

# COUNTY COUNCIL'S RESPONSE TO CONSULTATION ON THE FOLLOWING DEVELOPMENT PROPOSAL

**District:** Cherwell

**Application No:** 20/02083/OUT

**Proposal:** Outline - Erection of 14 two-storey dwellings

**Location:** Land North of Hempton Road and west of Wimbourn Close, Deddington

**Response date:** *9<sup>th</sup> September 2020*

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This report sets out the officer views of Oxfordshire County Council (OCC) on the above proposal. These are set out by individual service area/technical discipline and include details of any planning conditions or informatives that should be attached in the event that permission is granted and any obligations to be secured by way of a S106 agreement. Where considered appropriate, an overarching strategic commentary is also included. If the local County Council member has provided comments on the application these are provided as a separate attachment.

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## **General Information and Advice**

### **Recommendations for approval contrary to OCC objection:**

IF within this response an OCC officer has raised an objection but the Local Planning Authority are still minded to recommend approval, OCC would be grateful for notification (via [planningconsultations@oxfordshire.gov.uk](mailto:planningconsultations@oxfordshire.gov.uk)) as to why material consideration outweigh OCC's objections, and given an opportunity to make further representations.

### **Outline applications and contributions**

The number and type of dwellings and/or the floor space may be set by the developer at the time of application, or if not stated in the application, a policy compliant mix will be used for assessment of the impact and mitigation in the form of s106 contributions. These are set out on the first page of this response.

In the case of outline applications, once the unit mix/floor space is confirmed by the developer a matrix (if appropriate) will be applied to assess any increase in contributions payable. The matrix will be based on an assumed policy compliant mix as if not agreed during the s106 negotiations.

Where unit mix is established prior to commencement of development, the matrix sum can be fixed based on the supplied mix (with scope for higher contribution if there is a revised reserved matters approval).

### **Where a S106/Planning Obligation is required:**

- **Index Linked** – in order to maintain the real value of s106 contributions, contributions will be index linked. Base values and the index to be applied are set out in the Schedules to this response.
- **Security of payment for deferred contributions** – An approved **bond** will be required to secure payments where the payment of S106 contributions (in aggregate) have been agreed to be deferred to post implementation and the total County contributions for the development exceed £1m (after indexation).
- **Administration and Monitoring Fee - £3,750**  
This is an estimate of the amount required to cover the extra monitoring and administration associated with the S106 agreement. The final amount will be based on the OCC's scale of fees and will be adjusted to take account of the number of obligations and the complexity of the S106 agreement.
- **OCC Legal Fees** The applicant will be required to pay OCC's legal fees in relation to legal agreements. Please note the fees apply whether an s106 agreement is completed or not.

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## Transport Schedule

### Recommendation:

#### **Objection for the following reasons:**

- There is an insufficient number of visitor parking spaces
- The red-line area does not extend to the public highway

If, despite OCC's objection, permission is proposed to be granted then OCC requires prior to the issuing of planning permission a S106 agreement to mitigate the impact of the development plus planning conditions and informatives as detailed below.

#### S106 Contributions

<b>Contribution</b>	<b>Amount</b>	<b>Price base</b>	<b>Index</b>	<b>Towards (details)</b>
Highway works	£4,500	July 2020	Baxter	Supply and installation of a solar-powered Vehicle Activated Sign
Public transport services	£14,518	July 2020	RPI-x	Improvements to the bus service that connects Deddington to Banbury and Oxford.
<b>Total</b>	<b>£19,018</b>			

### Comments:

#### Background and adjacent development

The application site is located to the north of another site in the blue line area, which recently was given outline permission (application no. 18/02147/OUT) for 21 dwellings with access from Hempton Road via a simple priority junction. The current application is for outline permission with all matters reserved. Access will be taken from the spine road that runs through the Phase 1 development.

It is noted that the layout of the Phase 1 site is very different from that given outline permission, partly because the access road did not extend up to the northern boundary, as is currently indicated on the Illustrative Layout and Masterplan. The access road through Phase 1 is the connection to the public highway and therefore it

must be included in the red line area – this is a technicality but also a reason for objection.

### Site layout

This application is for outline permission with all matters reserved, therefore, the layout will be considered in greater detail at a later stage.

Standard comments from Road Agreements are as follows:

- Tracking needs to be carried out with the below vehicle details  
OCC require a swept path analysis for refuse vehicle for all manoeuvres in forward gear. All internal bends and junctions will need to be tracked with two vehicles (refuse vehicle and medium sized car) using the bend/junction at the same time.

Phoenix 2 – 23W with elite 2 6x4 chassis

Dimensions;

Overall length – 11.6m (including bin lift)

Overall Width – 2.530m

Overall body height – 3.205m

Min body ground clearance – 0.410m

Track width – 2.5m

Lock to lock time – 4.00s

- Visibility Splays must be dedicated to OCC if they fall out of the existing highway boundary.
- If there is not a footway adjacent to the carriageway an 800mm maintenance margin is required.
- Visitor parking bays should not interfere with internal vis splays.
- No Highway materials, construction methods, adoptable layouts and technical details have been approved at this stage. The detailed design will be subject to a full technical audit.
- Informative note: OCC require saturated CBR laboratory tests on the sub-soil likely to be used as the sub-formation layer. This would be best done alongside the main ground investigation for the site but the location of the samples must relate to the proposed location of the carriageway/footway.
- Foul and surface water manholes should not be placed within the middle of the carriageway, at junctions, tyre tracks and where informal crossing points are located.
- No property should be within 500mm of the proposed highway. No doors, gates, windows, garages or gas/electric cupboards should open onto the proposed highway.
- Trees within the highway will need to be approved by OCC and will carry a commuted sum. No private planting to overhang or encroach the proposed adoptable areas.
- Trees that are within 5m of the carriageway or footway will require root protection, trees must not conflict with street lights.
- No private drainage to discharge onto existing Highway.
- No private drainage to discharge onto any area of proposed adoptable highway.

Considering the above points, I have concerns about the off-road parking for Plot 6 that emerges between the two visitor parking bays and so the visibility will be restricted. Also, there are a number of trees (in both Phases) shown very close to the carriageway. With the total of 31 dwellings I expect the preference will be to have the spine road adopted, in which case the requirements should be taken into consideration at the reserved matters stage.

### Car and cycle parking

The application form does not give the number of bedrooms in each dwelling but this information is provided on the Illustrative Layout. Using the standards in the OCC Residential Roads Design Guide (2003) – Second Edition (2015), a total of 5.7 unallocated (visitor) spaces are required. Thus, a minimum of five visitor spaces is required to make the provision acceptable. This corresponds to the seven visitor spaces that are to be incorporated into the approved Phase 1 development for 21 dwellings. The significant lack of visitor parking is a reason for objection.

Garages are to have minimum internal dimensions of 6.0m x 3.0m to be counted as a parking space. This is particularly relevant for Plots 12 and 13 as they have only one allocated off-road space. Properties without a garage are expected to have a shed or other secure facility for cycle storage.

### Pedestrian access

The Illustrative Layout shows a pedestrian link to Wimborn Close, which would route across third-party land to the east of the site before connecting to the public highway. There are two points where the highway boundary on Wimborn Close meets the Phase 1 eastern boundary, so these locations would be more suitable for the pedestrian link. The applicant is recommended to make contact with OCC Highway Records to ascertain the exact highway boundary ( <https://www2.oxfordshire.gov.uk/cms/content/contact-highway-records> ).

### Travel planning

The proposals are not large enough to necessitate the submission of a residential travel plan with a planning application. However, we would expect residential travel information packs to be provided to first time residents. These would be secured through a relevant planning condition.

### Unilateral Undertaking

The application documents contain a draft Unilateral Undertaking which includes a Public Transport Contribution of £9,333 (equivalent to £666 per dwelling). The current rate (which has increased from the £1,000 per dwelling agreed for 18/02147/OUT) is now £1,037 per dwelling.

**S106 obligations and their compliance with Regulation 122(2) Community Infrastructure Levy Regulations 2010 (as amended):**

**£4,500 Highway Works Contribution** indexed from July 2020 using Baxter Index  
**Towards:**

The supply and installation of a solar-powered Vehicle Activated Sign (VAS).

**Justification:**

High vehicle speeds along the Hempton Road, particularly eastbound towards the village, are recognised as being excessive. Phase 1 of this development will include a build-out feature as part of the package of S278 works, but this may not be sufficient to reduce speeds down to the 30mph limit. The VAS is considered to be a complimentary measure that can be positioned to detect vehicles passing the build-out at speed.

**Calculation:**

The contribution is based on a recent quotation for the supply and installation of an identical piece of equipment. Any surplus will be put towards future maintenance.

**£14,518 Public Transport Service Contribution** indexed from July 2020 using RPI-x

**Towards:**

Upgrading of the bus service that connects Deddington with Oxford and Banbury to a half-hourly daytime frequency.

**Justification:**

The contribution is necessary to make the development acceptable in planning terms because the increase in frequency would make the destinations of Oxford and Banbury, and the villages inbetween, more accessible by a sustainable mode of transport. It would be in accordance with paragraph 102 of the National Planning Policy Framework (NPPF July 2018), which states that:

*“Transport issues should be considered from the earliest stages of plan-making and development proposals, so that: ... opportunities to promote walking, cycling and public transport use are identified and pursued.”*

The contribution is fair and reasonably related in scale and kind to the development because it is based on a contribution of £1,037 per dwelling, a calculation that is now applied to all new residential developments in Oxfordshire when contributions for public transport improvements are sought.

**Calculation:** £1,037 per dwelling x 14 dwellings = £14,518

**Planning Conditions:**

In the event that permission is to be given, the following planning conditions should be attached:

Prior to commencement of the development hereby approved, a Construction Traffic

Management Plan (CTMP) shall be submitted to and approved in writing by the Local Planning Authority. Thereafter, the development shall not be carried out other than in accordance with the approved CTMP.

Reason: In the interests of highway safety and the residential amenities of neighbouring occupiers and to comply with Government guidance contained within the National Planning Policy Framework.

Prior to first occupation the development a Travel Information Pack shall be submitted to and approved by the Local Planning Authority. Thereafter the first residents of each dwelling shall be provided with a copy of the approved Travel Information Pack.

Reason: To ensure all residents and employees are aware from the outset of the travel choices available to them, and to comply with Government guidance contained within the National Planning Policy Framework.

**Informative:**

Please note the Advance Payments Code (APC), Sections 219 -225 of the Highways Act, is in force in the county to ensure financial security from the developer to off-set the frontage owners' liability for private street works, typically in the form of a cash deposit or bond. Should a developer wish for a street or estate to remain private then to secure exemption from the APC procedure a 'Private Road Agreement' must be entered into with the County Council to protect the interests of prospective frontage owners.

**Officer's Name: Roger Plater**

**Officer's Title: Transport Planner**

**Date: 8 September 2020**

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**Application no: 20/02083/OUT**

**Location:** Land north of Hempton Road and west of Wimbourne Close, Deddington

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## **Lead Local Flood Authority**

### **Recommendation:**

Objection

### **Key issues:**

Proposal will alter natural drainage regime to the extent it will pose a flood risk due to increased surface water run-off rates.

### **Detailed comments:**

Applicant must provide calculation files clearly indicating how a gravity system is to be delivered with greenfield discharge rates.

The LLFA feel the below figures are above green-field run-off rates for the site

1:1 flow rate 63l/s

1:30 flow rate 146l/s

1:100 flow rate 230l/s

A sustainable surface water management strategy in line with OCC Guidance, as per the below, must be submitted:

The [Sustainable Drainage Systems \(SuDS\) Policy](#), which came into force on the 6th April 2015 requires the use of sustainable drainage systems to manage runoff on all applications relating to major development. As well as dealing with surface water runoff, they are required to provide water quality, biodiversity and amenity benefits in line with National Guidance. The [Sustainable Drainage Systems \(SuDS\) Policy](#) also implemented changes to the [Town and Country Planning \(Development Management Procedure\) \(England\) Order 2010](#) to make the Lead Local Flood Authority (LLFA) a statutory Consultee for Major Applications in relation to surface water drainage. This was implemented in place of the SuDS Approval Bodies (SAB's) proposed in Schedule 3 of the Flood and Water Management Act 2010.

All full and outline planning applications for Major Development must be submitted with a Surface Water Management Strategy. A site-specific Flood Risk Assessment (FRA) is also required for developments of 1 hectare or greater in Flood Zone 1; all developments in Flood Zones 2 and 3 or in an area within Flood Zone 1 notified as having critical drainage problems; and where development or a change of use to a more vulnerable class may be subject to other sources of flooding.

Further information on flood risk in Oxfordshire, which includes access to view the existing fluvial and surface water flood maps, can be found on the [Oxfordshire flood](#)



[tool kit](#) website. The site also includes specific flood risk information for developers and Planners.

The [National Planning Policy Framework](#) (NPPF), which was updated in February 2019 provides specific principles on flood risk (Section 14, from page 45). [National Planning Practice Guidance](#) (NPPG) provides further advice to ensure new development will come forward in line with the NPPF.

Paragraph 155 states; *“Inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk (whether existing or future). Where development is necessary in such areas, the development should be made safe for its lifetime without increasing flood risk elsewhere.”*

As stated in Paragraph 158 of the NPPF, we will expect a sequential approach to be used in areas known to be at risk now or in the future from any form of flooding.

The [Non-statutory technical Standards for sustainable drainage systems](#) were produced to provide initial principles to ensure developments provide SuDS in line with the NPPF and NPPG. Oxfordshire County Council have published the [“Local Standards and Guidance for Surface Water Drainage on Major Development in Oxfordshire”](#) to assist developers in the design of all surface water drainage systems, and to support Local Planning Authorities in considering drainage proposals for new development in Oxfordshire. The guide sets out the standards that we apply in assessing all surface water drainage proposals to ensure they are in line with National legislation and guidance, as well as local requirements.

The SuDS philosophy and concepts within the Oxfordshire guidance are based upon and derived from the CIRIA [SuDS Manual \(C753\)](#), and we expect all development to come forward in line with these principles.

In line with the above guidance, surface water management must be considered from the beginning of the development planning process and throughout – influencing site layout and design. The proposed drainage solution should not be limited by the proposed site layout and design.

Wherever possible, runoff must be managed at source (i.e. close to where it falls) with residual flows then conveyed downstream to further storage or treatment components, where required. The proposed drainage should mimic the existing drainage regime of the site. Therefore, we will expect existing drainage features on the site to be retained and they should be utilised and enhanced wherever possible.

Although we acknowledge it will be hard to determine all the detail of source control attenuation and conveyance features at concept stage, we will expect the Surface Water Management Strategy to set parameters for each parcel/phase to ensure these are included when these parcels/phases come forward. Space must be made for shallow conveyance features throughout the site and by also retaining existing drainage features and flood flow routes, this will ensure that the existing drainage regime is maintained, and flood risk can be managed appropriately.

By the end of the Concept Stage evaluation and initial design/investigations Flows and Volumes should be known. Therefore, we ask that the following Pro-Forma is completed and returned as soon as possible:

**Officer's Name: Adam Littler**

**Officer's Title: Drainage Engineer**

**Date: 09 September 2020**

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**Application no: 20/02083/OUT**

**Location:** Land north of Hempton Road and west of Wimbourne Close, Deddington

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## **Education Schedule**

### **Recommendation:**

#### **No objection subject to:**

- **S106 Contributions** as summarised in the tables below and justified in this Schedule.

Contribution	Amount £	Price base	Index	Towards (details)
<b>Early Years</b>	<b>£19,863</b>	<b>333 (related to 3Q19)</b>	BCIS All-In TPI	Expanding early years capacity through replacement and expansion of modular unit at Deddington Partnership Foundation Stage Unit
<b>Primary</b>	<b>£89,405</b>	<b>333 (related to 3Q19)</b>	BCIS All-In TPI	Expanding primary provision at Christopher Rawlins CE (VA) Primary School
<b>Secondary (including sixth form)</b>	<b>£73,979</b>	<b>333 (related to 3Q19)</b>	BCIS All-In TPI	Expanding secondary and sixth form provision at The Warriner School
<b>Total</b>	<b>£183,247</b>			

### **S106 obligations and their compliance with Regulation 122(2) Community Infrastructure Levy Regulations 2010 (as amended):**

**£19,863 Early Years Contribution** indexed using BCIS All-In Tender Price Index Value 333 (published 25 October 2019)

#### **Towards:**

The expansion of early years capacity through replacement and expansion of modular unit at Deddington Partnership Foundation Stage Unit.

#### **Justification:**

In Deddington, nursery education is provided through a partnership of two charities - Deddington Partnership Foundation Stage Unit, co-located on the Deddington Church of England Primary School, and Deddington Village Nursery Ltd located at Hempton Road, Deddington, adjacent to the Windmill Community Centre.

There is a shared unit co-located at the school that accommodates 3 and 4-year-old provision. The 3-year-old part is managed by a charity which also governs a modular unit off site that takes younger children. This modular unit is located close to the Windmill Community Centre on the edge of the village playing fields.

Deddington Partnership Foundation Stage’s unit needs urgent replacement to provide a planned replacement subject to all necessary consents. If the building is not replaced, and the nursery forced to close, Oxfordshire County Council would not be able to meet its statutory sufficiency duty in this area.

The replacement building would be larger, so that the needs generated by the proposed development are met. A proportionate contribution is therefore sought towards the estimated capital cost of ensuring sufficient nursery education provision to meet the needs of this development.

The Deddington Neighbourhood Plan also refers to the need for financial contributions towards improving the Deddington Partnership Foundation Stage Unit, to meet increased demand from housing development.

**Calculation:**

Number of early years pupils expected to be generated	1.03
Estimated per pupil cost of early years education expansion, as advised by Government guidance “Securing developer contributions for education” (November 2019)	£19,284
1.03 * £19,284	<b>£19,863</b>

**£89,405 Primary School Contribution** indexed using BCIS All-In Tender Price Index Value 333 (published 25 October 2019)

**Towards:**

The expansion of primary school provision at Christopher Rawlins CE (VA) Primary School, Adderbury.

**Justification:**

Expansion of primary school capacity in the Adderbury/Deddington area has been considered as a whole and is necessary as a direct result of planned local housing development.

Christopher Rawlins CE (VA) Primary School in Adderbury was previously a 1 form entry school, providing 210 primary places (30 places per year) plus a nursery. Due to the cumulative effect of planned and permitted housing development in the area the school expanded to 1.5 form entry (45 places per year) from September 2017. The

need for these additional places is already being demonstrated by growing pupil numbers, and demand is expected to increase further.

This expansion meets the need of already permitted development and also enables the expected primary pupil generation from this proposed development to be accommodated, and is therefore necessary to make this proposed development acceptable.

Although the proposed development sits within the designated planning area of Deddington CE Primary School, it is in close geographical proximity to Christopher Rawlins CE Primary School, and the villages of Deddington and Adderbury, respectively, and planned housing in the area are considered together. At the time when additional primary capacity was required to meet the forecasted need from housing developments, it was considered necessary that only one school in the area needed to expand by 0.5 forms of entry. The most feasible solution to creating this additional capacity was to expand Christopher Rawlins CE Primary School.

Without this additional accommodation, Oxfordshire County Council would not be able to meet its statutory school sufficiency duty in the Adderbury/Deddington area, including meeting the expected increase in demand for places as a result of this application. It is therefore directly related to the proposed development, and a contribution towards the capital cost of the expansion is sought in proportion to the development's expected pupil generation, and based on the tender costs estimate per pupil of expanding the school.

The total cost of the expansion is £2.390m (2Q 17 prices), to create an additional 111 places giving a cost per pupil of £21,532. At a BCIS Index value of 333 this equates to £22,130 per pupil.

**Calculation:**

Number of primary pupils expected to be generated	4.04
Cost per pupil of expanding Christopher Rawlins Primary School	£22,130
4.04 * £22,130	<b>£89,405</b>

**£73,979 Secondary School (including Sixth Form) Contribution** indexed using BCIS All-In Tender Price Index Value 333 (published 25 October 2019)

**Towards:**

The expansion of secondary and sixth form provision at The Warriner School, Bloxham.

**Justification:**

The nearest secondary school to the proposed development is The Warriner School in Bloxham, which is currently oversubscribed; prior to the expansion now underway

its capacity was 1300, and as of January 2020 there were 1338 pupils on roll. The school is currently undergoing a major expansion project; it has already increased its intake by one form of entry ahead of completion of building works, and is increasing by another form of entry this year, bringing the total capacity to approximately 1600 places. Pupil numbers are forecast to increase rapidly as a result of planned housing development in the area.

Paragraph 94 of the National Planning Policy Framework (NPPF), updated in February 2019, emphasises the importance that a sufficiency of choice of school places is available to meet the needs of existing and new communities, and that this should include giving great weight to the need to create, expand or alter schools. Without expansion of the Warriner School, housing development would adversely impact on parental preference, as pupils already living in the area would be less likely to secure a place at their first preference school as a direct result. As such it would go against the intention of Paragraph 94 of the NPPF by reducing the choice of school places available in the area.

If additional places were not provided at The Warriner School, pupils living in the area would otherwise be displaced to other schools in nearby Banbury. Spare capacity in Banbury secondary schools is quickly being eroded as a result of local population growth, and expansion of capacity is planned; additional expansion of these schools would be needed if they were also required to accommodate increased demand from housing developments in the Bloxham planning area.

As a result, expansion of The Warriner School is necessary to ensure that both current and future demand for secondary school places in the Bloxham area is met, including that from new housing development, and is therefore directly related to this application. Contributions are sought towards the cost of the expansion, which is currently underway.

**Calculation:**

Number of secondary and sixth form pupils expected to be generated	2.80
Estimated per pupil cost of secondary school expansion, as advised by Government guidance “Securing developer contributions for education” (November 2019)	£26,421
2.80 * £26,421	<b>£73,979</b>

The above contributions are based on a unit mix of:

- 2 x 1 bed dwellings
- 4 x 2 bed dwellings
- 6 x 3 bed dwellings
- 2 x 4 bed dwellings

It is noted that the application is outline and therefore the above level of contributions would be subject to amendment, should the final unit mix result in an increase in pupil generation.

**Officer's Name: Barbara Chillman**

**Officer's Title:** Pupil Place Planning Manager

**Date:** 07 September 2020

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**Application no: 20/02083/OUT**

**Location:** Land north of Hempton Road and west of Wimbourne Close, Deddington

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## **Property**

### **Recommendation:**

#### **No objection subject to:**

- **S106 Contributions** as summarised in the tables below and justified in this Schedule.

Contribution	Amount £	Price base	Index	Towards (details)
Library	£4,166	333 (related to 3Q19)	BCIS All-In TPI	The expansion of capacity at Deddington Library including the provision of additional book stock.

### **S106 obligations and their compliance with Regulation 122(2) Community Infrastructure Levy Regulations 2010 (as amended):**

**£4,166 Library Contribution** to be index linked from BCIS All-In Tender Price Index Value 333 (published 25 October 2019)

#### **Towards:**

The expansion of capacity at Deddington Library including the provision of additional book stock.

#### **Justification:**

This development is served by Deddington Library. This library is under-size in relation to its catchment population and this development will therefore place additional pressures on the library service. To meet this additional demand, it is anticipated that capacity at the library will be increased by internal works and a book stock increase of 2 volumes per resident.

#### **Calculation**

Costs for library improvements are based upon the costs of extending a library. Oxfordshire County Council's adopted standard for publicly available library floor space is 27.5 m<sup>2</sup> per 1,000 head of population. The cost of library expansion is £3,509 per m<sup>2</sup> at BCIS All-In Tender Price Index Value 333. This equates to £96.50 (£3,509 x 27.5 / 1,000) per resident.



In addition, the cost of additional book stock is based on the price per volume of £111.00 at BCIS All-In Tender Price Index Value 333; this equates to £22 per resident.

The contribution for the provision of library infrastructure and supplementary core book stock in respect of this application would therefore be based on the following formula:  $£118.50 \times 35.16$  (the forecast number of new residents) = £4,166 at BCIS All-In Tender Price Index Value 333.

**Officer's Name: Richard Oliver**

**Officer's Title: Infrastructure Funding Officer**

**Date: 08<sup>th</sup> September 2020**

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**Application no: 20/02083/OUT**

**Location:** Land north of Hempton Road and west of Wimbourne Close, Deddington

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## **Archaeology Schedule**

### **Recommendation:**

No Objection.

### **Comments:**

The proposals outlined would not appear to have an invasive impact upon any known archaeological sites or features. As such there are no archaeological constraints to this scheme.

**Officer's Name: Richard Oram**

**Officer's Title:** Lead Archaeologist

**Date:** 26<sup>th</sup> August 2020

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# SuDS Flows and Volumes - LLFA Technical Assessment Pro-forma

*This form identifies the information required by Oxfordshire County Council LLFA to enable technical assessment of flows and volumes determined as part of drainage / SuDS calculations.*

*Note : \* means delete as appropriate; Numbers in brackets refer to accompanying notes.*

## SITE DETAILS

- 1.1 Planning application reference
- 1.2 Site name
- 1.3 Total application site area (1) .....m<sup>2</sup> ..... ha
- 1.4 Is the site located in a CDA or LFRZ Y/N
- 1.5 Is the site located in a SPZ Y/N

## VOLUME AND FLOW DESIGN INPUTS

- 2.1 Site area which is positively drained by SuDS (2) ..... m<sup>2</sup>
- 2.2 Impermeable area drained pre development (3) ..... m<sup>2</sup>
- 2.3 Impermeable area drained post development (3)1 ..... m<sup>2</sup>
- 2.4 Additional impermeable area (2.3 minus 2.2) ..... m<sup>2</sup>
- 2.5 Predevelopment use (4) Greenfield / Brownfield / Mixed\*
- 2.6 Method of discharge (5) Infiltration / waterbody / storm sewer/ combined sewer\*
- 2.7 Infiltration rate (where applicable) .....m/hr
- 2.8 Influencing factors on infiltration
- 2.9 Depth to highest known ground water table.....mAOD
- 2.10 Coefficient of runoff (Cv) (6)
- 2.11 Justification for Cv used
- 2.12 FEH rainfall data used (Note that FSR is no longer the preferred rainfall calculation method) Y/N
- 2.13 Will storage be subject to surcharge by elevated water levels in watercourse/ sewer Y/N
- 2.14 Invert level at outlet (invert level of final flow control) .....mAOD
- 2.15 Design level used for surcharge water level at point of discharge(14)1.....mAOD

# SuDS Flows and Volumes - LLFA Technical Assessment Pro-forma

## CALCULATION OUTPUTS

Sections 3 and 4 refer to site where storage is provided by attenuation and/or partial infiltration. Where all flows are infiltrated to ground omit Sections 3-5 and complete Section 6.

### 3.0 Defining rate of runoff from the site

- 3.2 Max. discharge for 1 in 1 year rainfall .....l/s/ha, .....l/s for the site
- 3.2 Max. discharge for  $Q_{med}$  rainfall .....l/s/ha, .....l/s for the site
- 3.3 Max. discharge for 1 in 30 year rainfall .....l/s/ha, .....l/s for the site
- 3.4 Max. discharge for 1 in 100 year rainfall .....l/s/ha, .....l/s for the site
- 3.5 Max. discharge for 1 in 100 year plus 40%CC .....l/s/ha, .....l/s for the site

### 4.0 Attenuation storage to manage peak runoff rates from the site

- 4.1 Storage - 1 in 1 year .....m<sup>3</sup> .....m<sup>3</sup>/m<sup>2</sup> (of developed impermeable area)
- 4.2 Storage - 1 in 30 year <sup>(7)</sup> ..... m<sup>3</sup> .....m<sup>3</sup>/m<sup>2</sup>
- 4.3 Storage - 1 in 100 year <sup>(8)</sup> .....m<sup>3</sup> .....m<sup>3</sup>/m<sup>2</sup>
- 4.4 Storage - 1 in 100 year plus 40%CC <sup>(9)</sup> ..... m<sup>3</sup> .....m<sup>3</sup>/m<sup>2</sup>

### 5.0 Controlling volume of runoff from the site

- 5.1 Pre development runoff volume <sup>(1)</sup> ..... m<sup>3</sup> for the site
- 5.2 Post development runoff volume (unmitigated) <sup>(1)</sup> ..... m<sup>3</sup> for the site
- 5.3 Volume to be controlled/does not leave site (5.2-5.1)..... m<sup>3</sup> for the site
- 5.4 Volume control provided by
  - Interception losses <sup>(11)</sup> .....m<sup>3</sup>
  - Rain harvesting <sup>(12)</sup> .....m<sup>3</sup>
  - Infiltration (even at very low rates) .....m<sup>3</sup>
  - Separate area designated as long term storage <sup>(13)</sup> .....m<sup>3</sup>
- 5.5 Total volume control (sum of inputs for 5.4) .....m<sup>3</sup> <sup>(15)</sup>

### 6.0 Site storage volumes (full infiltration only)

- 6.1 Storage - 1 in 30 year <sup>(7)</sup> .....m<sup>3</sup> .....m<sup>3</sup>/m<sup>2</sup> (of developed impermeable area)
- 6.2 Storage - 1 in 100 year plus CC <sup>(9)</sup> .....m<sup>3</sup> .....m<sup>3</sup>/m<sup>2</sup>

# SuDS Flows and Volumes - LLFA Technical Assessment Pro-forma

## Notes

1. All area with the proposed application site boundary to be included.
2. The site area which is positively drained includes all green areas which drain to the SuDS system and area of surface SuDS features. It excludes large open green spaces which do not drain to the SuDS system.
3. Impermeable area should be measured pre and post development. Impermeable surfaces includes, roofs, pavements, driveways and paths where runoff is conveyed to the drainage system.
4. Predevelopment use may impact on the allowable discharge rate. The LLFA will seek for reduction in flow rates to GF status in all instances. The design statement and drawings explain/ demonstrate how flows will be managed from the site.
5. Runoff may be discharge via one or a number of means.
6. Sewers for Adoption 6<sup>th</sup> Edition recommends a Cv of 100% when designing drainage for impermeable area (assumes no loss of runoff from impermeable surfaces) and 0% for permeable areas. Where lower Cv's are used the application should justify the selection of Cv.
7. Storage for the 1 in 30 year must be fully contained within the SuDS components. Note that standing water within SuDS components such as ponds, basins and swales is not classified as flooding. Storage should be calculated for the critical duration rainfall event.
8. Runoff generated from rainfall events up to the 1 in 100 year will not be allowed to leave the site in an uncontrolled way. Temporary flooding of specified areas to shallow depths (150-300mm) may be permitted in agreement with the LLFA.
9. Climate change is specified as 40% increase to rainfall intensity, unless otherwise agreed with the LLFA / EA.
10. To be determined using the 100 year return period 6 hour duration rainfall event.
11. Where Source Control is provided Interception losses will occur. An allowance of 5mm rainfall depth can be subtracted from the net inflow to the storage calculation where interception losses are demonstrated. The Applicant should demonstrate use of subcatchments and source control techniques.
12. Please refer to Rain harvesting BS for guidance on available storage.
13. Flow diverted to Long term storage areas should be infiltrated to the ground, or where this is not possible, discharged to the receiving water at slow flow rates (maximum 2 l/s/ha). LT storage would not be allowed to empty directly back into attenuation storage and would be expected to drain away over 5-10 days. Typically LT storage may be provided on multi-functional open space or sacrificial car parking areas.
14. Careful consideration should be used for calculations where flow control / storage is likely to be influenced by surcharged sewer or peak levels within a watercourse. Storm sewers are designed for pipe full capacity for 1 in 1 to 1 in 5 year return period. Beyond this, the pipe network will usually be in conditions of surcharge. Where information cannot be gathered from Thames Water, engineering judgement should be used to evaluate potential impact (using sensitivity analysis for example).
15. In controlling the volume of runoff the total volume from mitigation measures should be greater than or equal to the additional volume generated.

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