



Sustainable Drainage Systems (SuDS) Strategy Supplementary Statement Sustainability Services

48-52 Clarendon Road
Watford
WD17 1TX

08 February 2021

Prepared for:

Sphere 25

1. Introduction

A planning application was made to Watford Borough Council Planning Authority ref 17/01433/FULM for the redevelopment of the site at 50 Clarendon Road, Watford, WD17 1HZ to provide a mixed use scheme including 100 residential units, circa 5,945sq.m (GIA) Grade A office floorspace and ancillary flexible use unit at ground floor level, with associated cycle parking, car parking and landscaping.

A Sustainable Drainage System ((SuDS) Strategy was completed for the proposed development by Pringuer-James Consulting Engineers reference L2262-REP-002 dated 13 November 2017. Following consultations with and review of the document by the LLFA the application was approved with the inclusion of the following conditions:

Condition 3

Development shall not commence until a drainage strategy detailing any on and/or off site drainage works, has been submitted to and approved by, the local planning authority in consultation with the sewerage undertaker. No discharge of foul or surface water from the site shall be accepted into the public system until the drainage works referred to in the strategy have been completed.

Reason - The development may lead to sewage flooding; to ensure that sufficient capacity is made available to cope with the new development; and in order to avoid adverse environmental impact upon the community.

This supplementary statement deals specifically with Condition 3 above. In doing so it refers to the pre- requirements for the undertaking of the detail design of the SuDS strategy in accordance with the approved SUDS Strategy prepared by Pringuer-James Consulting Engineers reference L2262-REP-002 dated 13 November 2017.

Section 6.2 of the SuDS strategy: Thames Water Pre-development Query, 6.2.1 Existing site network states the prerequisite for the undertaking of a site survey of the existing sewerage connections to the public network. Section 6.2.2 Proposed discharge rates requires consultation with Thames Water to reach agreement with them for the discharge flows and points of connection from the proposed development.

Details of the site survey of the existing sewerage connections to the public network and Thames Water consultations to reach agreement of discharge flows and points of connection from the proposed development are reported in the following statement.

1. SuDS Strategy: Section 6.2: Thames Water Pre-development Query

Existing site network

The LPA and Thames Water agreed that an on-site survey should be completed to confirm the overall number of outfalls from the site.

Therefore, it was arranged for Express Drainage Surveys to undertake an on-site survey of the existing surface water sewer network on the 50 Clarendon Road site. The aim of the survey was to establish the surface water outfalls from the site and where they connected to the off-site Thames Water surface water sewer network. A previously undertaken topographical survey showing the on-site manhole covers was provided to Express Drainage Surveys / Express Solutions Group to assist in their survey works.

Express Solutions Group undertook the site survey / CCTV Survey on Thursday 21st January 2021. The Express Solutions Group reports are provided in Appendix A. The survey confirmed that a surface water sewer serving the site leaves the site at its south west corner of the site at the highway access. The site surface water sewer connects into the Thames Water surface water sewer within Clarendon Road.

A report for the CCTV survey has been completed by Express Solutions Group and is provided within Appendix A

A sketch of the findings showing the Thames Water surface water sewer connection for the surface water discharge from the existing development was produced on site during the survey and was forwarded to Thames Water immediately on receipt.

Proposed discharge rates

The approved SuDS Strategy agrees a rate of 40 l/s from the site. Thames Water state that their surface water sewer within the St John's Road would not be able to accept the full 40 l/s from the development. The northern connection from the proposed development site to the Thames Water Surface Water network in St John's Road would need to a restricted discharge to suit.

Additional surface water outfalls from the site are required to identified and discharge rates assigned to each in accordance with the available capacity of the Thames Water surface water sewer at that point accordingly.

The Express Solutions Group data was forwarded to Thames Water. It confirmed the additional surface water outfall discharge to the Thames Water surface water sewer within Clarendon Road at the south west corner access of the existing site.

Thames water were consulted with in respect to their requirements for the split of the agreed 40 l/s for the discharge into the particular sewers i.e. how much of the discharge is acceptable to connect to the Clarendon Road and St John's Road Thames Water sewers respectively.

Thames Water's Devcon Team provided the recommendation for the spilt of the s/w discharge of 40 l/s for all storm events, is:

- Discharge rate of 14l/s in St John's Road (MH003)
- Discharge rate of 26l/s in Clarendon Road (TQ10969903)

Thames Water also stated that they required the following:

Regarding the s/w disposal we would like you to provide us evidence that they s/w disposal hierarchy (1st infiltration, 2nd watercourse, 3rd public sewers) was examined, that the flows you propose to discharge s/w on TW s/w sewers are a betterment compared with the existing discharge rate of the site and that there is an agreement with the LLFA on that.

A copy of the original Pringuer-James Sustainable Drainage Systems (SuDS) Strategy L2262-REP-002 Rev 03 report dated November 2017 was forwarded to Thames Water as evidence that the surface water disposal hierarchy was examined at the strategy stage. Further a copy of the LLFA letter dated 24 January 2018 RE: 17/01433/FULM – 50 Clarendon Road, Watford, WD17 1HZ accepting the SuDS Strategy was forwarded as evidence of the LLFA agreement of the strategy.

Subsequently Thames Water's Devcon Team confirm that these documents provided the evidence that they required. Copies of the email correspondence are provided in Appendix B Thames Water Correspondence.

2. SuDS Strategy: Update February 2021

Following agreement with Thames Water of the proposed discharge rates and points of discharge from the proposed 48-52 Clarendon Road development eb7 has updated the original Pringuer-James proposed SuDS strategy to suit.

The original Pringuer-James SuDS strategy is shown on their drawing No L2262-SK-C-001 - SuDS Strategy indicating just one discharge of 40 l/s to the north at St John's Road. The updated SuDS Strategy requires a second connection to be provided to the Thames Water surface water sewers within Clarendon Road from the south western corner of the site as the existing. The split of the discharge is to be as agreed with Thames Water.

- Discharge rate of 14 l/s in St John's Road (MH003)
- Discharge rate of 26 l/s in Clarendon Road (TQ10969903)

As well as providing attenuation upstream of the offsite discharge to the connection at St John's Road the updated SuDS strategy requires attenuation to be also provided upstream of the offsite discharge to the Clarendon Road connection. The updated SuDS strategy is shown in the eb7 sketch No FRA2055-DS-001 provided in Appended C.

3. Conclusions and Recommendations

As required by the LPA and Thames Water a site survey has been undertaken to establish the existing points of discharge from the 48-52 Clarendon site. It was established that there was an additional discharge from the existing site into the Clarendon Road Thames Water sewer.

Thames Water were consulted with and has agreed the required split of the proposed 40 l/s discharge to their surface water sewers within St John's Road and Clarendon Road and points of connection. The proposed discharges from the site will utilise the existing connections to the Thames Water sewers.

Thames Water's Devcon Team have provided the recommendation for the split of the s/w discharge of 40 l/s for all storm events as:

- Discharge rate of 14l/s in St John's Road (MH003)
- Discharge rate of 26l/s in Clarendon Road (TQ10969903)

An updated SuDS Strategy shown in FRA2055-DS-001 has been provided by eb7 Sustainability Ltd to suit the Thames Water agreements.

It is recommended that the updated strategy is taken to detail design to enable further progress on the 48-52 Clarendon Road development.

Appendix A

Express Solutions Group CCTV Survey Report for 48–52 Clarendon Rd

CCTV SURVEY REPORT



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EXPRESS SOLUTIONS GROUP

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Ref: CH8099

Vedose Ltd
13, Agiou Prokopiou Street
P.O Box 25746
Nicosia
Cyprus
CY-1311

28 January 2021

Dear Ms Alderson

Re: Fully Comprehensive CCTV Survey: 48/52 Clarendon Road, Watford, Hertfordshire, WD17 1TX.

Firstly, thank you using the services for Express Solutions Group. We are a Quality Assured, Health and Safety Accredited Company specializing in all aspects within the Drainage Industry.

As agreed, we carried out an investigative CCTV Survey to establish where and how the surface water road gully discharges to. The survey confirmed the Road Gully (Surface Water Gully 1) discharged into an Surface water Inspection Chamber within site. The survey then confirmed Surface Water Inspection Chamber 1 does connect to the 450mm Surface Water public sewer on Clarendon Road.

The following is included within your report:

- Abbreviated condition summary index with recommendations and associated costings
- Full detailed condition report with still images
- Full CCTV footage
- Site plan showing the location of Inspection Chambers and Drain Runs
(Please note the plan is for interpretation purposes only and not to scale)

All work undertaken by Express Solutions Group is carried out by fully qualified operatives to the highest of standards and fully guaranteed

Our aim is to always offer the right solution for your needs. As drainage specialists, we are able to undertake all recommended works within our report. We pride ourselves on being priced competitively. We understand the need to work expediently so please do not hesitate to contact us should you require clarity on your report or wish to schedule the recommended work.

Once again thank you for using the services of Express Solutions Group.

Kind regards

Jack Ramsey
CCTV Analyst



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Frontline
ENVIRONMENTAL

CCTV Summary Index

Job Reference: 8099 Address: 48/52 Clarendon Road, Watford, Hertfordshire, WD17 1TX

Recommendation Scale

- 1

No Further Action
- 2

Re-CCTV in 12 Months
(To Monitor Defects Identified)
- 3

Works Required

Sheet	Drainage section	Abbreviated Recommendations	Structural (S) or Serviceability/Maintenance Defect (M)	Grade (1-5)	Recommendation Scale (1-3)	Costs
1:	Surface Water Gully 1 – Surface Water Public Sewer on Clarendon Road Via Surface Water Inspection Chamber 1	1. No recommendations Please contact the office if you require a quotation to excavate & Replace the Inspection Chamber cover and carry out a further cctv survey.	-	1	1	-



CCTV Survey Report

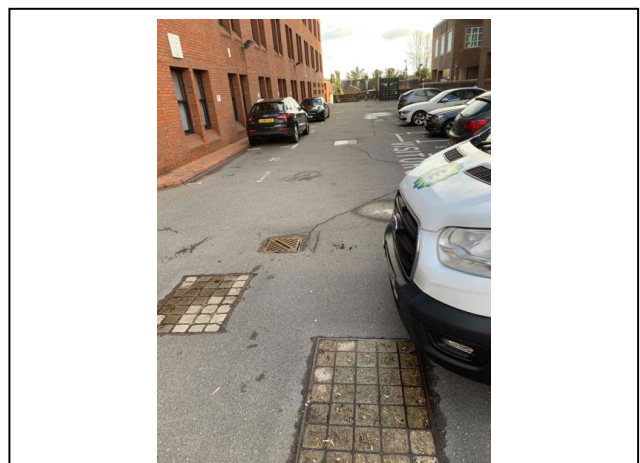
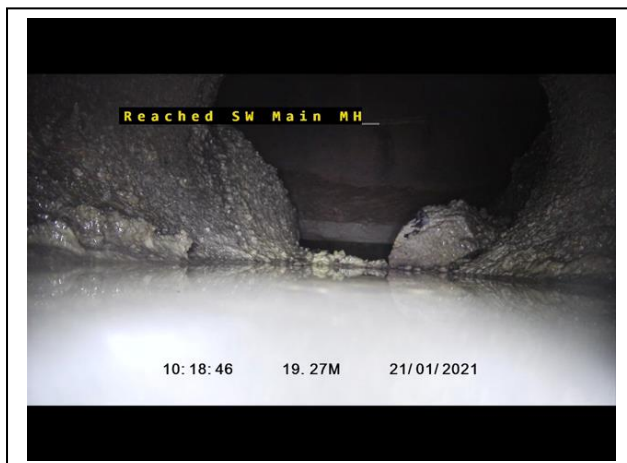
Invoice Address: Vedose Ltd 13, Agiou Prokopiou Street P.O Box 25746 Nicosia Cyprus CY-1311		Site: 48/52 Clarendon Road Watford Hertfordshire WD17 1TX		Job No:	8099
				Eng No:	CH856
				Date:	28 January 2021
				Sheet:	1
Reason for Survey		CCTV Fully Comprehensive Survey		Survey Recorded	<input checked="" type="checkbox"/>
Pipe Dia	150mm	Run Length	19.27m	Foul / Surface	Surface
Composition		Clay			
Start Position		Surface Water Gully 1		End Position	
				Surface Water Public Sewer on Clarendon Road Via Surface Water Inspection Chamber 1	
Invert Level		1000mm		Invert Level	
				Not Confirmed	
Survey direction		Downstream		Surface Area	
				Concrete/Tarmac	
Meterage	Code	Grade	Remark / Note		Image Supplied
0.00m	-	-	Start of Survey		Yes
2.48m	IC		Enters Inspection Chamber 1 – (UTL) Pipe Sizes Increase to 225mm		Yes
19.27m	-	-	Reached Surface Water Public Sewer on Clarendon Road & End of Survey		Yes
Drain Run in a serviceable condition?		Yes			
Details		The survey revealed no significant structural defects within the drainage run. Surface Water Inspection Chamber 1 was unable to be lifted/surrey due to Inspection Chamber cover and frame was seized with lifting eyes concreted.			





Images Page

Surface Water Gully 1 – Surface Water Public Sewer on Clarendon Road Via Surface Water Inspection
Chamber 1





CCTV Overview / Quote

Invoice Address: Vedose Ltd 13, Agiou Prokopiou Street P.O Box 25746 Nicosia Cyprus CY-1311		Site: 48/52 Clarendon Road Watford Hertfordshire WD17 1TX		Job No:	8099	
				Eng No:	CH856	
				Date:	28 January 2021	
				Sheet:	1	
Start Position	Surface Water Gully 1	End Position	Surface Water Public Sewer on Clarendon Road Via Surface Water Inspection Chamber 1			
Recommendations		Our recommendations are 1. No recommendations Please contact the office if you require a quotation to excavate & Replace the Inspection Chamber cover and carry out a further CCTV. All work undertaken by EDS is carried out by fully qualified operatives to the highest standard.				
Works Guarantee		All lining works undertaken is guaranteed for 10years &excavation 5years.				
Are there any Health & Safety issues		N/A				
Risk & Method Statement supplied		N/A				
Any Special Site Requirements or Conditions		N/A				
Specialist Plant Requirement		N/A				





Code Reference

SRD	Scale / Residual Debris
CL	Cracks. Longitudinal
CC	Cracks. Circumferential
CM	Cracks. Multiple
FL	Fractures. Longitudinal
FC	Fractures. Circumferential
FM	Fractures. Multiple
B	Broken Pipe Work
H	Hole in Drainage Run
D	Deformed Drain
XP	Collapsed Drain
DJ	Displaced Joint
OJ	Open Joint
S	Surface Drain
R	Roots
EC	Encrustation/Corrosion

I	Infiltration
OB	Other Obstacles
WL	Water Level
CN	Lateral Connection
LX	Lining Defect
LC	Inspection Chamber
MH	Inspection Chamber
RE	Rodding Eye
OF	Outfall
SA	Survey Abandoned
SC	Dimension Change in Drain
MC	Material Change in Drain
IL	Invert Level
LC	Lining of Drain
VR	Rat
CUW	Loss of Vision, Cover Underwater





Grading

Condition Grading	Structural condition	Serviceability Condition
1	Insignificant deterioration of the sewer has occurred. Appears to be in good condition	No or insignificant loss of hydraulic performance has occurred. Appears to be in good condition
2	Minor deterioration of the sewer has occurred.	Minor defects are present causing minor loss of hydraulic performance
3	Moderate deterioration has occurred, but defects do not affect short term structural integrity	Developed defects are present causing moderate loss of hydraulic performance
4	Serious deterioration of the sewer has occurred and affected structural integrity	Significant defects are present causing serious loss of hydraulic performance
5	Failure of the sewer has occurred or is imminent	Failure of the sewer has occurred or is imminent





Terms and Conditions

1. Definitions and Interpretation

The following definitions apply in these terms and conditions:

"Conditions" these terms and conditions. "Confirmation" our Confirmation of your order attached to these Conditions.

"Contract" the Confirmation together with Conditions. "Customer" the person, firm or company who purchases work from the supplier.

"Supplier" Express Drainage Solutions. "Work" the work and services to be provided by the Supplier under the Contract as set out in the Suppliers Confirmation or, (Where a Confirmation has not been Provided) the Quotation.

2. Limitations of the Report

2.1 It should be noted that the exact layout of the system cannot be confirmed without the exposure of inaccessible branches, connections and all other inaccessible sections.

2.2 A CCTV Survey alone should not be a guarantee of water tightness,

2.3 The Report is not a structural survey and must not be construed as such

2.4 The Views expressed in this report are based entirely upon a visual examination of the drainage, supported by information from a drainage CCTV inspection and/or a water pressure test.

2.5 The drawing contained within or accompanying the report is not a scaled drawing and is for reference purposes only.

3. Rights of Originator

3.1 The report is for the sole use of the customer

3.1.1 It must not be reproduced or transferred to any other third party without the express written consent of supplier.

3.2 This is a condition report of the drain/sewer at the time and date of the survey being carried out only.

3.3 We reserve the right to amend our opinions in the event of additional information being made available at some future date

4. Customer's Obligations

4.1 It is the Customer's responsibility to provide the Supplier, in sufficient time, with any information and instructions relating to the Work that is, or are, necessary to enable the supplier to provide the work in accordance with the contract.

4.2 The Customer shall inform the Supplier in writing in good time of any dangerous materials or hazards that may be present on the premises and which could constitute a danger to any person.

4.3 If the Customer fails to provide the information required in clause 4.2 above, or provide the Supplier with incomplete, incorrect or inaccurate information or instructions, the Supplier may:

4.3.1 Make an additional charge of a reasonable sum to cover any extra work that is required; or

4.3.2 Cancel the Contract by giving written notice to the Customer

5. Access

5.1 The Customer shall provide clear access to all drains, sewers, inspection covers and Inspection Chambers to enable the Supplier to carry out the Work.

5.2 Where the Customer's drains are shared with third parties, the Supplier will request written permission from the relevant third party (ies). In the event that permission cannot be obtained, the Supplier will have the right to cancel the Contract and shall have no liability to the Customer in respect of any such cancellation.

5.3 The Customer shall obtain permission for the Supplier to proceed over the property belonging to third parties and/or to carry out work on property belonging to third parties where this is necessary for the proper execution of the Work.

6. Water and Power

6.1 The Customer shall provide all necessary power and a clean water supply from the mains or fire hydrant.

6.2 Where it is necessary for the Supplier to use a metered hydrant and supply controlled by the water authorities, the Supplier will invoice all charges made by that authority to the Customer and the Customer shall pay such charges within 7 days of receipt of the Supplier's invoice.

7. Work Guarantee

7.1 Subject to the following provisions of this Condition 7, The Supplier guarantees completed unblock and survey Work for a period of 28 days from the date of completion.

7.2 The Customer shall inspect the Work as far as it is reasonably possible immediately on completion of it and shall as far as reasonably practicable notify the supplier of any reason for believing that the work carried out by the Supplier is not in accordance with Contract within seven days of completion.

7.3 If the Customer fails to give such notice the Work shall conclusively be presumed free from any defects which would be apparent on reasonable examination of the Work.

7.4 The Supplier reserves the right not to carry out Work requested under the guarantee until the Supplier has been paid. The Supplier also reserves the right to delay or withhold performance of the guarantee where the Supplier has advised the Customer that, although clear, the drains need further work or have a possible fault.

8. Limitation of Liability – The Customer's Attention is particularly drawn to the provisions of this condition.

8.1 The Supplier warrants to the Customer that the Work will be provided using reasonable care and skill and, unless the Supplier is prevented by circumstances beyond its reasonable control, in accordance with the Confirmation

8.2 The Supplier shall have no liability to the Customer for any loss, damage costs, expenses or other claims for compensation arising from:

8.2.1 Any information or instructions supplied by the Customer which is or are incomplete, incorrect or inaccurate; or

8.2.2 Any failure by the Customer to obtain proper access over any property of any third party required in accordance with clause 5: or

8.2.3 Any damage or defect caused by any third party.

8.3 The Supplier shall have no liability to the Customer for any loss, damage costs, expenses or other claims for compensation arising from any indirect or consequential loss, damage or expenses.

8.4 The Supplier's Liability in respect of any other loss or damage shall be limited to the price paid by the Customer.

8.5 The Supplier shall not be liable to the Customer by reason of any delay in performing, or any failure to perform, any of its obligations in relation to the Work, if the delay or failure was due to:

8.5.1 Any act of God, war, terrorism, power failure, or any other cause beyond the Supplier's reasonable control; or

8.5.2 Any risk to health and safety or the environment, however, the Supplier will try to minimise any such problems where reasonably practicable.

8.6 The Supplier will not be liable for any fractured or frozen pipes and cannot guarantee to clear blockages occurring in a frozen pipe or drain.

8.7 Nothing in these Conditions affects any liability for death or personal injury caused by the Supplier's negligence or for fraudulent misrepresentation, or the Customer's statutory rights as consumer.

9. Data Protection

9.1 The Supplier will use personal information provided by the Customer for the purposes of:

9.1.1 Providing the Work:

9.1.2 Carrying out marketing and statistical analysis and we may disclose your information to our service providers for these purposes;

9.1.3 Informing the Customer by post or telephone about similar products and services provided by the Supplier and/or its related companies.

9.2 The Customer acknowledges and agrees that details of the Customer's name, Address and payment record may be submitted to a credit reference agency.

9.3 The Customer can correct any information or ask for information about the Customer to be deleted or opt-out from receiving any marketing information by post or by telephone by giving written notice to the Supplier at the address, fax number or email address shown on the Confirmation and/or any customer satisfaction questionnaire provided.

10. General

10.1 If any provision (or part of a provision) of this contract is found by any court or administrative body of competent jurisdiction to be invalid unenforceable or illegal, the other provisions will remain in force.

10.2 If any invalid, unenforceable or illegal provision of this Contract would be valid, enforceable or legal if some part of it were changed, deleted, that provision will apply with whatever changes are necessary to make the relevant provision valid, enforceable and legal.

10.3 A delay by either party in acting on a breach of this Contract will not prevent the other party from taking action in respect of that breach or any subsequent breach of this contract.





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152-154 Commercial Road, Staines-Upon-Thames, Surrey, TW18 2QW

Appendix B

Thames Water Correspondence

From: Devcon Team <devcon.team@thameswater.co.uk>

Sent: 01 February 2021 09:12

To: David Forward (eb7) <david.forward@eb7.co.uk>

Subject: RE: 17/01433/FULM – 50 Clarendon Road, Watford, WD17 1HZ: and Thames Water reference DTS Ref: 55925

Good Morning,

Apologies for the delayed response.

Based on the development enquiry which came to us in 2017 and considering the email that you have sent below, please see Thames Waters comments:

Regarding the s/w disposal we would like you provide us evidence that they s/w disposal hierarchy (1st infiltration, 2nd watercourse, 3rd public sewers) was examined ,that the flows you propose to discharge s/w on TW s/w sewers are a betterment compared with the existing discharge rate of the site and that there is an agreement with the LLFA on that.

Last, my recommendation for the spilt of the s/w discharge of 40 l/s for all storm events, is:

- Discharge rate of 14l/s in St John's Road (MH003)
- Discharge rate of 26l/s in Clarendon Road (TQ10969903)

Please let me know if you need further assistance.

Kind Regards,

Saira Irshad

Developer Services - Planner

020 3577 9998

devcon.team@thameswater.co.uk

Maple Lodge STW, Denham Way, Rickmansworth, WD3 9SQ

Find us online at developers.thameswater.co.uk



From: Devcon Team <devcon.team@thameswater.co.uk>

Sent: 05 February 2021 10:49

To: David Forward (eb7) <david.forward@eb7.co.uk>

Subject: RE: 17/01433/FULM – 50 Clarendon Road, Watford, WD17 1HZ: and Thames Water reference DTS Ref: 55925

Dear Mr. Forward

I have received a response from our major projects team and advised the following:

“After reviewing the documents provided and found in the following links (original application):

https://pa.watford.gov.uk/publicaccess/files/7BD3E8C9A750B11B10724E884B73ACEC/pdf/17_01433_FULM-FOUL_AND_SURFACE_WATER_DRAINAGE_ASSESSMENT_PART_1-639319.pdf

https://pa.watford.gov.uk/publicaccess/files/A80EEBE37AF2A00425D32705D75CA128/pdf/17_01433_FULM-FOUL_AND_SURFACE_WATER_DRAINAGE_ASSESSMENT_PART_2-639320.pdf,

These are the evidence which was requested as proof that the drainage hierarchy was followed. Furthermore, my recommendation for connection both to St Johns & Clarendon Roads is still valid.

In any case before the final approvment the exact connection points and discharge rate and method (gravity or pumping) should be provided by the developer.”

“Please feel free to let me know if I can offer further assistant”.

Kind Regards,

Saira Irshad

Developer Services - Planner

020 3577 9998

devcon.team@thameswater.co.uk

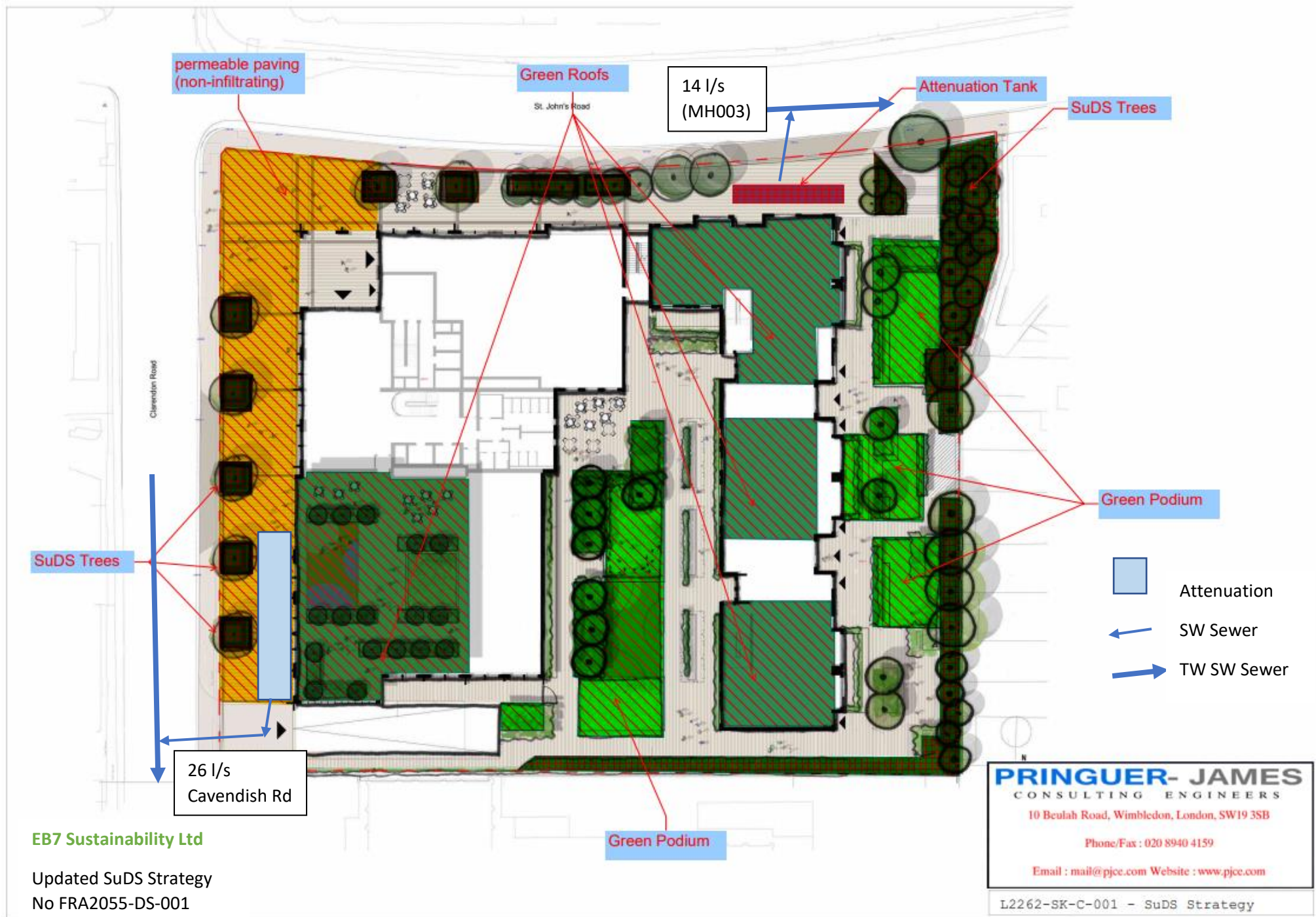
Maple Lodge STW, Denham Way, Rickmansworth, WD3 9SQ

Find us online at developers.thameswater.co.uk



Appendix C

48-52 Clarendon Road Updated SuDS Strategy SK No FRA2055-DS-001



EB7 Sustainability Ltd

Updated SuDS Strategy
No FRA2055-DS-001