



**PERSIMMON HOMES THAMES VALLEY
LAND NORTH OF TODDINGTON LANE
LITTLEHAMPTON**

**FOUL DRAINAGE, WEST OF WETLANDS,
(DISCHARGE OF CONDITION 13)**

DECEMBER 2019

the journey is the reward

**PERSIMMON HOMES THAMES VALLEY
LAND NORTH OF TODDINGTON LANE
LITTLEHAMPTON**

**FOUL DRAINAGE, WEST OF WETLANDS,
(DISCHARGE OF CONDITION 13)**

DECEMBER 2019

Project Code:	A/PHDRAIN.10
Prepared by:	CG
Approved by:	SF
Issue Date:	December 2019
Status:	1st Issue

**Persimmon Homes Thames Valley
Land North of Toddington Lane
Littlehampton
Foul Drainage, West of Wetlands, (Discharge of Condition 13)**

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1 Introduction

- 1.1 Mayer Brown Ltd (MBL) has been commissioned by Persimmon Homes Thames Valley (PHTV) to compile this report to facilitate the discharge of planning Condition 13 for their outlined approved development (**Arun DC reference LU/47/11/**) for up to 1,260 residential dwellings, B1 employment use, Class A facilities, a 100 bed hotel, 60 bed care home, primary school, plus many other facilities and improvements to the local infrastructure. Refer to Appendix A for the Site Location.

Outline Planning Consent & Variation of Conditions

- 1.2 Outline Planning Consent was granted in 2011, under Arun District Council planning reference LU/47/11, which includes Condition 13 that relates to foul drainage. This is covered in more detail within the report.

Purpose of this Drainage Report

- 1.3 This drainage report does not cover the entire area that received outline planning approval. It includes the development area of approximately 19.0 hectares to the west of the wetlands as identified in Appendix B, titled "Land Uses and Drainage Areas Covered".
- 1.4 There are a total of 18 land parcels and associated road infrastructure identified within the west of wetlands catchment at varying states of progress. A parcel specific surface and foul water drainage strategy will still be required to accompany the reserved matters (RM) applications from the individual land parcels.
- 1.5 This report is to be used to accompany the RM planning applications for each of the individual parcels in order to demonstrate that the receiving foul drainage network has been adequately designed and considered.

2 Condition 13: Foul Water

2.1 **Condition 13:** *Before each phase or sub phase of the development hereby permitted is commenced details of a proposed foul drainage system shall be submitted to and approved in writing by the Local Planning Authority (including details of its siting, design and subsequent management/maintenance, if appropriate) and no dwelling in that phase of development shall be occupied until works for the disposal of sewage have been fully implemented in accordance with the approved details.*

2.2 *Reason: To ensure adequate infrastructure is provided to enable the scheme to be satisfactorily drained. The site lies on the Upper Chalk, a Principal Aquifer and requires protection against contamination from any proposed development in accordance with national guidance and Policy GEN26 of the Arun District Local Plan.*

Offsite Foul Drainage & Connections

2.3 Foul drainage from the entire outline approved scheme of will drain to a new foul pump station (PS) located in the south east corner of Block A Parcel, which is positioned within the 19 hectare catchment to the west of the wetlands. This foul PS will pump the effluent via a new 2.0km rising main to an existing Southern Water gravity sewer located by Fitzalan Road to the south. The location of the pump station and route of the rising main are contained in Appendix C of this report.

2.4 The design of the pump station compound, the optimum route of the rising main and its connection / discharge point have been decided by Southern Water under a Section 98 Agreement.

2.5 These works have been completed by Southern Water and the pump station is now fully operational (see Appendix D).

On Site Foul Drainage

2.6 All foul sewers within this catchment, to the west of the wetlands, will flow on a gravity basis (no pumps required) into the new foul PS that has been delivered by Southern Water.

2.7 The proposed routes of the foul sewers within the road network are shown on the drainage strategy drawing in Appendix E of this report. These foul sewers have been designed with foul connection points / spurs into the individual land parcels.

Design Criteria

- 2.8 The proposed foul sewers have been designed in accordance with Sewers for Adoption, BS EN 12056 – Gravity Drainage Systems Inside buildings, and Building Regulations - part H (2015).
- 2.9 A schematic of the proposed foul sewer network, dwelling numbers and corresponding peak foul flows are shown in Appendix F of this report.

Adoption & Maintenance

- 2.10 The proposed foul sewers within the road network will be adopted by ICOSA Water under a Section 104 agreement, which will ensure they are maintained in perpetuity. The Sections 104 technical approval for the main foul sewers was obtained from ICOSA Water in September 2019, and the technical approval certificate is contained in Appendix G.
- 2.11 The ICOSA Water sewer network will discharge into the new main foul pump station is owned and operated by Southern Water. Therefore the pump station will be maintained in perpetuity by Southern Water.

Condition 13 Conclusion

- 2.1 The information contained within this report demonstrates that adequate foul infrastructure will be provided to enable the consented scheme to be satisfactorily drained, and will enable the future Parcels within the west of the wetlands catchment to make a positive connection into the proposed foul sewer network.
- 2.2 The reserved matters planning applications for the future parcels will need to be accompanied by an individual foul water drainage strategy and technical note. Each technical note will also include this overall strategy that demonstrates the downstream receiving network has been satisfactory designed in accordance with the relevant standards.
- 2.3 Therefore, it is considered that this evidence base, when read in conjunction with the RM application for the individual parcels, will provide sufficient information to discharge the outline planning Condition 13.

APPENDIX A: Site Location



NOTES

1. This drawing is to be read in conjunction with all relevant documents and specifications.
2. Dimensions not to be scaled.

LOCATION

Address: Toddington Lane
Wick
Littlehampton
West Sussex
BN17 7PP

National Grid reference: TQ 03414 03979



Plan NTS

Plan 1:10000



Glanville

Cornerstone House
62 Fonthill Road, Littlehampton
BN17 7AT

Tel: (01235) 515550 Fax: (01235) 517799
post@glanvillegroup.com www.glanvillegroup.com

Project :

Land North of Toddington Lane, Littlehampton

Title :

Site Location Plan

Project Engineer : J O'Kelly

Scale : As Shown@A4

Project Director : k Rayner

Date : December 14

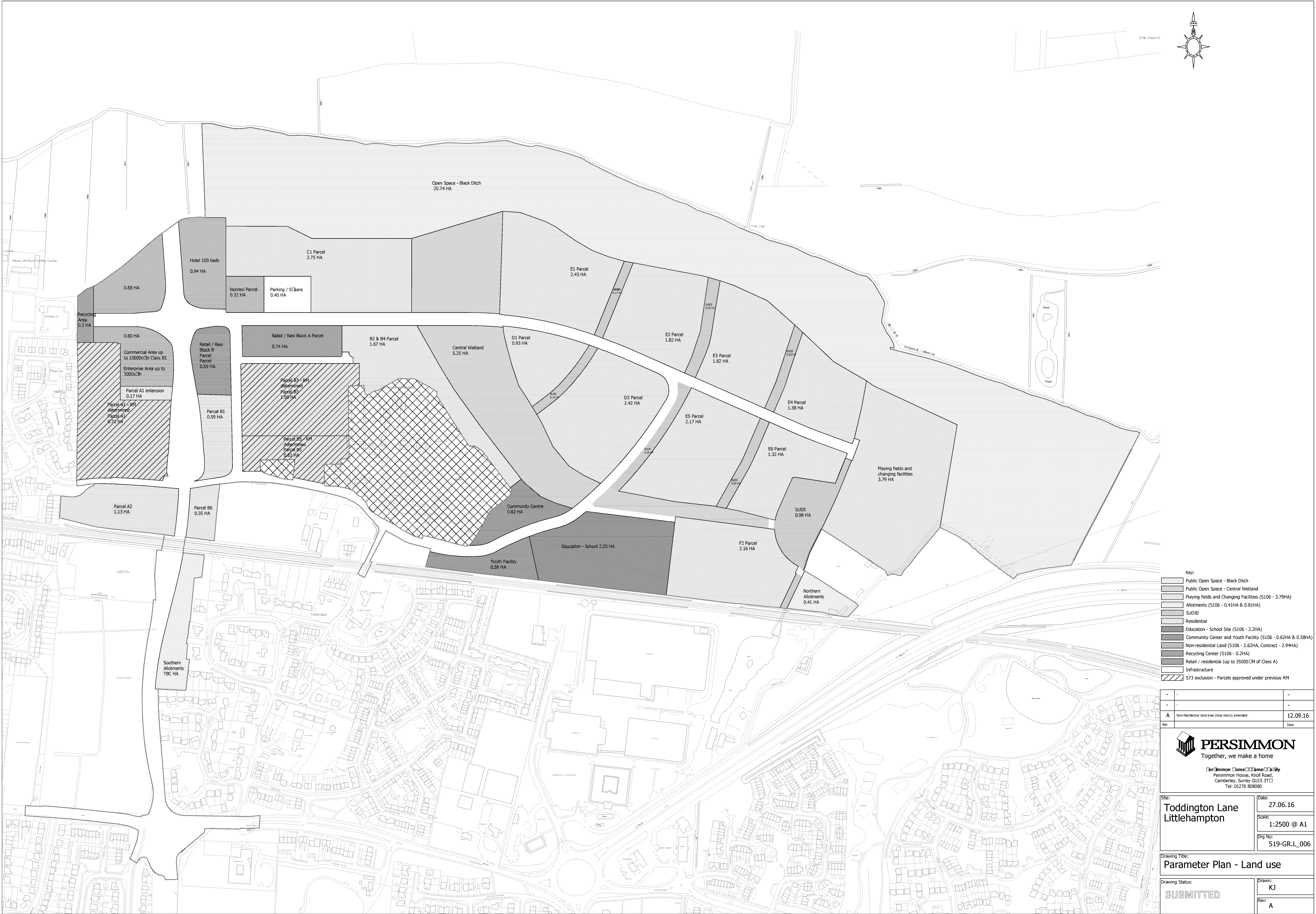
Drawing No.

N/A

Rev

-

APPENDIX B: Proposed Land Uses and Drainage Area Covered



- Key:
- Public Open Space - Black Ditch
 - Public Open Space - Central Wetland
 - Playing fields and Changing Facilities (S106 - 3.79HA)
 - Allotments (S106 - 0.41HA & 0.81HA)
 - SUDS
 - Residential
 - Education - School Site (S106 - 2.2HA)
 - Community Center and Youth Facility (S106 - 0.62HA & 0.58HA)
 - Non-residential Land (S106 - 2.62HA, Contract - 2.94HA)
 - Recycling Center (S106 - 0.2HA)
 - Retail / residential (up to 3500sqm of Class A)
 - Infrastructure
 - S73 exclusion - Parcels approved under previous RM

-	-	-
-	-	-
A	Non-Residential land area (blue hatch) amended.	12.09.16
Rev		Date

**PERSIMMON**
Together, we make a home

**Persimmon Home**
Persimmon House, Knoll Road,
Camberley, Surrey GU15 3TQ
Tel: 01276 808080

Site:
Toddington Lane
Littlehampton

Date:
27.06.16

Scale:
1:2500 @ A1

Orig No:
519-GR.L_006

Drawing Title:
Parameter Plan - Land use

Drawing Status:
SUBMITTED

Drawn:
KJ

Rev:
A

APPENDIX C: Foul Pump Station & Rising Main Route

6.5m DIAMETER X 8m DEEP WETWELL

S98 Foul PUMP STATION & 2KM
RISING MAIN. DELIVERED BY
SOUTHERN WATER UNDER A
S98 REQUISITION

S98 Foul PUMP STATION & RISING MAIN

THE ENTIRE DEVELOPMENT (OUTLINE APPROVED
CONSENTED SCHEME) WILL DRAIN INTO
THE S98 Foul PUMP STATION

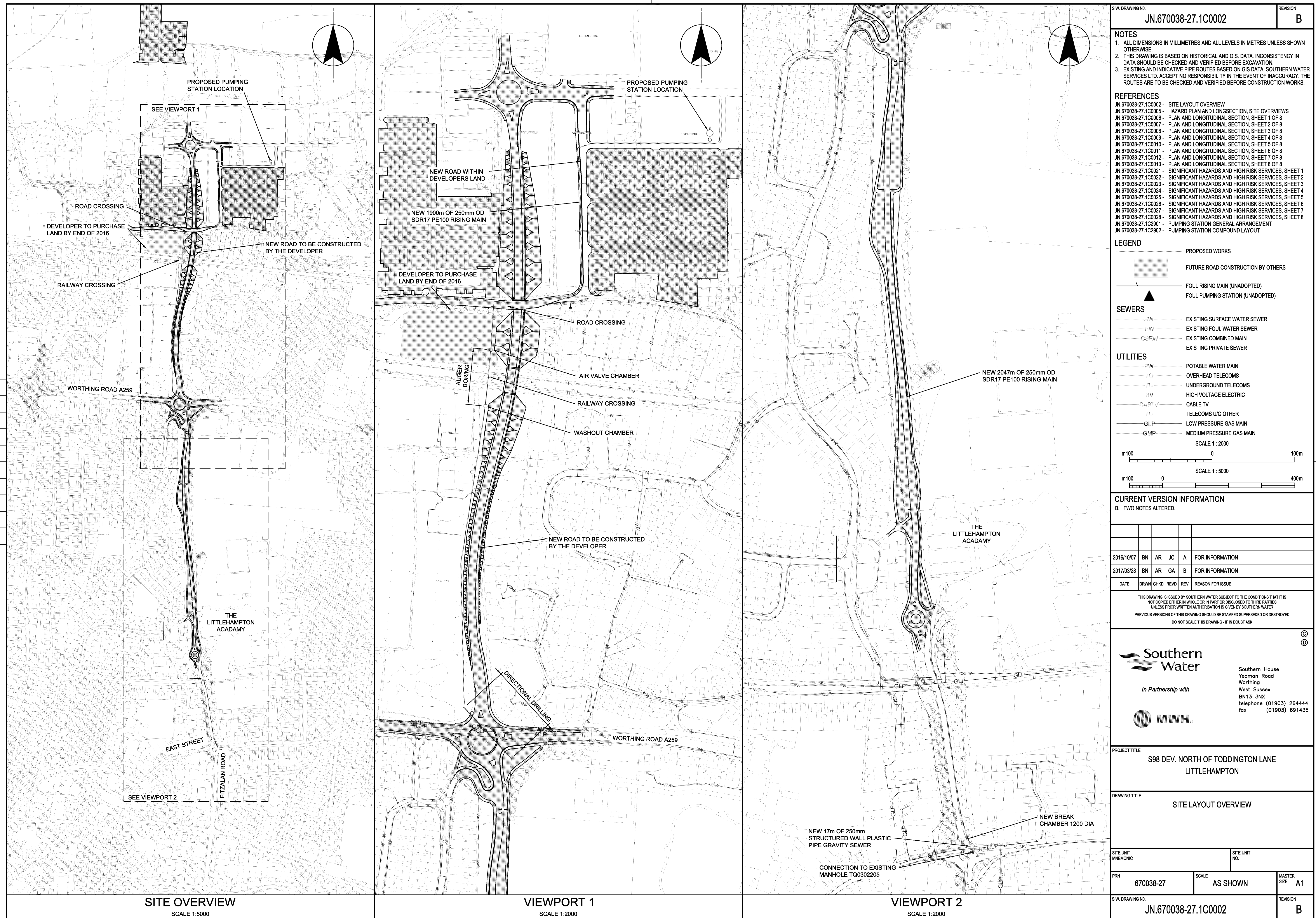


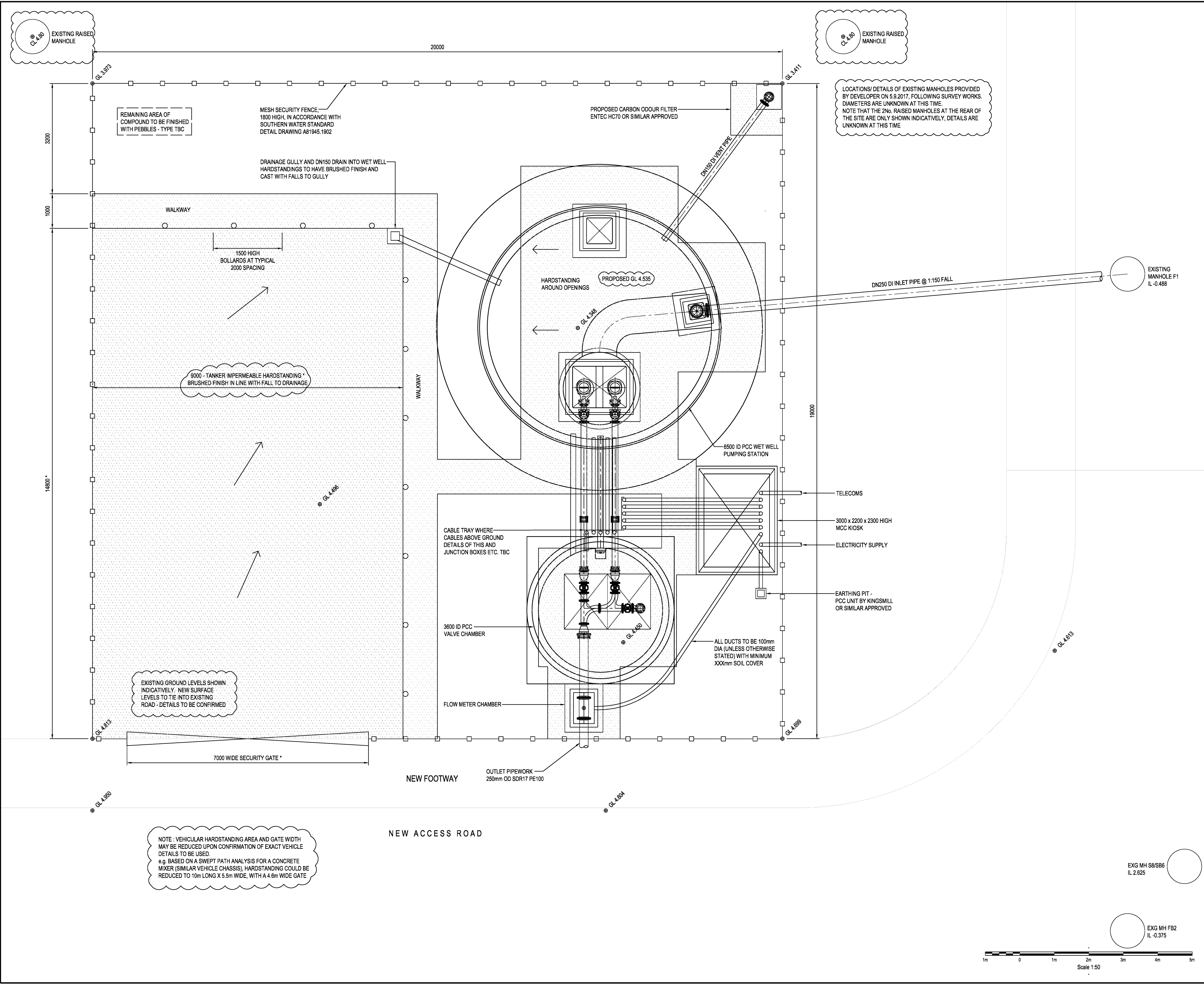
APPROX
ROUTE OF
2KM RISING
MAIN

CONTINUES TO CONNECTION
BY FIDALAN ROAD => REFER TO SOUTHERN WATER PLAN

- Public Open Space - Street Scen
- Public Open Space - General Wildlife
- Playing Fields and Open Space (1000 - 1.7000)
- Recreation (1000 - 1.7000) & 0.0000
- 0.0000
- Recreation
- Education - School Site (1000 - 1.7000)
- Community Center and Public Facility (1000 - 1.7000) & 0.0000
- Non-residential Land (1000 - 1.7000) & 0.0000
- Residential (1000 - 1.7000)
- Land / not used (up to 10000000 of 10000)
- Infrastructure
- Highway - Road (up to 10000000 of 10000)
- Core Store

PERSIMMON Together, we make a home	
Persimmon Homes Thames Valley Persimmon House, 10th Road Camberley, Surrey GU15 2YU Tel: 01276 500000	
Toddington Lane Littlehampton	27.05.16 1:2500 @ A1 519-GR.L 006
Parameter Plan - Land use	
Drawing Title:	10
SUBMITTED	8





NOTES

- ALL DIMENSIONS IN MILLIMETRES AND ALL LEVELS IN METRES UNLESS SHOWN OTHERWISE
- ALL LEVELS ARE IN METRES AND RELATE TO ORDNANCE DATUM UNLESS STATED OTHERWISE
- DO NOT SCALE FROM THIS DRAWING
DO NOT TAKE DIGITAL DIMENSIONS OFF THIS DRAWING
WORK TO FIGURED DIMENSIONS ONLY - IF IN DOUBT ASK
- ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH THE FOLLOWING DOCUMENTS, UNLESS SPECIFIED OTHERWISE:-
 - THE SPECIFICATION FOR TUNNELLING BTS & ICE 2015
 - SOUTHERN WATER TECHNICAL SPECIFICATION MANUAL CIVIL ENGINEERING REQUIREMENTS:
 - CED 4002
 - CED 4015
 - CED 4023
 - CED 4024
 - SEWERS FOR ADOPTION CESWI 7th EDITION
- FOR CONSTRUCTION METHODOLOGY, REFER TO THE CONTRACTOR'S SPECIFIC METHOD STATEMENT FOR THE WORK
- THE CONTRACTOR IS TO CONFIRM ALL LEVELS AND SETTING OUT PRIOR TO COMMENCEMENT OF THE WORKS
- CONSTRUCTION TOLERANCES IN ACCORDANCE WITH THE 'SPECIFICATION FOR TUNNELLING' BTS & ICE 2010, TABLE 15, SECTION 328, TOLERANCES FOR TUNNELS, SHAFTS AND UNDERGROUND WORKS
- ALL PROPRIETARY PRODUCTS ARE TO BE USED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS
- ACCESS ARRANGEMENTS, PROTECTIVE BARRIERS AND TEMPORARY PLATFORMS ARE TO BE DESIGNED BY OTHERS
- SERVICE DIVERSIONS ARE THE RESPONSIBILITY OF OTHERS

KEY

PERSONNEL FOOTWAY / HARDSTANDING AREA

VEHICULAR HARDSTANDING

HARDSTANDING DETAILS IN ACCORDANCE WITH SOUTHERN WATER STANDARD DETAILS

SIGNIFICANT DESIGNER'S IDENTIFIED HAZARDS

HAZ001	UNKNOWN GROUND CONDITIONS
HAZ002	STRIKING OF BURIED SERVICES
HAZ010	INJURY/FATALITY DUE TO WORKING IN CONFINED SPACES
HAZ011	EMERGENCY ACCESS AND EGRESS OF SHAFT

- FOR MORE DETAILED INFORMATION ON THE HIGHLIGHTED HAZARDS, REFER TO COWI UK LIMITED DESIGNER'S RISK ASSESSMENT FOR THIS PROJECT.

- 'EVERYDAY' LOW RISK HAZARDS AND THOSE HAZARDS WHICH SHOULD BE OBVIOUS TO A COMPETENT CONTRACTOR HAVE **NOT** BEEN INDICATED ON THIS DRAWING.

- SHOULD ANY ADDITIONAL HAZARDS BE IDENTIFIED DURING THE COURSE OF THE WORKS, THE CONTRACTOR SHALL NOTIFY ALL RELEVANT MEMBERS OF THE PROJECT TEAM.

CURRENT VERSION INFORMATION

B. KIOSK AND CHAMBERS RELOCATED, PIPEWORK LAYOUT UPDATED, HARDSTANDING AREAS REVISED						
B	ISSUED FOR APPROVAL	NM	LJP	AJK	AJK	24.11.17
A	FOR DISCUSSION	NM	LJP	-	-	08.11.17
Rev	Revision Description	Drawn	Des'd	CHK'd	App'd	Date

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Kelvin House, RTC Business Park,
London Road, Derby, DE24 8UP
Tel: 01332 343800 E-Mail: info_@cowi.com

Client:

Project:

TODDINGTON LANE RISING MAIN

Title:

SITE LAYOUT

Drawn by:

Designed by:

Checked:

NOV 2017

Orig. Sheet Size:

Approved:

1:50

Status:

FOR DISCUSSION

Drawing No:

J1534-DRG-C01-004

Revision

B

1m02m3m4m5m

Scale 1:50

EXG MH S8/SB6
IL 2.625

EXG MH FB2
IL -0.375

APPENDIX D: Foul Pump Station Correspondence

Sean Foley

From: Barnes, Duncan [REDACTED]
Sent: 11 September 2019 15:32
To: Robin Bishop
Cc: Eley, Lucy
Subject: FW: Toddington lane pump Station

Hi Robin,

Just to confirm that the pump station is now up and running.

As soon as the telemetry is available, we will install it; but this won't cause any further hold ups in regards to the pump station.

Regards,

Duncan Barnes
Project Manager,
Engineering & Construction

[REDACTED]

From: Andy Keohane (MGJV) [REDACTED]
Sent: 11 September 2019 15:12
To: Barnes, Duncan [REDACTED]
Cc: Csatos, George [REDACTED] Alex Cruttenden (MGJV)
[REDACTED] mgjvframework [REDACTED]
[REDACTED]
Subject: Toddington lane pump Station

Hi Duncan

The Pump Station at Toddington is now pumping flows with its own pumps and through the new Rising main, Overpumping has been off hired but as explained previously the temporary telemetry has been retained until such time as SWS can provide a telemetry signal for the permanent out station

Kind Regards
Andy

Andy Keohane Contracts Manager

[REDACTED]

MGJV
Lewes Road
Falmer
Brighton
East Sussex BN1 9PY

[REDACTED]

MGJV

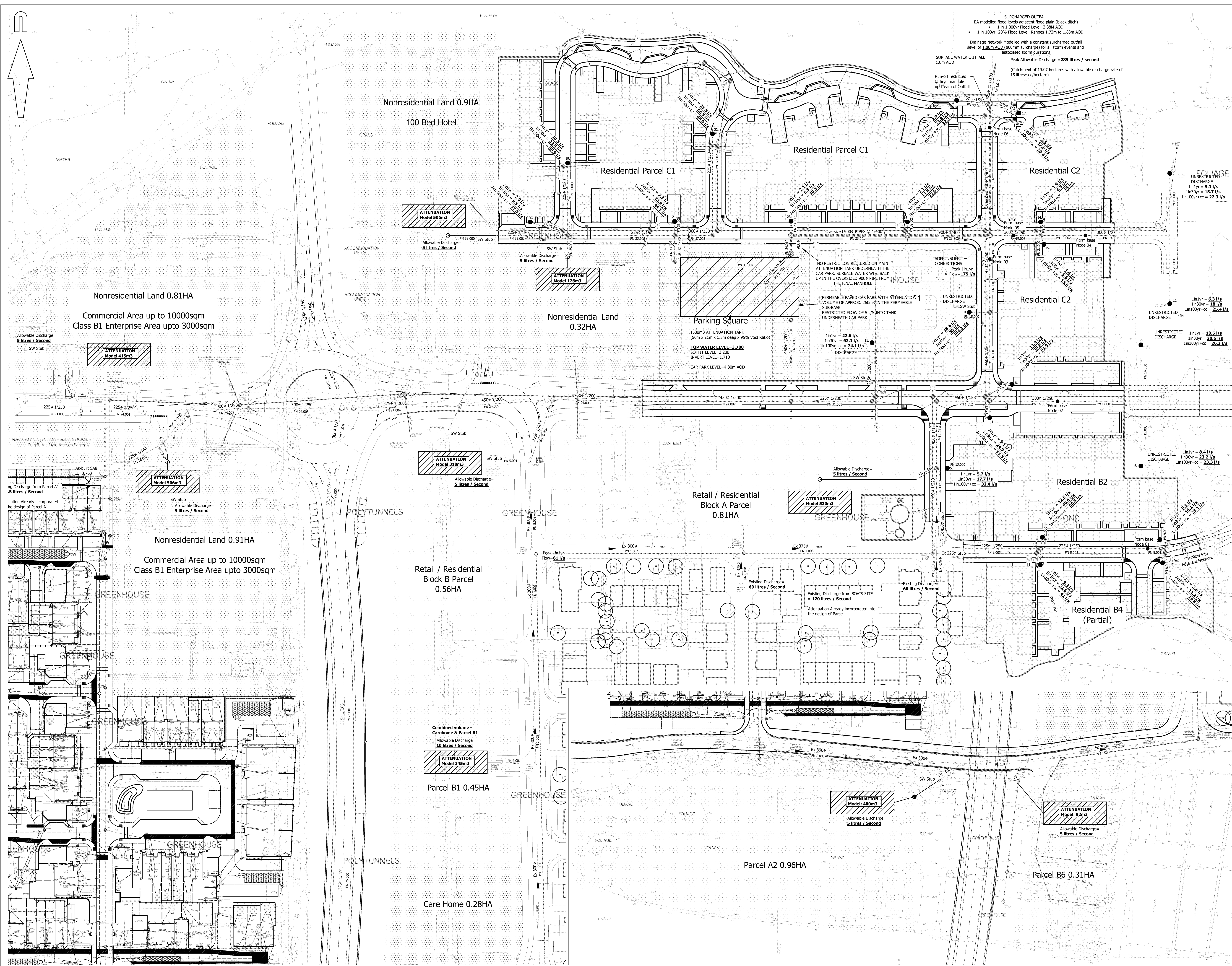
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APPENDIX E: West of Wellands Drainage Strategy



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rev.	amendment	checked	date
P6	B2 future attenuation tank altered at PN 3.000. (CIN)	SF	11/01/2019
P5	Sub catchment location discharge rates added, pipe numbers updated. Attenuation Tank volumes amended for future plots and note on surcharged outfall added. (CIN)	SF	10/01/2019
P4	Drainage updated. (CIN)	SF	14/03/2018
P3	Foul drainage added. (CIN)	SF	08/03/2018
P2	Drainage layout updated. (CIN)	SF	06/02/2018

client

PERSIMMON HOMES THAMES VALLEY

project

NORTH LITTLEHAMPTON PHASE 2
SITE WIDE DRAINAGE STRATEGY

scale

1:500

drawn by

CJN

checked by

SF

date

NOVEMBER 2017

cad file

MASTER.DWG

title

DRAINAGE STRATEGY DRAWING
WEST OF THE WETLANDS

drawing number

A/PHLITTLE.2/D5

rev.

P6

APPENDIX F: Foul Layout Schematic and Peak Flows

WEST OF WETLANDS

DWELLINGS

Carehome

Commercial Land

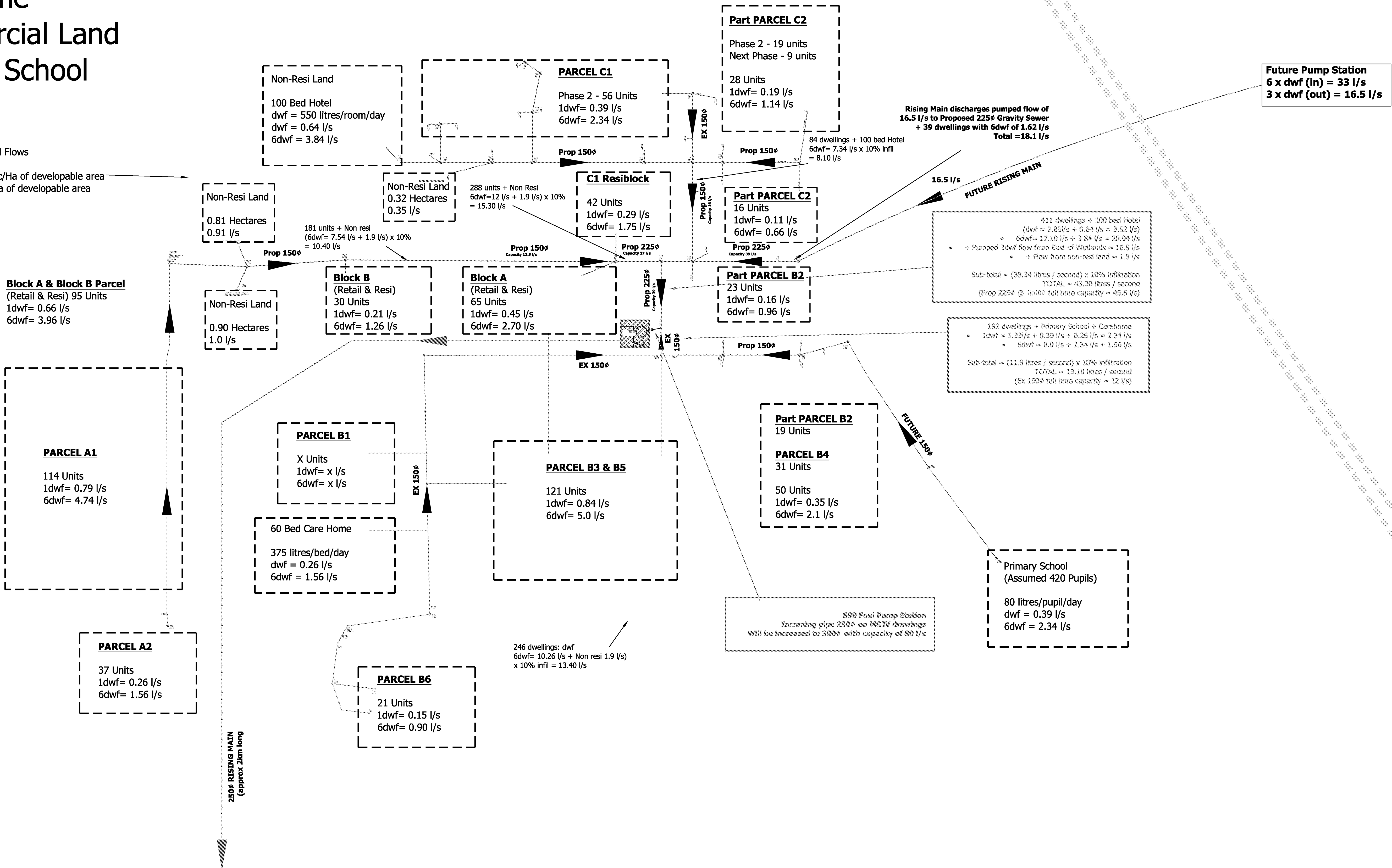
Primary School

Retail

Non Residential Land Foul Flows
SFA7 (B5.1)
Domestic Flow = 0.6 l/sec/Ha of developable area
Trade Flow = 0.5 l/sec/Ha of developable area

EAST OF WETLANDS

800 DWELLINGS



APPENDIX G: ICOSA Water S104 Technical Approval

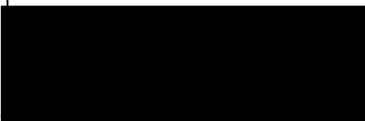
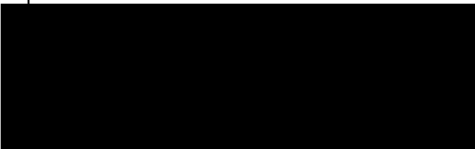
TECHNICAL APPROVAL CERTIFICATE REV A



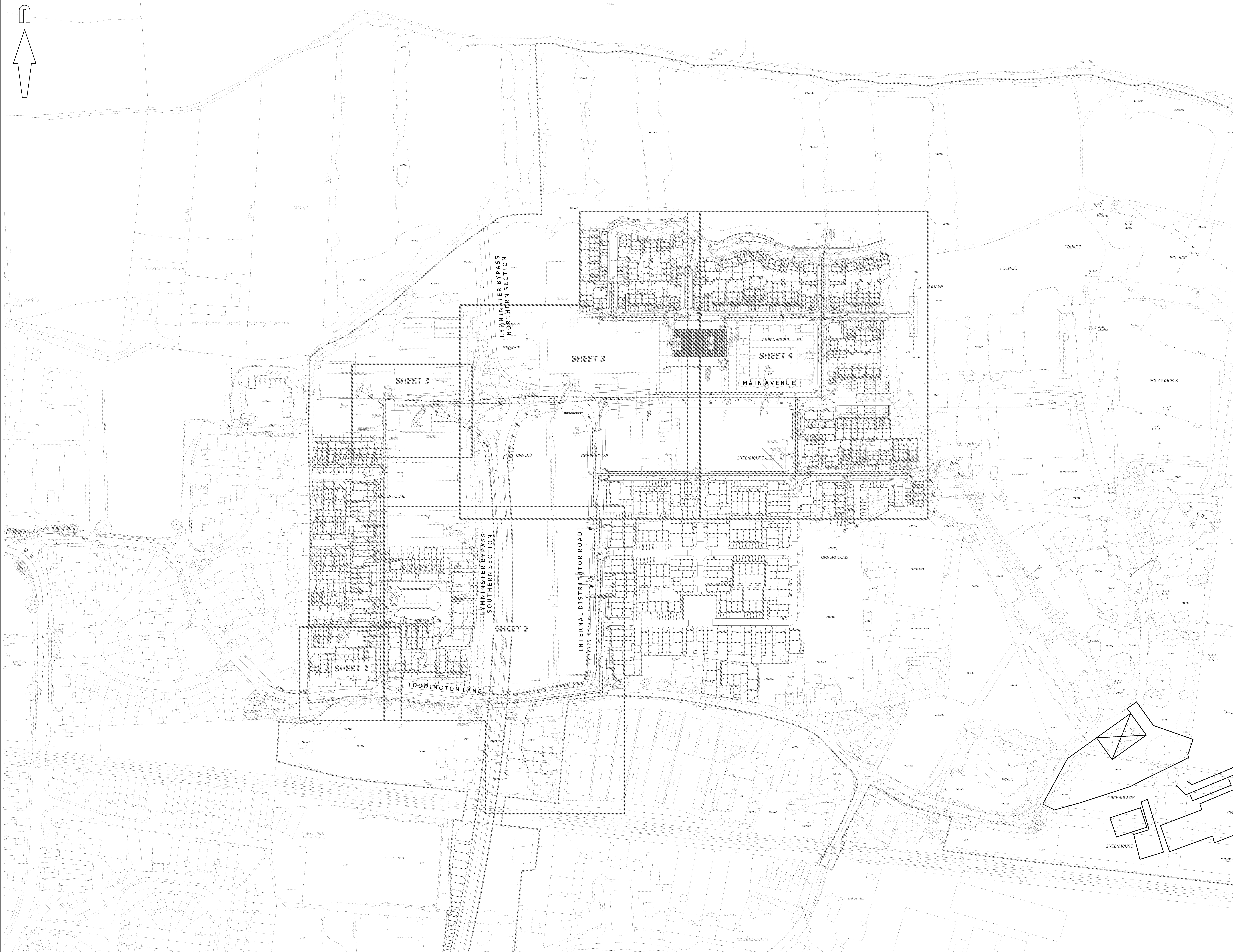
Technical Approval is hereby granted for 18-025 Toddington Lane, North Littlehampton in response to the application for a S104 Adoption under the Water Industry Act 1991.

Conditions to this technical approval are subject to the following:

- A pre-start site meeting should be held with Icosa Water and/or its appointed representative prior to construction or as soon as possible after approval is given if construction has already commenced.
- Any variations to layout or materials should be requested from Icosa Water and should only be constructed when confirmed in writing.
- Icosa Water reserve the right to withdraw or amend this technical approval should circumstances on site require it.

<i>Site details</i>	Toddington Lane, Littlehampton
<i>Developer</i>	Persimmon Homes
<i>Designer</i>	Mayer Brown
<i>Icosa Water Consultant</i>	David Antill
<i>Reviewed by</i>	David Antill
<i>Approval date</i>	27/09/19
<i>Signed (Icosa Water Consultant)</i>	
<i>Name</i>	David Antill
<i>Signed (Icosa Water)</i>	
<i>Name</i>	David Palmer
If you have any queries,	
Icosa Water Ltd Sophia House 28 Cathedral Road Cardiff CF11 9LJ	

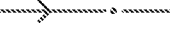
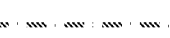
Project Reference	18-025	
Project Name	Toddington Lane, North Littlehampton	
List of Issued Drawings		
Drawing Number/Reference	Drawing Title	Rev
Aqua Swirl (SDS Systems)	SDS Aqua-Swirl - 1800 Ø - AS-6	-
MicroDrainage Calcs	Foul Sewerage Design	01/03/2019
MicroDrainage Calcs	Proposed Storm Water Network 1in1yr	01/03/2019
MicroDrainage Calcs	Proposed Storm Water Network 1in30yr	01/03/2019
MicroDrainage Calcs	Proposed Storm Water Network 1in100yr+cc	01/03/2019
PHLITTLE-INT/MHS/FW/104	Foul Water Manhole Schedule	A1
PHLITTLE-INT/MHS/SW/104	Surface Water Manhole Schedule	A3
A/PHLITTLE-INT.10/S104-10-1	Section 104 Drainage General Arrangement Surface and Foul Water – Sheet 1 of 4 (Overview)	P3
A/PHLITTLE-INT.10/S104-10-2	Section 104 Drainage General Arrangement Surface and Foul Water – Sheet 2 of 4	P1
A/PHLITTLE-INT.10/S104-10-3	Section 104 Drainage General Arrangement Surface and Foul Water – Sheet 3 of 4	P3
A/PHLITTLE-INT.10/S104-10-4	Section 104 Drainage General Arrangement Surface and Foul Water – Sheet 4 of 4	P4
A/PHLITTLE-INT.10/S104-20-1	Section 104 Drainage Surface and Foul Water Long Sections – Sheet 1 of 2	P4
A/PHLITTLE-INT.10/S104-20-2	Section 104 Drainage Surface and Foul Water Long Sections – Sheet 2 of 2	P1
A/PHLITTLE-INT.10/S104-50-1	Section 104 Drainage Surface and Foul Water Location Plan	P1
S104-MB-01	Section 104 Drainage Construction Details	P1
S104-MB-02	Section 104 Drainage Construction Details – Attenuation Tank 1	P3
E198619_01_-	Attenuation Tank 1 Detail	B



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KEY

- | | |
|---|--|
|  | PROPOSED SURFACE WATER SEWER TO BE ADOPTED BY ICOSA UNDER S.104 AGREEMENT |
|  | PROPOSED SURFACE WATER MANHOLE CHAMBER TO BE ADOPTED BY ICOSA UNDER S.104 AGREEMENT |
|  | PROPOSED SURFACE WATER VORTEX SEPARATOR DOWNSTREAM DEFENDER CHAMBER TO BE ADOPTED BY ICOSA UNDER S.104 AGREEMENT |
|  | PROPOSED SURFACE WATER FLOW CONTROL CHAMBER TO BE ADOPTED BY ICOSA UNDER S.104 AGREEMENT |
|  | PROPOSED SURFACE WATER ATTENUATION STORAGE TO BE ADOPTED BY ICOSA UNDER S.104 AGREEMENT |
|  | PROPOSED SURFACE WATER HEADWALL TO BE ADOPTED BY ICOSA UNDER S.104 AGREEMENT |
|  | PROPOSED FOUL WATER SEWER TO BE ADOPTED BY ICOSA UNDER S.104 AGREEMENT |
|  | PROPOSED FOUL WATER MANHOLE CHAMBER TO BE ADOPTED BY ICOSA UNDER S.104 AGREEMENT |
|  | SOUTHERN WATER PUMPING STATION |
|  | PROPOSED PRIVATE SURFACE WATER SYSTEM |
|  | PROPOSED PRIVATE SURFACE WATER FIN DRAIN |
|  | PROPOSED PRIVATE SURFACE WATER PERFORATED PIPE |
|  | PROPOSED PRIVATE FOUL WATER SYSTEM |
|  | PROPOSED HIGHWAY DRAINAGE SYSTEM |
|  | PROPOSED PERMEABLE SUB-BASE SURROUNDED WITH IMPERMEABLE GEOTEXTILE, WITHIN PRIVATE ROAD |
|  | SITE BOUNDARY |

NOTES:

1. This drawing is not to be scaled.
2. This drawing is to be read in conjunction with all other relevant drawings and specifications. Any discrepancies are to be reported to the Engineer immediately for clarification.
3. Proprietary items are to be constructed in accordance with manufacturers recommendations and requirements.
4. All work is to be carried out in accordance with the requirements of all adopting authorities, the Local Authority, the Environment Agency and in conjunction with all relevant British Standards and Codes of Practice (Seven for Adoption) 6th Edition and any addendums as appropriate.
5. Invert levels and positions of existing sewer where new sewer is to be installed are to be marked out by the Surveyor prior to the commencement of any works.
6. All drainage shall comply with the typical details and the standards set out in the BS 5592 Code of Practice.
7. All precast concrete units used in the drainage works shall be manufactured using sulphate resisting cement.
8. All manholes shall be constructed in accordance with BS EN 124 and shall be Kitemarked. The strength classes of covers are shown in the manhole schedules.
9. Cover levels are to be adjusted locally to suit finished ground levels.

FOR APPROVAL
NOT FOR CONSTRUCTION

P3	Revisions clouded. (IC)	SL	26/09/2019
P2	Revisions clouded. (IC)	SL	11/07/2019
P1	Initial issue. (JS)	SL	01/03/2019

rev.	amendment	checked	date
------	-----------	---------	------



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PERSIMMON HOMES THAMES VALLEY

NORTH LITTLEHAMPTON

scale	drawn by	checked by
1:1000 @ A0	JS	SL

date	cad file
MARCH 2019	S104 ICOSA.DWG

SECTION 104 DRAINAGE GENERAL ARRANGEMENT
SURFACE AND FOUL WATER - SHEET 1 OF 4
(OVERVIEW)

Mayer Brown Limited jobcode	suitability	revision
A (04/07/2015) JUNE 10		D2

drawing number
A/PHLITTLE-INT.10/S104-10-1



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KEY

 PROPOSED SURFACE WATER SEWER TO BE ADOPTED BY ICOSA UNDER S.104 AGREEMENT

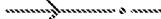
 PROPOSED SURFACE WATER MANHOLE CHAMBER TO BE ADOPTED BY ICOSA UNDER S.104 AGREEMENT

 PROPOSED SURFACE WATER VORTEX SEPARATOR DOWNSTREAM DEFENDER CHAMBER TO BE ADOPTED BY ICOSA UNDER S.104 AGREEMENT

 PROPOSED SURFACE WATER FLOW CONTROL CHAMBER TO BE ADOPTED BY ICOSA UNDER S.104 AGREEMENT

 PROPOSED SURFACE WATER ATTENUATION STORAGE TO BE ADOPTED BY ICOSA UNDER S.104 AGREEMENT

 PROPOSED SURFACE WATER HEADWALL TO BE ADOPTED BY ICOSA UNDER S.104 AGREEMENT

 PROPOSED FOUL WATER SEWER TO BE ADOPTED BY ICOSA UNDER S.104 AGREEMENT

 PROPOSED FOUL WATER MANHOLE CHAMBER TO BE ADOPTED BY ICOSA UNDER S.104 AGREEMENT

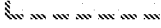
 SOUTHERN WATER PUMPING STATION

 PROPOSED PRIVATE SURFACE WATER SYSTEM

 PROPOSED PRIVATE SURFACE WATER FIN DRAIN PIPE

 PROPOSED PRIVATE SURFACE WATER PERFORATED PIPE

 PROPOSED PRIVATE FOUL WATER SYSTEM

 PROPOSED HIGHWAY DRAINAGE SYSTEM

 PROPOSED PERMEABLE SUB-BASE SURROUNDED WITH PERMEABLE GEOTEXTILE, WITHIN PRIVATE ROAD

 PROPOSED PERMEABLE SUB-BASE SURROUNDED WITH IMPERMEABLE GEOTEXTILE, WITHIN PRIVATE ROAD

 SITE BOUNDARY

NOTES:

1. This drawing is not to be scaled.
2. This drawing is to be read in conjunction with all other relevant engineering and landscaping drawings. Any discrepancies are to be reported to the Engineer immediately for clarification.
3. Dimensions are to be constructed in accordance with manufacturers recommendations and requirements.
4. All drainage works shall be carried out in accordance with the requirements of all adopting authorities, the Local Authority, the Environment Agency and in conjunction with all relevant British Standards, Codes of Practice and "Sewers for Adoption" 6th Edition and any amendments are appropriate.
5. All "cave" and "pocket" areas existing prior where new connections are to be made must be checked and confirmed prior to the commencement of any works.
6. All existing and proposed manhole typical details and the requirements of BS EN 752 and Part H of the Building Regulations.
7. All precast concrete units used in the drainage works shall be made in accordance with the following requirements:
 - a. Manhole covers and frames shall be to BS EN 124 and shall be kitemarked. The strength classes of covers are shown in the manhole schedules.
 - b. Cover levels are to be adjusted locally to suit finished ground levels.

FOR APPROVAL
NOT FOR CONSTRUCTION

P1	Initial Issue (JS)	SL	01/03/2019
rev.	amendment	checked	date



PERSIMMON HOMES THAMES VALLEY

project

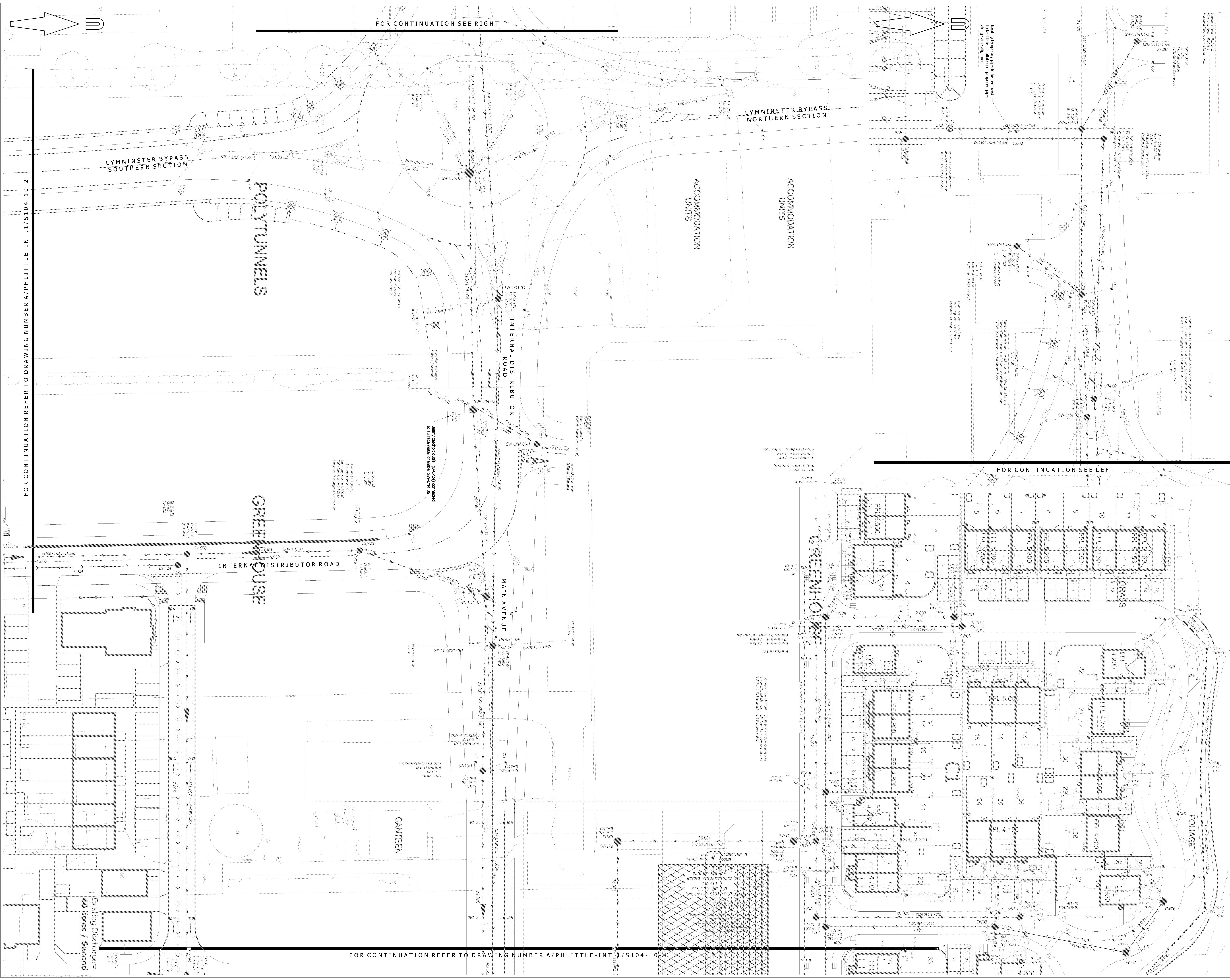
NORTH LITTLEHAMPTON

scale	drawn by	checked by
1:250 @ A0	JS	SL
date	cad file	
MARCH 2019	S104 ICOSA.DWG	

SECTION 104 DRAINAGE GENERAL ARRANGEMENT
SURFACE AND FOUL WATER - SHEET 2 OF 4

Mayer Brown Limited jobcode	suitability	revision
A/PHLITTLE-INT.10	-	P1

drawing number
A/PHLITTLE-INT.10/S104-10-2



A0 ORIGINAL

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KEY

- PROPOSED SURFACE WATER SEWER TO BE ADOPTED BY ICOSA UNDER S.104 AGREEMENT
- PROPOSED SURFACE WATER MANHOLE CHAMBER TO BE ADOPTED BY ICOSA UNDER S.104 AGREEMENT
- PROPOSED SURFACE WATER VORTEX SEPARATOR DOWNSIDE DEFENDER CHAMBER TO BE ADOPTED BY ICOSA UNDER S.104 AGREEMENT
- PROPOSED SURFACE WATER FLOW CONTROL CHAMBER TO BE ADOPTED BY ICOSA UNDER S.104 AGREEMENT
- PROPOSED SURFACE WATER ATTENUATION STORAGE TO BE ADOPTED BY ICOSA UNDER S.104 AGREEMENT
- PROPOSED SURFACE WATER HEADWALL TO BE ADOPTED BY ICOSA UNDER S.104 AGREEMENT
- PROPOSED FOUL WATER SEWER TO BE ADOPTED BY ICOSA UNDER S.104 AGREEMENT
- PROPOSED FOUL WATER MANHOLE CHAMBER TO BE ADOPTED BY ICOSA UNDER S.104 AGREEMENT
- SOUTHERN WATER PUMPING STATION
- PROPOSED PRIVATE SURFACE WATER SYSTEM
- PROPOSED PRIVATE SURFACE WATER FIN DRAIN
- PROPOSED PRIVATE SURFACE WATER PERFORATED PIPE
- PROPOSED PRIVATE FOUL WATER SYSTEM
- PROPOSED HIGHWAY DRAINAGE SYSTEM
- PROPOSED PERMEABLE SUB-BASE SURROUNDED WITH PERMEABLE GEOTEXTILE, WITHIN PRIVATE ROAD
- PROPOSED PERMEABLE SUB-BASE SURROUNDED WITH IMPERMEABLE GEOTEXTILE, WITHIN PRIVATE ROAD
- SITE BOUNDARY

- NOTES:**
- This drawing is not to be scaled.
 - This drawing is to be read in conjunction with all other relevant engineering and landscaping drawings. Any discrepancies are to be reported to the Engineer immediately for clarification.
 - Proprietary items are to be constructed in accordance with manufacturers recommendations and requirements.
 - All drainage works shall be carried out in accordance with the requirements of all adopting authorities, the Local Authority, the Environment Agency and in conjunction with all relevant British Standards, Codes of Practice and 'Sewers for Adoption' 6th Edition and any addendums as appropriate.
 - Invert levels and positions of existing sewer where new connections are to be made must be checked and confirmed prior to the commencement of any works.
 - All drainage shall comply with the typical details and the requirements of BS EN 753 and Part H of the Building Regulations.
 - All precast concrete units used in the drainage works shall be manufactured using sulphate resisting cement.
 - Manhole covers and frames shall be to BS EN 124 and shall be kitemarked. The strength classes of covers are shown in the manhole schedules.
 - Cover levels are to be adjusted locally to suit finished ground levels.

FOR APPROVAL
NOT FOR CONSTRUCTION

P3	Revisions clouded. (IC)	SL	26/09/2019
P2	Revisions clouded. (IC)	SL	11/07/2019
P1	Initial Issue (JS)	SL	01/03/2019

rev.	amendment	checked	date
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m3
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client: PERSIMMON HOMES THAMES VALLEY

project: NORTH LITTLEHAMPTON

scale	1:250 @ A0	drawn by	JS	checked by	SL
date	MARCH 2019	cad file	S104 ICOSA.DWG		
title					

SECTION 104 DRAINAGE GENERAL ARRANGEMENT
SURFACE AND FOUL WATER - SHEET 3 OF 4

Mayer Brown Limited jobcode	A/PHLITTLE-INT.10	suitability		revision	P3
drawing number	A/PHLITTLE-INT.10/S104-10-3				

A0 ORIGINAL

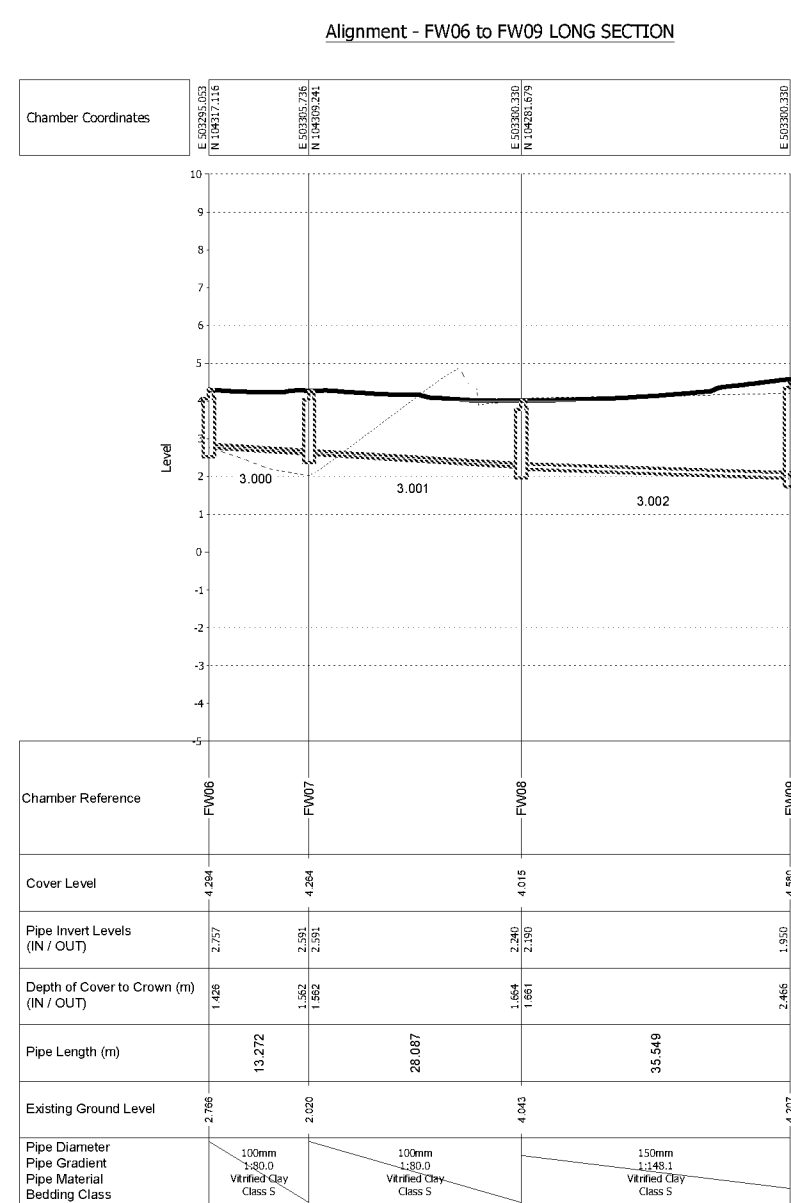
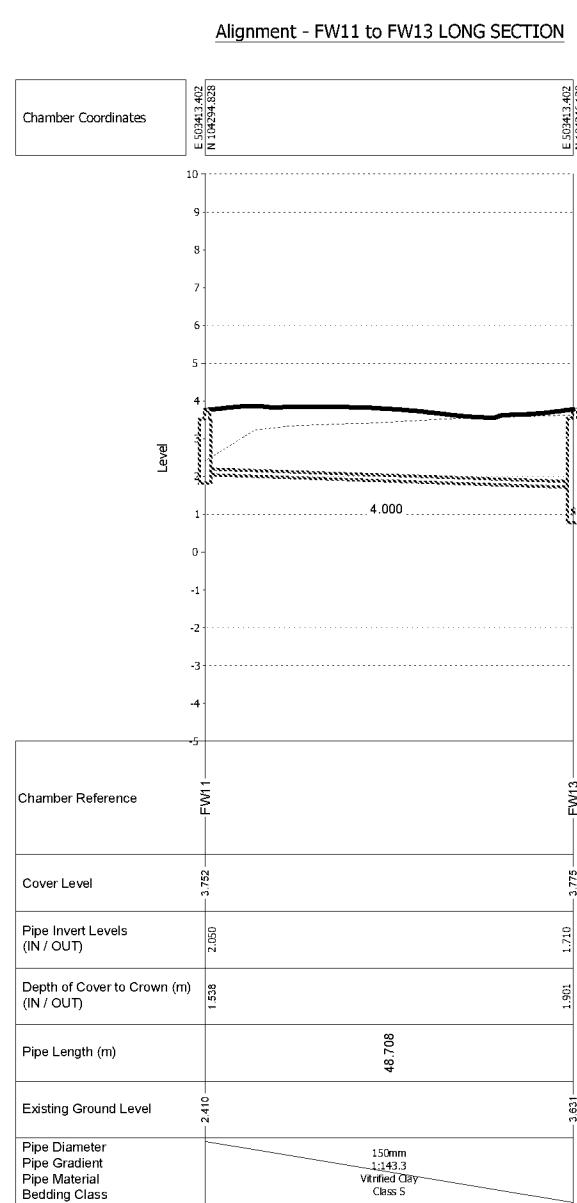
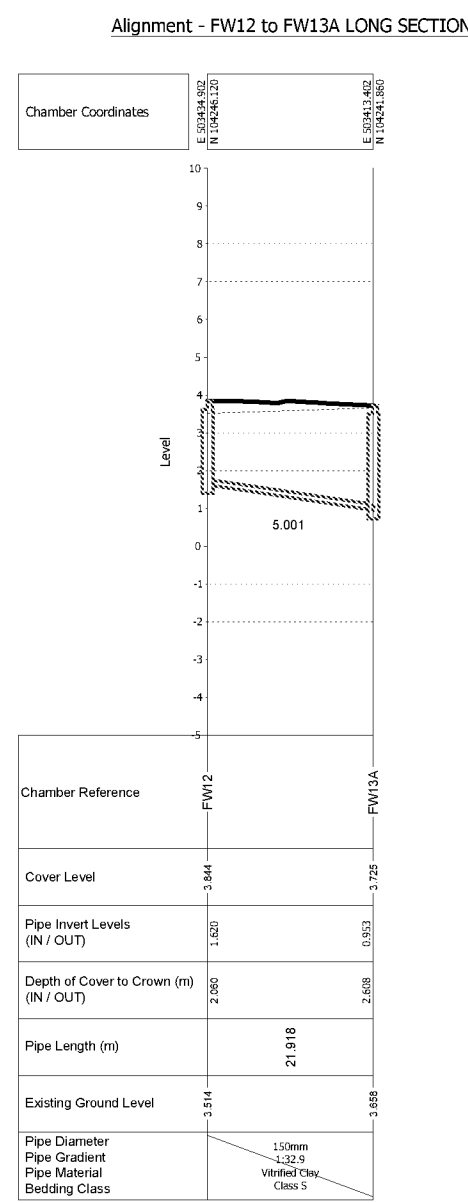
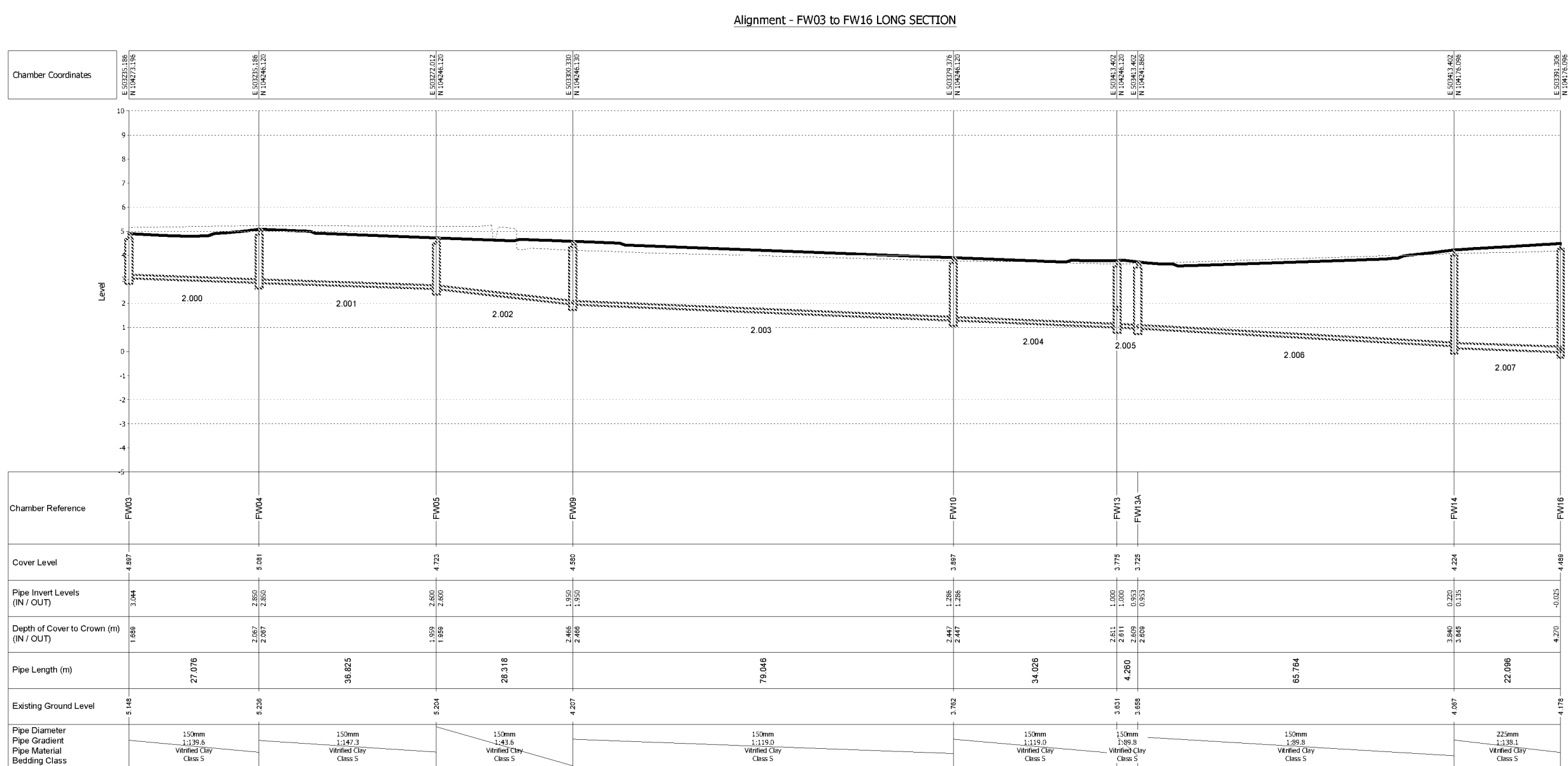
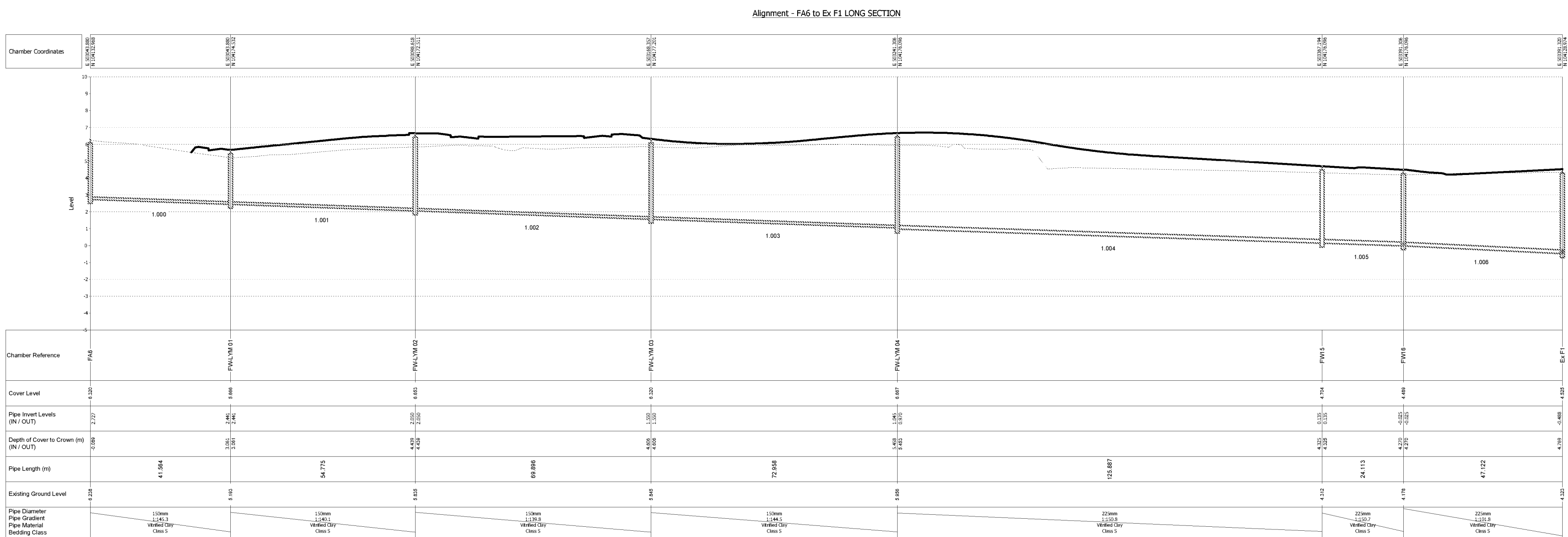
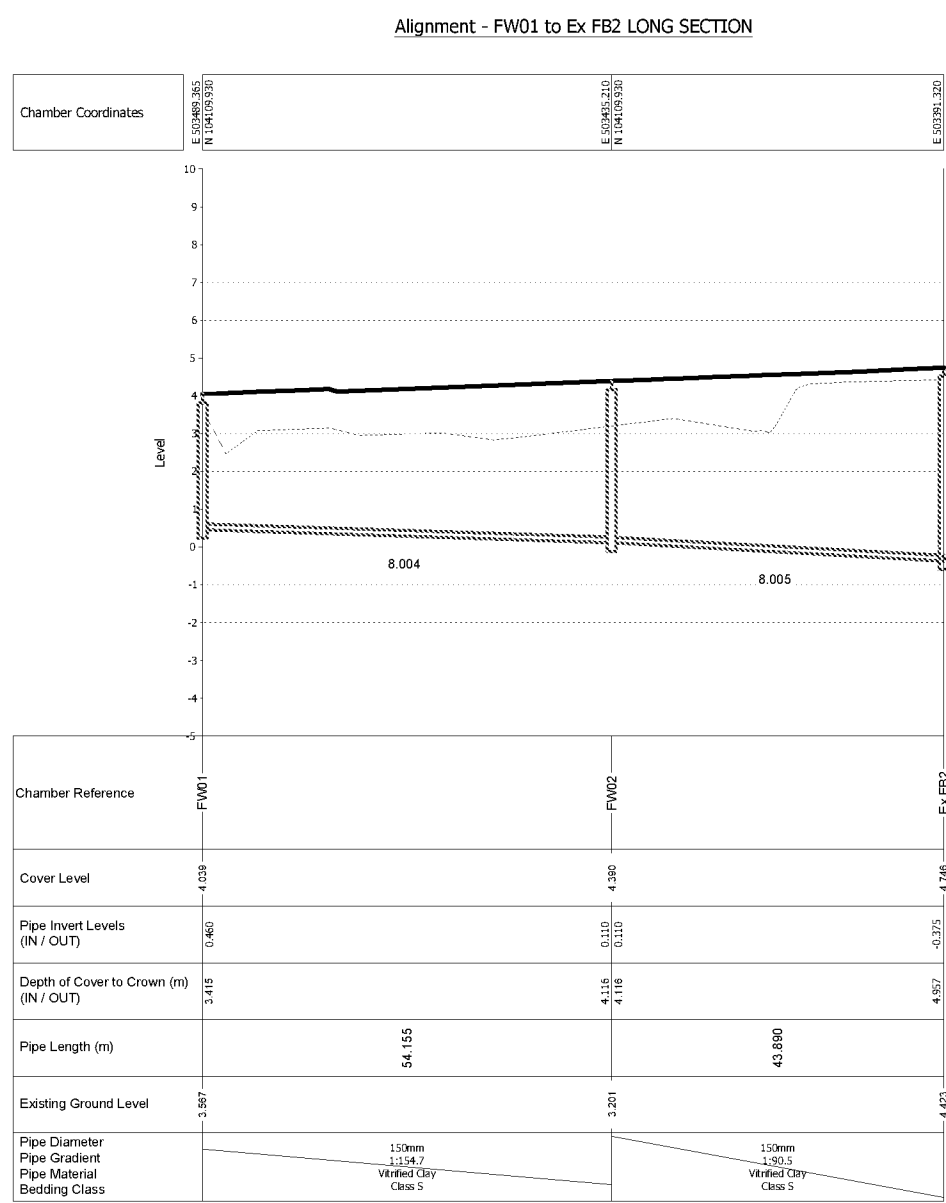
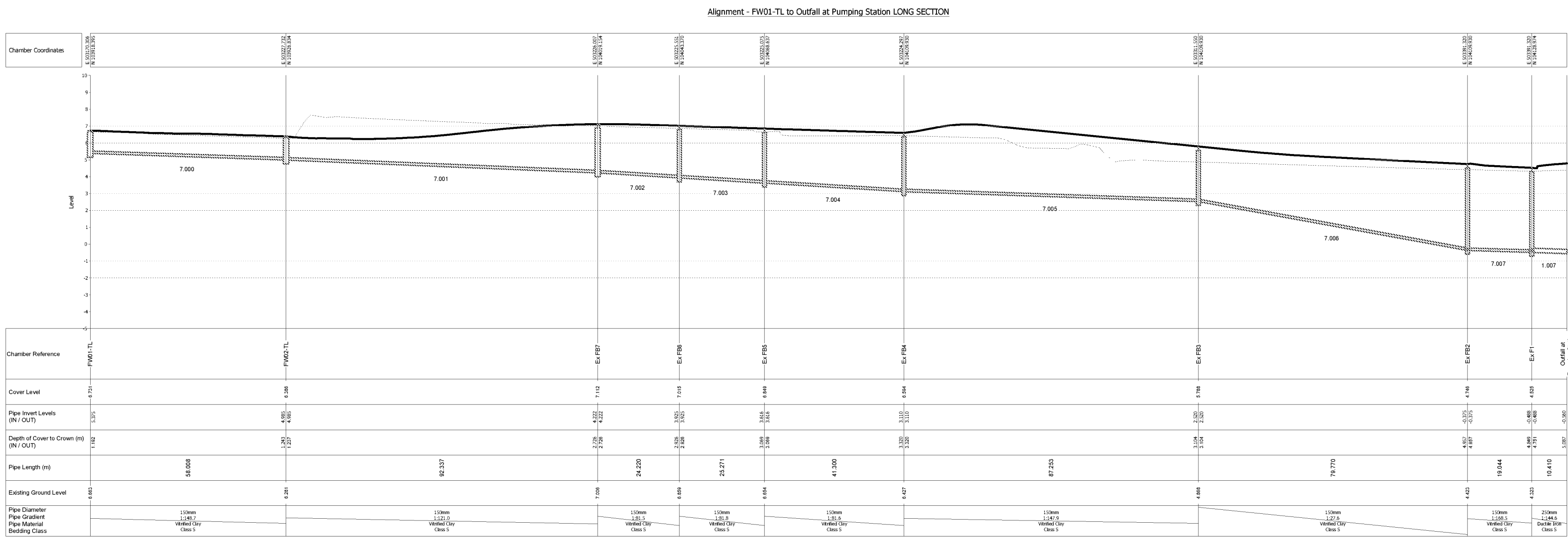
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KEY

- PROPOSED GROUND PROFILE
- EXISTING GROUND PROFILE
- FOUL WATER SYSTEM TO BE ADOPTED BY ICOSA UNDER S.104 AGREEMENT

NOTES

- This drawing is not to be scaled.
- This drawing is to be read in conjunction with all other relevant engineering and landscaping drawings and schedules. Any discrepancies are to be reported to the Engineer immediately for clarification.



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P1 Initial Issue, JS SL 01/03/2019

rev. amendment checked date

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client
PERSIMMON HOMES THAMES VALLEY

project
NORTH LITTLEHAMPTON

scale
H=1:1,000 V=1:200
date
MARCH 2019
drawn by
JS
checked by
SL
cad file
S104 ICOSA.DWG

SECTION 104 DRAINAGE SURFACE AND FOUL
WATER LONG SECTIONS - SHEET 2 OF 2

Mayer Brown Limited jobcode
A/PHLITTLE-INT.10
suitability
-
revision
P1

drawing number
A/PHLITTLE-INT.10/S104-20-2

