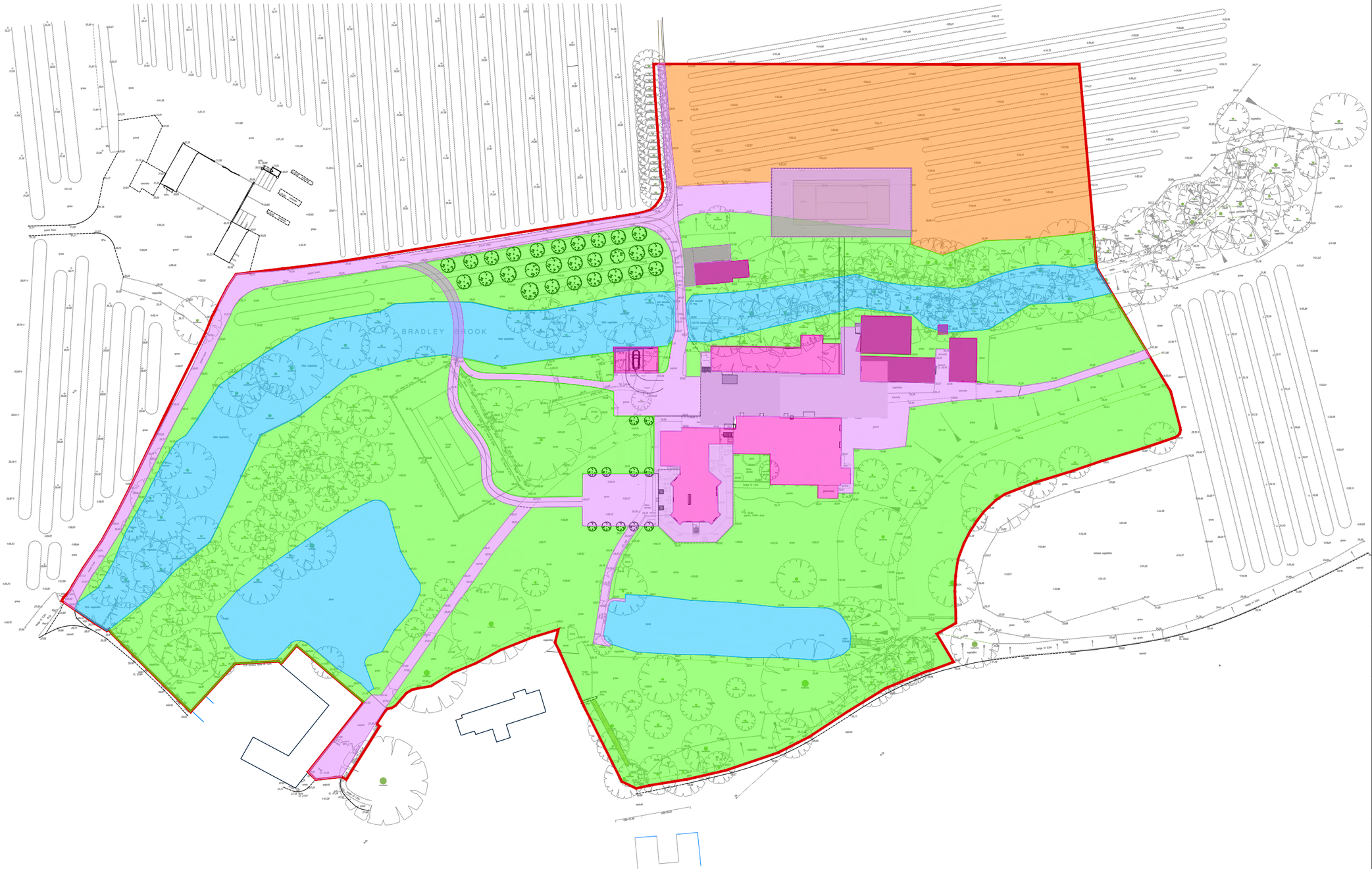
12. APPENDIX G - POST-DEVELOPMENT CATCHMENT AREA



LEGEND

	Site Boundary		
	Building area total	= 1,348m²	(0.138 ha)
	Hardstanding area total	= 4030m²	(0.403 ha)
	TOTAL URBAN AREA	= 5,378m²	(0.538 ha)
	Horticulture area total	= 3,572m²	(0.357 ha)
	Open space / Greenfield area total	= 15,704m²	(1.581ha)
	Watercourse / Pond area total	= 5,680 m²	(0.568ha)
	TOTAL SITE AREA	= 30,334m²	(0.303 ha)

KEY PLAN

NOTES

1. This drawing is to be read in conjunction with all relevant drawings, specifications and documentation.
2. The position, size and levels of all drains are to be confirmed on site prior to the commencement of the works and any discrepancies reported immediately to the Engineer.
3. Do not scale from this drawing, work to dimensions or co-ordinates provided. All levels are in metres and all dimensions are in millimeters, unless otherwise noted.

REVISIONS

REV						
P01	First Issue					
	G.JONES	01.09.2023	GJ	01.09.2023	GJ	01.09.2023
	REVISION NOTES/COMMENTS	DATE	CHECKED BY	DATE	APPROVED BY	DATE
	DRAWN BY					

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CLIENT

RICHARD PARR ASSOCIATES

PROJECT

WEST BRADLEY HOUSE

TITLE

POST-DEVELOPMENT LAND USAGE

HYDROCK PROJECT NO.	SCALE @ A1
C-28421	1:500
STATUS DESCRIPTION: SUITABLE FOR INFORMATION	STATUS: S2
DRAWING NO. (PROJECT CODE-ORGINATOR-ZONE-LEVEL-TYPE-ROLE-NUMBER): 28421-HYD-00-XX-SK-C-0002	REVISION: P01

13. APPENDIX H – EXISTING PHOSPHATE CALCULATION (POPULATION)

Stage 1 Calculate Total Phosphorous (TP) in (Kg/year) derived from the development as a result of increased population

*Note: This calculation should only include the **additional** units resulting from the proposed development, including any development that will result in overnight accommodation. For land not currently in residential use, this will be the total units proposed by the development. However, for land already in residential use, this should only be the increase in units.*

1. Calculate the additional population

	Value	Unit
Number of units as flats, care-home, residential institution proposed	0	dwellings
Average occupancy	1.65	persons/dwelling
Number of houses proposed	2	dwellings
Average occupancy	2.4	persons/dwelling
Number of **additional** rooms above 6 residents (sui generis) for houses in multiple occupation		dwellings
Average occupancy	1.65	persons/dwelling
Number of rooms in a hotel or guest house proposed	0	dwellings
Average occupancy	1.65	persons/dwelling
Number of weeks open per year (1-52)	0	Weeks
Average occupancy rate (1-100)	0	%
Total population increase generated by the development	**5**	**Persons**

Note: The national average occupancy rate of 2.4 persons per dwelling is used for in this model. The number of proposed units should be evidenced. In the case of hotel and guest house average occupancy rates should also be evidenced. Developments that do not fall within these classifications such contact the council and bespoke calculations may be used.

Please select how the sewage from the proposed development will be handled, noting that a development must be handled by either wastewater treatment plants or package treatment, and cannot be handled by both.

Is sewage to be handled by wastewater treatment works? **No**

Is sewage to be handled by Package Treatment plants? **Yes**

2a. TP budget that would exit the Wastewater Treatment Works (WwTW) after treatment

Note: If the sewage is to be treated by wastewater treatment plants then the user should select "Yes" in the list above. If package treatment plants are to be used instead, then the user should select "No" above.

This is the process of collecting wastewater from houses and guiding it, via the sewage network, to WwTW (also known as sewage works). The Phosphorous concentration of the influent is calculated by multiplying the number of people by the expected water usage per day. The Phosphorous concentration within the effluent is calculated by applying the discharge level of the appropriate WwTW. The Phosphorous loading is expressed in kg/year.

Calculate the wastewater volume generated

	Value	Unit
Total population increase generated by the development	0	Persons
Water use per person	110	Litres/person/day
Wastewater volume generated by the development	**0**	**Litres/day**

Confirm receiving WwTW and permit limit

	Value	Unit
Select the WwTW the development will connect to	Adscombe	
WwTW discharge level	**5.00**	**mg/L**

Note: Please use the drop down lists to select the WwTW that the proposed development will be connected to. If the WwTW is not known, then please select 'Unknown' from the drop down list.

2b. TP budget for Package Treatment Plants (PTPs)

Note: If the sewage is to be treated by package treatment plants then the user should select "Yes" in the list above. If wastewater treatment plants are to be used instead, then the user should select "No" above.

Packaged wastewater treatment plants are pre-manufactured treatment facilities used to treat wastewater in smaller communities or on individual properties. This concept is defined as decentralized wastewater treatment. The Phosphorous influent is calculated by multiplying the number of people by the expected loading per person. The Phosphorous effluent is calculated by applying the PTP reduction efficiency. The Phosphorous loading is expressed in kg/year.

Calculate TP load prior to treatment

	Value	Unit
Total population increase generated by the development	5	Persons
Average Phosphorous loading per person	0.99	Kg/person/year
Total Phosphorous prior to treatment	**4.75**	**Kg/year**

Calculate TP load after treatment

	Value	Unit
Receiving PTP reduction efficiency	0	%
Total Phosphorous discharge after PTP treatment	4.75	Kg/year

Note: The user mist input the reduction efficiency of the PTP. The efficiency of the PTP used must be evidenced. The evidence should include the test result documents from the lab (in English) and/ or measured effluent concentrations from real world applications. If the efficiency is unknown then a precautionary value of 90% can be used.

Calculate the TP discharged by the WwTW	Value	Unit
TP discharged by WwTW	0	mg/day
TP discharged by WwTW	0.0000	Kg/day
Phosphorous loading from WwTW	**0.00**	**Kg/year**

Calculate TP load from development wastewater with on-site PTP	Value	Unit
PTP Total Phosphorous load	**4.75**	**Kg/year**

3.	Calculate the additional population TP load	Value	Unit
	Total Phosphorous load from additional population	**4.75**	**Kg/year**

14. APPENDIX I – PROPOSED PHOSPHATE CALCULATION (POPULATION)

Stage 1 Calculate Total Phosphorous (TP) in (Kg/year) derived from the development as a result of increased population

*Note: This calculation should only include the **additional** units resulting from the proposed development, including any development that will result in overnight accommodation. For land not currently in residential use, this will be the total units proposed by the development. However, for land already in residential use, this should only be the increase in units.*

1. Calculate the additional population	Value	Unit
Number of units as flats, care-home, residential institution proposed	0	dwellings
Average occupancy	1.65	persons/dwelling
Number of houses proposed	0	dwellings
Average occupancy	2.4	persons/dwelling
Number of **additional** rooms above 6 residents (sui generis) for houses in multiple occupation		dwellings
Average occupancy	1.65	persons/dwelling
Number of rooms in a hotel or guest house proposed	14	dwellings
Average occupancy	1.65	persons/dwelling
Number of weeks open per year (1-52)	25	Weeks
Average occupancy rate (1-100)	85	%
Total population increase generated by the development	**9**	**Persons**

Note: The national average occupancy rate of 2.4 persons per dwelling is used for in this model. The number of proposed units should be evidenced. In the case of hotel and guest house average occupancy rates should also be evidenced. Developments that do not fall within these classifications such contact the council and bespoke calculations may be used.

Please select how the sewage from the proposed development will be handled, noting that a development must be handled by either wastewater treatment plants or package treatment, and cannot be handled by both.

Is sewage to be handled by wastewater treatment works? **No**

Is sewage to be handled by Package Treatment plants? **Yes**

2a. TP budget that would exit the Wastewater Treatment Works (WwTW) after treatment

Note: If the sewage is to be treated by wastewater treatment plants then the user should select "Yes" in the list above. If package treatment plants are to be used instead, then the user should select "No" above.

This is the process of collecting wastewater from houses and guiding it, via the sewage network, to WwTW (also known as sewage works). The Phosphorous concentration of the influent is calculated by multiplying the number of people by the expected water usage per day. The Phosphorous concentration within the effluent is calculated by applying the discharge level of the appropriate WwTW. The Phosphorous loading is expressed in kg/year.

Calculate the wastewater volume generated	Value	Unit
Total population increase generated by the development	0	Persons
Water use per person	110	Litres/person/day
Wastewater volume generated by the development	**0**	**Litres/day**

Confirm receiving WwTW and permit limit	Value	Unit
Select the WwTW the development will connect to	Adscombe	
WwTW discharge level	**5.00**	**mg/L**

Note: Please use the drop down lists to select the WwTW that the proposed development will be connected to. If the WwTW is not known, then please select 'Unknown' from the drop down list.

2b. TP budget for Package Treatment Plants (PTPs)

Note: If the sewage is to be treated by package treatment plants then the user should select "Yes" in the list above. If wastewater treatment plants are to be used instead, then the user should select "No" above.

Packaged wastewater treatment plants are pre-manufactured treatment facilities used to treat wastewater in smaller communities or on individual properties. This concept is defined as decentralized wastewater treatment. The Phosphorous influent is calculated by multiplying the number of people by the expected loading per person. The Phosphorous effluent is calculated by applying the PTP reduction efficiency. The Phosphorous loading is expressed in kg/year.

Calculate TP load prior to treatment	Value	Unit
Total population increase generated by the development	9	Persons
Average Phosphorous loading per person	0.99	Kg/person/year
Total Phosphorous prior to treatment	**9.35**	**Kg/year**

Calculate TP load after treatment	Value	Unit
Receiving PTP reduction efficiency	51	%
Total Phosphorous discharge after PTP treatment	4.58	Kg/year

Note: The user mist input the reduction efficiency of the PTP. The efficiency of the PTP used must be evidenced. The evidence should include the test result documents from the lab (in English) and/ or measured effluent concentrations from real world applications. If the efficiency is unknown then a precautionary value of 90% can be used.

Calculate the TP discharged by the WwTW	Value	Unit
TP discharged by WwTW	0	mg/day
TP discharged by WwTW	0.0000	Kg/day
Phosphorous loading from WwTW	**0.00**	**Kg/year**

Calculate TP load from development wastewater with on-site PTP	Value	Unit
PTP Total Phosphorous load	**4.58**	**Kg/year**

3.	Calculate the additional population TP load	Value	Unit
	Total Phosphorous load from additional population	**4.58**	**Kg/year**

15. APPENDIX J – EXISTING PHOSPHATE CALCULATION (LAND USAGE)

Stage 2 Calculate existing (pre-development) TP from current land use of the development

Note: Where development sites include existing areas that are to be retained, these areas can be excluded from the calculations in both Stages 2 and 3.

1. Total area of development site	Value	Unit
Enter the total area of the development site	**3.034**	**Hectares**

2. Identify current land uses of the development site	Value	Unit
Identify the drainage type of the soil on site		
Is the soil type free draining?	Yes	

Note: Identify the soil drainage type from the Viewer, and use the criteria table in the Help tab to identify if the soil is either permeable or impermeable

Urban development	0.529	Hectares
Mineral workings and quarries		Hectares
Open space / Greenfield	1.566	Hectares
Allotments and city farms		Hectares
Sports and leisure facilities		Hectares
Transport tracks and ways		Hectares
Transport terminals		Hectares
Cereals		Hectares
Dairy		Hectares
Cropping		Hectares
Horticulture	0.371	Hectares
Pig Farming		Hectares
Lowland Grazing / paddock		Hectares
Mixed livestock		Hectares
Poultry Farming		Hectares
General Arable		Hectares
Improved grass		Hectares
Unimproved grass		Hectares
Woodland (e.g. conifer, mixed, broad-leaved)		Hectares
shrub / heathland / bracken / bog		Hectares
freshwater marsh	0.568	Hectares
Meadow / semi natural grassland		Hectares
Sum total of land uses	**3.034**	**Hectares**

Note: The sum total of land uses must equal the development site area - the box will colour red if the areas do not match.

3. Calculate TP from current land usage	Value	Unit
TP load from current land usage	**0.84**	**Kg/year**

16. APPENDIX K – PROPOSED PHOSPHATE CALCULATION (LAND USAGE)

Stage 2 Calculate existing (pre-development) TP from current land use of the development

Note: Where development sites include existing areas that are to be retained, these areas can be excluded from the calculations in both Stages 2 and 3.

1. Total area of development site	Value	Unit
Enter the total area of the development site	**3.033**	**Hectares**

2. Identify current land uses of the development site	Value	Unit
Identify the drainage type of the soil on site		
Is the soil type free draining?	Yes	

Note: Identify the soil drainage type from the Viewer, and use the criteria table in the Help tab to identify if the soil is either permeable or impermeable

Urban development	0.538	Hectares
Mineral workings and quarries		Hectares
Open space / Greenfield	1.570	Hectares
Allotments and city farms		Hectares
Sports and leisure facilities		Hectares
Transport tracks and ways		Hectares
Transport terminals		Hectares
Cereals		Hectares
Dairy		Hectares
Cropping		Hectares
Horticulture	0.357	Hectares
Pig Farming		Hectares
Lowland Grazing / paddock		Hectares
Mixed livestock		Hectares
Poultry Farming		Hectares
General Arable		Hectares
Improved grass		Hectares
Unimproved grass		Hectares
Woodland (e.g. conifer, mixed, broad-leaved)		Hectares
shrub / heathland / bracken / bog		Hectares
freshwater marsh	0.568	Hectares
Meadow / semi natural grassland		Hectares
Sum total of land uses	**3.033**	**Hectares**

Note: The sum total of land uses must equal the development site area - the box will colour red if the areas do not match.

3. Calculate TP from current land usage	Value	Unit
TP load from current land usage	**0.84**	**Kg/year**

Appendix I – Form FD1A

Foul Drainage Assessment Form (FDA)

Please note: You should only use this form for planning related queries. You cannot use it to apply for an Environmental Permit but you may submit a copy of the information you have provided for planning purposes in support of your Environmental Permit application. Further information on how to apply for an environmental permit and general binding rules applicable to small discharges of domestic sewage effluent is available on the gov.uk website.

APPLICANT DETAILS
Name: Hydrock Consultants LTD (on behalf of Developer)
Address: Unit B1, Elmbridge Court, Gloucester, GL3 1JZ
Telephone No: 07407 830272
e-mail: garethjones@hydrock.com

We will use the information you provide on this form to establish whether non-mains drainage, either a new system or connection to an existing system, would be acceptable. It is important that you provide full and accurate information. Failure to do this will delay the processing of your application.

You must provide evidence that a connection to the public sewer is not feasible.

Other than in very exceptional circumstances, we will not allow the use of non-mains drainage as part of your Planning or Building Regulation application unless you can prove that a connection to the public sewer is not feasible. We do not consider non-mains drainage systems to be environmentally acceptable in locations where it is feasible to connect to a public sewer. Please note that a lack of capacity in, or other operating problems with, the public sewer are not valid reasons to use a non-mains drainage system where it is otherwise feasible to connect to a public sewer.

Where connection to the public sewer is feasible, you may need to get the agreement of either the owners of any land through which the drainage will run or, if you intend to connect via an existing private drain, the owner of that private drain.

The National Planning Practice Guidance and Building Regulations Approved Document H give a hierarchy of drainage options that must be considered and discounted in the following order:

1 Connection to the public sewer
2 Package sewage treatment plant (which can be offered to the Sewerage Undertaker for adoption)
3 Septic Tank
4 If none of the above are feasible a cesspool

You must respond to all the following questions. If you wish to submit additional information please do so, marked clearly “Additional Information”. **In some cases you will be required to provide further information in order to demonstrate that any non-mains foul drainage system proposed is acceptable.**

Feasibility of mains foul sewer connection	YES	NO
Have you provided a written explanation of why it is not feasible to connect to the public foul sewer with this form? *This must include a scaled map showing the nearest public foul sewer connection point - check with your local sewerage undertaker.*	X	
Is the distance from your site to the closest connection point to the public foul sewer less than the number of properties to be built on the site multiplied by 30m? *(see Guidance Note 2)*		X
Does your proposal form part of a phased development or planned development of a wider area? *If YES, please provide further details including references of any planning permissions already granted.*		X

Non-mains connection

Please provide a plan with dimensions that clearly shows the location of the whole system in relation to the proposed development and the position of the key elements e.g. septic tank, drainage fields and points of discharge.

1. Existing system	YES	NO
Do you intend to use an existing non-mains foul drainage system?		X
If YES, does the system already have an Environmental Permit issued by the Environment Agency? *(In the case of a cesspool write N/A)* If YES, please provide Environmental Permit reference number……		

2. Discharge	YES	NO
Do you propose to use a package treatment plant?	X	
Do you propose to use a septic tank?		X
Do you propose to use a cesspool? *If YES go to Q4*		X
Have you considered having your system adopted by the sewerage undertaker? *(see Guidance Note 7).*		X
Will all, or any part of, the discharge go to a drainage field or soakaway*? (see Guidance Note 3)* - this includes systems that combine a drainage field with a high level overflow to watercourse *If YES go to Q3.*		X
Do you intend to use a system that discharges solely to watercourse? *(see Guidance Note 3) If YES go to Q9.*	X	

3. Water abstraction	YES	NO
Do you receive your water from the public mains supply?	X	
If not, where do you get your water supply from?		

4. Cesspools *(For methods other than cesspools write N/A)*	YES	NO
Have you provided written justification for the use of a cesspool in preference to more sustainable methods of foul drainage disposal? *(see Guidance Note 4)*		X

5. Drainage field design *(For cesspools write N/A)*	YES	NO
Will the system discharge to a drainage field designed and constructed in accordance with British Standard BS6297:2007? If not, why not?		X
Will the discharge from the system be located in a Source Protection Zone 1 (SPZ1)?	X	

6. Ground Conditions *(For cesspools write N/A)*	**YES**	**NO**
6a. Have you submitted a copy of the percolation test results with this form *(see Guidance Note 6)?* 6b. If NO please explain the justification for not undertaking or submitting these tests.	**X**	
6c. Is any part of the system in land which is marshy, water logged or subject to flooding?		**X**
6d. Will the soakaway be located on artificially raised, made-up ground or ground likely to be contaminated? *If YES please provide details as additional information.*		**X**
6e. Have you submitted the results of a trial hole at the site to establish that the proposed drainage field will be above any standing groundwater *(see Guidance Note 6)?*		**X**

7. Available Land	**YES**	**NO**
Is the application site plus any available area for a soakaway less than 0.025 hectares ($250m^2$)?		**X**

8. Siting of drainage field/soakaway discharge from a septic tank or package treatment plant or other secondary treatment. *You may need to make local enquiries to get a full answer to these questions.*	**YES**	**NO**
Will it be at least **10m** from a watercourse, permeable drain or land drain?	N/A	
Will it be at least **50m** from any point of abstraction from the ground for a drinking water supply (e.g. well, borehole or spring)? *This includes your own or a neighbour's supply.*		
Will the discharge be within a groundwater Source Protection Zone 1? *If yes, you will need to apply for an environmental permit*		
Are there any drainage fields/soakaways within **50m**? *This includes any foul drainage discharge system (other than the subject of this application) or surface water soakaway on either your own or a neighbour's property.*		
Will it be at least **15m** from any building?		
Will there be any water supply pipes or underground services within the disposal system, other than those required by the system? *(For cesspools write N/A)*		
Will there be any access roads, driveways or paved areas within the disposal area? *(For cesspools write N/A)*		

9. Siting of treatment plant, septic tank or cesspool	**YES**	**NO**
Is it at least **7m** from the habitable part of a building?	**X**	
Will there be vehicular access for emptying within **30m?**	**X**	
Can the plant, tank or cesspool be maintained or emptied without the contents being taken through a dwelling or place of work?	**X**	

10.Expected flow

Please estimate the total flow in litres per day *(see Guidance Note 5).*	***<0.8 L.S***

11. General Binding Rules for Small Sewage Discharges	**YES**	**NO**
Does the system meet the requirements of the General Binding Rules for small sewage discharges?	**X**	

12. Maintenance

How do you propose to maintain the system?

The treatment plant system maintenance will be carried out periodically by a specialist maintenance engineer under a service plan.

13. Declaration

I declare that the above information is factually correct.

Name	Signature	Date
Gareth Jones	GDJ	19.12.2023

GUIDANCE NOTES:

1) This form is for use with *the National Planning Practice Guidance, British Standard BS6297:2007 and Building Regulations Approved Document H*. It is intended to help Local Planning Authorities establish basic information about your non-mains drainage system and decide whether you need to submit a more detailed site assessment. If a detailed site assessment is requested but not submitted, your planning application might be refused.

2) Where the distance from a site to the closest point of connection to the foul sewer is less than the number of properties that are proposed to be built on that site multiplied by 30m an Environmental Permit will be required and an applicant will need to demonstrate as part of any application for such a permit why connection to the public foul sewer is not feasible.

Number of domestic properties served by the sewage treatment system [ ] x 30 metres = Answer [ ] metres

3) In addition to Planning Permission and Building Regulation approval **you may also require an Environmental Permit from the Environment Agency (EA). Please note that the granting of Planning Permission or Building Regulation approval does not guarantee the granting of an Environmental Permit. Upon receipt of a correctly filled in application form the EA will carry out an assessment. It can take up to 4 months before the Agency is in a position to decide whether to grant a permit or not**.

4) The use of cesspools is an option of last resort as set out in the non-mains drainage hierarchy of preference in Building Regulations Approved Document H. In principle, a properly constructed and maintained cesspool, being essentially a holding tank with no discharges, should not lead to environmental, amenity or public health problems. However, in practice, it is known that such problems occur as a result of frequent overflows due to poor maintenance, irregular emptying, lack of suitable vehicular access for emptying and even through inadequate capacity. In addition to this the requirement for frequent emptying is usually carried out by a contractor involving road transport with associated environmental costs. For these reasons, the use of cesspools will not normally be considered to be a long-term foul sewage disposal solution. In view of the environmental risks associated with their use, any proposal to use cesspools must be fully justified to the Local Planning Authority

5) Package treatment plants and septic tanks should be designed and sized according to the advice given in the current edition of Flows and Loads, published by British Water. Volumes for larger systems should be calculated based on expected flows arising from the development.

6) You should refer to Building Regulations Approved Document H2 with regard to the general requirements for construction of non mains sewerage systems. **Sections 1.33 to 1.38** deal

with the test requirements for trial holes and percolation tests and for convenience the text of these sections is repeated below:

1.33 A trial hole should be dug to determine the position of the standing groundwater table. The trial hole should be a minimum of 1m^2 in area and 2m deep, or a minimum of 1.5m below the invert of the proposed drainage field pipework. The ground water table should not rise to within 1m of the invert level of the proposed effluent distribution pipes. If the test is carried out in summer, the likely winter groundwater levels should be considered. A percolation test should then be carried out to assess the further suitability of the proposed area.

1.34 Percolation test method – A hole 300mm square should be excavated to a depth 300mm below the proposed invert level of the effluent distribution pipe. Where deep drains are necessary the hole should conform to this shape at the bottom, but may be enlarged above the 300mm level to enable safe excavation to be carried out. Where deep excavations are necessary a modified test procedure may be adopted using a 300mm earth auger. Bore the test hole vertically to the appropriate depth taking care to remove all loose debris.

1.35 Fill the 300mm square section of the hole to a depth of at least 300mm with water and allow it to seep away overnight.

1.36 Next day, refill the test section with water to a depth of at least 300mm and observe the time, in seconds, for the water to seep away from 75% full to 25% full level (i.e. a depth of 150mm). Divide this time by 150mm. The answer gives the average time in seconds (Vp) required for the water to drop 1mm.

1.37 The test should be carried out at least three times with at least two trial holes. The average figure from the tests should be taken. The test should not be carried out during abnormal weather conditions such as heavy rain, severe frost or drought.

1.38 Drainage field disposal should only be used when percolation tests indicate average values of V_p of between 12 and 100 and the preliminary site assessment report and trial hole tests have been favourable. This minimum value ensures that untreated effluent cannot percolate too rapidly into groundwater. Where V_p is outside these limits effective treatment is unlikely to take place in a drainage field. However, provided that an alternative form of secondary treatment is provided to treat the effluent from the septic tanks, it may still be possible to discharge the treated effluent to a soakaway.

N.B. When determining whether a discharge may be made under statutory General Binding Rules one of the requirements is that any drainage field must be designed and constructed in accordance with BS6297:2007. This specifies that the minimum percolation rate under that standard is 15s/mm and any discharge made to ground where the percolation rate is less than 15s/mm is subject to the granting of an Environmental Permit.

7) Developers may requisition a sewer from the Sewerage Undertaker to connect their development to the public sewer. Should this not be feasible on the grounds of cost and practicability, on site treatment in the form of package plants and their associated sewers (if constructed to an acceptable standard) can be offered to the sewerage undertaker for adoption. This approach is in support of advice from the Government contained in the National Planning Practice Guidance Developers are urged to discuss their requirements with the Sewerage Undertaker at the earliest possible opportunity.

8) Glossary

Package treatment plant

A package treatment plant is a system which offers varying degrees of biological sewage treatment and involves the production of an effluent which can be disposed of to ground via a drainage field or direct to a watercourse. There are many varieties of package treatment plant but all involve settling the solids before and/or after a biological treatment stage and almost all use electricity. Package treatment plants usually treat sewage to a higher standard than septic tanks but are vulnerable in the event of power failures and require more regular servicing and maintenance to ensure that they work effectively. The type of system chosen should be appropriate to the type of development proposed and take account of variations in flow and

periods of inactivity, for example where the system will serve holiday accommodation where occupation and maintenance may be more irregular.

Septic tank
A septic tank is a two or three chamber system, which retains sewage from a property for sufficient time to allow the solids to form into sludge at the base of the tank, where it is partially broken down. The remaining liquid in the tank then drains from the tank by means of an outlet pipe.

Effluent from a septic tank is normally disposed of to ground via a drainage field and receives further treatment in the soils surrounding that drainage field, so that it does not generate a pollution risk to surface waters or groundwater resources (underground water). The most commonly used form of drainage field is a subsurface irrigation area, comprising a herringbone pattern of interconnecting dispersal pipes laid in shallow, shingle filled trenches. The dispersal pipes within the drainage field should be located at as shallow a depth as possible, usually within 1 metre of the ground surface. A septic tank typically needs to be desludged at least once a year in order to ensure that it continues to work effectively.

Cesspool
A cesspool is a covered watertight tank used for receiving and storing sewage and has no outlet. It relies on road transport for the removal of raw sewage and is therefore the least sustainable option for sewage disposal. It is essential that a cesspool is, and remains, impervious to the ingress of groundwater or surface water.

Appendix J – Drainage survey

Cross connections of foul to storm in MH2 and MH1

Outfall 1

Blocked

100mm

GY3

All RWP downpipes and below ground foul drainage to be surveyed with outfalls established

All RWP downpipes and below ground foul drainage to be surveyed with outfalls established

All inspection chambers and manholes on site to be surveyed

All inspection chambers and manholes on site to be surveyed

All RWP downpipes and below ground foul drainage to be surveyed with outfalls established

All RWP downpipes and below ground foul drainage to be surveyed with outfalls established

All inspection chambers and manholes on site to be surveyed

All Surface water drainage to be surveyed. Outfall locations and connections to be determined and surveyed

Courtyard surface water drainage to be surveyed. Outfall locations and connections to be determined and surveyed

MH2 1.2m

MH3 0.61m

MH5 Pit 0.51m WL 0.95m Base

GY4

DP2

300x200

End of Run

GY2

GY1

MH1 0.7m

DP1

100mm

MH4 1.17m

MH6 0.3m

240x220 S.A. OBX

S.A.

GY-UTS

SA Debris

240x220

Smal Access on to culvert. UTS

SA debris

500x350 approx

Outfall2

Pond Outlet

Scale in Metres @ 1:200

North