MHA STRUCTURAL DESIGN

21068 Adonis House, Harefield Academy
May 2022 Flood Risk & Drainage Strategy

21068-MHA-WS-XX-R-C-003

Rev	Description	Date
P1	Information	4 May 2022
P2	Planning	6 May 2022
P3	LPA Comments	26 July 2022
P4	Revised Design	11 September 2023

Prepared	CH
Authorised	MM
Issued	MM

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Contents

This report has been prepared for the benefit of the Client and others can take no reliance without written consent from MHA Structural Design.

1.0 Introduction

1.1 Background

1.1.1 MHA was commissioned by The Harefield Academy to prepare a Flood Risk Assessment and associated Drainage Strategy in respect to a change of land use and proposed two storey extension to the Lord Adonis House building on their premises.

1.1.2 The design has undergone changes. MHA was commissioned by Noviun Architect to prepare a Flood Risk Assessment in respect to a change of land use and demolition of former residential boarding block and erection of academic building (Use Class F1) and ancillary structures including heat pump and substation enclosures, construction of a multi-use games area, revised vehicular access, landscaping, car and cycle parking and associated works at Harefield Academy, Northwood. As required by the London Borough of Hillingdon (LBH), the Local Planning Authority, and the Hillingdon Council Local Plan, this report has been prepared to provide Flood Risk Assessment in support of an outline planning application.

1.1.3 The original proposal for this scheme included an extension and intensive refurbishment to the existing residential building. The existing residential block is no longer proposed to be retained as it cannot be adapted to meet standards without significant structural changes.

1.1.2 The current proposed scheme comprises of a new two storey teaching building that meets relevant space guidelines for SEND schooling will replace the residential block. This new building will occupy the approximate footprint of the existing building and approved extension. It is intended that the House and its immediate surrounding areas are to be leased by the LBH for use by Meadow High School (also located in LBH), hence the change of use. As a result, part of the existing multi-use games area (MUGA) and soft landscaping areas adjacent to the building are to form the external areas of the school site. The existing and proposed site plans are included in Appendix A.

1.2 Site Location

1.2.1 The site is located in the northeast of the village of Harefield in the LBH and is bordered to the east and south by Northwood Road and to the west by Northwood Way.

1.2.2 The Nearest Post Code is UB9 6ET.

1.3 Topography

1.3.1 A detailed topographical survey of the site has been completed and this is included in Appendix A of this report. The existing site has been found to range between 86.8mAOD in the southeast to 84.3mAOD in the southwest corner of the site.

1.3.2 The main features within the site are the existing Lord Adonis House building, surrounding external landscaping and pedestrian footways, access road and informal staff car parking and a portion of the existing MUGA.

1.4 Ground conditions

1.4.1 A Ground Investigation of the site was undertaken by Geotechnical Engineering Ltd to determine the existing ground conditions and various geotechnical parameters for foundation design. Geological records referenced in the Ground Investigation report identified the London Clay Formation as the primary bedrock geology with the Gerrards Cross Gravel (consisting of sand and gravel) identified as the superficial deposits. This was undertaken over 12 years ago as a ground investigation for the original development.

1.4.2 Furthermore, borehole and trial pit investigations were undertaken as part of the study to determine the existing soil strata composition on site. The borehole scans and trial pit records suggests made ground to a depth of roughly 0.5m-1m, which consists of sandy and gravely yellow-brown clay with fragments of brick and tarmac. Below this, the boreholes and trial pits indicate orange-brown clay interspersed with sand at shallow depths and gravel at greater depths. This stratum of the London Clay extends to a great depth.

1.5 Watercourses

1.5.1 As part of this report, a review of the existing watercourses in close proximity to the site has been completed. The nearest watercourse is an unnamed tributary off the River Colne, which lies 138m away in 3rd Party land. The existing drains within the site discharge directly to this watercourse.

1.6 Drainage

1.6.1 As the site has been previously developed, it is anticipated that there will be existing drainage on site. Previous correspondence with Thames Water has identified no existing sewers in the vicinity of the site. A plan showing the existing drainage on site is included in Appendix A.

1.7 Flood Zones and Vulnerability Classification

1.7.1 The formal flood zone mapping approved by the government and prepared for use in the planning process, identifies areas potentially at risk of flooding from fluvial or tidal sources without taking into account the presence of flood defences or structures such as culverts or minor watercourses. An extract from the mapping is included in Figure 1 below; the red marker denotes the

site location.

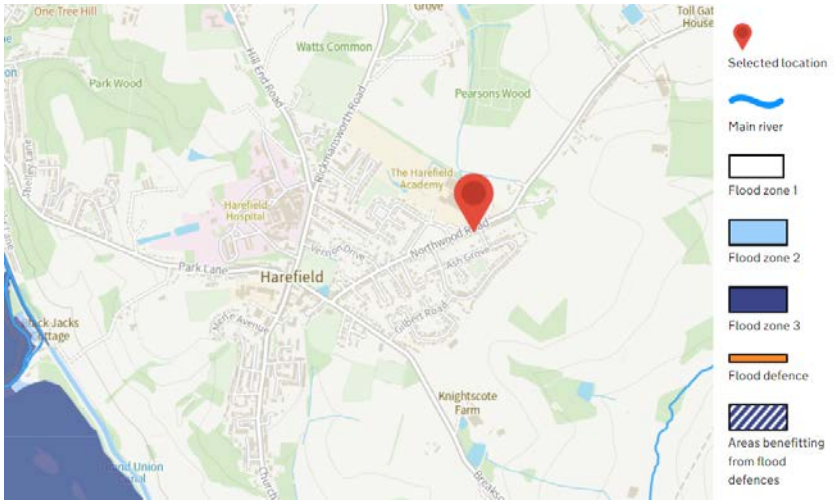

Figure 1: Flooding from Rivers and Watercourses

1.7.2 The formal flood zone mapping shows the site to be located within Flood Zone 1. Table 1 overleaf indicates what uses of land are appropriate for each flood zone, as set out within Table 3 – Flood risk vulnerability and flood zone 'compatibility' in the NPPF. The proposed use would be defined as More Vulnerable, hence the proposed use is deemed acceptable.

	Essential Infra-structure	Highly Vulnerable	More Vulnerable	Less Vulnerable	Water Compatible
Zone 1	✓	✓	✓	✓	✓
Zone 2	✓	Exception Test	✓	✓	✓
Zone 3a	Exception Test	×	Exception Test	✓	✓
Zone 3b	Exception Test	×	×	×	✓

Table 1 - Flood risk vulnerability and flood zone 'compatibility'

1.8 National Planning Flood Risk Policies Relevant to this Development

1.8.1 The National Planning Policy Framework (NPPF) last revised by the Department of Communities and Local Government (DCLG) on 20th July 2021, took immediate effect on that date. The document Technical Guidance on the National Policy Framework (TGNPPF) also published by the Department of Communities and Local Government, has now been withdrawn and superseded by the Planning Practice Guidance (PPG), published on 6 March 2014.

1.8.2 The requirement for conducting a FRA as part of a planning application is set out in Footnote 55 on page 48 of the NPPF, which states:

"A site-specific flood risk assessment should be provided for all development in Flood Zones 2 and 3. In Flood Zone 1, an assessment should accompany

all proposals involving: sites of 1 hectare or more; land which has been identified by the Environment Agency as having critical drainage problems; land identified in a strategic flood risk assessment as being at increased flood risk in future; or land that may be subject to other sources of flooding, where its development would introduce a more vulnerable use."

1.8.3 Essential content of a site specific FRA is explained in the NPPG, paragraph 30-32 as follows:

"A site-specific flood risk assessment is carried out by (or on behalf of) a developer to assess the flood risk to and from a development site. Where necessary (see footnote 5 in the National Planning Policy Framework), the assessment should accompany a planning application submitted to the local planning authority. The assessment should demonstrate to the decision-maker how flood risk will be managed now and over the development's lifetime, taking climate change into account, and with regard to the vulnerability of its users (see Table 2 – Flood Risk Vulnerability).

The objectives of a site-specific flood risk assessment are to establish:

- whether a proposed development is likely to be affected by current or future flooding from any source
- whether it will increase flood risk elsewhere
- whether the measures proposed to deal with these effects and risks are appropriate
- The evidence for the local planning authority to apply (if necessary) the Sequential Test, and
- Whether the development will be safe and pass the Exception Test, if applicable."

1.8.4 For certain types of flood sensitive development, NPPF describes how the Local Planning Authority (LPA) should check that the site proposed has the lowest frequency of flooding of those available for the development. This check is called the "Sequential Test". All development that is identified in the LPA's Local Development Framework Development Plan (LDFDP) has been Sequentially Tested using the LPA's Strategic Flood Risk Assessment (SFRA). When a test is required, and the development is not identified in the Development Plan, NPPF advises that the site-specific FRA includes the Test. NPPF also requires that the FRA includes an "Exception Test" for flood sensitive development proposed in areas with high frequency of flooding. The reason is to demonstrate that flood risk will be safely managed for the lifetime of the development.

1.8.5 According to the latest relevant Planning Practice Guidance, updated in October 2019, present day rainfall rates should be increased by 20% for design and by 40% to investigate the potential impact on flood risk of the current central expectation of climate change occurring in the anticipated 50-year lifetime of the development.

1.8.6 "Non-Statutory Technical Standards for Sustainable Drainage Systems" published by Department for Environment, Food and Rural Affairs in March 2015 sets out Government expectations for surface water drainage systems

serving major developments to restrict discharges to green field rates. The standards do not address the quality of surface water discharges and state circumstances when the discharge rate can be higher than greenfield, up to the existing flow in the case of redevelopment of brown field sites.

1.9 Local Policy Guidance

1.9.1 The Hillingdon Local Plan adopted in January 2020, outlines the requirements and considerations developers should follow as part of their proposals. As part of this report, the adopted policies have been reviewed, and the proposal has been developed to comply with their requirements. The relevant planning policy within the district plan are outlined below.

1.9.2 Policy EM6:

"The Council will require new development to be directed away from Flood Zones 2 and 3 in accordance with the principles of the National Planning Policy Framework (NPPF). The subsequent Hillingdon Local Plan: Part 2 -Site Specific Allocations LDD will be subjected to the Sequential Test in accordance with the NPPF. Sites will only be allocated within Flood Zones 2 or 3 where there are overriding issues that outweigh flood risk. In these instances, policy criteria will be set requiring future applicants of these sites to demonstrate that flood risk can be suitably mitigated. The Council will require all development across the borough to use sustainable urban drainage systems (SUDS) unless demonstrated that it is not viable. The Council will encourage SUDS to be linked to water efficiency methods. The Council may require developer contributions to guarantee the long term maintenance and performance of SUDS is to an appropriate standard."

2.0 Flood Risk

2.1 Flood Risk from Rivers and Watercourses

2.1.1 The site is shown on the available flood maps, see Figure 1 above, to be at a very low risk of flooding from this source as the site is located in Flood Zone 1 and thus has an annual probability of flooding of less than 0.1%. Therefore, the site is not considered to be at risk of flooding from rivers and watercourses.

2.2 Flooding from the Sea

This site is situated in Harefield, Hillingdon and is 63.4km away from the sea. The site is at a minimum elevation of 87m above sea level. Therefore, it can be concluded that the risk of flooding from the sea is negligible and will not be discussed further within this report.

2.3 Flooding from Land

2.3.1 As indicated in the surface water flood risk map in Figure 2 below, the entire site, red line indicating the boundary, is located outside any areas of anticipated surface water flood risk.

2.3.2 It should be noted that some surface water flood risk has been identified within the wider school site, and outside the planning boundary, which is likely due to the site and the surrounding area being relatively flat and/or the external works falling towards the existing buildings, and thus being prone to localised pooling of surface water. Note that these flood risk maps do not take into account any drainage infrastructure, which it is anticipated will address the surface water flows indicated outside of the site.

2.3.3 There also appears to be a potential minor surface water flood flow route entering towards the south end of the site; however, the local levels flow away from the site, therefore the proposed development will not be at risk of this pluvial flow and will not impact the wider pluvial flow route in the area, thus existing flood risk will remain unaffected.

Figure 2: Flooding from Surface Water

2.4 Flooding from Groundwater

2.4.1 The West London Strategic Flood Risk Assessment (SFRA) provides an overview of the risk of groundwater flooding to the LBH. The SFRA states that the London Clay underlaying the LBH (and thus the site) generally has a low hydraulic conductivity due to its cohesive nature, but there can be instances of ponding for regions downstream of outcrop aquifers as a result of the low conductivity. Therefore, the groundwater flood risk would need to be confirmed on a local scale.

2.4.2 The interactive Sewer, Groundwater and Artificial Flood Risk Web Map included in the West London SFRA provides an indication of the local groundwater flood risk as of 2017. The interactive map demonstrates that the probability of groundwater flood risk to the site is less than 25% and thus it can be concluded that the proposed development is at low risk from flooding by groundwater. An extract of the interactive map which displays this flood risk is included in Figure 3.

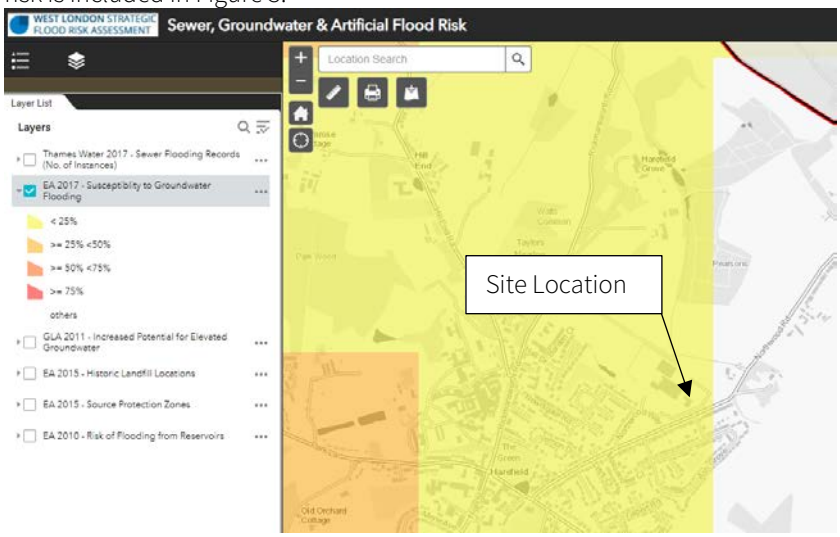

Figure 3: Flooding from Groundwater

2.5 Flooding from Sewers

2.5.1 Flooding can occur from other sources such as blocked drains and sewers. As mentioned in Section 1.7, there are existing Thames Water sewers located in Northwood Road to the west of the site which may be prone to blockage. As these public sewers are adopted by Thames Water, it can be safely assumed that they are regularly inspected and maintained by Thames Water, hence it can be concluded that these public sewers pose a low flood risk to the site.

2.5.2 As mentioned previously, there is an existing private drainage network on site which serves the Lord Adonis House building. This network is not adopted by Thames Water, but is owned and regularly maintained by the Harefield Academy, and thus does not pose a flood risk. The additional drainage network which will serve the proposed extension (described further in Section 4) will need to be regularly maintained as per the schedule described in Section 5.

2.5.3 The interactive Sewer, Groundwater and Artificial Flood Risk Web Map included in the West London SFRA also provides an indication of the local flood risk attributed to sewers. An extract of this is provided in Figure 4 which reinforces that the site is at a low flood risk from this source.

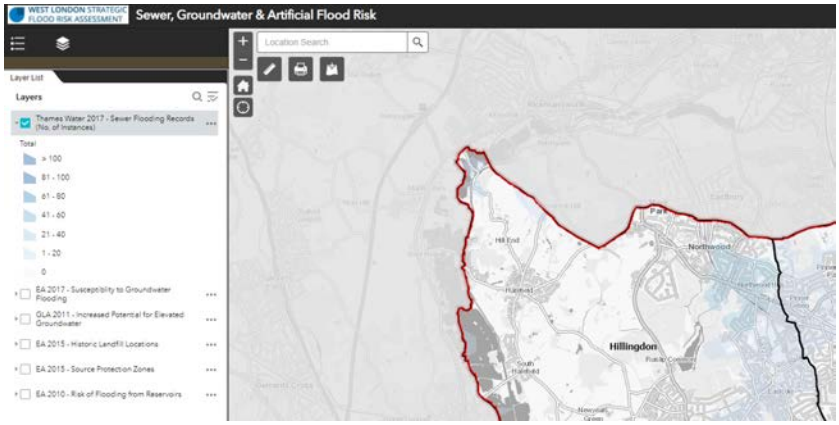

Figure 4: Flooding from Groundwater

2.6 Flooding from Reservoirs, canals and other artificial Sources

2.6.1 The reservoir flood map shown in Figure 3 shows the extent of flooding should a canal, reservoir, or other artificial source breach upstream of the development. This shows that the site would not be at risk of flooding from this source and as such this source of flooding is not considered a risk.

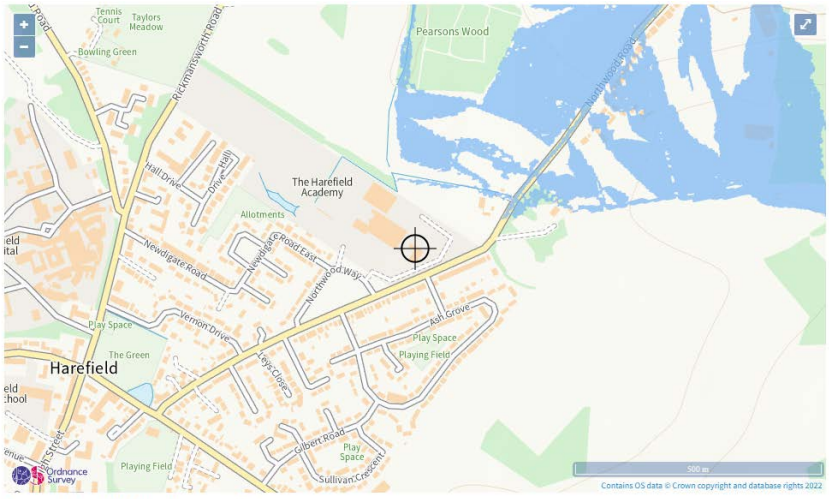

Figure 5: Flooding from Reservoirs

3.0 Mitigation

3.1 Flood risk management

3.1.1 It is suggested that the following flood risk management measures are considered to mitigate the risks identified above:

- As the majority of accesses will be flush, threshold drainage will be incorporated.
- Wherever possible, the external ground profile in the development will ensure that surface water is directed away from the extension and existing building.
- The proposed development will incorporate a positive surface water drainage system, described further in Section 4, which will intercept runoff from roofs and paved areas before discharging flows offsite at a rate no higher than the existing values.

3.2 Residual Risks

3.1.1 Residual risks are the risks that remain once the flood risk management measures described above have been implemented. These are typically associated with extreme events that overwhelm drainage systems exceeding the flood levels used to design any mitigation measures. The primary residual risks that will affect this development are:

An extreme rainfall event which exceeds the capacity of the proposed surface water drainage system to both intercept and convey the flows. During such an event, water that is unable to enter the formal drainage system will flow over the ground through the development. The risk can be reduced by designing site levels to direct any runoff towards the highways or other corridors running through the site.

A rainfall event that exceeds the capacity of surrounding off-site drainage networks could also result in runoff entering the site via routes other than the highways.

4.0 Conclusion

4.1 This site specific Flood Risk Assessment has been prepared in accordance with NPPF guidance and local policy on Flood Risk. The government approved flood mapping shows the site to be located within Flood Zone 1 and thus at a low flood risk from both fluvial and pluvial sources on the site. Further to this, the proposed levels on the site shall be set such that in the unlikely event of these systems failing the development on the site will remain protected.

4.2 Subject to the mitigation measures proposed, the development may proceed without being subject to significant flood risk. Moreover, the development will not significantly increase flood risk to the wider catchment area.

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Appendix A

Existing and proposed site plans
Topographical survey

1 Block Plan
1 : 500

Notes:

Land Owned by Applicant

Application Site

RECORD INFORMATION:

The information regarding the 'Land Ownership by Applicant' is based on 2D measured suvery information recieved from the 'Existing Location Plan' produced by MHSE Harefield.

Scale 1 to 500 — 5 0 5 10 25 Metres

Amendments

No.	Description	Date	Issued by
P01	Issued for Planning	11/09/2023	NOV

Use figured dimensions only. All levels and dimensions to be checked on site. This drawing is to be read in conjunction with all other relevant drawings and specifications.

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Project Name:
Harefield Academy, Northwood Road

Dwg Reference:
Block Plan

Drawn: CS Checked: LC

Scale: 1 : 500 @ A1 Project Issue Date: 2022

Project:	Originator:	Volume:	Level:	Type:	Role:	Number:
TVC0024	NOV	V2	00	DR	A	PL02

Status: S2 — Suitability Description: FOR INFORMATION — Orig Paper Size: A1

Revision: P01 — Revision Description: PLANNING SUBMISSION — Noviun Job No: Z0717

Red Line

Proposed Building hatch

Building canopy

ST01 Surface Type 01 -
Modal PCC flag banding or similar approved
Refer to: TVC0024-WWA-V2-ZZ-DR-L-0501

ST02 Surface Type 02 -
Modal PCC flag banding or similar approved
Refer to: TVC0024-WWA-V2-ZZ-DR-L-0501

ST03 Surface Type 03 - Banding
Modal PCC flag banding or similar approved
Refer to: TVC0024-WWA-V2-ZZ-DR-L-0501

ST04 Surface Type 04 - Permeable block priora paving
Size: 200 x100 x 80mm
Refer to: TVC0024-WWA-V2-ZZ-DR-L-0501

ST05 Surface Type 05 - Proposed permeable Asphalt. Colour; TBC
Refer to: TVC0024-WWA-V2-ZZ-DR-L-0501

ST08 Vehicular Asphalt to engineers specification
Colour: Light Grey

ST06 Surface Type 06 - 6mm aggregate Resin Bound
Colour: Dorset Gold
Refer to: TVC0024-WWA-V2-ZZ-DR-L-0501

ST07 Surface Type 07 - Wetpour Surface
Colour: Red
Refer to: TVC0024-WWA-V2-ZZ-DR-L-0501

2.4m high Brick Wall

2.4m high Weldmesh Fence

3m high Sports Weldmesh Fence

1.5m high Internal Weldmesh Fence

Play equipment with associated safety surface

Existing Planting Retained

Proposed Planting

Amenity Grass

Wildflower Meadow

Synthetic grass

Existing Trees

Proposed Trees

Climbing plants to proposed brick wall

No.	Date	Appr	Revision Notes
P 01	31/08/23	KL	Planning Issue

Note: All Dimensions must be checked on site and not scaled from this drawing.
All cross references are to the latest revision of the relevant drawing or specification being referenced

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Scale/North Point

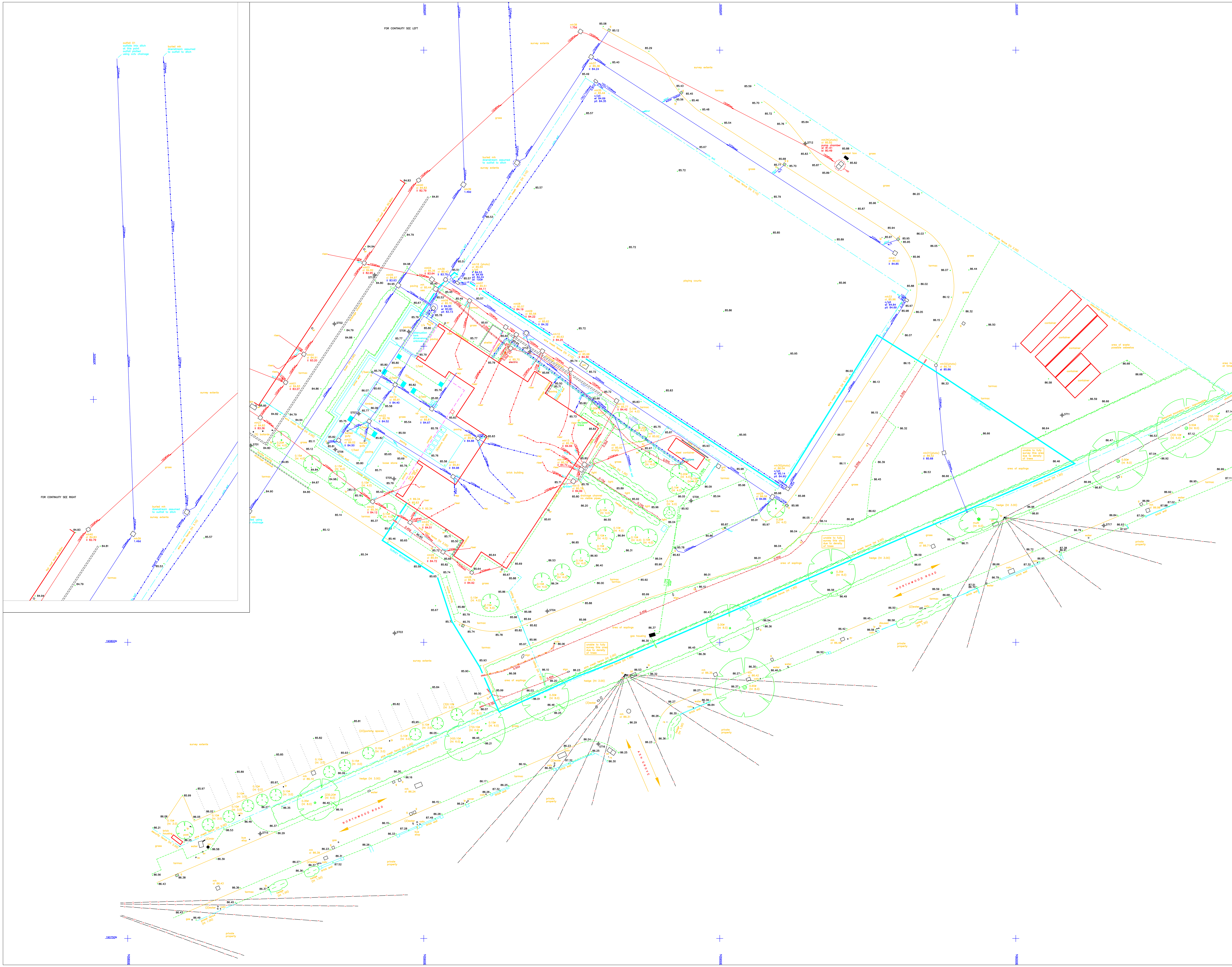
0 5 10 15 20 25 M

Client
Noviun Architects

Job Title
Harefield Academy Hillingdon

Drawing Title
Overall Site Wide Landscape Plan

Issue	PLANNING
Scale	1:250@A1
Drawn	IN
Checked	LD
Project ID	2313
Date	31/08/2023
Drg	TVC0024-WWA-V2-ZZ-DR-L-0101
Status	S2
Rev	P01



NOTES

GENERAL NOTES :-

ALL LEVELS ARE IN METRES DERIVED FROM GPS TRANSFORMATION.

GRID COORDINATES ARE ORDNANCE SURVEY NATIONAL GRID DERIVED FROM GPS TRANSFORMATION. GPS COORDINATES AND LEVELS SET AT ST01 (NO SCALE FACTOR APPLIED)

THIS DRAWING HAS BEEN PRODUCED WITH A PLOT SCALE ACCURACY OF 1:200

SERVICE COVERS INDICATED WHERE VISIBLE. PIPE INVERTS / DETAILS SURVEYED FROM SURFACE INSPECTION ONLY. GENERALLY DAMAGED COVERS AND COVERS WITHIN HIGHWAYS WILL NOT BE LIFTED

TREE SPECIES SHOULD BE CONFIRMED BY TREE SPECIALIST IF CRITICAL.

OVERHEAD CABLES ARE INDICATED USING REMOTE SURVEY METHODS AND ARE SUBJECT TO SEASONAL VARIATION, AND SHOULD BE TREATED AS APPROXIMATE.

THE SURVEYOR WILL NOT BE RESPONSIBLE FOR THE OMISSION OF DETAILS OBSCURED DURING SITE SURVEY

RICS PROFESSIONAL STANDARDS 3RD EDITION RULE 1.19 APPLIES TO THIS SURVEY.

TOPOGRAPHICAL SURVEY/UTILITY KEY :-

(ht) – height
ø – diameter
● – pea trap
a/g – above ground
a/r – assumed route
av – air valve
bb – belisha beacon
bd – back drop
bl – bed level
boll – bollard
bos – bottom of shaft
bt – telecom
c/b fence – closeboard fence
c/box – control box
catv – cable television
cl – cover level
con – conifer
cr – cable riser
cws – combined water sewer
d/chan – drainage channel
ejb – electric junction box
elec – electric
eot – end of trace
ep – electric pole
er – earth rod
f/bed – flower bed
fh – fire hydrant
fl – floor level
fs – fire switch
fws – foul water sewer
g – gully
g/run – gully run
gr – gas riser
h/chestnut – horse chestnut
h/thorn – hawthorn
ic – inspection cover
il – invert level
ill – illuminated
int – interceptor
lp – lamp post
mh – manhole cover
mkr – marker
o/h – over head

ol – off let
osa – off survey area
OSBM – ordnance survey bench mark
p & r fence – post & rail fence
pd – pit depth
pr – pipe riser
ptg – pipe to ground
pts – pipe to surface
re – rodding eye
ret wall – retaining wall
rs – road sign
rwp – rain water pipe
s/birch – silver birch
s/p – safety paving
sap – sapling
sec fence – security fence
sfc – soil filled chamber
sl – spot light
sp – soil pipe
st – stop tap
sv – stop valve
svp – soil vent pipe
sws – storm water sewer
TBM – temporary bench mark
tfr – taken from records
tl – threshold level
toc – top of cap
top – top of pipe
tot – top of tank
tp – telecom pole
ts – traffic signal
t/s – trench scar
u/s – underside
utl – unable to lift
utr – unable to rod
uts – unable to survey
utt – unable to trace
vp – vent pipe
wfc – water filled chamber
wl – water level
wm – water meter
wp – waste pipe
wr – water riser

SURVEY CONTROL :-

STATION	EASTINGS	NORTHINGS	LEVEL
ST01	505870.794	190833.240	84.834
ST02	505884.913	190853.768	84.815
ST03	505895.082	190801.554	85.630
ST04	505920.872	190805.270	85.951
ST05	505894.984	190827.609	85.596
ST06	505885.056	190832.563	85.805
ST07	505889.032	190838.616	85.779
ST08	505897.473	190852.460	85.780
ST09	505945.151	190823.900	85.952
ST10	505917.938	190849.067	85.658

NORTH POINT :-

NORTH

UTILITY SURVEY KEY :-

HATCHED AREA
BOREHOLE
CPT
TRIAL PIT
HAND PIT
WINDOW SAMPLE

N — ELECTRIC CABLE
W — WATER PIPE
FOUL SEWER
STORM SEWER
COMBINED SEWER
D — DUCTS
TV — CABLE TELEVISION
COM — DATA CABLE
: — TELECOM CABLE
G — GAS PIPE
U — UNIDENTIFIED SERVICE
OTHER
CCTV — CCTV
TL — TRAFFIC LIGHT
O — OFFSET FILL
V — VENT
F — FUEL PIPE
GL — GAUGE LINES
P — PIPE
AR — ASSUMED ROUTE
TFR — TAKEN FROM RECORDS

DISCLAIMER :-

Electromagnetic techniques have been used in the location of underground services. The results are not infallible and trial excavations should be carried out to confirm service identification, positions and particularly depths, where these are critical. The completeness of the underground services information cannot be guaranteed.

This method of survey does not differentiate between live and dead services, and as such all services should be treated as live. This drawing may not include the location of all public services that may cross the site, therefore the relevant service drawings should be obtained from the appropriate utility company and used in conjunction with this drawing.

Private service pipes and cables in highways are not shown, but there presence should be anticipated.

Additional below ground structures or obstructions not shown on this drawing may be present. Reference should be made to historical plans and as-built drawings. Excavations in the vicinity of services should be carried out with due diligence ref: HSG47 document avoiding dangers from underground services

Please note that factors such as ground conditions, proximity of other utilities, material and method of construction have an influence on the quality of the data collected on site.

TSA Standards – "A utility mapping survey can be considered a 100% accurate depiction of the sub-surface environment, and the use of these drawings does not remove the requirement for the use of safe digging techniques at all times, in line with requirements of HSG47 and current CDM regulations".

UTILITY NOTES

ALL INTERNAL DRAINAGE HAS BEEN PLOTTED ON USING CCTV CHAINAGE, THEREFORE POSITIONS SHOULD BE TREATED AS GUIDE ONLY.

WHERE CCTV WORKS HAVE NOT BEEN POSSIBLE ASSUMED ROUTES HAVE BEEN SHOWN, THEREFORE THESE ROUTES SHOULD BE TREATED AS GUIDE ONLY.

EXTENSIVE JETTING WORKS ARE RECOMMENDED TO ALLOW FURTHER SURVEY WORKS TO BE CARRIED OUT.

0 2 4 8 12 16 20

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Tel: 01926 810811 Fax 01926 810812
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www.midlandsurvey.co.uk

Client	CHADWICK DRYER CLARK	
Project	HAREFIELD ACADEMY SCHOOL, MIDDLESEX, UB9 6ET	
Title	TOPOGRAPHICAL / UTILITIES & CCTV DRAINAGE SURVEY	
Date	APRIL 2022	Revisions
Scale	1:200@A0	
Dwg No	41243/1	
Surveyor	T.N. / J.W / A.B	
Checked	J.S. / K.N / R.P	

TOPOGRAPHICAL (LAND) SURVEYORS / UTILITY SURVEYORS
BUILDING MEASUREMENT SURVEYORS / 3D LASER SCANNING

CHAS Accredited Contractor www.chas.gov.uk
constructionLine
QUALITY ASSURED BS EN ISO 9001:2008
THE SURVEY ASSOCIATION

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Appendix B

Thames Water correspondence

From: DEVELOPER.SERVICES@THAMESWATER.CO.U
<DEVELOPER.SERVICES@THAMESWATER.CO.UK>
Sent: 24 March 2022 13:06
To: James Hall <james.hall@linkeng.co.uk>
Subject: RE: RE: DTS72378: DS6092899:PDEV:UB9 6ET: Developer Enquiry - The Harefield Academy, Hillingdon

Good afternoon James,
MAny thanks for your email and apologies I wasn't able to get back to you earlier on this. Our Asset Planner has no concerns in terms of foul water capacity however he does not agree with the proposed surface water draiange strategy as it is considered it is not following the London Plan policy. The surface water should be discharged into existing ponds and/or ditches (if infiltration is not feasible) rather than connected into surface water sewer. Please liaise with the planning authority to agree a suitable surface water drainage strategy.

Kind regards

Jose Varela
MEng - GMICE
Developer Services – Adoptions Engineer
Mobile 07747 640250 – Landline 0800 009 3921
developer.services@thameswater.co.uk

To: DEVELOPER.SERVICES@THAMESWATER.CO.U
<DEVELOPER.SERVICES@THAMESWATER.CO.UK>

CC:
Sent: 17.03.22 10:03:16
Subject: RE: DTS72378: DS6092899:PDEV:UB9 6ET: Developer Enquiry - The Harefield Academy, Hillingdon

Good morning Jose,

Could you please confirm when we can expect to hear back from you regarding this site?

I look forward to hearing from you.
Kind Regards,

JAMES HALL
UNDERGRADUATE ENGINEER
0121 716 0100
james.hall@linkeng.co.uk
www.linkeng.co.uk
Lombard House, 145 Great Charles Street
Birmingham, B3 3LP

From: DEVELOPER.SERVICES@THAMESWATER.CO.U
<DEVELOPER.SERVICES@THAMESWATER.CO.UK>
Sent: 08 March 2022 11:52
To: James Hall <james.hall@linkeng.co.uk>
Cc: Karishma Lally <karishma.lally@linkeng.co.uk>
Subject: DTS72378: DS6092899:PDEV:UB9 6ET: Developer Enquiry - The Harefield Academy, Hillingdon

Hi James,

Many thanks for your email. We have consulted with our Asset Planner and expect to get back to you in approximtely one week with comments.

Kind regards

Jose Varela
MEng - GMICE
Developer Services – Adoptions Engineer
Mobile 07747 640250 – Landline 0800 009 3921
developer.services@thameswater.co.uk

To: DEVELOPER.SERVICES@THAMESWATER.CO.U
<DEVELOPER.SERVICES@THAMESWATER.CO.UK>

CC: Karishma Lally <karishma.lally@linkeng.co.uk>

Sent: 01.03.22 13:33:49
Subject: RE: DS6092899:PDEV:UB9 6ET: Developer Enquiry - The Harefield Academy, Hillingdon

Good morning Jose,

Thank you for your response regarding Harefield Academy. We have updated the application form with regard to your comments – please see attached.

In terms of the three points you made regarding the scheme:

1. The existing accommodation building was originally built for 50 boarding students and 4 staff. We have added this to the table within the application.

2. The outfall for the foul drainage network of the existing site is unknown; we expect that the private foul drain on site connects into a Thames water public foul sewer on Northwood Road, if applicable. Due to the change of use of the building from accommodation to educational, we expect that the foul flows from the site will be reduced. I have re-attached the proposed site layout, updated to correctly label the private foul drain west of the site.

3. The existing flow control device on site is believed to restrict surface water flows to 12.9l/s. Furthermore, we expect that the extension building may incur additional surface water flow rates of 5-10l/s, on top of the existing.

- The use of infiltration techniques has been considered unfeasible due to the existing bedrock geology (London clay) and the proximity of ponds and other watercourses.
- The use of the existing ditch north of the site as an outfall is not viable due to the existence of the TW surface water sewer much closer to the site. Furthermore, the installation of a new surface water sewer would incur charges of ~£11,000, which can be avoided by reusing the existing connection into the TW sewer.
- We have therefore concluded that a connection into the Thames Water surface water network is the most viable outfall option, as the site currently drains to the adjacent TW surface water sewer, which will likely be retained for the proposed design.

I hope this information provides more insight into the proposals, and please don't hesitate to contact me if you have any further questions.

Kind Regards,

JAMES HALL
UNDERGRADUATE ENGINEER
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From: DEVELOPER.SERVICES@THAMESWATER.CO.U
<DEVELOPER.SERVICES@THAMESWATER.CO.UK>
Sent: 28 February 2022 17:40
To: James Hall <james.hall@linkeng.co.uk>
Cc: Chris H <chris.h@linkeng.co.uk>
Subject: DS6092899:PDEV:UB9 6ET: Developer Enquiry - The Harefield Academy, Hillingdon

Hi James,
Many thanks for your Pre Planning enquiry. So that we can assess on this, Could you please provide comments to the following points:
1) Please confirm the existing building use and capacity. Please use "existing site to be demolished" column in table B (iii) Your development in the application form so that we can substract those flows to the new ones. For example if this was a Primary School then indicate the previous number of pupils before the new development.
2) Please note the foul water sewer indicated as Existing Thames Water in the plans provided are not shown in our records, if this sewer is serving only one courtilage, like for example one school or academy, then it will remain as a private sewer. Please let us know where that foul wate sewer discharges into in relation to our network, we can see it might be by gravity into a foul water sewer in Northwood Rd or by gravity into existing (private) foul water pumping station in the School/academy then pumped into our network, if that is the

case please let us know discharge point of that rising main and how does connect with our network, also if the pumping flow rate is going to remain the same or change and if so previous and new pumped flow rates.
3) The proposed surface water discharge rate of 40 l/s is considerable amount for a sewer, has the surface water drainage strategy been discused with the Lead Local Flooding Authority? can this not be discharged directly into the existing ditch to the north of the development? can a soakaway not been used instead? if the connection into the sewers is still required, could this flow rate not be attenuated to a lower discharge rate? (and if not Why not?)

Kind regards

Jose Varela
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To: DEVELOPER.SERVICES@THAMESWATER.CO.U <developer.services@thameswater.co.uk>

CC: Chris H <chris.h@linkeng.co.uk>

Sent: 23.02.22 12:15:13
Subject: Developer Enquiry - The Harefield Academy, Hillingdon

Good afternoon,

Please find attached a developer enquiry application and associated plans for a proposed extension of The Harefield Academy off Northwood Road in Harefield, in the London borough of Hillingdon.

If there is any further information that you require, please let me know.

Kind Regards,
JAMES HALL
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