civil & structural engineers

Our ref:
MS/6364/OCCLLFAR/

PRP Northampton
Catherine House Harborough Road
Brixworth Northampton NN6 9BX

Telephone: 01604 889870

northampton@prp.uk.com
www.prp.uk.com

10 March 2022

Planning Ref: DC/21/2571/VOC

Location: Jacobs Douwe Edberts, Ruscote Avenue, Banbury,

PRP Responses in RED

Lead Local Flood Authority

Recommendation:
Objection

Key issues:

Discharge rate not to greenfield run off rate. – Discharge rate has been designed and calculated as per the Oxfordshire guidance as outlined in our drainage strategy report – extract below

As a minimum, brownfield sites should reduce the discharge by 40% to account for the impacts of climate change, from the existing site runoff OR from the original un-surcharged pipe-full capacity of the existing system, whichever is the lowest. The Local Planning Authority may have local standards and we recommend that advice is sought from the LPA for guidance.

The site run off currently freely discharges into the adjacent watercourse via a series of gullies at the lowest point of the existing car park.

Flood risk has not been investigated from all different sources and how it may affect the site. – The site is determined as a minor planning application, less than 1ha site area and falling wholly within flood zone 1. Therefore as per the Oxfordshire LLFA guidance found on the Oxfordshire flood tool kit. "*Local Standards and Guidance for Surface Water Drainage on Major Development in Oxfordshire (1.2 December 2021)" - For all developments over 1 hectare and/or development in any area of flood risk from rivers (Flood Zone 2 or above) or other sources* developers must carry out a full Flood Risk Assessment (FRA), which includes information to show how the proposed development will not increase flood risk. Necessary mitigation measures must be implemented.* – Therefore, an FRA for this site specific planning application has not been produced

Permission required from third party land owner to have drainage pipes in their land. The Applicant, Paloma, own the land in which the drainage pipes run and ultimately discharge to the watercourse/ public foul sewer.

Provide approval to connect surface water to the existing watercourse. – As above, riparian rights due to Paloma owning the land in which the existing watercourse is located. The site currently discharges into this watercourse. Therefore, no approvals required.

Maintenance schedule does not cover all proposed SuDS features and does not identify the party what will be conducting the maintenance.
- Maintenance Schedule will be provided in the O&M manual as part of the hand over to the end client. Therefore as the end client/user may change hands over the future, naming a party at this stage is deemed uncessesry, however the landowner will carry out/be responsible for all maintenance. Schedule updated to reflect landowner and incorporate the Permeable Paving elements.

Impermeable area plan to be provided. – Appended.

Surface water exceedance plan to be provided. – Appended.

Provide ground investigation report. - – Appended.

Provide storage volume for the 1:100 year event plus 40% CC on plan drawings. – Revised - Appended

Detailed comments:

The LLFA expects surface water drainage schemes on brownfield development sites to follow the same principle as if the site is greenfield. Brownfield rates can be used if restriction to 1:1 year greenfield run off rate is unfeasible. Please restrict discharge rate to greenfield run off rate.
– due to the small footprint of the development we are limited on space to provide a costly attenuation feature to accommodate the greenfield flow rate on a brownfield site that freely discharges to the adjacent watercourse.

Flood risk needs to be identified and evaluated from all sources (rivers (fluvial), sea (tidal), surface water, groundwater, Sewer, reservoir, canals). Explain the severity of each on the site and how the flood risk will be mitigated. – Minor development, site specific FRA not required as per the LLFA guidance document. As previously mentioned.

Provide approval from third party owner to have the proposed drainage in their land. . – As prior, *“riparian rights due to Paloma, the applicant, owning the land in which the existing watercourse is located. The site currently discharges into this watercourse. Therefore, no approvals required.”*

Confirm the ownership of the existing watercourse and provide approval to connect the surface water drainage. Also provide evidence the existing watercourse has enough capacity to take the additional surface water rates from the development. – Watercourse – Riparian ownership of current land owner. - Capacity – currently the site freely discharges into the watercourse unrestricted, therefore capacity is available due to the 40% betterment on flow rate we are providing.

Maintenance schedule does not cover permeable paving. Please include all proposed SuDS features in the maintenance regime. Specify the party that will be conducting the maintenance of the proposed SuDS features and drainage infrastructure. – Amened maintenance regime. – maintenance responsibility as previously addressed.

Impermeable area plan needs to be provided to show the extent of the areas and stating the area. The plan should demonstrate clearly where the area will be draining to. – Plan appended

Surface water exceedance plan to be provided to demonstrate all surface water will be kept away from structures and within the site boundary in an event where the surface water network fails. – Plan appended

As part of a full application ground investigation report is required to determine the drainage strategy. – Document attached

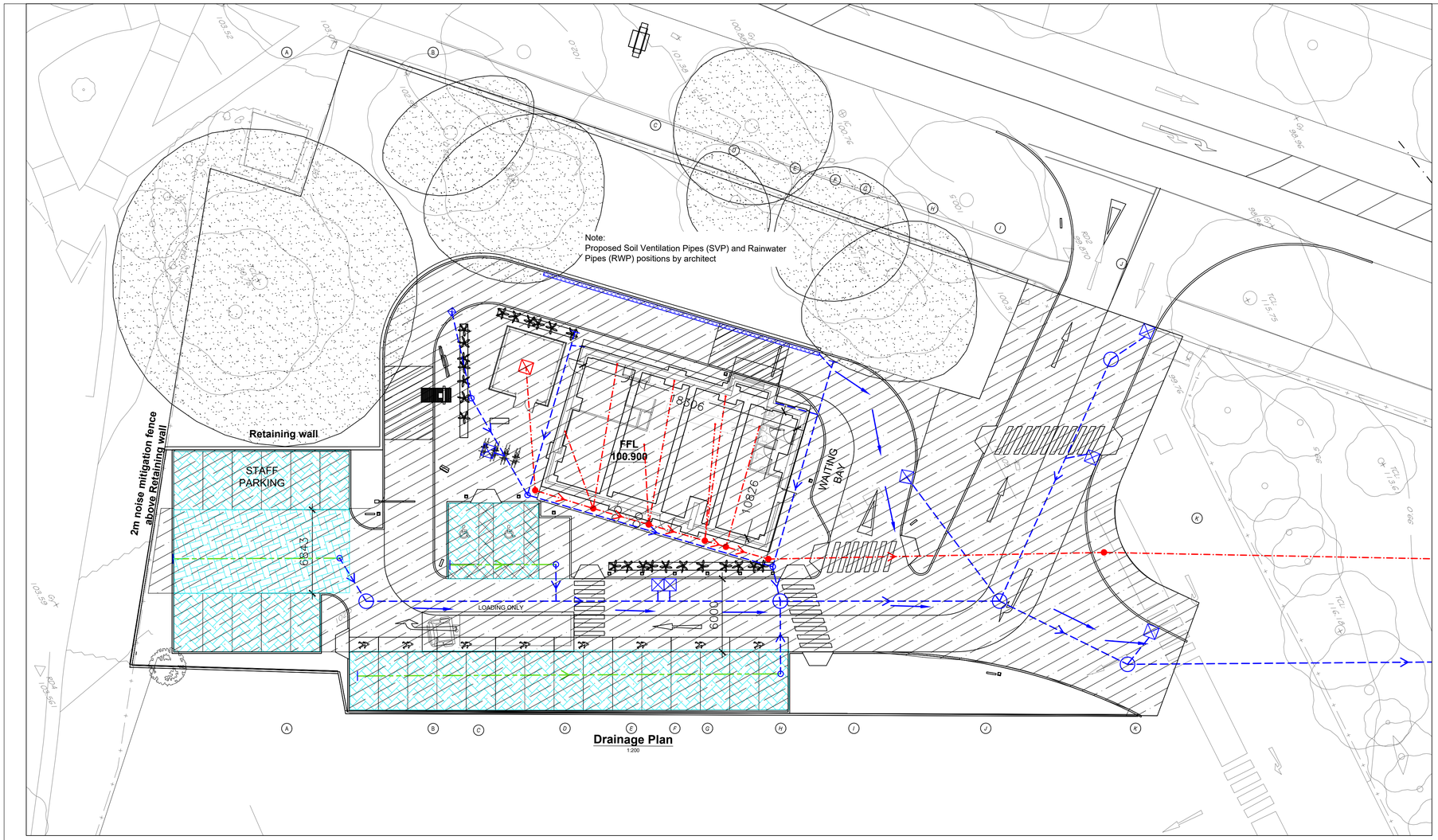
10 March 2022

Provide storage volumes of the SuDS features on plan which should reflect the calculations. – The invert level of the permeable paving is above the ground level of the lowest drainage feature, therefore all storage capacity within the system is obtained within oversized pipes where possible. Permeable paving sub-base will be tanked type C system with a depth designed to accommodate onsite obtained CBR values for structural strength.

Prepared by

[redacted]

Myles Sturgess
Senior Civil Engineer
PRP UK Ltd



Drainage Plan
1:200

Legend:

- 2230m² impermeable drained area
- Overland Flow Arrows

SAFETY,HEALTH & ENVIRONMENTAL HAZARD INFORMATION BOX.

The hazards noted below are in addition to the normal hazards and risks faced by a competent contractor when dealing with the types of works detailed on this drawing.

CONSTRUCTION RISKS:

DEMOLITION RISKS:

MAINTENANCE / CLEANING RISKS:

Notes:

1. DO NOT SCALE FROM THIS DRAWING.
2. All dimensions are in millimetres Unless Noted Otherwise (u.n.o.)
3. Drawing is to be read in conjunction with all relevant architect's drawings. Any inconsistencies should be reported to PRP immediately.
4. All levels and dimensions are to be checked on site before any work commences.
5. For more information see PRP drawings:
   63364 - 100series - Drainage and External Works
   63364- 200series - Foundations
   63364 - 300series - Superstructure
6. The Health and Safety at Work act is to be complied with at all times. Attention is drawn to the wearing of hard hats, safety boots, reflective clothing, and the use of any other required safety equipment.

Drainage:

1. The position, line, level and diameter of all existing drainage apparatus should be confirmed on site prior to the commencement of the works. Any discrepancies should be reported to PRP immediately.
2. The connection of foul and surface water drainage to the existing public sewer system shall be subject to the approval of the water authority
3. For positions of all rainwater pipes & foul outlets refer to Architect's drawings.
4. Drainage designed in accordance with the Sewerage Sector Guidance, Design and Construction Guidance ("the Code") Approved Version 2.0, 10 March 2020.
5. All joints between precast manhole components shall have a minimum uncompressed thickness of 10mm of proprietary bitumen or resin mastic sealant.
6. Storm & foul branch connections are to be laid at gradients of between 1:10 & 1:80
7. All in-situ concrete shall be minimum grade GEN3.
8. Precast concrete cover & reducing slabs to be heavy duty reinforced concrete to BS 5911.
9. Manhole covers & frames shall be manufactured in cast iron or ductile iron & shall comply with requirements of BS EN 124 & shall be kite marked or equivalent.
10. Where there is no intermediate manhole between the start of a surface water pipe run and the soakaway the gradient of the run shall be not less than 1 : 60.
11. All completed work shall be suitably protected from damage by construction work. Damaged drainage will not be accepted. It is recommended that no heavy loading or underground work is permitted above or near unprotected drainage, and that dumpers, trucks, fork lifts or other heavy vehicles are not driven along or near pipe runs.
12. Inspection chambers, soakaways and flow control units are to be installed strictly in accordance with manufacturer guidance and instructions

Rev	Date	Description	By / Chk
P1	04/03/2022	Issued for comments	MAS/ HP

PRP
consulting engineers & surveyors

Catherine House
Old Harborough Road
Brixworth, NN6 9BX

Telephone: 01604 889 870
northampton@prp.uk.com
www.prp.uk.com

Leicester
Northampton
London

engineering excellence | creating advantage

Client:
Paloma I Propco Ltd

Architect:
Darling Associates

Project:
Ruscote Avenue,
Banbury

Title:
Impermeable Area
& Overland Flow Arrows

Status:
TENDER

Engineer:	MAS	Date:	Aug 2021
Drawn:	MAS	Scales @ A1:	1:200
Checked:	HP		
Project No:	63364	Drg No: 103	Rev: P1

MAINTENANCE AND ACTION SCHEDULE
FOR
SURFACE WATER DRAINAGE

Project No:	**63364**	Prepared by:	PRP Catherine House
For:	Trinity Property Consultants		Old Harborough Road Brixworth
Date:	August 2021		Northampton NN6 9BX

1. Catchpits, manholes and inspection chambers should be regularly inspected and debris/silt removed, if this is not removed then it is likely to become hard packed requiring considerable effort to remove it. Replacement of the cellular storage units will be necessary if the system becomes blocked with silt. Effective monitoring will give information on changes in infiltration and provide a warning of potential failure in the long term.

2. The following are guidelines for when inspections and treatment should be carried out based on typical commercial units with average usage. The rate of silt and debris accumulation should be monitored and the frequency of inspection may need to be adjusted based on this.

    2.1. Monthly:

    - Lift hydrobrake manhole cover and inspect to make sure that the outfall and inlet are clear. (Monthly during Autumn and Winter.)
    - The permeable block paving driveway and all car parking spaces should be swept regularly to prevent silt being washed into the surface. This will minimise necessary maintenance of the permeable paving. (Monthly during Autumn and Winter.)
    - Inspect silt traps and note rate of sediment accumulation (Monthly during first year, then annually.)

    2.2. Annually:

    - Inspect all gutters and gullies for sediment and debris and remove as necessary to prevent it from entering into the attenuation tank.
    - Any roots that have entered the system should be removed.
    - Inspect manholes and silt traps and remove any silt or debris from base and ensure that they are clean.
    - Inspect filter drains including inlet and outlet pipework for blockages.
    - Check attenuation tanks to ensure emptying is occurring.
    - Remove and clean silt traps and clean out catchpits to ensure they operate correctly.

    2.3. As required:

    - Clean perforated pipework of blockages (usually annually or bi-annually).
    - Reconstruct permeable paving if performance deteriorates significantly.