Pennylands, Westgate, Skelmersdale

Proposed Retail Development

Flood Risk and Surface Water Drainage Assessment.

For: ALDI, Bolton

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Ref: 3139-FRA
Job: 3139
Rev: A
By: NS

Date: Nov 21

Civil Structural Highways Geotechnical Environmental

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1.0 INTRODUCTION

1.1 Integra Consulting has been commissioned by ALDI, Bolton to undertake a Flood Risk and Surface Water Drainage Assessment (FRA) for the site at Pennylands, Westgate, Skelmersdale. This document has been prepared to accompany the detailed planning application for the proposed development of the application site.

1.2 The objective of the FRA is to identify potential flooding issues and any consequent implications on the proposed site development. Both existing and proposed surface water drainage for the development site are considered.

1.3 The FRA has been undertaken in accordance with the pro-forma guidance contained in:

- Department for Communities and Local Government document 'National Planning Practice Guidance: Flood Risk and Coastal Change'
- West Lancashire Local Plan - Strategic Flood Risk Assessment Level 1 (December 2019)
- West Lancashire Borough Council Level 2 Strategic Flood Risk Assessment Level 2 dated May 2020 by JBA Consulting
- DEFRA / Environment Agency publication SC030219 'Rainfall Runoff Management for Developments' dated October 2013.

1.4 To date, consultations have been undertaken with the Environment Agency (EA) and Lead Local Flood Authority.

2.0 STANDARDS AND LIMITATIONS

This report has been prepared solely for use by ALDI Bolton.

It shall not be relied upon or transferred to any other party without the prior written authorisation of Integra Consulting.

The findings and opinions in the report are based on information derived from a variety of different sources. Integra Consulting do not accept any liability for the accuracy or otherwise of any information provided by third parties.

It should be noted that some of the aspects considered in this study may be subject to change with time. Therefore, if the development is delayed or postponed, consideration may need to be given to reviewing such issues to confirm that no changes have taken place, either at the site or within relevant legislation.

Further consultations with statutory bodies are likely as the scheme progresses. It should be noted that even where responses have been received from Regulators, these could be subject to change at a later date.

3.0 CURRENT SITUATION

3.1 Site Location and Description

The 1.24 hectare irregular shaped site is located to the west of the centre of Skelmersdale, West Lancashire. The site is centred at National Grid reference 346912, 405889 as shown on the site location plan in Appendix 1.

The brownfield site is bounded to the north by High Street, to the west by Westgate, to the east by residential properties and to the south by residential properties and garages. The nearest watercourse to the site is unnamed and lies circa 500m to the south of the site on the far (southern) side of the M58 motorway.

The site falls from circa 70m AOD in the north to circa 65.5m AOD in the south. The existing topographical survey can be found in Appendix 2.

3.2 Hydrology and Flooding

Current Environment Agency flood data indicates the site to lie wholly in Flood Zone 1.

A review of the EA / DEFRA mapping indicates no reservoir flooding and a localised low risk of surface water flooding adjacent to the southern site boundary with an isolated area indicating a low risk of surface water flooding within a confirmed courtyard to an existing site building (to be demolished).

There is no evidence of elevated groundwater flooding risk indicated on the mapping contained within the West Lancashire Borough Council Level 2 Strategic Flood Risk Assessment Level 2 dated May 2020 by JBA Consulting.

3.3 Existing Sewers

The existing sewers surrounding the site are noted as follows (refer to Appendix 4 for detailed UU sewer plans):

- 225mm diameter adopted surface water sewer extending south from adjacent to the southern site boundary;
- 225mm (private) highway drain extending from north to south beneath Westgate from a location adjacent to the western site boundary;
- 375mm (private) highway drain extending from north to south beneath Westgate from a location adjacent to the western site boundary;
- 150mm diameter adopted combined water sewer extending from east to west beneath High Street to the north of the development site;
- 225mm diameter adopted combined water sewer extending from west to east from a location adjacent to the eastern site boundary.

4.0 PROPOSED DEVELOPMENT

4.1 Development Proposals

It is proposed to undertake a retail re-development of the application site with access from High Street.

4.2 Surface Water Drainage

The issue of surface water drainage to the proposed development has been considered with reference to the hierarchy of surface water disposal as noted in the Building Regulations H3:

i) Sustainable Urban Drainage Systems (SUDS)
ii) Discharge of surface water off site direct to watercourse
iii) Discharge to adopted sewer

SUDS are made up of one or more structures built to manage surface water runoff. They are used in conjunction with good management of the site to prevent flooding and pollution. There are four general methods of control:

- Filter strips and swales
- Filter drains and permeable surfaces
- Infiltration devices
- Basins and Ponds

Intrusive ground investigation findings validate the desk study evidence and confirm that the site is underlain by low permeability stiff clay (Devensian Till) deposits. This desk study evidence has been validated following completion of an intrusive geo-environmental ground investigation at the site undertaken by Brownfield Solutions (refer to Appendix 7 for details). In summary, the report confirms the presence of made ground deposits over glacial till deposits over solid deposits of Pennine Lower Coal Measures. On the above basis, clause 7.10.1 of the Brownfield Solutions interpretative geo-environmental report confirms that the use of soakaways within the natural ground is not feasible at this development site due to the presence of relatively impermeable strata at shallow level.

The nearest watercourse is an unnamed watercourse which is located approximately 500m to the south of the site, on the far (southern) side of the M58 motorway through numerous third party land ownerships. Accordingly, direct discharge of post-development surface water to watercourse is not considered viable.

An existing topographical and drainage connectivity survey at the site (refer to Appendix 2) indicates that site surface water currently discharges freely into the existing adopted surface water sewer system that lies directly to the south of the site which in turn extends eastwards down Railway Road prior to joining a 1000mm (becoming 1350mm) diameter surface water sewer which cuts across a large roundabout prior to outfalling into the River Tawd.

It is therefore proposed to re-use this existing sewer connection in the post-development situation and provide a significant betterment through a 50% reduction in existing flows in line with clause 12.10 of the West Lancashire Borough Council Level 1 SFRA dated December 2019.

The proposed 50% reduction in flow results in estimated on site storage to cater for a 1 in 30 year event of approximately 120m3 and on site storage to cater for a 1 in 100 year plus 40% climate change event of approximately 300m3 (refer to Appendix 6 for estimated storage calculation details). It is noted that these estimated figures are subject to future detailed drainage design.

The post development surface water drainage system will be designed to ensure that:

- There is no surcharge in the 1 in 1 year event;
- Surface water flows up to a 1 in 30 year event remain in below ground storage;
- Surface water flows remain on site up to a 1 in 100 year + 40% climate change storm event. Sufficient surface water storage and shallow ponding volume will be available to ensure there is no risk to property.

4.3 Foul Water Drainage

An existing topographical and drainage connectivity survey at the site (refer to Appendix 2) indicates that site foul water currently discharges into the adopted combined water sewer system that lies adjacent to the site.

It is therefore proposed to re-use these existing sewer connections in the post-development situation.

4.4 National Planning Policy Framework and Technical Guidance

The commercial site development proposals are classed as ‘less vulnerable’ in Table 2 of the Flood Risk and Coastal Change guidance.

‘Less vulnerable’ developments in Flood Zone 1 are classed as appropriate according to Table 3 of the Flood Risk and Coastal Change guidance.

Proposed post development levels will be engineered in order to protect the development and not provide any increased flood risk elsewhere.

Types of flooding that could affect the site are:

River- the site is in Flood Zone 1
Sea – there is no risk of flooding from the sea
Land – there are no undrained land slopes towards the site
Groundwater – there are no springs or weep areas on the site
Sewers – there have been no local reports of sewer surcharge

4.5 Strategic Flood Risk Assessment & EA Mapping Review

From our review of the West Lancashire SFRA Level 1 and Level 2 documents, no critical drainage areas are currently defined in this region. It is also noted that the SFRA documents identify the non-fluvial flood risk in Skelmersdale to be low with drains / culverts being modern in design and capacity.

It is proposed that post-development surface water discharges into the existing adjacent UU sewer network and provides a 50% betterment on flow rate compared with the existing free flow situation in line with the requirements of the SFRA Level 1 document.

There are no groundwater protection zones in the vicinity of the site and there is negligible residual fluvial risk. The site is not noted to lie within a flood warning area.

4.6 Safe Access and Egress

Safe access / egress from the site in extreme conditions will be via the entrance on High Street.

5.0 SuDS DESIGN STATEMENT

5.1 SuDS Requirements

SuDS measures are required on the proposed development to comply with the National Planning Policy Framework (NPPF), DEFRA Non-Statutory Technical Standards for Sustainable Drainage Systems and the SuDS guidance in the local strategic flood risk assessment documentation.

The key conceptual SUDS design criteria for the development are covered in Non-Statutory Technical Standards for Sustainable Drainage under sections S1 to S9 based on the predominantly brownfield nature of the development site. In terms of the post-development run off rate, no allowance will be made from the existing greenfield areas of the proposed development site.

Peak Flow Control

S3 of the DEFRA Technical Standards notes that for brownfield developments, the peak runoff from the development for the 1 in 1 year and 1 in 100 year rainfall event must be as close as reasonably practicable to the greenfield runoff rate for the same rainfall event but should never exceed the rate of discharge from the development prior to re-development for that event.

Volume Control

Requirement S5, which stipulates that the runoff volume in the 1 in 100 year, 6 hour rainfall event must be constrained to a value as close as is reasonably practicable to the greenfield runoff volume for the same event but should never exceed the runoff volume from the development site prior to development.

Flood Risk within the Development

S7 notes that the drainage system shall be designed such that no flooding shall occur on any part of the site during a 1 in 30 year storm event whilst the S8 requirement stipulates that during a 1 in 100 year enhanced rainfall event, no flooding of any building shall occur.

S9 also stipulates that site levels shall be designed such that flows which are as a result of rainfall events exceeding the 1 in 100 year enhanced rainfall event, are managed in exceedance routes that minimise the risks to people and property.

Water Quality

In addition to the above measures contained within the DEFRA guidance addressing water quantity issues, designing for water quality is also a requirement of the on-site SUDS measures. Reference is made to CIRIA Report 'C753 – The SUDS Manual', specifically Chapters 4 and 26.

5.2 Proposed SUDS Methodology & Drainage Design Principles

As detailed in section 4.2, discharge of surface water direct to the ground in the form of infiltration measures is deemed infeasible due to the anticipated underlying lack of permeability of the natural strata. With no viable access to an off-site watercourse, controlled discharge to the adjacent existing adopted surface water sewerage network is the proposed method of post-development surface water discharge.

Peak Flow Control

Post-development surface water flow from the proposed development site shall be limited to 50% of the existing brownfield runoff rate providing a 50% betterment on the existing situation. No allowance in terms of the post-development run off rate will be made from the existing greenfield areas of the proposed development site.

Volume Control

The proposed 60 litres per second discharge flow rate will apply for all flood events from the 1 in 1 year to the 1 in 100 year (enhanced) event. This is deemed to equate to a 50% betterment over the development site.

Flood Risk within the Development

To cater for excess surface water runoff, the proposed method of attenuation on the site is to utilise a combination of storage within permeable paving (Type C construction as covered in Chapter 20 of CIRIA C753 The SuDS Manual 2015) to car parking bays together with underground crate storage beneath the external areas of the development platform with a downstream piped drainage system discharging attenuated site surface water into the existing on-site adopted surface water sewerage system.

Appendix 6 contains calculations of an in principle surface water storage volume of circa 300m3 for the development. It is proposed to accommodate the 1 in 100 year (enhanced) event storage volume within the above noted permeable pavement construction and underground crate storage. Accordingly, this will ensure that criteria S7 and S8 are met.

The site is to discharge post-development surface water into the above noted storage systems within the 'red line' site boundary which in turn will discharge through a flow control chamber to limit the discharge to a runoff rate that provides a 50% betterment on the pre-development surface water flow rate for the existing brownfield site extent and makes no allowance in terms of the post-development run off rate from the existing greenfield areas of the proposed development site. Downstream of the crate storage / flow control chamber, the attenuated surface water flow will discharge to the off-site adopted surface water sewerage system.

It is intended that post-development surface water discharge to the adopted surface water sewerage system will utilise the available existing site private drainage connections (refer to Appendix 2 for details). Post-development discharge to the UU surface water sewer network will naturally require a formal application to be made to United Utilities.

Water Quality

In assessing the level of treatment required to ensure sufficient water quality improvement prior to discharge to watercourse, reference is made to Chapter 26 of CIRIA C753 – The SuDS manual. Specifically, Table 26.2 details the pollution hazard indices for different site uses:

Based on the proposed development (the closest suitable development definition in Table 26.2 is 'retail sites'), the pollution hazard level is noted as 'medium', with pollution hazard indices being: Total Suspended Solids 0.7, Metals 0.6, Hydrocarbons 0.7 – this is considered to be an appropriate assessment of the pollution hazard levels at the post-development site.

It is proposed to utilise permeable pavement construction at the site in order to address water quality improvements on the site. In line with the requirements stipulated in Table 26.2 and Table 26.3 of the SuDS Manual - the permeable pavement construction will be located within the car parking bays at the post-development site.

The simple index approach in line with the requirements of the SuDS Manual has been followed in order to verify that permeable pavement construction provides a suitable level of water treatment at the subject site:

Step 1 – Define Pollution Hazard Indices

With reference to Table 26.2 of the SuDS Manual, the land use category relevant to the subject site (when adopting a conservative approach) is '*Commercial yards and delivery areas, non-residential car parking with frequent change (e.g. hospitals, retail), all roads except low traffic roads and trunk roads/motorways'.*

Accordingly, the designated pollution hazard level for the development site is 'medium' with the following pollution hazard indices applying:

Total Suspended Solids (TSS): 0.7

Metals: 0.6

Hydrocarbons: 0.7

Step 2 – Determine SuDS pollution mitigation indices

In terms of the relevant SuDS mitigation indices, permeable pavement construction will deliver high removal of a variety of pollutants including:

Sediment or Total Suspended Solids (TSS):
SuDS Pollution Mitigation Index = 0.7

Sediment Bound Heavy Metals and Nutrients:
SuDS Pollution Mitigation Index = 0.6

Hydrocarbons:
SuDS Pollution Mitigation Index = 0.7

The above SuDS Mitigation Indices demonstrate that the proposed SuDS treatment system meets the relevant pollution hazard indices in relation to the proposed land use.

Accordingly, the feasible SuDS methods are considered to be:

i) Permeable paving system – use of a 'Type C' system to suit no infiltration as covered in section 20.1.9 of CIRIA C753 The SuDS Manual

ii) Use of attenuation crate storage and a flow control chamber with post-development surface water discharging at 60 litres per second into the off-site adopted surface water sewerage system.

5.3 Management and Maintenance of SuDS Drainage System

The management and maintenance of the above noted SuDS measures to serve the proposed development will be undertaken by a maintenance management company to be appointed for the project. The appointment of the maintenance and management company is to be confirmed at the completion of the build phase. All parts of the drainage network are to be accessible and are to be constructed from materials that are suitable and robust for the lifetime of the development.

The maintenance activities required for the drainage network are as follows:

5.3.1 Cellular Storage Structure

The maintenance for the cellular storage structure is as follows:

Operation	Frequency
Inspect and identify any areas that are not operating correctly and if required take remedial actions	Monthly for three months then six monthly intervals
Debris caused from catchment surface (where it may cause risk to performance)	Monthly
Where rainfall infiltration into cellular storage from above, check surface or filter for blockage or silt, algae or other matter by jetting	As required but at least twice a year
Remove sediment from upstream surface water network by jetting	Annually or as required
Repair / check all inlets, outlets, overflows and vents	As required
Inspect / check all inlets, outlets, vents and overflows to ensure that they are in good condition and operating as designed	Annually and after severe storms

5.3.2 Flow Control

The maintenance for the flow control is as follows:

Operation	Frequency
Inspect and identify any areas that are not operating correctly, if required take remedial actions	Monthly for three months then at six monthly intervals
Debris removal from catchment surface (where it may cause risk to performance)	Monthly
Check control chamber for blockage or silt, algae or other matter by jetting	As required, but at least four times a year
Remove sediment from upstream drainage network and sediment from within manhole by jetting	As required, but at least twice a year
Repair / check all inlets and control mechanics	As required
Inspect / check all inlets and control mechanics to ensure that they are operating as designed	Twice a year as a minimum and after severe storm events

5.3.3 Flow Control Chamber Design Criteria

In addition to the above maintenance methods, the flow control chamber will be designed so it works effectively throughout the lifespan of the development and will have precautionary features to ensure maintenance work can be carried out promptly and efficiently to ensure no control failure which may otherwise subsequently lead to flooding.

Details of the flow control chamber are as follows:

- High Water Level Alarm: Alarm installed and directed to site maintenance team
- Spares: Control spares to be kept on site for efficient maintenance

5.3.4 Permeable Pavement

The operation and maintenance requirements for the proposed permeable pavement system is as follows:

Maintenance schedule	Required action	Frequency
Regular maintenance	Brushing and vacuuming (standard cosmetic sweep over whole surface)	Once a year after autumn leaf fall or reduced frequency as required based on site-specific observations of clogging or manufacturers recommendations
Occasional maintenance	Stabilise and mow contributing adjacent areas	As required
	Removal of weeds or management using glyphosate applied directly into the weeds by an applicator rather than spraying	As required / once a year
Remedial Actions	Remediate any landscaping which, through vegetation maintenance, has been raised to within 50mm of the paving	As required
	Remedial work to any depressions, rutting and cracked or broken bricks considered detrimental to the structural performance or a hazard to users, and replace lost jointing material	As required
	Rehabilitation of surface and upper substructure by remedial sweeping	Every 10 to 15 years or as required
Monitoring	Initial inspection	Monthly for three months after installation
	Inspect for evidence of poor operation and/or weed growth – if required, take appropriate remedial action	Three-monthly, 48 hours after large storms in first six months
	Inspect silt accumulation rates and establish brushing frequencies	Annually
	Monitor inspection chambers	Annually

5.3.5 Flood Routes

A visual monthly inspection of flood routes should be made in order to check that routes are not blocked by new fences, walls, soil or other rubbish with removal undertaken as necessary.

5.3.6 Spillage – Emergency Action

Most spillages on development sites are of compounds that do not pose a serious risk to the environment as they enter the drainage system in a slow and controlled manner with time available for natural breakdown in a treatment system. Therefore, small spillages of oil, milk or other known organic substances should be removed where possible using soak mats as recommend by the Environment Agency with residual spillage allowed to bio-remediate in the drainage system.

In the event of a serous spillage, either by volume or of unknown or toxic compounds, then the spillage should be isolated using soil, turf or fabric and outlet pipes from chambers downstream of the spillage blocked with bungs. Bungs for blocking pipes may be made by wrapping soil or turf in a plastic sheet or close woven fabric. The Environment Agency should be contacted immediately.

5.3.7 Linked and Further Maintenance

The maintenance of the drainage network and SuDS features is to be linked with the landscape maintenance plan for the proposed development.

5.3.8 Maintenance Activities

A log of all maintenance activities is to be kept and made available to the Local Planning Authority (LPA) and / or the Lead Local Flood Authority (LLFA) on request.

6.0 CONCLUSIONS

6.1 Flooding

Following review of the Environment Agency flood maps and data, it has been confirmed that the site lies wholly within Flood Zone 1.

There are to be no off site surface water flood routes generated by the development during an enhanced 1 in 100 year storm. All surface water run-off will remain on site in the 1 in 100 year + 40% climate change event.

6.2 Site Surface Water Drainage

It is proposed to discharge suitably attenuated post-development surface water into the United Utilities adopted surface water sewer network that lies adjacent to the southern site boundary re-using the existing sewer connection from the site.

It is proposed to provide significant betterment through a reduction in existing flows by 50% and provision of commensurate on site storage.

6.3 Site Foul Water Drainage

An existing topographical and drainage connectivity survey at the site (refer to Appendix 2) indicates that site foul water currently discharges into the adopted combined water sewer system that lies adjacent to the site.

It is therefore proposed to re-use these existing sewer connections in the post-development situation.

6.4 Flood Risk Management Measures

There will be a site management Health and Safety document prepared in respect of the site.

6.5 Off Site Impacts

All roofed and paved areas are to be formally drained into the site surface water drainage system. The design of the site surface water system will ensure that no off site flood flows are generated by the proposed development in the 1% plus climate change event.

6.6 Residual Risk

With careful design of the drainage elements as described above, there will be no residual flood related risks remaining after the development has been completed.

The proposed building envelopes will naturally all lie in Flood Zone 1.

A post-development safe emergency access can be maintained at all times during a flood event. Emergency access will be from High Street.

APPENDIX 1

SITE LOCATION PLAN

Rev	Date	Description	Rev By	Chk'd By
-	dd-mm-yy	-------	---	---

Project Title	PROPOSED ALDI FOODSTORE WESTGATE SKELMERSDALE WN8 8AP
Client	ALDI STORES LTD
Status	PLANNING
Scale	1:1250 — Drawing Size A4
Date	06.08.18 — Drawn By RG — Chkd by LEEB
Drawing Title	SITE LOCATION PLAN
Job-Dwg No	2269BOL-110 — Rev -

TOTAL OWNERSHIP AREA (Red Line)
FOODSTORE PLOT APPROX 3.07 ACRES (1.24 HA)

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SITE LOCATION PLAN
SCALE 1:1250 @ A4

0 12.5 25 37.5 50 62.5 m
SCALE 1:1250

CAD file reference J:/ALDI/MIDDLETON/2269BOL/17.0 DRAWINGS/100 SERIES

2 St. Johns North, Wakefield, WF1 3QA t. 01924 291800
Carvers Warehouse, 77 Dale Street, Manchester, M1 2HG t. 0161 2388555
The Old Rectory, 79 High Street, Newport Pagnell, MK16 8AB t. 01908 211577
101 London Road, Reading, RG1 5BY t. 0118 9507700
10 Gees Court, St Christophers Place, London, W1U 1JJ t. 0207 4091215

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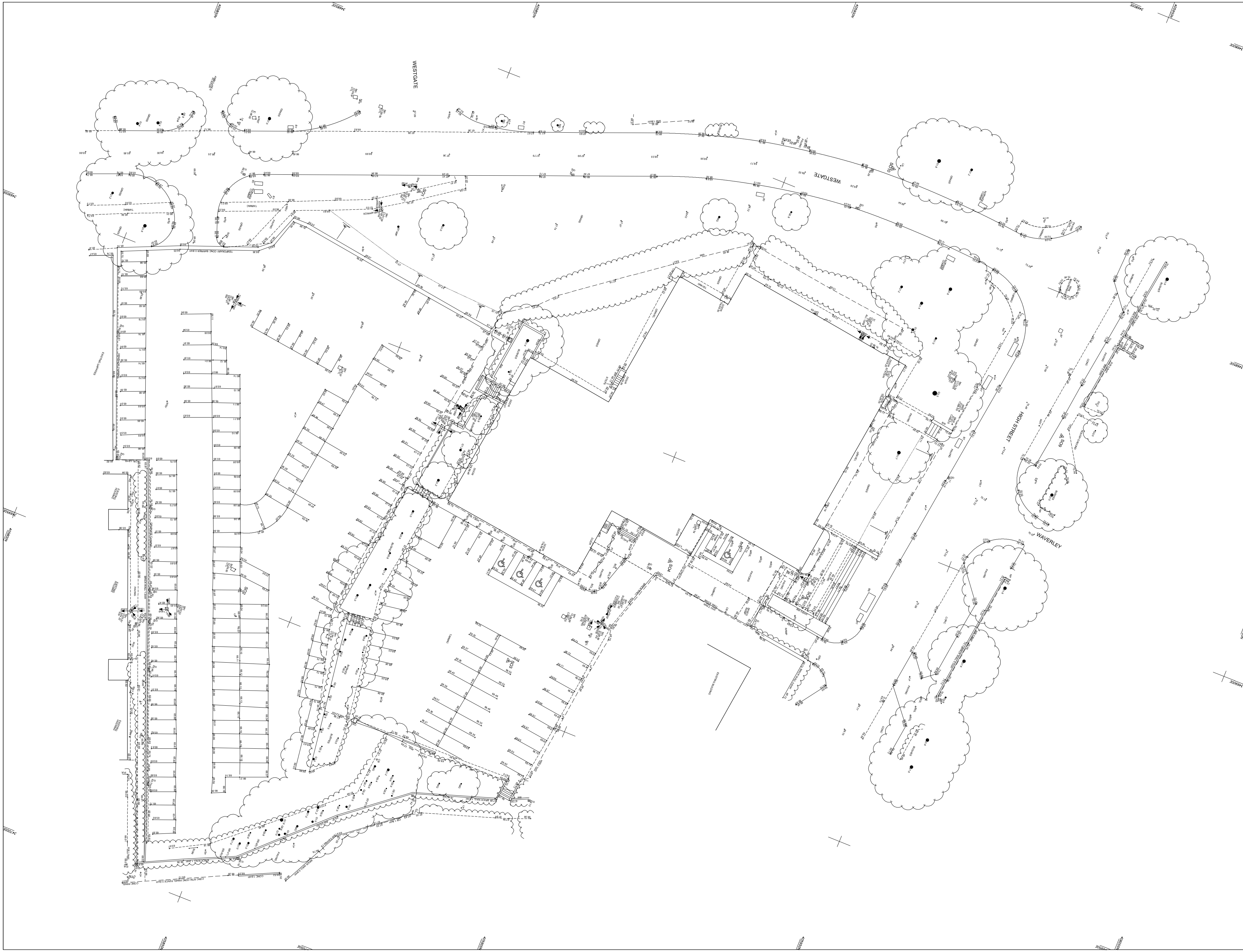
APPENDIX 2

EXISTING TOPOGRAPHICAL SURVEY



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Note:
The survey is plotted on a plane local Grid. Orientation to National Grid.
All levels relate to Ordnance Datum, achieved using the OS National GPS Network.
Survey Control Markers established for Mapping purposes only and should not be used for Construction without the written approval of Survey Operations Ltd.

SURVEY STATIONS

Name	Easting	Northing	Height
SO1	346874.22	405843.29	67.24
SO2	346948.11	405840.26	66.03
SO3	346942 37	405886.73	68.52
SO4	346916.57	405905.86	68.71
SO8	346913.99	405929.02	69.24
SO9	346872.45	405959.45	70.61
SO10	346841.01	405916.27	69.50

STANDARD REFERENCE & ABBREVIATIONS

(AR)........Assumed Route
AB..........Air Brick
AV..........Air Valve
B/W.........Barbed Wire
BAR.........Barrier
BB..........Belisha Beacon
BH..........Borehole
BL..........Bed Level
BOL.........Bollard
BS..........Bus Stop
BT Box......British Telecom Box
BT..........British Telecom IC
BRTW........Brick Retaining Wall
BW..........Brick Wall
C/B.........Close Boarded
C/I.........Corrugated Iron
C/P.........Chestnut Paling
CB..........Control Box
CBW.........Concrete Block Wall
CCTV........Closed Circuit TV
CD..........Cable Duct
CEL.........Cellar Light
CH/L........Chain Link
CHY.........Chimney
CL..........Cover Level
CML.........Cable Marker
COL.........Column
CONC........Concrete
CP..........Catch Pit
CRTW........Concrete Retaining Wall
CTV.........Cable Television
CUL.........Culvert
CW..........Concrete Block Wall
DC..........Drainage Channel
DPC.........Damp Proof Course
DR..........Drain
DSW.........Dry Stone Wall
ECP.........Electricity Cable Pit
EIC.........Electricity Inspection Cover
EJ..........Expansion Joint
EJB.........Electricity Junction Box
EL SUB STN..Electricity Sub Station
EL..........Eaves Level
ELB.........Electricity Box
EP..........Electricity Pole
ER..........Earth Rod
ETL.........Electricity Transmission Line
FB..........Flower Bed
FH..........Fire Hydrant
FL..........Floor Level
FP..........Flagpole
G*.*........Girth (of tree)
G...........Gulley
GAB.........Gabion
GIP.........Gas Inlet Pipe
GMKR........Gas Marker
GST.........Gas Stop Tap (Domestic)
GSV.........Gas Stop Valve (Mains)
HSE.........Housing
Ht..........Height
HV..........High Voltage
I/R.........Iron Railing
IC..........Inspection Cover
IL..........Invert Level
IP..........Inlet Pipe
KO..........Kerb Outlet
LB..........Letter Box
LP..........Lamp Post
MG..........Multi-Girth
MH..........Manhole
MKR.........Marker
MP..........Mooring Point
NP..........Street Name Plate
O/H.........Overhead
O/P.........Open Paling
OE..........Overhead Electric Wire
OP..........Outfall Pipe
OSBM........Ordnance Survey Bench Mark
OT..........Overhead Telecom Wire
P/C.........Post & Chain
P/R.........Post & Rail
P/W.........Post & Wire
PAV.........Paving
PB..........Pillar Box
PC..........Pedestrian Crossing
PP..........Petrol Pump
PT..........Post or Pillar
RE..........Rodding Eye
RS..........Road Sign
RTW.........Retaining Wall
RWP.........Rain Water Pipe
SAP.........Sapling
SL..........Sump Level
SoL.........Soffit Level
SP..........Sign Post
SPL.........Springing Level
SRTW........Stone Retaining Wall
SV..........Stop Valve (unspecified)
SVP.........Soil Vent Pipe
SW..........Stone Wall
TAC.........Tactile Paving
TB..........Traffic Bollard
TBM.........Temporary Bench Mark
TCB.........Telephone Call Box
TFR.........Taken From Records
TIE.........Anchor Point (Masts/Poles)
TL..........Traffic Light
TLB.........Traffic Light Control Box
TM..........Ticket Machine
TMC.........Tarmac
TP..........Telecommunications Pole
TPIT........Trial Pit
TS..........Trash Screen
U/C.........Under Construction
U/G.........Underground
UTL.........Unable to Lift (MH,IC etc)
UTS.........Unable to Survey
VDP.........Vehicle Detector Pad
VP..........Vent Pipe
W/M.........Wire Mesh
WL..........Water Level
WM..........Water Meter
WO..........Wash Out
WP..........Waste Pipe
WST.........Water Stop Tap (domestic)
WSV.........Water Stop Valve (mains)

Survey OPERATIONS
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Tel: 01695 725662 Fax: 01695 51816
Email: mail@survops.co.uk – www.survops.co.uk

Client
The Harris Partnership

Drawing Title
Topographical Survey of Land at:
High Street
Skelmersdale

Scale(s)	1:200	Surveyor	SF
Date	Oct 17	Drawn	DIF
Job Number	17I007	Checked	MG

Sheet Size & Drg Number & Revision
A0 17I007/001

APPENDIX 3

ENVIRONMENT AGENCY FLOOD MAPPING

Flood map for planning

Your reference	Location (easting/northing)	Created
Skelmersdale	**346920/405878**	**15 Oct 2018 10:53**

Your selected location is in flood zone 1, an area with a low probability of flooding.

This means:

- you don't need to do a flood risk assessment if your development is smaller than 1 hectare and not affected by other sources of flooding
- you may need to do a flood risk assessment if your development is larger than 1 hectare or affected by other sources of flooding or in an area with critical drainage problems

Notes

The flood map for planning shows river and sea flooding data only. It doesn't include other sources of flooding. It is for use in development planning and flood risk assessments.

This information relates to the selected location and is not specific to any property within it. The map is updated regularly and is correct at the time of printing.

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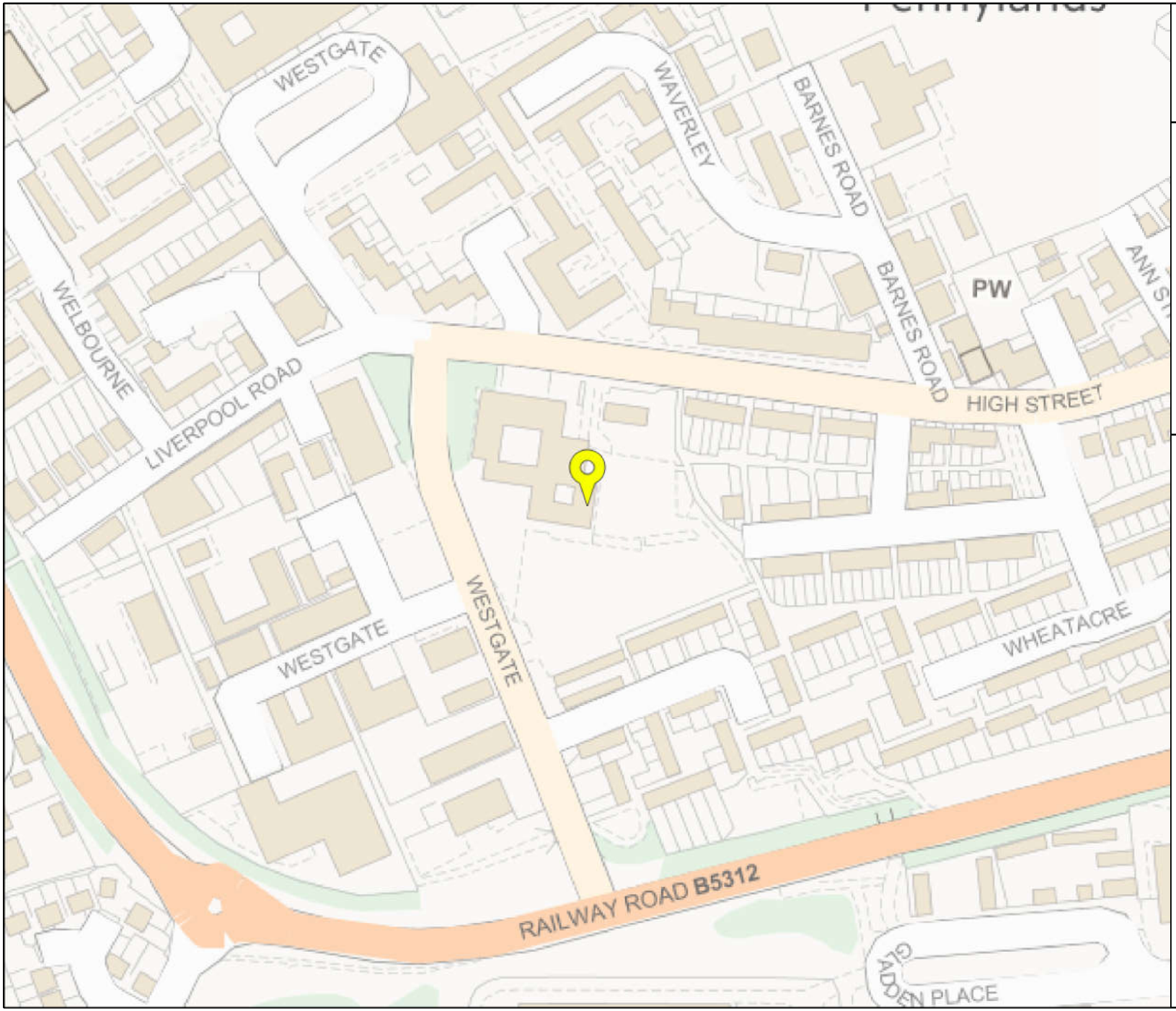

Environment Agency

Flood map for planning

Your reference
Skelmersdale

Location (easting/northing)
346920/405878

Scale
1:2500

Created
15 Oct 2018 10:53

Selected point

Flood zone 3

Flood zone 3: areas benefitting from flood defences

Flood zone 2

Flood zone 1

Flood defence

Main river

Flood storage area

0 20 40 60m

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APPENDIX 4

UNITED UTILITIES SEWER PLAN

United Utilites Water Limited

Property Searches
Ground Floor Grasmere House
Lingley Mere Business Park
Great Sankey
Warrington
WA5 3LP

Telephone 0370 751 0101

Property.searches@uuplc.co.uk

Your Ref: 3019
Our Ref: 1392519
Date: 8/10/2018

Integra Consulting Engineers Ltd
Suite 4
14 - 32 Hewitt Street

Manchester
M15 4GB

FAO:

Dear Sirs

Location: **Westgate High Street Skelmersdale**

I acknowledge with thanks your request dated 08/10/18 for information on the location of our services.

Please find enclosed plans showing the approximate position of our apparatus known to be in the vicinity of this site.

The enclosed plans are being provided to you subject to the United Utilities terms and conditions for both the wastewater and water distribution plans which are shown attached.

If you are planning works anywhere in the North West, please read our access statement before you start work to check how it will affect our network.
http://www.unitedutilities.com/work-near-asset.aspx.

I trust the above meets with you requirements and look forward to hearing from you should you need anything further.

If you have any queries regarding this matter please telephone us on 0370 7510101.

Yours Faithfully,

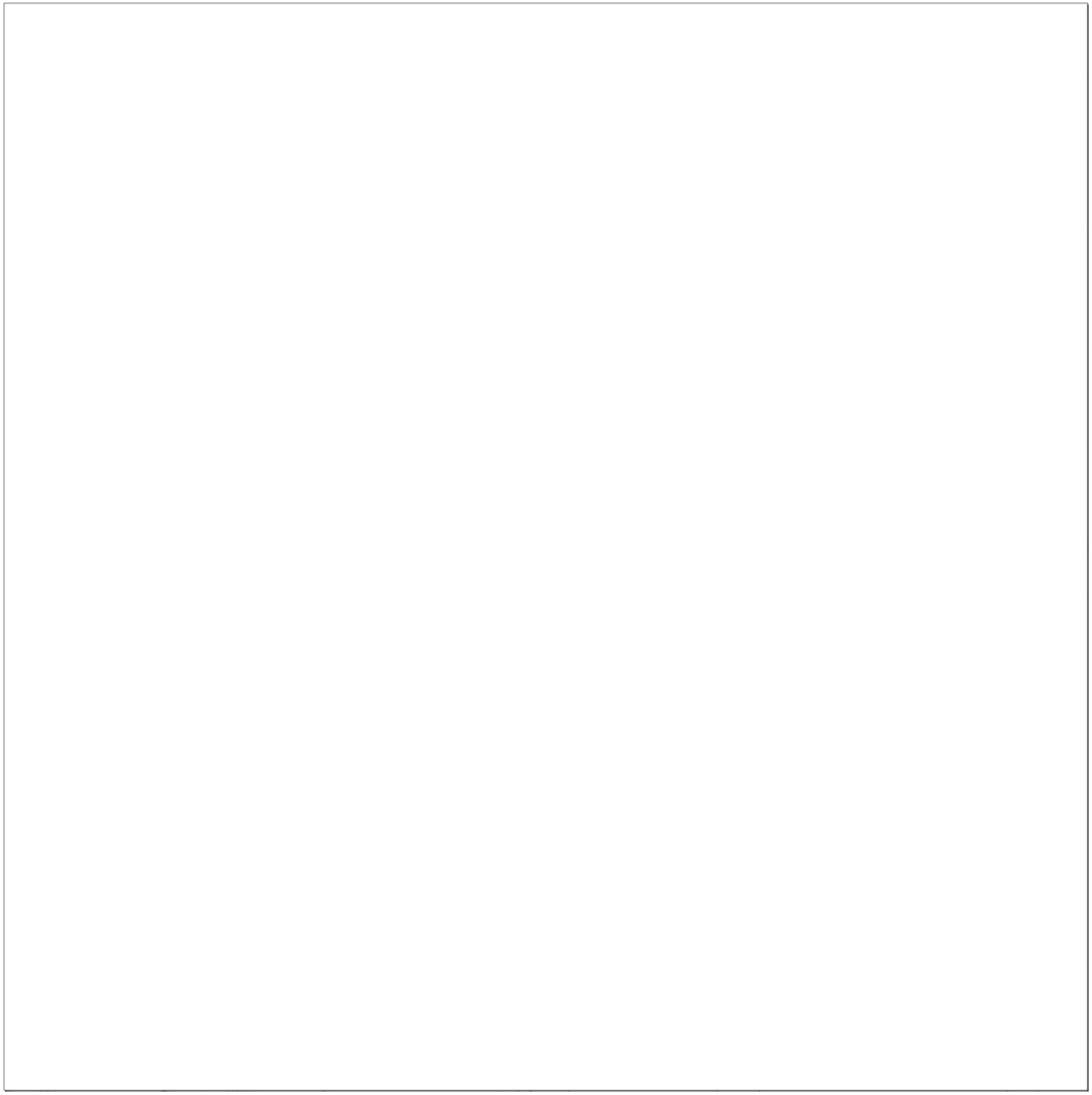
Karen McCormack
Property Searches Manager

TERMS AND CONDITIONS - WASTERWATER & WATER DISTRIBUTION PLANS

These provisions apply to the public sewerage, water distribution and telemetry systems (including sewers which are the subject of an agreement under Section 104 of the Water Industry Act 1991 and mains installed in accordance with the agreement for the self-construction of water mains) (UUWL apparatus) of United Utilities Water Limited "(UUWL)".

TERMS AND CONDITIONS:

1. This Map and any information supplied with it is issued subject to the provisions contained below, to the exclusion of all others and no party relies upon any representation, warranty, collateral contract or other assurance of any person (whether party to this agreement or not) that is not set out in this agreement or the documents referred to in it.
2. This Map and any information supplied with it is provided for general guidance only and no representation, undertaking or warranty as to its accuracy, completeness or being up to date is given or implied.
3. In particular, the position and depth of any UUWL apparatus shown on the Map are approximate only and given in accordance with the best information available. The nature of the relevant system and/or its actual position may be different from that shown on the plan and UUWL is not liable for any damage caused by incorrect information provided save as stated in section 199 of the Water Industry Act 1991. UUWL strongly recommends that a comprehensive survey is undertaken in addition to reviewing this Map to determine and ensure the precise location of any UUWL apparatus. The exact location, positions and depths should be obtained by excavation trial holes.
4. The location and position of private drains, private sewers and service pipes to properties are not normally shown on this Map but their presence must be anticipated and accounted for and you are strongly advised to carry out your own further enquiries and investigations in order to locate the same.
5. The position and depth of UUWL apparatus is subject to change and therefore this Map is issued subject to any removal or change in location of the same. The onus is entirely upon you to confirm whether any changes to the Map have been made subsequent to issue and prior to any works being carried out.
6. This Map and any information shown on it or provided with it must not be relied upon in the event of any development, construction or other works (including but not limited to any excavations) in the vicinity of UUWL apparatus or for the purpose of determining the suitability of a point of connection to the sewerage or other distribution systems.
7. No person or legal entity, including any company shall be relieved from any liability howsoever and whensoever arising for any damage caused to UUWL apparatus by reason of the actual position and/or depths of UUWL apparatus being different from those shown on the Map and any information supplied with it.
8. If any provision contained herein is or becomes legally invalid or unenforceable, it will be taken to be severed from the remaining provisions which shall be unaffected and continue in full force and affect.
9. This agreement shall be governed by English law and all parties submit to the exclusive jurisdiction of the English courts, save that nothing will prevent UUWL from bringing proceedings in any other competent jurisdiction, whether concurrently or otherwise.



Refno	Cover Func	Invert	Size x	Size y	Shape	Matl	Length	Grad
1917	CO							
1921	CO							
1925	CO							
2820	SW							
4607	SW							
4630	CO							

Refno	Cover Func	Invert	Size x	Size y	Shape	Matl	Length	Grad

WASTE WATER SYMBOLOGY

LEGEND

MANHOLE FUNCTION

FO	Foul
SW	Surface Water
CO	Combined
OV	Overflow

SEWER SHAPE

CI	Circular	TR	Trapezoidal
EG	Egg	AR	Arch
OV	Oval	BA	Barrel
FT	Flat Top	HO	HorseShoe
RE	Rectangular	UN	Unspecified
SQ	Square		

SEWER MATERIAL

AC	Asbestos Cement	DI	Ductile Iron
BR	Brick	PVC	Polyvinyl Chloride
PE	Polyethylene	CI	Cast Iron
RP	Reinforced Plastic Matrix	SI	Spun Iron
CO	Concrete	ST	Steel
CSB	Concrete Segment Bolted	VC	Vitrified Clay
CSU	Concrete Segment Unbolted	PP	Polypropylene
CC	Concrete Box Culverted	PF	Pitch Fibre
PSC	Plastic/Steel Composite	MAC	Masonry, Coursed
GRC	Glass Reinforced Concrete	MAR	Masonry, Random
GRP	Glass Reinforced Plastic	U	Unspecified

The position of the underground apparatus shown on this plan is approximate only and is given in accordance with the best information currently available. United Utilities Water will not accept liability for any loss or damage caused by the actual position being different from those shown. Crown copyright and database rights [2016] Ordnance Survey 100022432.

OS Sheet No: SD4705NW
Scale: 1:1250 Date: 08/10/2018
306 Nodes
Sheet 2 of 2

United Utilities
helping life flow smoothly

SEWER RECORDS

Printed By: Property Searches

OS Sheet No: SD4705NW

Scale: 1:1250 Date: 08/10/2018

Retho	Cover	Func	Invert	Size x	Size y	Shape	Matl	Length	Grad
0600	63.7	CO	59.04	225		CI	VC	47.13	96
0601	62.12	SW							
0602		SW	0	350		CI	CO	24	
0603		SW							
0604		SW	0	675		CI	CO	30.46	
0605	62.04	FO							
0606	62.19	FO							
0607	62.18	SW	0	375		CI	CO	26.25	
0608	62.38	FO	59.56	225		CI	VC	11	
0609	62.24	SW	60.12	375		CI	VC	12	
0610		CO							
0700	64.8	CO	63.04	150		CI	VC	20.88	80
0701	64.86	FO							
0702	64.8	SW	63.34	150		CI	VC	17.46	73
0703	64.33	SW							
0704	64.2	SW	62.59	225		CI	VC	32.56	81
0705	64.29	FO	62.34	225		CI	VC	68.15	77
0706	64.84	SW							
0708	64.58	FO	62.74	150		CI	VC	16.16	135
0710	61.57	CO	58.48	300		CI	VC	39.85	133
0711	62.81	SW	58.89	825		CI	CO	35.9	299
0712	64.6	SW	63.02	225		CI	VC	30.08	131
0713	64.36	FO							
0714	62.85	CO							
0715	63.86	FO	59.07	225		CI	VC	38.9	53
0716	63.91	SW							
0717	63.83	SW							
0718	63.98	SW	61.72	375		CI	CO	219.26	114
0800	67.26	CO							
0801	66.45	CO							
0802	66.8	CO							
0803	65.73	CO							
0804	65.92	CO							
0810	65.51	FO	63.73	150		CI	VC	36.25	79
0812	65.47	SW							
0813	65.32	FO	63.73	150		CI	VC	52	45
0814		CO							
0817	65.33	SW	63.9	150		CI	VC	14.32	
0900	66.03	CO	63.53	300		CI	VC	73.79	199
0901		CO							
0902	68.21	SW							
0903	67.61	SW	67.11	150		CI	VC	13.15	
0904	67.61	FO							
0905	68.19	FO	66.98	150		CI	VC	12.04	
0906		SW	0	150		CI	VC	25.08	
0907	68.16	FO							
0908	67.83	FO	66.94	150		CI	VC	15.13	
0909	67.81	SW	67.06	150		CI	VC	12.17	
0910	66.3	CO							
0917		CO							
0919		CO							
0921		CO		150		CI	VC	12.58	
0923		CO							
0925		CO							
0926		CO		100		CI	VC	5.24	
0927		CO							
0932		CO		100		CI	VC	3.31	
1600	62.89	SW	60.69	150		CI	VC	86.28	100
1601	63.13	FO	60.78	225		CI	VC	57.31	140
1602	62.92	FO	60.02	225		CI	VC	70.46	117
1603	63.1	SW	60.97	150		CI	VC	29.07	112
1604	63.14	SW	61.36	225		CI	CO	37.31	117
1605	62.87	SW							
1607		FO							
1701	63.1	CO	61.42	300		CI	VC	17.46	
1702	63.33	SW							
1703	63.08	CO	60.13	375		CI	CO	2.34	3
1704	63.08	CO	57.66	300		CI	VC	14.12	
1705	62.96	SW							
1706		CO	0	300		CI	CO	29.12	
1707		CO							
1713		FO		150		CI	VC	9.87	
1714		FO		150		CI	VC	23.46	
1801	65.74	CO							
1804	65.61	SW							
1805	65.21	CO							
1807	65.23	SW	63.77	300		CI	CO	14.04	
1808		CO							
1809		CO	0	150		CI	VC	46.82	
1813	64.18	CO	61.77	300		CI	VC	21.19	64
1814	64.12	SW							
1818		SW	0	300		CI	CO	22.36	
1900	66.88	CO							
1901	66.03	CO	64.01	375		CI	VC	147.38	208
1907	66.14	CO							
1908	66.59	CO							
1909	66.83	SW							
1911		CO	0	150		CI	VC	12.21	
1912		CO							
1914		CO							
1916		CO		100		CI	VC	11.52	
1918		CO		150		CI	VC	9.06	
1920		CO							
1922		CO							
2600	63.54	SW							
2601	63.62	FO							
2602	63.61	SW	60.83	300		CI	CO	47.38	128
2603	63.53	FO	59.81	225		CI	VC	64	128
2604	63.68	SW	60.38	525		CI	CO	16	107
2605	64.55	SW	60.56	375		CI	CO	29.15	364
2606	63.86	FO	60.26	225		CI	VC	16.01	44
2607	63.84	FO	61.91	225		CI	VC	12.53	17
2701		CO	0	900		CI	CO	31.05	
2702	63.4	SW							
2703	63.06	SW							
2703	62.85	SW	60.09	225		CI	CO	8.06	134
2704	62.63	FO	59.28	225		CI	VC	72.34	30
2705	62.6	SW							
2801	63.7	FO							
2802	63.69	FO							
2803	63.62	SW							
2805	64.99	FO							
2807	64.96	SW	63.77	225		CI	VC	20.88	60
2808	64.67	FO	63.08	150		CI	VC	23.09	82
2810		FO	0	225		CI	VC	53.46	
2811		SW	0	300		CI	CO	59.46	
2812		CO							
2813	63.16	SW	57.54	1000		CI	CO	54.92	100
2814	63	SW	60.08	225		CI	CO	10.05	167
2815	62.83	FO	60.78	225		CI	VC	51.62	29
2819	62.82	SW	60.97	225		CI	VC	53.46	30
2820	63.89	FO							
2823	63.89	FO							
2826	64.23	SW	63.03	225		CI	VC	20.62	
2827		SW							
2828	64.04	SW	63.1	225		CI	VC	53.71	117
2829	64.01	FO	62.23	150		CI	VC	13.6	
2830	64.6	SW	62.62	225		CI	VC	13	
2831	63.24	SW	61.35	225		CI	VC	20.4	6
2832	63.07	CO							
2833		SW	0	300		CI	CO	36.4	
2834		FO	0	225		CI	VC	42.15	
2900	64.84	CO		100		CI	VC	24.44	
2901		CO							
2902	65.03	FO							
2903	65	SW							
2906	64.9	FO	63.05	150		CI	VC	21.84	42
2908	65.6	FO							
2910		FO	0	225		CI	VC	17.09	
2911	64.68	FO	62.51	150		CI	VC	19.31	241
2912	65.26	FO	64.44	150		CI	VC	19.65	27
2913	64.88	SW							
2915	64.93	SW							
2916	64.62	SW	62.25	150		CI	VC	23.77	
3000	63.68	SW							
3001	63.88	SW	62.25	150		CI	VC	14.42	72
3002	63.97	SW	62.68	225		CI	VC	39.81	100
3702	62.68	SW	59.84	375		CI	CO	29.12	291

Retho	Cover	Func	Invert	Size x	Size y	Shape	Matl	Length	Grad
3705	62.68	SW	60.34	300		CI	CO	118.61	55
3800	61.15	FO							
3801	61.13	FO	58.87	225		CI	VC	54.42	99
3802	61.09	SW	59.17	225		CI	VC	52.89	80
3803	62.18	CO	56.31	300		CI	VC	63.79	78
3804	62.18	SW							
3900	64.16	SW							
3901	63.36	SW							
3902	63.35	FO							
3903	63.12	FO	60.12	225		CI	VC	21.84	312
3904	63.91	SW							
3905	62.78	SW	60.35	225		CI	VC	16.28	68
3911	63.76	SW	62.03	150		CI	VC	12.8	55
3912	61.68	CO							
3914	64.24	SW	61.81	150		CI	VC	60.44	41
3915	64.21	SW							
3916	63.91	SW	62.07	150		CI	VC	18.03	90
3918	64.29	FO							
3919	64.58	SW	62.6	150		CI	VC	17.46	24
3920	62.86	FO	60.05	225		CI	VC	24.04	73
3921	63.1	FO							
3922	63.06	SW	60.01	225		CI	VC	32.31	87
3923	61.4	FO							
3924	61.44	SW							
3925	62.78	SW	60.11	225		CI	VC	19.24	192
3928	62.37	FO	60.05	150		CI	VC	34.18	28
3931	59.59	FO	59.25	225		CI	VC	35.11	48
3932	59.58	FO	58.32	225		CI	VC	9.1	11
4500	64	SW	61.98	525		CI	CO	83.65	103
4501	64.02	FO	60.93	225		CI	VC	91.24	106
4502	64.06	FO	61.76	525		CI	CO	21.02	124
4503	64.15	FO							
4504	64.8	SW							
4505	64.75	FO							
4600	63.04	SW	60.17	525		CI	CO	38.08	79
4601	62.98	FO							
4602	62.98	FO	60.07	225		CI	VC	32.31	70
4603	63.04	SW	60.74	225		CI	CO	8.64	
4604	63.01	SW	60.77	525		CI	CO	37.18	62
4605	63.06	CO	61.25	225		CI	VC	41.18	61
4606	64.18	SW	62.28	150		CI	VC	23.09	122
4700	57.84	SW							
4701	57.66	FO	55.24	225		CI	VC	54.04	55
4702	62.3	SW							
4703	62.35	FO							
4800	58.14	CO							
4801	58.09	SW							
4802	60.82	CO							
4803	60.8	SW							
4804	61.53	SW							
4900	63.01	SW							
4901	63.03	CO							
4902	63.05	CO							
4903	63.06	SW							
4905	62.15	CO	59.8	225		CI	VC	18.79	145
4907	62.19	SW							
4908		CO							
4910	59.59	SW	58.51	225		CI	VC	30.59	41
4913	60.68	FO	59	300		CI	CO	45.49	20
4915		CO							
4916	61.53	CO							
4918	60.72	CO							
4919	61.58	SW	59.93	300		CI	CO	8.25	4
4920	60.64	SW							
4921	60.79	SW	58.79	375		CI	CO	8	10
4922	60.12	SW							
4923	59.66	FO	57.76	375		CI	CO	86.66	38
4924	59.84	SW							
4926	61.04	SW	59.28	375		CI	CO	13.42	27
4927	60.73	CO	58.3	225		CI	VC	11.7	390
4929	60.2	CO							
4934		CO							
4935		CO							
4936		CO							
1000	67.15	CO	65.27	300		CI	VC	1	4
0612		SW		375		CI	VC	11	
0614		SW	0	450		CI	CO	51.72	
0707		FO							
0708		CO	26.2	300		CI	CO	35.17	
0806		SW	0	150		CI	VC	3.77	
0818		SW	0	150		CI	VC	6.43	
0916		CO	0	300		CI	VC	17	
0918		CO	0	150		CI	VC	182.72	
0927		CO							
0931		CO							
0934		CO							
0937		CO							
0938		CO		100		CI	VC	10	
0940		CO							
1606		FO							
1609		SW	0	375		CI	CO	38.95	
1709		SW							
1710		SW							
1711		CO							
1712		SW							
1715		CO							
1810		CO	0	225		CI	VC	41	
1811		CO	0	150		CI	VC	26.08	
1903		CO	0	225		CI	VC	34.01	
1904		CO	0	300		CI	VC	30.07	
1906		CO	0	300		CI	VC	36.22	
1910		CO	0	150		CI	VC	13.84	
1913		CO	0	100		CI	VC	10.65	
1919		CO							
1923		SW							
2608		SW							
2609		SW		450		CI	CO	37.74	
2610		SW	0	300		CI	VC	23.02	
2611		SW	0	225		CI	VC	2	
2615		SW	0	300		CI	VC	45.87	
2616		SW	0	225		CI	CO	2	
2709		SW	0	300		CI	VC	38.52	
2710		SW							
2711		SW	60.02	300		CI	CO	10.05	144
2804		SW	0	1100		CI	CO	30.08	
2817		SW	0	150		CI	VC	3.41	
2914		FO	0	100		CI	VC	12.37	
2915		SW	0	150		CI	VC	9.49	
3603		SW							
3606		SW	0	375		CI	VC	13.93	
3936		SW	0	375		CI	CO	24.7	
3937		SW		375		CI	VC	13.93	
4808		SW							
4705		SW		300		CI	CO	32.56	
4807		SW	56.83	225		CI	VC	15.81	12
4808		CO	0	300		CI	VC	34.83	
4904		SW	60.36	300		CI	CO	14.76	123
4906		SW							
4909		CO	0	100		CI	VC	1.79	
4911		PO	0	375		CI	CO	11.7	
4912		PO	0	150		CI	VC	13.6	
4917		CO	0	100		CI	VC	2.94	
4925		SW	0	300		CI	VC	7.62	
4931		CO							
4933		SW							
0811		SW							
0911		PO							
0912		SW							
0914		PO	0	150		CI	VC	6.08	
0915		SW	0	150		CI	VC	3.16	
0924		CO							
0928		CO							
0936		CO							
0937		CO							
0939		CO							
0941		CO							
1708		CO							
1902		CO							

WASTE WATER SYMBOLOGY

Foul Surface Combined Overflow

Manhole
Manhole, Side Entry
MainSewer, Public
MainSewer, Private
MainSewer, S104
Rising Main, Public
Rising Main, Private
Rising Main, S104
Highway Drain, Private

Foul Surface Combined

WW Site Termination
Air Valve
Cascade
Non Return Valve
Extent of Survey
Flow Meter
Gulley
Hatch Box
Head of System
Hydrobrake / Vortex
Inlet
Inspection Chamber
Bifurcation
Catchpit
Contaminated Surface Water
WW Pumping Station
Sludge Pumping Station
Sewer Overflow
T Junction/Saddle
Lamphole
Oil Interceptor
Penstock
Pump
Rodding Eye
Soakaway
Summit
Valve
Valve Chamber
Washout Chamber
DropShaft
WW Treatment Works
Septic Tank
Vent Column
Network Storage Tank
Orifice Plate
Vortex Chamber
Penstock Chamber
Blind Manhole

Foul Surface Combined Overflow

Screen Chamber
Discharge Point
Outlet

Control Kiosk
Unspecified

Sludge Main, Public
Sludge Main, Private
Sludge Main, S104

ABANDONED PIPE

MainSewer
Rising Main
Highway Drain
Sludge Main

LEGEND

MANHOLE FUNCTION

FO	Foul
SW	Surface Water
CO	Combined
OV	Overflow

SEWER SHAPE

CI	Circular	TR	Trapezoidal
EG	Egg	AR	Arch
OV	Oval	BA	Barrel
FT	Flat Top	HO	HorseShoe
RE	Rectangular	UN	Unspecified
SQ	Square		

SEWER MATERIAL

AC	Asbestos Cement	DI	Ductile Iron
BR	Brick	PVC	Polyvinyl Chloride
PE	Polyethylene	CI	Cast Iron
RP	Reinforced Plastic Matrix	SI	Spun Iron
CO	Concrete	ST	Steel
CSB	Concrete Segment Bolted	VC	Vitrified Clay
CSU	Concrete Segment Unbolted	PP	Polypropylene
CC	Concrete Box Culverted	PF	Pitch Fibre
PSC	Plastic/Steel Composite	MAC	Masonry, Coursed
GRC	Glass Reinforced Concrete	MAR	Masonry, Random
GRP	Glass Reinforced Plastic	U	Unspecified

The position of the underground apparatus shown on this plan is approximate only and is given in accordance with the best information currently available. United Utilities Water will not accept liability for any loss or damage caused by the actual position being different from those shown. Crown copyright and database rights [2016] Ordnance Survey 100022432.

OS Sheet No: SD4705NW
Scale: 1:1250 Date: 08/10/2018
306 Nodes
Sheet 1 of 2

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SEWER RECORDS

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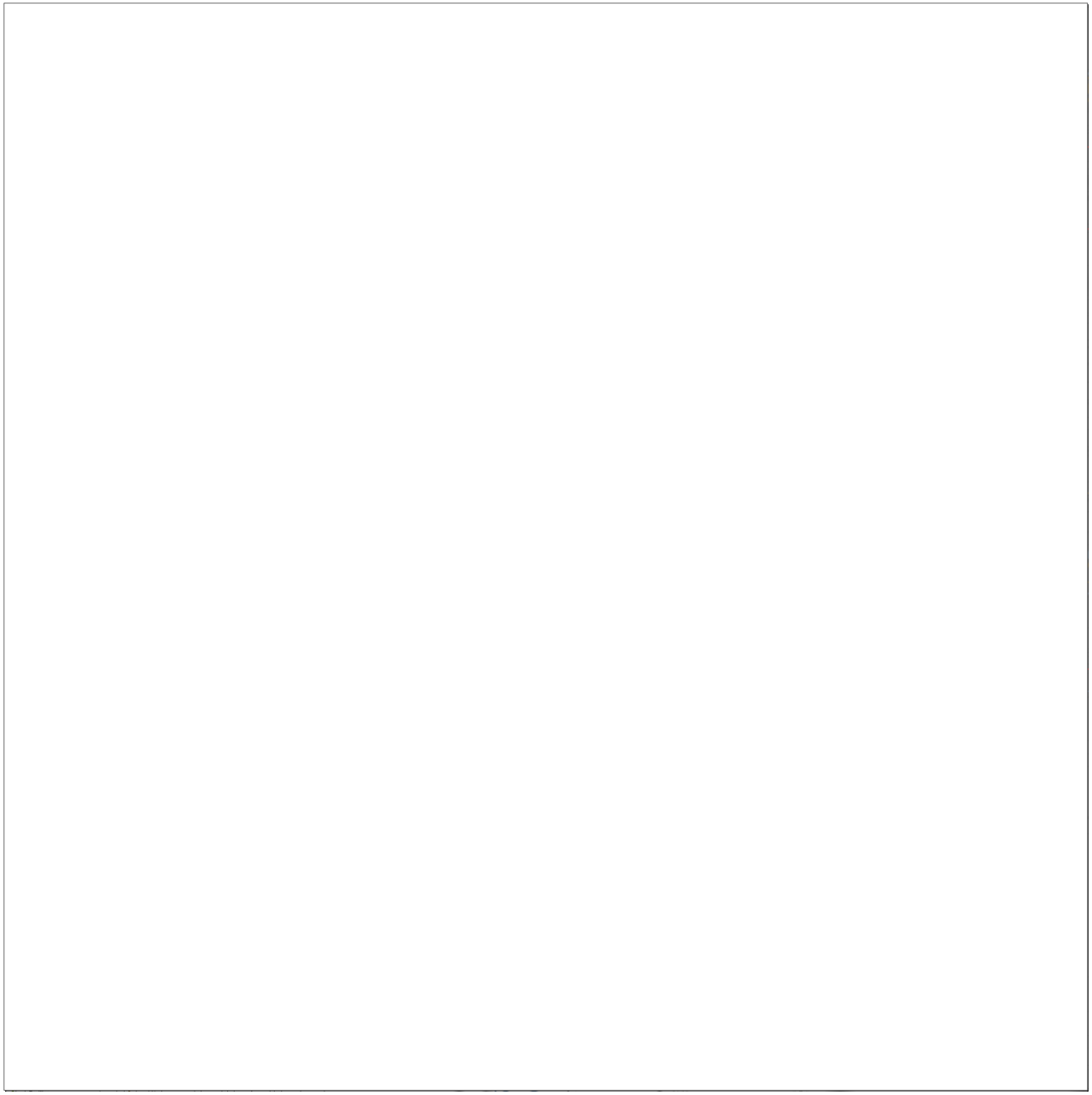
OS Sheet No: SD4705NW

Scale: 1:1250 Date: 08/10/2018



Refno	Cover	Func	Invert	Size x	Size y	Shape	Mat	Length	Grad
9517		FO							
9519		SW							
9504		CO	66.62	225		CI	VC	4.47	12
9515		SW							
9516		SW		100		CI	VC	49.46	
9522		FO							
9523		SW							
9529		FO		100		CI	VC	1.6	
9533		FO							
9538		CO							
9805		CO							
9809		CO							
9810		CO							
6513		SW							
6514		SW	64.34	375		CI	CO	31.76	64
6520		FO							
6516		FO							
6529		SW							
6534		FO							
6702		SW	63.24	350		CI	CO	50.12	167
6805		CO							
6806		CO		225		CI	VC	24.44	
6811		CO							
6924		FO							
6925		FO							
6934		FO							
7509		FO		100		CI	VC	26.29	
7518		SW							
7519		SW		100		CI	VC	1.04	
7706		FO							
7805		FO							
7813		FO							
7818		CO		100		CI	VC	2.75	
7819		CO							
7820		CO							
7821		CO							
7824		FO							
7825		FO							
7827		FO							
7909		SW							
7917		FO							
7918		FO							
7919		FO							
7921		FO		150		CI	VC	1.74	
7923		FO							
7927		FO		100		CI	VC	2.59	
7929		CO							
8802		SW	64.36	375		CI	CO	8.54	23
8819		FO							
8820		FO							
8821		FO							
8920		SW	68.84	150		CI	VC	1	100
8921		SW	0	300		CI	VC	3	
8922		FO	67.02	225		CI	VC	11.4	76
8924		FO							
9002		SW							
9728		SW	0	150		CI	VC	11.7	
9730		FO	62.06	225		CI	VC	8.54	37
9731		SW	60.21	300		CI	CO	55.66	24
9732		SW							
9733		FO							
9921		SW							
5511		FO							
9520		SW		100		CI	VC	10.25	
9513		CO							
9517		SW							
9521		SW							
9926		CO							
9927		SW							
9928		SW							
9934		SW							
9935		CO							
5708		CO							
9807		SW							
9809		CO							
9812		CO							
6615		FO							
8637		FO							
6808		CO							
6809		CO							
6923		SW							
7707		FO							
7822		FO							
7923		FO							
8803		SW							
8818		FO							
8914		SW							
8915		SW							
8916		FO							
8917		FO							
8918		CO							
9726		SW	0	150		CI	VC	5.39	
9727		SW							
9915		FO							
9916		SW	0	150		CI	VC	12.37	
9917		FO							
9920		SW							
9508		CO							
9510		SW							
6500		66.58 CO							
6501		65.99 SW							
6511		SW							
6512		66.49 SW							
6002		66.48 CO							
8805		CO							
6616		SW							
6617		SW							
6624		SW							
7604		CO							
7607		SW							
7608		SW							
7609		SW							

Refno	Cover	Func	Invert	Size x	Size y	Shape	Mat	Length	Grad

WASTE WATER SYMBOLOGY

Foul Surface Combined Overflow

- Manhole
- Manhole, Side Entry
- MainSewer, Public
- MainSewer, Private
- MainSewer, S104
- Rising Main, Public
- Rising Main, Private
- Rising Main, S104
- Highway Drain, Private

Foul Surface Combined

- WW Site Termination
- Air Valve
- Cascade
- Non Return Valve
- Extent of Survey
- Flow Meter
- Gulley
- Hatch Box
- Head of System
- Hydrobrake / Vortex
- Inlet
- Inspection Chamber
- Bifurcation
- Catchpit
- Contaminated Surface Water
- WW Pumping Station
- Sludge Pumping Station
- Sewer Overflow
- T Junction/Saddle
- LampHole
- Oil Interceptor
- Penstock
- Pump
- RoddingEye
- Soakaway
- Summit
- Valve
- Valve Chamber
- Washout Chamber
- DropShaft
- WW Treatment Works
- Septic Tank
- Vent Column
- Network Storage Tank
- Orifice Plate
- Vortex Chamber
- Penstock Chamber
- Blind Manhole

Foul Surface Combined Overflow

- Screen Chamber
- Discharge Point
- Outlet

- Sludge Main, Public
- Sludge Main, Private
- Sludge Main, S104

ABANDONED PIPE

- MainSewer
- Rising Main
- Highway Drain
- Sludge Main

- Control Kiosk
- Unspecified

LEGEND

MANHOLE FUNCTION

FO	Foul
SW	Surface Water
CO	Combined
OV	Overflow

SEWER SHAPE

CI	Circular	TR	Trapezoidal
EG	Egg	AR	Arch
OV	Oval	BA	Barrel
FT	Flat Top	HO	HorseShoe
RE	Rectangular	UN	Unspecified
SQ	Square		

SEWER MATERIAL

AC	Asbestos Cement	DI	Ductile Iron
BR	Brick	PVC	Polyvinyl Chloride
PE	Polyethylene	CI	Cast Iron
RP	Reinforced Plastic Matrix	SI	Spun Iron
CO	Concrete	ST	Steel
CSB	Concrete Segment Bolted	VC	Vitrified Clay
CSU	Concrete Segment Unbolted	PP	Polypropylene
CC	Concrete Box Culverted	PF	Pitch Fibre
PSC	Plastic/Steel Composite	MAC	Masonry, Coursed
GRC	Glass Reinforced Concrete	MAR	Masonry, Random
GRP	Glass Reinforced Plastic	U	Unspecified

The position of the underground apparatus shown on this plan is approximate only and is given in accordance with the best information currently available. United Utilities Water will not accept liability for any loss or damage caused by the actual position being different from those shown. Crown copyright and database rights [2016] Ordnance Survey 100022432.

OS Sheet No: SD4605NE
Scale: 1:1250 Date: 08/10/2018
415 Nodes
Sheet 2 of 2

United Utilities
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SEWER RECORDS

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Scale: 1:1250 Date: 08/10/2018

OS Sheet No: SD4605NE

Scale: 1:1250 Date: 08/10/2018

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Refno	Cover	Func	Invert	Size x	Size y	Shape	Matl	Length	Grad
5500	68.18	SW	0	300		CI	VC	25.86	
5501	68.2	CO	65.55	225		CI	VC	4.97	8
5502	68.24	FO							
5503	67.97	FO	64.89	225		CI	VC	34.89	192
5504	66.88	SW							
5505		SW	0	375		CI	CO	73.06	
5506	67.35	FO	64.6	225		CI	VC	31.01	60
5507		FO							
5508		FO	0	100		CI	VC	28.75	
5509	67.06	FO	64.08	225		CI	VC	37.55	235
5510		SW							
5511	68.5	FO	66.28	225		CI	VC	30.36	276
5601	68	SW							
5602	67.96	CO							
5603	68.03	CO							
5605		SW							
5606		SW							
5607		SW	0	375		CI	CO	33.34	
5608		FO	0	150		CI	VC	71.48	
5609		FO							
5610		FO							
5611		FO		100		CI	PVC	6.39	
5612		CO		100		CI	PVC	5.27	
5614		FO							
5619		SW		150		CI	VC	11.89	
5620		SW		150		CI	VC	10.5	
5624		CO							
5625		CO							
5630		SW		150		CI	VC	9.68	
5631		SW		150		CI	VC	10.75	
5636		SW		150		CI	VC	24.04	
5637		CO		100		CI	VC	21.02	
5638		CO							
5700	69.73	SW	67.87	300		CI	CO	45.88	21
5701	69.92	SW							
5702	49.46	CO	48.03	150		CI	VC	12.81	1
5703	68.77	CO							
5704	68.97	CO	66.67	225		CI	VC	22	59
5706		CO							
5707		CO		100		CI	VC	2.88	
5800	70.26	SW							
5801		SW		100		CI	VC	11.87	
5802		CO		100		CI	VC	28.59	
5803		CO							
5804		CO							
5811		CO							
6500	65.3	SW							
6501		SW							
6502	66.54	SW	64.49	225		CI	VC	34.98	18
6503	66.49	SW	63.68	675		CI	CO	36.21	269
6504	66.65	SW							
6505	66.48	SW	63.77	675		CI	CO	27.42	914
6506	66.48	SW							
6507	66.53	FO	64.91	150		CI	VC	13.73	12
6508	66.49	FO							
6509	66.63	FO	63.92	225		CI	VC	35.26	294
6510	66.45	FO	65.09	150		CI	VC	27.68	24
6511	66.31	FO	64.82	150		CI	VC	23.3	108
6512		SW							
6515		FO							
6516		FO							
6517		FO							
6518		FO							
6519		FO		100		CI	PVC	4.13	
6520		FO							
6600	66.98	FO	65.6	225		CI	VC	29.85	
6601		SW							
6602		FO							
6603	67.53	FO							
6604		FO							
6606		SW	0	225		CI	VC	33.91	
6607	67.19	FO							
6608	67.1	FO							
6609	66.98	FO	64.86	225		CI	VC	32.24	23
6610		SW							
6611		SW	0	1200		CI	CO	34.73	
6612	67.13	SW	65.34	150		CI	VC	25.14	20
6613	66.86	SW							
6614		SW	0	225		CI	VC	8.39	
6617		FO	0	100		CI	VC	3.94	
6618	66.41	FO	63.66	225		CI	VC	17.99	188
6619		FO	0	100		CI	VC	14.79	
6620		FO	0	150		CI	PVC	15.9	
6621		SW							
6622		SW							
6623		SW	0	225		CI	VC	6.28	
6624		FO							
6625		FO	0	150		CI	VC	32.9	
6626		FO							
6627		FO							
6628		FO							
6638		SW		100		CI	VC	14.46	
6639		FO		100		CI	VC	10.98	
6640		FO		100		CI	VC	12.41	
6642		FO							
6643		FO							
6644		FO		150		CI	VC	13.08	
6645		FO		100		CI	PVC	9.34	
6646		FO		100		CI	PVC	6.5	
6647		FO							
6648		FO		100		CI	VC	14.11	
6700		FO							
6701	65.72	SW	63.54	300		CI	VC	10.12	167
6702	67.37	FO	66.59	150		CI	VC	13.42	15
6800	69.86	SW							
6801	65.01	SW	62.92	350		CI	CO	108.26	144
6802	69.8	SW							
6803	70.16	CO	68.68	150		CI	VC	23.02	
6804		CO							
6807		CO		100		CI	VC	28.86	
6810		CO		150		CI	VC	21.58	
6900	66.53	FO	65.72	150		CI	VC	11.18	80
6901	66.31	SW	65.42	150		CI	VC	10	167
6902	66.4	SW							
6903	66.76	FO	65.55	150		CI	VC	19.85	104
6904	66.68	FO							
6905	66.56	SW	65.34	150		CI	VC	39.66	79
6906	66.89	SW	65.75	150		CI	VC	30.77	
6907	66.76	SW	65.13	225		CI	VC	23.02	64
6908	66.54	FO	66.03	150		CI	VC	20.81	99
6909	66.57	FO							
6910	66.37	FO							
6911	66.61	SW	65.44	150		CI	VC	5	63
6912	67.15	FO							
6913	66.86	FO							
6914	66.97	FO	66.34	150		CI	VC	6.08	76
6915	67.36	FO							
6916	66.88	FO							
6917	70.1	SW	68.48	225		CI	VC	48.35	15
6918	67.51	FO	66.86	150		CI	VC	7.62	29
6919	67.33	FO	66.58	150		CI	VC	6.4	91
6920	66.56	FO	67.92	150		CI	VC	11.4	41
6921	64.43	SW	62.04	450		CI	CO	83.67	232
6922	68.07	FO	67.24	150		CI	VC	16.63	46
6926		FO		100		CI	VC	10.02	
6927		FO		100		CI	VC	8.63	
6928		FO		100		CI	VC	6.39	
6929		FO		150		CI	VC	21.12	
6932		FO		100		CI	VC	8.42	
6933		FO							
7501	66.55	SW							
7502		SW	0	300		CI	VC	36.02	
7503	66.27	SW	64.67	150		CI	VC	22.34	83
7504	66.18	SW							
7505		SW		225		CI	VC	26.21	
7506	66.24	FO							
7507	66.2	SW	64.97	225		CI	CO	29.76	175
7508	65.65	PO							
7510		PO							
7511		PO							
7512		PO							
7514		CO							
7516		CO							
7520		PO							
7600	66.79	CO	62.89	225		CI	VC	20.88	261
7601	67.73	SW	0	375		CI	CO	69.75	
7602	66.79	PO							
7603		PO		100		CI	PVC	12.02	
7604		PO							
7605	66.8	SW							
7606	67.71	SW	63.46	750		CI	CO	17.06	155
7610	66.39	SW	63.53	750		CI	CO	33.73	422
7611	66.84	PO							
7612		SW							
7700	67.03	SW							
7701	67.04	PO							
7702	66.69	SW	65.31	225		CI	VC	35.47	114
7703	66.71	PO	64.98	225		CI	VC	33.24	128
7704		PO							
7705		CO		225		CI	VC	23.19	
7802	68.64	PO							
7803	68.43	SW	66.96	225		CI	VC	19.7	56
7804	67.79	SW							
7806	67.76	PO							
7807		CO							
7808	66.32	SW	64.68	150		CI	VC	14.32	159
7809	66.64	PO	64.41	150		CI	VC	13	100
7810	66.7	SW							
7811	66.66	SW	64.37	450		CI	CO	31.78	
7812		CO							
7815		CO							
7816		PO		150		CI	VC	13.38	
7823		PO		100		CI	VC	27.98	
7826		PO							
7900	70.17	SW	68.41	225		CI	VC	32.8	
7901	68.73	PO	67.11	150		CI	VC	39.36	136
7902	68.64	PO							
7903	69.12	CO							
7904	69.2	CO							
7905	68.78	SW	67.69	225		CI	VC	30.35	117
7906	68.19	SW	66.97	1050		CI	CO	25.18	133
7907	69.19	SW	66.78	225		CI	VC	2.61	24
7908	69.64	SW	67.66	225		CI	VC	11.66	51
7910		PO		100		CI	PE	14.36	
7911		PO		100		CI	PE	9.9	
7913		PO							
7914		PO		150		CI	PE	7.76	
7915		PO							
7916		PO		100		CI	PE	4.79	
7924		PO		100		CI	VC	12.14	
7925		PO							
7926		PO							
7928		PO							
8600	65.23	CO							
8601	66.74	CO							
8602	66.06	CO	62.61	225		CI	VC	44.41	148
8603	66.18	SW	61.91	375		CI	CO	80.31	136
8604	66.43	SW							
8605	66.24	CO	62.72	225		CI	VC	13	144
8700	66.47	SW							
8701	66.45	PO	63.83	225		CI	VC	73.01	162
8702	67.83	SW							
8704	66.79	PO							
8705	66.78	SW							
8706		PO							
8707		PO							
8708		PO							
8801	68.29	PO							
8804		PO							
8805	68.24	SW	65.93	225		CI	VC	51.55	75
8808	67.21	SW	65.16	225		CI	VC	83.95	21
8809	67.03	PO	64.78	375		CI	CO	76.69	25
8810	66.88	SW	64.73	375		CI	VC	9.49	26
8811	66.85	PO	64.92	225		CI	VC	11.18	
8812	66.82	SW	65.22	225		CI	VC	8.54	
8813	66.85	PO	64.92	225		CI	VC	8.94	
8814		PO							
8815	66.83	SW	65.25	225		CI	VC	8.94	
8816	66.69	SW							
8818	68	PO							
8900	69.34	SW	68.27	100		CI	VC	7.21	
8901	70.24	SW							
8902	69.52	PO							
8903	69.53	PO	68.76	150		CI	VC	11.66	
8904	69.7	SW	68.88	100		CI	VC	1.41	35
8905	69.8	PO	68.78	150		CI	VC	8.6	39
8906	69.62	SW	68.96	100		CI	VC	10.3	
8907	69.41	PO							
8908	69.63	PO	68.3	225		CI	VC	40.87	146
8909	69.81	PO	68.89	150		CI	VC	17.8	
8910	69.98	SW							
8911	69.76	PO	68.83	150		CI	VC	10.72	
8912	69.6	SW							
8913	70.24	SW	69.62	150		CI	VC	18.87	
8918	68.86	SW	67.4	225		CI	VC	21.93	88
8923		PO							
9600	64.44	CO							
9601	63.5	SW	61.3	375		CI	CO	24.04	
9700	64.81	SW							
9701	64.85	PO	63.51	150		CI	VC	20.25	67
9702	64.73	SW							
9703	64.81	SW							
9705	64.81	SW	63.79	225		CI	VC	12.65	
9706	64.53	SW	62.96	225		CI	VC	18.36	43
9707	64.54	PO	62.28	150		CI	VC	8.54	39
9708	64.54	SW							
9711	64.48	SW							
9712	64.53	SW	0	300		CI	CO	12.65	
9713	64.44	SW							
9714	64.52	PO	0	225		CI	VC	8.94	
9715	64.48	PO							
9716	64.53	SW	59.53	525		CI	CO	32.36	202
9717	64.41	PO							
9718	64.38	SW	63.09	150		CI	VC	26.93	82
9719	64.57	PO							
9720	64.59	SW							
9721	64.46	PO							
9722	63.98	SW	59.76	150		CI	VC	4.47	
9723	64.67	PO	61.67	225		CI	VC	100.96	39
9724	64.53	SW							
9725	64.59	SW	59.59	450		CI	CO	27.46	131
9800	68.75	CO	67.67	225		CI	VC	32.02	19
9801	67.2	CO							
9802		PO							
9803	65.48	SW	64.26	150		CI	VC	5.39	45
9806	65.79	SW	64.12	225		CI	VC	30.68	79
9808	65.09	SW	63.86	150		CI	VC	18.38	6
9900	69.22	PO	67.96	150		CI	VC	11.18	6
9901	69.53	PO							
9902	69.2	SW	68.14	150		CI	VC	4.47	3
9905	69.41	PO							
9906	69.38	SW							
9907	69.29	SW	68.07	150		CI	VC	28.44	
9908	69.33	PO							
9911	69.4	PO	68.24	150		CI	VC	5	13
9912	69.14	PO	67.96	150		CI	VC	8.06	
9913	68.78	SW	67.81	150		CI	VC	9.06	
9914	68.72	SW	67.76	150		CI	VC	11.05	
9915	68.73	PO							
9916	68.48	PO	67.5	150		CI	VC	10.2	
9945	68.94	SW							
5510		PO							
5512		PO							
5513		PO							
5514		SW							
5516		SW							

WASTE WATER SYMBOLOGY

Foul Surface Combined Overflow

Manhole
Manhole, Side Entry
MainSewer, Public
MainSewer, Private
MainSewer, S104
Rising Main, Public
Rising Main, Private
Rising Main, S104
Highway Drain, Private

Foul Surface Combined

WW Site Termination
Air Valve
Cascade
Non Return Valve
Extent of Survey
Flow Meter
Gulley
Hatch Box
Head of System
Hydrobrake / Vortex
Inlet
Inspection Chamber
Bifurcation
Catchpit
Contaminated Surface Water
WW Pumping Station
Sludge Pumping Station
Sewer Overflow
T Junction/Saddle
Lamp Hole
Oil Interceptor
Penstock
Pump
Rodding Eye
Soakaway
Summit
Valve
Valve Chamber
Washout Chamber
Drop Shaft
WW Treatment Works
Septic Tank
Vent Column
Network Storage Tank
Orifice Plate
Vortex Chamber
Penstock Chamber
Blind Manhole

Sludge Main, Public
Sludge Main, Private
Sludge Main, S104

ABANDONED PIPE

MainSewer
Rising Main
Highway Drain
Sludge Main

Foul Surface Combined Overflow

Screen Chamber
Discharge Point
Outlet

Control Kiosk
Unspecified

LEGEND

MANHOLE FUNCTION

FO	Foul
SW	Surface Water
CO	Combined
OV	Overflow

SEWER SHAPE

CI	Circular	TR	Trapezoidal
EG	Egg	AR	Arch
OV	Oval	BA	Barrel
FT	Flat Top	HO	HorseShoe
RE	Rectangular	UN	Unspecified
SQ	Square		

SEWER MATERIAL

AC	Asbestos Cement	DI	Ductile Iron
BR	Brick	PVC	Polyvinyl Chloride
PE	Polyethylene	CI	Cast Iron
RP	Reinforced Plastic Matrix	SI	Spun Iron
CO	Concrete	ST	Steel
CSB	Concrete Segment Bolted	VC	Vitrified Clay
CSU	Concrete Segment Unbolted	PP	Polypropylene
CC	Concrete Box Culverted	PF	Pitch Fibre
PSC	Plastic/Steel Composite	MAC	Masonry, Coursed
GRC	Glass Reinforced Concrete	MAR	Masonry, Random
GRP	Glass Reinforced Plastic	U	Unspecified

The position of the underground apparatus shown on this plan is approximate only and is given in accordance with the best information currently available. United Utilities Water will not accept liability for any loss or damage caused by the actual position being different from those shown. Crown copyright and database rights [2016] Ordnance Survey 100022432.

OS Sheet No: SD4605NE
Scale: 1:1250 Date: 08/10/2018
415 Nodes
Sheet 1 of 2

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SEWER RECORDS

APPENDIX 5

PROPOSED SITE MASTERPLAN

Rev	Date	Description	Rev By	Chkd By
K	05.06.20	Amended ALDI roof and trade unit	KJ	LEEB
J	20.04.20	Added existing substation	KJ	LEEB
H	27.01.20	External lobby included to Unit A	CM	LEEB
G	04.11.19	Amended tracking added. Amended landscape scheme shown.	RG	LEEB
F	25.11.19	Parking reconfigured. Highways comments added	RG	LEEB
E	14.11.19	Red line amended. Parking reconfigured	RG	LEEB
D	22.06.19	Site boundary updated to suit title plans	CM	LEEB
C	26.12.18	Tree survey comments included within scheme, car parking amended to suit retained trees.	CM	LEEB
B	17.10.18	Disabled spaces and motorcycle spaces increased. Recycling included and tree survey shown	CM	LEEB
A	26.09.18	Landscaping proposals included	CM	LEEB

Project Title	PROPOSED ALDI FOODSTORE WESTGATE SKELMERSDALE WN8 8AP
Client	ALDI STORES LTD
Status	PLANNING
Scale	1:250
Drawing Size	A1
Date	06.08.18
Drawn By	RG
Checked	LEEB
Drawing Title	PROPOSED SITE PLAN
Job-Dwg No	2269BOL - 112
Rev	K

TOTAL OWNERSHIP AREA (Red Line)
FOODSTORE PLOT APPROX 2.88 ACRES (1.16 HA)

Existing trees retained

Trees to be removed

Existing substation

PROPOSED SITE PLAN
SCALE 1:250 @ A1

0 2.5 5 7.5 10 12.5m
SCALE 1:250

CAD file reference J:/ALDI/MIDDLETON/2269BOL/17.0 DRAWINGS/100 SERIES

2 St. Johns North, Wakefield, WF1 3QA
t. 01924 291800

Carvers Warehouse, 77 Dale Street, Manchester, M1 2HG
t. 0161 2388555

The Old Rectory, 79 High Street, Newport Pagnell, MK16 8AB
t. 01908 211571

101 London Road, Reading, RG1 5BY
t. 0118 9507700

10 Gees Court, St Christophers Place, London, W1U 1JJ
t. 0207 4091215

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APPENDIX 6

SURFACE WATER STORAGE CALCULATION ESTIMATES

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Note:

The survey is plotted on a plane local Grid. Orientation to National Grid.
All levels relate to Ordnance Datum, achieved using the OS National GPS Network.
Survey Control Markers established for Mapping purposes only and should not be used for Construction without the written approval of Survey Operations Ltd.

SURVEY STATIONS			
Name	Easting	Northing	Height
S01	346874.22	405843.29	67.24
S02	346948.11	405840.26	66.03
S03	346942.37	405886.73	68.52
S04	346916.57	405905.86	68.71
S08	346913.99	405929.02	69.24
S09	346872.45	405959.45	70.61
S010	346841.01	405916.27	69.50

STANDARD REFERENCE & ABBREVIATIONS

(AR)........Assumed Route
AB..........Air Brick
AV..........Air Valve
B/W.........Barbed Wire
BAR.........Barrier
BB..........Belisha Beacon
BH..........Borehole
BL..........Bed Level
BOL.........Bollard
BS..........Bus Stop
BT Box......British Telecom Box
BT..........British Telecom IC
BRTW........Brick Retaining Wall
BW..........Brick Wall
C/B.........Close Boarded
C/I.........Corrugated Iron
C/P.........Chestnut Paling
CB..........Control Box
CBW.........Concrete Block Wall
CCTV........Closed Circuit TV
CD..........Cable Duct
CEL.........Cellar Light
CH/L........Chain Link
CHY.........Chimney
CL..........Cover Level
CM..........Cable Marker
COL.........Column
CONC........Concrete
CP..........Catch Pit
CRTW........Concrete Retaining Wall
CTV.........Cable Television
CUL.........Culvert
CW..........Concrete Block Wall
DC..........Drainage Channel
DPC.........Damp Proof Course
DR..........Drain
DSW.........Dry Stone Wall
ECP.........Electricity Cable Pit
EIC.........Electricity Inspection Cover
EJ..........Expansion Joint
EJB.........Electricity Junction Box
EL SUB STN..Electricity Sub Station
EL..........Eaves Level
ELB.........Electricity Box
EP..........Electricity Pole
ER..........Earth Rod
ETL.........Electricity Transmission Line
FB..........Flower Bed
FH..........Fire Hydrant
FL..........Floor Level
FP..........Flagpole
G*.*........Girth (of tree)
G...........Gulley
GAB.........Gabion
GIP.........Gas Inlet Pipe
GMKR........Gas Marker
GST.........Gas Stop Tap (Domestic)
GSV.........Gas Stop Valve (Mains)
HSE.........Housing
Ht..........Height
HV..........High Voltage
I/R.........Iron Railing
IC..........Inspection Cover
IL..........Invert Level
IP..........Inlet Pipe
KO..........Kerb Outlet
LB..........Letter Box
LP..........Lamp Post
MG..........Multi-Girth
MH..........Manhole
MKR.........Marker
MP..........Mooring Point
NP..........Street Name Plate
O/H.........Overhead
O/P.........Open Paling
OE..........Overhead Electric Wire
OP..........Outfall Pipe
OSBM........Ordnance Survey Bench Mark
OT..........Overhead Telecom Wire
P/C.........Post & Chain
P/R.........Post & Rail
P/W.........Post & Wire
PAV.........Paving
PB..........Pillar Box
PC..........Pedestrian Crossing
PP..........Petrol Pump
PT..........Post or Pillar
RE..........Rodding Eye
RS..........Road Sign
RTW.........Retaining Wall
RWP.........Rain Water Pipe
SAP.........Sapling
SL..........Sump Level
SoL.........Soffit Level
SP..........Sign Post
SPL.........Springing Level
SRTW........Stone Retaining Wall
SV..........Stop Valve (unspecified)
SVP.........Soil Vent Pipe
SW..........Stone Wall
TAC.........Tactile Paving
TB..........Traffic Bollard
TBM.........Temporary Bench Mark
TCB.........Telephone Call Box
TFR.........Taken From Records
TIE.........Anchor Point (Masts/Poles)
TL..........Traffic Light
TLB.........Traffic Light Control Box
TM..........Ticket Machine
TMC.........Tarmac
TP..........Telecommunications Pole
TPIT........Trial Pit
TS..........Trash Screen
U/C.........Under Construction
U/G.........Underground
UTL.........Unable to Lift (MH,IC etc)
UTS.........Unable to Survey
VDP.........Vehicle Detector Pad
VP..........Vent Pipe
W/M.........Wire Mesh
WL..........Water Level
WM..........Water Meter
WO..........Wash Out
WP..........Waste Pipe
WST.........Water Stop Tap (domestic)
WSV.........Water Stop Valve (mains)

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Client: The Harris Partnership

Drawing Title: Topographical Survey of Land at: High Street Skelmersdale

Scale(s)	1:200	Surveyor	SF
Date	Oct 17	Drawn	DIF
Job Number	17I007	Checked	MG

Sheet Size & Drg Number & Revision: A0 17I007/001


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Calculations

Job No.	Date
3139	22/11/21
Sheet 01	By JS

Job Title Aldi, Skelmersdale

Proposed discharge based on 50% betterment of existing brownfield rate,

Site boundary area = 9632 m^2

Existing catchments = 8555 m^2

, based on 50 mm/hr.

$$Q_{allow} = 50\% \times 8555 \times 50 \times \frac{1}{60 \times 60} =$$

$$= 59,5, \text{ say } 60 l/s.$$

Attenuation required

MS-60 = 19,90 mm
R = 0,365
Location = WN8 8AZ
Proposed hardstanding/catchments area = 3138 m^2
Red boundary area = 11 644 m^2

Based on 60 l/s attenuation volumes (estimated) below:

1 in 30	=	116 m^3
1 in 100 + 40 % C/C	=	304 m^3

Integra Consulting

Job No	Date
3139	16.11.21
Sheet	By
01	JS

Calculations

Job Title Aldi, Skelmersdale

Storm Water Flood Model

M5-60 = 19.90 **r =** 0.365 **Return, T =** 30 **Area (m²) =** 9138

CC Factor = 0.00 **Limit (l/s) =** 60.0

Totals 116 116

D (mins)	M5-D (mm)	MT-D (mm)	Rate (mm/hr)	Flow (l/s)	CC Flow (l/s)	Storage (m³)	CC Storage (m³)
10.00	10.16	15.15	90.90	229.25	229.25	101.55	101.55
15.00	12.17	18.33	73.33	184.94	184.94	112.45	112.45
20.00	13.66	20.72	62.15	156.75	156.75	116.10	116.10
25.00	14.86	22.63	54.31	136.97	136.97	115.46	115.46
30.00	15.86	24.23	48.46	122.23	122.23	112.01	112.01
35.00	16.72	25.61	43.91	110.74	110.74	106.56	106.56
40.00	17.48	26.83	40.25	101.51	101.51	99.62	99.62
45.00	18.17	27.92	37.23	93.90	93.90	91.53	91.53
50.00	18.79	28.91	34.69	87.50	87.50	82.51	82.51
55.00	19.37	29.82	32.53	82.04	82.04	72.73	72.73
60.00	19.90	30.65	30.65	77.31	77.31	62.33	62.33
65.00	20.40	31.43	29.01	73.17	73.17	51.38	51.38
70.00	20.86	32.16	27.56	69.52	69.52	39.97	39.97
75.00	21.30	32.84	26.27	66.26	66.26	28.16	28.16
80.00	21.72	33.48	25.11	63.33	63.33	15.99	15.99
85.00	22.11	34.09	24.06	60.69	60.69	3.51	3.51
90.00	22.49	34.67	23.11	58.29	58.29	-9.25	-9.25
95.00	22.85	35.21	22.24	56.09	56.09	-22.27	-22.27
100.00	23.19	35.74	21.44	54.08	54.08	-35.51	-35.51
105.00	23.53	36.24	20.71	52.23	52.23	-48.96	-48.96
110.00	23.85	36.72	20.03	50.51	50.51	-62.60	-62.60
115.00	24.15	37.18	19.40	48.93	48.93	-76.42	-76.42
120.00	24.45	37.62	18.81	47.45	47.45	-90.39	-90.39
125.00	24.74	38.05	18.26	46.06	46.06	-104.52	-104.52
130.00	25.02	38.46	17.75	44.77	44.77	-118.78	-118.78
135.00	25.29	38.86	17.27	43.56	43.56	-133.17	-133.17
140.00	25.55	39.24	16.82	42.42	42.42	-147.69	-147.69
145.00	25.81	39.62	16.39	41.34	41.34	-162.31	-162.31
150.00	26.05	39.98	15.99	40.33	40.33	-177.04	-177.04
155.00	26.30	40.33	15.61	39.37	39.37	-191.87	-191.87
160.00	26.53	40.66	15.25	38.46	38.46	-206.79	-206.79
165.00	26.76	40.99	14.91	37.60	37.60	-221.80	-221.80
170.00	26.99	41.31	14.58	36.78	36.78	-236.89	-236.89
175.00	27.21	41.63	14.27	35.99	35.99	-252.06	-252.06
180.00	27.42	41.93	13.98	35.25	35.25	-267.31	-267.31
185.00	27.63	42.22	13.69	34.54	34.54	-282.62	-282.62
190.00	27.84	42.51	13.42	33.86	33.86	-298.01	-298.01
195.00	28.04	42.79	13.17	33.21	33.21	-313.46	-313.46
200.00	28.24	43.07	12.92	32.59	32.59	-328.97	-328.97

205.00	28.44	43.34	12.68	31.99	31.99	-344.54	-344.54
210.00	28.63	43.60	12.46	31.42	31.42	-360.16	-360.16
215.00	28.81	43.85	12.24	30.87	30.87	-375.84	-375.84
220.00	29.00	44.10	12.03	30.34	30.34	-391.57	-391.57
225.00	29.18	44.35	11.83	29.83	29.83	-407.35	-407.35
230.00	29.36	44.59	11.63	29.34	29.34	-423.17	-423.17
235.00	29.53	44.82	11.44	28.86	28.86	-439.05	-439.05
240.00	29.70	45.05	11.26	28.41	28.41	-454.96	-454.96
245.00	29.87	45.28	11.09	27.96	27.96	-470.92	-470.92
250.00	30.04	45.50	10.92	27.54	27.54	-486.92	-486.92
255.00	30.20	45.71	10.76	27.13	27.13	-502.96	-502.96
260.00	30.36	45.92	10.60	26.73	26.73	-519.03	-519.03
265.00	30.52	46.13	10.44	26.34	26.34	-535.14	-535.14
270.00	30.68	46.34	10.30	25.97	25.97	-551.29	-551.29
275.00	30.83	46.54	10.15	25.61	25.61	-567.47	-567.47
280.00	30.99	46.73	10.01	25.26	25.26	-583.69	-583.69
285.00	31.14	47.04	9.90	24.97	24.97	-598.94	-598.94
290.00	31.29	47.24	9.77	24.65	24.65	-615.07	-615.07
295.00	31.43	47.44	9.65	24.34	24.34	-631.24	-631.24
300.00	31.58	47.64	9.53	24.03	24.03	-647.42	-647.42
305.00	31.72	47.84	9.41	23.74	23.74	-663.64	-663.64
310.00	31.86	48.03	9.30	23.45	23.45	-679.87	-679.87
315.00	32.00	48.23	9.19	23.17	23.17	-696.13	-696.13
320.00	32.14	48.42	9.08	22.90	22.90	-712.41	-712.41
325.00	32.27	48.60	8.97	22.63	22.63	-728.71	-728.71
330.00	32.41	48.79	8.87	22.37	22.37	-745.03	-745.03
335.00	32.54	48.97	8.77	22.12	22.12	-761.37	-761.37
340.00	32.67	49.15	8.67	21.88	21.88	-777.74	-777.74
345.00	32.80	49.33	8.58	21.64	21.64	-794.12	-794.12
350.00	32.93	49.51	8.49	21.40	21.40	-810.52	-810.52
355.00	33.06	49.68	8.40	21.18	21.18	-826.94	-826.94
360.00	33.18	49.85	8.31	20.95	20.95	-843.37	-843.37
365.00	33.31	50.02	8.22	20.74	20.74	-859.83	-859.83
370.00	33.43	50.19	8.14	20.53	20.53	-876.30	-876.30
375.00	33.55	50.36	8.06	20.32	20.32	-892.79	-892.79
380.00	33.67	50.52	7.98	20.12	20.12	-909.29	-909.29
385.00	33.79	50.68	7.90	19.92	19.92	-925.81	-925.81
390.00	33.91	50.85	7.82	19.73	19.73	-942.34	-942.34
395.00	34.03	51.01	7.75	19.54	19.54	-958.89	-958.89
400.00	34.14	51.16	7.67	19.36	19.36	-975.46	-975.46
405.00	34.26	51.32	7.60	19.18	19.18	-992.04	-992.04
410.00	34.37	51.48	7.53	19.00	19.00	-1008.63	-1008.63
415.00	34.49	51.63	7.46	18.83	18.83	-1025.24	-1025.24
420.00	34.60	51.78	7.40	18.66	18.66	-1041.86	-1041.86
425.00	34.71	51.93	7.33	18.49	18.49	-1058.49	-1058.49
430.00	34.82	52.08	7.27	18.33	18.33	-1075.14	-1075.14
435.00	34.93	52.23	7.20	18.17	18.17	-1091.79	-1091.79
440.00	35.04	52.37	7.14	18.01	18.01	-1108.46	-1108.46
445.00	35.14	52.52	7.08	17.86	17.86	-1125.15	-1125.15
450.00	35.25	52.66	7.02	17.71	17.71	-1141.84	-1141.84

455.00	35.35	52.81	6.96	17.56	17.56	-1158.55	-1158.55
460.00	35.46	52.95	6.91	17.42	17.42	-1175.27	-1175.27
465.00	35.56	53.09	6.85	17.28	17.28	-1192.00	-1192.00
470.00	35.66	53.23	6.79	17.14	17.14	-1208.74	-1208.74
475.00	35.77	53.36	6.74	17.00	17.00	-1225.49	-1225.49
480.00	35.87	53.50	6.69	16.87	16.87	-1242.25	-1242.25
485.00	35.97	53.64	6.64	16.73	16.73	-1259.02	-1259.02
490.00	36.07	53.77	6.58	16.61	16.61	-1275.80	-1275.80
495.00	36.17	53.90	6.53	16.48	16.48	-1292.59	-1292.59
500.00	36.26	54.03	6.48	16.35	16.35	-1309.39	-1309.39
505.00	36.36	54.17	6.44	16.23	16.23	-1326.20	-1326.20
510.00	36.46	54.30	6.39	16.11	16.11	-1343.02	-1343.02
515.00	36.55	54.42	6.34	15.99	15.99	-1359.85	-1359.85
520.00	36.65	54.55	6.29	15.88	15.88	-1376.69	-1376.69
525.00	36.74	54.68	6.25	15.76	15.76	-1393.54	-1393.54
530.00	36.84	54.81	6.20	15.65	15.65	-1410.39	-1410.39
535.00	36.93	54.93	6.16	15.54	15.54	-1427.26	-1427.26
540.00	37.02	55.05	6.12	15.43	15.43	-1444.13	-1444.13
545.00	37.11	55.18	6.07	15.32	15.32	-1461.01	-1461.01
550.00	37.21	55.30	6.03	15.22	15.22	-1477.90	-1477.90
555.00	37.30	55.42	5.99	15.11	15.11	-1494.80	-1494.80
560.00	37.39	55.54	5.95	15.01	15.01	-1511.71	-1511.71
565.00	37.48	55.66	5.91	14.91	14.91	-1528.62	-1528.62
570.00	37.56	55.78	5.87	14.81	14.81	-1545.54	-1545.54
575.00	37.65	55.90	5.83	14.71	14.71	-1562.47	-1562.47
580.00	37.74	56.02	5.79	14.61	14.61	-1579.41	-1579.41
585.00	37.83	56.13	5.76	14.52	14.52	-1596.35	-1596.35
590.00	37.91	56.25	5.72	14.43	14.43	-1613.30	-1613.30
595.00	38.00	56.36	5.68	14.33	14.33	-1630.26	-1630.26
600.00	38.09	56.48	5.65	14.24	14.24	-1647.22	-1647.22
605.00	38.17	56.59	5.61	14.15	14.15	-1664.20	-1664.20
610.00	38.25	56.70	5.58	14.07	14.07	-1681.17	-1681.17
615.00	38.34	56.81	5.54	13.98	13.98	-1698.16	-1698.16
620.00	38.42	56.92	5.51	13.89	13.89	-1715.15	-1715.15
625.00	38.50	57.04	5.48	13.81	13.81	-1732.15	-1732.15
630.00	38.59	57.14	5.44	13.73	13.73	-1749.15	-1749.15
635.00	38.67	57.25	5.41	13.64	13.64	-1766.17	-1766.17
640.00	38.75	57.36	5.38	13.56	13.56	-1783.18	-1783.18
645.00	38.83	57.47	5.35	13.48	13.48	-1800.21	-1800.21
650.00	38.91	57.58	5.31	13.40	13.40	-1817.24	-1817.24
655.00	38.99	57.68	5.28	13.33	13.33	-1834.27	-1834.27
660.00	39.07	57.79	5.25	13.25	13.25	-1851.31	-1851.31
665.00	39.15	57.89	5.22	13.17	13.17	-1868.36	-1868.36
670.00	39.23	58.00	5.19	13.10	13.10	-1885.41	-1885.41
675.00	39.31	58.10	5.16	13.03	13.03	-1902.47	-1902.47
680.00	39.38	58.20	5.14	12.95	12.95	-1919.53	-1919.53
685.00	39.46	58.31	5.11	12.88	12.88	-1936.60	-1936.60
690.00	39.54	58.41	5.08	12.81	12.81	-1953.68	-1953.68
695.00	39.61	58.51	5.05	12.74	12.74	-1970.76	-1970.76
700.00	39.69	58.61	5.02	12.67	12.67	-1987.84	-1987.84

705.00	39.77	58.71	5.00	12.60	12.60	-2004.94	-2004.94
710.00	39.84	58.81	4.97	12.53	12.53	-2022.03	-2022.03
715.00	39.92	58.91	4.94	12.47	12.47	-2039.13	-2039.13
720.00	39.99	59.01	4.92	12.40	12.40	-2056.24	-2056.24
725.00	40.07	59.11	4.89	12.34	12.34	-2073.35	-2073.35
730.00	40.14	59.20	4.87	12.27	12.27	-2090.46	-2090.46
735.00	40.21	59.30	4.84	12.21	12.21	-2107.59	-2107.59
740.00	40.29	59.40	4.82	12.15	12.15	-2124.71	-2124.71
745.00	40.36	59.49	4.79	12.08	12.08	-2141.84	-2141.84
750.00	40.43	59.59	4.77	12.02	12.02	-2158.98	-2158.98
755.00	40.50	59.68	4.74	11.96	11.96	-2176.12	-2176.12
760.00	40.57	59.78	4.72	11.90	11.90	-2193.26	-2193.26
765.00	40.64	59.87	4.70	11.84	11.84	-2210.41	-2210.41
770.00	40.72	59.96	4.67	11.78	11.78	-2227.56	-2227.56
775.00	40.79	60.06	4.65	11.73	11.73	-2244.72	-2244.72
780.00	40.86	60.15	4.63	11.67	11.67	-2261.88	-2261.88
785.00	40.93	60.24	4.60	11.61	11.61	-2279.05	-2279.05
790.00	41.00	60.33	4.58	11.56	11.56	-2296.22	-2296.22
795.00	41.06	60.42	4.56	11.50	11.50	-2313.39	-2313.39
800.00	41.13	60.51	4.54	11.45	11.45	-2330.57	-2330.57
805.00	41.20	60.60	4.52	11.39	11.39	-2347.75	-2347.75
810.00	41.27	60.69	4.50	11.34	11.34	-2364.94	-2364.94
815.00	41.34	60.78	4.47	11.29	11.29	-2382.13	-2382.13
820.00	41.41	60.87	4.45	11.23	11.23	-2399.32	-2399.32
825.00	41.47	60.96	4.43	11.18	11.18	-2416.52	-2416.52
830.00	41.54	61.05	4.41	11.13	11.13	-2433.73	-2433.73
835.00	41.61	61.13	4.39	11.08	11.08	-2450.93	-2450.93
840.00	41.67	61.22	4.37	11.03	11.03	-2468.14	-2468.14
845.00	41.74	61.31	4.35	10.98	10.98	-2485.36	-2485.36
850.00	41.80	61.39	4.33	10.93	10.93	-2502.57	-2502.57
855.00	41.87	61.48	4.31	10.88	10.88	-2519.79	-2519.79
860.00	41.94	61.56	4.30	10.83	10.83	-2537.02	-2537.02
865.00	42.00	61.65	4.28	10.79	10.79	-2554.25	-2554.25
870.00	42.06	61.73	4.26	10.74	10.74	-2571.48	-2571.48
875.00	42.13	61.82	4.24	10.69	10.69	-2588.72	-2588.72
880.00	42.19	61.90	4.22	10.64	10.64	-2605.96	-2605.96
885.00	42.26	61.99	4.20	10.60	10.60	-2623.20	-2623.20
890.00	42.32	62.07	4.18	10.55	10.55	-2640.44	-2640.44
895.00	42.38	62.15	4.17	10.51	10.51	-2657.69	-2657.69
900.00	42.45	62.23	4.15	10.46	10.46	-2674.95	-2674.95
905.00	42.51	62.32	4.13	10.42	10.42	-2692.20	-2692.20
910.00	42.57	62.40	4.11	10.38	10.38	-2709.46	-2709.46
915.00	42.63	62.48	4.10	10.33	10.33	-2726.72	-2726.72
920.00	42.70	62.56	4.08	10.29	10.29	-2743.99	-2743.99
925.00	42.76	62.64	4.06	10.25	10.25	-2761.26	-2761.26
930.00	42.82	62.72	4.05	10.21	10.21	-2778.53	-2778.53
935.00	42.88	62.80	4.03	10.16	10.16	-2795.81	-2795.81
940.00	42.94	62.88	4.01	10.12	10.12	-2813.08	-2813.08
945.00	43.00	62.96	4.00	10.08	10.08	-2830.37	-2830.37
950.00	43.06	63.04	3.98	10.04	10.04	-2847.65	-2847.65

955.00	43.12	63.12	3.97	10.00	10.00	-2864.94	-2864.94
960.00	43.18	63.19	3.95	9.96	9.96	-2882.23	-2882.23
965.00	43.24	63.27	3.93	9.92	9.92	-2899.52	-2899.52
970.00	43.30	63.35	3.92	9.88	9.88	-2916.82	-2916.82
975.00	43.36	63.43	3.90	9.84	9.84	-2934.12	-2934.12
980.00	43.42	63.50	3.89	9.81	9.81	-2951.42	-2951.42
985.00	43.48	63.58	3.87	9.77	9.77	-2968.72	-2968.72
990.00	43.54	63.66	3.86	9.73	9.73	-2986.03	-2986.03
995.00	43.60	63.73	3.84	9.69	9.69	-3003.34	-3003.34
1000.00	43.66	63.81	3.83	9.66	9.66	-3020.66	-3020.66
1005.00	43.71	63.88	3.81	9.62	9.62	-3037.97	-3037.97
1010.00	43.77	63.96	3.80	9.58	9.58	-3055.29	-3055.29
1015.00	43.83	64.03	3.79	9.55	9.55	-3072.61	-3072.61
1020.00	43.89	64.11	3.77	9.51	9.51	-3089.94	-3089.94
1025.00	43.94	64.18	3.76	9.48	9.48	-3107.26	-3107.26
1030.00	44.00	64.26	3.74	9.44	9.44	-3124.59	-3124.59
1035.00	44.06	64.33	3.73	9.41	9.41	-3141.92	-3141.92
1040.00	44.11	64.40	3.72	9.37	9.37	-3159.26	-3159.26
1045.00	44.17	64.48	3.70	9.34	9.34	-3176.60	-3176.60
1050.00	44.23	64.55	3.69	9.30	9.30	-3193.94	-3193.94
1055.00	44.28	64.62	3.68	9.27	9.27	-3211.28	-3211.28
1060.00	44.34	64.69	3.66	9.24	9.24	-3228.62	-3228.62
1065.00	44.39	64.76	3.65	9.20	9.20	-3245.97	-3245.97
1070.00	44.45	64.84	3.64	9.17	9.17	-3263.32	-3263.32
1075.00	44.50	64.91	3.62	9.14	9.14	-3280.67	-3280.67
1080.00	44.56	64.98	3.61	9.10	9.10	-3298.03	-3298.03
1085.00	44.61	65.05	3.60	9.07	9.07	-3315.38	-3315.38
1090.00	44.67	65.12	3.58	9.04	9.04	-3332.74	-3332.74
1095.00	44.72	65.19	3.57	9.01	9.01	-3350.10	-3350.10
1100.00	44.78	65.26	3.56	8.98	8.98	-3367.47	-3367.47
1105.00	44.83	65.33	3.55	8.95	8.95	-3384.84	-3384.84
1110.00	44.88	65.40	3.54	8.92	8.92	-3402.20	-3402.20
1115.00	44.94	65.47	3.52	8.89	8.89	-3419.57	-3419.57
1120.00	44.99	65.54	3.51	8.85	8.85	-3436.95	-3436.95
1125.00	45.05	65.61	3.50	8.82	8.82	-3454.32	-3454.32
1130.00	45.10	65.68	3.49	8.79	8.79	-3471.70	-3471.70
1135.00	45.15	65.74	3.48	8.77	8.77	-3489.08	-3489.08
1140.00	45.20	65.81	3.46	8.74	8.74	-3506.46	-3506.46
1145.00	45.26	65.88	3.45	8.71	8.71	-3523.85	-3523.85
1150.00	45.31	65.95	3.44	8.68	8.68	-3541.23	-3541.23
1155.00	45.36	66.01	3.43	8.65	8.65	-3558.62	-3558.62
1160.00	45.41	66.08	3.42	8.62	8.62	-3576.01	-3576.01
1165.00	45.47	66.15	3.41	8.59	8.59	-3593.40	-3593.40
1170.00	45.52	66.22	3.40	8.56	8.56	-3610.80	-3610.80
1175.00	45.57	66.28	3.38	8.54	8.54	-3628.20	-3628.20
1180.00	45.62	66.35	3.37	8.51	8.51	-3645.59	-3645.59
1185.00	45.67	66.41	3.36	8.48	8.48	-3663.00	-3663.00
1190.00	45.72	66.48	3.35	8.45	8.45	-3680.40	-3680.40
1195.00	45.77	66.55	3.34	8.43	8.43	-3697.80	-3697.80
1200.00	45.83	66.61	3.33	8.40	8.40	-3715.21	-3715.21

1205.00	45.88	66.68	3.32	8.37	8.37	-3732.62	-3732.62
1210.00	45.93	66.74	3.31	8.35	8.35	-3750.03	-3750.03
1215.00	45.98	66.81	3.30	8.32	8.32	-3767.44	-3767.44
1220.00	46.03	66.87	3.29	8.29	8.29	-3784.86	-3784.86
1225.00	46.08	66.93	3.28	8.27	8.27	-3802.27	-3802.27
1230.00	46.13	67.00	3.27	8.24	8.24	-3819.69	-3819.69
1235.00	46.18	67.06	3.26	8.22	8.22	-3837.11	-3837.11
1240.00	46.23	67.13	3.25	8.19	8.19	-3854.53	-3854.53
1245.00	46.28	67.19	3.24	8.17	8.17	-3871.96	-3871.96
1250.00	46.33	67.25	3.23	8.14	8.14	-3889.38	-3889.38
1255.00	46.37	67.31	3.22	8.12	8.12	-3906.81	-3906.81
1260.00	46.42	67.38	3.21	8.09	8.09	-3924.24	-3924.24
1265.00	46.47	67.44	3.20	8.07	8.07	-3941.67	-3941.67
1270.00	46.52	67.50	3.19	8.04	8.04	-3959.11	-3959.11
1275.00	46.57	67.57	3.18	8.02	8.02	-3976.54	-3976.54
1280.00	46.62	67.63	3.17	8.00	8.00	-3993.98	-3993.98
1285.00	46.67	67.69	3.16	7.97	7.97	-4011.42	-4011.42
1290.00	46.71	67.75	3.15	7.95	7.95	-4028.86	-4028.86
1295.00	46.76	67.81	3.14	7.92	7.92	-4046.30	-4046.30
1300.00	46.81	67.87	3.13	7.90	7.90	-4063.74	-4063.74
1305.00	46.86	67.93	3.12	7.88	7.88	-4081.19	-4081.19
1310.00	46.91	68.00	3.11	7.85	7.85	-4098.64	-4098.64
1315.00	46.95	68.06	3.11	7.83	7.83	-4116.09	-4116.09
1320.00	47.00	68.12	3.10	7.81	7.81	-4133.54	-4133.54
1325.00	47.05	68.18	3.09	7.79	7.79	-4150.99	-4150.99
1330.00	47.09	68.24	3.08	7.76	7.76	-4168.44	-4168.44
1335.00	47.14	68.30	3.07	7.74	7.74	-4185.90	-4185.90
1340.00	47.19	68.36	3.06	7.72	7.72	-4203.36	-4203.36
1345.00	47.24	68.42	3.05	7.70	7.70	-4220.81	-4220.81
1350.00	47.28	68.48	3.04	7.68	7.68	-4238.27	-4238.27
1355.00	47.33	68.53	3.03	7.65	7.65	-4255.74	-4255.74
1360.00	47.37	68.59	3.03	7.63	7.63	-4273.20	-4273.20
1365.00	47.42	68.65	3.02	7.61	7.61	-4290.67	-4290.67
1370.00	47.47	68.71	3.01	7.59	7.59	-4308.13	-4308.13
1375.00	47.51	68.77	3.00	7.57	7.57	-4325.60	-4325.60
1380.00	47.56	68.83	2.99	7.55	7.55	-4343.07	-4343.07
1385.00	47.60	68.89	2.98	7.53	7.53	-4360.54	-4360.54
1390.00	47.65	68.94	2.98	7.51	7.51	-4378.01	-4378.01
1395.00	47.70	69.00	2.97	7.49	7.49	-4395.49	-4395.49
1400.00	47.74	69.06	2.96	7.46	7.46	-4412.97	-4412.97
1405.00	47.79	69.12	2.95	7.44	7.44	-4430.44	-4430.44
1410.00	47.83	69.18	2.94	7.42	7.42	-4447.92	-4447.92
1415.00	47.88	69.23	2.94	7.40	7.40	-4465.40	-4465.40
1420.00	47.92	69.29	2.93	7.38	7.38	-4482.88	-4482.88
1425.00	47.97	69.35	2.92	7.36	7.36	-4500.37	-4500.37
1430.00	48.01	69.40	2.91	7.34	7.34	-4517.85	-4517.85
1435.00	48.05	69.46	2.90	7.32	7.32	-4535.34	-4535.34
1440.00	48.10	69.52	2.90	7.31	7.31	-4552.83	-4552.83
1445.00	48.14	69.57	2.89	7.29	7.29	-4570.32	-4570.32
1450.00	48.19	69.63	2.88	7.27	7.27	-4587.81	-4587.81

1455.00	48.23	69.68	2.87	7.25	7.25	-4605.30	-4605.30
1460.00	48.28	69.74	2.87	7.23	7.23	-4622.79	-4622.79
1465.00	48.32	69.80	2.86	7.21	7.21	-4640.29	-4640.29
1470.00	48.36	69.85	2.85	7.19	7.19	-4657.78	-4657.78
1475.00	48.41	69.91	2.84	7.17	7.17	-4675.28	-4675.28
1480.00	48.45	69.96	2.84	7.15	7.15	-4692.78	-4692.78
1485.00	48.49	70.02	2.83	7.13	7.13	-4710.28	-4710.28
1490.00	48.54	70.07	2.82	7.12	7.12	-4727.78	-4727.78
1495.00	48.58	70.13	2.81	7.10	7.10	-4745.28	-4745.28
1500.00	48.62	70.18	2.81	7.08	7.08	-4762.79	-4762.79
1505.00	48.67	70.24	2.80	7.06	7.06	-4780.29	-4780.29
1510.00	48.71	70.29	2.79	7.04	7.04	-4797.80	-4797.80
1515.00	48.75	70.34	2.79	7.03	7.03	-4815.31	-4815.31
1520.00	48.79	70.40	2.78	7.01	7.01	-4832.82	-4832.82
1525.00	48.84	70.45	2.77	6.99	6.99	-4850.33	-4850.33
1530.00	48.88	70.51	2.76	6.97	6.97	-4867.84	-4867.84
1535.00	48.92	70.56	2.76	6.96	6.96	-4885.35	-4885.35
1540.00	48.96	70.61	2.75	6.94	6.94	-4902.87	-4902.87
1545.00	49.01	70.67	2.74	6.92	6.92	-4920.38	-4920.38
1550.00	49.05	70.72	2.74	6.90	6.90	-4937.90	-4937.90
1555.00	49.09	70.77	2.73	6.89	6.89	-4955.42	-4955.42
1560.00	49.13	70.83	2.72	6.87	6.87	-4972.94	-4972.94
1565.00	49.17	70.88	2.72	6.85	6.85	-4990.46	-4990.46
1570.00	49.21	70.93	2.71	6.84	6.84	-5007.98	-5007.98
1575.00	49.26	70.98	2.70	6.82	6.82	-5025.51	-5025.51
1580.00	49.30	71.04	2.70	6.80	6.80	-5043.03	-5043.03
1585.00	49.34	71.09	2.69	6.79	6.79	-5060.56	-5060.56
1590.00	49.38	71.14	2.68	6.77	6.77	-5078.08	-5078.08
1595.00	49.42	71.19	2.68	6.75	6.75	-5095.61	-5095.61
1600.00	49.46	71.24	2.67	6.74	6.74	-5113.14	-5113.14
1605.00	49.50	71.30	2.67	6.72	6.72	-5130.67	-5130.67
1610.00	49.54	71.35	2.66	6.71	6.71	-5148.20	-5148.20
1615.00	49.59	71.40	2.65	6.69	6.69	-5165.73	-5165.73
1620.00	49.63	71.45	2.65	6.67	6.67	-5183.27	-5183.27
1625.00	49.67	71.50	2.64	6.66	6.66	-5200.80	-5200.80
1630.00	49.71	71.55	2.63	6.64	6.64	-5218.34	-5218.34
1635.00	49.75	71.60	2.63	6.63	6.63	-5235.88	-5235.88
1640.00	49.79	71.65	2.62	6.61	6.61	-5253.42	-5253.42
1645.00	49.83	71.70	2.62	6.60	6.60	-5270.96	-5270.96
1650.00	49.87	71.76	2.61	6.58	6.58	-5288.50	-5288.50
1655.00	49.91	71.81	2.60	6.57	6.57	-5306.04	-5306.04
1660.00	49.95	71.86	2.60	6.55	6.55	-5323.58	-5323.58
1665.00	49.99	71.91	2.59	6.54	6.54	-5341.13	-5341.13
1670.00	50.03	71.96	2.59	6.52	6.52	-5358.67	-5358.67
1675.00	50.07	72.01	2.58	6.51	6.51	-5376.22	-5376.22
1680.00	50.11	72.06	2.57	6.49	6.49	-5393.76	-5393.76
1685.00	50.15	72.11	2.57	6.48	6.48	-5411.31	-5411.31
1690.00	50.19	72.16	2.56	6.46	6.46	-5428.86	-5428.86
1695.00	50.22	72.21	2.56	6.45	6.45	-5446.41	-5446.41
1700.00	50.26	72.25	2.55	6.43	6.43	-5463.96	-5463.96

1705.00	50.30	72.30	2.54	6.42	6.42	-5481.52	-5481.52
1710.00	50.34	72.35	2.54	6.40	6.40	-5499.07	-5499.07
1715.00	50.38	72.40	2.53	6.39	6.39	-5516.63	-5516.63
1720.00	50.42	72.45	2.53	6.37	6.37	-5534.18	-5534.18
1725.00	50.46	72.50	2.52	6.36	6.36	-5551.74	-5551.74
1730.00	50.50	72.55	2.52	6.35	6.35	-5569.30	-5569.30
1735.00	50.54	72.60	2.51	6.33	6.33	-5586.86	-5586.86
1740.00	50.57	72.65	2.51	6.32	6.32	-5604.42	-5604.42
1745.00	50.61	72.69	2.50	6.30	6.30	-5621.98	-5621.98
1750.00	50.65	72.74	2.49	6.29	6.29	-5639.54	-5639.54
1755.00	50.69	72.79	2.49	6.28	6.28	-5657.10	-5657.10
1760.00	50.73	72.84	2.48	6.26	6.26	-5674.67	-5674.67
1765.00	50.77	72.89	2.48	6.25	6.25	-5692.23	-5692.23
1770.00	50.80	72.93	2.47	6.24	6.24	-5709.80	-5709.80
1775.00	50.84	72.98	2.47	6.22	6.22	-5727.36	-5727.36
1780.00	50.88	73.03	2.46	6.21	6.21	-5744.93	-5744.93
1785.00	50.92	73.08	2.46	6.20	6.20	-5762.50	-5762.50
1790.00	50.96	73.12	2.45	6.18	6.18	-5780.07	-5780.07
1795.00	50.99	73.17	2.45	6.17	6.17	-5797.64	-5797.64
1800.00	51.03	73.22	2.44	6.16	6.16	-5815.21	-5815.21
1805.00	51.07	73.27	2.44	6.14	6.14	-5832.79	-5832.79
1810.00	51.11	73.31	2.43	6.13	6.13	-5850.36	-5850.36
1815.00	51.14	73.36	2.43	6.12	6.12	-5867.94	-5867.94
1820.00	51.18	73.41	2.42	6.10	6.10	-5885.51	-5885.51
1825.00	51.22	73.45	2.41	6.09	6.09	-5903.09	-5903.09
1830.00	51.26	73.50	2.41	6.08	6.08	-5920.66	-5920.66
1835.00	51.29	73.55	2.40	6.07	6.07	-5938.24	-5938.24
1840.00	51.33	73.59	2.40	6.05	6.05	-5955.82	-5955.82
1845.00	51.37	73.64	2.39	6.04	6.04	-5973.40	-5973.40
1850.00	51.40	73.68	2.39	6.03	6.03	-5990.98	-5990.98
1855.00	51.44	73.73	2.38	6.01	6.01	-6008.57	-6008.57
1860.00	51.48	73.78	2.38	6.00	6.00	-6026.15	-6026.15
1865.00	51.51	73.82	2.37	5.99	5.99	-6043.73	-6043.73
1870.00	51.55	73.87	2.37	5.98	5.98	-6061.32	-6061.32
1875.00	51.59	73.91	2.37	5.97	5.97	-6078.90	-6078.90
1880.00	51.62	73.96	2.36	5.95	5.95	-6096.49	-6096.49
1885.00	51.66	74.00	2.36	5.94	5.94	-6114.08	-6114.08
1890.00	51.70	74.05	2.35	5.93	5.93	-6131.67	-6131.67
1895.00	51.73	74.09	2.35	5.92	5.92	-6149.25	-6149.25
1900.00	51.77	74.14	2.34	5.90	5.90	-6166.84	-6166.84
1905.00	51.80	74.19	2.34	5.89	5.89	-6184.44	-6184.44
1910.00	51.84	74.23	2.33	5.88	5.88	-6202.03	-6202.03
1915.00	51.88	74.27	2.33	5.87	5.87	-6219.62	-6219.62
1920.00	51.91	74.32	2.32	5.86	5.86	-6237.21	-6237.21
1925.00	51.95	74.36	2.32	5.85	5.85	-6254.81	-6254.81
1930.00	51.98	74.41	2.31	5.83	5.83	-6272.40	-6272.40
1935.00	52.02	74.45	2.31	5.82	5.82	-6290.00	-6290.00
1940.00	52.05	74.50	2.30	5.81	5.81	-6307.60	-6307.60
1945.00	52.09	74.54	2.30	5.80	5.80	-6325.19	-6325.19
1950.00	52.13	74.59	2.29	5.79	5.79	-6342.79	-6342.79

1955.00	52.16	74.63	2.29	5.78	5.78	-6360.39	-6360.39
1960.00	52.20	74.67	2.29	5.77	5.77	-6377.99	-6377.99
1965.00	52.23	74.72	2.28	5.75	5.75	-6395.59	-6395.59
1970.00	52.27	74.76	2.28	5.74	5.74	-6413.19	-6413.19
1975.00	52.30	74.81	2.27	5.73	5.73	-6430.80	-6430.80
1980.00	52.34	74.85	2.27	5.72	5.72	-6448.40	-6448.40
1985.00	52.37	74.89	2.26	5.71	5.71	-6466.01	-6466.01
1990.00	52.41	74.94	2.26	5.70	5.70	-6483.61	-6483.61
1995.00	52.44	74.98	2.26	5.69	5.69	-6501.22	-6501.22
2000.00	52.48	75.02	2.25	5.68	5.68	-6518.82	-6518.82
2005.00	52.51	75.07	2.25	5.67	5.67	-6536.43	-6536.43
2010.00	52.55	75.11	2.24	5.65	5.65	-6554.04	-6554.04
2015.00	52.58	75.15	2.24	5.64	5.64	-6571.65	-6571.65
2020.00	52.61	75.20	2.23	5.63	5.63	-6589.26	-6589.26
2025.00	52.65	75.24	2.23	5.62	5.62	-6606.87	-6606.87
2030.00	52.68	75.28	2.23	5.61	5.61	-6624.48	-6624.48
2035.00	52.72	75.32	2.22	5.60	5.60	-6642.09	-6642.09
2040.00	52.75	75.37	2.22	5.59	5.59	-6659.70	-6659.70
2045.00	52.79	75.41	2.21	5.58	5.58	-6677.32	-6677.32
2050.00	52.82	75.45	2.21	5.57	5.57	-6694.93	-6694.93
2055.00	52.85	75.49	2.20	5.56	5.56	-6712.55	-6712.55
2060.00	52.89	75.54	2.20	5.55	5.55	-6730.16	-6730.16
2065.00	52.92	75.58	2.20	5.54	5.54	-6747.78	-6747.78
2070.00	52.96	75.62	2.19	5.53	5.53	-6765.40	-6765.40
2075.00	52.99	75.66	2.19	5.52	5.52	-6783.02	-6783.02
2080.00	53.02	75.71	2.18	5.51	5.51	-6800.63	-6800.63
2085.00	53.06	75.75	2.18	5.50	5.50	-6818.25	-6818.25
2090.00	53.09	75.79	2.18	5.49	5.49	-6835.87	-6835.87
2095.00	53.12	75.83	2.17	5.48	5.48	-6853.49	-6853.49
2100.00	53.16	75.87	2.17	5.47	5.47	-6871.12	-6871.12
2105.00	53.19	75.91	2.16	5.46	5.46	-6888.74	-6888.74
2110.00	53.23	75.96	2.16	5.45	5.45	-6906.36	-6906.36
2115.00	53.26	76.00	2.16	5.44	5.44	-6923.99	-6923.99
2120.00	53.29	76.04	2.15	5.43	5.43	-6941.61	-6941.61
2125.00	53.33	76.08	2.15	5.42	5.42	-6959.24	-6959.24
2130.00	53.36	76.12	2.14	5.41	5.41	-6976.86	-6976.86
2135.00	53.39	76.16	2.14	5.40	5.40	-6994.49	-6994.49
2140.00	53.42	76.20	2.14	5.39	5.39	-7012.12	-7012.12
2145.00	53.46	76.24	2.13	5.38	5.38	-7029.75	-7029.75
2150.00	53.49	76.28	2.13	5.37	5.37	-7047.37	-7047.37
2155.00	53.52	76.33	2.13	5.36	5.36	-7065.00	-7065.00
2160.00	53.56	76.37	2.12	5.35	5.35	-7082.63	-7082.63
2165.00	53.59	76.41	2.12	5.34	5.34	-7100.26	-7100.26
2170.00	53.62	76.45	2.11	5.33	5.33	-7117.90	-7117.90
2175.00	53.65	76.49	2.11	5.32	5.32	-7135.53	-7135.53
2180.00	53.69	76.53	2.11	5.31	5.31	-7153.16	-7153.16
2185.00	53.72	76.57	2.10	5.30	5.30	-7170.80	-7170.80
2190.00	53.75	76.61	2.10	5.29	5.29	-7188.43	-7188.43
2195.00	53.78	76.65	2.10	5.28	5.28	-7206.06	-7206.06
2200.00	53.82	76.69	2.09	5.27	5.27	-7223.70	-7223.70

2205.00	53.85	76.73	2.09	5.27	5.27	-7241.34	-7241.34
2210.00	53.88	76.77	2.08	5.26	5.26	-7258.97	-7258.97
2215.00	53.91	76.81	2.08	5.25	5.25	-7276.61	-7276.61
2220.00	53.95	76.85	2.08	5.24	5.24	-7294.25	-7294.25
2225.00	53.98	76.89	2.07	5.23	5.23	-7311.89	-7311.89
2230.00	54.01	76.93	2.07	5.22	5.22	-7329.53	-7329.53
2235.00	54.04	76.97	2.07	5.21	5.21	-7347.17	-7347.17
2240.00	54.07	77.01	2.06	5.20	5.20	-7364.81	-7364.81
2245.00	54.11	77.05	2.06	5.19	5.19	-7382.45	-7382.45
2250.00	54.14	77.09	2.06	5.18	5.18	-7400.09	-7400.09
2255.00	54.17	77.13	2.05	5.18	5.18	-7417.74	-7417.74
2260.00	54.20	77.16	2.05	5.17	5.17	-7435.38	-7435.38
2265.00	54.23	77.20	2.05	5.16	5.16	-7453.02	-7453.02
2270.00	54.27	77.24	2.04	5.15	5.15	-7470.67	-7470.67
2275.00	54.30	77.28	2.04	5.14	5.14	-7488.31	-7488.31
2280.00	54.33	77.32	2.03	5.13	5.13	-7505.96	-7505.96
2285.00	54.36	77.36	2.03	5.12	5.12	-7523.61	-7523.61
2290.00	54.39	77.40	2.03	5.11	5.11	-7541.25	-7541.25
2295.00	54.42	77.44	2.02	5.11	5.11	-7558.90	-7558.90
2300.00	54.45	77.48	2.02	5.10	5.10	-7576.55	-7576.55
2305.00	54.49	77.52	2.02	5.09	5.09	-7594.20	-7594.20
2310.00	54.52	77.55	2.01	5.08	5.08	-7611.85	-7611.85
2315.00	54.55	77.59	2.01	5.07	5.07	-7629.50	-7629.50
2320.00	54.58	77.63	2.01	5.06	5.06	-7647.15	-7647.15
2325.00	54.61	77.67	2.00	5.06	5.06	-7664.80	-7664.80
2330.00	54.64	77.71	2.00	5.05	5.05	-7682.45	-7682.45
2335.00	54.67	77.75	2.00	5.04	5.04	-7700.11	-7700.11
2340.00	54.70	77.78	1.99	5.03	5.03	-7717.76	-7717.76
2345.00	54.73	77.82	1.99	5.02	5.02	-7735.41	-7735.41
2350.00	54.76	77.86	1.99	5.01	5.01	-7753.07	-7753.07
2355.00	54.80	77.90	1.98	5.01	5.01	-7770.72	-7770.72
2360.00	54.83	77.94	1.98	5.00	5.00	-7788.38	-7788.38
2365.00	54.86	77.97	1.98	4.99	4.99	-7806.04	-7806.04
2370.00	54.89	78.01	1.97	4.98	4.98	-7823.69	-7823.69
2375.00	54.92	78.05	1.97	4.97	4.97	-7841.35	-7841.35
2380.00	54.95	78.09	1.97	4.96	4.96	-7859.01	-7859.01
2385.00	54.98	78.12	1.97	4.96	4.96	-7876.67	-7876.67
2390.00	55.01	78.16	1.96	4.95	4.95	-7894.33	-7894.33
2395.00	55.04	78.20	1.96	4.94	4.94	-7911.99	-7911.99
2400.00	55.07	78.24	1.96	4.93	4.93	-7929.65	-7929.65
2405.00	55.10	78.27	1.95	4.93	4.93	-7947.31	-7947.31
2410.00	55.13	78.31	1.95	4.92	4.92	-7964.97	-7964.97
2415.00	55.16	78.35	1.95	4.91	4.91	-7982.63	-7982.63
2420.00	55.19	78.39	1.94	4.90	4.90	-8000.29	-8000.29
2425.00	55.22	78.42	1.94	4.89	4.89	-8017.96	-8017.96
2430.00	55.25	78.46	1.94	4.89	4.89	-8035.62	-8035.62
2435.00	55.28	78.50	1.93	4.88	4.88	-8053.29	-8053.29
2440.00	55.31	78.53	1.93	4.87	4.87	-8070.95	-8070.95
2445.00	55.34	78.57	1.93	4.86	4.86	-8088.62	-8088.62
2450.00	55.37	78.61	1.93	4.86	4.86	-8106.28	-8106.28

2455.00	55.40	78.64	1.92	4.85	4.85	-8123.95	-8123.95
2460.00	55.43	78.68	1.92	4.84	4.84	-8141.61	-8141.61
2465.00	55.46	78.72	1.92	4.83	4.83	-8159.28	-8159.28
2470.00	55.49	78.75	1.91	4.82	4.82	-8176.95	-8176.95
2475.00	55.52	78.79	1.91	4.82	4.82	-8194.62	-8194.62
2480.00	55.55	78.83	1.91	4.81	4.81	-8212.29	-8212.29
2485.00	55.58	78.86	1.90	4.80	4.80	-8229.96	-8229.96
2490.00	55.61	78.90	1.90	4.79	4.79	-8247.63	-8247.63
2495.00	55.64	78.94	1.90	4.79	4.79	-8265.30	-8265.30
2500.00	55.67	78.97	1.90	4.78	4.78	-8282.97	-8282.97
2505.00	55.70	79.01	1.89	4.77	4.77	-8300.64	-8300.64
2510.00	55.73	79.04	1.89	4.77	4.77	-8318.31	-8318.31
2515.00	55.76	79.08	1.89	4.76	4.76	-8335.99	-8335.99
2520.00	55.79	79.12	1.88	4.75	4.75	-8353.66	-8353.66
2525.00	55.82	79.15	1.88	4.74	4.74	-8371.34	-8371.34
2530.00	55.84	79.19	1.88	4.74	4.74	-8389.01	-8389.01
2535.00	55.87	79.22	1.88	4.73	4.73	-8406.68	-8406.68
2540.00	55.90	79.26	1.87	4.72	4.72	-8424.36	-8424.36
2545.00	55.93	79.30	1.87	4.71	4.71	-8442.04	-8442.04
2550.00	55.96	79.33	1.87	4.71	4.71	-8459.71	-8459.71
2555.00	55.99	79.37	1.86	4.70	4.70	-8477.39	-8477.39
2560.00	56.02	79.40	1.86	4.69	4.69	-8495.07	-8495.07
2565.00	56.05	79.44	1.86	4.69	4.69	-8512.75	-8512.75
2570.00	56.08	79.47	1.86	4.68	4.68	-8530.42	-8530.42
2575.00	56.11	79.51	1.85	4.67	4.67	-8548.10	-8548.10
2580.00	56.13	79.54	1.85	4.67	4.67	-8565.78	-8565.78
2585.00	56.16	79.58	1.85	4.66	4.66	-8583.46	-8583.46
2590.00	56.19	79.61	1.84	4.65	4.65	-8601.14	-8601.14
2595.00	56.22	79.65	1.84	4.64	4.64	-8618.82	-8618.82
2600.00	56.25	79.68	1.84	4.64	4.64	-8636.51	-8636.51
2605.00	56.28	79.72	1.84	4.63	4.63	-8654.19	-8654.19
2610.00	56.31	79.75	1.83	4.62	4.62	-8671.87	-8671.87
2615.00	56.34	79.79	1.83	4.62	4.62	-8689.55	-8689.55
2620.00	56.36	79.82	1.83	4.61	4.61	-8707.24	-8707.24
2625.00	56.39	79.86	1.83	4.60	4.60	-8724.92	-8724.92
2630.00	56.42	79.89	1.82	4.60	4.60	-8742.61	-8742.61
2635.00	56.45	79.93	1.82	4.59	4.59	-8760.29	-8760.29
2640.00	56.48	79.96	1.82	4.58	4.58	-8777.98	-8777.98
2645.00	56.51	80.00	1.81	4.58	4.58	-8795.66	-8795.66
2650.00	56.53	80.03	1.81	4.57	4.57	-8813.35	-8813.35
2655.00	56.56	80.07	1.81	4.56	4.56	-8831.04	-8831.04
2660.00	56.59	80.10	1.81	4.56	4.56	-8848.72	-8848.72
2665.00	56.62	80.14	1.80	4.55	4.55	-8866.41	-8866.41
2670.00	56.65	80.17	1.80	4.54	4.54	-8884.10	-8884.10
2675.00	56.67	80.20	1.80	4.54	4.54	-8901.79	-8901.79
2680.00	56.70	80.24	1.80	4.53	4.53	-8919.48	-8919.48
2685.00	56.73	80.27	1.79	4.52	4.52	-8937.17	-8937.17
2690.00	56.76	80.31	1.79	4.52	4.52	-8954.86	-8954.86
2695.00	56.79	80.34	1.79	4.51	4.51	-8972.55	-8972.55
2700.00	56.81	80.37	1.79	4.50	4.50	-8990.24	-8990.24

2705.00	56.84	80.41	1.78	4.50	4.50	-9007.93	-9007.93
2710.00	56.87	80.44	1.78	4.49	4.49	-9025.62	-9025.62
2715.00	56.90	80.48	1.78	4.49	4.49	-9043.32	-9043.32
2720.00	56.92	80.51	1.78	4.48	4.48	-9061.01	-9061.01
2725.00	56.95	80.54	1.77	4.47	4.47	-9078.70	-9078.70
2730.00	56.98	80.58	1.77	4.47	4.47	-9096.40	-9096.40
2735.00	57.01	80.61	1.77	4.46	4.46	-9114.09	-9114.09
2740.00	57.04	80.64	1.77	4.45	4.45	-9131.78	-9131.78
2745.00	57.06	80.68	1.76	4.45	4.45	-9149.48	-9149.48
2750.00	57.09	80.71	1.76	4.44	4.44	-9167.18	-9167.18
2755.00	57.12	80.75	1.76	4.44	4.44	-9184.87	-9184.87
2760.00	57.15	80.78	1.76	4.43	4.43	-9202.57	-9202.57
2765.00	57.17	80.81	1.75	4.42	4.42	-9220.26	-9220.26
2770.00	57.20	80.85	1.75	4.42	4.42	-9237.96	-9237.96
2775.00	57.23	80.88	1.75	4.41	4.41	-9255.66	-9255.66
2780.00	57.25	80.91	1.75	4.40	4.40	-9273.36	-9273.36
2785.00	57.28	80.95	1.74	4.40	4.40	-9291.06	-9291.06
2790.00	57.31	80.98	1.74	4.39	4.39	-9308.76	-9308.76
2795.00	57.34	81.01	1.74	4.39	4.39	-9326.46	-9326.46
2800.00	57.36	81.04	1.74	4.38	4.38	-9344.16	-9344.16
2805.00	57.39	81.08	1.73	4.37	4.37	-9361.86	-9361.86
2810.00	57.42	81.11	1.73	4.37	4.37	-9379.56	-9379.56
2815.00	57.44	81.14	1.73	4.36	4.36	-9397.26	-9397.26
2820.00	57.47	81.18	1.73	4.36	4.36	-9414.96	-9414.96
2825.00	57.50	81.21	1.72	4.35	4.35	-9432.66	-9432.66
2830.00	57.52	81.24	1.72	4.34	4.34	-9450.37	-9450.37
2835.00	57.55	81.27	1.72	4.34	4.34	-9468.07	-9468.07
2840.00	57.58	81.31	1.72	4.33	4.33	-9485.77	-9485.77
2845.00	57.61	81.34	1.72	4.33	4.33	-9503.48	-9503.48
2850.00	57.63	81.37	1.71	4.32	4.32	-9521.18	-9521.18
2855.00	57.66	81.40	1.71	4.31	4.31	-9538.88	-9538.88
2860.00	57.69	81.44	1.71	4.31	4.31	-9556.59	-9556.59
2865.00	57.71	81.47	1.71	4.30	4.30	-9574.30	-9574.30
2870.00	57.74	81.50	1.70	4.30	4.30	-9592.00	-9592.00
2875.00	57.77	81.53	1.70	4.29	4.29	-9609.71	-9609.71
2880.00	57.79	81.57	1.70	4.29	4.29	-9627.41	-9627.41

Notes to User

Only values shown blue to be edited

Sheet only for england and wales

ln M5-D	J0	J1	J2	Cr	ln (MT-D/M5-D)	MT-D/M5-D
2.32	0.1699	0.0028	0.000114	0.210117	0.399475	1.491041
2.50	0.1644	0.005831	-0.00013	0.215473	0.409657	1.506301
2.61	0.1644	0.005831	-0.00013	0.218996	0.416354	1.516422
2.70	0.1644	0.005831	-0.00013	0.221384	0.420894	1.523323
2.76	0.1644	0.005831	-0.00013	0.22309	0.424139	1.528274
2.82	0.1644	0.005831	-0.00013	0.224349	0.426532	1.531936
2.86	0.1644	0.005831	-0.00013	0.225294	0.428329	1.534691
2.90	0.1644	0.005831	-0.00013	0.22601	0.42969	1.536781
2.93	0.1644	0.005831	-0.00013	0.226551	0.430719	1.538363
2.96	0.1644	0.005831	-0.00013	0.226956	0.431489	1.539548
2.99	0.1644	0.005831	-0.00013	0.227253	0.432052	1.540416
3.02	0.1644	0.005831	-0.00013	0.227461	0.432448	1.541025
3.04	0.1644	0.005831	-0.00013	0.227596	0.432705	1.541421
3.06	0.1644	0.005831	-0.00013	0.22767	0.432845	1.541638
3.08	0.1644	0.005831	-0.00013	0.227692	0.432888	1.541703
3.10	0.1644	0.005831	-0.00013	0.22767	0.432846	1.541639
3.11	0.1644	0.005831	-0.00013	0.22761	0.432732	1.541464
3.13	0.1644	0.005831	-0.00013	0.227518	0.432556	1.541191
3.14	0.1644	0.005831	-0.00013	0.227396	0.432324	1.540835
3.16	0.1644	0.005831	-0.00013	0.227249	0.432045	1.540404
3.17	0.1644	0.005831	-0.00013	0.227079	0.431722	1.539907
3.18	0.1644	0.005831	-0.00013	0.22689	0.431362	1.539353
3.20	0.1644	0.005831	-0.00013	0.226682	0.430968	1.538746
3.21	0.1644	0.005831	-0.00013	0.226459	0.430544	1.538094
3.22	0.1644	0.005831	-0.00013	0.226222	0.430092	1.5374
3.23	0.1644	0.005831	-0.00013	0.225972	0.429617	1.536668
3.24	0.1644	0.005831	-0.00013	0.22571	0.429119	1.535903
3.25	0.1644	0.005831	-0.00013	0.225437	0.428601	1.535108
3.26	0.1644	0.005831	-0.00013	0.225155	0.428065	1.534286
3.27	0.1644	0.005831	-0.00013	0.224865	0.427512	1.533438
3.28	0.1644	0.005831	-0.00013	0.224566	0.426945	1.532568
3.29	0.1644	0.005831	-0.00013	0.22426	0.426363	1.531677
3.30	0.1644	0.005831	-0.00013	0.223948	0.425769	1.530767
3.30	0.1644	0.005831	-0.00013	0.223629	0.425164	1.529841
3.31	0.1644	0.005831	-0.00013	0.223305	0.424547	1.528898
3.32	0.1644	0.005831	-0.00013	0.222976	0.423921	1.527942
3.33	0.1644	0.005831	-0.00013	0.222642	0.423287	1.526972
3.33	0.1644	0.005831	-0.00013	0.222304	0.422643	1.52599
3.34	0.1644	0.005831	-0.00013	0.221962	0.421993	1.524997

3.35	0.1644	0.005831	-0.00013	0.221616	0.421335	1.523995
3.35	0.1644	0.005831	-0.00013	0.221266	0.420671	1.522983
3.36	0.1644	0.005831	-0.00013	0.220914	0.420001	1.521963
3.37	0.1644	0.005831	-0.00013	0.220558	0.419325	1.520935
3.37	0.1644	0.005831	-0.00013	0.2202	0.418644	1.519899
3.38	0.1644	0.005831	-0.00013	0.21984	0.417959	1.518858
3.39	0.1644	0.005831	-0.00013	0.219477	0.417269	1.517811
3.39	0.1644	0.005831	-0.00013	0.219112	0.416575	1.516758
3.40	0.1644	0.005831	-0.00013	0.218745	0.415878	1.5157
3.40	0.1644	0.005831	-0.00013	0.218376	0.415177	1.514638
3.41	0.1644	0.005831	-0.00013	0.218006	0.414472	1.513572
3.41	0.1644	0.005831	-0.00013	0.217634	0.413765	1.512502
3.42	0.1644	0.005831	-0.00013	0.217261	0.413056	1.511429
3.42	0.1644	0.005831	-0.00013	0.216886	0.412343	1.510353
3.43	0.1644	0.005831	-0.00013	0.21651	0.411629	1.509274
3.43	0.1644	0.005831	-0.00013	0.216133	0.410912	1.508193
3.44	0.2644	-0.00162	3.15E-06	0.216982	0.412525	1.510627
3.44	0.2644	-0.00162	3.15E-06	0.21677	0.412123	1.51002
3.45	0.2644	-0.00162	3.15E-06	0.216562	0.411726	1.509421
3.45	0.2644	-0.00162	3.15E-06	0.216356	0.411335	1.508831
3.46	0.2644	-0.00162	3.15E-06	0.216153	0.410949	1.508249
3.46	0.2644	-0.00162	3.15E-06	0.215952	0.410568	1.507674
3.47	0.2644	-0.00162	3.15E-06	0.215755	0.410192	1.507107
3.47	0.2644	-0.00162	3.15E-06	0.215559	0.409821	1.506548
3.47	0.2644	-0.00162	3.15E-06	0.215366	0.409454	1.505995
3.48	0.2644	-0.00162	3.15E-06	0.215176	0.409092	1.50545
3.48	0.2644	-0.00162	3.15E-06	0.214988	0.408734	1.504911
3.49	0.2644	-0.00162	3.15E-06	0.214802	0.40838	1.504379
3.49	0.2644	-0.00162	3.15E-06	0.214618	0.408031	1.503853
3.49	0.2644	-0.00162	3.15E-06	0.214436	0.407685	1.503334
3.50	0.2644	-0.00162	3.15E-06	0.214256	0.407344	1.502821
3.50	0.2644	-0.00162	3.15E-06	0.214079	0.407006	1.502313
3.51	0.2644	-0.00162	3.15E-06	0.213903	0.406672	1.501811
3.51	0.2644	-0.00162	3.15E-06	0.213729	0.406342	1.501315
3.51	0.2644	-0.00162	3.15E-06	0.213557	0.406015	1.500825
3.52	0.2644	-0.00162	3.15E-06	0.213387	0.405691	1.500339
3.52	0.2644	-0.00162	3.15E-06	0.213219	0.405371	1.499859
3.52	0.2644	-0.00162	3.15E-06	0.213052	0.405055	1.499384
3.53	0.2644	-0.00162	3.15E-06	0.212888	0.404741	1.498914
3.53	0.2644	-0.00162	3.15E-06	0.212724	0.404431	1.498449
3.53	0.2644	-0.00162	3.15E-06	0.212563	0.404124	1.497989
3.54	0.2644	-0.00162	3.15E-06	0.212403	0.403819	1.497533
3.54	0.2644	-0.00162	3.15E-06	0.212244	0.403518	1.497082
3.54	0.2644	-0.00162	3.15E-06	0.212087	0.40322	1.496635
3.55	0.2644	-0.00162	3.15E-06	0.211932	0.402924	1.496193
3.55	0.2644	-0.00162	3.15E-06	0.211778	0.402631	1.495755
3.55	0.2644	-0.00162	3.15E-06	0.211625	0.402341	1.495321
3.56	0.2644	-0.00162	3.15E-06	0.211474	0.402053	1.494891
3.56	0.2644	-0.00162	3.15E-06	0.211324	0.401769	1.494465
3.56	0.2644	-0.00162	3.15E-06	0.211175	0.401486	1.494044

3.57	0.2644	-0.00162	3.15E-06	0.211028	0.401206	1.493625
3.57	0.2644	-0.00162	3.15E-06	0.210882	0.400929	1.493211
3.57	0.2644	-0.00162	3.15E-06	0.210738	0.400654	1.4928
3.57	0.2644	-0.00162	3.15E-06	0.210594	0.400381	1.492393
3.58	0.2644	-0.00162	3.15E-06	0.210452	0.400111	1.49199
3.58	0.2644	-0.00162	3.15E-06	0.210311	0.399843	1.49159
3.58	0.2644	-0.00162	3.15E-06	0.210171	0.399577	1.491193
3.59	0.2644	-0.00162	3.15E-06	0.210032	0.399313	1.4908
3.59	0.2644	-0.00162	3.15E-06	0.209895	0.399051	1.49041
3.59	0.2644	-0.00162	3.15E-06	0.209758	0.398792	1.490023
3.59	0.2644	-0.00162	3.15E-06	0.209623	0.398534	1.48964
3.60	0.2644	-0.00162	3.15E-06	0.209488	0.398279	1.489259
3.60	0.2644	-0.00162	3.15E-06	0.209355	0.398025	1.488882
3.60	0.2644	-0.00162	3.15E-06	0.209223	0.397774	1.488507
3.60	0.2644	-0.00162	3.15E-06	0.209092	0.397524	1.488136
3.61	0.2644	-0.00162	3.15E-06	0.208961	0.397277	1.487767
3.61	0.2644	-0.00162	3.15E-06	0.208832	0.397031	1.487402
3.61	0.2644	-0.00162	3.15E-06	0.208704	0.396787	1.487039
3.61	0.2644	-0.00162	3.15E-06	0.208576	0.396545	1.486679
3.62	0.2644	-0.00162	3.15E-06	0.20845	0.396304	1.486321
3.62	0.2644	-0.00162	3.15E-06	0.208324	0.396065	1.485966
3.62	0.2644	-0.00162	3.15E-06	0.2082	0.395828	1.485614
3.62	0.2644	-0.00162	3.15E-06	0.208076	0.395593	1.485265
3.63	0.2644	-0.00162	3.15E-06	0.207953	0.395359	1.484918
3.63	0.2644	-0.00162	3.15E-06	0.207831	0.395127	1.484573
3.63	0.2644	-0.00162	3.15E-06	0.20771	0.394897	1.484231
3.63	0.2644	-0.00162	3.15E-06	0.207589	0.394668	1.483891
3.64	0.2644	-0.00162	3.15E-06	0.20747	0.394441	1.483554
3.64	0.2644	-0.00162	3.15E-06	0.207351	0.394215	1.483219
3.64	0.2644	-0.00162	3.15E-06	0.207233	0.39399	1.482886
3.64	0.2644	-0.00162	3.15E-06	0.207116	0.393768	1.482556
3.64	0.2644	-0.00162	3.15E-06	0.206999	0.393546	1.482228
3.65	0.2644	-0.00162	3.15E-06	0.206884	0.393326	1.481902
3.65	0.2644	-0.00162	3.15E-06	0.206769	0.393108	1.481578
3.65	0.2644	-0.00162	3.15E-06	0.206654	0.392891	1.481257
3.65	0.2644	-0.00162	3.15E-06	0.206541	0.392675	1.480937
3.66	0.2644	-0.00162	3.15E-06	0.206428	0.392461	1.48062
3.66	0.2644	-0.00162	3.15E-06	0.206316	0.392248	1.480304
3.66	0.2644	-0.00162	3.15E-06	0.206205	0.392036	1.479991
3.66	0.2644	-0.00162	3.15E-06	0.206094	0.391826	1.47968
3.66	0.2644	-0.00162	3.15E-06	0.205984	0.391617	1.47937
3.67	0.2644	-0.00162	3.15E-06	0.205875	0.391409	1.479063
3.67	0.2644	-0.00162	3.15E-06	0.205766	0.391202	1.478757
3.67	0.2644	-0.00162	3.15E-06	0.205658	0.390997	1.478454
3.67	0.2644	-0.00162	3.15E-06	0.205551	0.390793	1.478152
3.67	0.2644	-0.00162	3.15E-06	0.205444	0.39059	1.477852
3.68	0.2644	-0.00162	3.15E-06	0.205338	0.390388	1.477554
3.68	0.2644	-0.00162	3.15E-06	0.205232	0.390187	1.477258
3.68	0.2644	-0.00162	3.15E-06	0.205128	0.389988	1.476963
3.68	0.2644	-0.00162	3.15E-06	0.205023	0.38979	1.47667

3.68	0.2644	-0.00162	3.15E-06	0.20492	0.389593	1.476379
3.68	0.2644	-0.00162	3.15E-06	0.204816	0.389397	1.47609
3.69	0.2644	-0.00162	3.15E-06	0.204714	0.389202	1.475802
3.69	0.2644	-0.00162	3.15E-06	0.204612	0.389008	1.475516
3.69	0.2644	-0.00162	3.15E-06	0.204511	0.388815	1.475231
3.69	0.2644	-0.00162	3.15E-06	0.20441	0.388623	1.474949
3.69	0.2644	-0.00162	3.15E-06	0.204309	0.388432	1.474667
3.70	0.2644	-0.00162	3.15E-06	0.20421	0.388243	1.474388
3.70	0.2644	-0.00162	3.15E-06	0.20411	0.388054	1.47411
3.70	0.2644	-0.00162	3.15E-06	0.204012	0.387866	1.473833
3.70	0.2644	-0.00162	3.15E-06	0.203914	0.38768	1.473558
3.70	0.2644	-0.00162	3.15E-06	0.203816	0.387494	1.473284
3.70	0.2644	-0.00162	3.15E-06	0.203719	0.387309	1.473012
3.71	0.2644	-0.00162	3.15E-06	0.203622	0.387126	1.472742
3.71	0.2644	-0.00162	3.15E-06	0.203526	0.386943	1.472473
3.71	0.2644	-0.00162	3.15E-06	0.20343	0.386761	1.472205
3.71	0.2644	-0.00162	3.15E-06	0.203335	0.38658	1.471938
3.71	0.2644	-0.00162	3.15E-06	0.20324	0.3864	1.471674
3.72	0.2644	-0.00162	3.15E-06	0.203146	0.386221	1.47141
3.72	0.2644	-0.00162	3.15E-06	0.203053	0.386043	1.471148
3.72	0.2644	-0.00162	3.15E-06	0.202959	0.385866	1.470887
3.72	0.2644	-0.00162	3.15E-06	0.202866	0.385689	1.470627
3.72	0.2644	-0.00162	3.15E-06	0.202774	0.385514	1.470369
3.72	0.2644	-0.00162	3.15E-06	0.202682	0.385339	1.470112
3.73	0.2644	-0.00162	3.15E-06	0.202591	0.385165	1.469857
3.73	0.2644	-0.00162	3.15E-06	0.2025	0.384992	1.469603
3.73	0.2644	-0.00162	3.15E-06	0.202409	0.38482	1.46935
3.73	0.2644	-0.00162	3.15E-06	0.202319	0.384648	1.469098
3.73	0.2644	-0.00162	3.15E-06	0.202229	0.384478	1.468847
3.73	0.2644	-0.00162	3.15E-06	0.20214	0.384308	1.468598
3.73	0.2644	-0.00162	3.15E-06	0.202051	0.384139	1.46835
3.74	0.2644	-0.00162	3.15E-06	0.201963	0.383971	1.468103
3.74	0.2644	-0.00162	3.15E-06	0.201875	0.383804	1.467857
3.74	0.2644	-0.00162	3.15E-06	0.201787	0.383637	1.467612
3.74	0.2644	-0.00162	3.15E-06	0.2017	0.383471	1.467369
3.74	0.2644	-0.00162	3.15E-06	0.201613	0.383306	1.467127
3.74	0.2644	-0.00162	3.15E-06	0.201526	0.383142	1.466886
3.75	0.2644	-0.00162	3.15E-06	0.20144	0.382978	1.466646
3.75	0.2644	-0.00162	3.15E-06	0.201355	0.382815	1.466407
3.75	0.2644	-0.00162	3.15E-06	0.201269	0.382653	1.466169
3.75	0.2644	-0.00162	3.15E-06	0.201184	0.382491	1.465932
3.75	0.2644	-0.00162	3.15E-06	0.2011	0.382331	1.465697
3.75	0.2644	-0.00162	3.15E-06	0.201016	0.382171	1.465462
3.75	0.2644	-0.00162	3.15E-06	0.200932	0.382011	1.465229
3.76	0.2644	-0.00162	3.15E-06	0.200848	0.381853	1.464996
3.76	0.2644	-0.00162	3.15E-06	0.200765	0.381695	1.464765
3.76	0.2644	-0.00162	3.15E-06	0.200683	0.381537	1.464534
3.76	0.2644	-0.00162	3.15E-06	0.2006	0.381381	1.464305
3.76	0.2644	-0.00162	3.15E-06	0.200518	0.381225	1.464077
3.76	0.2644	-0.00162	3.15E-06	0.200437	0.381069	1.463849

3.76	0.2644	-0.00162	3.15E-06	0.200355	0.380915	1.463623
3.77	0.2644	-0.00162	3.15E-06	0.200274	0.380761	1.463397
3.77	0.2644	-0.00162	3.15E-06	0.200194	0.380607	1.463173
3.77	0.2644	-0.00162	3.15E-06	0.200113	0.380455	1.46295
3.77	0.2644	-0.00162	3.15E-06	0.200033	0.380303	1.462727
3.77	0.2644	-0.00162	3.15E-06	0.199954	0.380151	1.462506
3.77	0.2644	-0.00162	3.15E-06	0.199874	0.38	1.462285
3.77	0.2644	-0.00162	3.15E-06	0.199795	0.37985	1.462065
3.77	0.2644	-0.00162	3.15E-06	0.199716	0.3797	1.461846
3.78	0.2644	-0.00162	3.15E-06	0.199638	0.379551	1.461629
3.78	0.2644	-0.00162	3.15E-06	0.19956	0.379403	1.461412
3.78	0.2644	-0.00162	3.15E-06	0.199482	0.379255	1.461195
3.78	0.2644	-0.00162	3.15E-06	0.199405	0.379108	1.46098
3.78	0.2644	-0.00162	3.15E-06	0.199328	0.378961	1.460766
3.78	0.2644	-0.00162	3.15E-06	0.199251	0.378815	1.460553
3.78	0.2644	-0.00162	3.15E-06	0.199174	0.378669	1.46034
3.79	0.2644	-0.00162	3.15E-06	0.199098	0.378524	1.460128
3.79	0.2644	-0.00162	3.15E-06	0.199022	0.37838	1.459917
3.79	0.2644	-0.00162	3.15E-06	0.198946	0.378236	1.459707
3.79	0.2644	-0.00162	3.15E-06	0.198871	0.378093	1.459498
3.79	0.2644	-0.00162	3.15E-06	0.198796	0.37795	1.45929
3.79	0.2644	-0.00162	3.15E-06	0.198721	0.377808	1.459082
3.79	0.2644	-0.00162	3.15E-06	0.198646	0.377666	1.458875
3.79	0.2644	-0.00162	3.15E-06	0.198572	0.377525	1.458669
3.80	0.2644	-0.00162	3.15E-06	0.198498	0.377384	1.458464
3.80	0.2644	-0.00162	3.15E-06	0.198424	0.377244	1.45826
3.80	0.2644	-0.00162	3.15E-06	0.198351	0.377104	1.458056
3.80	0.2644	-0.00162	3.15E-06	0.198278	0.376965	1.457853
3.80	0.2644	-0.00162	3.15E-06	0.198205	0.376827	1.457651
3.80	0.2644	-0.00162	3.15E-06	0.198132	0.376688	1.45745
3.80	0.2644	-0.00162	3.15E-06	0.19806	0.376551	1.45725
3.80	0.2644	-0.00162	3.15E-06	0.197988	0.376414	1.45705
3.81	0.2644	-0.00162	3.15E-06	0.197916	0.376277	1.456851
3.81	0.2644	-0.00162	3.15E-06	0.197844	0.376141	1.456653
3.81	0.2644	-0.00162	3.15E-06	0.197773	0.376005	1.456455
3.81	0.2644	-0.00162	3.15E-06	0.197702	0.37587	1.456258
3.81	0.2644	-0.00162	3.15E-06	0.197631	0.375736	1.456062
3.81	0.2644	-0.00162	3.15E-06	0.19756	0.375601	1.455867
3.81	0.2644	-0.00162	3.15E-06	0.19749	0.375468	1.455672
3.81	0.2644	-0.00162	3.15E-06	0.19742	0.375334	1.455478
3.81	0.2644	-0.00162	3.15E-06	0.19735	0.375202	1.455285
3.82	0.2644	-0.00162	3.15E-06	0.197281	0.375069	1.455092
3.82	0.2644	-0.00162	3.15E-06	0.197211	0.374937	1.4549
3.82	0.2644	-0.00162	3.15E-06	0.197142	0.374806	1.454709
3.82	0.2644	-0.00162	3.15E-06	0.197073	0.374675	1.454519
3.82	0.2644	-0.00162	3.15E-06	0.197005	0.374544	1.454329
3.82	0.2644	-0.00162	3.15E-06	0.196936	0.374414	1.45414
3.82	0.2644	-0.00162	3.15E-06	0.196868	0.374285	1.453951
3.82	0.2644	-0.00162	3.15E-06	0.1968	0.374156	1.453763
3.82	0.2644	-0.00162	3.15E-06	0.196732	0.374027	1.453576

3.83	0.2644	-0.00162	3.15E-06	0.196665	0.373898	1.453389
3.83	0.2644	-0.00162	3.15E-06	0.196597	0.37377	1.453204
3.83	0.2644	-0.00162	3.15E-06	0.19653	0.373643	1.453018
3.83	0.2644	-0.00162	3.15E-06	0.196463	0.373516	1.452834
3.83	0.2644	-0.00162	3.15E-06	0.196397	0.373389	1.45265
3.83	0.2644	-0.00162	3.15E-06	0.19633	0.373263	1.452466
3.83	0.2644	-0.00162	3.15E-06	0.196264	0.373137	1.452283
3.83	0.2644	-0.00162	3.15E-06	0.196198	0.373012	1.452101
3.83	0.2644	-0.00162	3.15E-06	0.196133	0.372887	1.45192
3.84	0.2644	-0.00162	3.15E-06	0.196067	0.372762	1.451739
3.84	0.2644	-0.00162	3.15E-06	0.196002	0.372638	1.451558
3.84	0.2644	-0.00162	3.15E-06	0.195936	0.372514	1.451379
3.84	0.2644	-0.00162	3.15E-06	0.195872	0.372391	1.4512
3.84	0.2644	-0.00162	3.15E-06	0.195807	0.372267	1.451021
3.84	0.2644	-0.00162	3.15E-06	0.195742	0.372145	1.450843
3.84	0.2644	-0.00162	3.15E-06	0.195678	0.372023	1.450666
3.84	0.2644	-0.00162	3.15E-06	0.195614	0.371901	1.450489
3.84	0.2644	-0.00162	3.15E-06	0.19555	0.371779	1.450313
3.85	0.2644	-0.00162	3.15E-06	0.195486	0.371658	1.450137
3.85	0.2644	-0.00162	3.15E-06	0.195423	0.371537	1.449962
3.85	0.2644	-0.00162	3.15E-06	0.195359	0.371417	1.449787
3.85	0.2644	-0.00162	3.15E-06	0.195296	0.371297	1.449613
3.85	0.2644	-0.00162	3.15E-06	0.195233	0.371177	1.44944
3.85	0.2644	-0.00162	3.15E-06	0.195171	0.371058	1.449267
3.85	0.2644	-0.00162	3.15E-06	0.195108	0.370939	1.449095
3.85	0.2644	-0.00162	3.15E-06	0.195046	0.37082	1.448923
3.85	0.2644	-0.00162	3.15E-06	0.194984	0.370702	1.448751
3.85	0.2644	-0.00162	3.15E-06	0.194922	0.370584	1.448581
3.86	0.2644	-0.00162	3.15E-06	0.19486	0.370467	1.448411
3.86	0.2644	-0.00162	3.15E-06	0.194798	0.37035	1.448241
3.86	0.2644	-0.00162	3.15E-06	0.194737	0.370233	1.448072
3.86	0.2644	-0.00162	3.15E-06	0.194675	0.370116	1.447903
3.86	0.2644	-0.00162	3.15E-06	0.194614	0.37	1.447735
3.86	0.2644	-0.00162	3.15E-06	0.194553	0.369884	1.447567
3.86	0.2644	-0.00162	3.15E-06	0.194493	0.369769	1.4474
3.86	0.2644	-0.00162	3.15E-06	0.194432	0.369654	1.447234
3.86	0.2644	-0.00162	3.15E-06	0.194372	0.369539	1.447068
3.86	0.2644	-0.00162	3.15E-06	0.194312	0.369425	1.446902
3.86	0.2644	-0.00162	3.15E-06	0.194252	0.369311	1.446737
3.87	0.2644	-0.00162	3.15E-06	0.194192	0.369197	1.446572
3.87	0.2644	-0.00162	3.15E-06	0.194132	0.369083	1.446408
3.87	0.2644	-0.00162	3.15E-06	0.194073	0.36897	1.446245
3.87	0.2644	-0.00162	3.15E-06	0.194013	0.368857	1.446081
3.87	0.2644	-0.00162	3.15E-06	0.193954	0.368745	1.445919
3.87	0.2644	-0.00162	3.15E-06	0.193895	0.368633	1.445757
3.87	0.2644	-0.00162	3.15E-06	0.193836	0.368521	1.445595
3.87	0.2644	-0.00162	3.15E-06	0.193778	0.368409	1.445434
3.87	0.2644	-0.00162	3.15E-06	0.193719	0.368298	1.445273
3.87	0.2644	-0.00162	3.15E-06	0.193661	0.368187	1.445113
3.88	0.2644	-0.00162	3.15E-06	0.193603	0.368077	1.444953

3.88	0.2644	-0.00162	3.15E-06	0.193544	0.367966	1.444793
3.88	0.2644	-0.00162	3.15E-06	0.193487	0.367856	1.444634
3.88	0.2644	-0.00162	3.15E-06	0.193429	0.367747	1.444476
3.88	0.2644	-0.00162	3.15E-06	0.193371	0.367637	1.444318
3.88	0.2644	-0.00162	3.15E-06	0.193314	0.367528	1.44416
3.88	0.2644	-0.00162	3.15E-06	0.193257	0.367419	1.444003
3.88	0.2644	-0.00162	3.15E-06	0.1932	0.367311	1.443847
3.88	0.2644	-0.00162	3.15E-06	0.193143	0.367203	1.44369
3.88	0.2644	-0.00162	3.15E-06	0.193086	0.367095	1.443534
3.88	0.2644	-0.00162	3.15E-06	0.193029	0.366987	1.443379
3.88	0.2644	-0.00162	3.15E-06	0.192973	0.36688	1.443224
3.89	0.2644	-0.00162	3.15E-06	0.192917	0.366773	1.44307
3.89	0.2644	-0.00162	3.15E-06	0.19286	0.366666	1.442916
3.89	0.2644	-0.00162	3.15E-06	0.192804	0.366559	1.442762
3.89	0.2644	-0.00162	3.15E-06	0.192749	0.366453	1.442609
3.89	0.2644	-0.00162	3.15E-06	0.192693	0.366347	1.442456
3.89	0.2644	-0.00162	3.15E-06	0.192637	0.366241	1.442304
3.89	0.2644	-0.00162	3.15E-06	0.192582	0.366136	1.442152
3.89	0.2644	-0.00162	3.15E-06	0.192527	0.366031	1.442
3.89	0.2644	-0.00162	3.15E-06	0.192471	0.365926	1.441849
3.89	0.2644	-0.00162	3.15E-06	0.192416	0.365822	1.441698
3.89	0.2644	-0.00162	3.15E-06	0.192362	0.365717	1.441548
3.90	0.2644	-0.00162	3.15E-06	0.192307	0.365613	1.441398
3.90	0.2644	-0.00162	3.15E-06	0.192252	0.36551	1.441248
3.90	0.2644	-0.00162	3.15E-06	0.192198	0.365406	1.441099
3.90	0.2644	-0.00162	3.15E-06	0.192144	0.365303	1.44095
3.90	0.2644	-0.00162	3.15E-06	0.192089	0.3652	1.440802
3.90	0.2644	-0.00162	3.15E-06	0.192035	0.365097	1.440654
3.90	0.2644	-0.00162	3.15E-06	0.191982	0.364995	1.440506
3.90	0.2644	-0.00162	3.15E-06	0.191928	0.364893	1.440359
3.90	0.2644	-0.00162	3.15E-06	0.191874	0.364791	1.440212
3.90	0.2644	-0.00162	3.15E-06	0.191821	0.364689	1.440066
3.90	0.2644	-0.00162	3.15E-06	0.191767	0.364588	1.43992
3.90	0.2644	-0.00162	3.15E-06	0.191714	0.364486	1.439774
3.91	0.2644	-0.00162	3.15E-06	0.191661	0.364385	1.439629
3.91	0.2644	-0.00162	3.15E-06	0.191608	0.364285	1.439484
3.91	0.2644	-0.00162	3.15E-06	0.191555	0.364184	1.43934
3.91	0.2644	-0.00162	3.15E-06	0.191503	0.364084	1.439195
3.91	0.2644	-0.00162	3.15E-06	0.19145	0.363984	1.439052
3.91	0.2644	-0.00162	3.15E-06	0.191398	0.363885	1.438908
3.91	0.2644	-0.00162	3.15E-06	0.191345	0.363785	1.438765
3.91	0.2644	-0.00162	3.15E-06	0.191293	0.363686	1.438622
3.91	0.2644	-0.00162	3.15E-06	0.191241	0.363587	1.43848
3.91	0.2644	-0.00162	3.15E-06	0.191189	0.363488	1.438338
3.91	0.2644	-0.00162	3.15E-06	0.191137	0.36339	1.438196
3.91	0.2644	-0.00162	3.15E-06	0.191086	0.363292	1.438055
3.91	0.2644	-0.00162	3.15E-06	0.191034	0.363194	1.437914
3.92	0.2644	-0.00162	3.15E-06	0.190983	0.363096	1.437774
3.92	0.2644	-0.00162	3.15E-06	0.190931	0.362998	1.437633
3.92	0.2644	-0.00162	3.15E-06	0.19088	0.362901	1.437494

3.92	0.2644	-0.00162	3.15E-06	0.190829	0.362804	1.437354
3.92	0.2644	-0.00162	3.15E-06	0.190778	0.362707	1.437215
3.92	0.2644	-0.00162	3.15E-06	0.190727	0.36261	1.437076
3.92	0.2644	-0.00162	3.15E-06	0.190677	0.362514	1.436937
3.92	0.2644	-0.00162	3.15E-06	0.190626	0.362418	1.436799
3.92	0.2644	-0.00162	3.15E-06	0.190576	0.362322	1.436661
3.92	0.2644	-0.00162	3.15E-06	0.190525	0.362226	1.436524
3.92	0.2644	-0.00162	3.15E-06	0.190475	0.362131	1.436387
3.92	0.2644	-0.00162	3.15E-06	0.190425	0.362035	1.43625
3.92	0.2644	-0.00162	3.15E-06	0.190375	0.36194	1.436113
3.93	0.2644	-0.00162	3.15E-06	0.190325	0.361846	1.435977
3.93	0.2644	-0.00162	3.15E-06	0.190275	0.361751	1.435841
3.93	0.2644	-0.00162	3.15E-06	0.190226	0.361657	1.435706
3.93	0.2644	-0.00162	3.15E-06	0.190176	0.361562	1.435571
3.93	0.2644	-0.00162	3.15E-06	0.190127	0.361468	1.435436
3.93	0.2644	-0.00162	3.15E-06	0.190077	0.361375	1.435301
3.93	0.2644	-0.00162	3.15E-06	0.190028	0.361281	1.435167
3.93	0.2644	-0.00162	3.15E-06	0.189979	0.361188	1.435033
3.93	0.2644	-0.00162	3.15E-06	0.18993	0.361095	1.434899
3.93	0.2644	-0.00162	3.15E-06	0.189881	0.361002	1.434766
3.93	0.2644	-0.00162	3.15E-06	0.189832	0.360909	1.434633
3.93	0.2644	-0.00162	3.15E-06	0.189784	0.360816	1.4345
3.93	0.2644	-0.00162	3.15E-06	0.189735	0.360724	1.434368
3.94	0.2644	-0.00162	3.15E-06	0.189687	0.360632	1.434236
3.94	0.2644	-0.00162	3.15E-06	0.189638	0.36054	1.434104
3.94	0.2644	-0.00162	3.15E-06	0.18959	0.360449	1.433972
3.94	0.2644	-0.00162	3.15E-06	0.189542	0.360357	1.433841
3.94	0.2644	-0.00162	3.15E-06	0.189494	0.360266	1.43371
3.94	0.2644	-0.00162	3.15E-06	0.189446	0.360175	1.43358
3.94	0.2644	-0.00162	3.15E-06	0.189398	0.360084	1.43345
3.94	0.2644	-0.00162	3.15E-06	0.189351	0.359993	1.43332
3.94	0.2644	-0.00162	3.15E-06	0.189303	0.359903	1.43319
3.94	0.2644	-0.00162	3.15E-06	0.189256	0.359812	1.43306
3.94	0.2644	-0.00162	3.15E-06	0.189208	0.359722	1.432931
3.94	0.2644	-0.00162	3.15E-06	0.189161	0.359632	1.432803
3.94	0.2644	-0.00162	3.15E-06	0.189114	0.359543	1.432674
3.94	0.2644	-0.00162	3.15E-06	0.189067	0.359453	1.432546
3.95	0.2644	-0.00162	3.15E-06	0.18902	0.359364	1.432418
3.95	0.2644	-0.00162	3.15E-06	0.188973	0.359275	1.43229
3.95	0.2644	-0.00162	3.15E-06	0.188926	0.359186	1.432163
3.95	0.2644	-0.00162	3.15E-06	0.188879	0.359097	1.432036
3.95	0.2644	-0.00162	3.15E-06	0.188833	0.359008	1.431909
3.95	0.2644	-0.00162	3.15E-06	0.188786	0.35892	1.431782
3.95	0.2644	-0.00162	3.15E-06	0.18874	0.358832	1.431656
3.95	0.2644	-0.00162	3.15E-06	0.188694	0.358744	1.43153
3.95	0.2644	-0.00162	3.15E-06	0.188647	0.358656	1.431404
3.95	0.2644	-0.00162	3.15E-06	0.188601	0.358568	1.431279
3.95	0.2644	-0.00162	3.15E-06	0.188555	0.358481	1.431154
3.95	0.2644	-0.00162	3.15E-06	0.188509	0.358394	1.431029
3.95	0.2644	-0.00162	3.15E-06	0.188464	0.358306	1.430904

3.95	0.2644	-0.00162	3.15E-06	0.188418	0.35822	1.43078
3.96	0.2644	-0.00162	3.15E-06	0.188372	0.358133	1.430656
3.96	0.2644	-0.00162	3.15E-06	0.188327	0.358046	1.430532
3.96	0.2644	-0.00162	3.15E-06	0.188281	0.35796	1.430408
3.96	0.2644	-0.00162	3.15E-06	0.188236	0.357874	1.430285
3.96	0.2644	-0.00162	3.15E-06	0.188191	0.357788	1.430162
3.96	0.2644	-0.00162	3.15E-06	0.188146	0.357702	1.430039
3.96	0.2644	-0.00162	3.15E-06	0.1881	0.357616	1.429917
3.96	0.2644	-0.00162	3.15E-06	0.188056	0.357531	1.429794
3.96	0.2644	-0.00162	3.15E-06	0.188011	0.357445	1.429672
3.96	0.2644	-0.00162	3.15E-06	0.187966	0.35736	1.429551
3.96	0.2644	-0.00162	3.15E-06	0.187921	0.357275	1.429429
3.96	0.2644	-0.00162	3.15E-06	0.187877	0.35719	1.429308
3.96	0.2644	-0.00162	3.15E-06	0.187832	0.357106	1.429187
3.96	0.2644	-0.00162	3.15E-06	0.187788	0.357021	1.429066
3.96	0.2644	-0.00162	3.15E-06	0.187743	0.356937	1.428946
3.96	0.2644	-0.00162	3.15E-06	0.187699	0.356853	1.428826
3.97	0.2644	-0.00162	3.15E-06	0.187655	0.356769	1.428706
3.97	0.2644	-0.00162	3.15E-06	0.187611	0.356685	1.428586
3.97	0.2644	-0.00162	3.15E-06	0.187567	0.356601	1.428466
3.97	0.2644	-0.00162	3.15E-06	0.187523	0.356518	1.428347
3.97	0.2644	-0.00162	3.15E-06	0.187479	0.356435	1.428228
3.97	0.2644	-0.00162	3.15E-06	0.187435	0.356351	1.428109
3.97	0.2644	-0.00162	3.15E-06	0.187392	0.356268	1.427991
3.97	0.2644	-0.00162	3.15E-06	0.187348	0.356186	1.427873
3.97	0.2644	-0.00162	3.15E-06	0.187305	0.356103	1.427755
3.97	0.2644	-0.00162	3.15E-06	0.187261	0.35602	1.427637
3.97	0.2644	-0.00162	3.15E-06	0.187218	0.355938	1.427519
3.97	0.2644	-0.00162	3.15E-06	0.187175	0.355856	1.427402
3.97	0.2644	-0.00162	3.15E-06	0.187132	0.355774	1.427285
3.97	0.2644	-0.00162	3.15E-06	0.187088	0.355692	1.427168
3.97	0.2644	-0.00162	3.15E-06	0.187045	0.35561	1.427051
3.98	0.2644	-0.00162	3.15E-06	0.187003	0.355529	1.426935
3.98	0.2644	-0.00162	3.15E-06	0.18696	0.355447	1.426819
3.98	0.2644	-0.00162	3.15E-06	0.186917	0.355366	1.426703
3.98	0.2644	-0.00162	3.15E-06	0.186874	0.355285	1.426587
3.98	0.2644	-0.00162	3.15E-06	0.186832	0.355204	1.426472
3.98	0.2644	-0.00162	3.15E-06	0.186789	0.355123	1.426357
3.98	0.2644	-0.00162	3.15E-06	0.186747	0.355043	1.426242
3.98	0.2644	-0.00162	3.15E-06	0.186705	0.354962	1.426127
3.98	0.2644	-0.00162	3.15E-06	0.186662	0.354882	1.426012
3.98	0.2644	-0.00162	3.15E-06	0.18662	0.354802	1.425898
3.98	0.2644	-0.00162	3.15E-06	0.186578	0.354722	1.425784
3.98	0.2644	-0.00162	3.15E-06	0.186536	0.354642	1.42567
3.98	0.2644	-0.00162	3.15E-06	0.186494	0.354562	1.425556
3.98	0.2644	-0.00162	3.15E-06	0.186452	0.354483	1.425443
3.98	0.2644	-0.00162	3.15E-06	0.186411	0.354403	1.42533
3.98	0.2644	-0.00162	3.15E-06	0.186369	0.354324	1.425217
3.98	0.2644	-0.00162	3.15E-06	0.186327	0.354245	1.425104
3.99	0.2644	-0.00162	3.15E-06	0.186286	0.354166	1.424991

3.99	0.2644	-0.00162	3.15E-06	0.186244	0.354087	1.424879
3.99	0.2644	-0.00162	3.15E-06	0.186203	0.354008	1.424767
3.99	0.2644	-0.00162	3.15E-06	0.186161	0.35393	1.424655
3.99	0.2644	-0.00162	3.15E-06	0.18612	0.353851	1.424543
3.99	0.2644	-0.00162	3.15E-06	0.186079	0.353773	1.424432
3.99	0.2644	-0.00162	3.15E-06	0.186038	0.353695	1.424321
3.99	0.2644	-0.00162	3.15E-06	0.185997	0.353617	1.424209
3.99	0.2644	-0.00162	3.15E-06	0.185956	0.353539	1.424099
3.99	0.2644	-0.00162	3.15E-06	0.185915	0.353461	1.423988
3.99	0.2644	-0.00162	3.15E-06	0.185874	0.353384	1.423878
3.99	0.2644	-0.00162	3.15E-06	0.185834	0.353306	1.423767
3.99	0.2644	-0.00162	3.15E-06	0.185793	0.353229	1.423657
3.99	0.2644	-0.00162	3.15E-06	0.185752	0.353152	1.423547
3.99	0.2644	-0.00162	3.15E-06	0.185712	0.353075	1.423438
3.99	0.2644	-0.00162	3.15E-06	0.185671	0.352998	1.423328
4.00	0.2644	-0.00162	3.15E-06	0.185631	0.352921	1.423219
4.00	0.2644	-0.00162	3.15E-06	0.185591	0.352845	1.42311
4.00	0.2644	-0.00162	3.15E-06	0.185551	0.352768	1.423001
4.00	0.2644	-0.00162	3.15E-06	0.18551	0.352692	1.422893
4.00	0.2644	-0.00162	3.15E-06	0.18547	0.352616	1.422784
4.00	0.2644	-0.00162	3.15E-06	0.18543	0.35254	1.422676
4.00	0.2644	-0.00162	3.15E-06	0.18539	0.352464	1.422568
4.00	0.2644	-0.00162	3.15E-06	0.185351	0.352388	1.42246
4.00	0.2644	-0.00162	3.15E-06	0.185311	0.352312	1.422353
4.00	0.2644	-0.00162	3.15E-06	0.185271	0.352237	1.422245
4.00	0.2644	-0.00162	3.15E-06	0.185231	0.352161	1.422138
4.00	0.2644	-0.00162	3.15E-06	0.185192	0.352086	1.422031
4.00	0.2644	-0.00162	3.15E-06	0.185152	0.352011	1.421924
4.00	0.2644	-0.00162	3.15E-06	0.185113	0.351936	1.421818
4.00	0.2644	-0.00162	3.15E-06	0.185073	0.351861	1.421711
4.00	0.2644	-0.00162	3.15E-06	0.185034	0.351786	1.421605
4.00	0.2644	-0.00162	3.15E-06	0.184995	0.351712	1.421499
4.00	0.2644	-0.00162	3.15E-06	0.184956	0.351637	1.421393
4.01	0.2644	-0.00162	3.15E-06	0.184917	0.351563	1.421287
4.01	0.2644	-0.00162	3.15E-06	0.184878	0.351489	1.421182
4.01	0.2644	-0.00162	3.15E-06	0.184839	0.351415	1.421077
4.01	0.2644	-0.00162	3.15E-06	0.1848	0.351341	1.420971
4.01	0.2644	-0.00162	3.15E-06	0.184761	0.351267	1.420866
4.01	0.2644	-0.00162	3.15E-06	0.184722	0.351193	1.420762
4.01	0.2644	-0.00162	3.15E-06	0.184683	0.35112	1.420657
4.01	0.2644	-0.00162	3.15E-06	0.184645	0.351046	1.420553
4.01	0.2644	-0.00162	3.15E-06	0.184606	0.350973	1.420449
4.01	0.2644	-0.00162	3.15E-06	0.184568	0.3509	1.420345
4.01	0.2644	-0.00162	3.15E-06	0.184529	0.350826	1.420241
4.01	0.2644	-0.00162	3.15E-06	0.184491	0.350753	1.420137
4.01	0.2644	-0.00162	3.15E-06	0.184452	0.350681	1.420034
4.01	0.2644	-0.00162	3.15E-06	0.184414	0.350608	1.41993
4.01	0.2644	-0.00162	3.15E-06	0.184376	0.350535	1.419827
4.01	0.2644	-0.00162	3.15E-06	0.184338	0.350463	1.419724
4.01	0.2644	-0.00162	3.15E-06	0.1843	0.35039	1.419622

4.01	0.2644	-0.00162	3.15E-06	0.184262	0.350318	1.419519
4.02	0.2644	-0.00162	3.15E-06	0.184224	0.350246	1.419417
4.02	0.2644	-0.00162	3.15E-06	0.184186	0.350174	1.419314
4.02	0.2644	-0.00162	3.15E-06	0.184148	0.350102	1.419212
4.02	0.2644	-0.00162	3.15E-06	0.18411	0.35003	1.41911
4.02	0.2644	-0.00162	3.15E-06	0.184073	0.349959	1.419009
4.02	0.2644	-0.00162	3.15E-06	0.184035	0.349887	1.418907
4.02	0.2644	-0.00162	3.15E-06	0.183998	0.349816	1.418806
4.02	0.2644	-0.00162	3.15E-06	0.18396	0.349744	1.418705
4.02	0.2644	-0.00162	3.15E-06	0.183923	0.349673	1.418604
4.02	0.2644	-0.00162	3.15E-06	0.183885	0.349602	1.418503
4.02	0.2644	-0.00162	3.15E-06	0.183848	0.349531	1.418402
4.02	0.2644	-0.00162	3.15E-06	0.183811	0.34946	1.418302
4.02	0.2644	-0.00162	3.15E-06	0.183773	0.349389	1.418201
4.02	0.2644	-0.00162	3.15E-06	0.183736	0.349319	1.418101
4.02	0.2644	-0.00162	3.15E-06	0.183699	0.349248	1.418001
4.02	0.2644	-0.00162	3.15E-06	0.183662	0.349178	1.417902
4.02	0.2644	-0.00162	3.15E-06	0.183625	0.349108	1.417802
4.02	0.2644	-0.00162	3.15E-06	0.183588	0.349038	1.417702
4.02	0.2644	-0.00162	3.15E-06	0.183551	0.348967	1.417603
4.03	0.2644	-0.00162	3.15E-06	0.183515	0.348898	1.417504
4.03	0.2644	-0.00162	3.15E-06	0.183478	0.348828	1.417405
4.03	0.2644	-0.00162	3.15E-06	0.183441	0.348758	1.417306
4.03	0.2644	-0.00162	3.15E-06	0.183405	0.348688	1.417207
4.03	0.2644	-0.00162	3.15E-06	0.183368	0.348619	1.417109
4.03	0.2644	-0.00162	3.15E-06	0.183332	0.348549	1.417011
4.03	0.2644	-0.00162	3.15E-06	0.183295	0.34848	1.416912
4.03	0.2644	-0.00162	3.15E-06	0.183259	0.348411	1.416814
4.03	0.2644	-0.00162	3.15E-06	0.183222	0.348342	1.416717
4.03	0.2644	-0.00162	3.15E-06	0.183186	0.348273	1.416619
4.03	0.2644	-0.00162	3.15E-06	0.18315	0.348204	1.416521
4.03	0.2644	-0.00162	3.15E-06	0.183114	0.348135	1.416424
4.03	0.2644	-0.00162	3.15E-06	0.183078	0.348067	1.416327
4.03	0.2644	-0.00162	3.15E-06	0.183042	0.347998	1.41623
4.03	0.2644	-0.00162	3.15E-06	0.183006	0.34793	1.416133
4.03	0.2644	-0.00162	3.15E-06	0.18297	0.347861	1.416036
4.03	0.2644	-0.00162	3.15E-06	0.182934	0.347793	1.415939
4.03	0.2644	-0.00162	3.15E-06	0.182898	0.347725	1.415843
4.03	0.2644	-0.00162	3.15E-06	0.182862	0.347657	1.415747
4.03	0.2644	-0.00162	3.15E-06	0.182826	0.347589	1.415651
4.04	0.2644	-0.00162	3.15E-06	0.182791	0.347521	1.415555
4.04	0.2644	-0.00162	3.15E-06	0.182755	0.347454	1.415459
4.04	0.2644	-0.00162	3.15E-06	0.18272	0.347386	1.415363
4.04	0.2644	-0.00162	3.15E-06	0.182684	0.347319	1.415268
4.04	0.2644	-0.00162	3.15E-06	0.182649	0.347251	1.415172
4.04	0.2644	-0.00162	3.15E-06	0.182613	0.347184	1.415077
4.04	0.2644	-0.00162	3.15E-06	0.182578	0.347117	1.414982
4.04	0.2644	-0.00162	3.15E-06	0.182543	0.34705	1.414887
4.04	0.2644	-0.00162	3.15E-06	0.182508	0.346983	1.414792
4.04	0.2644	-0.00162	3.15E-06	0.182472	0.346916	1.414698

4.04	0.2644	-0.00162	3.15E-06	0.182437	0.346849	1.414603
4.04	0.2644	-0.00162	3.15E-06	0.182402	0.346783	1.414509
4.04	0.2644	-0.00162	3.15E-06	0.182367	0.346716	1.414415
4.04	0.2644	-0.00162	3.15E-06	0.182332	0.34665	1.414321
4.04	0.2644	-0.00162	3.15E-06	0.182297	0.346583	1.414227
4.04	0.2644	-0.00162	3.15E-06	0.182262	0.346517	1.414133
4.04	0.2644	-0.00162	3.15E-06	0.182228	0.346451	1.41404
4.04	0.2644	-0.00162	3.15E-06	0.182193	0.346385	1.413946
4.04	0.2644	-0.00162	3.15E-06	0.182158	0.346319	1.413853
4.04	0.2644	-0.00162	3.15E-06	0.182124	0.346253	1.41376
4.05	0.2644	-0.00162	3.15E-06	0.182089	0.346187	1.413667
4.05	0.2644	-0.00162	3.15E-06	0.182054	0.346121	1.413574
4.05	0.2644	-0.00162	3.15E-06	0.18202	0.346056	1.413481
4.05	0.2644	-0.00162	3.15E-06	0.181985	0.34599	1.413389
4.05	0.2644	-0.00162	3.15E-06	0.181951	0.345925	1.413296
4.05	0.2644	-0.00162	3.15E-06	0.181917	0.34586	1.413204
4.05	0.2644	-0.00162	3.15E-06	0.181882	0.345794	1.413112
4.05	0.2644	-0.00162	3.15E-06	0.181848	0.345729	1.41302
4.05	0.2644	-0.00162	3.15E-06	0.181814	0.345664	1.412928
4.05	0.2644	-0.00162	3.15E-06	0.18178	0.345599	1.412836
4.05	0.2644	-0.00162	3.15E-06	0.181746	0.345535	1.412745
4.05	0.2644	-0.00162	3.15E-06	0.181712	0.34547	1.412653
4.05	0.2644	-0.00162	3.15E-06	0.181678	0.345405	1.412562
4.05	0.2644	-0.00162	3.15E-06	0.181644	0.345341	1.412471
4.05	0.2644	-0.00162	3.15E-06	0.18161	0.345276	1.41238
4.05	0.2644	-0.00162	3.15E-06	0.181576	0.345212	1.412289
4.05	0.2644	-0.00162	3.15E-06	0.181542	0.345148	1.412198
4.05	0.2644	-0.00162	3.15E-06	0.181508	0.345083	1.412108
4.05	0.2644	-0.00162	3.15E-06	0.181475	0.345019	1.412017
4.05	0.2644	-0.00162	3.15E-06	0.181441	0.344955	1.411927
4.05	0.2644	-0.00162	3.15E-06	0.181407	0.344891	1.411837
4.06	0.2644	-0.00162	3.15E-06	0.181374	0.344828	1.411747
4.06	0.2644	-0.00162	3.15E-06	0.18134	0.344764	1.411657
4.06	0.2644	-0.00162	3.15E-06	0.181307	0.3447	1.411567
4.06	0.2644	-0.00162	3.15E-06	0.181274	0.344637	1.411477
4.06	0.2644	-0.00162	3.15E-06	0.18124	0.344573	1.411388

Location Index	
England and Wales	1
Scotland and Ireland	2

From Design and Analysis of Urban Storm Drainage, The Wallingford Procedure, Vol 1

Table 6.1 Values of Constants to calculate Cr

Geographic Location	**Range of M5-D**	**Location Index**	J0	J1	J2
England and Wales	0-10	1	0.1699	0.0028	0.000114
	11-30		0.1644	0.005831	-0.00013
	31-75		0.2644	-0.00162	3.15E-06
	76-150		0.2718	-0.00195	6.19E-06
	>150		0.1454	-0.00019	1.14E-07

Integra Consulting

Job No	Date
3139	16.11.21
Sheet	By
01	JS

Calculations

Job Title Aldi, Skelmersdale

Storm Water Flood Model

M5-60 = 19.90 r = 0.365 Return, T = 100 Area (m²) = 9138

CC Factor = 0.40 Limit (l/s) = 60.0

Totals 180 304

D (mins)	M5-D (mm)	MT-D (mm)	Rate (mm/hr)	Flow (l/s)	CC Flow (l/s)	Storage (m³)	CC Storage (m³)
10.00	10.16	19.51	117.06	295.24	413.34	141.14	212.00
15.00	12.17	23.76	95.05	239.72	335.61	161.75	248.05
20.00	13.66	26.97	80.90	204.04	285.66	172.85	270.79
25.00	14.86	29.54	70.90	178.81	250.34	178.22	285.51
30.00	15.86	31.70	63.39	159.89	223.84	179.80	294.92
35.00	16.72	33.56	57.53	145.08	203.12	178.68	300.55
40.00	17.48	35.19	52.79	133.14	186.39	175.53	303.35
45.00	18.17	36.66	48.87	123.26	172.57	170.81	303.94
50.00	18.79	37.98	45.57	114.94	160.92	164.83	302.76
55.00	19.37	39.19	42.75	107.82	150.95	157.81	300.13
60.00	19.90	40.30	40.30	101.64	142.30	149.91	296.28
65.00	20.40	41.33	38.15	96.23	134.72	141.28	291.39
70.00	20.86	42.29	36.25	91.43	128.00	132.01	285.62
75.00	21.30	43.19	34.56	87.15	122.01	122.18	279.06
80.00	21.72	44.04	33.03	83.31	116.63	111.87	271.82
85.00	22.11	44.84	31.65	79.83	111.76	101.12	263.96
90.00	22.49	45.59	30.40	76.66	107.33	89.98	255.57
95.00	22.85	46.31	29.25	73.77	103.28	78.49	246.68
100.00	23.19	46.99	28.20	71.11	99.56	66.68	237.35
105.00	23.53	47.64	27.23	68.66	96.13	54.59	227.62
110.00	23.85	48.27	26.33	66.40	92.96	42.23	217.52
115.00	24.15	48.86	25.49	64.29	90.01	29.62	207.07
120.00	24.45	49.43	24.71	62.33	87.27	16.80	196.32
125.00	24.74	49.98	23.99	60.50	84.70	3.77	185.28
130.00	25.02	50.50	23.31	58.79	82.30	-9.45	173.96
135.00	25.29	51.01	22.67	57.18	80.05	-22.86	162.40
140.00	25.55	51.50	22.07	55.66	77.93	-36.42	150.61
145.00	25.81	51.97	21.50	54.24	75.93	-50.15	138.59
150.00	26.05	52.42	20.97	52.89	74.04	-64.02	126.37
155.00	26.30	52.86	20.46	51.61	72.25	-78.03	113.96
160.00	26.53	53.29	19.98	50.40	70.56	-92.17	101.37
165.00	26.76	53.70	19.53	49.25	68.95	-106.43	88.60
170.00	26.99	54.10	19.09	48.16	67.42	-120.80	75.68
175.00	27.21	54.49	18.68	47.12	65.96	-135.29	62.60
180.00	27.42	54.86	18.29	46.12	64.57	-149.88	49.37
185.00	27.63	55.23	17.91	45.17	63.24	-164.56	36.01
190.00	27.84	55.58	17.55	44.27	61.97	-179.35	22.51
195.00	28.04	55.93	17.21	43.40	60.76	-194.22	8.90
200.00	28.24	56.26	16.88	42.57	59.60	-209.17	-4.84

205.00	28.44	56.59	16.56	41.77	58.48	-224.21	-18.70
210.00	28.63	56.91	16.26	41.01	57.41	-239.33	-32.66
215.00	28.81	57.21	15.97	40.27	56.38	-254.52	-46.73
220.00	29.00	57.52	15.69	39.56	55.39	-269.78	-60.89
225.00	29.18	57.81	15.42	38.88	54.43	-285.11	-75.15
230.00	29.36	58.10	15.16	38.22	53.51	-300.51	-89.51
235.00	29.53	58.38	14.90	37.59	52.63	-315.97	-103.95
240.00	29.70	58.65	14.66	36.98	51.77	-331.48	-118.48
245.00	29.87	58.92	14.43	36.39	50.95	-347.06	-133.09
250.00	30.04	59.18	14.20	35.82	50.15	-362.70	-147.78
255.00	30.20	59.43	13.98	35.27	49.38	-378.39	-162.54
260.00	30.36	59.68	13.77	34.74	48.63	-394.13	-177.38
265.00	30.52	59.92	13.57	34.22	47.91	-409.92	-192.28
270.00	30.68	60.16	13.37	33.72	47.21	-425.76	-207.26
275.00	30.83	60.39	13.18	33.23	46.53	-441.64	-222.30
280.00	30.99	60.62	12.99	32.76	45.87	-457.58	-237.41
285.00	31.14	61.08	12.86	32.43	45.40	-471.44	-249.62
290.00	31.29	61.33	12.69	32.00	44.80	-487.17	-264.43
295.00	31.43	61.58	12.52	31.59	44.22	-502.92	-279.29
300.00	31.58	61.82	12.36	31.18	43.66	-518.71	-294.19
305.00	31.72	62.06	12.21	30.79	43.11	-534.52	-309.13
310.00	31.86	62.30	12.06	30.41	42.57	-550.37	-324.12
315.00	32.00	62.53	11.91	30.04	42.06	-566.25	-339.14
320.00	32.14	62.76	11.77	29.68	41.55	-582.15	-354.21
325.00	32.27	62.99	11.63	29.33	41.06	-598.08	-369.31
330.00	32.41	63.22	11.49	28.99	40.58	-614.04	-384.45
335.00	32.54	63.44	11.36	28.66	40.12	-630.02	-399.63
340.00	32.67	63.66	11.23	28.33	39.66	-646.03	-414.84
345.00	32.80	63.87	11.11	28.02	39.22	-662.06	-430.08
350.00	32.93	64.09	10.99	27.71	38.79	-678.12	-445.36
355.00	33.06	64.30	10.87	27.41	38.37	-694.20	-460.67
360.00	33.18	64.51	10.75	27.12	37.96	-710.30	-476.02
365.00	33.31	64.71	10.64	26.83	37.56	-726.42	-491.39
370.00	33.43	64.92	10.53	26.55	37.17	-742.57	-506.79
375.00	33.55	65.12	10.42	26.28	36.79	-758.73	-522.23
380.00	33.67	65.32	10.31	26.01	36.42	-774.92	-537.69
385.00	33.79	65.52	10.21	25.75	36.05	-791.13	-553.18
390.00	33.91	65.71	10.11	25.50	35.70	-807.35	-568.69
395.00	34.03	65.91	10.01	25.25	35.35	-823.60	-584.23
400.00	34.14	66.10	9.91	25.01	35.01	-839.86	-599.80
405.00	34.26	66.29	9.82	24.77	34.68	-856.14	-615.40
410.00	34.37	66.48	9.73	24.54	34.35	-872.44	-631.01
415.00	34.49	66.66	9.64	24.31	34.03	-888.75	-646.66
420.00	34.60	66.84	9.55	24.08	33.72	-905.09	-662.32
425.00	34.71	67.03	9.46	23.87	33.41	-921.44	-678.01
430.00	34.82	67.21	9.38	23.65	33.11	-937.80	-693.72
435.00	34.93	67.38	9.29	23.44	32.82	-954.18	-709.46
440.00	35.04	67.56	9.21	23.24	32.53	-970.58	-725.21
445.00	35.14	67.74	9.13	23.03	32.25	-986.99	-740.99
450.00	35.25	67.91	9.05	22.84	31.97	-1003.42	-756.79

455.00	35.35	68.08	8.98	22.64	31.70	-1019.86	-772.61
460.00	35.46	68.25	8.90	22.45	31.43	-1036.32	-788.44
465.00	35.56	68.42	8.83	22.27	31.17	-1052.79	-804.30
470.00	35.66	68.59	8.76	22.08	30.92	-1069.27	-820.18
475.00	35.77	68.75	8.68	21.90	30.66	-1085.77	-836.07
480.00	35.87	68.92	8.61	21.73	30.42	-1102.28	-851.99
485.00	35.97	69.08	8.55	21.55	30.17	-1118.80	-867.92
490.00	36.07	69.24	8.48	21.38	29.94	-1135.33	-883.87
495.00	36.17	69.40	8.41	21.22	29.70	-1151.88	-899.84
500.00	36.26	69.56	8.35	21.05	29.47	-1168.44	-915.82
505.00	36.36	69.72	8.28	20.89	29.25	-1185.02	-931.82
510.00	36.46	69.87	8.22	20.73	29.02	-1201.60	-947.84
515.00	36.55	70.03	8.16	20.58	28.81	-1218.19	-963.87
520.00	36.65	70.18	8.10	20.42	28.59	-1234.80	-979.92
525.00	36.74	70.33	8.04	20.27	28.38	-1251.42	-995.99
530.00	36.84	70.48	7.98	20.12	28.17	-1268.05	-1012.07
535.00	36.93	70.63	7.92	19.98	27.97	-1284.69	-1028.16
540.00	37.02	70.78	7.86	19.84	27.77	-1301.34	-1044.28
545.00	37.11	70.93	7.81	19.69	27.57	-1318.00	-1060.40
550.00	37.21	71.08	7.75	19.56	27.38	-1334.67	-1076.54
555.00	37.30	71.22	7.70	19.42	27.19	-1351.35	-1092.69
560.00	37.39	71.36	7.65	19.28	27.00	-1368.04	-1108.86
565.00	37.48	71.51	7.59	19.15	26.81	-1384.74	-1125.04
570.00	37.56	71.65	7.54	19.02	26.63	-1401.45	-1141.24
575.00	37.65	71.79	7.49	18.89	26.45	-1418.17	-1157.44
580.00	37.74	71.93	7.44	18.77	26.27	-1434.90	-1173.67
585.00	37.83	72.07	7.39	18.64	26.10	-1451.64	-1189.90
590.00	37.91	72.21	7.34	18.52	25.93	-1468.39	-1206.14
595.00	38.00	72.34	7.30	18.40	25.76	-1485.15	-1222.40
600.00	38.09	72.48	7.25	18.28	25.59	-1501.91	-1238.67
605.00	38.17	72.62	7.20	18.16	25.43	-1518.68	-1254.96
610.00	38.25	72.75	7.16	18.05	25.27	-1535.47	-1271.25
615.00	38.34	72.88	7.11	17.93	25.11	-1552.26	-1287.56
620.00	38.42	73.02	7.07	17.82	24.95	-1569.05	-1303.88
625.00	38.50	73.15	7.02	17.71	24.79	-1585.86	-1320.20
630.00	38.59	73.28	6.98	17.60	24.64	-1602.67	-1336.54
635.00	38.67	73.41	6.94	17.49	24.49	-1619.50	-1352.90
640.00	38.75	73.54	6.89	17.39	24.34	-1636.33	-1369.26
645.00	38.83	73.66	6.85	17.28	24.20	-1653.16	-1385.63
650.00	38.91	73.79	6.81	17.18	24.05	-1670.01	-1402.01
655.00	38.99	73.92	6.77	17.08	23.91	-1686.86	-1418.41
660.00	39.07	74.04	6.73	16.98	23.77	-1703.72	-1434.81
665.00	39.15	74.17	6.69	16.88	23.63	-1720.59	-1451.23
670.00	39.23	74.29	6.65	16.78	23.49	-1737.46	-1467.65
675.00	39.31	74.42	6.61	16.68	23.36	-1754.34	-1484.08
680.00	39.38	74.54	6.58	16.59	23.22	-1771.23	-1500.53
685.00	39.46	74.66	6.54	16.49	23.09	-1788.13	-1516.98
690.00	39.54	74.78	6.50	16.40	22.96	-1805.03	-1533.44
695.00	39.61	74.90	6.47	16.31	22.83	-1821.94	-1549.91
700.00	39.69	75.02	6.43	16.22	22.70	-1838.85	-1566.39

705.00	39.77	75.14	6.39	16.13	22.58	-1855.77	-1582.88
710.00	39.84	75.26	6.36	16.04	22.46	-1872.70	-1599.38
715.00	39.92	75.37	6.33	15.95	22.33	-1889.64	-1615.89
720.00	39.99	75.49	6.29	15.87	22.21	-1906.58	-1632.41
725.00	40.07	75.61	6.26	15.78	22.09	-1923.52	-1648.93
730.00	40.14	75.72	6.22	15.70	21.98	-1940.48	-1665.47
735.00	40.21	75.84	6.19	15.61	21.86	-1957.43	-1682.01
740.00	40.29	75.95	6.16	15.53	21.74	-1974.40	-1698.56
745.00	40.36	76.06	6.13	15.45	21.63	-1991.37	-1715.12
750.00	40.43	76.18	6.09	15.37	21.52	-2008.34	-1731.68
755.00	40.50	76.29	6.06	15.29	21.41	-2025.33	-1748.26
760.00	40.57	76.40	6.03	15.21	21.30	-2042.31	-1764.84
765.00	40.64	76.51	6.00	15.13	21.19	-2059.31	-1781.43
770.00	40.72	76.62	5.97	15.06	21.08	-2076.31	-1798.03
775.00	40.79	76.73	5.94	14.98	20.98	-2093.31	-1814.63
780.00	40.86	76.84	5.91	14.91	20.87	-2110.32	-1831.25
785.00	40.93	76.95	5.88	14.83	20.77	-2127.33	-1847.87
790.00	41.00	77.06	5.85	14.76	20.66	-2144.35	-1864.49
795.00	41.06	77.17	5.82	14.69	20.56	-2161.38	-1881.13
800.00	41.13	77.27	5.80	14.62	20.46	-2178.41	-1897.77
805.00	41.20	77.38	5.77	14.55	20.36	-2195.44	-1914.42
810.00	41.27	77.48	5.74	14.48	20.27	-2212.48	-1931.08
815.00	41.34	77.59	5.71	14.41	20.17	-2229.53	-1947.74
820.00	41.41	77.69	5.68	14.34	20.07	-2246.58	-1964.41
825.00	41.47	77.80	5.66	14.27	19.98	-2263.63	-1981.09
830.00	41.54	77.90	5.63	14.20	19.88	-2280.69	-1997.77
835.00	41.61	78.00	5.61	14.14	19.79	-2297.76	-2014.46
840.00	41.67	78.11	5.58	14.07	19.70	-2314.83	-2031.16
845.00	41.74	78.21	5.55	14.01	19.61	-2331.90	-2047.86
850.00	41.80	78.31	5.53	13.94	19.52	-2348.98	-2064.57
855.00	41.87	78.41	5.50	13.88	19.43	-2366.06	-2081.29
860.00	41.94	78.51	5.48	13.81	19.34	-2383.15	-2098.01
865.00	42.00	78.61	5.45	13.75	19.25	-2400.24	-2114.74
870.00	42.06	78.71	5.43	13.69	19.17	-2417.34	-2131.47
875.00	42.13	78.81	5.40	13.63	19.08	-2434.44	-2148.21
880.00	42.19	78.91	5.38	13.57	19.00	-2451.54	-2164.96
885.00	42.26	79.01	5.36	13.51	18.91	-2468.65	-2181.71
890.00	42.32	79.10	5.33	13.45	18.83	-2485.77	-2198.47
895.00	42.38	79.20	5.31	13.39	18.75	-2502.88	-2215.24
900.00	42.45	79.30	5.29	13.33	18.67	-2520.00	-2232.01
905.00	42.51	79.40	5.26	13.28	18.59	-2537.13	-2248.78
910.00	42.57	79.49	5.24	13.22	18.51	-2554.26	-2265.56
915.00	42.63	79.59	5.22	13.16	18.43	-2571.39	-2282.35
920.00	42.70	79.68	5.20	13.11	18.35	-2588.53	-2299.14
925.00	42.76	79.78	5.17	13.05	18.27	-2605.67	-2315.94
930.00	42.82	79.87	5.15	13.00	18.19	-2622.82	-2332.75
935.00	42.88	79.96	5.13	12.94	18.12	-2639.97	-2349.56
940.00	42.94	80.06	5.11	12.89	18.04	-2657.12	-2366.37
945.00	43.00	80.15	5.09	12.83	17.97	-2674.28	-2383.19
950.00	43.06	80.24	5.07	12.78	17.89	-2691.44	-2400.02

955.00	43.12	80.33	5.05	12.73	17.82	-2708.60	-2416.85
960.00	43.18	80.43	5.03	12.68	17.75	-2725.77	-2433.68
965.00	43.24	80.52	5.01	12.63	17.68	-2742.94	-2450.52
970.00	43.30	80.61	4.99	12.58	17.61	-2760.12	-2467.37
975.00	43.36	80.70	4.97	12.52	17.53	-2777.30	-2484.22
980.00	43.42	80.79	4.95	12.47	17.46	-2794.48	-2501.07
985.00	43.48	80.88	4.93	12.43	17.40	-2811.67	-2517.93
990.00	43.54	80.97	4.91	12.38	17.33	-2828.86	-2534.80
995.00	43.60	81.06	4.89	12.33	17.26	-2846.05	-2551.67
1000.00	43.66	81.14	4.87	12.28	17.19	-2863.25	-2568.54
1005.00	43.71	81.23	4.85	12.23	17.12	-2880.44	-2585.42
1010.00	43.77	81.32	4.83	12.18	17.06	-2897.65	-2602.31
1015.00	43.83	81.41	4.81	12.14	16.99	-2914.85	-2619.20
1020.00	43.89	81.50	4.79	12.09	16.93	-2932.06	-2636.09
1025.00	43.94	81.58	4.78	12.04	16.86	-2949.28	-2652.99
1030.00	44.00	81.67	4.76	12.00	16.80	-2966.49	-2669.89
1035.00	44.06	81.75	4.74	11.95	16.73	-2983.71	-2686.80
1040.00	44.11	81.84	4.72	11.91	16.67	-3000.93	-2703.71
1045.00	44.17	81.93	4.70	11.86	16.61	-3018.16	-2720.62
1050.00	44.23	82.01	4.69	11.82	16.55	-3035.39	-2737.54
1055.00	44.28	82.09	4.67	11.78	16.49	-3052.62	-2754.47
1060.00	44.34	82.18	4.65	11.73	16.42	-3069.85	-2771.40
1065.00	44.39	82.26	4.63	11.69	16.36	-3087.09	-2788.33
1070.00	44.45	82.35	4.62	11.65	16.30	-3104.33	-2805.27
1075.00	44.50	82.43	4.60	11.60	16.24	-3121.58	-2822.21
1080.00	44.56	82.51	4.58	11.56	16.19	-3138.82	-2839.15
1085.00	44.61	82.60	4.57	11.52	16.13	-3156.07	-2856.10
1090.00	44.67	82.68	4.55	11.48	16.07	-3173.33	-2873.06
1095.00	44.72	82.76	4.53	11.44	16.01	-3190.58	-2890.01
1100.00	44.78	82.84	4.52	11.40	15.95	-3207.84	-2906.98
1105.00	44.83	82.92	4.50	11.36	15.90	-3225.10	-2923.94
1110.00	44.88	83.00	4.49	11.32	15.84	-3242.36	-2940.91
1115.00	44.94	83.08	4.47	11.28	15.79	-3259.63	-2957.88
1120.00	44.99	83.17	4.46	11.24	15.73	-3276.90	-2974.86
1125.00	45.05	83.25	4.44	11.20	15.68	-3294.17	-2991.84
1130.00	45.10	83.33	4.42	11.16	15.62	-3311.45	-3008.83
1135.00	45.15	83.40	4.41	11.12	15.57	-3328.73	-3025.82
1140.00	45.20	83.48	4.39	11.08	15.51	-3346.01	-3042.81
1145.00	45.26	83.56	4.38	11.04	15.46	-3363.29	-3059.80
1150.00	45.31	83.64	4.36	11.01	15.41	-3380.57	-3076.80
1155.00	45.36	83.72	4.35	10.97	15.36	-3397.86	-3093.81
1160.00	45.41	83.80	4.33	10.93	15.30	-3415.15	-3110.82
1165.00	45.47	83.88	4.32	10.89	15.25	-3432.45	-3127.83
1170.00	45.52	83.95	4.31	10.86	15.20	-3449.74	-3144.84
1175.00	45.57	84.03	4.29	10.82	15.15	-3467.04	-3161.86
1180.00	45.62	84.11	4.28	10.79	15.10	-3484.34	-3178.88
1185.00	45.67	84.18	4.26	10.75	15.05	-3501.65	-3195.90
1190.00	45.72	84.26	4.25	10.71	15.00	-3518.95	-3212.93
1195.00	45.77	84.34	4.23	10.68	14.95	-3536.26	-3229.96
1200.00	45.83	84.41	4.22	10.64	14.90	-3553.57	-3247.00

1205.00	45.88	84.49	4.21	10.61	14.85	-3570.88	-3264.04
1210.00	45.93	84.56	4.19	10.58	14.81	-3588.20	-3281.08
1215.00	45.98	84.64	4.18	10.54	14.76	-3605.52	-3298.13
1220.00	46.03	84.71	4.17	10.51	14.71	-3622.84	-3315.17
1225.00	46.08	84.79	4.15	10.47	14.66	-3640.16	-3332.23
1230.00	46.13	84.86	4.14	10.44	14.62	-3657.49	-3349.28
1235.00	46.18	84.94	4.13	10.41	14.57	-3674.81	-3366.34
1240.00	46.23	85.01	4.11	10.37	14.52	-3692.14	-3383.40
1245.00	46.28	85.08	4.10	10.34	14.48	-3709.47	-3400.46
1250.00	46.33	85.16	4.09	10.31	14.43	-3726.81	-3417.53
1255.00	46.37	85.23	4.07	10.28	14.39	-3744.15	-3434.60
1260.00	46.42	85.30	4.06	10.24	14.34	-3761.48	-3451.68
1265.00	46.47	85.38	4.05	10.21	14.30	-3778.82	-3468.75
1270.00	46.52	85.45	4.04	10.18	14.25	-3796.17	-3485.84
1275.00	46.57	85.52	4.02	10.15	14.21	-3813.51	-3502.92
1280.00	46.62	85.59	4.01	10.12	14.17	-3830.86	-3520.00
1285.00	46.67	85.66	4.00	10.09	14.12	-3848.21	-3537.09
1290.00	46.71	85.74	3.99	10.06	14.08	-3865.56	-3554.19
1295.00	46.76	85.81	3.98	10.03	14.04	-3882.92	-3571.28
1300.00	46.81	85.88	3.96	10.00	14.00	-3900.27	-3588.38
1305.00	46.86	85.95	3.95	9.97	13.95	-3917.63	-3605.48
1310.00	46.91	86.02	3.94	9.94	13.91	-3934.99	-3622.59
1315.00	46.95	86.09	3.93	9.91	13.87	-3952.35	-3639.69
1320.00	47.00	86.16	3.92	9.88	13.83	-3969.72	-3656.80
1325.00	47.05	86.23	3.90	9.85	13.79	-3987.08	-3673.91
1330.00	47.09	86.30	3.89	9.82	13.75	-4004.45	-3691.03
1335.00	47.14	86.37	3.88	9.79	13.71	-4021.82	-3708.15
1340.00	47.19	86.44	3.87	9.76	13.67	-4039.19	-3725.27
1345.00	47.24	86.51	3.86	9.73	13.63	-4056.57	-3742.39
1350.00	47.28	86.57	3.85	9.70	13.59	-4073.94	-3759.52
1355.00	47.33	86.64	3.84	9.68	13.55	-4091.32	-3776.65
1360.00	47.37	86.71	3.83	9.65	13.51	-4108.70	-3793.78
1365.00	47.42	86.78	3.81	9.62	13.47	-4126.08	-3810.92
1370.00	47.47	86.85	3.80	9.59	13.43	-4143.47	-3828.05
1375.00	47.51	86.92	3.79	9.57	13.39	-4160.85	-3845.19
1380.00	47.56	86.98	3.78	9.54	13.35	-4178.24	-3862.33
1385.00	47.60	87.05	3.77	9.51	13.32	-4195.63	-3879.48
1390.00	47.65	87.12	3.76	9.48	13.28	-4213.02	-3896.63
1395.00	47.70	87.18	3.75	9.46	13.24	-4230.41	-3913.78
1400.00	47.74	87.25	3.74	9.43	13.20	-4247.81	-3930.93
1405.00	47.79	87.32	3.73	9.40	13.17	-4265.20	-3948.09
1410.00	47.83	87.38	3.72	9.38	13.13	-4282.60	-3965.24
1415.00	47.88	87.45	3.71	9.35	13.09	-4300.00	-3982.41
1420.00	47.92	87.51	3.70	9.33	13.06	-4317.41	-3999.57
1425.00	47.97	87.58	3.69	9.30	13.02	-4334.81	-4016.73
1430.00	48.01	87.65	3.68	9.27	12.98	-4352.22	-4033.90
1435.00	48.05	87.71	3.67	9.25	12.95	-4369.62	-4051.07
1440.00	48.10	87.78	3.66	9.22	12.91	-4387.03	-4068.25
1445.00	48.14	87.84	3.65	9.20	12.88	-4404.44	-4085.42
1450.00	48.19	87.91	3.64	9.17	12.84	-4421.86	-4102.60

1455.00	48.23	87.97	3.63	9.15	12.81	-4439.27	-4119.78
1460.00	48.28	88.03	3.62	9.12	12.77	-4456.69	-4136.96
1465.00	48.32	88.10	3.61	9.10	12.74	-4474.10	-4154.15
1470.00	48.36	88.16	3.60	9.08	12.71	-4491.52	-4171.33
1475.00	48.41	88.23	3.59	9.05	12.67	-4508.94	-4188.52
1480.00	48.45	88.29	3.58	9.03	12.64	-4526.37	-4205.71
1485.00	48.49	88.35	3.57	9.00	12.60	-4543.79	-4222.91
1490.00	48.54	88.42	3.56	8.98	12.57	-4561.22	-4240.11
1495.00	48.58	88.48	3.55	8.96	12.54	-4578.65	-4257.30
1500.00	48.62	88.54	3.54	8.93	12.51	-4596.08	-4274.51
1505.00	48.67	88.61	3.53	8.91	12.47	-4613.51	-4291.71
1510.00	48.71	88.67	3.52	8.89	12.44	-4630.94	-4308.91
1515.00	48.75	88.73	3.51	8.86	12.41	-4648.37	-4326.12
1520.00	48.79	88.79	3.50	8.84	12.38	-4665.81	-4343.33
1525.00	48.84	88.85	3.50	8.82	12.34	-4683.25	-4360.54
1530.00	48.88	88.92	3.49	8.79	12.31	-4700.68	-4377.76
1535.00	48.92	88.98	3.48	8.77	12.28	-4718.12	-4394.97
1540.00	48.96	89.04	3.47	8.75	12.25	-4735.57	-4412.19
1545.00	49.01	89.10	3.46	8.73	12.22	-4753.01	-4429.41
1550.00	49.05	89.16	3.45	8.70	12.19	-4770.45	-4446.64
1555.00	49.09	89.22	3.44	8.68	12.16	-4787.90	-4463.86
1560.00	49.13	89.28	3.43	8.66	12.13	-4805.35	-4481.09
1565.00	49.17	89.34	3.43	8.64	12.09	-4822.80	-4498.32
1570.00	49.21	89.40	3.42	8.62	12.06	-4840.25	-4515.55
1575.00	49.26	89.46	3.41	8.60	12.03	-4857.70	-4532.78
1580.00	49.30	89.53	3.40	8.57	12.00	-4875.16	-4550.02
1585.00	49.34	89.59	3.39	8.55	11.97	-4892.61	-4567.26
1590.00	49.38	89.64	3.38	8.53	11.94	-4910.07	-4584.49
1595.00	49.42	89.70	3.37	8.51	11.91	-4927.53	-4601.74
1600.00	49.46	89.76	3.37	8.49	11.89	-4944.99	-4618.98
1605.00	49.50	89.82	3.36	8.47	11.86	-4962.45	-4636.23
1610.00	49.54	89.88	3.35	8.45	11.83	-4979.91	-4653.47
1615.00	49.59	89.94	3.34	8.43	11.80	-4997.37	-4670.72
1620.00	49.63	90.00	3.33	8.41	11.77	-5014.84	-4687.97
1625.00	49.67	90.06	3.33	8.39	11.74	-5032.30	-4705.23
1630.00	49.71	90.12	3.32	8.37	11.71	-5049.77	-4722.48
1635.00	49.75	90.18	3.31	8.35	11.68	-5067.24	-4739.74
1640.00	49.79	90.23	3.30	8.33	11.66	-5084.71	-4757.00
1645.00	49.83	90.29	3.29	8.31	11.63	-5102.19	-4774.26
1650.00	49.87	90.35	3.29	8.29	11.60	-5119.66	-4791.52
1655.00	49.91	90.41	3.28	8.27	11.57	-5137.13	-4808.79
1660.00	49.95	90.47	3.27	8.25	11.55	-5154.61	-4826.05
1665.00	49.99	90.52	3.26	8.23	11.52	-5172.09	-4843.32
1670.00	50.03	90.58	3.25	8.21	11.49	-5189.57	-4860.59
1675.00	50.07	90.64	3.25	8.19	11.46	-5207.05	-4877.87
1680.00	50.11	90.70	3.24	8.17	11.44	-5224.53	-4895.14
1685.00	50.15	90.75	3.23	8.15	11.41	-5242.01	-4912.42
1690.00	50.19	90.81	3.22	8.13	11.38	-5259.50	-4929.69
1695.00	50.22	90.87	3.22	8.11	11.36	-5276.98	-4946.97
1700.00	50.26	90.92	3.21	8.09	11.33	-5294.47	-4964.25

1705.00	50.30	90.98	3.20	8.07	11.30	-5311.96	-4981.54
1710.00	50.34	91.04	3.19	8.06	11.28	-5329.44	-4998.82
1715.00	50.38	91.09	3.19	8.04	11.25	-5346.94	-5016.11
1720.00	50.42	91.15	3.18	8.02	11.23	-5364.43	-5033.40
1725.00	50.46	91.20	3.17	8.00	11.20	-5381.92	-5050.69
1730.00	50.50	91.26	3.17	7.98	11.18	-5399.41	-5067.98
1735.00	50.54	91.31	3.16	7.96	11.15	-5416.91	-5085.27
1740.00	50.57	91.37	3.15	7.95	11.12	-5434.41	-5102.57
1745.00	50.61	91.43	3.14	7.93	11.10	-5451.90	-5119.87
1750.00	50.65	91.48	3.14	7.91	11.07	-5469.40	-5137.16
1755.00	50.69	91.54	3.13	7.89	11.05	-5486.90	-5154.47
1760.00	50.73	91.59	3.12	7.87	11.02	-5504.41	-5171.77
1765.00	50.77	91.64	3.12	7.86	11.00	-5521.91	-5189.07
1770.00	50.80	91.70	3.11	7.84	10.98	-5539.41	-5206.38
1775.00	50.84	91.75	3.10	7.82	10.95	-5556.92	-5223.68
1780.00	50.88	91.81	3.09	7.81	10.93	-5574.42	-5240.99
1785.00	50.92	91.86	3.09	7.79	10.90	-5591.93	-5258.30
1790.00	50.96	91.92	3.08	7.77	10.88	-5609.44	-5275.62
1795.00	50.99	91.97	3.07	7.75	10.85	-5626.95	-5292.93
1800.00	51.03	92.02	3.07	7.74	10.83	-5644.46	-5310.25
1805.00	51.07	92.08	3.06	7.72	10.81	-5661.97	-5327.56
1810.00	51.11	92.13	3.05	7.70	10.78	-5679.49	-5344.88
1815.00	51.14	92.19	3.05	7.69	10.76	-5697.00	-5362.20
1820.00	51.18	92.24	3.04	7.67	10.74	-5714.52	-5379.52
1825.00	51.22	92.29	3.03	7.65	10.71	-5732.03	-5396.85
1830.00	51.26	92.35	3.03	7.64	10.69	-5749.55	-5414.17
1835.00	51.29	92.40	3.02	7.62	10.67	-5767.07	-5431.50
1840.00	51.33	92.45	3.01	7.60	10.64	-5784.59	-5448.83
1845.00	51.37	92.50	3.01	7.59	10.62	-5802.11	-5466.16
1850.00	51.40	92.56	3.00	7.57	10.60	-5819.63	-5483.49
1855.00	51.44	92.61	3.00	7.55	10.58	-5837.16	-5500.82
1860.00	51.48	92.66	2.99	7.54	10.55	-5854.68	-5518.15
1865.00	51.51	92.71	2.98	7.52	10.53	-5872.21	-5535.49
1870.00	51.55	92.77	2.98	7.51	10.51	-5889.73	-5552.83
1875.00	51.59	92.82	2.97	7.49	10.49	-5907.26	-5570.16
1880.00	51.62	92.87	2.96	7.48	10.47	-5924.79	-5587.50
1885.00	51.66	92.92	2.96	7.46	10.44	-5942.32	-5604.85
1890.00	51.70	92.97	2.95	7.44	10.42	-5959.85	-5622.19
1895.00	51.73	93.02	2.95	7.43	10.40	-5977.38	-5639.53
1900.00	51.77	93.08	2.94	7.41	10.38	-5994.91	-5656.88
1905.00	51.80	93.13	2.93	7.40	10.36	-6012.45	-5674.23
1910.00	51.84	93.18	2.93	7.38	10.34	-6029.98	-5691.58
1915.00	51.88	93.23	2.92	7.37	10.31	-6047.52	-5708.93
1920.00	51.91	93.28	2.92	7.35	10.29	-6065.06	-5726.28
1925.00	51.95	93.33	2.91	7.34	10.27	-6082.59	-5743.63
1930.00	51.98	93.38	2.90	7.32	10.25	-6100.13	-5760.99
1935.00	52.02	93.43	2.90	7.31	10.23	-6117.67	-5778.34
1940.00	52.05	93.48	2.89	7.29	10.21	-6135.22	-5795.70
1945.00	52.09	93.53	2.89	7.28	10.19	-6152.76	-5813.06
1950.00	52.13	93.58	2.88	7.26	10.17	-6170.30	-5830.42

1955.00	52.16	93.63	2.87	7.25	10.15	-6187.84	-5847.78
1960.00	52.20	93.68	2.87	7.23	10.13	-6205.39	-5865.15
1965.00	52.23	93.73	2.86	7.22	10.11	-6222.94	-5882.51
1970.00	52.27	93.78	2.86	7.20	10.09	-6240.48	-5899.88
1975.00	52.30	93.83	2.85	7.19	10.07	-6258.03	-5917.24
1980.00	52.34	93.88	2.84	7.18	10.05	-6275.58	-5934.61
1985.00	52.37	93.93	2.84	7.16	10.03	-6293.13	-5951.98
1990.00	52.41	93.98	2.83	7.15	10.01	-6310.68	-5969.35
1995.00	52.44	94.03	2.83	7.13	9.99	-6328.23	-5986.73
2000.00	52.48	94.08	2.82	7.12	9.97	-6345.79	-6004.10
2005.00	52.51	94.13	2.82	7.10	9.95	-6363.34	-6021.48
2010.00	52.55	94.18	2.81	7.09	9.93	-6380.89	-6038.85
2015.00	52.58	94.23	2.81	7.08	9.91	-6398.45	-6056.23
2020.00	52.61	94.28	2.80	7.06	9.89	-6416.01	-6073.61
2025.00	52.65	94.33	2.79	7.05	9.87	-6433.56	-6090.99
2030.00	52.68	94.37	2.79	7.04	9.85	-6451.12	-6108.37
2035.00	52.72	94.42	2.78	7.02	9.83	-6468.68	-6125.75
2040.00	52.75	94.47	2.78	7.01	9.81	-6486.24	-6143.14
2045.00	52.79	94.52	2.77	6.99	9.79	-6503.80	-6160.52
2050.00	52.82	94.57	2.77	6.98	9.77	-6521.37	-6177.91
2055.00	52.85	94.62	2.76	6.97	9.75	-6538.93	-6195.30
2060.00	52.89	94.66	2.76	6.95	9.74	-6556.49	-6212.69
2065.00	52.92	94.71	2.75	6.94	9.72	-6574.06	-6230.08
2070.00	52.96	94.76	2.75	6.93	9.70	-6591.62	-6247.47
2075.00	52.99	94.81	2.74	6.91	9.68	-6609.19	-6264.87
2080.00	53.02	94.86	2.74	6.90	9.66	-6626.76	-6282.26
2085.00	53.06	94.90	2.73	6.89	9.64	-6644.33	-6299.66
2090.00	53.09	94.95	2.73	6.87	9.62	-6661.89	-6317.05
2095.00	53.12	95.00	2.72	6.86	9.61	-6679.46	-6334.45
2100.00	53.16	95.05	2.72	6.85	9.59	-6697.04	-6351.85
2105.00	53.19	95.09	2.71	6.84	9.57	-6714.61	-6369.25
2110.00	53.23	95.14	2.71	6.82	9.55	-6732.18	-6386.65
2115.00	53.26	95.19	2.70	6.81	9.53	-6749.75	-6404.06
2120.00	53.29	95.23	2.70	6.80	9.52	-6767.33	-6421.46
2125.00	53.33	95.28	2.69	6.79	9.50	-6784.90	-6438.87
2130.00	53.36	95.33	2.69	6.77	9.48	-6802.48	-6456.27
2135.00	53.39	95.37	2.68	6.76	9.46	-6820.06	-6473.68
2140.00	53.42	95.42	2.68	6.75	9.45	-6837.64	-6491.09
2145.00	53.46	95.47	2.67	6.73	9.43	-6855.21	-6508.50
2150.00	53.49	95.51	2.67	6.72	9.41	-6872.79	-6525.91
2155.00	53.52	95.56	2.66	6.71	9.39	-6890.37	-6543.32
2160.00	53.56	95.60	2.66	6.70	9.38	-6907.95	-6560.74
2165.00	53.59	95.65	2.65	6.69	9.36	-6925.54	-6578.15
2170.00	53.62	95.70	2.65	6.67	9.34	-6943.12	-6595.57
2175.00	53.65	95.74	2.64	6.66	9.33	-6960.70	-6612.98
2180.00	53.69	95.79	2.64	6.65	9.31	-6978.29	-6630.40
2185.00	53.72	95.83	2.63	6.64	9.29	-6995.87	-6647.82
2190.00	53.75	95.88	2.63	6.63	9.28	-7013.46	-6665.24
2195.00	53.78	95.93	2.62	6.61	9.26	-7031.05	-6682.66
2200.00	53.82	95.97	2.62	6.60	9.24	-7048.63	-6700.09

2205.00	53.85	96.02	2.61	6.59	9.23	-7066.22	-6717.51
2210.00	53.88	96.06	2.61	6.58	9.21	-7083.81	-6734.94
2215.00	53.91	96.11	2.60	6.57	9.19	-7101.40	-6752.36
2220.00	53.95	96.15	2.60	6.55	9.18	-7118.99	-6769.79
2225.00	53.98	96.20	2.59	6.54	9.16	-7136.58	-6787.22
2230.00	54.01	96.24	2.59	6.53	9.14	-7154.18	-6804.65
2235.00	54.04	96.29	2.58	6.52	9.13	-7171.77	-6822.08
2240.00	54.07	96.33	2.58	6.51	9.11	-7189.36	-6839.51
2245.00	54.11	96.38	2.58	6.50	9.09	-7206.96	-6856.94
2250.00	54.14	96.42	2.57	6.48	9.08	-7224.55	-6874.37
2255.00	54.17	96.46	2.57	6.47	9.06	-7242.15	-6891.81
2260.00	54.20	96.51	2.56	6.46	9.05	-7259.75	-6909.25
2265.00	54.23	96.55	2.56	6.45	9.03	-7277.34	-6926.68
2270.00	54.27	96.60	2.55	6.44	9.02	-7294.94	-6944.12
2275.00	54.30	96.64	2.55	6.43	9.00	-7312.54	-6961.56
2280.00	54.33	96.69	2.54	6.42	8.98	-7330.14	-6979.00
2285.00	54.36	96.73	2.54	6.41	8.97	-7347.74	-6996.44
2290.00	54.39	96.77	2.54	6.39	8.95	-7365.34	-7013.88
2295.00	54.42	96.82	2.53	6.38	8.94	-7382.95	-7031.33
2300.00	54.45	96.86	2.53	6.37	8.92	-7400.55	-7048.77
2305.00	54.49	96.90	2.52	6.36	8.91	-7418.15	-7066.21
2310.00	54.52	96.95	2.52	6.35	8.89	-7435.76	-7083.66
2315.00	54.55	96.99	2.51	6.34	8.88	-7453.36	-7101.11
2320.00	54.58	97.04	2.51	6.33	8.86	-7470.97	-7118.56
2325.00	54.61	97.08	2.51	6.32	8.85	-7488.58	-7136.01
2330.00	54.64	97.12	2.50	6.31	8.83	-7506.18	-7153.46
2335.00	54.67	97.16	2.50	6.30	8.82	-7523.79	-7170.91
2340.00	54.70	97.21	2.49	6.29	8.80	-7541.40	-7188.36
2345.00	54.73	97.25	2.49	6.28	8.79	-7559.01	-7205.81
2350.00	54.76	97.29	2.48	6.27	8.77	-7576.62	-7223.27
2355.00	54.80	97.34	2.48	6.25	8.76	-7594.23	-7240.72
2360.00	54.83	97.38	2.48	6.24	8.74	-7611.84	-7258.18
2365.00	54.86	97.42	2.47	6.23	8.73	-7629.45	-7275.64
2370.00	54.89	97.46	2.47	6.22	8.71	-7647.07	-7293.09
2375.00	54.92	97.51	2.46	6.21	8.70	-7664.68	-7310.55
2380.00	54.95	97.55	2.46	6.20	8.68	-7682.30	-7328.01
2385.00	54.98	97.59	2.46	6.19	8.67	-7699.91	-7345.47
2390.00	55.01	97.63	2.45	6.18	8.65	-7717.53	-7362.94
2395.00	55.04	97.68	2.45	6.17	8.64	-7735.14	-7380.40
2400.00	55.07	97.72	2.44	6.16	8.63	-7752.76	-7397.86
2405.00	55.10	97.76	2.44	6.15	8.61	-7770.38	-7415.33
2410.00	55.13	97.80	2.43	6.14	8.60	-7788.00	-7432.79
2415.00	55.16	97.84	2.43	6.13	8.58	-7805.61	-7450.26
2420.00	55.19	97.89	2.43	6.12	8.57	-7823.23	-7467.73
2425.00	55.22	97.93	2.42	6.11	8.56	-7840.86	-7485.20
2430.00	55.25	97.97	2.42	6.10	8.54	-7858.48	-7502.67
2435.00	55.28	98.01	2.42	6.09	8.53	-7876.10	-7520.14
2440.00	55.31	98.05	2.41	6.08	8.51	-7893.72	-7537.61
2445.00	55.34	98.10	2.41	6.07	8.50	-7911.34	-7555.08
2450.00	55.37	98.14	2.40	6.06	8.49	-7928.97	-7572.55

2455.00	55.40	98.18	2.40	6.05	8.47	-7946.59	-7590.03
2460.00	55.43	98.22	2.40	6.04	8.46	-7964.22	-7607.50
2465.00	55.46	98.26	2.39	6.03	8.45	-7981.84	-7624.98
2470.00	55.49	98.30	2.39	6.02	8.43	-7999.47	-7642.46
2475.00	55.52	98.34	2.38	6.01	8.42	-8017.10	-7659.93
2480.00	55.55	98.38	2.38	6.00	8.40	-8034.72	-7677.41
2485.00	55.58	98.42	2.38	5.99	8.39	-8052.35	-7694.89
2490.00	55.61	98.47	2.37	5.98	8.38	-8069.98	-7712.37
2495.00	55.64	98.51	2.37	5.97	8.36	-8087.61	-7729.85
2500.00	55.67	98.55	2.37	5.97	8.35	-8105.24	-7747.34
2505.00	55.70	98.59	2.36	5.96	8.34	-8122.87	-7764.82
2510.00	55.73	98.63	2.36	5.95	8.32	-8140.50	-7782.30
2515.00	55.76	98.67	2.35	5.94	8.31	-8158.14	-7799.79
2520.00	55.79	98.71	2.35	5.93	8.30	-8175.77	-7817.28
2525.00	55.82	98.75	2.35	5.92	8.29	-8193.40	-7834.76
2530.00	55.84	98.79	2.34	5.91	8.27	-8211.04	-7852.25
2535.00	55.87	98.83	2.34	5.90	8.26	-8228.67	-7869.74
2540.00	55.90	98.87	2.34	5.89	8.25	-8246.31	-7887.23
2545.00	55.93	98.91	2.33	5.88	8.23	-8263.94	-7904.72
2550.00	55.96	98.95	2.33	5.87	8.22	-8281.58	-7922.21
2555.00	55.99	98.99	2.32	5.86	8.21	-8299.21	-7939.70
2560.00	56.02	99.03	2.32	5.85	8.20	-8316.85	-7957.19
2565.00	56.05	99.07	2.32	5.84	8.18	-8334.49	-7974.69
2570.00	56.08	99.11	2.31	5.84	8.17	-8352.13	-7992.18
2575.00	56.11	99.15	2.31	5.83	8.16	-8369.77	-8009.68
2580.00	56.13	99.19	2.31	5.82	8.14	-8387.41	-8027.17
2585.00	56.16	99.23	2.30	5.81	8.13	-8405.05	-8044.67
2590.00	56.19	99.27	2.30	5.80	8.12	-8422.69	-8062.17
2595.00	56.22	99.31	2.30	5.79	8.11	-8440.33	-8079.66
2600.00	56.25	99.35	2.29	5.78	8.10	-8457.97	-8097.16
2605.00	56.28	99.39	2.29	5.77	8.08	-8475.62	-8114.66
2610.00	56.31	99.43	2.29	5.76	8.07	-8493.26	-8132.17
2615.00	56.34	99.47	2.28	5.76	8.06	-8510.90	-8149.67
2620.00	56.36	99.50	2.28	5.75	8.05	-8528.55	-8167.17
2625.00	56.39	99.54	2.28	5.74	8.03	-8546.19	-8184.67
2630.00	56.42	99.58	2.27	5.73	8.02	-8563.84	-8202.18
2635.00	56.45	99.62	2.27	5.72	8.01	-8581.49	-8219.68
2640.00	56.48	99.66	2.27	5.71	8.00	-8599.13	-8237.19
2645.00	56.51	99.70	2.26	5.70	7.99	-8616.78	-8254.69
2650.00	56.53	99.74	2.26	5.70	7.97	-8634.43	-8272.20
2655.00	56.56	99.78	2.25	5.69	7.96	-8652.08	-8289.71
2660.00	56.59	99.82	2.25	5.68	7.95	-8669.73	-8307.22
2665.00	56.62	99.85	2.25	5.67	7.94	-8687.38	-8324.73
2670.00	56.65	99.89	2.24	5.66	7.93	-8705.03	-8342.24
2675.00	56.67	99.93	2.24	5.65	7.91	-8722.68	-8359.75
2680.00	56.70	99.97	2.24	5.64	7.90	-8740.33	-8377.26
2685.00	56.73	100.01	2.23	5.64	7.89	-8757.98	-8394.78
2690.00	56.76	100.05	2.23	5.63	7.88	-8775.64	-8412.29
2695.00	56.79	100.08	2.23	5.62	7.87	-8793.29	-8429.80
2700.00	56.81	100.12	2.22	5.61	7.86	-8810.94	-8447.32

2705.00	56.84	100.16	2.22	5.60	7.84	-8828.60	-8464.83
2710.00	56.87	100.20	2.22	5.60	7.83	-8846.25	-8482.35
2715.00	56.90	100.24	2.22	5.59	7.82	-8863.91	-8499.87
2720.00	56.92	100.27	2.21	5.58	7.81	-8881.56	-8517.39
2725.00	56.95	100.31	2.21	5.57	7.80	-8899.22	-8534.91
2730.00	56.98	100.35	2.21	5.56	7.79	-8916.88	-8552.43
2735.00	57.01	100.39	2.20	5.55	7.78	-8934.53	-8569.95
2740.00	57.04	100.42	2.20	5.55	7.76	-8952.19	-8587.47
2745.00	57.06	100.46	2.20	5.54	7.75	-8969.85	-8604.99
2750.00	57.09	100.50	2.19	5.53	7.74	-8987.51	-8622.51
2755.00	57.12	100.54	2.19	5.52	7.73	-9005.17	-8640.04
2760.00	57.15	100.57	2.19	5.51	7.72	-9022.83	-8657.56
2765.00	57.17	100.61	2.18	5.51	7.71	-9040.49	-8675.09
2770.00	57.20	100.65	2.18	5.50	7.70	-9058.15	-8692.61
2775.00	57.23	100.69	2.18	5.49	7.69	-9075.81	-8710.14
2780.00	57.25	100.72	2.17	5.48	7.68	-9093.47	-8727.66
2785.00	57.28	100.76	2.17	5.47	7.66	-9111.14	-8745.19
2790.00	57.31	100.80	2.17	5.47	7.65	-9128.80	-8762.72
2795.00	57.34	100.84	2.16	5.46	7.64	-9146.46	-8780.25
2800.00	57.36	100.87	2.16	5.45	7.63	-9164.13	-8797.78
2805.00	57.39	100.91	2.16	5.44	7.62	-9181.79	-8815.31
2810.00	57.42	100.95	2.16	5.44	7.61	-9199.46	-8832.84
2815.00	57.44	100.98	2.15	5.43	7.60	-9217.12	-8850.37
2820.00	57.47	101.02	2.15	5.42	7.59	-9234.79	-8867.91
2825.00	57.50	101.06	2.15	5.41	7.58	-9252.46	-8885.44
2830.00	57.52	101.09	2.14	5.41	7.57	-9270.13	-8902.98
2835.00	57.55	101.13	2.14	5.40	7.56	-9287.79	-8920.51
2840.00	57.58	101.17	2.14	5.39	7.55	-9305.46	-8938.05
2845.00	57.61	101.20	2.13	5.38	7.54	-9323.13	-8955.58
2850.00	57.63	101.24	2.13	5.38	7.53	-9340.80	-8973.12
2855.00	57.66	101.28	2.13	5.37	7.52	-9358.47	-8990.66
2860.00	57.69	101.31	2.13	5.36	7.50	-9376.14	-9008.20
2865.00	57.71	101.35	2.12	5.35	7.49	-9393.81	-9025.73
2870.00	57.74	101.38	2.12	5.35	7.48	-9411.48	-9043.27
2875.00	57.77	101.42	2.12	5.34	7.47	-9429.15	-9060.81
2880.00	57.79	101.46	2.11	5.33	7.46	-9446.83	-9078.36

Notes to User

Only values shown blue to be edited

Sheet only for england and wales

ln M5-D	J0	J1	J2	Cr	ln (MT-D/M5-D)	MT-D/M5-D
2.32	0.1699	0.0028	0.000114	0.210117	0.65245	1.92024
2.50	0.1644	0.005831	-0.00013	0.215473	0.669081	1.952442
2.61	0.1644	0.005831	-0.00013	0.218996	0.680018	1.973914
2.70	0.1644	0.005831	-0.00013	0.221384	0.687434	1.988606
2.76	0.1644	0.005831	-0.00013	0.22309	0.692734	1.999173
2.82	0.1644	0.005831	-0.00013	0.224349	0.696642	2.007003
2.86	0.1644	0.005831	-0.00013	0.225294	0.699578	2.012903
2.90	0.1644	0.005831	-0.00013	0.22601	0.7018	2.01738
2.93	0.1644	0.005831	-0.00013	0.226551	0.70348	2.020773
2.96	0.1644	0.005831	-0.00013	0.226956	0.704738	2.023317
2.99	0.1644	0.005831	-0.00013	0.227253	0.705658	2.02518
3.02	0.1644	0.005831	-0.00013	0.227461	0.706304	2.026488
3.04	0.1644	0.005831	-0.00013	0.227596	0.706724	2.027339
3.06	0.1644	0.005831	-0.00013	0.22767	0.706954	2.027804
3.08	0.1644	0.005831	-0.00013	0.227692	0.707023	2.027945
3.10	0.1644	0.005831	-0.00013	0.22767	0.706955	2.027808
3.11	0.1644	0.005831	-0.00013	0.22761	0.706769	2.027431
3.13	0.1644	0.005831	-0.00013	0.227518	0.706481	2.026846
3.14	0.1644	0.005831	-0.00013	0.227396	0.706103	2.026079
3.16	0.1644	0.005831	-0.00013	0.227249	0.705646	2.025154
3.17	0.1644	0.005831	-0.00013	0.227079	0.705119	2.024088
3.18	0.1644	0.005831	-0.00013	0.22689	0.704531	2.022897
3.20	0.1644	0.005831	-0.00013	0.226682	0.703887	2.021596
3.21	0.1644	0.005831	-0.00013	0.226459	0.703194	2.020196
3.22	0.1644	0.005831	-0.00013	0.226222	0.702457	2.018707
3.23	0.1644	0.005831	-0.00013	0.225972	0.70168	2.017139
3.24	0.1644	0.005831	-0.00013	0.22571	0.700867	2.0155
3.25	0.1644	0.005831	-0.00013	0.225437	0.700021	2.013796
3.26	0.1644	0.005831	-0.00013	0.225155	0.699146	2.012033
3.27	0.1644	0.005831	-0.00013	0.224865	0.698243	2.010218
3.28	0.1644	0.005831	-0.00013	0.224566	0.697316	2.008355
3.29	0.1644	0.005831	-0.00013	0.22426	0.696367	2.006449
3.30	0.1644	0.005831	-0.00013	0.223948	0.695396	2.004503
3.30	0.1644	0.005831	-0.00013	0.223629	0.694407	2.002522
3.31	0.1644	0.005831	-0.00013	0.223305	0.693401	2.000507
3.32	0.1644	0.005831	-0.00013	0.222976	0.692379	1.998463
3.33	0.1644	0.005831	-0.00013	0.222642	0.691342	1.996392
3.33	0.1644	0.005831	-0.00013	0.222304	0.690291	1.994296
3.34	0.1644	0.005831	-0.00013	0.221962	0.689228	1.992178

3.35	0.1644	0.005831	-0.00013	0.221616	0.688154	1.990039
3.35	0.1644	0.005831	-0.00013	0.221266	0.687069	1.987881
3.36	0.1644	0.005831	-0.00013	0.220914	0.685975	1.985706
3.37	0.1644	0.005831	-0.00013	0.220558	0.684871	1.983516
3.37	0.1644	0.005831	-0.00013	0.2202	0.683759	1.981312
3.38	0.1644	0.005831	-0.00013	0.21984	0.68264	1.979095
3.39	0.1644	0.005831	-0.00013	0.219477	0.681513	1.976867
3.39	0.1644	0.005831	-0.00013	0.219112	0.68038	1.974628
3.40	0.1644	0.005831	-0.00013	0.218745	0.679241	1.972379
3.40	0.1644	0.005831	-0.00013	0.218376	0.678096	1.970123
3.41	0.1644	0.005831	-0.00013	0.218006	0.676946	1.967858
3.41	0.1644	0.005831	-0.00013	0.217634	0.675791	1.965587
3.42	0.1644	0.005831	-0.00013	0.217261	0.674632	1.96331
3.42	0.1644	0.005831	-0.00013	0.216886	0.673468	1.961027
3.43	0.1644	0.005831	-0.00013	0.21651	0.672301	1.95874
3.43	0.1644	0.005831	-0.00013	0.216133	0.671131	1.956449
3.44	0.2644	-0.00162	3.15E-06	0.216982	0.673765	1.961608
3.44	0.2644	-0.00162	3.15E-06	0.21677	0.673108	1.960321
3.45	0.2644	-0.00162	3.15E-06	0.216562	0.67246	1.959051
3.45	0.2644	-0.00162	3.15E-06	0.216356	0.671822	1.9578
3.46	0.2644	-0.00162	3.15E-06	0.216153	0.671191	1.956566
3.46	0.2644	-0.00162	3.15E-06	0.215952	0.670569	1.955349
3.47	0.2644	-0.00162	3.15E-06	0.215755	0.669955	1.954149
3.47	0.2644	-0.00162	3.15E-06	0.215559	0.669348	1.952964
3.47	0.2644	-0.00162	3.15E-06	0.215366	0.668749	1.951795
3.48	0.2644	-0.00162	3.15E-06	0.215176	0.668158	1.95064
3.48	0.2644	-0.00162	3.15E-06	0.214988	0.667573	1.9495
3.49	0.2644	-0.00162	3.15E-06	0.214802	0.666996	1.948375
3.49	0.2644	-0.00162	3.15E-06	0.214618	0.666425	1.947263
3.49	0.2644	-0.00162	3.15E-06	0.214436	0.66586	1.946164
3.50	0.2644	-0.00162	3.15E-06	0.214256	0.665303	1.945079
3.50	0.2644	-0.00162	3.15E-06	0.214079	0.664751	1.944006
3.51	0.2644	-0.00162	3.15E-06	0.213903	0.664205	1.942946
3.51	0.2644	-0.00162	3.15E-06	0.213729	0.663666	1.941898
3.51	0.2644	-0.00162	3.15E-06	0.213557	0.663132	1.940862
3.52	0.2644	-0.00162	3.15E-06	0.213387	0.662604	1.939837
3.52	0.2644	-0.00162	3.15E-06	0.213219	0.662081	1.938823
3.52	0.2644	-0.00162	3.15E-06	0.213052	0.661564	1.937821
3.53	0.2644	-0.00162	3.15E-06	0.212888	0.661052	1.936829
3.53	0.2644	-0.00162	3.15E-06	0.212724	0.660545	1.935847
3.53	0.2644	-0.00162	3.15E-06	0.212563	0.660043	1.934876
3.54	0.2644	-0.00162	3.15E-06	0.212403	0.659546	1.933915
3.54	0.2644	-0.00162	3.15E-06	0.212244	0.659054	1.932963
3.54	0.2644	-0.00162	3.15E-06	0.212087	0.658567	1.932021
3.55	0.2644	-0.00162	3.15E-06	0.211932	0.658084	1.931089
3.55	0.2644	-0.00162	3.15E-06	0.211778	0.657606	1.930165
3.55	0.2644	-0.00162	3.15E-06	0.211625	0.657132	1.929251
3.56	0.2644	-0.00162	3.15E-06	0.211474	0.656662	1.928345
3.56	0.2644	-0.00162	3.15E-06	0.211324	0.656197	1.927448
3.56	0.2644	-0.00162	3.15E-06	0.211175	0.655736	1.926559

3.57	0.2644	-0.00162	3.15E-06	0.211028	0.655279	1.925679
3.57	0.2644	-0.00162	3.15E-06	0.210882	0.654825	1.924807
3.57	0.2644	-0.00162	3.15E-06	0.210738	0.654376	1.923942
3.57	0.2644	-0.00162	3.15E-06	0.210594	0.653931	1.923085
3.58	0.2644	-0.00162	3.15E-06	0.210452	0.653489	1.922236
3.58	0.2644	-0.00162	3.15E-06	0.210311	0.653051	1.921395
3.58	0.2644	-0.00162	3.15E-06	0.210171	0.652617	1.92056
3.59	0.2644	-0.00162	3.15E-06	0.210032	0.652186	1.919733
3.59	0.2644	-0.00162	3.15E-06	0.209895	0.651759	1.918913
3.59	0.2644	-0.00162	3.15E-06	0.209758	0.651335	1.9181
3.59	0.2644	-0.00162	3.15E-06	0.209623	0.650914	1.917293
3.60	0.2644	-0.00162	3.15E-06	0.209488	0.650497	1.916494
3.60	0.2644	-0.00162	3.15E-06	0.209355	0.650083	1.9157
3.60	0.2644	-0.00162	3.15E-06	0.209223	0.649673	1.914914
3.60	0.2644	-0.00162	3.15E-06	0.209092	0.649265	1.914133
3.61	0.2644	-0.00162	3.15E-06	0.208961	0.64886	1.913359
3.61	0.2644	-0.00162	3.15E-06	0.208832	0.648459	1.912591
3.61	0.2644	-0.00162	3.15E-06	0.208704	0.64806	1.911829
3.61	0.2644	-0.00162	3.15E-06	0.208576	0.647665	1.911073
3.62	0.2644	-0.00162	3.15E-06	0.20845	0.647272	1.910322
3.62	0.2644	-0.00162	3.15E-06	0.208324	0.646882	1.909578
3.62	0.2644	-0.00162	3.15E-06	0.2082	0.646495	1.908838
3.62	0.2644	-0.00162	3.15E-06	0.208076	0.646111	1.908105
3.63	0.2644	-0.00162	3.15E-06	0.207953	0.645729	1.907377
3.63	0.2644	-0.00162	3.15E-06	0.207831	0.64535	1.906654
3.63	0.2644	-0.00162	3.15E-06	0.20771	0.644973	1.905936
3.63	0.2644	-0.00162	3.15E-06	0.207589	0.6446	1.905224
3.64	0.2644	-0.00162	3.15E-06	0.20747	0.644228	1.904517
3.64	0.2644	-0.00162	3.15E-06	0.207351	0.64386	1.903815
3.64	0.2644	-0.00162	3.15E-06	0.207233	0.643493	1.903117
3.64	0.2644	-0.00162	3.15E-06	0.207116	0.643129	1.902425
3.64	0.2644	-0.00162	3.15E-06	0.206999	0.642768	1.901737
3.65	0.2644	-0.00162	3.15E-06	0.206884	0.642409	1.901054
3.65	0.2644	-0.00162	3.15E-06	0.206769	0.642052	1.900376
3.65	0.2644	-0.00162	3.15E-06	0.206654	0.641697	1.899702
3.65	0.2644	-0.00162	3.15E-06	0.206541	0.641345	1.899033
3.66	0.2644	-0.00162	3.15E-06	0.206428	0.640995	1.898368
3.66	0.2644	-0.00162	3.15E-06	0.206316	0.640647	1.897708
3.66	0.2644	-0.00162	3.15E-06	0.206205	0.640301	1.897052
3.66	0.2644	-0.00162	3.15E-06	0.206094	0.639957	1.8964
3.66	0.2644	-0.00162	3.15E-06	0.205984	0.639616	1.895753
3.67	0.2644	-0.00162	3.15E-06	0.205875	0.639276	1.895109
3.67	0.2644	-0.00162	3.15E-06	0.205766	0.638939	1.89447
3.67	0.2644	-0.00162	3.15E-06	0.205658	0.638604	1.893835
3.67	0.2644	-0.00162	3.15E-06	0.205551	0.63827	1.893203
3.67	0.2644	-0.00162	3.15E-06	0.205444	0.637939	1.892576
3.68	0.2644	-0.00162	3.15E-06	0.205338	0.637609	1.891952
3.68	0.2644	-0.00162	3.15E-06	0.205232	0.637282	1.891333
3.68	0.2644	-0.00162	3.15E-06	0.205128	0.636956	1.890717
3.68	0.2644	-0.00162	3.15E-06	0.205023	0.636632	1.890105

3.68	0.2644	-0.00162	3.15E-06	0.20492	0.63631	1.889496
3.68	0.2644	-0.00162	3.15E-06	0.204816	0.63599	1.888891
3.69	0.2644	-0.00162	3.15E-06	0.204714	0.635672	1.88829
3.69	0.2644	-0.00162	3.15E-06	0.204612	0.635355	1.887692
3.69	0.2644	-0.00162	3.15E-06	0.204511	0.63504	1.887098
3.69	0.2644	-0.00162	3.15E-06	0.20441	0.634727	1.886507
3.69	0.2644	-0.00162	3.15E-06	0.204309	0.634415	1.885919
3.70	0.2644	-0.00162	3.15E-06	0.20421	0.634106	1.885335
3.70	0.2644	-0.00162	3.15E-06	0.20411	0.633797	1.884754
3.70	0.2644	-0.00162	3.15E-06	0.204012	0.633491	1.884177
3.70	0.2644	-0.00162	3.15E-06	0.203914	0.633186	1.883603
3.70	0.2644	-0.00162	3.15E-06	0.203816	0.632883	1.883031
3.70	0.2644	-0.00162	3.15E-06	0.203719	0.632581	1.882464
3.71	0.2644	-0.00162	3.15E-06	0.203622	0.632281	1.881899
3.71	0.2644	-0.00162	3.15E-06	0.203526	0.631983	1.881337
3.71	0.2644	-0.00162	3.15E-06	0.20343	0.631686	1.880778
3.71	0.2644	-0.00162	3.15E-06	0.203335	0.63139	1.880223
3.71	0.2644	-0.00162	3.15E-06	0.20324	0.631096	1.87967
3.72	0.2644	-0.00162	3.15E-06	0.203146	0.630804	1.87912
3.72	0.2644	-0.00162	3.15E-06	0.203053	0.630513	1.878573
3.72	0.2644	-0.00162	3.15E-06	0.202959	0.630223	1.878029
3.72	0.2644	-0.00162	3.15E-06	0.202866	0.629935	1.877488
3.72	0.2644	-0.00162	3.15E-06	0.202774	0.629648	1.87695
3.72	0.2644	-0.00162	3.15E-06	0.202682	0.629363	1.876414
3.73	0.2644	-0.00162	3.15E-06	0.202591	0.629079	1.875882
3.73	0.2644	-0.00162	3.15E-06	0.2025	0.628796	1.875352
3.73	0.2644	-0.00162	3.15E-06	0.202409	0.628515	1.874824
3.73	0.2644	-0.00162	3.15E-06	0.202319	0.628235	1.8743
3.73	0.2644	-0.00162	3.15E-06	0.202229	0.627956	1.873777
3.73	0.2644	-0.00162	3.15E-06	0.20214	0.627679	1.873258
3.73	0.2644	-0.00162	3.15E-06	0.202051	0.627403	1.872741
3.74	0.2644	-0.00162	3.15E-06	0.201963	0.627129	1.872227
3.74	0.2644	-0.00162	3.15E-06	0.201875	0.626855	1.871715
3.74	0.2644	-0.00162	3.15E-06	0.201787	0.626583	1.871206
3.74	0.2644	-0.00162	3.15E-06	0.2017	0.626312	1.870699
3.74	0.2644	-0.00162	3.15E-06	0.201613	0.626042	1.870194
3.74	0.2644	-0.00162	3.15E-06	0.201526	0.625774	1.869692
3.75	0.2644	-0.00162	3.15E-06	0.20144	0.625507	1.869193
3.75	0.2644	-0.00162	3.15E-06	0.201355	0.625241	1.868695
3.75	0.2644	-0.00162	3.15E-06	0.201269	0.624976	1.868201
3.75	0.2644	-0.00162	3.15E-06	0.201184	0.624712	1.867708
3.75	0.2644	-0.00162	3.15E-06	0.2011	0.624449	1.867218
3.75	0.2644	-0.00162	3.15E-06	0.201016	0.624188	1.86673
3.75	0.2644	-0.00162	3.15E-06	0.200932	0.623928	1.866244
3.76	0.2644	-0.00162	3.15E-06	0.200848	0.623669	1.86576
3.76	0.2644	-0.00162	3.15E-06	0.200765	0.623411	1.865279
3.76	0.2644	-0.00162	3.15E-06	0.200683	0.623154	1.8648
3.76	0.2644	-0.00162	3.15E-06	0.2006	0.622898	1.864323
3.76	0.2644	-0.00162	3.15E-06	0.200518	0.622643	1.863848
3.76	0.2644	-0.00162	3.15E-06	0.200437	0.62239	1.863375

3.76	0.2644	-0.00162	3.15E-06	0.200355	0.622137	1.862905
3.77	0.2644	-0.00162	3.15E-06	0.200274	0.621885	1.862436
3.77	0.2644	-0.00162	3.15E-06	0.200194	0.621635	1.86197
3.77	0.2644	-0.00162	3.15E-06	0.200113	0.621386	1.861505
3.77	0.2644	-0.00162	3.15E-06	0.200033	0.621137	1.861043
3.77	0.2644	-0.00162	3.15E-06	0.199954	0.62089	1.860583
3.77	0.2644	-0.00162	3.15E-06	0.199874	0.620643	1.860124
3.77	0.2644	-0.00162	3.15E-06	0.199795	0.620398	1.859668
3.77	0.2644	-0.00162	3.15E-06	0.199716	0.620153	1.859213
3.78	0.2644	-0.00162	3.15E-06	0.199638	0.61991	1.858761
3.78	0.2644	-0.00162	3.15E-06	0.19956	0.619668	1.85831
3.78	0.2644	-0.00162	3.15E-06	0.199482	0.619426	1.857861
3.78	0.2644	-0.00162	3.15E-06	0.199405	0.619185	1.857414
3.78	0.2644	-0.00162	3.15E-06	0.199328	0.618946	1.856969
3.78	0.2644	-0.00162	3.15E-06	0.199251	0.618707	1.856526
3.78	0.2644	-0.00162	3.15E-06	0.199174	0.618469	1.856085
3.79	0.2644	-0.00162	3.15E-06	0.199098	0.618233	1.855645
3.79	0.2644	-0.00162	3.15E-06	0.199022	0.617997	1.855208
3.79	0.2644	-0.00162	3.15E-06	0.198946	0.617762	1.854772
3.79	0.2644	-0.00162	3.15E-06	0.198871	0.617528	1.854338
3.79	0.2644	-0.00162	3.15E-06	0.198796	0.617294	1.853905
3.79	0.2644	-0.00162	3.15E-06	0.198721	0.617062	1.853475
3.79	0.2644	-0.00162	3.15E-06	0.198646	0.616831	1.853046
3.79	0.2644	-0.00162	3.15E-06	0.198572	0.6166	1.852618
3.80	0.2644	-0.00162	3.15E-06	0.198498	0.61637	1.852193
3.80	0.2644	-0.00162	3.15E-06	0.198424	0.616141	1.851769
3.80	0.2644	-0.00162	3.15E-06	0.198351	0.615913	1.851347
3.80	0.2644	-0.00162	3.15E-06	0.198278	0.615686	1.850926
3.80	0.2644	-0.00162	3.15E-06	0.198205	0.61546	1.850507
3.80	0.2644	-0.00162	3.15E-06	0.198132	0.615234	1.85009
3.80	0.2644	-0.00162	3.15E-06	0.19806	0.615009	1.849674
3.80	0.2644	-0.00162	3.15E-06	0.197988	0.614786	1.84926
3.81	0.2644	-0.00162	3.15E-06	0.197916	0.614562	1.848847
3.81	0.2644	-0.00162	3.15E-06	0.197844	0.61434	1.848437
3.81	0.2644	-0.00162	3.15E-06	0.197773	0.614119	1.848027
3.81	0.2644	-0.00162	3.15E-06	0.197702	0.613898	1.847619
3.81	0.2644	-0.00162	3.15E-06	0.197631	0.613678	1.847213
3.81	0.2644	-0.00162	3.15E-06	0.19756	0.613459	1.846808
3.81	0.2644	-0.00162	3.15E-06	0.19749	0.61324	1.846405
3.81	0.2644	-0.00162	3.15E-06	0.19742	0.613023	1.846003
3.81	0.2644	-0.00162	3.15E-06	0.19735	0.612806	1.845603
3.82	0.2644	-0.00162	3.15E-06	0.197281	0.61259	1.845204
3.82	0.2644	-0.00162	3.15E-06	0.197211	0.612374	1.844806
3.82	0.2644	-0.00162	3.15E-06	0.197142	0.61216	1.84441
3.82	0.2644	-0.00162	3.15E-06	0.197073	0.611946	1.844016
3.82	0.2644	-0.00162	3.15E-06	0.197005	0.611733	1.843623
3.82	0.2644	-0.00162	3.15E-06	0.196936	0.61152	1.843231
3.82	0.2644	-0.00162	3.15E-06	0.196868	0.611308	1.842841
3.82	0.2644	-0.00162	3.15E-06	0.1968	0.611097	1.842452
3.82	0.2644	-0.00162	3.15E-06	0.196732	0.610887	1.842065

3.83	0.2644	-0.00162	3.15E-06	0.196665	0.610677	1.841678
3.83	0.2644	-0.00162	3.15E-06	0.196597	0.610468	1.841294
3.83	0.2644	-0.00162	3.15E-06	0.19653	0.61026	1.84091
3.83	0.2644	-0.00162	3.15E-06	0.196463	0.610053	1.840528
3.83	0.2644	-0.00162	3.15E-06	0.196397	0.609846	1.840147
3.83	0.2644	-0.00162	3.15E-06	0.19633	0.60964	1.839768
3.83	0.2644	-0.00162	3.15E-06	0.196264	0.609434	1.83939
3.83	0.2644	-0.00162	3.15E-06	0.196198	0.609229	1.839013
3.83	0.2644	-0.00162	3.15E-06	0.196133	0.609025	1.838638
3.84	0.2644	-0.00162	3.15E-06	0.196067	0.608821	1.838263
3.84	0.2644	-0.00162	3.15E-06	0.196002	0.608618	1.83789
3.84	0.2644	-0.00162	3.15E-06	0.195936	0.608416	1.837519
3.84	0.2644	-0.00162	3.15E-06	0.195872	0.608215	1.837148
3.84	0.2644	-0.00162	3.15E-06	0.195807	0.608014	1.836779
3.84	0.2644	-0.00162	3.15E-06	0.195742	0.607813	1.836411
3.84	0.2644	-0.00162	3.15E-06	0.195678	0.607614	1.836045
3.84	0.2644	-0.00162	3.15E-06	0.195614	0.607414	1.835679
3.84	0.2644	-0.00162	3.15E-06	0.19555	0.607216	1.835315
3.85	0.2644	-0.00162	3.15E-06	0.195486	0.607018	1.834952
3.85	0.2644	-0.00162	3.15E-06	0.195423	0.606821	1.83459
3.85	0.2644	-0.00162	3.15E-06	0.195359	0.606624	1.834229
3.85	0.2644	-0.00162	3.15E-06	0.195296	0.606428	1.83387
3.85	0.2644	-0.00162	3.15E-06	0.195233	0.606233	1.833511
3.85	0.2644	-0.00162	3.15E-06	0.195171	0.606038	1.833154
3.85	0.2644	-0.00162	3.15E-06	0.195108	0.605844	1.832798
3.85	0.2644	-0.00162	3.15E-06	0.195046	0.60565	1.832443
3.85	0.2644	-0.00162	3.15E-06	0.194984	0.605457	1.832089
3.85	0.2644	-0.00162	3.15E-06	0.194922	0.605264	1.831737
3.86	0.2644	-0.00162	3.15E-06	0.19486	0.605073	1.831385
3.86	0.2644	-0.00162	3.15E-06	0.194798	0.604881	1.831035
3.86	0.2644	-0.00162	3.15E-06	0.194737	0.60469	1.830685
3.86	0.2644	-0.00162	3.15E-06	0.194675	0.6045	1.830337
3.86	0.2644	-0.00162	3.15E-06	0.194614	0.604311	1.82999
3.86	0.2644	-0.00162	3.15E-06	0.194553	0.604121	1.829644
3.86	0.2644	-0.00162	3.15E-06	0.194493	0.603933	1.829299
3.86	0.2644	-0.00162	3.15E-06	0.194432	0.603745	1.828955
3.86	0.2644	-0.00162	3.15E-06	0.194372	0.603557	1.828612
3.86	0.2644	-0.00162	3.15E-06	0.194312	0.603371	1.828271
3.86	0.2644	-0.00162	3.15E-06	0.194252	0.603184	1.82793
3.87	0.2644	-0.00162	3.15E-06	0.194192	0.602998	1.82759
3.87	0.2644	-0.00162	3.15E-06	0.194132	0.602813	1.827252
3.87	0.2644	-0.00162	3.15E-06	0.194073	0.602628	1.826914
3.87	0.2644	-0.00162	3.15E-06	0.194013	0.602444	1.826578
3.87	0.2644	-0.00162	3.15E-06	0.193954	0.60226	1.826242
3.87	0.2644	-0.00162	3.15E-06	0.193895	0.602077	1.825907
3.87	0.2644	-0.00162	3.15E-06	0.193836	0.601894	1.825574
3.87	0.2644	-0.00162	3.15E-06	0.193778	0.601712	1.825241
3.87	0.2644	-0.00162	3.15E-06	0.193719	0.601531	1.82491
3.87	0.2644	-0.00162	3.15E-06	0.193661	0.601349	1.824579
3.88	0.2644	-0.00162	3.15E-06	0.193603	0.601169	1.82425

3.88	0.2644	-0.00162	3.15E-06	0.193544	0.600989	1.823921
3.88	0.2644	-0.00162	3.15E-06	0.193487	0.600809	1.823593
3.88	0.2644	-0.00162	3.15E-06	0.193429	0.60063	1.823267
3.88	0.2644	-0.00162	3.15E-06	0.193371	0.600451	1.822941
3.88	0.2644	-0.00162	3.15E-06	0.193314	0.600273	1.822616
3.88	0.2644	-0.00162	3.15E-06	0.193257	0.600095	1.822292
3.88	0.2644	-0.00162	3.15E-06	0.1932	0.599918	1.821969
3.88	0.2644	-0.00162	3.15E-06	0.193143	0.599741	1.821647
3.88	0.2644	-0.00162	3.15E-06	0.193086	0.599565	1.821326
3.88	0.2644	-0.00162	3.15E-06	0.193029	0.599389	1.821006
3.88	0.2644	-0.00162	3.15E-06	0.192973	0.599214	1.820687
3.89	0.2644	-0.00162	3.15E-06	0.192917	0.599039	1.820368
3.89	0.2644	-0.00162	3.15E-06	0.19286	0.598865	1.820051
3.89	0.2644	-0.00162	3.15E-06	0.192804	0.598691	1.819734
3.89	0.2644	-0.00162	3.15E-06	0.192749	0.598517	1.819419
3.89	0.2644	-0.00162	3.15E-06	0.192693	0.598344	1.819104
3.89	0.2644	-0.00162	3.15E-06	0.192637	0.598172	1.81879
3.89	0.2644	-0.00162	3.15E-06	0.192582	0.597999	1.818477
3.89	0.2644	-0.00162	3.15E-06	0.192527	0.597828	1.818165
3.89	0.2644	-0.00162	3.15E-06	0.192471	0.597657	1.817854
3.89	0.2644	-0.00162	3.15E-06	0.192416	0.597486	1.817543
3.89	0.2644	-0.00162	3.15E-06	0.192362	0.597315	1.817234
3.90	0.2644	-0.00162	3.15E-06	0.192307	0.597146	1.816925
3.90	0.2644	-0.00162	3.15E-06	0.192252	0.596976	1.816617
3.90	0.2644	-0.00162	3.15E-06	0.192198	0.596807	1.81631
3.90	0.2644	-0.00162	3.15E-06	0.192144	0.596638	1.816004
3.90	0.2644	-0.00162	3.15E-06	0.192089	0.59647	1.815699
3.90	0.2644	-0.00162	3.15E-06	0.192035	0.596303	1.815394
3.90	0.2644	-0.00162	3.15E-06	0.191982	0.596135	1.81509
3.90	0.2644	-0.00162	3.15E-06	0.191928	0.595968	1.814788
3.90	0.2644	-0.00162	3.15E-06	0.191874	0.595802	1.814485
3.90	0.2644	-0.00162	3.15E-06	0.191821	0.595636	1.814184
3.90	0.2644	-0.00162	3.15E-06	0.191767	0.59547	1.813884
3.90	0.2644	-0.00162	3.15E-06	0.191714	0.595305	1.813584
3.91	0.2644	-0.00162	3.15E-06	0.191661	0.59514	1.813285
3.91	0.2644	-0.00162	3.15E-06	0.191608	0.594976	1.812987
3.91	0.2644	-0.00162	3.15E-06	0.191555	0.594812	1.81269
3.91	0.2644	-0.00162	3.15E-06	0.191503	0.594648	1.812393
3.91	0.2644	-0.00162	3.15E-06	0.19145	0.594485	1.812097
3.91	0.2644	-0.00162	3.15E-06	0.191398	0.594322	1.811802
3.91	0.2644	-0.00162	3.15E-06	0.191345	0.59416	1.811508
3.91	0.2644	-0.00162	3.15E-06	0.191293	0.593998	1.811215
3.91	0.2644	-0.00162	3.15E-06	0.191241	0.593836	1.810922
3.91	0.2644	-0.00162	3.15E-06	0.191189	0.593675	1.81063
3.91	0.2644	-0.00162	3.15E-06	0.191137	0.593514	1.810339
3.91	0.2644	-0.00162	3.15E-06	0.191086	0.593354	1.810048
3.91	0.2644	-0.00162	3.15E-06	0.191034	0.593194	1.809759
3.92	0.2644	-0.00162	3.15E-06	0.190983	0.593034	1.80947
3.92	0.2644	-0.00162	3.15E-06	0.190931	0.592875	1.809182
3.92	0.2644	-0.00162	3.15E-06	0.19088	0.592716	1.808894

3.92	0.2644	-0.00162	3.15E-06	0.190829	0.592557	1.808607
3.92	0.2644	-0.00162	3.15E-06	0.190778	0.592399	1.808321
3.92	0.2644	-0.00162	3.15E-06	0.190727	0.592241	1.808036
3.92	0.2644	-0.00162	3.15E-06	0.190677	0.592084	1.807751
3.92	0.2644	-0.00162	3.15E-06	0.190626	0.591927	1.807467
3.92	0.2644	-0.00162	3.15E-06	0.190576	0.59177	1.807184
3.92	0.2644	-0.00162	3.15E-06	0.190525	0.591614	1.806902
3.92	0.2644	-0.00162	3.15E-06	0.190475	0.591458	1.80662
3.92	0.2644	-0.00162	3.15E-06	0.190425	0.591302	1.806339
3.92	0.2644	-0.00162	3.15E-06	0.190375	0.591147	1.806058
3.93	0.2644	-0.00162	3.15E-06	0.190325	0.590992	1.805779
3.93	0.2644	-0.00162	3.15E-06	0.190275	0.590837	1.805499
3.93	0.2644	-0.00162	3.15E-06	0.190226	0.590683	1.805221
3.93	0.2644	-0.00162	3.15E-06	0.190176	0.590529	1.804943
3.93	0.2644	-0.00162	3.15E-06	0.190127	0.590376	1.804666
3.93	0.2644	-0.00162	3.15E-06	0.190077	0.590223	1.80439
3.93	0.2644	-0.00162	3.15E-06	0.190028	0.59007	1.804114
3.93	0.2644	-0.00162	3.15E-06	0.189979	0.589917	1.803839
3.93	0.2644	-0.00162	3.15E-06	0.18993	0.589765	1.803565
3.93	0.2644	-0.00162	3.15E-06	0.189881	0.589614	1.803291
3.93	0.2644	-0.00162	3.15E-06	0.189832	0.589462	1.803018
3.93	0.2644	-0.00162	3.15E-06	0.189784	0.589311	1.802746
3.93	0.2644	-0.00162	3.15E-06	0.189735	0.58916	1.802474
3.94	0.2644	-0.00162	3.15E-06	0.189687	0.58901	1.802203
3.94	0.2644	-0.00162	3.15E-06	0.189638	0.58886	1.801933
3.94	0.2644	-0.00162	3.15E-06	0.18959	0.58871	1.801663
3.94	0.2644	-0.00162	3.15E-06	0.189542	0.588561	1.801394
3.94	0.2644	-0.00162	3.15E-06	0.189494	0.588412	1.801125
3.94	0.2644	-0.00162	3.15E-06	0.189446	0.588263	1.800857
3.94	0.2644	-0.00162	3.15E-06	0.189398	0.588114	1.80059
3.94	0.2644	-0.00162	3.15E-06	0.189351	0.587966	1.800323
3.94	0.2644	-0.00162	3.15E-06	0.189303	0.587818	1.800057
3.94	0.2644	-0.00162	3.15E-06	0.189256	0.587671	1.799792
3.94	0.2644	-0.00162	3.15E-06	0.189208	0.587524	1.799527
3.94	0.2644	-0.00162	3.15E-06	0.189161	0.587377	1.799263
3.94	0.2644	-0.00162	3.15E-06	0.189114	0.58723	1.798999
3.94	0.2644	-0.00162	3.15E-06	0.189067	0.587084	1.798736
3.95	0.2644	-0.00162	3.15E-06	0.18902	0.586938	1.798474
3.95	0.2644	-0.00162	3.15E-06	0.188973	0.586793	1.798212
3.95	0.2644	-0.00162	3.15E-06	0.188926	0.586648	1.797951
3.95	0.2644	-0.00162	3.15E-06	0.188879	0.586503	1.79769
3.95	0.2644	-0.00162	3.15E-06	0.188833	0.586358	1.79743
3.95	0.2644	-0.00162	3.15E-06	0.188786	0.586214	1.797171
3.95	0.2644	-0.00162	3.15E-06	0.18874	0.586069	1.796912
3.95	0.2644	-0.00162	3.15E-06	0.188694	0.585926	1.796653
3.95	0.2644	-0.00162	3.15E-06	0.188647	0.585782	1.796396
3.95	0.2644	-0.00162	3.15E-06	0.188601	0.585639	1.796139
3.95	0.2644	-0.00162	3.15E-06	0.188555	0.585496	1.795882
3.95	0.2644	-0.00162	3.15E-06	0.188509	0.585354	1.795626
3.95	0.2644	-0.00162	3.15E-06	0.188464	0.585212	1.795371

3.95	0.2644	-0.00162	3.15E-06	0.188418	0.58507	1.795116
3.96	0.2644	-0.00162	3.15E-06	0.188372	0.584928	1.794862
3.96	0.2644	-0.00162	3.15E-06	0.188327	0.584787	1.794608
3.96	0.2644	-0.00162	3.15E-06	0.188281	0.584645	1.794355
3.96	0.2644	-0.00162	3.15E-06	0.188236	0.584505	1.794102
3.96	0.2644	-0.00162	3.15E-06	0.188191	0.584364	1.79385
3.96	0.2644	-0.00162	3.15E-06	0.188146	0.584224	1.793599
3.96	0.2644	-0.00162	3.15E-06	0.1881	0.584084	1.793348
3.96	0.2644	-0.00162	3.15E-06	0.188056	0.583944	1.793097
3.96	0.2644	-0.00162	3.15E-06	0.188011	0.583805	1.792847
3.96	0.2644	-0.00162	3.15E-06	0.187966	0.583666	1.792598
3.96	0.2644	-0.00162	3.15E-06	0.187921	0.583527	1.792349
3.96	0.2644	-0.00162	3.15E-06	0.187877	0.583389	1.792101
3.96	0.2644	-0.00162	3.15E-06	0.187832	0.58325	1.791853
3.96	0.2644	-0.00162	3.15E-06	0.187788	0.583112	1.791606
3.96	0.2644	-0.00162	3.15E-06	0.187743	0.582975	1.791359
3.96	0.2644	-0.00162	3.15E-06	0.187699	0.582837	1.791113
3.97	0.2644	-0.00162	3.15E-06	0.187655	0.5827	1.790867
3.97	0.2644	-0.00162	3.15E-06	0.187611	0.582563	1.790622
3.97	0.2644	-0.00162	3.15E-06	0.187567	0.582427	1.790378
3.97	0.2644	-0.00162	3.15E-06	0.187523	0.58229	1.790134
3.97	0.2644	-0.00162	3.15E-06	0.187479	0.582154	1.78989
3.97	0.2644	-0.00162	3.15E-06	0.187435	0.582018	1.789647
3.97	0.2644	-0.00162	3.15E-06	0.187392	0.581883	1.789404
3.97	0.2644	-0.00162	3.15E-06	0.187348	0.581748	1.789162
3.97	0.2644	-0.00162	3.15E-06	0.187305	0.581613	1.788921
3.97	0.2644	-0.00162	3.15E-06	0.187261	0.581478	1.78868
3.97	0.2644	-0.00162	3.15E-06	0.187218	0.581343	1.788439
3.97	0.2644	-0.00162	3.15E-06	0.187175	0.581209	1.788199
3.97	0.2644	-0.00162	3.15E-06	0.187132	0.581075	1.78796
3.97	0.2644	-0.00162	3.15E-06	0.187088	0.580941	1.787721
3.97	0.2644	-0.00162	3.15E-06	0.187045	0.580808	1.787482
3.98	0.2644	-0.00162	3.15E-06	0.187003	0.580675	1.787244
3.98	0.2644	-0.00162	3.15E-06	0.18696	0.580542	1.787006
3.98	0.2644	-0.00162	3.15E-06	0.186917	0.580409	1.786769
3.98	0.2644	-0.00162	3.15E-06	0.186874	0.580277	1.786533
3.98	0.2644	-0.00162	3.15E-06	0.186832	0.580145	1.786297
3.98	0.2644	-0.00162	3.15E-06	0.186789	0.580013	1.786061
3.98	0.2644	-0.00162	3.15E-06	0.186747	0.579881	1.785826
3.98	0.2644	-0.00162	3.15E-06	0.186705	0.57975	1.785591
3.98	0.2644	-0.00162	3.15E-06	0.186662	0.579618	1.785357
3.98	0.2644	-0.00162	3.15E-06	0.18662	0.579487	1.785123
3.98	0.2644	-0.00162	3.15E-06	0.186578	0.579357	1.78489
3.98	0.2644	-0.00162	3.15E-06	0.186536	0.579226	1.784657
3.98	0.2644	-0.00162	3.15E-06	0.186494	0.579096	1.784425
3.98	0.2644	-0.00162	3.15E-06	0.186452	0.578966	1.784193
3.98	0.2644	-0.00162	3.15E-06	0.186411	0.578836	1.783961
3.98	0.2644	-0.00162	3.15E-06	0.186369	0.578707	1.78373
3.98	0.2644	-0.00162	3.15E-06	0.186327	0.578578	1.7835
3.99	0.2644	-0.00162	3.15E-06	0.186286	0.578449	1.78327

3.99	0.2644	-0.00162	3.15E-06	0.186244	0.57832	1.78304
3.99	0.2644	-0.00162	3.15E-06	0.186203	0.578191	1.782811
3.99	0.2644	-0.00162	3.15E-06	0.186161	0.578063	1.782582
3.99	0.2644	-0.00162	3.15E-06	0.18612	0.577935	1.782354
3.99	0.2644	-0.00162	3.15E-06	0.186079	0.577807	1.782126
3.99	0.2644	-0.00162	3.15E-06	0.186038	0.57768	1.781899
3.99	0.2644	-0.00162	3.15E-06	0.185997	0.577552	1.781672
3.99	0.2644	-0.00162	3.15E-06	0.185956	0.577425	1.781445
3.99	0.2644	-0.00162	3.15E-06	0.185915	0.577298	1.781219
3.99	0.2644	-0.00162	3.15E-06	0.185874	0.577171	1.780994
3.99	0.2644	-0.00162	3.15E-06	0.185834	0.577045	1.780768
3.99	0.2644	-0.00162	3.15E-06	0.185793	0.576919	1.780544
3.99	0.2644	-0.00162	3.15E-06	0.185752	0.576793	1.780319
3.99	0.2644	-0.00162	3.15E-06	0.185712	0.576667	1.780095
3.99	0.2644	-0.00162	3.15E-06	0.185671	0.576541	1.779872
4.00	0.2644	-0.00162	3.15E-06	0.185631	0.576416	1.779649
4.00	0.2644	-0.00162	3.15E-06	0.185591	0.576291	1.779426
4.00	0.2644	-0.00162	3.15E-06	0.185551	0.576166	1.779204
4.00	0.2644	-0.00162	3.15E-06	0.18551	0.576042	1.778982
4.00	0.2644	-0.00162	3.15E-06	0.18547	0.575917	1.778761
4.00	0.2644	-0.00162	3.15E-06	0.18543	0.575793	1.77854
4.00	0.2644	-0.00162	3.15E-06	0.18539	0.575669	1.77832
4.00	0.2644	-0.00162	3.15E-06	0.185351	0.575545	1.778099
4.00	0.2644	-0.00162	3.15E-06	0.185311	0.575422	1.77788
4.00	0.2644	-0.00162	3.15E-06	0.185271	0.575298	1.77766
4.00	0.2644	-0.00162	3.15E-06	0.185231	0.575175	1.777442
4.00	0.2644	-0.00162	3.15E-06	0.185192	0.575052	1.777223
4.00	0.2644	-0.00162	3.15E-06	0.185152	0.574929	1.777005
4.00	0.2644	-0.00162	3.15E-06	0.185113	0.574807	1.776787
4.00	0.2644	-0.00162	3.15E-06	0.185073	0.574685	1.77657
4.00	0.2644	-0.00162	3.15E-06	0.185034	0.574563	1.776353
4.00	0.2644	-0.00162	3.15E-06	0.184995	0.574441	1.776137
4.00	0.2644	-0.00162	3.15E-06	0.184956	0.574319	1.775921
4.01	0.2644	-0.00162	3.15E-06	0.184917	0.574198	1.775705
4.01	0.2644	-0.00162	3.15E-06	0.184878	0.574076	1.77549
4.01	0.2644	-0.00162	3.15E-06	0.184839	0.573955	1.775275
4.01	0.2644	-0.00162	3.15E-06	0.1848	0.573835	1.775061
4.01	0.2644	-0.00162	3.15E-06	0.184761	0.573714	1.774846
4.01	0.2644	-0.00162	3.15E-06	0.184722	0.573594	1.774633
4.01	0.2644	-0.00162	3.15E-06	0.184683	0.573473	1.774419
4.01	0.2644	-0.00162	3.15E-06	0.184645	0.573353	1.774207
4.01	0.2644	-0.00162	3.15E-06	0.184606	0.573234	1.773994
4.01	0.2644	-0.00162	3.15E-06	0.184568	0.573114	1.773782
4.01	0.2644	-0.00162	3.15E-06	0.184529	0.572995	1.77357
4.01	0.2644	-0.00162	3.15E-06	0.184491	0.572875	1.773359
4.01	0.2644	-0.00162	3.15E-06	0.184452	0.572756	1.773148
4.01	0.2644	-0.00162	3.15E-06	0.184414	0.572638	1.772937
4.01	0.2644	-0.00162	3.15E-06	0.184376	0.572519	1.772727
4.01	0.2644	-0.00162	3.15E-06	0.184338	0.572401	1.772517
4.01	0.2644	-0.00162	3.15E-06	0.1843	0.572282	1.772307

4.01	0.2644	-0.00162	3.15E-06	0.184262	0.572164	1.772098
4.02	0.2644	-0.00162	3.15E-06	0.184224	0.572046	1.771889
4.02	0.2644	-0.00162	3.15E-06	0.184186	0.571929	1.771681
4.02	0.2644	-0.00162	3.15E-06	0.184148	0.571811	1.771473
4.02	0.2644	-0.00162	3.15E-06	0.18411	0.571694	1.771265
4.02	0.2644	-0.00162	3.15E-06	0.184073	0.571577	1.771058
4.02	0.2644	-0.00162	3.15E-06	0.184035	0.57146	1.770851
4.02	0.2644	-0.00162	3.15E-06	0.183998	0.571344	1.770645
4.02	0.2644	-0.00162	3.15E-06	0.18396	0.571227	1.770438
4.02	0.2644	-0.00162	3.15E-06	0.183923	0.571111	1.770232
4.02	0.2644	-0.00162	3.15E-06	0.183885	0.570995	1.770027
4.02	0.2644	-0.00162	3.15E-06	0.183848	0.570879	1.769822
4.02	0.2644	-0.00162	3.15E-06	0.183811	0.570763	1.769617
4.02	0.2644	-0.00162	3.15E-06	0.183773	0.570648	1.769413
4.02	0.2644	-0.00162	3.15E-06	0.183736	0.570532	1.769209
4.02	0.2644	-0.00162	3.15E-06	0.183699	0.570417	1.769005
4.02	0.2644	-0.00162	3.15E-06	0.183662	0.570302	1.768801
4.02	0.2644	-0.00162	3.15E-06	0.183625	0.570187	1.768598
4.02	0.2644	-0.00162	3.15E-06	0.183588	0.570073	1.768396
4.02	0.2644	-0.00162	3.15E-06	0.183551	0.569958	1.768193
4.03	0.2644	-0.00162	3.15E-06	0.183515	0.569844	1.767991
4.03	0.2644	-0.00162	3.15E-06	0.183478	0.56973	1.76779
4.03	0.2644	-0.00162	3.15E-06	0.183441	0.569616	1.767589
4.03	0.2644	-0.00162	3.15E-06	0.183405	0.569502	1.767388
4.03	0.2644	-0.00162	3.15E-06	0.183368	0.569389	1.767187
4.03	0.2644	-0.00162	3.15E-06	0.183332	0.569276	1.766987
4.03	0.2644	-0.00162	3.15E-06	0.183295	0.569162	1.766787
4.03	0.2644	-0.00162	3.15E-06	0.183259	0.56905	1.766587
4.03	0.2644	-0.00162	3.15E-06	0.183222	0.568937	1.766388
4.03	0.2644	-0.00162	3.15E-06	0.183186	0.568824	1.766189
4.03	0.2644	-0.00162	3.15E-06	0.18315	0.568712	1.76599
4.03	0.2644	-0.00162	3.15E-06	0.183114	0.568599	1.765792
4.03	0.2644	-0.00162	3.15E-06	0.183078	0.568487	1.765594
4.03	0.2644	-0.00162	3.15E-06	0.183042	0.568375	1.765397
4.03	0.2644	-0.00162	3.15E-06	0.183006	0.568264	1.765199
4.03	0.2644	-0.00162	3.15E-06	0.18297	0.568152	1.765002
4.03	0.2644	-0.00162	3.15E-06	0.182934	0.568041	1.764806
4.03	0.2644	-0.00162	3.15E-06	0.182898	0.567929	1.764609
4.03	0.2644	-0.00162	3.15E-06	0.182862	0.567818	1.764413
4.03	0.2644	-0.00162	3.15E-06	0.182826	0.567707	1.764218
4.04	0.2644	-0.00162	3.15E-06	0.182791	0.567597	1.764022
4.04	0.2644	-0.00162	3.15E-06	0.182755	0.567486	1.763827
4.04	0.2644	-0.00162	3.15E-06	0.18272	0.567376	1.763633
4.04	0.2644	-0.00162	3.15E-06	0.182684	0.567266	1.763438
4.04	0.2644	-0.00162	3.15E-06	0.182649	0.567155	1.763244
4.04	0.2644	-0.00162	3.15E-06	0.182613	0.567046	1.763051
4.04	0.2644	-0.00162	3.15E-06	0.182578	0.566936	1.762857
4.04	0.2644	-0.00162	3.15E-06	0.182543	0.566826	1.762664
4.04	0.2644	-0.00162	3.15E-06	0.182508	0.566717	1.762471
4.04	0.2644	-0.00162	3.15E-06	0.182472	0.566608	1.762279

4.04	0.2644	-0.00162	3.15E-06	0.182437	0.566499	1.762087
4.04	0.2644	-0.00162	3.15E-06	0.182402	0.56639	1.761895
4.04	0.2644	-0.00162	3.15E-06	0.182367	0.566281	1.761703
4.04	0.2644	-0.00162	3.15E-06	0.182332	0.566173	1.761512
4.04	0.2644	-0.00162	3.15E-06	0.182297	0.566064	1.761321
4.04	0.2644	-0.00162	3.15E-06	0.182262	0.565956	1.76113
4.04	0.2644	-0.00162	3.15E-06	0.182228	0.565848	1.76094
4.04	0.2644	-0.00162	3.15E-06	0.182193	0.56574	1.76075
4.04	0.2644	-0.00162	3.15E-06	0.182158	0.565632	1.76056
4.04	0.2644	-0.00162	3.15E-06	0.182124	0.565525	1.760371
4.05	0.2644	-0.00162	3.15E-06	0.182089	0.565417	1.760182
4.05	0.2644	-0.00162	3.15E-06	0.182054	0.56531	1.759993
4.05	0.2644	-0.00162	3.15E-06	0.18202	0.565203	1.759805
4.05	0.2644	-0.00162	3.15E-06	0.181985	0.565096	1.759616
4.05	0.2644	-0.00162	3.15E-06	0.181951	0.564989	1.759428
4.05	0.2644	-0.00162	3.15E-06	0.181917	0.564882	1.759241
4.05	0.2644	-0.00162	3.15E-06	0.181882	0.564776	1.759053
4.05	0.2644	-0.00162	3.15E-06	0.181848	0.56467	1.758866
4.05	0.2644	-0.00162	3.15E-06	0.181814	0.564563	1.75868
4.05	0.2644	-0.00162	3.15E-06	0.18178	0.564457	1.758493
4.05	0.2644	-0.00162	3.15E-06	0.181746	0.564351	1.758307
4.05	0.2644	-0.00162	3.15E-06	0.181712	0.564246	1.758121
4.05	0.2644	-0.00162	3.15E-06	0.181678	0.56414	1.757936
4.05	0.2644	-0.00162	3.15E-06	0.181644	0.564035	1.75775
4.05	0.2644	-0.00162	3.15E-06	0.18161	0.563929	1.757565
4.05	0.2644	-0.00162	3.15E-06	0.181576	0.563824	1.757381
4.05	0.2644	-0.00162	3.15E-06	0.181542	0.563719	1.757196
4.05	0.2644	-0.00162	3.15E-06	0.181508	0.563615	1.757012
4.05	0.2644	-0.00162	3.15E-06	0.181475	0.56351	1.756828
4.05	0.2644	-0.00162	3.15E-06	0.181441	0.563405	1.756645
4.05	0.2644	-0.00162	3.15E-06	0.181407	0.563301	1.756461
4.06	0.2644	-0.00162	3.15E-06	0.181374	0.563197	1.756278
4.06	0.2644	-0.00162	3.15E-06	0.18134	0.563093	1.756095
4.06	0.2644	-0.00162	3.15E-06	0.181307	0.562989	1.755913
4.06	0.2644	-0.00162	3.15E-06	0.181274	0.562885	1.755731
4.06	0.2644	-0.00162	3.15E-06	0.18124	0.562782	1.755549

Location Index	
England and Wales	1
Scotland and Ireland	2

From Design and Analysis of Urban Storm Drainage, The Wallingford Procedure, Vol 1

Table 6.1 Values of Constants to calculate Cr

Geographic Location	**Range of M5-D**	**Location Index**	J0	J1	J2
England and Wales	0-10	1	0.1699	0.0028	0.000114
	11-30		0.1644	0.005831	-0.00013
	31-75		0.2644	-0.00162	3.15E-06
	76-150		0.2718	-0.00195	6.19E-06
	>150		0.1454	-0.00019	1.14E-07

APPENDIX 7

BROWNFIELD SOLUTIONS GEO-ENVIRONMENTAL ASSESSMENT