Manchester International Office Centre

Styal Road

Manchester M22 5WB

Proposed Commercial Development

Drainage Strategy

For: Infinity (MIOC) LLP

Civil Structural Highways Geotechnical Environmental

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Ref: 3255-FRA
Job: 3255
Rev: -
By: NS

Date: Aug 2020

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1.0 INTRODUCTION

1.1 Integra Consulting has been commissioned by Infinity (MIOC) LLP to undertake a Drainage Strategy report for a site at Manchester International Office Centre, Styal Road M22 5WB. This document has been prepared to accompany the outline planning application for the proposed commercial development of the application site.

1.2 The objective of this Drainage Strategy is to identify potential drainage / flooding issues and any consequent implications on the proposed site development.

1.3 The Drainage Strategy 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'
- Manchester City, Salford City and Trafford Councils Level 1 Strategic Flood Risk Assessment (SFRA) dated May 2010 and Level 2 SFRA dated March 2011
- CIRIA SuDS Manual C753 dated 2015
- 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 United Utilities (UU).

2.0 STANDARDS AND LIMITATIONS

This report has been prepared solely for use by Infinity (MIOC) LLP.

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 existing 0.57 hectare development site is located on Styal Road, circa 1000m to the south west of the centre of Heald Green, Manchester at postcode M22 5WB. The site is centred at National Grid reference 384103, 385255 as shown on the site location plan in Appendix 1.

The site falls gently from south to north - it is bounded to the west by Styal Road (B5166), to the east by a Metrolink line, to the north by further commercial buildings and to the south (through well-established trees and shrubbery) by the new Manchester Airport Eastern Link Road.

Currently, the site consists of a grassed space to the front of the MIOC building with an area of car parking in the south of the site and along the northern and eastern site fringes.

3.2 Hydrology and Flooding

Current Environment Agency flood data indicates the site to lie wholly in Flood Zone 1 (refer to Appendix 2 for details).

EA / DEFRA surface water (pluvial) flood mapping identifies a discrete area at the northern end of the site with a low / medium probability of flooding.

Pluvial mapping is the subject of a separate EA paper made public in November 2013 and is useful in locating possible ground low points and depressions. We quote ‘the conveyance effect of ordinary watercourses or drainage channels is not explicitly modelled’- so whilst the EA mapping shows pathways and confirms the stream paths, the mapping generally takes little account of any existing drainage and in practice there is a very low risk of flooding.

Furthermore, surface water mapping is based on J Flow software and the EA May 2013 'National Scale Surface Water Flood Mapping Methodology' states that the method does not take account of existing drainage systems except by subtracting an average rain depth from storm profiles.

The site is shown to lie outside the maximum extent of flooding area from reservoirs.

The Manchester City, Salford City and Trafford Councils Level 2 Strategic Flood Risk Assessment dated March 2011 states that the subject site lies in the Manchester and Trafford South critical drainage area.

The nearest watercourse to the site lies circa 500m east of the site on the eastern side of the Metrolink lines.

3.3 Existing Sewers

The adopted sewer present in the vicinity of the proposed development site is noted as follows (refer to Appendix 6 for details):

- 600mm diameter adopted combined sewer extending from south to north beneath Styal Road directly to the west of the development site

4.0 PROPOSED DEVELOPMENT

4.1 Development Proposals

Infinity (MIOC) LLP are proposing to construct a new office building on the existing lawn to the front of the MIOC building on Styal Road, Manchester – works include a proposed three storey pavilion building, associated car parking and enhanced landscaping (refer to proposed site plans in Appendix 4).

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

The BGS 1:10,000 scale drift geological map indicates that the study site is underlain by natural drift deposits comprising impermeable diamicton (glacial boulder clay) deposits. The solid geology is generally documented to comprise the Chester Formation (*formerly the Bunter Pebble Beds*) of the Sherwood Sandstone Group comprising permeable red / brown fine- to coarse grained, locally micaceous, generally pebbly, trough - cross-bedded aeolian / fluvial sandstone. An examination of local borehole records suggests that the glacial boulder clay drift deposits extend to depths in excess of 5m below ground level.

Based on the low permeability associated with the boulder clay drift deposits, soakaways and permeable surfaces are deemed unsuitable from a geotechnical viewpoint.

Given the above together with the nearest watercourse to the site lying 500m east of the site through third party land ownerships, it is therefore proposed to discharge post-development surface water to the adjacent adopted 600mm diameter combined sewer system which extends from south to north beneath Styal Road adjacent to the western boundary of the site (refer to Appendix 6 for details). It is assumed that the existing MIOC building discharges surface water to this combined sewer however this can be confirmed by future drainage survey.

The Manchester City, Salford City and Trafford Councils Level 2 Strategic Flood Risk Assessment (SFRA) dated March 2011 states that the subject site lies in the Manchester and Trafford South critical drainage area. The requirement of the SFRA is for the existing brownfield run off rate to be reduced by 50% for all rainfall events up to and including the 1 in 100 year event plus 35% climate change factor. However, as a betterment measure, we propose that all post-development hard surfaced / drained areas of the site discharge to the 600mm diameter combined sewer beneath Styal Road at greenfield run off rates.

The proposed post-development greenfield run off rate 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 35% climate change of approximately 250m3 (refer to Appendix 5 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 + 35% 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 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 lies 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

4.4 Strategic Flood Risk Assessment & EA Mapping Review

From our review of the Manchester City, Salford City and Trafford Councils Level 2 Strategic Flood Risk Assessment (SFRA) dated March 2011, the site lies in the Manchester and Trafford South Critical Drainage Area.

As a betterment to the SFRA requirement for a 50% reduction in the existing brownfield run off rate from the site, it is proposed to discharge post-development surface water from hard surfaced / drained areas of the site to the existing 600mm diameter combined sewer that extends from south to north beneath Styal Road at greenfield run off rates.

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.

4.5 Safe Access and Egress

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

4.6 Foul Water Drainage

It is proposed to discharge post-development foul water to the existing adopted 600mm combined sewer system that extends from south to north beneath Styal Road (refer to Appendix 6 for details). It is assumed that the existing MIOC building discharges foul water to this combined sewer however this can be confirmed by drainage survey.

The foul drainage network will naturally comply with Building Regulations 2010 – Approved Document H1 and the calculations for post-development foul water discharge will be based on Sewers for Adoption 8th Edition.

5.0 CONCLUSIONS

5.1 Flooding

Following a review of the Environment Agency flood maps and data, it has been confirmed that the site lies wholly in 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 + 35% climate change event.

5.2 Site Surface Water Drainage

It is proposed to discharge post-development surface water to the adopted 600mm diameter combined sewer system which extends from south to north beneath Styal Road adjacent to the western boundary of the site.

All feasible SuDS methods and surface water discharge destinations have been assessed. Accordingly, the feasible SuDS method for use at this site is attenuation crate storage and a flow control chamber with post-development surface water discharging at greenfield run off rates to the existing adopted 600mm diameter combined sewer system beneath Styal Road.

5.3 Site Foul Water Drainage

It is proposed to discharge post-development foul water to the existing adopted 600mm diameter combined sewer system that extends from south to north beneath Styal Road.

5.4 Flood Risk Management Measures

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

5.5 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 in 100 year plus 35% climate change event.

5.6 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.

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

APPENDIX 1

SITE LOCATION PLAN



Notes

The Contractor is to check all dimensions and conditions on site before commencing. Do not scale from this drawing.
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Scale Bars TO BE USED ONLY AS GUIDANCE

1:100	mm	1000		3000		5000
1:200	mm		5000		8000	
1:500	M	5		15		25
1:1250	M	10		30	50	70

Rev	Description	By	Date

Client: Infinity (MIOC) LLP

Job: Manchester International Office Centre

Drawing: Site Location Plan

POZ Ref: P5549_1000 Rev:

BS.Ref: PAL-00-ZZ-DR-A-1000

Date	Scale	
12/05/20	1 : 1250	@ A3

3D CoOrd	2D CoOrd	Approved
SPK	SPK	JW

Project Status		
Planning	Tender	Construction
Design	Contract	As Built

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12/05/2020 10:36:14

APPENDIX 2

ENVIRONMENT AGENCY FLOOD MAPPING

Flood map for planning

Your reference	Location (easting/northing)	Created
MIOC	**384028/385276**	**23 Aug 2020 19:11**

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.

The Open Government Licence sets out the terms and conditions for using government data.
https://www.nationalarchives.gov.uk/doc/open-government-licence/version/3/



Environment Agency

Flood map for planning

Your reference
MIOC

Location (easting/northing)
384028/385276

Scale
1:2500

Created
23 Aug 2020 19:11

- 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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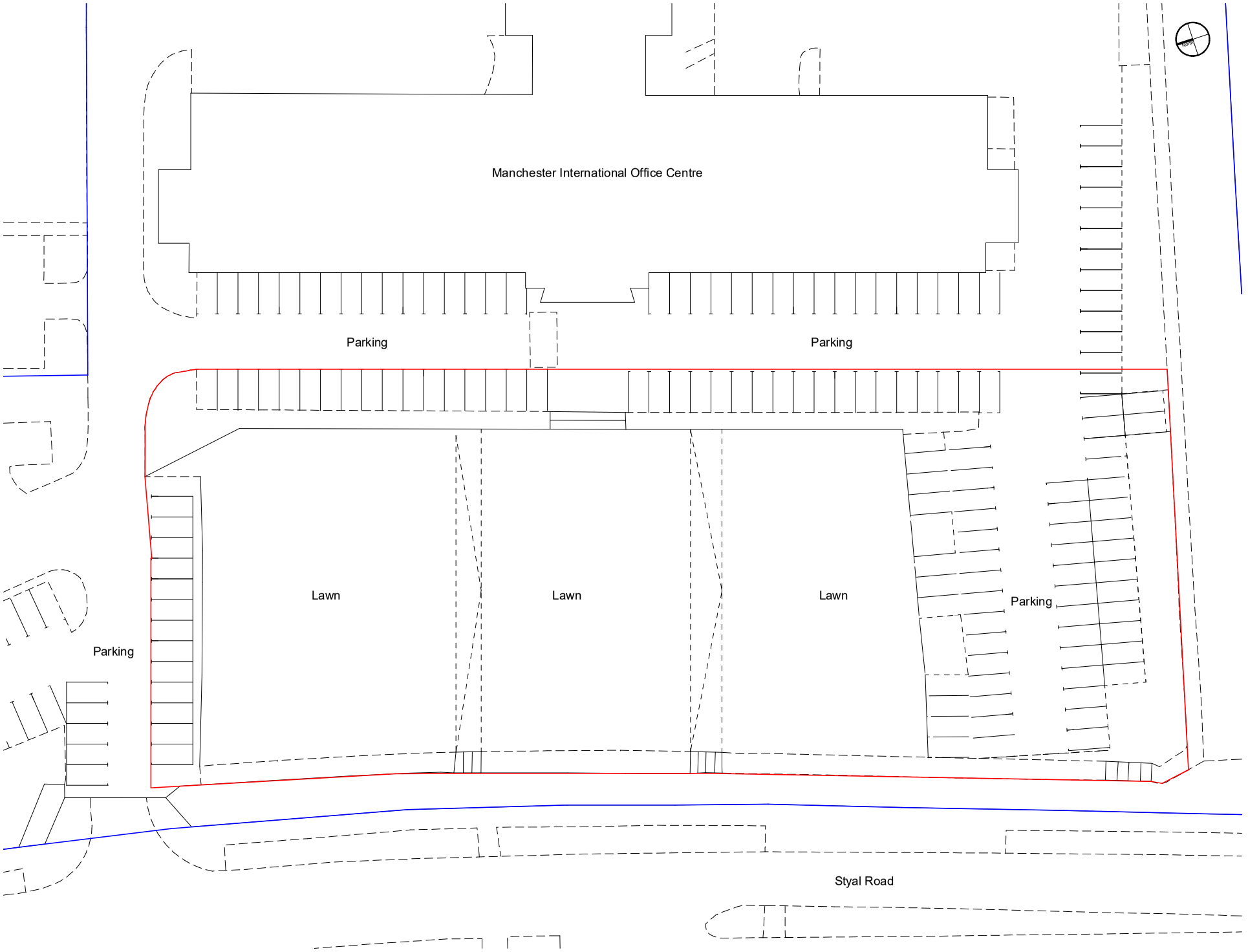
APPENDIX 3

EXISTING SITE PLAN



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1:200	mm		5000		5000		
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1:12.50	M	10		30		50	70

Rev	Description	By	Date
Client	Infinity (MIOC) LLP		
Job	Manchester International Office Centre		
Drawing	Existing Site Plan		
POZ Ref	P5549_1001	Rev	
Ref.Ref	5549-PAL-20-XX-DR-A-1001		
Date	12/05/20	Scale 1 : 200	@ A1
2D Cad Ref	SPK	2D Cad Ref SPK	Approved JW
Project Status	Planning	Tender	Construction
	Design	Contract	As Built

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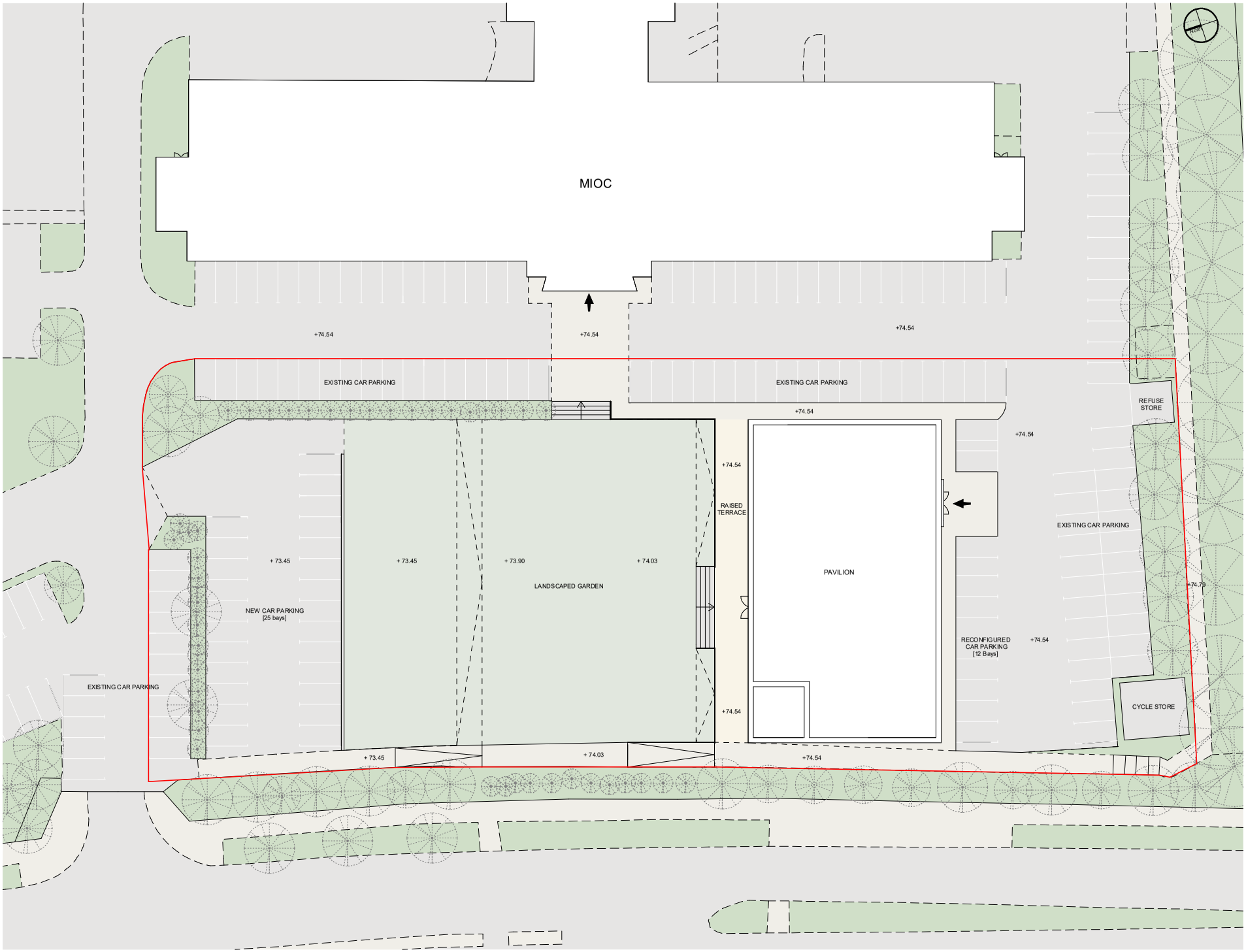
APPENDIX 4

PROPOSED SITE PLANS



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Rev	Description	By	Date
Client	Infinity (MIOC) LLP		
Job	Manchester International Office Centre		
Drawing	Proposed Site Plan		
POZ Ref	P5549_2000	Rev	
Bd.Ref	P5549-PAL-20-XX-DR-A-2000		
Date	12/05/20	Scale	1 : 200 @ A1
3D Co-Ord	SPK	2D Co-Ord	SPK
Approved	JW		
Project Status	Planning	Tender	Construction
	Design	Contract	As Built

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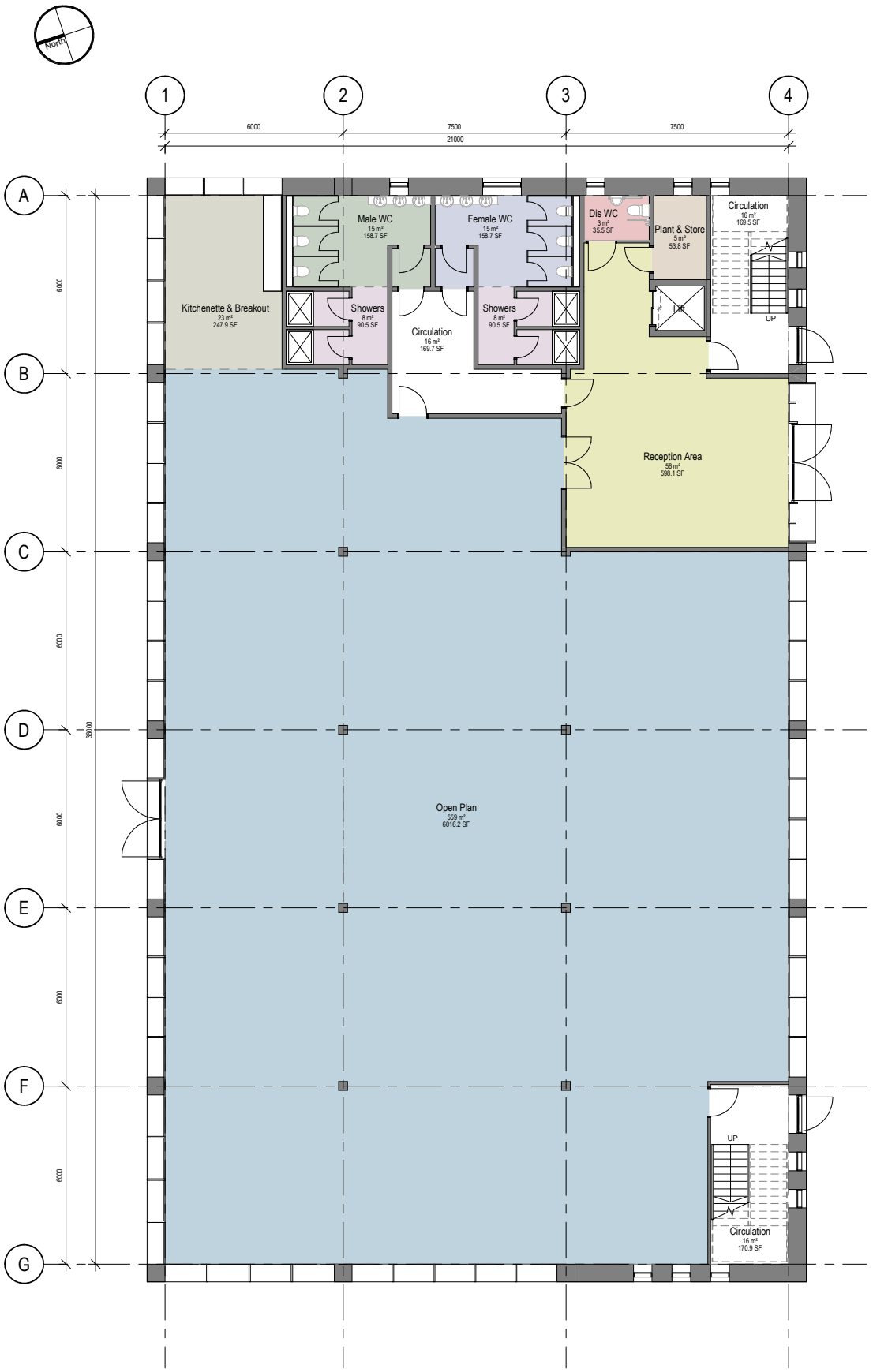

Ground Floor
1 : 100

Notes

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1:200	mm		5000		8000	
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Rev	Description	By	Date

Client: Infinity (MIOC) LLP

Job: Manchester International Office Centre

Drawing: Proposed Plans - GA - Ground Floor

POZ Ref: P5549_2001 Rev:

BS Ref: PAL-20-00-DR-A-2001

Date: 12/05/20 Scale: 1 : 100 @ A2

3D CoOrd: SPK 2D CoOrd: SPK Approved: JW

Project Status: Planning | Tender | Construction
Design | Contract | As Built

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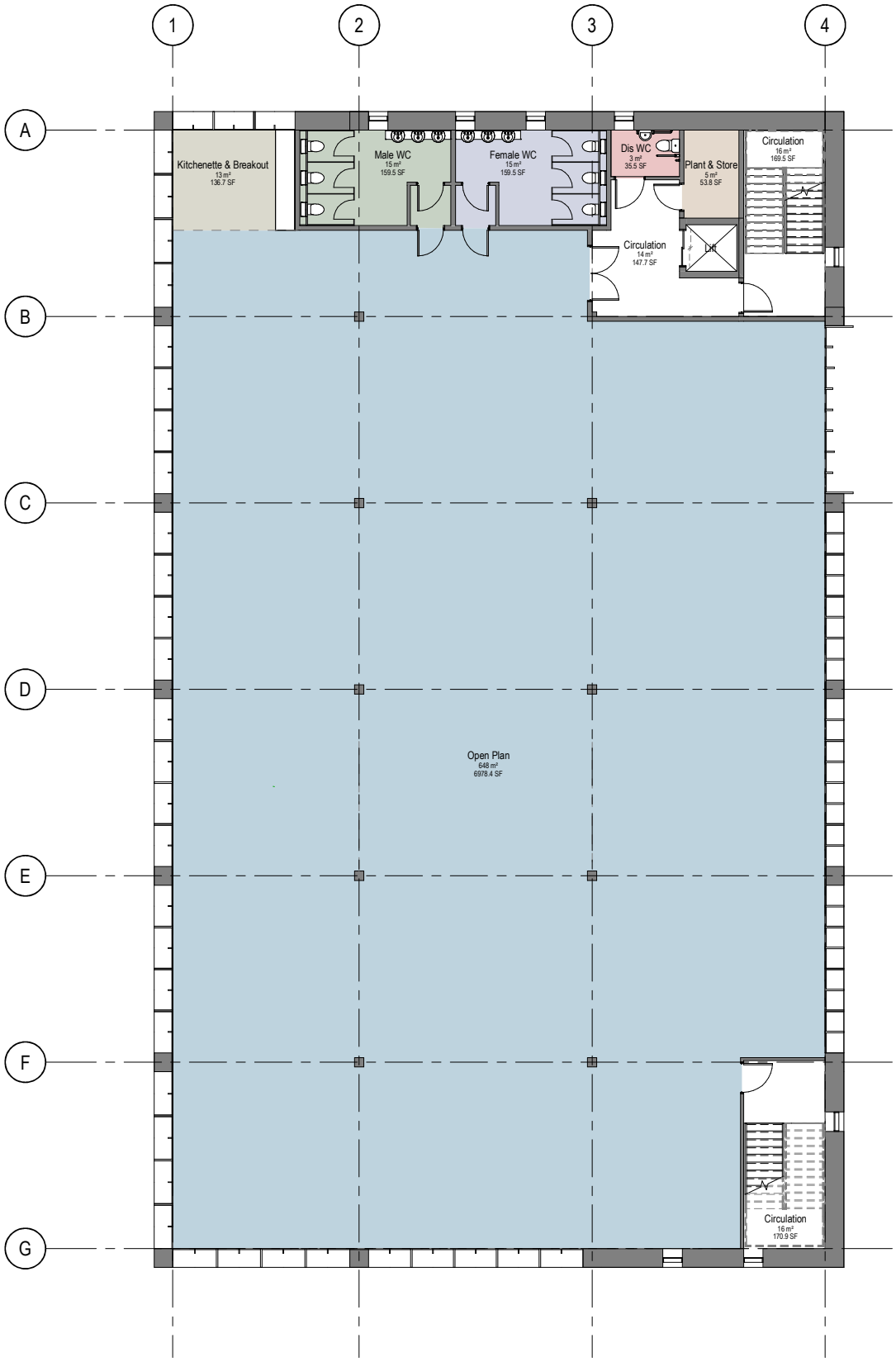

First Floor
1 : 100

Notes

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1:200	mm	5000	8000		
1:500	M	5	15		25
1:1250	M	10	30	50	70

Rev	Description	By	Date

Client: Infinity (MIOC) LLP

Job: Manchester International Office Centre

Drawing: Proposed Plans - GA - First Floor

POZ Ref: P5549_2002 Rev:

BS Ref: PAL-20-01-DR-A-2002

Date: 12/05/20 Scale: 1 : 100 @ A2

3D Co-Ord: SPK 2D Co-Ord: SPK Approved: JW

Project Status: Planning | Tender | Construction
Design | Contract | As Built

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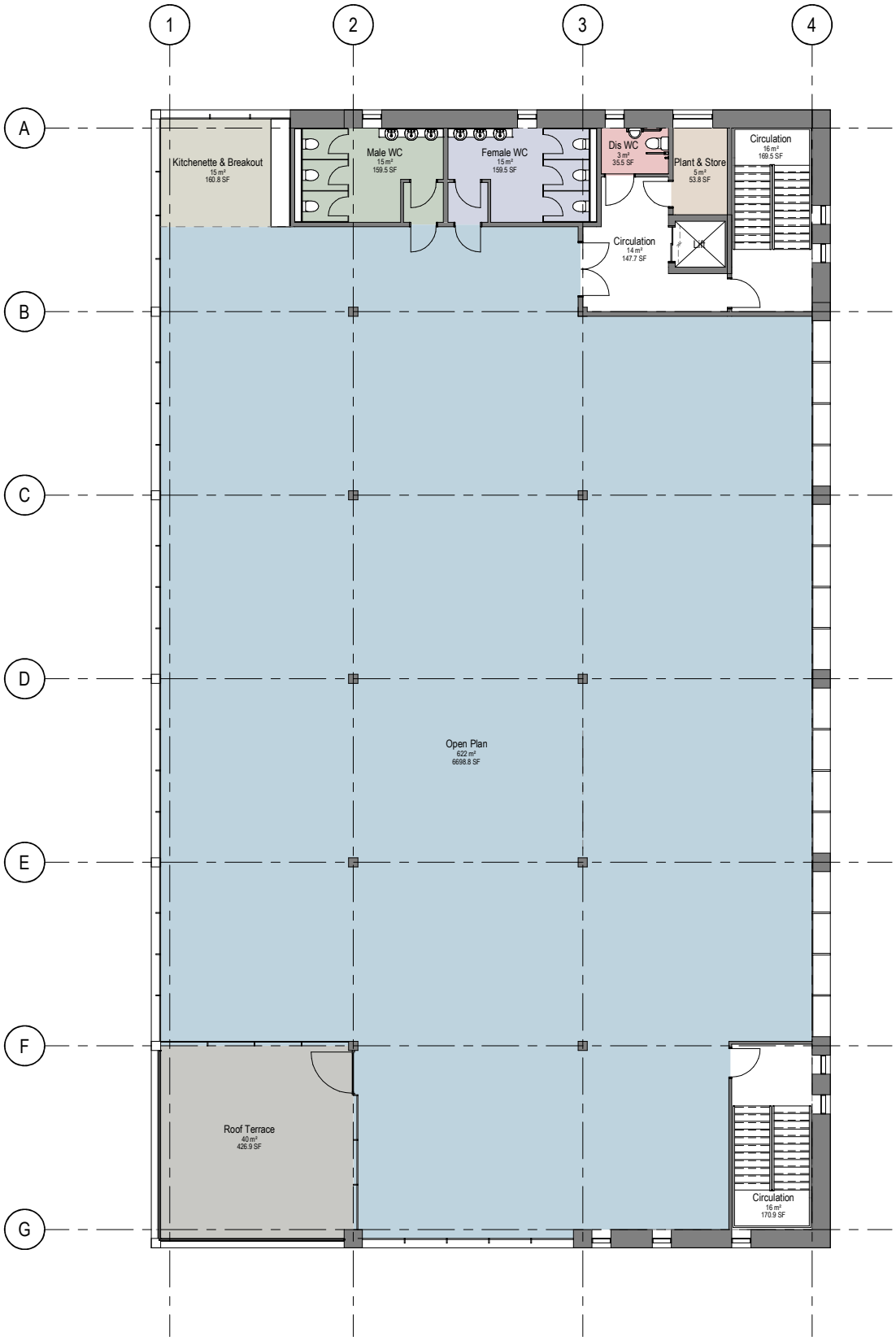

Second Floor
1 : 100

Notes

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1:100	mm	1000		3000		5000
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1:500	M	5		15		25
1:1250	M	10	30		50	70

Rev	Description	By	Date

Client: Infinity (MIOC) LLP

Job: Manchester International Office Centre

Drawing: Proposed Plans - GA - Second Floor

PCZ Ref: P5549_2003 Rev:

BS Ref: P5549-PAL-20-02-DR-A-2003

Date: 12/05/20 Scale: 1 : 100 @ A2

3D CoOrd: SPK 2D CoOrd: SPK Approved: JW

Project Status: Planning | Tender | Construction | Design | Contract | As Built

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APPENDIX 5

SURFACE WATER ATTENUATION CALCULATIONS

Greenfield runoff rate estimation for sites

www.uksuds.com | Greenfield runoff tool

Calculated by:	Jan Skibniewski
Site name:	MIOC
Site location:	M22 5WB

This is an estimation of the greenfield runoff rates that are used to meet normal best practice criteria in line with Environment Agency guidance "Rainfall runoff management for developments", SC030219 (2013) , the SuDS Manual C753 (Ciria, 2015) and the non-statutory standards for SuDS (Defra, 2015). This information on greenfield runoff rates may be the basis for setting consents for the drainage of surface water runoff from sites.

Site Details

Latitude:	53.36421° N
Longitude:	2.24155° W
Reference:	473069342
Date:	Aug 25 2020 12:16

Runoff estimation approach

IH124

Site characteristics

Total site area (ha): 0.3685

Methodology

Q_{BAR} estimation method:	Calculate from SPR and SAAR
SPR estimation method:	Calculate from SOIL type

Soil characteristics

	Default	Edited
SOIL type:	4	4
HOST class:	N/A	N/A
SPR/SPRHOST:	0.47	0.47

Hydrological characteristics

	Default	Edited
SAAR (mm):	829	829
Hydrological region:	10	10
Growth curve factor 1 year:	0.87	0.87
Growth curve factor 30 years:	1.7	1.7
Growth curve factor 100 years:	2.08	2.08
Growth curve factor 200 years:	2.37	2.37

Notes

(1) Is Q_{BAR} < 2.0 l/s/ha?

When Q_{BAR} is < 2.0 l/s/ha then limiting discharge rates are set at 2.0 l/s/ha.

(2) Are flow rates < 5.0 l/s?

Where flow rates are less than 5.0 l/s consent for discharge is usually set at 5.0 l/s if blockage from vegetation and other materials is possible. Lower consent flow rates may be set where the blockage risk is addressed by using appropriate drainage elements.

(3) Is SPR/SPRHOST ≤ 0.3?

Where groundwater levels are low enough the use of soakaways to avoid discharge offsite would normally be preferred for disposal of surface water runoff.

Greenfield runoff rates

	Default	Edited
Q_{BAR} (l/s):	2.17	2.17
1 in 1 year (l/s):	1.89	1.89
1 in 30 years (l/s):	3.69	3.69
1 in 100 year (l/s):	4.51	4.51
1 in 200 years (l/s):	5.14	5.14

This report was produced using the greenfield runoff tool developed by HR Wallingford and available at www.uksuds.com. The use of this tool is subject to the UK SuDS terms and conditions and licence agreement , which can both be found at www.uksuds.com/terms-and-conditions.htm. The outputs from this tool are estimates of greenfield runoff rates. The use of these results is the responsibility of the users of this tool. No liability will be accepted by HR Wallingford, the Environment Agency, CEH, Hydrosolutions or any other organisation for the use of this data in the design or operational characteristics of any drainage scheme.



Notes

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Rev.	Description	By	Date

Client: Infinity (MIOC) LLP

Job: Manchester International Office Centre

Drawing: Proposed Site Plan

Job Number: P5549_2000 Rev:

Drawing Number: P5549-PAL-20-XX-DR-A-2000

Date: 12/05/20 Scale: 1 : 200 @ A1

Drawn	Checked	Reviewed
SPK	SPK	JW

Purpose of Issue: Planning | Tender | Construction | Design | Contract | As Built

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Calculations

Job No.	Date
3255	25/08/20
Sheet 01	By JS

Job Title Manchester International office Centre

Site location - M22 5WB
Drdlas based on greenfield runoff
Site boundary area = 5675 m^2
Storage (attenuation required) for 1:30 year
1:100 + 35% CC
Proposed hardstanding (catchments) area = 3685 m^2
Proposed soft areas = 1990 m^2
Q_{bar} = 2.2 l/s (3685 m^2)

Attenuation volume estimate :

1:30 year → 119 m^3

1:100 year + 35% CC → 247 m^3

M5-60 = 18.20
R = 0.38

Integra Consulting

Job No	Date
3255	25.08.20
Sheet	By
01	JS

Calculations

Job Title MIOC

Storm Water Flood Model

M5-60 = 18.20 **R =** 0.38 **Return, T =** 30 **Area (m²) =** 3685

CC Factor = 0.00 **Limit (l/s) =** 2.2

Totals 119 119

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	9.44	13.98	83.90	85.33	85.33	49.88	49.88
15.00	11.27	16.91	67.62	68.78	68.78	59.92	59.92
20.00	12.62	19.06	57.17	58.15	58.15	67.14	67.14
25.00	13.70	20.78	49.87	50.72	50.72	72.78	72.78
30.00	14.60	22.22	44.43	45.19	45.19	77.39	77.39
35.00	15.37	23.46	40.21	40.90	40.90	81.27	81.27
40.00	16.05	24.55	36.82	37.45	37.45	84.60	84.60
45.00	16.66	25.53	34.03	34.61	34.61	87.52	87.52
50.00	17.22	26.41	31.69	32.23	32.23	90.10	90.10
55.00	17.73	27.22	29.70	30.20	30.20	92.41	92.41
60.00	18.20	27.97	27.97	28.45	28.45	94.49	94.49
65.00	18.64	28.67	26.46	26.91	26.91	96.38	96.38
70.00	19.05	29.32	25.13	25.56	25.56	98.10	98.10
75.00	19.44	29.93	23.94	24.35	24.35	99.68	99.68
80.00	19.80	30.50	22.88	23.27	23.27	101.13	101.13
85.00	20.15	31.05	21.92	22.29	22.29	102.47	102.47
90.00	20.48	31.57	21.05	21.40	21.40	103.71	103.71
95.00	20.80	32.06	20.25	20.60	20.60	104.85	104.85
100.00	21.10	32.53	19.52	19.85	19.85	105.92	105.92
105.00	21.40	32.98	18.85	19.17	19.17	106.91	106.91
110.00	21.68	33.42	18.23	18.54	18.54	107.84	107.84
115.00	21.95	33.83	17.65	17.95	17.95	108.70	108.70
120.00	22.21	34.23	17.12	17.41	17.41	109.50	109.50
125.00	22.46	34.62	16.62	16.90	16.90	110.25	110.25
130.00	22.70	34.99	16.15	16.43	16.43	110.96	110.96
135.00	22.94	35.35	15.71	15.98	15.98	111.62	111.62
140.00	23.17	35.70	15.30	15.56	15.56	112.23	112.23
145.00	23.39	36.04	14.91	15.17	15.17	112.81	112.81
150.00	23.61	36.36	14.55	14.79	14.79	113.35	113.35
155.00	23.82	36.68	14.20	14.44	14.44	113.85	113.85
160.00	24.03	36.99	13.87	14.11	14.11	114.32	114.32
165.00	24.23	37.29	13.56	13.79	13.79	114.76	114.76
170.00	24.42	37.58	13.26	13.49	13.49	115.17	115.17
175.00	24.62	37.87	12.98	13.20	13.20	115.55	115.55
180.00	24.80	38.15	12.72	12.93	12.93	115.91	115.91
185.00	24.99	38.42	12.46	12.67	12.67	116.24	116.24
190.00	25.17	38.68	12.21	12.42	12.42	116.54	116.54
195.00	25.34	38.94	11.98	12.19	12.19	116.83	116.83
200.00	25.51	39.19	11.76	11.96	11.96	117.09	117.09

205.00	25.68	39.44	11.54	11.74	11.74	117.33	117.33
210.00	25.85	39.68	11.34	11.53	11.53	117.55	117.55
215.00	26.01	39.91	11.14	11.33	11.33	117.76	117.76
220.00	26.17	40.14	10.95	11.13	11.13	117.94	117.94
225.00	26.33	40.37	10.77	10.95	10.95	118.11	118.11
230.00	26.48	40.59	10.59	10.77	10.77	118.26	118.26
235.00	26.63	40.81	10.42	10.60	10.60	118.39	118.39
240.00	26.78	41.02	10.26	10.43	10.43	118.51	118.51
245.00	26.93	41.23	10.10	10.27	10.27	118.62	118.62
250.00	27.07	41.43	9.94	10.11	10.11	118.71	118.71
255.00	27.22	41.64	9.80	9.96	9.96	118.78	118.78
260.00	27.36	41.83	9.65	9.82	9.82	118.85	118.85
265.00	27.49	42.03	9.52	9.68	9.68	118.90	118.90
270.00	27.63	42.22	9.38	9.54	9.54	118.94	118.94
275.00	27.76	42.40	9.25	9.41	9.41	118.96	118.96
280.00	27.90	42.59	9.13	9.28	9.28	118.98	118.98
285.00	28.03	42.77	9.00	9.16	9.16	118.98	118.98
290.00	28.15	42.95	8.89	9.04	9.04	118.97	118.97
295.00	28.28	43.12	8.77	8.92	8.92	118.95	118.95
300.00	28.41	43.30	8.66	8.81	8.81	118.92	118.92
305.00	28.53	43.47	8.55	8.70	8.70	118.89	118.89
310.00	28.65	43.63	8.45	8.59	8.59	118.84	118.84
315.00	28.77	43.80	8.34	8.48	8.48	118.78	118.78
320.00	28.89	43.96	8.24	8.38	8.38	118.71	118.71
325.00	29.01	44.12	8.15	8.28	8.28	118.64	118.64
330.00	29.13	44.28	8.05	8.19	8.19	118.56	118.56
335.00	29.24	44.43	7.96	8.09	8.09	118.46	118.46
340.00	29.35	44.58	7.87	8.00	8.00	118.36	118.36
345.00	29.47	44.74	7.78	7.91	7.91	118.25	118.25
350.00	29.58	44.88	7.69	7.83	7.83	118.14	118.14
355.00	29.69	45.03	7.61	7.74	7.74	118.02	118.02
360.00	29.80	45.18	7.53	7.66	7.66	117.89	117.89
365.00	29.90	45.32	7.45	7.58	7.58	117.75	117.75
370.00	30.01	45.46	7.37	7.50	7.50	117.60	117.60
375.00	30.11	45.60	7.30	7.42	7.42	117.45	117.45
380.00	30.22	45.73	7.22	7.34	7.34	117.29	117.29
385.00	30.32	45.87	7.15	7.27	7.27	117.13	117.13
390.00	30.42	46.00	7.08	7.20	7.20	116.96	116.96
395.00	30.52	46.14	7.01	7.13	7.13	116.78	116.78
400.00	30.62	46.27	6.94	7.06	7.06	116.60	116.60
405.00	30.72	46.39	6.87	6.99	6.99	116.41	116.41
410.00	30.82	46.52	6.81	6.92	6.92	116.22	116.22
415.00	30.92	46.65	6.74	6.86	6.86	116.02	116.02
420.00	31.02	46.87	6.70	6.81	6.81	116.17	116.17
425.00	31.11	47.00	6.64	6.75	6.75	115.99	115.99
430.00	31.21	47.13	6.58	6.69	6.69	115.81	115.81
435.00	31.30	47.26	6.52	6.63	6.63	115.62	115.62
440.00	31.39	47.39	6.46	6.57	6.57	115.43	115.43
445.00	31.49	47.52	6.41	6.52	6.52	115.24	115.24
450.00	31.58	47.64	6.35	6.46	6.46	115.04	115.04

455.00	31.67	47.77	6.30	6.41	6.41	114.84	114.84
460.00	31.76	47.89	6.25	6.35	6.35	114.63	114.63
465.00	31.85	48.02	6.20	6.30	6.30	114.42	114.42
470.00	31.93	48.14	6.15	6.25	6.25	114.21	114.21
475.00	32.02	48.26	6.10	6.20	6.20	113.99	113.99
480.00	32.11	48.38	6.05	6.15	6.15	113.77	113.77
485.00	32.20	48.50	6.00	6.10	6.10	113.55	113.55
490.00	32.28	48.61	5.95	6.05	6.05	113.32	113.32
495.00	32.37	48.73	5.91	6.01	6.01	113.08	113.08
500.00	32.45	48.85	5.86	5.96	5.96	112.85	112.85
505.00	32.53	48.96	5.82	5.92	5.92	112.61	112.61
510.00	32.62	49.08	5.77	5.87	5.87	112.37	112.37
515.00	32.70	49.19	5.73	5.83	5.83	112.12	112.12
520.00	32.78	49.30	5.69	5.79	5.79	111.87	111.87
525.00	32.86	49.41	5.65	5.74	5.74	111.62	111.62
530.00	32.94	49.52	5.61	5.70	5.70	111.36	111.36
535.00	33.02	49.63	5.57	5.66	5.66	111.10	111.10
540.00	33.10	49.74	5.53	5.62	5.62	110.84	110.84
545.00	33.18	49.85	5.49	5.58	5.58	110.58	110.58
550.00	33.26	49.96	5.45	5.54	5.54	110.31	110.31
555.00	33.34	50.06	5.41	5.50	5.50	110.04	110.04
560.00	33.41	50.17	5.38	5.47	5.47	109.77	109.77
565.00	33.49	50.27	5.34	5.43	5.43	109.49	109.49
570.00	33.57	50.38	5.30	5.39	5.39	109.21	109.21
575.00	33.64	50.48	5.27	5.36	5.36	108.93	108.93
580.00	33.72	50.58	5.23	5.32	5.32	108.65	108.65
585.00	33.79	50.69	5.20	5.29	5.29	108.36	108.36
590.00	33.87	50.79	5.16	5.25	5.25	108.07	108.07
595.00	33.94	50.89	5.13	5.22	5.22	107.78	107.78
600.00	34.01	50.99	5.10	5.19	5.19	107.48	107.48
605.00	34.09	51.09	5.07	5.15	5.15	107.19	107.19
610.00	34.16	51.18	5.03	5.12	5.12	106.89	106.89
615.00	34.23	51.28	5.00	5.09	5.09	106.59	106.59
620.00	34.30	51.38	4.97	5.06	5.06	106.28	106.28
625.00	34.37	51.48	4.94	5.03	5.03	105.98	105.98
630.00	34.44	51.57	4.91	5.00	5.00	105.67	105.67
635.00	34.52	51.67	4.88	4.97	4.97	105.36	105.36
640.00	34.58	51.76	4.85	4.94	4.94	105.04	105.04
645.00	34.65	51.86	4.82	4.91	4.91	104.73	104.73
650.00	34.72	51.95	4.80	4.88	4.88	104.41	104.41
655.00	34.79	52.04	4.77	4.85	4.85	104.09	104.09
660.00	34.86	52.14	4.74	4.82	4.82	103.77	103.77
665.00	34.93	52.23	4.71	4.79	4.79	103.45	103.45
670.00	34.99	52.32	4.69	4.77	4.77	103.12	103.12
675.00	35.06	52.41	4.66	4.74	4.74	102.80	102.80
680.00	35.13	52.50	4.63	4.71	4.71	102.47	102.47
685.00	35.19	52.59	4.61	4.69	4.69	102.13	102.13
690.00	35.26	52.68	4.58	4.66	4.66	101.80	101.80
695.00	35.33	52.77	4.56	4.63	4.63	101.47	101.47
700.00	35.39	52.86	4.53	4.61	4.61	101.13	101.13

705.00	35.46	52.94	4.51	4.58	4.58	100.79	100.79
710.00	35.52	53.03	4.48	4.56	4.56	100.45	100.45
715.00	35.58	53.12	4.46	4.53	4.53	100.11	100.11
720.00	35.65	53.20	4.43	4.51	4.51	99.76	99.76
725.00	35.71	53.29	4.41	4.49	4.49	99.42	99.42
730.00	35.78	53.37	4.39	4.46	4.46	99.07	99.07
735.00	35.84	53.46	4.36	4.44	4.44	98.72	98.72
740.00	35.90	53.54	4.34	4.42	4.42	98.37	98.37
745.00	35.96	53.63	4.32	4.39	4.39	98.01	98.01
750.00	36.02	53.71	4.30	4.37	4.37	97.66	97.66
755.00	36.09	53.79	4.28	4.35	4.35	97.30	97.30
760.00	36.15	53.88	4.25	4.33	4.33	96.94	96.94
765.00	36.21	53.96	4.23	4.30	4.30	96.58	96.58
770.00	36.27	54.04	4.21	4.28	4.28	96.22	96.22
775.00	36.33	54.12	4.19	4.26	4.26	95.86	95.86
780.00	36.39	54.20	4.17	4.24	4.24	95.50	95.50
785.00	36.45	54.28	4.15	4.22	4.22	95.13	95.13
790.00	36.51	54.36	4.13	4.20	4.20	94.76	94.76
795.00	36.57	54.44	4.11	4.18	4.18	94.40	94.40
800.00	36.63	54.52	4.09	4.16	4.16	94.03	94.03
805.00	36.68	54.60	4.07	4.14	4.14	93.65	93.65
810.00	36.74	54.68	4.05	4.12	4.12	93.28	93.28
815.00	36.80	54.76	4.03	4.10	4.10	92.91	92.91
820.00	36.86	54.83	4.01	4.08	4.08	92.53	92.53
825.00	36.92	54.91	3.99	4.06	4.06	92.15	92.15
830.00	36.97	54.99	3.98	4.04	4.04	91.77	91.77
835.00	37.03	55.06	3.96	4.02	4.02	91.39	91.39
840.00	37.09	55.14	3.94	4.01	4.01	91.01	91.01
845.00	37.14	55.22	3.92	3.99	3.99	90.63	90.63
850.00	37.20	55.29	3.90	3.97	3.97	90.25	90.25
855.00	37.26	55.37	3.89	3.95	3.95	89.86	89.86
860.00	37.31	55.44	3.87	3.93	3.93	89.47	89.47
865.00	37.37	55.52	3.85	3.92	3.92	89.09	89.09
870.00	37.42	55.59	3.83	3.90	3.90	88.70	88.70
875.00	37.48	55.66	3.82	3.88	3.88	88.31	88.31
880.00	37.53	55.74	3.80	3.87	3.87	87.91	87.91
885.00	37.59	55.81	3.78	3.85	3.85	87.52	87.52
890.00	37.64	55.88	3.77	3.83	3.83	87.13	87.13
895.00	37.69	55.95	3.75	3.82	3.82	86.73	86.73
900.00	37.75	56.03	3.74	3.80	3.80	86.34	86.34
905.00	37.80	56.10	3.72	3.78	3.78	85.94	85.94
910.00	37.86	56.17	3.70	3.77	3.77	85.54	85.54
915.00	37.91	56.24	3.69	3.75	3.75	85.14	85.14
920.00	37.96	56.31	3.67	3.74	3.74	84.74	84.74
925.00	38.01	56.38	3.66	3.72	3.72	84.34	84.34
930.00	38.07	56.45	3.64	3.70	3.70	83.93	83.93
935.00	38.12	56.52	3.63	3.69	3.69	83.53	83.53
940.00	38.17	56.59	3.61	3.67	3.67	83.12	83.12
945.00	38.22	56.66	3.60	3.66	3.66	82.72	82.72
950.00	38.27	56.73	3.58	3.64	3.64	82.31	82.31

955.00	38.33	56.80	3.57	3.63	3.63	81.90	81.90
960.00	38.38	56.87	3.55	3.61	3.61	81.49	81.49
965.00	38.43	56.93	3.54	3.60	3.60	81.08	81.08
970.00	38.48	57.00	3.53	3.59	3.59	80.67	80.67
975.00	38.53	57.07	3.51	3.57	3.57	80.25	80.25
980.00	38.58	57.14	3.50	3.56	3.56	79.84	79.84
985.00	38.63	57.20	3.48	3.54	3.54	79.42	79.42
990.00	38.68	57.27	3.47	3.53	3.53	79.01	79.01
995.00	38.73	57.34	3.46	3.52	3.52	78.59	78.59
1000.00	38.78	57.40	3.44	3.50	3.50	78.17	78.17
1005.00	38.83	57.47	3.43	3.49	3.49	77.75	77.75
1010.00	38.88	57.53	3.42	3.48	3.48	77.33	77.33
1015.00	38.93	57.60	3.40	3.46	3.46	76.91	76.91
1020.00	38.98	57.66	3.39	3.45	3.45	76.49	76.49
1025.00	39.03	57.73	3.38	3.44	3.44	76.07	76.07
1030.00	39.07	57.79	3.37	3.42	3.42	75.64	75.64
1035.00	39.12	57.86	3.35	3.41	3.41	75.22	75.22
1040.00	39.17	57.92	3.34	3.40	3.40	74.79	74.79
1045.00	39.22	57.99	3.33	3.39	3.39	74.37	74.37
1050.00	39.27	58.05	3.32	3.37	3.37	73.94	73.94
1055.00	39.31	58.11	3.30	3.36	3.36	73.51	73.51
1060.00	39.36	58.18	3.29	3.35	3.35	73.08	73.08
1065.00	39.41	58.24	3.28	3.34	3.34	72.65	72.65
1070.00	39.46	58.30	3.27	3.32	3.32	72.22	72.22
1075.00	39.50	58.36	3.26	3.31	3.31	71.79	71.79
1080.00	39.55	58.42	3.25	3.30	3.30	71.36	71.36
1085.00	39.60	58.49	3.23	3.29	3.29	70.92	70.92
1090.00	39.64	58.55	3.22	3.28	3.28	70.49	70.49
1095.00	39.69	58.61	3.21	3.27	3.27	70.06	70.06
1100.00	39.74	58.67	3.20	3.25	3.25	69.62	69.62
1105.00	39.78	58.73	3.19	3.24	3.24	69.18	69.18
1110.00	39.83	58.79	3.18	3.23	3.23	68.75	68.75
1115.00	39.87	58.85	3.17	3.22	3.22	68.31	68.31
1120.00	39.92	58.91	3.16	3.21	3.21	67.87	67.87
1125.00	39.97	58.97	3.15	3.20	3.20	67.43	67.43
1130.00	40.01	59.03	3.13	3.19	3.19	66.99	66.99
1135.00	40.06	59.09	3.12	3.18	3.18	66.55	66.55
1140.00	40.10	59.15	3.11	3.17	3.17	66.10	66.10
1145.00	40.15	59.21	3.10	3.16	3.16	65.66	65.66
1150.00	40.19	59.27	3.09	3.15	3.15	65.22	65.22
1155.00	40.24	59.33	3.08	3.13	3.13	64.77	64.77
1160.00	40.28	59.39	3.07	3.12	3.12	64.33	64.33
1165.00	40.32	59.45	3.06	3.11	3.11	63.88	63.88
1170.00	40.37	59.51	3.05	3.10	3.10	63.43	63.43
1175.00	40.41	59.56	3.04	3.09	3.09	62.99	62.99
1180.00	40.46	59.62	3.03	3.08	3.08	62.54	62.54
1185.00	40.50	59.68	3.02	3.07	3.07	62.09	62.09
1190.00	40.54	59.74	3.01	3.06	3.06	61.64	61.64
1195.00	40.59	59.79	3.00	3.05	3.05	61.19	61.19
1200.00	40.63	59.85	2.99	3.04	3.04	60.74	60.74

1205.00	40.67	59.91	2.98	3.03	3.03	60.29	60.29
1210.00	40.72	59.96	2.97	3.02	3.02	59.83	59.83
1215.00	40.76	60.02	2.96	3.01	3.01	59.38	59.38
1220.00	40.80	60.08	2.95	3.00	3.00	58.93	58.93
1225.00	40.84	60.13	2.95	3.00	3.00	58.47	58.47
1230.00	40.89	60.19	2.94	2.99	2.99	58.02	58.02
1235.00	40.93	60.24	2.93	2.98	2.98	57.56	57.56
1240.00	40.97	60.30	2.92	2.97	2.97	57.10	57.10
1245.00	41.01	60.36	2.91	2.96	2.96	56.65	56.65
1250.00	41.06	60.41	2.90	2.95	2.95	56.19	56.19
1255.00	41.10	60.47	2.89	2.94	2.94	55.73	55.73
1260.00	41.14	60.52	2.88	2.93	2.93	55.27	55.27
1265.00	41.18	60.58	2.87	2.92	2.92	54.81	54.81
1270.00	41.22	60.63	2.86	2.91	2.91	54.35	54.35
1275.00	41.26	60.68	2.86	2.90	2.90	53.89	53.89
1280.00	41.30	60.74	2.85	2.90	2.90	53.43	53.43
1285.00	41.35	60.79	2.84	2.89	2.89	52.97	52.97
1290.00	41.39	60.85	2.83	2.88	2.88	52.50	52.50
1295.00	41.43	60.90	2.82	2.87	2.87	52.04	52.04
1300.00	41.47	60.95	2.81	2.86	2.86	51.57	51.57
1305.00	41.51	61.01	2.80	2.85	2.85	51.11	51.11
1310.00	41.55	61.06	2.80	2.84	2.84	50.64	50.64
1315.00	41.59	61.11	2.79	2.84	2.84	50.18	50.18
1320.00	41.63	61.17	2.78	2.83	2.83	49.71	49.71
1325.00	41.67	61.22	2.77	2.82	2.82	49.24	49.24
1330.00	41.71	61.27	2.76	2.81	2.81	48.78	48.78
1335.00	41.75	61.32	2.76	2.80	2.80	48.31	48.31
1340.00	41.79	61.37	2.75	2.80	2.80	47.84	47.84
1345.00	41.83	61.43	2.74	2.79	2.79	47.37	47.37
1350.00	41.87	61.48	2.73	2.78	2.78	46.90	46.90
1355.00	41.91	61.53	2.72	2.77	2.77	46.43	46.43
1360.00	41.95	61.58	2.72	2.76	2.76	45.96	45.96
1365.00	41.99	61.63	2.71	2.76	2.76	45.49	45.49
1370.00	42.03	61.68	2.70	2.75	2.75	45.01	45.01
1375.00	42.07	61.74	2.69	2.74	2.74	44.54	44.54
1380.00	42.10	61.79	2.69	2.73	2.73	44.07	44.07
1385.00	42.14	61.84	2.68	2.72	2.72	43.59	43.59
1390.00	42.18	61.89	2.67	2.72	2.72	43.12	43.12
1395.00	42.22	61.94	2.66	2.71	2.71	42.64	42.64
1400.00	42.26	61.99	2.66	2.70	2.70	42.17	42.17
1405.00	42.30	62.04	2.65	2.69	2.69	41.69	41.69
1410.00	42.34	62.09	2.64	2.69	2.69	41.22	41.22
1415.00	42.37	62.14	2.63	2.68	2.68	40.74	40.74
1420.00	42.41	62.19	2.63	2.67	2.67	40.26	40.26
1425.00	42.45	62.24	2.62	2.67	2.67	39.78	39.78
1430.00	42.49	62.29	2.61	2.66	2.66	39.30	39.30
1435.00	42.53	62.34	2.61	2.65	2.65	38.82	38.82
1440.00	42.56	62.39	2.60	2.64	2.64	38.34	38.34
1445.00	42.60	62.44	2.59	2.64	2.64	37.86	37.86
1450.00	42.64	62.49	2.59	2.63	2.63	37.38	37.38

1455.00	42.68	62.53	2.58	2.62	2.62	36.90	36.90
1460.00	42.71	62.58	2.57	2.62	2.62	36.42	36.42
1465.00	42.75	62.63	2.57	2.61	2.61	35.94	35.94
1470.00	42.79	62.68	2.56	2.60	2.60	35.46	35.46
1475.00	42.83	62.73	2.55	2.60	2.60	34.97	34.97
1480.00	42.86	62.78	2.54	2.59	2.59	34.49	34.49
1485.00	42.90	62.82	2.54	2.58	2.58	34.01	34.01
1490.00	42.94	62.87	2.53	2.57	2.57	33.52	33.52
1495.00	42.97	62.92	2.53	2.57	2.57	33.04	33.04
1500.00	43.01	62.97	2.52	2.56	2.56	32.55	32.55
1505.00	43.05	63.01	2.51	2.56	2.56	32.06	32.06
1510.00	43.08	63.06	2.51	2.55	2.55	31.58	31.58
1515.00	43.12	63.11	2.50	2.54	2.54	31.09	31.09
1520.00	43.15	63.16	2.49	2.54	2.54	30.60	30.60
1525.00	43.19	63.20	2.49	2.53	2.53	30.11	30.11
1530.00	43.23	63.25	2.48	2.52	2.52	29.63	29.63
1535.00	43.26	63.30	2.47	2.52	2.52	29.14	29.14
1540.00	43.30	63.34	2.47	2.51	2.51	28.65	28.65
1545.00	43.33	63.39	2.46	2.50	2.50	28.16	28.16
1550.00	43.37	63.44	2.46	2.50	2.50	27.67	27.67
1555.00	43.41	63.48	2.45	2.49	2.49	27.18	27.18
1560.00	43.44	63.53	2.44	2.49	2.49	26.69	26.69
1565.00	43.48	63.58	2.44	2.48	2.48	26.20	26.20
1570.00	43.51	63.62	2.43	2.47	2.47	25.70	25.70
1575.00	43.55	63.67	2.43	2.47	2.47	25.21	25.21
1580.00	43.58	63.71	2.42	2.46	2.46	24.72	24.72
1585.00	43.62	63.76	2.41	2.45	2.45	24.23	24.23
1590.00	43.65	63.80	2.41	2.45	2.45	23.73	23.73
1595.00	43.69	63.85	2.40	2.44	2.44	23.24	23.24
1600.00	43.72	63.89	2.40	2.44	2.44	22.74	22.74
1605.00	43.76	63.94	2.39	2.43	2.43	22.25	22.25
1610.00	43.79	63.98	2.38	2.43	2.43	21.75	21.75
1615.00	43.83	64.03	2.38	2.42	2.42	21.26	21.26
1620.00	43.86	64.07	2.37	2.41	2.41	20.76	20.76
1625.00	43.89	64.12	2.37	2.41	2.41	20.27	20.27
1630.00	43.93	64.16	2.36	2.40	2.40	19.77	19.77
1635.00	43.96	64.21	2.36	2.40	2.40	19.27	19.27
1640.00	44.00	64.25	2.35	2.39	2.39	18.77	18.77
1645.00	44.03	64.30	2.35	2.39	2.39	18.28	18.28
1650.00	44.07	64.34	2.34	2.38	2.38	17.78	17.78
1655.00	44.10	64.38	2.33	2.37	2.37	17.28	17.28
1660.00	44.13	64.43	2.33	2.37	2.37	16.78	16.78
1665.00	44.17	64.47	2.32	2.36	2.36	16.28	16.28
1670.00	44.20	64.52	2.32	2.36	2.36	15.78	15.78
1675.00	44.23	64.56	2.31	2.35	2.35	15.28	15.28
1680.00	44.27	64.60	2.31	2.35	2.35	14.78	14.78
1685.00	44.30	64.65	2.30	2.34	2.34	14.28	14.28
1690.00	44.34	64.69	2.30	2.34	2.34	13.77	13.77
1695.00	44.37	64.73	2.29	2.33	2.33	13.27	13.27
1700.00	44.40	64.78	2.29	2.33	2.33	12.77	12.77

1705.00	44.44	64.82	2.28	2.32	2.32	12.27	12.27
1710.00	44.47	64.86	2.28	2.31	2.31	11.76	11.76
1715.00	44.50	64.90	2.27	2.31	2.31	11.26	11.26
1720.00	44.53	64.95	2.27	2.30	2.30	10.76	10.76
1725.00	44.57	64.99	2.26	2.30	2.30	10.25	10.25
1730.00	44.60	65.03	2.26	2.29	2.29	9.75	9.75
1735.00	44.63	65.07	2.25	2.29	2.29	9.24	9.24
1740.00	44.67	65.12	2.25	2.28	2.28	8.74	8.74
1745.00	44.70	65.16	2.24	2.28	2.28	8.23	8.23
1750.00	44.73	65.20	2.24	2.27	2.27	7.73	7.73
1755.00	44.76	65.24	2.23	2.27	2.27	7.22	7.22
1760.00	44.80	65.28	2.23	2.26	2.26	6.71	6.71
1765.00	44.83	65.33	2.22	2.26	2.26	6.21	6.21
1770.00	44.86	65.37	2.22	2.25	2.25	5.70	5.70
1775.00	44.89	65.41	2.21	2.25	2.25	5.19	5.19
1780.00	44.92	65.45	2.21	2.24	2.24	4.68	4.68
1785.00	44.96	65.49	2.20	2.24	2.24	4.17	4.17
1790.00	44.99	65.53	2.20	2.23	2.23	3.67	3.67
1795.00	45.02	65.57	2.19	2.23	2.23	3.16	3.16
1800.00	45.05	65.62	2.19	2.22	2.22	2.65	2.65
1805.00	45.08	65.66	2.18	2.22	2.22	2.14	2.14
1810.00	45.12	65.70	2.18	2.21	2.21	1.63	1.63
1815.00	45.15	65.74	2.17	2.21	2.21	1.12	1.12
1820.00	45.18	65.78	2.17	2.21	2.21	0.61	0.61
1825.00	45.21	65.82	2.16	2.20	2.20	0.10	0.10
1830.00	45.24	65.86	2.16	2.20	2.20	-0.42	-0.42
1835.00	45.27	65.90	2.15	2.19	2.19	-0.93	-0.93
1840.00	45.31	65.94	2.15	2.19	2.19	-1.44	-1.44
1845.00	45.34	65.98	2.15	2.18	2.18	-1.95	-1.95
1850.00	45.37	66.02	2.14	2.18	2.18	-2.47	-2.47
1855.00	45.40	66.06	2.14	2.17	2.17	-2.98	-2.98
1860.00	45.43	66.10	2.13	2.17	2.17	-3.49	-3.49
1865.00	45.46	66.14	2.13	2.16	2.16	-4.01	-4.01
1870.00	45.49	66.18	2.12	2.16	2.16	-4.52	-4.52
1875.00	45.52	66.22	2.12	2.16	2.16	-5.03	-5.03
1880.00	45.55	66.26	2.11	2.15	2.15	-5.55	-5.55
1885.00	45.58	66.30	2.11	2.15	2.15	-6.06	-6.06
1890.00	45.62	66.34	2.11	2.14	2.14	-6.58	-6.58
1895.00	45.65	66.38	2.10	2.14	2.14	-7.09	-7.09
1900.00	45.68	66.42	2.10	2.13	2.13	-7.61	-7.61
1905.00	45.71	66.46	2.09	2.13	2.13	-8.13	-8.13
1910.00	45.74	66.50	2.09	2.12	2.12	-8.64	-8.64
1915.00	45.77	66.54	2.08	2.12	2.12	-9.16	-9.16
1920.00	45.80	66.58	2.08	2.12	2.12	-9.68	-9.68
1925.00	45.83	66.62	2.08	2.11	2.11	-10.19	-10.19
1930.00	45.86	66.65	2.07	2.11	2.11	-10.71	-10.71
1935.00	45.89	66.69	2.07	2.10	2.10	-11.23	-11.23
1940.00	45.92	66.73	2.06	2.10	2.10	-11.75	-11.75
1945.00	45.95	66.77	2.06	2.09	2.09	-12.27	-12.27
1950.00	45.98	66.81	2.06	2.09	2.09	-12.79	-12.79

1955.00	46.01	66.85	2.05	2.09	2.09	-13.31	-13.31
1960.00	46.04	66.89	2.05	2.08	2.08	-13.82	-13.82
1965.00	46.07	66.92	2.04	2.08	2.08	-14.34	-14.34
1970.00	46.10	66.96	2.04	2.07	2.07	-14.86	-14.86
1975.00	46.13	67.00	2.04	2.07	2.07	-15.38	-15.38
1980.00	46.16	67.04	2.03	2.07	2.07	-15.91	-15.91
1985.00	46.19	67.08	2.03	2.06	2.06	-16.43	-16.43
1990.00	46.22	67.11	2.02	2.06	2.06	-16.95	-16.95
1995.00	46.25	67.15	2.02	2.05	2.05	-17.47	-17.47
2000.00	46.28	67.19	2.02	2.05	2.05	-17.99	-17.99
2005.00	46.31	67.23	2.01	2.05	2.05	-18.51	-18.51
2010.00	46.34	67.26	2.01	2.04	2.04	-19.04	-19.04
2015.00	46.36	67.30	2.00	2.04	2.04	-19.56	-19.56
2020.00	46.39	67.34	2.00	2.03	2.03	-20.08	-20.08
2025.00	46.42	67.38	2.00	2.03	2.03	-20.60	-20.60
2030.00	46.45	67.41	1.99	2.03	2.03	-21.13	-21.13
2035.00	46.48	67.45	1.99	2.02	2.02	-21.65	-21.65
2040.00	46.51	67.49	1.98	2.02	2.02	-22.17	-22.17
2045.00	46.54	67.53	1.98	2.02	2.02	-22.70	-22.70
2050.00	46.57	67.56	1.98	2.01	2.01	-23.22	-23.22
2055.00	46.60	67.60	1.97	2.01	2.01	-23.75	-23.75
2060.00	46.63	67.64	1.97	2.00	2.00	-24.27	-24.27
2065.00	46.65	67.67	1.97	2.00	2.00	-24.80	-24.80
2070.00	46.68	67.71	1.96	2.00	2.00	-25.32	-25.32
2075.00	46.71	67.75	1.96	1.99	1.99	-25.85	-25.85
2080.00	46.74	67.78	1.96	1.99	1.99	-26.38	-26.38
2085.00	46.77	67.82	1.95	1.98	1.98	-26.90	-26.90
2090.00	46.80	67.86	1.95	1.98	1.98	-27.43	-27.43
2095.00	46.83	67.89	1.94	1.98	1.98	-27.96	-27.96
2100.00	46.85	67.93	1.94	1.97	1.97	-28.48	-28.48
2105.00	46.88	67.97	1.94	1.97	1.97	-29.01	-29.01
2110.00	46.91	68.00	1.93	1.97	1.97	-29.54	-29.54
2115.00	46.94	68.04	1.93	1.96	1.96	-30.07	-30.07
2120.00	46.97	68.07	1.93	1.96	1.96	-30.59	-30.59
2125.00	47.00	68.11	1.92	1.96	1.96	-31.12	-31.12
2130.00	47.02	68.15	1.92	1.95	1.95	-31.65	-31.65
2135.00	47.05	68.18	1.92	1.95	1.95	-32.18	-32.18
2140.00	47.08	68.22	1.91	1.95	1.95	-32.71	-32.71
2145.00	47.11	68.25	1.91	1.94	1.94	-33.24	-33.24
2150.00	47.14	68.29	1.91	1.94	1.94	-33.77	-33.77
2155.00	47.16	68.32	1.90	1.93	1.93	-34.30	-34.30
2160.00	47.19	68.36	1.90	1.93	1.93	-34.83	-34.83
2165.00	47.22	68.39	1.90	1.93	1.93	-35.36	-35.36
2170.00	47.25	68.43	1.89	1.92	1.92	-35.89	-35.89
2175.00	47.27	68.47	1.89	1.92	1.92	-36.42	-36.42
2180.00	47.30	68.50	1.89	1.92	1.92	-36.95	-36.95
2185.00	47.33	68.54	1.88	1.91	1.91	-37.48	-37.48
2190.00	47.36	68.57	1.88	1.91	1.91	-38.01	-38.01
2195.00	47.38	68.61	1.88	1.91	1.91	-38.55	-38.55
2200.00	47.41	68.64	1.87	1.90	1.90	-39.08	-39.08

2205.00	47.44	68.68	1.87	1.90	1.90	-39.61	-39.61
2210.00	47.47	68.71	1.87	1.90	1.90	-40.14	-40.14
2215.00	47.49	68.75	1.86	1.89	1.89	-40.67	-40.67
2220.00	47.52	68.78	1.86	1.89	1.89	-41.21	-41.21
2225.00	47.55	68.81	1.86	1.89	1.89	-41.74	-41.74
2230.00	47.57	68.85	1.85	1.88	1.88	-42.27	-42.27
2235.00	47.60	68.88	1.85	1.88	1.88	-42.81	-42.81
2240.00	47.63	68.92	1.85	1.88	1.88	-43.34	-43.34
2245.00	47.66	68.95	1.84	1.87	1.87	-43.88	-43.88
2250.00	47.68	68.99	1.84	1.87	1.87	-44.41	-44.41
2255.00	47.71	69.02	1.84	1.87	1.87	-44.94	-44.94
2260.00	47.74	69.06	1.83	1.86	1.86	-45.48	-45.48
2265.00	47.76	69.09	1.83	1.86	1.86	-46.01	-46.01
2270.00	47.79	69.12	1.83	1.86	1.86	-46.55	-46.55
2275.00	47.82	69.16	1.82	1.86	1.86	-47.08	-47.08
2280.00	47.84	69.19	1.82	1.85	1.85	-47.62	-47.62
2285.00	47.87	69.23	1.82	1.85	1.85	-48.16	-48.16
2290.00	47.90	69.26	1.81	1.85	1.85	-48.69	-48.69
2295.00	47.92	69.29	1.81	1.84	1.84	-49.23	-49.23
2300.00	47.95	69.33	1.81	1.84	1.84	-49.77	-49.77
2305.00	47.98	69.36	1.81	1.84	1.84	-50.30	-50.30
2310.00	48.00	69.39	1.80	1.83	1.83	-50.84	-50.84
2315.00	48.03	69.43	1.80	1.83	1.83	-51.38	-51.38
2320.00	48.06	69.46	1.80	1.83	1.83	-51.91	-51.91
2325.00	48.08	69.49	1.79	1.82	1.82	-52.45	-52.45
2330.00	48.11	69.53	1.79	1.82	1.82	-52.99	-52.99
2335.00	48.13	69.56	1.79	1.82	1.82	-53.53	-53.53
2340.00	48.16	69.59	1.78	1.81	1.81	-54.07	-54.07
2345.00	48.19	69.63	1.78	1.81	1.81	-54.60	-54.60
2350.00	48.21	69.66	1.78	1.81	1.81	-55.14	-55.14
2355.00	48.24	69.69	1.78	1.81	1.81	-55.68	-55.68
2360.00	48.26	69.73	1.77	1.80	1.80	-56.22	-56.22
2365.00	48.29	69.76	1.77	1.80	1.80	-56.76	-56.76
2370.00	48.32	69.79	1.77	1.80	1.80	-57.30	-57.30
2375.00	48.34	69.83	1.76	1.79	1.79	-57.84	-57.84
2380.00	48.37	69.86	1.76	1.79	1.79	-58.38	-58.38
2385.00	48.39	69.89	1.76	1.79	1.79	-58.92	-58.92
2390.00	48.42	69.92	1.76	1.79	1.79	-59.46	-59.46
2395.00	48.45	69.96	1.75	1.78	1.78	-60.00	-60.00
2400.00	48.47	69.99	1.75	1.78	1.78	-60.54	-60.54
2405.00	48.50	70.02	1.75	1.78	1.78	-61.08	-61.08
2410.00	48.52	70.05	1.74	1.77	1.77	-61.62	-61.62
2415.00	48.55	70.09	1.74	1.77	1.77	-62.16	-62.16
2420.00	48.57	70.12	1.74	1.77	1.77	-62.71	-62.71
2425.00	48.60	70.15	1.74	1.77	1.77	-63.25	-63.25
2430.00	48.62	70.18	1.73	1.76	1.76	-63.79	-63.79
2435.00	48.65	70.22	1.73	1.76	1.76	-64.33	-64.33
2440.00	48.68	70.25	1.73	1.76	1.76	-64.87	-64.87
2445.00	48.70	70.28	1.72	1.75	1.75	-65.42	-65.42
2450.00	48.73	70.31	1.72	1.75	1.75	-65.96	-65.96

2455.00	48.75	70.34	1.72	1.75	1.75	-66.50	-66.50
2460.00	48.78	70.38	1.72	1.75	1.75	-67.04	-67.04
2465.00	48.80	70.41	1.71	1.74	1.74	-67.59	-67.59
2470.00	48.83	70.44	1.71	1.74	1.74	-68.13	-68.13
2475.00	48.85	70.47	1.71	1.74	1.74	-68.67	-68.67
2480.00	48.88	70.50	1.71	1.73	1.73	-69.22	-69.22
2485.00	48.90	70.53	1.70	1.73	1.73	-69.76	-69.76
2490.00	48.93	70.57	1.70	1.73	1.73	-70.31	-70.31
2495.00	48.95	70.60	1.70	1.73	1.73	-70.85	-70.85
2500.00	48.98	70.63	1.70	1.72	1.72	-71.40	-71.40
2505.00	49.00	70.66	1.69	1.72	1.72	-71.94	-71.94
2510.00	49.03	70.69	1.69	1.72	1.72	-72.49	-72.49
2515.00	49.05	70.72	1.69	1.72	1.72	-73.03	-73.03
2520.00	49.08	70.76	1.68	1.71	1.71	-73.58	-73.58
2525.00	49.10	70.79	1.68	1.71	1.71	-74.12	-74.12
2530.00	49.13	70.82	1.68	1.71	1.71	-74.67	-74.67
2535.00	49.15	70.85	1.68	1.71	1.71	-75.21	-75.21
2540.00	49.17	70.88	1.67	1.70	1.70	-75.76	-75.76
2545.00	49.20	70.91	1.67	1.70	1.70	-76.31	-76.31
2550.00	49.22	70.94	1.67	1.70	1.70	-76.85	-76.85
2555.00	49.25	70.97	1.67	1.70	1.70	-77.40	-77.40
2560.00	49.27	71.00	1.66	1.69	1.69	-77.95	-77.95
2565.00	49.30	71.03	1.66	1.69	1.69	-78.49	-78.49
2570.00	49.32	71.07	1.66	1.69	1.69	-79.04	-79.04
2575.00	49.35	71.10	1.66	1.68	1.68	-79.59	-79.59
2580.00	49.37	71.13	1.65	1.68	1.68	-80.13	-80.13
2585.00	49.39	71.16	1.65	1.68	1.68	-80.68	-80.68
2590.00	49.42	71.19	1.65	1.68	1.68	-81.23	-81.23
2595.00	49.44	71.22	1.65	1.67	1.67	-81.78	-81.78
2600.00	49.47	71.25	1.64	1.67	1.67	-82.33	-82.33
2605.00	49.49	71.28	1.64	1.67	1.67	-82.87	-82.87
2610.00	49.52	71.31	1.64	1.67	1.67	-83.42	-83.42
2615.00	49.54	71.34	1.64	1.66	1.66	-83.97	-83.97
2620.00	49.56	71.37	1.63	1.66	1.66	-84.52	-84.52
2625.00	49.59	71.40	1.63	1.66	1.66	-85.07	-85.07
2630.00	49.61	71.43	1.63	1.66	1.66	-85.62	-85.62
2635.00	49.64	71.46	1.63	1.65	1.65	-86.17	-86.17
2640.00	49.66	71.49	1.62	1.65	1.65	-86.72	-86.72
2645.00	49.68	71.52	1.62	1.65	1.65	-87.27	-87.27
2650.00	49.71	71.55	1.62	1.65	1.65	-87.82	-87.82
2655.00	49.73	71.58	1.62	1.65	1.65	-88.37	-88.37
2660.00	49.75	71.61	1.62	1.64	1.64	-88.92	-88.92
2665.00	49.78	71.64	1.61	1.64	1.64	-89.47	-89.47
2670.00	49.80	71.67	1.61	1.64	1.64	-90.02	-90.02
2675.00	49.83	71.70	1.61	1.64	1.64	-90.57	-90.57
2680.00	49.85	71.73	1.61	1.63	1.63	-91.12	-91.12
2685.00	49.87	71.76	1.60	1.63	1.63	-91.67	-91.67
2690.00	49.90	71.79	1.60	1.63	1.63	-92.22	-92.22
2695.00	49.92	71.82	1.60	1.63	1.63	-92.77	-92.77
2700.00	49.94	71.85	1.60	1.62	1.62	-93.33	-93.33

2705.00	49.97	71.88	1.59	1.62	1.62	-93.88	-93.88
2710.00	49.99	71.91	1.59	1.62	1.62	-94.43	-94.43
2715.00	50.01	71.94	1.59	1.62	1.62	-94.98	-94.98
2720.00	50.04	71.97	1.59	1.61	1.61	-95.53	-95.53
2725.00	50.06	72.00	1.59	1.61	1.61	-96.09	-96.09
2730.00	50.08	72.03	1.58	1.61	1.61	-96.64	-96.64
2735.00	50.11	72.06	1.58	1.61	1.61	-97.19	-97.19
2740.00	50.13	72.09	1.58	1.61	1.61	-97.74	-97.74
2745.00	50.15	72.12	1.58	1.60	1.60	-98.30	-98.30
2750.00	50.18	72.14	1.57	1.60	1.60	-98.85	-98.85
2755.00	50.20	72.17	1.57	1.60	1.60	-99.40	-99.40
2760.00	50.22	72.20	1.57	1.60	1.60	-99.96	-99.96
2765.00	50.25	72.23	1.57	1.59	1.59	-100.51	-100.51
2770.00	50.27	72.26	1.57	1.59	1.59	-101.06	-101.06
2775.00	50.29	72.29	1.56	1.59	1.59	-101.62	-101.62
2780.00	50.31	72.32	1.56	1.59	1.59	-102.17	-102.17
2785.00	50.34	72.35	1.56	1.59	1.59	-102.73	-102.73
2790.00	50.36	72.38	1.56	1.58	1.58	-103.28	-103.28
2795.00	50.38	72.40	1.55	1.58	1.58	-103.84	-103.84
2800.00	50.41	72.43	1.55	1.58	1.58	-104.39	-104.39
2805.00	50.43	72.46	1.55	1.58	1.58	-104.95	-104.95
2810.00	50.45	72.49	1.55	1.57	1.57	-105.50	-105.50
2815.00	50.48	72.52	1.55	1.57	1.57	-106.06	-106.06
2820.00	50.50	72.55	1.54	1.57	1.57	-106.61	-106.61
2825.00	50.52	72.58	1.54	1.57	1.57	-107.17	-107.17
2830.00	50.54	72.61	1.54	1.57	1.57	-107.72	-107.72
2835.00	50.57	72.63	1.54	1.56	1.56	-108.28	-108.28
2840.00	50.59	72.66	1.54	1.56	1.56	-108.83	-108.83
2845.00	50.61	72.69	1.53	1.56	1.56	-109.39	-109.39
2850.00	50.63	72.72	1.53	1.56	1.56	-109.95	-109.95
2855.00	50.66	72.75	1.53	1.55	1.55	-110.50	-110.50
2860.00	50.68	72.78	1.53	1.55	1.55	-111.06	-111.06
2865.00	50.70	72.80	1.52	1.55	1.55	-111.62	-111.62
2870.00	50.72	72.83	1.52	1.55	1.55	-112.17	-112.17
2875.00	50.75	72.86	1.52	1.55	1.55	-112.73	-112.73
2880.00	50.77	72.89	1.52	1.54	1.54	-113.29	-113.29

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
2.25	0.1699	0.0028	0.000114	0.206505	0.392608	1.480837
2.42	0.1644	0.005831	-0.00013	0.21307	0.405089	1.499436
2.54	0.1644	0.005831	-0.00013	0.21661	0.411819	1.509561
2.62	0.1644	0.005831	-0.00013	0.219079	0.416512	1.516662
2.68	0.1644	0.005831	-0.00013	0.220902	0.419977	1.521927
2.73	0.1644	0.005831	-0.00013	0.222299	0.422634	1.525975
2.78	0.1644	0.005831	-0.00013	0.223397	0.424721	1.529164
2.81	0.1644	0.005831	-0.00013	0.224275	0.426391	1.53172
2.85	0.1644	0.005831	-0.00013	0.224986	0.427742	1.53379
2.88	0.1644	0.005831	-0.00013	0.225565	0.428843	1.53548
2.90	0.1644	0.005831	-0.00013	0.226039	0.429744	1.536864
2.93	0.1644	0.005831	-0.00013	0.226427	0.430482	1.537998
2.95	0.1644	0.005831	-0.00013	0.226743	0.431083	1.538924
2.97	0.1644	0.005831	-0.00013	0.227	0.431571	1.539675
2.99	0.1644	0.005831	-0.00013	0.227205	0.431962	1.540277
3.00	0.1644	0.005831	-0.00013	0.227367	0.432269	1.54075
3.02	0.1644	0.005831	-0.00013	0.227491	0.432505	1.541113
3.04	0.1644	0.005831	-0.00013	0.227581	0.432677	1.541379
3.05	0.1644	0.005831	-0.00013	0.227643	0.432794	1.541559
3.06	0.1644	0.005831	-0.00013	0.227679	0.432863	1.541665
3.08	0.1644	0.005831	-0.00013	0.227692	0.432888	1.541703
3.09	0.1644	0.005831	-0.00013	0.227685	0.432873	1.541681
3.10	0.1644	0.005831	-0.00013	0.227659	0.432825	1.541606
3.11	0.1644	0.005831	-0.00013	0.227617	0.432744	1.541482
3.12	0.1644	0.005831	-0.00013	0.22756	0.432636	1.541315
3.13	0.1644	0.005831	-0.00013	0.227489	0.432501	1.541108
3.14	0.1644	0.005831	-0.00013	0.227406	0.432344	1.540865
3.15	0.1644	0.005831	-0.00013	0.227312	0.432165	1.540589
3.16	0.1644	0.005831	-0.00013	0.227207	0.431966	1.540283
3.17	0.1644	0.005831	-0.00013	0.227093	0.431749	1.539949
3.18	0.1644	0.005831	-0.00013	0.226971	0.431516	1.53959
3.19	0.1644	0.005831	-0.00013	0.22684	0.431268	1.539208
3.20	0.1644	0.005831	-0.00013	0.226702	0.431006	1.538805
3.20	0.1644	0.005831	-0.00013	0.226558	0.430731	1.538381
3.21	0.1644	0.005831	-0.00013	0.226407	0.430444	1.53794
3.22	0.1644	0.005831	-0.00013	0.22625	0.430145	1.537481
3.23	0.1644	0.005831	-0.00013	0.226087	0.429837	1.537006
3.23	0.1644	0.005831	-0.00013	0.22592	0.429518	1.536517
3.24	0.1644	0.005831	-0.00013	0.225748	0.429191	1.536015

3.25	0.1644	0.005831	-0.00013	0.225571	0.428856	1.535499
3.25	0.1644	0.005831	-0.00013	0.225391	0.428512	1.534972
3.26	0.1644	0.005831	-0.00013	0.225206	0.428162	1.534434
3.26	0.1644	0.005831	-0.00013	0.225018	0.427804	1.533886
3.27	0.1644	0.005831	-0.00013	0.224827	0.42744	1.533328
3.28	0.1644	0.005831	-0.00013	0.224632	0.42707	1.532761
3.28	0.1644	0.005831	-0.00013	0.224435	0.426695	1.532185
3.29	0.1644	0.005831	-0.00013	0.224235	0.426314	1.531602
3.29	0.1644	0.005831	-0.00013	0.224032	0.425929	1.531012
3.30	0.1644	0.005831	-0.00013	0.223827	0.425539	1.530414
3.30	0.1644	0.005831	-0.00013	0.223619	0.425144	1.529811
3.31	0.1644	0.005831	-0.00013	0.223409	0.424745	1.529201
3.31	0.1644	0.005831	-0.00013	0.223198	0.424343	1.528585
3.32	0.1644	0.005831	-0.00013	0.222984	0.423936	1.527964
3.32	0.1644	0.005831	-0.00013	0.222768	0.423527	1.527338
3.33	0.1644	0.005831	-0.00013	0.222551	0.423114	1.526708
3.33	0.1644	0.005831	-0.00013	0.222332	0.422698	1.526073
3.34	0.1644	0.005831	-0.00013	0.222112	0.422279	1.525434
3.34	0.1644	0.005831	-0.00013	0.22189	0.421857	1.524791
3.35	0.1644	0.005831	-0.00013	0.221667	0.421433	1.524145
3.35	0.1644	0.005831	-0.00013	0.221443	0.421007	1.523495
3.36	0.1644	0.005831	-0.00013	0.221218	0.420578	1.522842
3.36	0.1644	0.005831	-0.00013	0.220991	0.420147	1.522186
3.36	0.1644	0.005831	-0.00013	0.220763	0.419714	1.521527
3.37	0.1644	0.005831	-0.00013	0.220534	0.41928	1.520865
3.37	0.1644	0.005831	-0.00013	0.220305	0.418843	1.520201
3.38	0.1644	0.005831	-0.00013	0.220074	0.418405	1.519535
3.38	0.1644	0.005831	-0.00013	0.219843	0.417965	1.518867
3.38	0.1644	0.005831	-0.00013	0.219611	0.417523	1.518197
3.39	0.1644	0.005831	-0.00013	0.219378	0.41708	1.517524
3.39	0.1644	0.005831	-0.00013	0.219144	0.416636	1.516851
3.39	0.1644	0.005831	-0.00013	0.21891	0.416191	1.516175
3.40	0.1644	0.005831	-0.00013	0.218675	0.415744	1.515498
3.40	0.1644	0.005831	-0.00013	0.218439	0.415296	1.51482
3.41	0.1644	0.005831	-0.00013	0.218203	0.414848	1.51414
3.41	0.1644	0.005831	-0.00013	0.217967	0.414398	1.513459
3.41	0.1644	0.005831	-0.00013	0.21773	0.413947	1.512777
3.42	0.1644	0.005831	-0.00013	0.217492	0.413495	1.512094
3.42	0.1644	0.005831	-0.00013	0.217254	0.413043	1.51141
3.42	0.1644	0.005831	-0.00013	0.217016	0.41259	1.510725
3.43	0.1644	0.005831	-0.00013	0.216777	0.412136	1.51004
3.43	0.1644	0.005831	-0.00013	0.216538	0.411681	1.509354
3.43	0.1644	0.005831	-0.00013	0.216299	0.411226	1.508667
3.43	0.2644	-0.00162	3.15E-06	0.217153	0.412851	1.511121
3.44	0.2644	-0.00162	3.15E-06	0.217017	0.412593	1.51073
3.44	0.2644	-0.00162	3.15E-06	0.216882	0.412336	1.510342
3.44	0.2644	-0.00162	3.15E-06	0.216749	0.412082	1.509959
3.45	0.2644	-0.00162	3.15E-06	0.216616	0.411831	1.509579
3.45	0.2644	-0.00162	3.15E-06	0.216485	0.411581	1.509202
3.45	0.2644	-0.00162	3.15E-06	0.216355	0.411334	1.508829

3.46	0.2644	-0.00162	3.15E-06	0.216226	0.411089	1.50846
3.46	0.2644	-0.00162	3.15E-06	0.216099	0.410846	1.508093
3.46	0.2644	-0.00162	3.15E-06	0.215972	0.410606	1.507731
3.46	0.2644	-0.00162	3.15E-06	0.215847	0.410367	1.507371
3.47	0.2644	-0.00162	3.15E-06	0.215722	0.41013	1.507014
3.47	0.2644	-0.00162	3.15E-06	0.215599	0.409896	1.506661
3.47	0.2644	-0.00162	3.15E-06	0.215476	0.409663	1.50631
3.47	0.2644	-0.00162	3.15E-06	0.215355	0.409432	1.505963
3.48	0.2644	-0.00162	3.15E-06	0.215235	0.409203	1.505618
3.48	0.2644	-0.00162	3.15E-06	0.215115	0.408976	1.505276
3.48	0.2644	-0.00162	3.15E-06	0.214997	0.408751	1.504937
3.48	0.2644	-0.00162	3.15E-06	0.214879	0.408528	1.504601
3.49	0.2644	-0.00162	3.15E-06	0.214763	0.408306	1.504267
3.49	0.2644	-0.00162	3.15E-06	0.214647	0.408086	1.503937
3.49	0.2644	-0.00162	3.15E-06	0.214532	0.407868	1.503608
3.49	0.2644	-0.00162	3.15E-06	0.214418	0.407651	1.503283
3.50	0.2644	-0.00162	3.15E-06	0.214305	0.407436	1.502959
3.50	0.2644	-0.00162	3.15E-06	0.214193	0.407223	1.502639
3.50	0.2644	-0.00162	3.15E-06	0.214081	0.407011	1.50232
3.50	0.2644	-0.00162	3.15E-06	0.213971	0.406801	1.502005
3.51	0.2644	-0.00162	3.15E-06	0.213861	0.406592	1.501691
3.51	0.2644	-0.00162	3.15E-06	0.213752	0.406385	1.50138
3.51	0.2644	-0.00162	3.15E-06	0.213644	0.406179	1.501071
3.51	0.2644	-0.00162	3.15E-06	0.213536	0.405975	1.500764
3.52	0.2644	-0.00162	3.15E-06	0.21343	0.405772	1.50046
3.52	0.2644	-0.00162	3.15E-06	0.213324	0.40557	1.500158
3.52	0.2644	-0.00162	3.15E-06	0.213218	0.40537	1.499858
3.52	0.2644	-0.00162	3.15E-06	0.213114	0.405171	1.49956
3.52	0.2644	-0.00162	3.15E-06	0.21301	0.404974	1.499264
3.53	0.2644	-0.00162	3.15E-06	0.212907	0.404778	1.49897
3.53	0.2644	-0.00162	3.15E-06	0.212804	0.404583	1.498678
3.53	0.2644	-0.00162	3.15E-06	0.212703	0.40439	1.498388
3.53	0.2644	-0.00162	3.15E-06	0.212602	0.404198	1.4981
3.54	0.2644	-0.00162	3.15E-06	0.212501	0.404007	1.497814
3.54	0.2644	-0.00162	3.15E-06	0.212401	0.403817	1.49753
3.54	0.2644	-0.00162	3.15E-06	0.212302	0.403628	1.497247
3.54	0.2644	-0.00162	3.15E-06	0.212204	0.403441	1.496967
3.54	0.2644	-0.00162	3.15E-06	0.212106	0.403255	1.496688
3.55	0.2644	-0.00162	3.15E-06	0.212008	0.40307	1.496412
3.55	0.2644	-0.00162	3.15E-06	0.211912	0.402886	1.496136
3.55	0.2644	-0.00162	3.15E-06	0.211816	0.402703	1.495863
3.55	0.2644	-0.00162	3.15E-06	0.21172	0.402522	1.495592
3.55	0.2644	-0.00162	3.15E-06	0.211625	0.402341	1.495322
3.56	0.2644	-0.00162	3.15E-06	0.211531	0.402162	1.495053
3.56	0.2644	-0.00162	3.15E-06	0.211437	0.401984	1.494787
3.56	0.2644	-0.00162	3.15E-06	0.211344	0.401806	1.494522
3.56	0.2644	-0.00162	3.15E-06	0.211251	0.40163	1.494258
3.56	0.2644	-0.00162	3.15E-06	0.211159	0.401455	1.493997
3.56	0.2644	-0.00162	3.15E-06	0.211067	0.401281	1.493736
3.57	0.2644	-0.00162	3.15E-06	0.210976	0.401107	1.493478

3.57	0.2644	-0.00162	3.15E-06	0.210886	0.400935	1.49322
3.57	0.2644	-0.00162	3.15E-06	0.210795	0.400764	1.492965
3.57	0.2644	-0.00162	3.15E-06	0.210706	0.400594	1.49271
3.57	0.2644	-0.00162	3.15E-06	0.210617	0.400424	1.492458
3.58	0.2644	-0.00162	3.15E-06	0.210528	0.400256	1.492206
3.58	0.2644	-0.00162	3.15E-06	0.21044	0.400088	1.491957
3.58	0.2644	-0.00162	3.15E-06	0.210353	0.399922	1.491708
3.58	0.2644	-0.00162	3.15E-06	0.210265	0.399756	1.491461
3.58	0.2644	-0.00162	3.15E-06	0.210179	0.399591	1.491215
3.58	0.2644	-0.00162	3.15E-06	0.210093	0.399428	1.490971
3.59	0.2644	-0.00162	3.15E-06	0.210007	0.399265	1.490728
3.59	0.2644	-0.00162	3.15E-06	0.209922	0.399102	1.490486
3.59	0.2644	-0.00162	3.15E-06	0.209837	0.398941	1.490246
3.59	0.2644	-0.00162	3.15E-06	0.209752	0.398781	1.490007
3.59	0.2644	-0.00162	3.15E-06	0.209668	0.398621	1.489769
3.59	0.2644	-0.00162	3.15E-06	0.209585	0.398462	1.489532
3.60	0.2644	-0.00162	3.15E-06	0.209502	0.398304	1.489297
3.60	0.2644	-0.00162	3.15E-06	0.209419	0.398147	1.489063
3.60	0.2644	-0.00162	3.15E-06	0.209337	0.397991	1.48883
3.60	0.2644	-0.00162	3.15E-06	0.209255	0.397835	1.488598
3.60	0.2644	-0.00162	3.15E-06	0.209174	0.39768	1.488368
3.60	0.2644	-0.00162	3.15E-06	0.209093	0.397526	1.488139
3.61	0.2644	-0.00162	3.15E-06	0.209012	0.397373	1.487911
3.61	0.2644	-0.00162	3.15E-06	0.208932	0.39722	1.487684
3.61	0.2644	-0.00162	3.15E-06	0.208852	0.397069	1.487458
3.61	0.2644	-0.00162	3.15E-06	0.208772	0.396917	1.487233
3.61	0.2644	-0.00162	3.15E-06	0.208693	0.396767	1.48701
3.61	0.2644	-0.00162	3.15E-06	0.208615	0.396618	1.486787
3.61	0.2644	-0.00162	3.15E-06	0.208536	0.396469	1.486566
3.62	0.2644	-0.00162	3.15E-06	0.208458	0.39632	1.486345
3.62	0.2644	-0.00162	3.15E-06	0.208381	0.396173	1.486126
3.62	0.2644	-0.00162	3.15E-06	0.208303	0.396026	1.485908
3.62	0.2644	-0.00162	3.15E-06	0.208227	0.39588	1.485691
3.62	0.2644	-0.00162	3.15E-06	0.20815	0.395734	1.485475
3.62	0.2644	-0.00162	3.15E-06	0.208074	0.39559	1.48526
3.63	0.2644	-0.00162	3.15E-06	0.207998	0.395446	1.485046
3.63	0.2644	-0.00162	3.15E-06	0.207923	0.395302	1.484833
3.63	0.2644	-0.00162	3.15E-06	0.207848	0.395159	1.484621
3.63	0.2644	-0.00162	3.15E-06	0.207773	0.395017	1.484409
3.63	0.2644	-0.00162	3.15E-06	0.207698	0.394875	1.484199
3.63	0.2644	-0.00162	3.15E-06	0.207624	0.394735	1.48399
3.63	0.2644	-0.00162	3.15E-06	0.20755	0.394594	1.483782
3.64	0.2644	-0.00162	3.15E-06	0.207477	0.394455	1.483575
3.64	0.2644	-0.00162	3.15E-06	0.207404	0.394315	1.483368
3.64	0.2644	-0.00162	3.15E-06	0.207331	0.394177	1.483163
3.64	0.2644	-0.00162	3.15E-06	0.207258	0.394039	1.482959
3.64	0.2644	-0.00162	3.15E-06	0.207186	0.393902	1.482755
3.64	0.2644	-0.00162	3.15E-06	0.207114	0.393765	1.482552
3.64	0.2644	-0.00162	3.15E-06	0.207043	0.393629	1.48235
3.64	0.2644	-0.00162	3.15E-06	0.206971	0.393493	1.48215

3.65	0.2644	-0.00162	3.15E-06	0.2069	0.393358	1.48195
3.65	0.2644	-0.00162	3.15E-06	0.20683	0.393224	1.48175
3.65	0.2644	-0.00162	3.15E-06	0.206759	0.39309	1.481552
3.65	0.2644	-0.00162	3.15E-06	0.206689	0.392957	1.481355
3.65	0.2644	-0.00162	3.15E-06	0.206619	0.392824	1.481158
3.65	0.2644	-0.00162	3.15E-06	0.20655	0.392692	1.480962
3.65	0.2644	-0.00162	3.15E-06	0.206481	0.39256	1.480767
3.66	0.2644	-0.00162	3.15E-06	0.206412	0.392429	1.480573
3.66	0.2644	-0.00162	3.15E-06	0.206343	0.392299	1.48038
3.66	0.2644	-0.00162	3.15E-06	0.206274	0.392169	1.480187
3.66	0.2644	-0.00162	3.15E-06	0.206206	0.392039	1.479995
3.66	0.2644	-0.00162	3.15E-06	0.206138	0.39191	1.479804
3.66	0.2644	-0.00162	3.15E-06	0.206071	0.391781	1.479614
3.66	0.2644	-0.00162	3.15E-06	0.206004	0.391653	1.479425
3.66	0.2644	-0.00162	3.15E-06	0.205936	0.391526	1.479236
3.67	0.2644	-0.00162	3.15E-06	0.20587	0.391399	1.479048
3.67	0.2644	-0.00162	3.15E-06	0.205803	0.391272	1.478861
3.67	0.2644	-0.00162	3.15E-06	0.205737	0.391146	1.478675
3.67	0.2644	-0.00162	3.15E-06	0.205671	0.391021	1.478489
3.67	0.2644	-0.00162	3.15E-06	0.205605	0.390896	1.478304
3.67	0.2644	-0.00162	3.15E-06	0.205539	0.390771	1.47812
3.67	0.2644	-0.00162	3.15E-06	0.205474	0.390647	1.477937
3.67	0.2644	-0.00162	3.15E-06	0.205409	0.390523	1.477754
3.68	0.2644	-0.00162	3.15E-06	0.205344	0.3904	1.477572
3.68	0.2644	-0.00162	3.15E-06	0.20528	0.390277	1.47739
3.68	0.2644	-0.00162	3.15E-06	0.205215	0.390155	1.47721
3.68	0.2644	-0.00162	3.15E-06	0.205151	0.390033	1.47703
3.68	0.2644	-0.00162	3.15E-06	0.205088	0.389912	1.476851
3.68	0.2644	-0.00162	3.15E-06	0.205024	0.389791	1.476672
3.68	0.2644	-0.00162	3.15E-06	0.204961	0.38967	1.476494
3.68	0.2644	-0.00162	3.15E-06	0.204897	0.38955	1.476317
3.68	0.2644	-0.00162	3.15E-06	0.204834	0.389431	1.47614
3.69	0.2644	-0.00162	3.15E-06	0.204772	0.389312	1.475964
3.69	0.2644	-0.00162	3.15E-06	0.204709	0.389193	1.475789
3.69	0.2644	-0.00162	3.15E-06	0.204647	0.389075	1.475615
3.69	0.2644	-0.00162	3.15E-06	0.204585	0.388957	1.475441
3.69	0.2644	-0.00162	3.15E-06	0.204523	0.388839	1.475267
3.69	0.2644	-0.00162	3.15E-06	0.204462	0.388722	1.475094
3.69	0.2644	-0.00162	3.15E-06	0.2044	0.388605	1.474922
3.69	0.2644	-0.00162	3.15E-06	0.204339	0.388489	1.474751
3.69	0.2644	-0.00162	3.15E-06	0.204278	0.388373	1.47458
3.70	0.2644	-0.00162	3.15E-06	0.204218	0.388258	1.47441
3.70	0.2644	-0.00162	3.15E-06	0.204157	0.388143	1.47424
3.70	0.2644	-0.00162	3.15E-06	0.204097	0.388028	1.474071
3.70	0.2644	-0.00162	3.15E-06	0.204037	0.387914	1.473903
3.70	0.2644	-0.00162	3.15E-06	0.203977	0.3878	1.473735
3.70	0.2644	-0.00162	3.15E-06	0.203917	0.387686	1.473568
3.70	0.2644	-0.00162	3.15E-06	0.203858	0.387573	1.473401
3.70	0.2644	-0.00162	3.15E-06	0.203798	0.387461	1.473235
3.70	0.2644	-0.00162	3.15E-06	0.203739	0.387348	1.473069

3.71	0.2644	-0.00162	3.15E-06	0.20368	0.387236	1.472905
3.71	0.2644	-0.00162	3.15E-06	0.203622	0.387125	1.47274
3.71	0.2644	-0.00162	3.15E-06	0.203563	0.387014	1.472576
3.71	0.2644	-0.00162	3.15E-06	0.203505	0.386903	1.472413
3.71	0.2644	-0.00162	3.15E-06	0.203447	0.386792	1.47225
3.71	0.2644	-0.00162	3.15E-06	0.203389	0.386682	1.472088
3.71	0.2644	-0.00162	3.15E-06	0.203331	0.386572	1.471927
3.71	0.2644	-0.00162	3.15E-06	0.203273	0.386463	1.471766
3.71	0.2644	-0.00162	3.15E-06	0.203216	0.386354	1.471605
3.71	0.2644	-0.00162	3.15E-06	0.203159	0.386245	1.471445
3.72	0.2644	-0.00162	3.15E-06	0.203102	0.386137	1.471286
3.72	0.2644	-0.00162	3.15E-06	0.203045	0.386029	1.471127
3.72	0.2644	-0.00162	3.15E-06	0.202988	0.385921	1.470968
3.72	0.2644	-0.00162	3.15E-06	0.202932	0.385814	1.47081
3.72	0.2644	-0.00162	3.15E-06	0.202876	0.385707	1.470653
3.72	0.2644	-0.00162	3.15E-06	0.20282	0.3856	1.470496
3.72	0.2644	-0.00162	3.15E-06	0.202764	0.385494	1.47034
3.72	0.2644	-0.00162	3.15E-06	0.202708	0.385388	1.470184
3.72	0.2644	-0.00162	3.15E-06	0.202652	0.385282	1.470029
3.72	0.2644	-0.00162	3.15E-06	0.202597	0.385177	1.469874
3.73	0.2644	-0.00162	3.15E-06	0.202542	0.385072	1.469719
3.73	0.2644	-0.00162	3.15E-06	0.202487	0.384967	1.469566
3.73	0.2644	-0.00162	3.15E-06	0.202432	0.384862	1.469412
3.73	0.2644	-0.00162	3.15E-06	0.202377	0.384758	1.469259
3.73	0.2644	-0.00162	3.15E-06	0.202322	0.384655	1.469107
3.73	0.2644	-0.00162	3.15E-06	0.202268	0.384551	1.468955
3.73	0.2644	-0.00162	3.15E-06	0.202214	0.384448	1.468804
3.73	0.2644	-0.00162	3.15E-06	0.20216	0.384345	1.468653
3.73	0.2644	-0.00162	3.15E-06	0.202106	0.384243	1.468502
3.73	0.2644	-0.00162	3.15E-06	0.202052	0.384141	1.468352
3.74	0.2644	-0.00162	3.15E-06	0.201998	0.384039	1.468202
3.74	0.2644	-0.00162	3.15E-06	0.201945	0.383937	1.468053
3.74	0.2644	-0.00162	3.15E-06	0.201892	0.383836	1.467904
3.74	0.2644	-0.00162	3.15E-06	0.201839	0.383735	1.467756
3.74	0.2644	-0.00162	3.15E-06	0.201786	0.383634	1.467608
3.74	0.2644	-0.00162	3.15E-06	0.201733	0.383534	1.467461
3.74	0.2644	-0.00162	3.15E-06	0.20168	0.383434	1.467314
3.74	0.2644	-0.00162	3.15E-06	0.201628	0.383334	1.467168
3.74	0.2644	-0.00162	3.15E-06	0.201575	0.383234	1.467022
3.74	0.2644	-0.00162	3.15E-06	0.201523	0.383135	1.466876
3.74	0.2644	-0.00162	3.15E-06	0.201471	0.383036	1.466731
3.75	0.2644	-0.00162	3.15E-06	0.201419	0.382937	1.466586
3.75	0.2644	-0.00162	3.15E-06	0.201367	0.382839	1.466442
3.75	0.2644	-0.00162	3.15E-06	0.201316	0.382741	1.466298
3.75	0.2644	-0.00162	3.15E-06	0.201264	0.382643	1.466155
3.75	0.2644	-0.00162	3.15E-06	0.201213	0.382546	1.466012
3.75	0.2644	-0.00162	3.15E-06	0.201162	0.382448	1.465869
3.75	0.2644	-0.00162	3.15E-06	0.201111	0.382351	1.465727
3.75	0.2644	-0.00162	3.15E-06	0.20106	0.382254	1.465585
3.75	0.2644	-0.00162	3.15E-06	0.201009	0.382158	1.465444

3.75	0.2644	-0.00162	3.15E-06	0.200958	0.382062	1.465303
3.75	0.2644	-0.00162	3.15E-06	0.200908	0.381966	1.465162
3.76	0.2644	-0.00162	3.15E-06	0.200858	0.38187	1.465022
3.76	0.2644	-0.00162	3.15E-06	0.200808	0.381775	1.464882
3.76	0.2644	-0.00162	3.15E-06	0.200757	0.38168	1.464743
3.76	0.2644	-0.00162	3.15E-06	0.200708	0.381585	1.464604
3.76	0.2644	-0.00162	3.15E-06	0.200658	0.38149	1.464465
3.76	0.2644	-0.00162	3.15E-06	0.200608	0.381396	1.464327
3.76	0.2644	-0.00162	3.15E-06	0.200559	0.381301	1.464189
3.76	0.2644	-0.00162	3.15E-06	0.200509	0.381208	1.464051
3.76	0.2644	-0.00162	3.15E-06	0.20046	0.381114	1.463914
3.76	0.2644	-0.00162	3.15E-06	0.200411	0.381021	1.463778
3.76	0.2644	-0.00162	3.15E-06	0.200362	0.380927	1.463641
3.76	0.2644	-0.00162	3.15E-06	0.200313	0.380835	1.463505
3.77	0.2644	-0.00162	3.15E-06	0.200264	0.380742	1.46337
3.77	0.2644	-0.00162	3.15E-06	0.200216	0.38065	1.463235
3.77	0.2644	-0.00162	3.15E-06	0.200167	0.380557	1.4631
3.77	0.2644	-0.00162	3.15E-06	0.200119	0.380465	1.462965
3.77	0.2644	-0.00162	3.15E-06	0.200071	0.380374	1.462831
3.77	0.2644	-0.00162	3.15E-06	0.200023	0.380282	1.462698
3.77	0.2644	-0.00162	3.15E-06	0.199975	0.380191	1.462564
3.77	0.2644	-0.00162	3.15E-06	0.199927	0.3801	1.462431
3.77	0.2644	-0.00162	3.15E-06	0.199879	0.380009	1.462298
3.77	0.2644	-0.00162	3.15E-06	0.199831	0.379919	1.462166
3.77	0.2644	-0.00162	3.15E-06	0.199784	0.379829	1.462034
3.77	0.2644	-0.00162	3.15E-06	0.199737	0.379739	1.461902
3.78	0.2644	-0.00162	3.15E-06	0.199689	0.379649	1.461771
3.78	0.2644	-0.00162	3.15E-06	0.199642	0.379559	1.46164
3.78	0.2644	-0.00162	3.15E-06	0.199595	0.37947	1.46151
3.78	0.2644	-0.00162	3.15E-06	0.199548	0.379381	1.461379
3.78	0.2644	-0.00162	3.15E-06	0.199502	0.379292	1.46125
3.78	0.2644	-0.00162	3.15E-06	0.199455	0.379203	1.46112
3.78	0.2644	-0.00162	3.15E-06	0.199408	0.379115	1.460991
3.78	0.2644	-0.00162	3.15E-06	0.199362	0.379027	1.460862
3.78	0.2644	-0.00162	3.15E-06	0.199316	0.378938	1.460733
3.78	0.2644	-0.00162	3.15E-06	0.19927	0.378851	1.460605
3.78	0.2644	-0.00162	3.15E-06	0.199223	0.378763	1.460477
3.78	0.2644	-0.00162	3.15E-06	0.199178	0.378676	1.460349
3.78	0.2644	-0.00162	3.15E-06	0.199132	0.378589	1.460222
3.79	0.2644	-0.00162	3.15E-06	0.199086	0.378502	1.460095
3.79	0.2644	-0.00162	3.15E-06	0.19904	0.378415	1.459969
3.79	0.2644	-0.00162	3.15E-06	0.198995	0.378328	1.459842
3.79	0.2644	-0.00162	3.15E-06	0.198949	0.378242	1.459716
3.79	0.2644	-0.00162	3.15E-06	0.198904	0.378156	1.459591
3.79	0.2644	-0.00162	3.15E-06	0.198859	0.37807	1.459465
3.79	0.2644	-0.00162	3.15E-06	0.198814	0.377984	1.45934
3.79	0.2644	-0.00162	3.15E-06	0.198769	0.377899	1.459215
3.79	0.2644	-0.00162	3.15E-06	0.198724	0.377814	1.459091
3.79	0.2644	-0.00162	3.15E-06	0.198679	0.377729	1.458967
3.79	0.2644	-0.00162	3.15E-06	0.198635	0.377644	1.458843

3.79	0.2644	-0.00162	3.15E-06	0.19859	0.377559	1.45872
3.79	0.2644	-0.00162	3.15E-06	0.198546	0.377475	1.458596
3.80	0.2644	-0.00162	3.15E-06	0.198501	0.37739	1.458473
3.80	0.2644	-0.00162	3.15E-06	0.198457	0.377306	1.458351
3.80	0.2644	-0.00162	3.15E-06	0.198413	0.377222	1.458228
3.80	0.2644	-0.00162	3.15E-06	0.198369	0.377139	1.458106
3.80	0.2644	-0.00162	3.15E-06	0.198325	0.377055	1.457985
3.80	0.2644	-0.00162	3.15E-06	0.198281	0.376972	1.457863
3.80	0.2644	-0.00162	3.15E-06	0.198238	0.376889	1.457742
3.80	0.2644	-0.00162	3.15E-06	0.198194	0.376806	1.457621
3.80	0.2644	-0.00162	3.15E-06	0.19815	0.376723	1.457501
3.80	0.2644	-0.00162	3.15E-06	0.198107	0.376641	1.45738
3.80	0.2644	-0.00162	3.15E-06	0.198064	0.376558	1.45726
3.80	0.2644	-0.00162	3.15E-06	0.198021	0.376476	1.457141
3.80	0.2644	-0.00162	3.15E-06	0.197977	0.376394	1.457021
3.80	0.2644	-0.00162	3.15E-06	0.197934	0.376312	1.456902
3.81	0.2644	-0.00162	3.15E-06	0.197891	0.376231	1.456783
3.81	0.2644	-0.00162	3.15E-06	0.197849	0.376149	1.456665
3.81	0.2644	-0.00162	3.15E-06	0.197806	0.376068	1.456546
3.81	0.2644	-0.00162	3.15E-06	0.197763	0.375987	1.456428
3.81	0.2644	-0.00162	3.15E-06	0.197721	0.375906	1.45631
3.81	0.2644	-0.00162	3.15E-06	0.197678	0.375825	1.456193
3.81	0.2644	-0.00162	3.15E-06	0.197636	0.375745	1.456076
3.81	0.2644	-0.00162	3.15E-06	0.197594	0.375665	1.455959
3.81	0.2644	-0.00162	3.15E-06	0.197552	0.375584	1.455842
3.81	0.2644	-0.00162	3.15E-06	0.197509	0.375505	1.455726
3.81	0.2644	-0.00162	3.15E-06	0.197468	0.375425	1.45561
3.81	0.2644	-0.00162	3.15E-06	0.197426	0.375345	1.455494
3.81	0.2644	-0.00162	3.15E-06	0.197384	0.375266	1.455378
3.81	0.2644	-0.00162	3.15E-06	0.197342	0.375186	1.455263
3.82	0.2644	-0.00162	3.15E-06	0.197301	0.375107	1.455148
3.82	0.2644	-0.00162	3.15E-06	0.197259	0.375028	1.455033
3.82	0.2644	-0.00162	3.15E-06	0.197218	0.37495	1.454918
3.82	0.2644	-0.00162	3.15E-06	0.197176	0.374871	1.454804
3.82	0.2644	-0.00162	3.15E-06	0.197135	0.374793	1.45469
3.82	0.2644	-0.00162	3.15E-06	0.197094	0.374714	1.454576
3.82	0.2644	-0.00162	3.15E-06	0.197053	0.374636	1.454462
3.82	0.2644	-0.00162	3.15E-06	0.197012	0.374558	1.454349
3.82	0.2644	-0.00162	3.15E-06	0.196971	0.374481	1.454236
3.82	0.2644	-0.00162	3.15E-06	0.19693	0.374403	1.454123
3.82	0.2644	-0.00162	3.15E-06	0.196889	0.374326	1.45401
3.82	0.2644	-0.00162	3.15E-06	0.196849	0.374248	1.453898
3.82	0.2644	-0.00162	3.15E-06	0.196808	0.374171	1.453786
3.82	0.2644	-0.00162	3.15E-06	0.196768	0.374094	1.453674
3.82	0.2644	-0.00162	3.15E-06	0.196727	0.374018	1.453563
3.83	0.2644	-0.00162	3.15E-06	0.196687	0.373941	1.453451
3.83	0.2644	-0.00162	3.15E-06	0.196647	0.373864	1.45334
3.83	0.2644	-0.00162	3.15E-06	0.196607	0.373788	1.453229
3.83	0.2644	-0.00162	3.15E-06	0.196567	0.373712	1.453119
3.83	0.2644	-0.00162	3.15E-06	0.196527	0.373636	1.453008

3.83	0.2644	-0.00162	3.15E-06	0.196487	0.37356	1.452898
3.83	0.2644	-0.00162	3.15E-06	0.196447	0.373485	1.452788
3.83	0.2644	-0.00162	3.15E-06	0.196407	0.373409	1.452678
3.83	0.2644	-0.00162	3.15E-06	0.196368	0.373334	1.452569
3.83	0.2644	-0.00162	3.15E-06	0.196328	0.373259	1.45246
3.83	0.2644	-0.00162	3.15E-06	0.196289	0.373183	1.452351
3.83	0.2644	-0.00162	3.15E-06	0.196249	0.373109	1.452242
3.83	0.2644	-0.00162	3.15E-06	0.19621	0.373034	1.452133
3.83	0.2644	-0.00162	3.15E-06	0.196171	0.372959	1.452025
3.83	0.2644	-0.00162	3.15E-06	0.196132	0.372885	1.451917
3.84	0.2644	-0.00162	3.15E-06	0.196092	0.372811	1.451809
3.84	0.2644	-0.00162	3.15E-06	0.196053	0.372736	1.451702
3.84	0.2644	-0.00162	3.15E-06	0.196015	0.372662	1.451594
3.84	0.2644	-0.00162	3.15E-06	0.195976	0.372589	1.451487
3.84	0.2644	-0.00162	3.15E-06	0.195937	0.372515	1.45138
3.84	0.2644	-0.00162	3.15E-06	0.195898	0.372441	1.451273
3.84	0.2644	-0.00162	3.15E-06	0.19586	0.372368	1.451167
3.84	0.2644	-0.00162	3.15E-06	0.195821	0.372295	1.451061
3.84	0.2644	-0.00162	3.15E-06	0.195783	0.372222	1.450954
3.84	0.2644	-0.00162	3.15E-06	0.195744	0.372149	1.450849
3.84	0.2644	-0.00162	3.15E-06	0.195706	0.372076	1.450743
3.84	0.2644	-0.00162	3.15E-06	0.195668	0.372003	1.450637
3.84	0.2644	-0.00162	3.15E-06	0.19563	0.371931	1.450532
3.84	0.2644	-0.00162	3.15E-06	0.195592	0.371858	1.450427
3.84	0.2644	-0.00162	3.15E-06	0.195554	0.371786	1.450322
3.84	0.2644	-0.00162	3.15E-06	0.195516	0.371714	1.450218
3.85	0.2644	-0.00162	3.15E-06	0.195478	0.371642	1.450113
3.85	0.2644	-0.00162	3.15E-06	0.19544	0.37157	1.450009
3.85	0.2644	-0.00162	3.15E-06	0.195402	0.371498	1.449905
3.85	0.2644	-0.00162	3.15E-06	0.195365	0.371427	1.449802
3.85	0.2644	-0.00162	3.15E-06	0.195327	0.371355	1.449698
3.85	0.2644	-0.00162	3.15E-06	0.19529	0.371284	1.449595
3.85	0.2644	-0.00162	3.15E-06	0.195252	0.371213	1.449492
3.85	0.2644	-0.00162	3.15E-06	0.195215	0.371142	1.449389
3.85	0.2644	-0.00162	3.15E-06	0.195178	0.371071	1.449286
3.85	0.2644	-0.00162	3.15E-06	0.19514	0.371	1.449183
3.85	0.2644	-0.00162	3.15E-06	0.195103	0.37093	1.449081
3.85	0.2644	-0.00162	3.15E-06	0.195066	0.370859	1.448979
3.85	0.2644	-0.00162	3.15E-06	0.195029	0.370789	1.448877
3.85	0.2644	-0.00162	3.15E-06	0.194992	0.370719	1.448775
3.85	0.2644	-0.00162	3.15E-06	0.194955	0.370649	1.448674
3.85	0.2644	-0.00162	3.15E-06	0.194919	0.370579	1.448573
3.85	0.2644	-0.00162	3.15E-06	0.194882	0.370509	1.448471
3.86	0.2644	-0.00162	3.15E-06	0.194845	0.370439	1.44837
3.86	0.2644	-0.00162	3.15E-06	0.194809	0.37037	1.44827
3.86	0.2644	-0.00162	3.15E-06	0.194772	0.3703	1.448169
3.86	0.2644	-0.00162	3.15E-06	0.194736	0.370231	1.448069
3.86	0.2644	-0.00162	3.15E-06	0.194699	0.370162	1.447969
3.86	0.2644	-0.00162	3.15E-06	0.194663	0.370093	1.447869
3.86	0.2644	-0.00162	3.15E-06	0.194627	0.370024	1.447769

3.86	0.2644	-0.00162	3.15E-06	0.19459	0.369955	1.447669
3.86	0.2644	-0.00162	3.15E-06	0.194554	0.369886	1.44757
3.86	0.2644	-0.00162	3.15E-06	0.194518	0.369818	1.447471
3.86	0.2644	-0.00162	3.15E-06	0.194482	0.369749	1.447372
3.86	0.2644	-0.00162	3.15E-06	0.194446	0.369681	1.447273
3.86	0.2644	-0.00162	3.15E-06	0.194411	0.369613	1.447174
3.86	0.2644	-0.00162	3.15E-06	0.194375	0.369545	1.447076
3.86	0.2644	-0.00162	3.15E-06	0.194339	0.369477	1.446978
3.86	0.2644	-0.00162	3.15E-06	0.194303	0.369409	1.446879
3.86	0.2644	-0.00162	3.15E-06	0.194268	0.369341	1.446782
3.87	0.2644	-0.00162	3.15E-06	0.194232	0.369274	1.446684
3.87	0.2644	-0.00162	3.15E-06	0.194197	0.369206	1.446586
3.87	0.2644	-0.00162	3.15E-06	0.194161	0.369139	1.446489
3.87	0.2644	-0.00162	3.15E-06	0.194126	0.369072	1.446392
3.87	0.2644	-0.00162	3.15E-06	0.194091	0.369005	1.446295
3.87	0.2644	-0.00162	3.15E-06	0.194056	0.368938	1.446198
3.87	0.2644	-0.00162	3.15E-06	0.19402	0.368871	1.446101
3.87	0.2644	-0.00162	3.15E-06	0.193985	0.368804	1.446005
3.87	0.2644	-0.00162	3.15E-06	0.19395	0.368738	1.445909
3.87	0.2644	-0.00162	3.15E-06	0.193915	0.368671	1.445812
3.87	0.2644	-0.00162	3.15E-06	0.19388	0.368605	1.445716
3.87	0.2644	-0.00162	3.15E-06	0.193846	0.368539	1.445621
3.87	0.2644	-0.00162	3.15E-06	0.193811	0.368473	1.445525
3.87	0.2644	-0.00162	3.15E-06	0.193776	0.368407	1.44543
3.87	0.2644	-0.00162	3.15E-06	0.193741	0.368341	1.445334
3.87	0.2644	-0.00162	3.15E-06	0.193707	0.368275	1.445239
3.87	0.2644	-0.00162	3.15E-06	0.193672	0.368209	1.445144
3.87	0.2644	-0.00162	3.15E-06	0.193638	0.368144	1.44505
3.88	0.2644	-0.00162	3.15E-06	0.193603	0.368078	1.444955
3.88	0.2644	-0.00162	3.15E-06	0.193569	0.368013	1.444861
3.88	0.2644	-0.00162	3.15E-06	0.193535	0.367948	1.444767
3.88	0.2644	-0.00162	3.15E-06	0.1935	0.367883	1.444672
3.88	0.2644	-0.00162	3.15E-06	0.193466	0.367818	1.444579
3.88	0.2644	-0.00162	3.15E-06	0.193432	0.367753	1.444485
3.88	0.2644	-0.00162	3.15E-06	0.193398	0.367688	1.444391
3.88	0.2644	-0.00162	3.15E-06	0.193364	0.367623	1.444298
3.88	0.2644	-0.00162	3.15E-06	0.19333	0.367559	1.444205
3.88	0.2644	-0.00162	3.15E-06	0.193296	0.367494	1.444112
3.88	0.2644	-0.00162	3.15E-06	0.193262	0.36743	1.444019
3.88	0.2644	-0.00162	3.15E-06	0.193229	0.367366	1.443926
3.88	0.2644	-0.00162	3.15E-06	0.193195	0.367302	1.443833
3.88	0.2644	-0.00162	3.15E-06	0.193161	0.367238	1.443741
3.88	0.2644	-0.00162	3.15E-06	0.193128	0.367174	1.443649
3.88	0.2644	-0.00162	3.15E-06	0.193094	0.36711	1.443557
3.88	0.2644	-0.00162	3.15E-06	0.193061	0.367046	1.443465
3.88	0.2644	-0.00162	3.15E-06	0.193027	0.366983	1.443373
3.88	0.2644	-0.00162	3.15E-06	0.192994	0.366919	1.443281
3.89	0.2644	-0.00162	3.15E-06	0.19296	0.366856	1.44319
3.89	0.2644	-0.00162	3.15E-06	0.192927	0.366793	1.443099
3.89	0.2644	-0.00162	3.15E-06	0.192894	0.366729	1.443007

3.89	0.2644	-0.00162	3.15E-06	0.192861	0.366666	1.442916
3.89	0.2644	-0.00162	3.15E-06	0.192828	0.366603	1.442826
3.89	0.2644	-0.00162	3.15E-06	0.192795	0.366541	1.442735
3.89	0.2644	-0.00162	3.15E-06	0.192762	0.366478	1.442644
3.89	0.2644	-0.00162	3.15E-06	0.192729	0.366415	1.442554
3.89	0.2644	-0.00162	3.15E-06	0.192696	0.366353	1.442464
3.89	0.2644	-0.00162	3.15E-06	0.192663	0.36629	1.442374
3.89	0.2644	-0.00162	3.15E-06	0.19263	0.366228	1.442284
3.89	0.2644	-0.00162	3.15E-06	0.192597	0.366166	1.442194
3.89	0.2644	-0.00162	3.15E-06	0.192565	0.366104	1.442105
3.89	0.2644	-0.00162	3.15E-06	0.192532	0.366041	1.442015
3.89	0.2644	-0.00162	3.15E-06	0.1925	0.36598	1.441926
3.89	0.2644	-0.00162	3.15E-06	0.192467	0.365918	1.441837
3.89	0.2644	-0.00162	3.15E-06	0.192435	0.365856	1.441748
3.89	0.2644	-0.00162	3.15E-06	0.192402	0.365794	1.441659
3.89	0.2644	-0.00162	3.15E-06	0.19237	0.365733	1.44157
3.89	0.2644	-0.00162	3.15E-06	0.192337	0.365671	1.441481
3.90	0.2644	-0.00162	3.15E-06	0.192305	0.36561	1.441393
3.90	0.2644	-0.00162	3.15E-06	0.192273	0.365549	1.441305
3.90	0.2644	-0.00162	3.15E-06	0.192241	0.365488	1.441217
3.90	0.2644	-0.00162	3.15E-06	0.192209	0.365427	1.441129
3.90	0.2644	-0.00162	3.15E-06	0.192177	0.365366	1.441041
3.90	0.2644	-0.00162	3.15E-06	0.192145	0.365305	1.440953
3.90	0.2644	-0.00162	3.15E-06	0.192113	0.365244	1.440866
3.90	0.2644	-0.00162	3.15E-06	0.192081	0.365183	1.440778
3.90	0.2644	-0.00162	3.15E-06	0.192049	0.365123	1.440691
3.90	0.2644	-0.00162	3.15E-06	0.192017	0.365062	1.440604
3.90	0.2644	-0.00162	3.15E-06	0.191985	0.365002	1.440517
3.90	0.2644	-0.00162	3.15E-06	0.191954	0.364942	1.44043
3.90	0.2644	-0.00162	3.15E-06	0.191922	0.364882	1.440343
3.90	0.2644	-0.00162	3.15E-06	0.19189	0.364821	1.440257
3.90	0.2644	-0.00162	3.15E-06	0.191859	0.364761	1.44017
3.90	0.2644	-0.00162	3.15E-06	0.191827	0.364702	1.440084
3.90	0.2644	-0.00162	3.15E-06	0.191796	0.364642	1.439998
3.90	0.2644	-0.00162	3.15E-06	0.191764	0.364582	1.439912
3.90	0.2644	-0.00162	3.15E-06	0.191733	0.364522	1.439826
3.90	0.2644	-0.00162	3.15E-06	0.191702	0.364463	1.43974
3.91	0.2644	-0.00162	3.15E-06	0.19167	0.364403	1.439655
3.91	0.2644	-0.00162	3.15E-06	0.191639	0.364344	1.439569
3.91	0.2644	-0.00162	3.15E-06	0.191608	0.364285	1.439484
3.91	0.2644	-0.00162	3.15E-06	0.191577	0.364226	1.439399
3.91	0.2644	-0.00162	3.15E-06	0.191546	0.364167	1.439314
3.91	0.2644	-0.00162	3.15E-06	0.191515	0.364108	1.439229
3.91	0.2644	-0.00162	3.15E-06	0.191484	0.364049	1.439144
3.91	0.2644	-0.00162	3.15E-06	0.191453	0.36399	1.43906
3.91	0.2644	-0.00162	3.15E-06	0.191422	0.363931	1.438975
3.91	0.2644	-0.00162	3.15E-06	0.191391	0.363872	1.438891
3.91	0.2644	-0.00162	3.15E-06	0.19136	0.363814	1.438806
3.91	0.2644	-0.00162	3.15E-06	0.19133	0.363755	1.438722
3.91	0.2644	-0.00162	3.15E-06	0.191299	0.363697	1.438638

3.91	0.2644	-0.00162	3.15E-06	0.191268	0.363639	1.438555
3.91	0.2644	-0.00162	3.15E-06	0.191238	0.363581	1.438471
3.91	0.2644	-0.00162	3.15E-06	0.191207	0.363523	1.438387
3.91	0.2644	-0.00162	3.15E-06	0.191177	0.363465	1.438304
3.91	0.2644	-0.00162	3.15E-06	0.191146	0.363407	1.43822
3.91	0.2644	-0.00162	3.15E-06	0.191116	0.363349	1.438137
3.91	0.2644	-0.00162	3.15E-06	0.191085	0.363291	1.438054
3.91	0.2644	-0.00162	3.15E-06	0.191055	0.363233	1.437971
3.92	0.2644	-0.00162	3.15E-06	0.191025	0.363176	1.437888
3.92	0.2644	-0.00162	3.15E-06	0.190994	0.363118	1.437806
3.92	0.2644	-0.00162	3.15E-06	0.190964	0.363061	1.437723
3.92	0.2644	-0.00162	3.15E-06	0.190934	0.363003	1.437641
3.92	0.2644	-0.00162	3.15E-06	0.190904	0.362946	1.437558
3.92	0.2644	-0.00162	3.15E-06	0.190874	0.362889	1.437476
3.92	0.2644	-0.00162	3.15E-06	0.190844	0.362832	1.437394
3.92	0.2644	-0.00162	3.15E-06	0.190814	0.362775	1.437312
3.92	0.2644	-0.00162	3.15E-06	0.190784	0.362718	1.437231
3.92	0.2644	-0.00162	3.15E-06	0.190754	0.362661	1.437149
3.92	0.2644	-0.00162	3.15E-06	0.190724	0.362604	1.437067
3.92	0.2644	-0.00162	3.15E-06	0.190694	0.362548	1.436986
3.92	0.2644	-0.00162	3.15E-06	0.190665	0.362491	1.436905
3.92	0.2644	-0.00162	3.15E-06	0.190635	0.362435	1.436823
3.92	0.2644	-0.00162	3.15E-06	0.190605	0.362378	1.436742
3.92	0.2644	-0.00162	3.15E-06	0.190576	0.362322	1.436661
3.92	0.2644	-0.00162	3.15E-06	0.190546	0.362266	1.436581
3.92	0.2644	-0.00162	3.15E-06	0.190516	0.362209	1.4365
3.92	0.2644	-0.00162	3.15E-06	0.190487	0.362153	1.436419
3.92	0.2644	-0.00162	3.15E-06	0.190458	0.362097	1.436339
3.92	0.2644	-0.00162	3.15E-06	0.190428	0.362041	1.436258
3.92	0.2644	-0.00162	3.15E-06	0.190399	0.361986	1.436178
3.93	0.2644	-0.00162	3.15E-06	0.190369	0.36193	1.436098
3.93	0.2644	-0.00162	3.15E-06	0.19034	0.361874	1.436018
3.93	0.2644	-0.00162	3.15E-06	0.190311	0.361818	1.435938
3.93	0.2644	-0.00162	3.15E-06	0.190282	0.361763	1.435858
3.93	0.2644	-0.00162	3.15E-06	0.190252	0.361707	1.435779
3.93	0.2644	-0.00162	3.15E-06	0.190223	0.361652	1.435699

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
3255	25.08.20
Sheet	By
01	JS

Calculations

Job Title MIOC

Storm Water Flood Model

M5-60 = 18.20 **R =** 0.38 **Return, T =** 100 **Area (m²) =** 3685

CC Factor = 0.35 **Limit (l/s) =** 2.2

Totals 168 247

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	9.44	17.93	107.58	109.42	147.71	64.33	87.31
15.00	11.27	21.85	87.40	88.89	120.00	78.02	106.02
20.00	12.62	24.74	74.21	75.48	101.89	87.93	119.63
25.00	13.70	27.05	64.92	66.03	89.14	95.74	130.41
30.00	14.60	28.99	57.97	58.96	79.60	102.17	139.32
35.00	15.37	30.66	52.55	53.45	72.16	107.62	146.91
40.00	16.05	32.12	48.19	49.01	66.16	112.34	153.51
45.00	16.66	33.44	44.58	45.34	61.22	116.49	159.34
50.00	17.22	34.63	41.55	42.26	57.05	120.19	164.56
55.00	17.73	35.72	38.96	39.63	53.50	123.51	169.28
60.00	18.20	36.72	36.72	37.35	50.42	126.53	173.58
65.00	18.64	37.65	34.75	35.35	47.72	129.27	177.52
70.00	19.05	38.52	33.02	33.58	45.33	131.80	181.16
75.00	19.44	39.33	31.47	32.00	43.21	134.12	184.53
80.00	19.80	40.10	30.08	30.59	41.30	136.27	187.66
85.00	20.15	40.83	28.82	29.31	39.57	138.27	190.59
90.00	20.48	41.51	27.68	28.15	38.00	140.12	193.32
95.00	20.80	42.17	26.63	27.09	36.57	141.86	195.90
100.00	21.10	42.79	25.68	26.11	35.25	143.48	198.32
105.00	21.40	43.39	24.79	25.22	34.04	145.00	200.60
110.00	21.68	43.96	23.98	24.39	32.92	146.43	202.76
115.00	21.95	44.50	23.22	23.62	31.88	147.77	204.80
120.00	22.21	45.03	22.51	22.90	30.91	149.03	206.73
125.00	22.46	45.53	21.86	22.23	30.01	150.22	208.57
130.00	22.70	46.02	21.24	21.60	29.16	151.34	210.31
135.00	22.94	46.49	20.66	21.01	28.37	152.40	211.97
140.00	23.17	46.94	20.12	20.46	27.62	153.40	213.55
145.00	23.39	47.38	19.61	19.94	26.92	154.34	215.06
150.00	23.61	47.81	19.12	19.45	26.26	155.24	216.50
155.00	23.82	48.22	18.66	18.98	25.63	156.08	217.87
160.00	24.03	48.62	18.23	18.54	25.03	156.88	219.18
165.00	24.23	49.00	17.82	18.12	24.47	157.64	220.43
170.00	24.42	49.38	17.43	17.72	23.93	158.35	221.63
175.00	24.62	49.74	17.05	17.35	23.42	159.03	222.78
180.00	24.80	50.10	16.70	16.98	22.93	159.67	223.87
185.00	24.99	50.44	16.36	16.64	22.46	160.28	224.92
190.00	25.17	50.78	16.04	16.31	22.02	160.85	225.93
195.00	25.34	51.11	15.73	15.99	21.59	161.39	226.89
200.00	25.51	51.43	15.43	15.69	21.18	161.90	227.81

205.00	25.68	51.74	15.14	15.40	20.79	162.39	228.69
210.00	25.85	52.05	14.87	15.12	20.42	162.84	229.54
215.00	26.01	52.34	14.61	14.86	20.06	163.27	230.35
220.00	26.17	52.63	14.35	14.60	19.71	163.68	231.13
225.00	26.33	52.92	14.11	14.35	19.38	164.06	231.87
230.00	26.48	53.20	13.88	14.11	19.05	164.41	232.58
235.00	26.63	53.47	13.65	13.88	18.74	164.75	233.27
240.00	26.78	53.73	13.43	13.66	18.44	165.06	233.92
245.00	26.93	53.99	13.22	13.45	18.16	165.36	234.55
250.00	27.07	54.25	13.02	13.24	17.88	165.63	235.15
255.00	27.22	54.50	12.82	13.04	17.61	165.88	235.72
260.00	27.36	54.74	12.63	12.85	17.35	166.12	236.27
265.00	27.49	54.98	12.45	12.66	17.09	166.34	236.80
270.00	27.63	55.22	12.27	12.48	16.85	166.54	237.30
275.00	27.76	55.45	12.10	12.30	16.61	166.72	237.78
280.00	27.90	55.68	11.93	12.13	16.38	166.89	238.24
285.00	28.03	55.90	11.77	11.97	16.16	167.04	238.68
290.00	28.15	56.12	11.61	11.81	15.94	167.18	239.09
295.00	28.28	56.33	11.46	11.65	15.73	167.31	239.49
300.00	28.41	56.54	11.31	11.50	15.53	167.41	239.87
305.00	28.53	56.75	11.16	11.35	15.33	167.51	240.23
310.00	28.65	56.95	11.02	11.21	15.13	167.59	240.57
315.00	28.77	57.15	10.89	11.07	14.95	167.66	240.90
320.00	28.89	57.34	10.75	10.94	14.76	167.72	241.20
325.00	29.01	57.54	10.62	10.80	14.58	167.76	241.50
330.00	29.13	57.73	10.50	10.67	14.41	167.80	241.77
335.00	29.24	57.91	10.37	10.55	14.24	167.82	242.03
340.00	29.35	58.09	10.25	10.43	14.08	167.83	242.28
345.00	29.47	58.27	10.13	10.31	13.92	167.83	242.51
350.00	29.58	58.45	10.02	10.19	13.76	167.82	242.72
355.00	29.69	58.63	9.91	10.08	13.60	167.80	242.93
360.00	29.80	58.80	9.80	9.97	13.46	167.76	243.11
365.00	29.90	58.97	9.69	9.86	13.31	167.72	243.29
370.00	30.01	59.13	9.59	9.75	13.17	167.67	243.45
375.00	30.11	59.30	9.49	9.65	13.03	167.61	243.60
380.00	30.22	59.46	9.39	9.55	12.89	167.54	243.74
385.00	30.32	59.62	9.29	9.45	12.76	167.47	243.86
390.00	30.42	59.77	9.20	9.35	12.63	167.38	243.98
395.00	30.52	59.93	9.10	9.26	12.50	167.28	244.08
400.00	30.62	60.08	9.01	9.17	12.37	167.18	244.17
405.00	30.72	60.23	8.92	9.08	12.25	167.07	244.25
410.00	30.82	60.38	8.84	8.99	12.13	166.95	244.32
415.00	30.92	60.52	8.75	8.90	12.01	166.82	244.38
420.00	31.02	60.87	8.70	8.84	11.94	167.44	245.45
425.00	31.11	61.04	8.62	8.76	11.83	167.38	245.59
430.00	31.21	61.20	8.54	8.68	11.72	167.30	245.72
435.00	31.30	61.35	8.46	8.61	11.62	167.22	245.85
440.00	31.39	61.51	8.39	8.53	11.52	167.14	245.96
445.00	31.49	61.67	8.31	8.46	11.42	167.05	246.07
450.00	31.58	61.82	8.24	8.38	11.32	166.95	246.17

455.00	31.67	61.97	8.17	8.31	11.22	166.85	246.27
460.00	31.76	62.12	8.10	8.24	11.13	166.74	246.35
465.00	31.85	62.27	8.04	8.17	11.03	166.63	246.44
470.00	31.93	62.42	7.97	8.10	10.94	166.52	246.51
475.00	32.02	62.57	7.90	8.04	10.85	166.39	246.58
480.00	32.11	62.72	7.84	7.97	10.76	166.27	246.64
485.00	32.20	62.86	7.78	7.91	10.68	166.14	246.69
490.00	32.28	63.00	7.71	7.85	10.59	166.00	246.74
495.00	32.37	63.15	7.65	7.78	10.51	165.86	246.78
500.00	32.45	63.29	7.59	7.72	10.43	165.72	246.82
505.00	32.53	63.43	7.54	7.66	10.35	165.57	246.85
510.00	32.62	63.57	7.48	7.61	10.27	165.42	246.88
515.00	32.70	63.70	7.42	7.55	10.19	165.26	246.90
520.00	32.78	63.84	7.37	7.49	10.11	165.10	246.91
525.00	32.86	63.97	7.31	7.44	10.04	164.94	246.92
530.00	32.94	64.11	7.26	7.38	9.96	164.77	246.92
535.00	33.02	64.24	7.20	7.33	9.89	164.60	246.92
540.00	33.10	64.37	7.15	7.27	9.82	164.42	246.91
545.00	33.18	64.51	7.10	7.22	9.75	164.24	246.90
550.00	33.26	64.64	7.05	7.17	9.68	164.06	246.89
555.00	33.34	64.76	7.00	7.12	9.61	163.87	246.86
560.00	33.41	64.89	6.95	7.07	9.55	163.68	246.84
565.00	33.49	65.02	6.90	7.02	9.48	163.48	246.81
570.00	33.57	65.15	6.86	6.97	9.42	163.29	246.77
575.00	33.64	65.27	6.81	6.93	9.35	163.08	246.73
580.00	33.72	65.40	6.77	6.88	9.29	162.88	246.68
585.00	33.79	65.52	6.72	6.83	9.23	162.67	246.64
590.00	33.87	65.64	6.68	6.79	9.17	162.46	246.58
595.00	33.94	65.76	6.63	6.74	9.11	162.25	246.52
600.00	34.01	65.88	6.59	6.70	9.05	162.03	246.46
605.00	34.09	66.00	6.55	6.66	8.99	161.81	246.39
610.00	34.16	66.12	6.50	6.61	8.93	161.59	246.32
615.00	34.23	66.24	6.46	6.57	8.87	161.36	246.25
620.00	34.30	66.36	6.42	6.53	8.82	161.13	246.17
625.00	34.37	66.48	6.38	6.49	8.76	160.90	246.09
630.00	34.44	66.59	6.34	6.45	8.71	160.66	246.00
635.00	34.52	66.71	6.30	6.41	8.65	160.43	245.91
640.00	34.58	66.82	6.26	6.37	8.60	160.18	245.82
645.00	34.65	66.94	6.23	6.33	8.55	159.94	245.72
650.00	34.72	67.05	6.19	6.29	8.50	159.70	245.62
655.00	34.79	67.16	6.15	6.26	8.45	159.45	245.51
660.00	34.86	67.27	6.12	6.22	8.40	159.20	245.41
665.00	34.93	67.38	6.08	6.18	8.35	158.94	245.29
670.00	34.99	67.49	6.04	6.15	8.30	158.68	245.18
675.00	35.06	67.60	6.01	6.11	8.25	158.43	245.06
680.00	35.13	67.71	5.97	6.08	8.20	158.16	244.94
685.00	35.19	67.82	5.94	6.04	8.16	157.90	244.81
690.00	35.26	67.93	5.91	6.01	8.11	157.63	244.68
695.00	35.33	68.04	5.87	5.97	8.06	157.36	244.55
700.00	35.39	68.14	5.84	5.94	8.02	157.09	244.42

705.00	35.46	68.25	5.81	5.91	7.97	156.82	244.28
710.00	35.52	68.35	5.78	5.87	7.93	156.54	244.14
715.00	35.58	68.46	5.74	5.84	7.89	156.27	243.99
720.00	35.65	68.56	5.71	5.81	7.84	155.99	243.85
725.00	35.71	68.66	5.68	5.78	7.80	155.70	243.70
730.00	35.78	68.77	5.65	5.75	7.76	155.42	243.54
735.00	35.84	68.87	5.62	5.72	7.72	155.13	243.39
740.00	35.90	68.97	5.59	5.69	7.68	154.84	243.23
745.00	35.96	69.07	5.56	5.66	7.64	154.55	243.07
750.00	36.02	69.17	5.53	5.63	7.60	154.26	242.90
755.00	36.09	69.27	5.50	5.60	7.56	153.96	242.73
760.00	36.15	69.37	5.48	5.57	7.52	153.67	242.56
765.00	36.21	69.47	5.45	5.54	7.48	153.37	242.39
770.00	36.27	69.57	5.42	5.51	7.44	153.07	242.21
775.00	36.33	69.66	5.39	5.49	7.41	152.76	242.04
780.00	36.39	69.76	5.37	5.46	7.37	152.46	241.86
785.00	36.45	69.86	5.34	5.43	7.33	152.15	241.67
790.00	36.51	69.95	5.31	5.40	7.29	151.84	241.49
795.00	36.57	70.05	5.29	5.38	7.26	151.53	241.30
800.00	36.63	70.14	5.26	5.35	7.22	151.22	241.11
805.00	36.68	70.24	5.24	5.32	7.19	150.91	240.91
810.00	36.74	70.33	5.21	5.30	7.15	150.59	240.72
815.00	36.80	70.42	5.18	5.27	7.12	150.27	240.52
820.00	36.86	70.52	5.16	5.25	7.08	149.95	240.32
825.00	36.92	70.61	5.14	5.22	7.05	149.63	240.12
830.00	36.97	70.70	5.11	5.20	7.02	149.31	239.91
835.00	37.03	70.79	5.09	5.17	6.98	148.98	239.71
840.00	37.09	70.88	5.06	5.15	6.95	148.66	239.50
845.00	37.14	70.98	5.04	5.13	6.92	148.33	239.28
850.00	37.20	71.07	5.02	5.10	6.89	148.00	239.07
855.00	37.26	71.16	4.99	5.08	6.86	147.67	238.85
860.00	37.31	71.24	4.97	5.06	6.82	147.34	238.63
865.00	37.37	71.33	4.95	5.03	6.79	147.00	238.41
870.00	37.42	71.42	4.93	5.01	6.76	146.66	238.19
875.00	37.48	71.51	4.90	4.99	6.73	146.33	237.97
880.00	37.53	71.60	4.88	4.96	6.70	145.99	237.74
885.00	37.59	71.68	4.86	4.94	6.67	145.65	237.51
890.00	37.64	71.77	4.84	4.92	6.64	145.30	237.28
895.00	37.69	71.86	4.82	4.90	6.61	144.96	237.05
900.00	37.75	71.94	4.80	4.88	6.59	144.62	236.81
905.00	37.80	72.03	4.78	4.86	6.56	144.27	236.57
910.00	37.86	72.11	4.75	4.84	6.53	143.92	236.34
915.00	37.91	72.20	4.73	4.82	6.50	143.57	236.09
920.00	37.96	72.28	4.71	4.79	6.47	143.22	235.85
925.00	38.01	72.37	4.69	4.77	6.45	142.87	235.61
930.00	38.07	72.45	4.67	4.75	6.42	142.51	235.36
935.00	38.12	72.53	4.65	4.73	6.39	142.16	235.11
940.00	38.17	72.62	4.64	4.71	6.36	141.80	234.86
945.00	38.22	72.70	4.62	4.69	6.34	141.44	234.61
950.00	38.27	72.78	4.60	4.68	6.31	141.09	234.36

955.00	38.33	72.86	4.58	4.66	6.29	140.72	234.10
960.00	38.38	72.95	4.56	4.64	6.26	140.36	233.84
965.00	38.43	73.03	4.54	4.62	6.23	140.00	233.58
970.00	38.48	73.11	4.52	4.60	6.21	139.64	233.32
975.00	38.53	73.19	4.50	4.58	6.18	139.27	233.06
980.00	38.58	73.27	4.49	4.56	6.16	138.90	232.79
985.00	38.63	73.35	4.47	4.54	6.13	138.53	232.53
990.00	38.68	73.43	4.45	4.53	6.11	138.16	232.26
995.00	38.73	73.51	4.43	4.51	6.09	137.79	231.99
1000.00	38.78	73.58	4.42	4.49	6.06	137.42	231.72
1005.00	38.83	73.66	4.40	4.47	6.04	137.05	231.45
1010.00	38.88	73.74	4.38	4.46	6.01	136.67	231.17
1015.00	38.93	73.82	4.36	4.44	5.99	136.30	230.90
1020.00	38.98	73.90	4.35	4.42	5.97	135.92	230.62
1025.00	39.03	73.97	4.33	4.40	5.95	135.54	230.34
1030.00	39.07	74.05	4.31	4.39	5.92	135.17	230.06
1035.00	39.12	74.13	4.30	4.37	5.90	134.79	229.78
1040.00	39.17	74.20	4.28	4.35	5.88	134.40	229.49
1045.00	39.22	74.28	4.26	4.34	5.86	134.02	229.21
1050.00	39.27	74.35	4.25	4.32	5.83	133.64	228.92
1055.00	39.31	74.43	4.23	4.31	5.81	133.25	228.63
1060.00	39.36	74.50	4.22	4.29	5.79	132.87	228.34
1065.00	39.41	74.58	4.20	4.27	5.77	132.48	228.05
1070.00	39.46	74.65	4.19	4.26	5.75	132.09	227.76
1075.00	39.50	74.73	4.17	4.24	5.73	131.70	227.47
1080.00	39.55	74.80	4.16	4.23	5.71	131.31	227.17
1085.00	39.60	74.87	4.14	4.21	5.68	130.92	226.87
1090.00	39.64	74.95	4.13	4.20	5.66	130.53	226.57
1095.00	39.69	75.02	4.11	4.18	5.64	130.14	226.27
1100.00	39.74	75.09	4.10	4.17	5.62	129.74	225.97
1105.00	39.78	75.16	4.08	4.15	5.60	129.35	225.67
1110.00	39.83	75.24	4.07	4.14	5.58	128.95	225.37
1115.00	39.87	75.31	4.05	4.12	5.56	128.55	225.06
1120.00	39.92	75.38	4.04	4.11	5.54	128.16	224.76
1125.00	39.97	75.45	4.02	4.09	5.53	127.76	224.45
1130.00	40.01	75.52	4.01	4.08	5.51	127.36	224.14
1135.00	40.06	75.59	4.00	4.06	5.49	126.96	223.83
1140.00	40.10	75.66	3.98	4.05	5.47	126.55	223.52
1145.00	40.15	75.73	3.97	4.04	5.45	126.15	223.20
1150.00	40.19	75.80	3.95	4.02	5.43	125.75	222.89
1155.00	40.24	75.87	3.94	4.01	5.41	125.34	222.57
1160.00	40.28	75.94	3.93	4.00	5.39	124.94	222.26
1165.00	40.32	76.01	3.91	3.98	5.38	124.53	221.94
1170.00	40.37	76.08	3.90	3.97	5.36	124.12	221.62
1175.00	40.41	76.15	3.89	3.95	5.34	123.71	221.30
1180.00	40.46	76.22	3.88	3.94	5.32	123.30	220.98
1185.00	40.50	76.29	3.86	3.93	5.30	122.89	220.65
1190.00	40.54	76.35	3.85	3.92	5.29	122.48	220.33
1195.00	40.59	76.42	3.84	3.90	5.27	122.07	220.00
1200.00	40.63	76.49	3.82	3.89	5.25	121.66	219.68

1205.00	40.67	76.56	3.81	3.88	5.23	121.24	219.35
1210.00	40.72	76.62	3.80	3.86	5.22	120.83	219.02
1215.00	40.76	76.69	3.79	3.85	5.20	120.41	218.69
1220.00	40.80	76.76	3.77	3.84	5.18	120.00	218.36
1225.00	40.84	76.82	3.76	3.83	5.17	119.58	218.03
1230.00	40.89	76.89	3.75	3.81	5.15	119.16	217.69
1235.00	40.93	76.95	3.74	3.80	5.13	118.74	217.36
1240.00	40.97	77.02	3.73	3.79	5.12	118.32	217.02
1245.00	41.01	77.09	3.71	3.78	5.10	117.90	216.69
1250.00	41.06	77.15	3.70	3.77	5.08	117.48	216.35
1255.00	41.10	77.22	3.69	3.75	5.07	117.06	216.01
1260.00	41.14	77.28	3.68	3.74	5.05	116.64	215.67
1265.00	41.18	77.35	3.67	3.73	5.04	116.21	215.33
1270.00	41.22	77.41	3.66	3.72	5.02	115.79	214.99
1275.00	41.26	77.47	3.65	3.71	5.01	115.36	214.64
1280.00	41.30	77.54	3.63	3.70	4.99	114.94	214.30
1285.00	41.35	77.60	3.62	3.69	4.98	114.51	213.96
1290.00	41.39	77.66	3.61	3.67	4.96	114.08	213.61
1295.00	41.43	77.73	3.60	3.66	4.94	113.65	213.26
1300.00	41.47	77.79	3.59	3.65	4.93	113.22	212.91
1305.00	41.51	77.85	3.58	3.64	4.91	112.79	212.56
1310.00	41.55	77.92	3.57	3.63	4.90	112.36	212.21
1315.00	41.59	77.98	3.56	3.62	4.89	111.93	211.86
1320.00	41.63	78.04	3.55	3.61	4.87	111.50	211.51
1325.00	41.67	78.10	3.54	3.60	4.86	111.07	211.16
1330.00	41.71	78.17	3.53	3.59	4.84	110.63	210.80
1335.00	41.75	78.23	3.52	3.58	4.83	110.20	210.45
1340.00	41.79	78.29	3.51	3.57	4.81	109.77	210.09
1345.00	41.83	78.35	3.50	3.55	4.80	109.33	209.73
1350.00	41.87	78.41	3.48	3.54	4.78	108.89	209.38
1355.00	41.91	78.47	3.47	3.53	4.77	108.46	209.02
1360.00	41.95	78.53	3.46	3.52	4.76	108.02	208.66
1365.00	41.99	78.59	3.45	3.51	4.74	107.58	208.30
1370.00	42.03	78.65	3.44	3.50	4.73	107.14	207.93
1375.00	42.07	78.71	3.43	3.49	4.72	106.70	207.57
1380.00	42.10	78.77	3.42	3.48	4.70	106.26	207.21
1385.00	42.14	78.83	3.42	3.47	4.69	105.82	206.84
1390.00	42.18	78.89	3.41	3.46	4.68	105.38	206.48
1395.00	42.22	78.95	3.40	3.45	4.66	104.94	206.11
1400.00	42.26	79.01	3.39	3.44	4.65	104.49	205.75
1405.00	42.30	79.07	3.38	3.43	4.64	104.05	205.38
1410.00	42.34	79.13	3.37	3.42	4.62	103.60	205.01
1415.00	42.37	79.19	3.36	3.42	4.61	103.16	204.64
1420.00	42.41	79.25	3.35	3.41	4.60	102.71	204.27
1425.00	42.45	79.30	3.34	3.40	4.58	102.27	203.90
1430.00	42.49	79.36	3.33	3.39	4.57	101.82	203.52
1435.00	42.53	79.42	3.32	3.38	4.56	101.37	203.15
1440.00	42.56	79.48	3.31	3.37	4.55	100.92	202.78
1445.00	42.60	79.54	3.30	3.36	4.53	100.48	202.40
1450.00	42.64	79.59	3.29	3.35	4.52	100.03	202.03

1455.00	42.68	79.65	3.28	3.34	4.51	99.58	201.65
1460.00	42.71	79.71	3.28	3.33	4.50	99.13	201.27
1465.00	42.75	79.77	3.27	3.32	4.49	98.67	200.89
1470.00	42.79	79.82	3.26	3.31	4.47	98.22	200.51
1475.00	42.83	79.88	3.25	3.30	4.46	97.77	200.13
1480.00	42.86	79.94	3.24	3.30	4.45	97.32	199.75
1485.00	42.90	79.99	3.23	3.29	4.44	96.86	199.37
1490.00	42.94	80.05	3.22	3.28	4.43	96.41	198.99
1495.00	42.97	80.10	3.21	3.27	4.41	95.95	198.61
1500.00	43.01	80.16	3.21	3.26	4.40	95.50	198.22
1505.00	43.05	80.22	3.20	3.25	4.39	95.04	197.84
1510.00	43.08	80.27	3.19	3.24	4.38	94.59	197.45
1515.00	43.12	80.33	3.18	3.24	4.37	94.13	197.07
1520.00	43.15	80.38	3.17	3.23	4.36	93.67	196.68
1525.00	43.19	80.44	3.16	3.22	4.35	93.21	196.29
1530.00	43.23	80.49	3.16	3.21	4.33	92.75	195.90
1535.00	43.26	80.55	3.15	3.20	4.32	92.30	195.52
1540.00	43.30	80.60	3.14	3.19	4.31	91.84	195.13
1545.00	43.33	80.66	3.13	3.19	4.30	91.38	194.74
1550.00	43.37	80.71	3.12	3.18	4.29	90.91	194.34
1555.00	43.41	80.76	3.12	3.17	4.28	90.45	193.95
1560.00	43.44	80.82	3.11	3.16	4.27	89.99	193.56
1565.00	43.48	80.87	3.10	3.15	4.26	89.53	193.17
1570.00	43.51	80.93	3.09	3.15	4.25	89.06	192.77
1575.00	43.55	80.98	3.08	3.14	4.24	88.60	192.38
1580.00	43.58	81.03	3.08	3.13	4.23	88.14	191.98
1585.00	43.62	81.09	3.07	3.12	4.21	87.67	191.58
1590.00	43.65	81.14	3.06	3.11	4.20	87.21	191.19
1595.00	43.69	81.19	3.05	3.11	4.19	86.74	190.79
1600.00	43.72	81.25	3.05	3.10	4.18	86.28	190.39
1605.00	43.76	81.30	3.04	3.09	4.17	85.81	189.99
1610.00	43.79	81.35	3.03	3.08	4.16	85.34	189.59
1615.00	43.83	81.40	3.02	3.08	4.15	84.87	189.19
1620.00	43.86	81.46	3.02	3.07	4.14	84.41	188.79
1625.00	43.89	81.51	3.01	3.06	4.13	83.94	188.39
1630.00	43.93	81.56	3.00	3.05	4.12	83.47	187.99
1635.00	43.96	81.61	2.99	3.05	4.11	83.00	187.58
1640.00	44.00	81.66	2.99	3.04	4.10	82.53	187.18
1645.00	44.03	81.72	2.98	3.03	4.09	82.06	186.78
1650.00	44.07	81.77	2.97	3.02	4.08	81.59	186.37
1655.00	44.10	81.82	2.97	3.02	4.07	81.11	185.96
1660.00	44.13	81.87	2.96	3.01	4.06	80.64	185.56
1665.00	44.17	81.92	2.95	3.00	4.05	80.17	185.15
1670.00	44.20	81.97	2.95	3.00	4.04	79.70	184.74
1675.00	44.23	82.02	2.94	2.99	4.03	79.22	184.33
1680.00	44.27	82.07	2.93	2.98	4.02	78.75	183.93
1685.00	44.30	82.12	2.92	2.97	4.02	78.27	183.52
1690.00	44.34	82.18	2.92	2.97	4.01	77.80	183.11
1695.00	44.37	82.23	2.91	2.96	4.00	77.32	182.69
1700.00	44.40	82.28	2.90	2.95	3.99	76.85	182.28

1705.00	44.44	82.33	2.90	2.95	3.98	76.37	181.87
1710.00	44.47	82.38	2.89	2.94	3.97	75.89	181.46
1715.00	44.50	82.43	2.88	2.93	3.96	75.42	181.04
1720.00	44.53	82.48	2.88	2.93	3.95	74.94	180.63
1725.00	44.57	82.53	2.87	2.92	3.94	74.46	180.22
1730.00	44.60	82.58	2.86	2.91	3.93	73.98	179.80
1735.00	44.63	82.62	2.86	2.91	3.92	73.50	179.39
1740.00	44.67	82.67	2.85	2.90	3.91	73.02	178.97
1745.00	44.70	82.72	2.84	2.89	3.91	72.54	178.55
1750.00	44.73	82.77	2.84	2.89	3.90	72.06	178.13
1755.00	44.76	82.82	2.83	2.88	3.89	71.58	177.72
1760.00	44.80	82.87	2.83	2.87	3.88	71.10	177.30
1765.00	44.83	82.92	2.82	2.87	3.87	70.62	176.88
1770.00	44.86	82.97	2.81	2.86	3.86	70.14	176.46
1775.00	44.89	83.02	2.81	2.85	3.85	69.65	176.04
1780.00	44.92	83.06	2.80	2.85	3.84	69.17	175.62
1785.00	44.96	83.11	2.79	2.84	3.84	68.69	175.20
1790.00	44.99	83.16	2.79	2.84	3.83	68.20	174.77
1795.00	45.02	83.21	2.78	2.83	3.82	67.72	174.35
1800.00	45.05	83.26	2.78	2.82	3.81	67.24	173.93
1805.00	45.08	83.30	2.77	2.82	3.80	66.75	173.50
1810.00	45.12	83.35	2.76	2.81	3.79	66.26	173.08
1815.00	45.15	83.40	2.76	2.80	3.79	65.78	172.65
1820.00	45.18	83.45	2.75	2.80	3.78	65.29	172.23
1825.00	45.21	83.49	2.75	2.79	3.77	64.81	171.80
1830.00	45.24	83.54	2.74	2.79	3.76	64.32	171.38
1835.00	45.27	83.59	2.73	2.78	3.75	63.83	170.95
1840.00	45.31	83.64	2.73	2.77	3.74	63.34	170.52
1845.00	45.34	83.68	2.72	2.77	3.74	62.86	170.09
1850.00	45.37	83.73	2.72	2.76	3.73	62.37	169.66
1855.00	45.40	83.78	2.71	2.76	3.72	61.88	169.24
1860.00	45.43	83.82	2.70	2.75	3.71	61.39	168.81
1865.00	45.46	83.87	2.70	2.74	3.70	60.90	168.38
1870.00	45.49	83.92	2.69	2.74	3.70	60.41	167.94
1875.00	45.52	83.96	2.69	2.73	3.69	59.92	167.51
1880.00	45.55	84.01	2.68	2.73	3.68	59.43	167.08
1885.00	45.58	84.05	2.68	2.72	3.67	58.94	166.65
1890.00	45.62	84.10	2.67	2.72	3.67	58.44	166.22
1895.00	45.65	84.15	2.66	2.71	3.66	57.95	165.78
1900.00	45.68	84.19	2.66	2.70	3.65	57.46	165.35
1905.00	45.71	84.24	2.65	2.70	3.64	56.97	164.92
1910.00	45.74	84.28	2.65	2.69	3.64	56.47	164.48
1915.00	45.77	84.33	2.64	2.69	3.63	55.98	164.04
1920.00	45.80	84.37	2.64	2.68	3.62	55.49	163.61
1925.00	45.83	84.42	2.63	2.68	3.61	54.99	163.17
1930.00	45.86	84.46	2.63	2.67	3.61	54.50	162.74
1935.00	45.89	84.51	2.62	2.67	3.60	54.00	162.30
1940.00	45.92	84.55	2.62	2.66	3.59	53.51	161.86
1945.00	45.95	84.60	2.61	2.65	3.58	53.01	161.42
1950.00	45.98	84.64	2.60	2.65	3.58	52.51	160.98

1955.00	46.01	84.69	2.60	2.64	3.57	52.02	160.54
1960.00	46.04	84.73	2.59	2.64	3.56	51.52	160.10
1965.00	46.07	84.78	2.59	2.63	3.55	51.02	159.66
1970.00	46.10	84.82	2.58	2.63	3.55	50.53	159.22
1975.00	46.13	84.87	2.58	2.62	3.54	50.03	158.78
1980.00	46.16	84.91	2.57	2.62	3.53	49.53	158.34
1985.00	46.19	84.95	2.57	2.61	3.53	49.03	157.90
1990.00	46.22	85.00	2.56	2.61	3.52	48.53	157.46
1995.00	46.25	85.04	2.56	2.60	3.51	48.03	157.01
2000.00	46.28	85.09	2.55	2.60	3.50	47.53	156.57
2005.00	46.31	85.13	2.55	2.59	3.50	47.03	156.13
2010.00	46.34	85.17	2.54	2.59	3.49	46.53	155.68
2015.00	46.36	85.22	2.54	2.58	3.48	46.03	155.24
2020.00	46.39	85.26	2.53	2.58	3.48	45.53	154.79
2025.00	46.42	85.30	2.53	2.57	3.47	45.03	154.35
2030.00	46.45	85.35	2.52	2.57	3.46	44.53	153.90
2035.00	46.48	85.39	2.52	2.56	3.46	44.03	153.45
2040.00	46.51	85.43	2.51	2.56	3.45	43.52	153.01
2045.00	46.54	85.48	2.51	2.55	3.44	43.02	152.56
2050.00	46.57	85.52	2.50	2.55	3.44	42.52	152.11
2055.00	46.60	85.56	2.50	2.54	3.43	42.02	151.66
2060.00	46.63	85.60	2.49	2.54	3.42	41.51	151.21
2065.00	46.65	85.65	2.49	2.53	3.42	41.01	150.76
2070.00	46.68	85.69	2.48	2.53	3.41	40.50	150.31
2075.00	46.71	85.73	2.48	2.52	3.40	40.00	149.86
2080.00	46.74	85.77	2.47	2.52	3.40	39.49	149.41
2085.00	46.77	85.82	2.47	2.51	3.39	38.99	148.96
2090.00	46.80	85.86	2.46	2.51	3.38	38.48	148.51
2095.00	46.83	85.90	2.46	2.50	3.38	37.98	148.06
2100.00	46.85	85.94	2.46	2.50	3.37	37.47	147.61
2105.00	46.88	85.98	2.45	2.49	3.37	36.97	147.15
2110.00	46.91	86.03	2.45	2.49	3.36	36.46	146.70
2115.00	46.94	86.07	2.44	2.48	3.35	35.95	146.25
2120.00	46.97	86.11	2.44	2.48	3.35	35.44	145.79
2125.00	47.00	86.15	2.43	2.47	3.34	34.94	145.34
2130.00	47.02	86.19	2.43	2.47	3.33	34.43	144.88
2135.00	47.05	86.23	2.42	2.46	3.33	33.92	144.43
2140.00	47.08	86.28	2.42	2.46	3.32	33.41	143.97
2145.00	47.11	86.32	2.41	2.46	3.32	32.90	143.52
2150.00	47.14	86.36	2.41	2.45	3.31	32.39	143.06
2155.00	47.16	86.40	2.41	2.45	3.30	31.88	142.60
2160.00	47.19	86.44	2.40	2.44	3.30	31.37	142.15
2165.00	47.22	86.48	2.40	2.44	3.29	30.86	141.69
2170.00	47.25	86.52	2.39	2.43	3.28	30.35	141.23
2175.00	47.27	86.56	2.39	2.43	3.28	29.84	140.77
2180.00	47.30	86.60	2.38	2.42	3.27	29.33	140.32
2185.00	47.33	86.64	2.38	2.42	3.27	28.82	139.86
2190.00	47.36	86.69	2.37	2.42	3.26	28.31	139.40
2195.00	47.38	86.73	2.37	2.41	3.25	27.80	138.94
2200.00	47.41	86.77	2.37	2.41	3.25	27.29	138.48

2205.00	47.44	86.81	2.36	2.40	3.24	26.77	138.02
2210.00	47.47	86.85	2.36	2.40	3.24	26.26	137.55
2215.00	47.49	86.89	2.35	2.39	3.23	25.75	137.09
2220.00	47.52	86.93	2.35	2.39	3.23	25.24	136.63
2225.00	47.55	86.97	2.35	2.39	3.22	24.72	136.17
2230.00	47.57	87.01	2.34	2.38	3.21	24.21	135.71
2235.00	47.60	87.05	2.34	2.38	3.21	23.69	135.24
2240.00	47.63	87.09	2.33	2.37	3.20	23.18	134.78
2245.00	47.66	87.13	2.33	2.37	3.20	22.66	134.32
2250.00	47.68	87.17	2.32	2.36	3.19	22.15	133.85
2255.00	47.71	87.21	2.32	2.36	3.19	21.63	133.39
2260.00	47.74	87.24	2.32	2.36	3.18	21.12	132.92
2265.00	47.76	87.28	2.31	2.35	3.17	20.60	132.46
2270.00	47.79	87.32	2.31	2.35	3.17	20.09	131.99
2275.00	47.82	87.36	2.30	2.34	3.16	19.57	131.53
2280.00	47.84	87.40	2.30	2.34	3.16	19.06	131.06
2285.00	47.87	87.44	2.30	2.34	3.15	18.54	130.59
2290.00	47.90	87.48	2.29	2.33	3.15	18.02	130.13
2295.00	47.92	87.52	2.29	2.33	3.14	17.50	129.66
2300.00	47.95	87.56	2.28	2.32	3.14	16.99	129.19
2305.00	47.98	87.60	2.28	2.32	3.13	16.47	128.72
2310.00	48.00	87.64	2.28	2.32	3.13	15.95	128.26
2315.00	48.03	87.67	2.27	2.31	3.12	15.43	127.79
2320.00	48.06	87.71	2.27	2.31	3.11	14.91	127.32
2325.00	48.08	87.75	2.26	2.30	3.11	14.39	126.85
2330.00	48.11	87.79	2.26	2.30	3.10	13.88	126.38
2335.00	48.13	87.83	2.26	2.30	3.10	13.36	125.91
2340.00	48.16	87.87	2.25	2.29	3.09	12.84	125.44
2345.00	48.19	87.90	2.25	2.29	3.09	12.32	124.97
2350.00	48.21	87.94	2.25	2.28	3.08	11.80	124.50
2355.00	48.24	87.98	2.24	2.28	3.08	11.28	124.02
2360.00	48.26	88.02	2.24	2.28	3.07	10.76	123.55
2365.00	48.29	88.06	2.23	2.27	3.07	10.23	123.08
2370.00	48.32	88.10	2.23	2.27	3.06	9.71	122.61
2375.00	48.34	88.13	2.23	2.26	3.06	9.19	122.13
2380.00	48.37	88.17	2.22	2.26	3.05	8.67	121.66
2385.00	48.39	88.21	2.22	2.26	3.05	8.15	121.19
2390.00	48.42	88.25	2.22	2.25	3.04	7.63	120.71
2395.00	48.45	88.28	2.21	2.25	3.04	7.10	120.24
2400.00	48.47	88.32	2.21	2.25	3.03	6.58	119.77
2405.00	48.50	88.36	2.20	2.24	3.03	6.06	119.29
2410.00	48.52	88.40	2.20	2.24	3.02	5.54	118.82
2415.00	48.55	88.43	2.20	2.23	3.02	5.01	118.34
2420.00	48.57	88.47	2.19	2.23	3.01	4.49	117.86
2425.00	48.60	88.51	2.19	2.23	3.01	3.96	117.39
2430.00	48.62	88.55	2.19	2.22	3.00	3.44	116.91
2435.00	48.65	88.58	2.18	2.22	3.00	2.92	116.43
2440.00	48.68	88.62	2.18	2.22	2.99	2.39	115.96
2445.00	48.70	88.66	2.18	2.21	2.99	1.87	115.48
2450.00	48.73	88.69	2.17	2.21	2.98	1.34	115.00

2455.00	48.75	88.73	2.17	2.21	2.98	0.82	114.52
2460.00	48.78	88.77	2.17	2.20	2.97	0.29	114.05
2465.00	48.80	88.80	2.16	2.20	2.97	-0.23	113.57
2470.00	48.83	88.84	2.16	2.19	2.96	-0.76	113.09
2475.00	48.85	88.88	2.15	2.19	2.96	-1.29	112.61
2480.00	48.88	88.91	2.15	2.19	2.95	-1.81	112.13
2485.00	48.90	88.95	2.15	2.18	2.95	-2.34	111.65
2490.00	48.93	88.99	2.14	2.18	2.94	-2.87	111.17
2495.00	48.95	89.02	2.14	2.18	2.94	-3.39	110.69
2500.00	48.98	89.06	2.14	2.17	2.93	-3.92	110.21
2505.00	49.00	89.09	2.13	2.17	2.93	-4.45	109.73
2510.00	49.03	89.13	2.13	2.17	2.93	-4.98	109.24
2515.00	49.05	89.17	2.13	2.16	2.92	-5.50	108.76
2520.00	49.08	89.20	2.12	2.16	2.92	-6.03	108.28
2525.00	49.10	89.24	2.12	2.16	2.91	-6.56	107.80
2530.00	49.13	89.27	2.12	2.15	2.91	-7.09	107.32
2535.00	49.15	89.31	2.11	2.15	2.90	-7.62	106.83
2540.00	49.17	89.35	2.11	2.15	2.90	-8.15	106.35
2545.00	49.20	89.38	2.11	2.14	2.89	-8.68	105.87
2550.00	49.22	89.42	2.10	2.14	2.89	-9.21	105.38
2555.00	49.25	89.45	2.10	2.14	2.88	-9.74	104.90
2560.00	49.27	89.49	2.10	2.13	2.88	-10.27	104.41
2565.00	49.30	89.52	2.09	2.13	2.88	-10.80	103.93
2570.00	49.32	89.56	2.09	2.13	2.87	-11.33	103.44
2575.00	49.35	89.59	2.09	2.12	2.87	-11.86	102.96
2580.00	49.37	89.63	2.08	2.12	2.86	-12.39	102.47
2585.00	49.39	89.67	2.08	2.12	2.86	-12.92	101.99
2590.00	49.42	89.70	2.08	2.11	2.85	-13.45	101.50
2595.00	49.44	89.74	2.07	2.11	2.85	-13.98	101.01
2600.00	49.47	89.77	2.07	2.11	2.84	-14.51	100.53
2605.00	49.49	89.81	2.07	2.10	2.84	-15.04	100.04
2610.00	49.52	89.84	2.07	2.10	2.84	-15.58	99.55
2615.00	49.54	89.88	2.06	2.10	2.83	-16.11	99.07
2620.00	49.56	89.91	2.06	2.09	2.83	-16.64	98.58
2625.00	49.59	89.94	2.06	2.09	2.82	-17.17	98.09
2630.00	49.61	89.98	2.05	2.09	2.82	-17.71	97.60
2635.00	49.64	90.01	2.05	2.08	2.81	-18.24	97.11
2640.00	49.66	90.05	2.05	2.08	2.81	-18.77	96.62
2645.00	49.68	90.08	2.04	2.08	2.81	-19.31	96.13
2650.00	49.71	90.12	2.04	2.08	2.80	-19.84	95.64
2655.00	49.73	90.15	2.04	2.07	2.80	-20.37	95.16
2660.00	49.75	90.19	2.03	2.07	2.79	-20.91	94.67
2665.00	49.78	90.22	2.03	2.07	2.79	-21.44	94.17
2670.00	49.80	90.26	2.03	2.06	2.78	-21.98	93.68
2675.00	49.83	90.29	2.03	2.06	2.78	-22.51	93.19
2680.00	49.85	90.32	2.02	2.06	2.78	-23.05	92.70
2685.00	49.87	90.36	2.02	2.05	2.77	-23.58	92.21
2690.00	49.90	90.39	2.02	2.05	2.77	-24.12	91.72
2695.00	49.92	90.43	2.01	2.05	2.76	-24.65	91.23
2700.00	49.94	90.46	2.01	2.04	2.76	-25.19	90.73

2705.00	49.97	90.49	2.01	2.04	2.76	-25.72	90.24
2710.00	49.99	90.53	2.00	2.04	2.75	-26.26	89.75
2715.00	50.01	90.56	2.00	2.04	2.75	-26.80	89.26
2720.00	50.04	90.60	2.00	2.03	2.74	-27.33	88.76
2725.00	50.06	90.63	2.00	2.03	2.74	-27.87	88.27
2730.00	50.08	90.66	1.99	2.03	2.74	-28.41	87.78
2735.00	50.11	90.70	1.99	2.02	2.73	-28.94	87.28
2740.00	50.13	90.73	1.99	2.02	2.73	-29.48	86.79
2745.00	50.15	90.76	1.98	2.02	2.72	-30.02	86.29
2750.00	50.18	90.80	1.98	2.01	2.72	-30.56	85.80
2755.00	50.20	90.83	1.98	2.01	2.72	-31.09	85.30
2760.00	50.22	90.86	1.98	2.01	2.71	-31.63	84.81
2765.00	50.25	90.90	1.97	2.01	2.71	-32.17	84.31
2770.00	50.27	90.93	1.97	2.00	2.70	-32.71	83.82
2775.00	50.29	90.96	1.97	2.00	2.70	-33.25	83.32
2780.00	50.31	91.00	1.96	2.00	2.70	-33.79	82.82
2785.00	50.34	91.03	1.96	1.99	2.69	-34.33	82.33
2790.00	50.36	91.06	1.96	1.99	2.69	-34.86	81.83
2795.00	50.38	91.09	1.96	1.99	2.68	-35.40	81.33
2800.00	50.41	91.13	1.95	1.99	2.68	-35.94	80.84
2805.00	50.43	91.16	1.95	1.98	2.68	-36.48	80.34
2810.00	50.45	91.19	1.95	1.98	2.67	-37.02	79.84
2815.00	50.48	91.23	1.94	1.98	2.67	-37.56	79.34
2820.00	50.50	91.26	1.94	1.97	2.67	-38.10	78.84
2825.00	50.52	91.29	1.94	1.97	2.66	-38.64	78.35
2830.00	50.54	91.32	1.94	1.97	2.66	-39.18	77.85
2835.00	50.57	91.36	1.93	1.97	2.65	-39.73	77.35
2840.00	50.59	91.39	1.93	1.96	2.65	-40.27	76.85
2845.00	50.61	91.42	1.93	1.96	2.65	-40.81	76.35
2850.00	50.63	91.45	1.93	1.96	2.64	-41.35	75.85
2855.00	50.66	91.49	1.92	1.96	2.64	-41.89	75.35
2860.00	50.68	91.52	1.92	1.95	2.64	-42.43	74.85
2865.00	50.70	91.55	1.92	1.95	2.63	-42.97	74.35
2870.00	50.72	91.58	1.91	1.95	2.63	-43.52	73.85
2875.00	50.75	91.62	1.91	1.94	2.63	-44.06	73.35
2880.00	50.77	91.65	1.91	1.94	2.62	-44.60	72.85

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
2.25	0.1699	0.0028	0.000114	0.206505	0.641234	1.898823
2.42	0.1644	0.005831	-0.00013	0.21307	0.66162	1.937929
2.54	0.1644	0.005831	-0.00013	0.21661	0.672611	1.959347
2.62	0.1644	0.005831	-0.00013	0.219079	0.680277	1.974424
2.68	0.1644	0.005831	-0.00013	0.220902	0.685937	1.985631
2.73	0.1644	0.005831	-0.00013	0.222299	0.690275	1.994264
2.78	0.1644	0.005831	-0.00013	0.223397	0.693685	2.001076
2.81	0.1644	0.005831	-0.00013	0.224275	0.696412	2.00654
2.85	0.1644	0.005831	-0.00013	0.224986	0.698618	2.010973
2.88	0.1644	0.005831	-0.00013	0.225565	0.700417	2.014593
2.90	0.1644	0.005831	-0.00013	0.226039	0.701889	2.017559
2.93	0.1644	0.005831	-0.00013	0.226427	0.703093	2.019991
2.95	0.1644	0.005831	-0.00013	0.226743	0.704076	2.021977
2.97	0.1644	0.005831	-0.00013	0.227	0.704873	2.023589
2.99	0.1644	0.005831	-0.00013	0.227205	0.705511	2.024881
3.00	0.1644	0.005831	-0.00013	0.227367	0.706013	2.025898
3.02	0.1644	0.005831	-0.00013	0.227491	0.706398	2.026677
3.04	0.1644	0.005831	-0.00013	0.227581	0.706679	2.027248
3.05	0.1644	0.005831	-0.00013	0.227643	0.706871	2.027636
3.06	0.1644	0.005831	-0.00013	0.227679	0.706982	2.027862
3.08	0.1644	0.005831	-0.00013	0.227692	0.707023	2.027944
3.09	0.1644	0.005831	-0.00013	0.227685	0.707	2.027898
3.10	0.1644	0.005831	-0.00013	0.227659	0.70692	2.027736
3.11	0.1644	0.005831	-0.00013	0.227617	0.706789	2.02747
3.12	0.1644	0.005831	-0.00013	0.22756	0.706611	2.02711
3.13	0.1644	0.005831	-0.00013	0.227489	0.706392	2.026666
3.14	0.1644	0.005831	-0.00013	0.227406	0.706134	2.026144
3.15	0.1644	0.005831	-0.00013	0.227312	0.705842	2.025551
3.16	0.1644	0.005831	-0.00013	0.227207	0.705517	2.024894
3.17	0.1644	0.005831	-0.00013	0.227093	0.705164	2.024178
3.18	0.1644	0.005831	-0.00013	0.226971	0.704783	2.023408
3.19	0.1644	0.005831	-0.00013	0.22684	0.704378	2.022588
3.20	0.1644	0.005831	-0.00013	0.226702	0.703949	2.021721
3.20	0.1644	0.005831	-0.00013	0.226558	0.7035	2.020813
3.21	0.1644	0.005831	-0.00013	0.226407	0.703031	2.019865
3.22	0.1644	0.005831	-0.00013	0.22625	0.702544	2.018882
3.23	0.1644	0.005831	-0.00013	0.226087	0.70204	2.017864
3.23	0.1644	0.005831	-0.00013	0.22592	0.70152	2.016816
3.24	0.1644	0.005831	-0.00013	0.225748	0.700985	2.015738

3.25	0.1644	0.005831	-0.00013	0.225571	0.700437	2.014634
3.25	0.1644	0.005831	-0.00013	0.225391	0.699877	2.013504
3.26	0.1644	0.005831	-0.00013	0.225206	0.699304	2.012351
3.26	0.1644	0.005831	-0.00013	0.225018	0.69872	2.011177
3.27	0.1644	0.005831	-0.00013	0.224827	0.698126	2.009982
3.28	0.1644	0.005831	-0.00013	0.224632	0.697522	2.008768
3.28	0.1644	0.005831	-0.00013	0.224435	0.696909	2.007537
3.29	0.1644	0.005831	-0.00013	0.224235	0.696287	2.006289
3.29	0.1644	0.005831	-0.00013	0.224032	0.695657	2.005026
3.30	0.1644	0.005831	-0.00013	0.223827	0.69502	2.003748
3.30	0.1644	0.005831	-0.00013	0.223619	0.694375	2.002457
3.31	0.1644	0.005831	-0.00013	0.223409	0.693724	2.001154
3.31	0.1644	0.005831	-0.00013	0.223198	0.693066	1.999838
3.32	0.1644	0.005831	-0.00013	0.222984	0.692403	1.998512
3.32	0.1644	0.005831	-0.00013	0.222768	0.691734	1.997175
3.33	0.1644	0.005831	-0.00013	0.222551	0.691059	1.995829
3.33	0.1644	0.005831	-0.00013	0.222332	0.69038	1.994473
3.34	0.1644	0.005831	-0.00013	0.222112	0.689696	1.993109
3.34	0.1644	0.005831	-0.00013	0.22189	0.689007	1.991738
3.35	0.1644	0.005831	-0.00013	0.221667	0.688315	1.990359
3.35	0.1644	0.005831	-0.00013	0.221443	0.687618	1.988973
3.36	0.1644	0.005831	-0.00013	0.221218	0.686918	1.98758
3.36	0.1644	0.005831	-0.00013	0.220991	0.686214	1.986182
3.36	0.1644	0.005831	-0.00013	0.220763	0.685507	1.984778
3.37	0.1644	0.005831	-0.00013	0.220534	0.684797	1.983369
3.37	0.1644	0.005831	-0.00013	0.220305	0.684084	1.981955
3.38	0.1644	0.005831	-0.00013	0.220074	0.683368	1.980537
3.38	0.1644	0.005831	-0.00013	0.219843	0.682649	1.979114
3.38	0.1644	0.005831	-0.00013	0.219611	0.681928	1.977688
3.39	0.1644	0.005831	-0.00013	0.219378	0.681205	1.976258
3.39	0.1644	0.005831	-0.00013	0.219144	0.68048	1.974825
3.39	0.1644	0.005831	-0.00013	0.21891	0.679752	1.973389
3.40	0.1644	0.005831	-0.00013	0.218675	0.679023	1.97195
3.40	0.1644	0.005831	-0.00013	0.218439	0.678291	1.970508
3.41	0.1644	0.005831	-0.00013	0.218203	0.677558	1.969064
3.41	0.1644	0.005831	-0.00013	0.217967	0.676824	1.967618
3.41	0.1644	0.005831	-0.00013	0.21773	0.676088	1.96617
3.42	0.1644	0.005831	-0.00013	0.217492	0.67535	1.964721
3.42	0.1644	0.005831	-0.00013	0.217254	0.674611	1.963269
3.42	0.1644	0.005831	-0.00013	0.217016	0.673871	1.961817
3.43	0.1644	0.005831	-0.00013	0.216777	0.67313	1.960363
3.43	0.1644	0.005831	-0.00013	0.216538	0.672387	1.958908
3.43	0.1644	0.005831	-0.00013	0.216299	0.671644	1.957452
3.43	0.2644	-0.00162	3.15E-06	0.217153	0.674298	1.962655
3.44	0.2644	-0.00162	3.15E-06	0.217017	0.673876	1.961826
3.44	0.2644	-0.00162	3.15E-06	0.216882	0.673457	1.961004
3.44	0.2644	-0.00162	3.15E-06	0.216749	0.673042	1.960191
3.45	0.2644	-0.00162	3.15E-06	0.216616	0.672631	1.959385
3.45	0.2644	-0.00162	3.15E-06	0.216485	0.672224	1.958587
3.45	0.2644	-0.00162	3.15E-06	0.216355	0.67182	1.957797

3.46	0.2644	-0.00162	3.15E-06	0.216226	0.67142	1.957014
3.46	0.2644	-0.00162	3.15E-06	0.216099	0.671023	1.956238
3.46	0.2644	-0.00162	3.15E-06	0.215972	0.67063	1.955469
3.46	0.2644	-0.00162	3.15E-06	0.215847	0.67024	1.954707
3.47	0.2644	-0.00162	3.15E-06	0.215722	0.669854	1.953952
3.47	0.2644	-0.00162	3.15E-06	0.215599	0.669471	1.953203
3.47	0.2644	-0.00162	3.15E-06	0.215476	0.669091	1.952461
3.47	0.2644	-0.00162	3.15E-06	0.215355	0.668714	1.951725
3.48	0.2644	-0.00162	3.15E-06	0.215235	0.66834	1.950996
3.48	0.2644	-0.00162	3.15E-06	0.215115	0.667969	1.950273
3.48	0.2644	-0.00162	3.15E-06	0.214997	0.667601	1.949555
3.48	0.2644	-0.00162	3.15E-06	0.214879	0.667236	1.948844
3.49	0.2644	-0.00162	3.15E-06	0.214763	0.666874	1.948138
3.49	0.2644	-0.00162	3.15E-06	0.214647	0.666515	1.947439
3.49	0.2644	-0.00162	3.15E-06	0.214532	0.666158	1.946744
3.49	0.2644	-0.00162	3.15E-06	0.214418	0.665805	1.946056
3.50	0.2644	-0.00162	3.15E-06	0.214305	0.665454	1.945373
3.50	0.2644	-0.00162	3.15E-06	0.214193	0.665105	1.944695
3.50	0.2644	-0.00162	3.15E-06	0.214081	0.664759	1.944022
3.50	0.2644	-0.00162	3.15E-06	0.213971	0.664416	1.943355
3.51	0.2644	-0.00162	3.15E-06	0.213861	0.664075	1.942692
3.51	0.2644	-0.00162	3.15E-06	0.213752	0.663736	1.942035
3.51	0.2644	-0.00162	3.15E-06	0.213644	0.6634	1.941382
3.51	0.2644	-0.00162	3.15E-06	0.213536	0.663066	1.940734
3.52	0.2644	-0.00162	3.15E-06	0.21343	0.662735	1.940091
3.52	0.2644	-0.00162	3.15E-06	0.213324	0.662406	1.939453
3.52	0.2644	-0.00162	3.15E-06	0.213218	0.662079	1.938819
3.52	0.2644	-0.00162	3.15E-06	0.213114	0.661755	1.93819
3.52	0.2644	-0.00162	3.15E-06	0.21301	0.661432	1.937566
3.53	0.2644	-0.00162	3.15E-06	0.212907	0.661112	1.936945
3.53	0.2644	-0.00162	3.15E-06	0.212804	0.660794	1.936329
3.53	0.2644	-0.00162	3.15E-06	0.212703	0.660478	1.935717
3.53	0.2644	-0.00162	3.15E-06	0.212602	0.660164	1.93511
3.54	0.2644	-0.00162	3.15E-06	0.212501	0.659852	1.934506
3.54	0.2644	-0.00162	3.15E-06	0.212401	0.659542	1.933907
3.54	0.2644	-0.00162	3.15E-06	0.212302	0.659234	1.933312
3.54	0.2644	-0.00162	3.15E-06	0.212204	0.658929	1.93272
3.54	0.2644	-0.00162	3.15E-06	0.212106	0.658624	1.932133
3.55	0.2644	-0.00162	3.15E-06	0.212008	0.658322	1.931549
3.55	0.2644	-0.00162	3.15E-06	0.211912	0.658022	1.930969
3.55	0.2644	-0.00162	3.15E-06	0.211816	0.657724	1.930393
3.55	0.2644	-0.00162	3.15E-06	0.21172	0.657427	1.929821
3.55	0.2644	-0.00162	3.15E-06	0.211625	0.657132	1.929252
3.56	0.2644	-0.00162	3.15E-06	0.211531	0.656839	1.928687
3.56	0.2644	-0.00162	3.15E-06	0.211437	0.656548	1.928125
3.56	0.2644	-0.00162	3.15E-06	0.211344	0.656258	1.927567
3.56	0.2644	-0.00162	3.15E-06	0.211251	0.655971	1.927012
3.56	0.2644	-0.00162	3.15E-06	0.211159	0.655684	1.92646
3.56	0.2644	-0.00162	3.15E-06	0.211067	0.6554	1.925912
3.57	0.2644	-0.00162	3.15E-06	0.210976	0.655117	1.925368

3.57	0.2644	-0.00162	3.15E-06	0.210886	0.654836	1.924826
3.57	0.2644	-0.00162	3.15E-06	0.210795	0.654556	1.924288
3.57	0.2644	-0.00162	3.15E-06	0.210706	0.654278	1.923753
3.57	0.2644	-0.00162	3.15E-06	0.210617	0.654001	1.923221
3.58	0.2644	-0.00162	3.15E-06	0.210528	0.653726	1.922692
3.58	0.2644	-0.00162	3.15E-06	0.21044	0.653453	1.922166
3.58	0.2644	-0.00162	3.15E-06	0.210353	0.653181	1.921643
3.58	0.2644	-0.00162	3.15E-06	0.210265	0.65291	1.921123
3.58	0.2644	-0.00162	3.15E-06	0.210179	0.652641	1.920606
3.58	0.2644	-0.00162	3.15E-06	0.210093	0.652373	1.920092
3.59	0.2644	-0.00162	3.15E-06	0.210007	0.652107	1.919581
3.59	0.2644	-0.00162	3.15E-06	0.209922	0.651842	1.919073
3.59	0.2644	-0.00162	3.15E-06	0.209837	0.651579	1.918567
3.59	0.2644	-0.00162	3.15E-06	0.209752	0.651317	1.918065
3.59	0.2644	-0.00162	3.15E-06	0.209668	0.651056	1.917565
3.59	0.2644	-0.00162	3.15E-06	0.209585	0.650797	1.917068
3.60	0.2644	-0.00162	3.15E-06	0.209502	0.650539	1.916573
3.60	0.2644	-0.00162	3.15E-06	0.209419	0.650282	1.916081
3.60	0.2644	-0.00162	3.15E-06	0.209337	0.650027	1.915592
3.60	0.2644	-0.00162	3.15E-06	0.209255	0.649772	1.915105
3.60	0.2644	-0.00162	3.15E-06	0.209174	0.64952	1.914621
3.60	0.2644	-0.00162	3.15E-06	0.209093	0.649268	1.914139
3.61	0.2644	-0.00162	3.15E-06	0.209012	0.649018	1.91366
3.61	0.2644	-0.00162	3.15E-06	0.208932	0.648768	1.913183
3.61	0.2644	-0.00162	3.15E-06	0.208852	0.64852	1.912709
3.61	0.2644	-0.00162	3.15E-06	0.208772	0.648274	1.912237
3.61	0.2644	-0.00162	3.15E-06	0.208693	0.648028	1.911767
3.61	0.2644	-0.00162	3.15E-06	0.208615	0.647784	1.9113
3.61	0.2644	-0.00162	3.15E-06	0.208536	0.647541	1.910836
3.62	0.2644	-0.00162	3.15E-06	0.208458	0.647299	1.910373
3.62	0.2644	-0.00162	3.15E-06	0.208381	0.647058	1.909913
3.62	0.2644	-0.00162	3.15E-06	0.208303	0.646818	1.909455
3.62	0.2644	-0.00162	3.15E-06	0.208227	0.646579	1.908999
3.62	0.2644	-0.00162	3.15E-06	0.20815	0.646342	1.908546
3.62	0.2644	-0.00162	3.15E-06	0.208074	0.646105	1.908094
3.63	0.2644	-0.00162	3.15E-06	0.207998	0.64587	1.907645
3.63	0.2644	-0.00162	3.15E-06	0.207923	0.645635	1.907198
3.63	0.2644	-0.00162	3.15E-06	0.207848	0.645402	1.906753
3.63	0.2644	-0.00162	3.15E-06	0.207773	0.64517	1.906311
3.63	0.2644	-0.00162	3.15E-06	0.207698	0.644939	1.90587
3.63	0.2644	-0.00162	3.15E-06	0.207624	0.644708	1.905431
3.63	0.2644	-0.00162	3.15E-06	0.20755	0.644479	1.904995
3.64	0.2644	-0.00162	3.15E-06	0.207477	0.644251	1.90456
3.64	0.2644	-0.00162	3.15E-06	0.207404	0.644024	1.904128
3.64	0.2644	-0.00162	3.15E-06	0.207331	0.643798	1.903697
3.64	0.2644	-0.00162	3.15E-06	0.207258	0.643573	1.903268
3.64	0.2644	-0.00162	3.15E-06	0.207186	0.643348	1.902842
3.64	0.2644	-0.00162	3.15E-06	0.207114	0.643125	1.902417
3.64	0.2644	-0.00162	3.15E-06	0.207043	0.642903	1.901994
3.64	0.2644	-0.00162	3.15E-06	0.206971	0.642681	1.901573

3.65	0.2644	-0.00162	3.15E-06	0.2069	0.642461	1.901154
3.65	0.2644	-0.00162	3.15E-06	0.20683	0.642241	1.900736
3.65	0.2644	-0.00162	3.15E-06	0.206759	0.642023	1.900321
3.65	0.2644	-0.00162	3.15E-06	0.206689	0.641805	1.899907
3.65	0.2644	-0.00162	3.15E-06	0.206619	0.641588	1.899495
3.65	0.2644	-0.00162	3.15E-06	0.20655	0.641372	1.899085
3.65	0.2644	-0.00162	3.15E-06	0.206481	0.641157	1.898677
3.66	0.2644	-0.00162	3.15E-06	0.206412	0.640943	1.89827
3.66	0.2644	-0.00162	3.15E-06	0.206343	0.64073	1.897865
3.66	0.2644	-0.00162	3.15E-06	0.206274	0.640517	1.897462
3.66	0.2644	-0.00162	3.15E-06	0.206206	0.640306	1.897061
3.66	0.2644	-0.00162	3.15E-06	0.206138	0.640095	1.896661
3.66	0.2644	-0.00162	3.15E-06	0.206071	0.639885	1.896263
3.66	0.2644	-0.00162	3.15E-06	0.206004	0.639676	1.895867
3.66	0.2644	-0.00162	3.15E-06	0.205936	0.639468	1.895472
3.67	0.2644	-0.00162	3.15E-06	0.20587	0.63926	1.895079
3.67	0.2644	-0.00162	3.15E-06	0.205803	0.639054	1.894687
3.67	0.2644	-0.00162	3.15E-06	0.205737	0.638848	1.894297
3.67	0.2644	-0.00162	3.15E-06	0.205671	0.638643	1.893909
3.67	0.2644	-0.00162	3.15E-06	0.205605	0.638438	1.893522
3.67	0.2644	-0.00162	3.15E-06	0.205539	0.638235	1.893136
3.67	0.2644	-0.00162	3.15E-06	0.205474	0.638032	1.892753
3.67	0.2644	-0.00162	3.15E-06	0.205409	0.63783	1.89237
3.68	0.2644	-0.00162	3.15E-06	0.205344	0.637629	1.89199
3.68	0.2644	-0.00162	3.15E-06	0.20528	0.637429	1.89161
3.68	0.2644	-0.00162	3.15E-06	0.205215	0.637229	1.891233
3.68	0.2644	-0.00162	3.15E-06	0.205151	0.63703	1.890857
3.68	0.2644	-0.00162	3.15E-06	0.205088	0.636832	1.890482
3.68	0.2644	-0.00162	3.15E-06	0.205024	0.636634	1.890108
3.68	0.2644	-0.00162	3.15E-06	0.204961	0.636437	1.889736
3.68	0.2644	-0.00162	3.15E-06	0.204897	0.636241	1.889366
3.68	0.2644	-0.00162	3.15E-06	0.204834	0.636046	1.888997
3.69	0.2644	-0.00162	3.15E-06	0.204772	0.635851	1.888629
3.69	0.2644	-0.00162	3.15E-06	0.204709	0.635657	1.888263
3.69	0.2644	-0.00162	3.15E-06	0.204647	0.635464	1.887898
3.69	0.2644	-0.00162	3.15E-06	0.204585	0.635271	1.887535
3.69	0.2644	-0.00162	3.15E-06	0.204523	0.63508	1.887172
3.69	0.2644	-0.00162	3.15E-06	0.204462	0.634888	1.886812
3.69	0.2644	-0.00162	3.15E-06	0.2044	0.634698	1.886452
3.69	0.2644	-0.00162	3.15E-06	0.204339	0.634508	1.886094
3.69	0.2644	-0.00162	3.15E-06	0.204278	0.634319	1.885737
3.70	0.2644	-0.00162	3.15E-06	0.204218	0.63413	1.885381
3.70	0.2644	-0.00162	3.15E-06	0.204157	0.633942	1.885027
3.70	0.2644	-0.00162	3.15E-06	0.204097	0.633755	1.884674
3.70	0.2644	-0.00162	3.15E-06	0.204037	0.633568	1.884323
3.70	0.2644	-0.00162	3.15E-06	0.203977	0.633382	1.883972
3.70	0.2644	-0.00162	3.15E-06	0.203917	0.633197	1.883623
3.70	0.2644	-0.00162	3.15E-06	0.203858	0.633012	1.883275
3.70	0.2644	-0.00162	3.15E-06	0.203798	0.632828	1.882928
3.70	0.2644	-0.00162	3.15E-06	0.203739	0.632645	1.882583

3.71	0.2644	-0.00162	3.15E-06	0.20368	0.632462	1.882239
3.71	0.2644	-0.00162	3.15E-06	0.203622	0.63228	1.881896
3.71	0.2644	-0.00162	3.15E-06	0.203563	0.632098	1.881554
3.71	0.2644	-0.00162	3.15E-06	0.203505	0.631917	1.881213
3.71	0.2644	-0.00162	3.15E-06	0.203447	0.631736	1.880874
3.71	0.2644	-0.00162	3.15E-06	0.203389	0.631556	1.880535
3.71	0.2644	-0.00162	3.15E-06	0.203331	0.631377	1.880198
3.71	0.2644	-0.00162	3.15E-06	0.203273	0.631198	1.879862
3.71	0.2644	-0.00162	3.15E-06	0.203216	0.63102	1.879527
3.71	0.2644	-0.00162	3.15E-06	0.203159	0.630843	1.879193
3.72	0.2644	-0.00162	3.15E-06	0.203102	0.630666	1.878861
3.72	0.2644	-0.00162	3.15E-06	0.203045	0.630489	1.878529
3.72	0.2644	-0.00162	3.15E-06	0.202988	0.630313	1.878199
3.72	0.2644	-0.00162	3.15E-06	0.202932	0.630138	1.87787
3.72	0.2644	-0.00162	3.15E-06	0.202876	0.629963	1.877542
3.72	0.2644	-0.00162	3.15E-06	0.20282	0.629789	1.877215
3.72	0.2644	-0.00162	3.15E-06	0.202764	0.629615	1.876889
3.72	0.2644	-0.00162	3.15E-06	0.202708	0.629442	1.876564
3.72	0.2644	-0.00162	3.15E-06	0.202652	0.62927	1.87624
3.72	0.2644	-0.00162	3.15E-06	0.202597	0.629098	1.875917
3.73	0.2644	-0.00162	3.15E-06	0.202542	0.628926	1.875595
3.73	0.2644	-0.00162	3.15E-06	0.202487	0.628755	1.875275
3.73	0.2644	-0.00162	3.15E-06	0.202432	0.628585	1.874955
3.73	0.2644	-0.00162	3.15E-06	0.202377	0.628415	1.874636
3.73	0.2644	-0.00162	3.15E-06	0.202322	0.628245	1.874319
3.73	0.2644	-0.00162	3.15E-06	0.202268	0.628076	1.874002
3.73	0.2644	-0.00162	3.15E-06	0.202214	0.627908	1.873687
3.73	0.2644	-0.00162	3.15E-06	0.20216	0.62774	1.873372
3.73	0.2644	-0.00162	3.15E-06	0.202106	0.627573	1.873058
3.73	0.2644	-0.00162	3.15E-06	0.202052	0.627406	1.872746
3.74	0.2644	-0.00162	3.15E-06	0.201998	0.627239	1.872434
3.74	0.2644	-0.00162	3.15E-06	0.201945	0.627073	1.872124
3.74	0.2644	-0.00162	3.15E-06	0.201892	0.626908	1.871814
3.74	0.2644	-0.00162	3.15E-06	0.201839	0.626743	1.871505
3.74	0.2644	-0.00162	3.15E-06	0.201786	0.626579	1.871197
3.74	0.2644	-0.00162	3.15E-06	0.201733	0.626415	1.870891
3.74	0.2644	-0.00162	3.15E-06	0.20168	0.626251	1.870585
3.74	0.2644	-0.00162	3.15E-06	0.201628	0.626088	1.87028
3.74	0.2644	-0.00162	3.15E-06	0.201575	0.625925	1.869976
3.74	0.2644	-0.00162	3.15E-06	0.201523	0.625763	1.869673
3.74	0.2644	-0.00162	3.15E-06	0.201471	0.625602	1.86937
3.75	0.2644	-0.00162	3.15E-06	0.201419	0.625441	1.869069
3.75	0.2644	-0.00162	3.15E-06	0.201367	0.62528	1.868769
3.75	0.2644	-0.00162	3.15E-06	0.201316	0.62512	1.868469
3.75	0.2644	-0.00162	3.15E-06	0.201264	0.62496	1.868171
3.75	0.2644	-0.00162	3.15E-06	0.201213	0.6248	1.867873
3.75	0.2644	-0.00162	3.15E-06	0.201162	0.624642	1.867576
3.75	0.2644	-0.00162	3.15E-06	0.201111	0.624483	1.86728
3.75	0.2644	-0.00162	3.15E-06	0.20106	0.624325	1.866985
3.75	0.2644	-0.00162	3.15E-06	0.201009	0.624167	1.866691

3.75	0.2644	-0.00162	3.15E-06	0.200958	0.62401	1.866398
3.75	0.2644	-0.00162	3.15E-06	0.200908	0.623854	1.866105
3.76	0.2644	-0.00162	3.15E-06	0.200858	0.623697	1.865814
3.76	0.2644	-0.00162	3.15E-06	0.200808	0.623541	1.865523
3.76	0.2644	-0.00162	3.15E-06	0.200757	0.623386	1.865233
3.76	0.2644	-0.00162	3.15E-06	0.200708	0.623231	1.864944
3.76	0.2644	-0.00162	3.15E-06	0.200658	0.623076	1.864656
3.76	0.2644	-0.00162	3.15E-06	0.200608	0.622922	1.864368
3.76	0.2644	-0.00162	3.15E-06	0.200559	0.622769	1.864082
3.76	0.2644	-0.00162	3.15E-06	0.200509	0.622615	1.863796
3.76	0.2644	-0.00162	3.15E-06	0.20046	0.622462	1.863511
3.76	0.2644	-0.00162	3.15E-06	0.200411	0.62231	1.863227
3.76	0.2644	-0.00162	3.15E-06	0.200362	0.622158	1.862943
3.76	0.2644	-0.00162	3.15E-06	0.200313	0.622006	1.862661
3.77	0.2644	-0.00162	3.15E-06	0.200264	0.621855	1.862379
3.77	0.2644	-0.00162	3.15E-06	0.200216	0.621704	1.862098
3.77	0.2644	-0.00162	3.15E-06	0.200167	0.621553	1.861818
3.77	0.2644	-0.00162	3.15E-06	0.200119	0.621403	1.861538
3.77	0.2644	-0.00162	3.15E-06	0.200071	0.621253	1.861259
3.77	0.2644	-0.00162	3.15E-06	0.200023	0.621104	1.860981
3.77	0.2644	-0.00162	3.15E-06	0.199975	0.620955	1.860704
3.77	0.2644	-0.00162	3.15E-06	0.199927	0.620807	1.860428
3.77	0.2644	-0.00162	3.15E-06	0.199879	0.620658	1.860152
3.77	0.2644	-0.00162	3.15E-06	0.199831	0.620511	1.859877
3.77	0.2644	-0.00162	3.15E-06	0.199784	0.620363	1.859603
3.77	0.2644	-0.00162	3.15E-06	0.199737	0.620216	1.85933
3.78	0.2644	-0.00162	3.15E-06	0.199689	0.620069	1.859057
3.78	0.2644	-0.00162	3.15E-06	0.199642	0.619923	1.858785
3.78	0.2644	-0.00162	3.15E-06	0.199595	0.619777	1.858514
3.78	0.2644	-0.00162	3.15E-06	0.199548	0.619632	1.858243
3.78	0.2644	-0.00162	3.15E-06	0.199502	0.619486	1.857973
3.78	0.2644	-0.00162	3.15E-06	0.199455	0.619342	1.857704
3.78	0.2644	-0.00162	3.15E-06	0.199408	0.619197	1.857436
3.78	0.2644	-0.00162	3.15E-06	0.199362	0.619053	1.857168
3.78	0.2644	-0.00162	3.15E-06	0.199316	0.618909	1.856901
3.78	0.2644	-0.00162	3.15E-06	0.19927	0.618766	1.856635
3.78	0.2644	-0.00162	3.15E-06	0.199223	0.618623	1.85637
3.78	0.2644	-0.00162	3.15E-06	0.199178	0.61848	1.856105
3.78	0.2644	-0.00162	3.15E-06	0.199132	0.618338	1.85584
3.79	0.2644	-0.00162	3.15E-06	0.199086	0.618196	1.855577
3.79	0.2644	-0.00162	3.15E-06	0.19904	0.618054	1.855314
3.79	0.2644	-0.00162	3.15E-06	0.198995	0.617913	1.855052
3.79	0.2644	-0.00162	3.15E-06	0.198949	0.617772	1.854791
3.79	0.2644	-0.00162	3.15E-06	0.198904	0.617631	1.85453
3.79	0.2644	-0.00162	3.15E-06	0.198859	0.617491	1.85427
3.79	0.2644	-0.00162	3.15E-06	0.198814	0.617351	1.85401
3.79	0.2644	-0.00162	3.15E-06	0.198769	0.617211	1.853751
3.79	0.2644	-0.00162	3.15E-06	0.198724	0.617072	1.853493
3.79	0.2644	-0.00162	3.15E-06	0.198679	0.616933	1.853236
3.79	0.2644	-0.00162	3.15E-06	0.198635	0.616794	1.852979

3.79	0.2644	-0.00162	3.15E-06	0.19859	0.616656	1.852722
3.79	0.2644	-0.00162	3.15E-06	0.198546	0.616518	1.852467
3.80	0.2644	-0.00162	3.15E-06	0.198501	0.616381	1.852212
3.80	0.2644	-0.00162	3.15E-06	0.198457	0.616243	1.851958
3.80	0.2644	-0.00162	3.15E-06	0.198413	0.616106	1.851704
3.80	0.2644	-0.00162	3.15E-06	0.198369	0.61597	1.851451
3.80	0.2644	-0.00162	3.15E-06	0.198325	0.615833	1.851198
3.80	0.2644	-0.00162	3.15E-06	0.198281	0.615697	1.850946
3.80	0.2644	-0.00162	3.15E-06	0.198238	0.615561	1.850695
3.80	0.2644	-0.00162	3.15E-06	0.198194	0.615426	1.850445
3.80	0.2644	-0.00162	3.15E-06	0.19815	0.615291	1.850195
3.80	0.2644	-0.00162	3.15E-06	0.198107	0.615156	1.849945
3.80	0.2644	-0.00162	3.15E-06	0.198064	0.615022	1.849697
3.80	0.2644	-0.00162	3.15E-06	0.198021	0.614887	1.849448
3.80	0.2644	-0.00162	3.15E-06	0.197977	0.614754	1.849201
3.80	0.2644	-0.00162	3.15E-06	0.197934	0.61462	1.848954
3.81	0.2644	-0.00162	3.15E-06	0.197891	0.614487	1.848707
3.81	0.2644	-0.00162	3.15E-06	0.197849	0.614354	1.848462
3.81	0.2644	-0.00162	3.15E-06	0.197806	0.614221	1.848216
3.81	0.2644	-0.00162	3.15E-06	0.197763	0.614089	1.847972
3.81	0.2644	-0.00162	3.15E-06	0.197721	0.613957	1.847728
3.81	0.2644	-0.00162	3.15E-06	0.197678	0.613825	1.847484
3.81	0.2644	-0.00162	3.15E-06	0.197636	0.613693	1.847241
3.81	0.2644	-0.00162	3.15E-06	0.197594	0.613562	1.846999
3.81	0.2644	-0.00162	3.15E-06	0.197552	0.613431	1.846757
3.81	0.2644	-0.00162	3.15E-06	0.197509	0.613301	1.846516
3.81	0.2644	-0.00162	3.15E-06	0.197468	0.61317	1.846275
3.81	0.2644	-0.00162	3.15E-06	0.197426	0.61304	1.846035
3.81	0.2644	-0.00162	3.15E-06	0.197384	0.61291	1.845796
3.81	0.2644	-0.00162	3.15E-06	0.197342	0.612781	1.845557
3.82	0.2644	-0.00162	3.15E-06	0.197301	0.612652	1.845318
3.82	0.2644	-0.00162	3.15E-06	0.197259	0.612523	1.84508
3.82	0.2644	-0.00162	3.15E-06	0.197218	0.612394	1.844843
3.82	0.2644	-0.00162	3.15E-06	0.197176	0.612266	1.844606
3.82	0.2644	-0.00162	3.15E-06	0.197135	0.612138	1.84437
3.82	0.2644	-0.00162	3.15E-06	0.197094	0.61201	1.844134
3.82	0.2644	-0.00162	3.15E-06	0.197053	0.611882	1.843899
3.82	0.2644	-0.00162	3.15E-06	0.197012	0.611755	1.843665
3.82	0.2644	-0.00162	3.15E-06	0.196971	0.611628	1.84343
3.82	0.2644	-0.00162	3.15E-06	0.19693	0.611501	1.843197
3.82	0.2644	-0.00162	3.15E-06	0.196889	0.611375	1.842964
3.82	0.2644	-0.00162	3.15E-06	0.196849	0.611249	1.842731
3.82	0.2644	-0.00162	3.15E-06	0.196808	0.611123	1.842499
3.82	0.2644	-0.00162	3.15E-06	0.196768	0.610997	1.842268
3.82	0.2644	-0.00162	3.15E-06	0.196727	0.610872	1.842037
3.83	0.2644	-0.00162	3.15E-06	0.196687	0.610747	1.841806
3.83	0.2644	-0.00162	3.15E-06	0.196647	0.610622	1.841576
3.83	0.2644	-0.00162	3.15E-06	0.196607	0.610497	1.841347
3.83	0.2644	-0.00162	3.15E-06	0.196567	0.610373	1.841118
3.83	0.2644	-0.00162	3.15E-06	0.196527	0.610249	1.840889

3.83	0.2644	-0.00162	3.15E-06	0.196487	0.610125	1.840661
3.83	0.2644	-0.00162	3.15E-06	0.196447	0.610001	1.840434
3.83	0.2644	-0.00162	3.15E-06	0.196407	0.609878	1.840207
3.83	0.2644	-0.00162	3.15E-06	0.196368	0.609755	1.839981
3.83	0.2644	-0.00162	3.15E-06	0.196328	0.609632	1.839755
3.83	0.2644	-0.00162	3.15E-06	0.196289	0.60951	1.839529
3.83	0.2644	-0.00162	3.15E-06	0.196249	0.609387	1.839304
3.83	0.2644	-0.00162	3.15E-06	0.19621	0.609265	1.83908
3.83	0.2644	-0.00162	3.15E-06	0.196171	0.609143	1.838856
3.83	0.2644	-0.00162	3.15E-06	0.196132	0.609022	1.838632
3.84	0.2644	-0.00162	3.15E-06	0.196092	0.608901	1.838409
3.84	0.2644	-0.00162	3.15E-06	0.196053	0.608779	1.838186
3.84	0.2644	-0.00162	3.15E-06	0.196015	0.608659	1.837964
3.84	0.2644	-0.00162	3.15E-06	0.195976	0.608538	1.837743
3.84	0.2644	-0.00162	3.15E-06	0.195937	0.608418	1.837522
3.84	0.2644	-0.00162	3.15E-06	0.195898	0.608298	1.837301
3.84	0.2644	-0.00162	3.15E-06	0.19586	0.608178	1.837081
3.84	0.2644	-0.00162	3.15E-06	0.195821	0.608058	1.836861
3.84	0.2644	-0.00162	3.15E-06	0.195783	0.607939	1.836641
3.84	0.2644	-0.00162	3.15E-06	0.195744	0.607819	1.836423
3.84	0.2644	-0.00162	3.15E-06	0.195706	0.6077	1.836204
3.84	0.2644	-0.00162	3.15E-06	0.195668	0.607582	1.835986
3.84	0.2644	-0.00162	3.15E-06	0.19563	0.607463	1.835769
3.84	0.2644	-0.00162	3.15E-06	0.195592	0.607345	1.835552
3.84	0.2644	-0.00162	3.15E-06	0.195554	0.607227	1.835335
3.84	0.2644	-0.00162	3.15E-06	0.195516	0.607109	1.835119
3.85	0.2644	-0.00162	3.15E-06	0.195478	0.606992	1.834903
3.85	0.2644	-0.00162	3.15E-06	0.19544	0.606874	1.834688
3.85	0.2644	-0.00162	3.15E-06	0.195402	0.606757	1.834473
3.85	0.2644	-0.00162	3.15E-06	0.195365	0.60664	1.834259
3.85	0.2644	-0.00162	3.15E-06	0.195327	0.606524	1.834045
3.85	0.2644	-0.00162	3.15E-06	0.19529	0.606407	1.833831
3.85	0.2644	-0.00162	3.15E-06	0.195252	0.606291	1.833618
3.85	0.2644	-0.00162	3.15E-06	0.195215	0.606175	1.833406
3.85	0.2644	-0.00162	3.15E-06	0.195178	0.606059	1.833193
3.85	0.2644	-0.00162	3.15E-06	0.19514	0.605944	1.832982
3.85	0.2644	-0.00162	3.15E-06	0.195103	0.605829	1.83277
3.85	0.2644	-0.00162	3.15E-06	0.195066	0.605713	1.832559
3.85	0.2644	-0.00162	3.15E-06	0.195029	0.605599	1.832349
3.85	0.2644	-0.00162	3.15E-06	0.194992	0.605484	1.832139
3.85	0.2644	-0.00162	3.15E-06	0.194955	0.605369	1.831929
3.85	0.2644	-0.00162	3.15E-06	0.194919	0.605255	1.83172
3.85	0.2644	-0.00162	3.15E-06	0.194882	0.605141	1.831511
3.86	0.2644	-0.00162	3.15E-06	0.194845	0.605027	1.831302
3.86	0.2644	-0.00162	3.15E-06	0.194809	0.604914	1.831094
3.86	0.2644	-0.00162	3.15E-06	0.194772	0.6048	1.830887
3.86	0.2644	-0.00162	3.15E-06	0.194736	0.604687	1.83068
3.86	0.2644	-0.00162	3.15E-06	0.194699	0.604574	1.830473
3.86	0.2644	-0.00162	3.15E-06	0.194663	0.604462	1.830266
3.86	0.2644	-0.00162	3.15E-06	0.194627	0.604349	1.83006

3.86	0.2644	-0.00162	3.15E-06	0.19459	0.604237	1.829855
3.86	0.2644	-0.00162	3.15E-06	0.194554	0.604124	1.82965
3.86	0.2644	-0.00162	3.15E-06	0.194518	0.604013	1.829445
3.86	0.2644	-0.00162	3.15E-06	0.194482	0.603901	1.82924
3.86	0.2644	-0.00162	3.15E-06	0.194446	0.603789	1.829036
3.86	0.2644	-0.00162	3.15E-06	0.194411	0.603678	1.828833
3.86	0.2644	-0.00162	3.15E-06	0.194375	0.603567	1.82863
3.86	0.2644	-0.00162	3.15E-06	0.194339	0.603456	1.828427
3.86	0.2644	-0.00162	3.15E-06	0.194303	0.603345	1.828224
3.86	0.2644	-0.00162	3.15E-06	0.194268	0.603235	1.828022
3.87	0.2644	-0.00162	3.15E-06	0.194232	0.603124	1.827821
3.87	0.2644	-0.00162	3.15E-06	0.194197	0.603014	1.827619
3.87	0.2644	-0.00162	3.15E-06	0.194161	0.602904	1.827418
3.87	0.2644	-0.00162	3.15E-06	0.194126	0.602795	1.827218
3.87	0.2644	-0.00162	3.15E-06	0.194091	0.602685	1.827018
3.87	0.2644	-0.00162	3.15E-06	0.194056	0.602576	1.826818
3.87	0.2644	-0.00162	3.15E-06	0.19402	0.602466	1.826619
3.87	0.2644	-0.00162	3.15E-06	0.193985	0.602358	1.82642
3.87	0.2644	-0.00162	3.15E-06	0.19395	0.602249	1.826221
3.87	0.2644	-0.00162	3.15E-06	0.193915	0.60214	1.826023
3.87	0.2644	-0.00162	3.15E-06	0.19388	0.602032	1.825825
3.87	0.2644	-0.00162	3.15E-06	0.193846	0.601924	1.825627
3.87	0.2644	-0.00162	3.15E-06	0.193811	0.601816	1.82543
3.87	0.2644	-0.00162	3.15E-06	0.193776	0.601708	1.825233
3.87	0.2644	-0.00162	3.15E-06	0.193741	0.6016	1.825037
3.87	0.2644	-0.00162	3.15E-06	0.193707	0.601493	1.824841
3.87	0.2644	-0.00162	3.15E-06	0.193672	0.601385	1.824645
3.87	0.2644	-0.00162	3.15E-06	0.193638	0.601278	1.82445
3.88	0.2644	-0.00162	3.15E-06	0.193603	0.601172	1.824255
3.88	0.2644	-0.00162	3.15E-06	0.193569	0.601065	1.82406
3.88	0.2644	-0.00162	3.15E-06	0.193535	0.600958	1.823866
3.88	0.2644	-0.00162	3.15E-06	0.1935	0.600852	1.823672
3.88	0.2644	-0.00162	3.15E-06	0.193466	0.600746	1.823478
3.88	0.2644	-0.00162	3.15E-06	0.193432	0.60064	1.823285
3.88	0.2644	-0.00162	3.15E-06	0.193398	0.600534	1.823092
3.88	0.2644	-0.00162	3.15E-06	0.193364	0.600428	1.8229
3.88	0.2644	-0.00162	3.15E-06	0.19333	0.600323	1.822707
3.88	0.2644	-0.00162	3.15E-06	0.193296	0.600218	1.822516
3.88	0.2644	-0.00162	3.15E-06	0.193262	0.600113	1.822324
3.88	0.2644	-0.00162	3.15E-06	0.193229	0.600008	1.822133
3.88	0.2644	-0.00162	3.15E-06	0.193195	0.599903	1.821942
3.88	0.2644	-0.00162	3.15E-06	0.193161	0.599799	1.821752
3.88	0.2644	-0.00162	3.15E-06	0.193128	0.599694	1.821562
3.88	0.2644	-0.00162	3.15E-06	0.193094	0.59959	1.821372
3.88	0.2644	-0.00162	3.15E-06	0.193061	0.599486	1.821182
3.88	0.2644	-0.00162	3.15E-06	0.193027	0.599382	1.820993
3.88	0.2644	-0.00162	3.15E-06	0.192994	0.599278	1.820805
3.89	0.2644	-0.00162	3.15E-06	0.19296	0.599175	1.820616
3.89	0.2644	-0.00162	3.15E-06	0.192927	0.599072	1.820428
3.89	0.2644	-0.00162	3.15E-06	0.192894	0.598968	1.82024

3.89	0.2644	-0.00162	3.15E-06	0.192861	0.598865	1.820053
3.89	0.2644	-0.00162	3.15E-06	0.192828	0.598763	1.819866
3.89	0.2644	-0.00162	3.15E-06	0.192795	0.59866	1.819679
3.89	0.2644	-0.00162	3.15E-06	0.192762	0.598558	1.819492
3.89	0.2644	-0.00162	3.15E-06	0.192729	0.598455	1.819306
3.89	0.2644	-0.00162	3.15E-06	0.192696	0.598353	1.81912
3.89	0.2644	-0.00162	3.15E-06	0.192663	0.598251	1.818935
3.89	0.2644	-0.00162	3.15E-06	0.19263	0.598149	1.81875
3.89	0.2644	-0.00162	3.15E-06	0.192597	0.598048	1.818565
3.89	0.2644	-0.00162	3.15E-06	0.192565	0.597946	1.81838
3.89	0.2644	-0.00162	3.15E-06	0.192532	0.597845	1.818196
3.89	0.2644	-0.00162	3.15E-06	0.1925	0.597744	1.818012
3.89	0.2644	-0.00162	3.15E-06	0.192467	0.597643	1.817829
3.89	0.2644	-0.00162	3.15E-06	0.192435	0.597542	1.817645
3.89	0.2644	-0.00162	3.15E-06	0.192402	0.597441	1.817462
3.89	0.2644	-0.00162	3.15E-06	0.19237	0.597341	1.81728
3.89	0.2644	-0.00162	3.15E-06	0.192337	0.59724	1.817097
3.90	0.2644	-0.00162	3.15E-06	0.192305	0.59714	1.816915
3.90	0.2644	-0.00162	3.15E-06	0.192273	0.59704	1.816734
3.90	0.2644	-0.00162	3.15E-06	0.192241	0.59694	1.816552
3.90	0.2644	-0.00162	3.15E-06	0.192209	0.596841	1.816371
3.90	0.2644	-0.00162	3.15E-06	0.192177	0.596741	1.81619
3.90	0.2644	-0.00162	3.15E-06	0.192145	0.596642	1.81601
3.90	0.2644	-0.00162	3.15E-06	0.192113	0.596542	1.81583
3.90	0.2644	-0.00162	3.15E-06	0.192081	0.596443	1.81565
3.90	0.2644	-0.00162	3.15E-06	0.192049	0.596345	1.81547
3.90	0.2644	-0.00162	3.15E-06	0.192017	0.596246	1.815291
3.90	0.2644	-0.00162	3.15E-06	0.191985	0.596147	1.815112
3.90	0.2644	-0.00162	3.15E-06	0.191954	0.596049	1.814933
3.90	0.2644	-0.00162	3.15E-06	0.191922	0.59595	1.814755
3.90	0.2644	-0.00162	3.15E-06	0.19189	0.595852	1.814577
3.90	0.2644	-0.00162	3.15E-06	0.191859	0.595754	1.814399
3.90	0.2644	-0.00162	3.15E-06	0.191827	0.595656	1.814221
3.90	0.2644	-0.00162	3.15E-06	0.191796	0.595559	1.814044
3.90	0.2644	-0.00162	3.15E-06	0.191764	0.595461	1.813867
3.90	0.2644	-0.00162	3.15E-06	0.191733	0.595364	1.813691
3.90	0.2644	-0.00162	3.15E-06	0.191702	0.595267	1.813514
3.91	0.2644	-0.00162	3.15E-06	0.19167	0.595169	1.813338
3.91	0.2644	-0.00162	3.15E-06	0.191639	0.595073	1.813162
3.91	0.2644	-0.00162	3.15E-06	0.191608	0.594976	1.812987
3.91	0.2644	-0.00162	3.15E-06	0.191577	0.594879	1.812812
3.91	0.2644	-0.00162	3.15E-06	0.191546	0.594783	1.812637
3.91	0.2644	-0.00162	3.15E-06	0.191515	0.594686	1.812462
3.91	0.2644	-0.00162	3.15E-06	0.191484	0.59459	1.812288
3.91	0.2644	-0.00162	3.15E-06	0.191453	0.594494	1.812114
3.91	0.2644	-0.00162	3.15E-06	0.191422	0.594398	1.81194
3.91	0.2644	-0.00162	3.15E-06	0.191391	0.594302	1.811766
3.91	0.2644	-0.00162	3.15E-06	0.19136	0.594207	1.811593
3.91	0.2644	-0.00162	3.15E-06	0.19133	0.594111	1.81142
3.91	0.2644	-0.00162	3.15E-06	0.191299	0.594016	1.811248

3.91	0.2644	-0.00162	3.15E-06	0.191268	0.593921	1.811075
3.91	0.2644	-0.00162	3.15E-06	0.191238	0.593826	1.810903
3.91	0.2644	-0.00162	3.15E-06	0.191207	0.593731	1.810731
3.91	0.2644	-0.00162	3.15E-06	0.191177	0.593636	1.81056
3.91	0.2644	-0.00162	3.15E-06	0.191146	0.593541	1.810388
3.91	0.2644	-0.00162	3.15E-06	0.191116	0.593447	1.810217
3.91	0.2644	-0.00162	3.15E-06	0.191085	0.593353	1.810046
3.91	0.2644	-0.00162	3.15E-06	0.191055	0.593258	1.809876
3.92	0.2644	-0.00162	3.15E-06	0.191025	0.593164	1.809706
3.92	0.2644	-0.00162	3.15E-06	0.190994	0.59307	1.809536
3.92	0.2644	-0.00162	3.15E-06	0.190964	0.592977	1.809366
3.92	0.2644	-0.00162	3.15E-06	0.190934	0.592883	1.809197
3.92	0.2644	-0.00162	3.15E-06	0.190904	0.592789	1.809028
3.92	0.2644	-0.00162	3.15E-06	0.190874	0.592696	1.808859
3.92	0.2644	-0.00162	3.15E-06	0.190844	0.592603	1.80869
3.92	0.2644	-0.00162	3.15E-06	0.190814	0.59251	1.808522
3.92	0.2644	-0.00162	3.15E-06	0.190784	0.592417	1.808353
3.92	0.2644	-0.00162	3.15E-06	0.190754	0.592324	1.808186
3.92	0.2644	-0.00162	3.15E-06	0.190724	0.592231	1.808018
3.92	0.2644	-0.00162	3.15E-06	0.190694	0.592139	1.807851
3.92	0.2644	-0.00162	3.15E-06	0.190665	0.592046	1.807684
3.92	0.2644	-0.00162	3.15E-06	0.190635	0.591954	1.807517
3.92	0.2644	-0.00162	3.15E-06	0.190605	0.591862	1.80735
3.92	0.2644	-0.00162	3.15E-06	0.190576	0.59177	1.807184
3.92	0.2644	-0.00162	3.15E-06	0.190546	0.591678	1.807018
3.92	0.2644	-0.00162	3.15E-06	0.190516	0.591586	1.806852
3.92	0.2644	-0.00162	3.15E-06	0.190487	0.591495	1.806687
3.92	0.2644	-0.00162	3.15E-06	0.190458	0.591403	1.806521
3.92	0.2644	-0.00162	3.15E-06	0.190428	0.591312	1.806356
3.92	0.2644	-0.00162	3.15E-06	0.190399	0.59122	1.806191
3.93	0.2644	-0.00162	3.15E-06	0.190369	0.591129	1.806027
3.93	0.2644	-0.00162	3.15E-06	0.19034	0.591038	1.805863
3.93	0.2644	-0.00162	3.15E-06	0.190311	0.590947	1.805698
3.93	0.2644	-0.00162	3.15E-06	0.190282	0.590857	1.805535
3.93	0.2644	-0.00162	3.15E-06	0.190252	0.590766	1.805371
3.93	0.2644	-0.00162	3.15E-06	0.190223	0.590676	1.805208

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 6

UNITED UTILITIES SEWER PLANS

How to contact us:

United Utilities Water Limited
Property Searches
Haweswater House
Lingley Mere Business Park
Great Sankey
Warrington
WA5 3LP

Telephone: 0370 7510101

E-mail: propertysearches@uuplc.co.uk

Integra Consulting

14-32
Hewitt Street,
Manchester,
M15 4GB

FAO:

Your Ref: MIOC
Our Ref: UUPS-ORD-189085
Date: 31/08/2020

Dear Sirs

Location: MIOC

I acknowledge with thanks your request dated 23/08/2020 for information on the location of our services.

Please find enclosed plans showing the approximate position of United Utilities' 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 United Utilities' 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 your requirements and look forward to hearing from you should you need anything further.

If you have any queries regarding this matter please contact us .

Yours Faithfully,

Karen McCormack
Property Searches Manager

United Utilities Water Limited
Registered In England & Wales No. 2366678
Registered Office Haweswater House, Lingley Mere Business Park,
Lingley Green Avenue, Great Sankey, Warrington, WA5 3LP

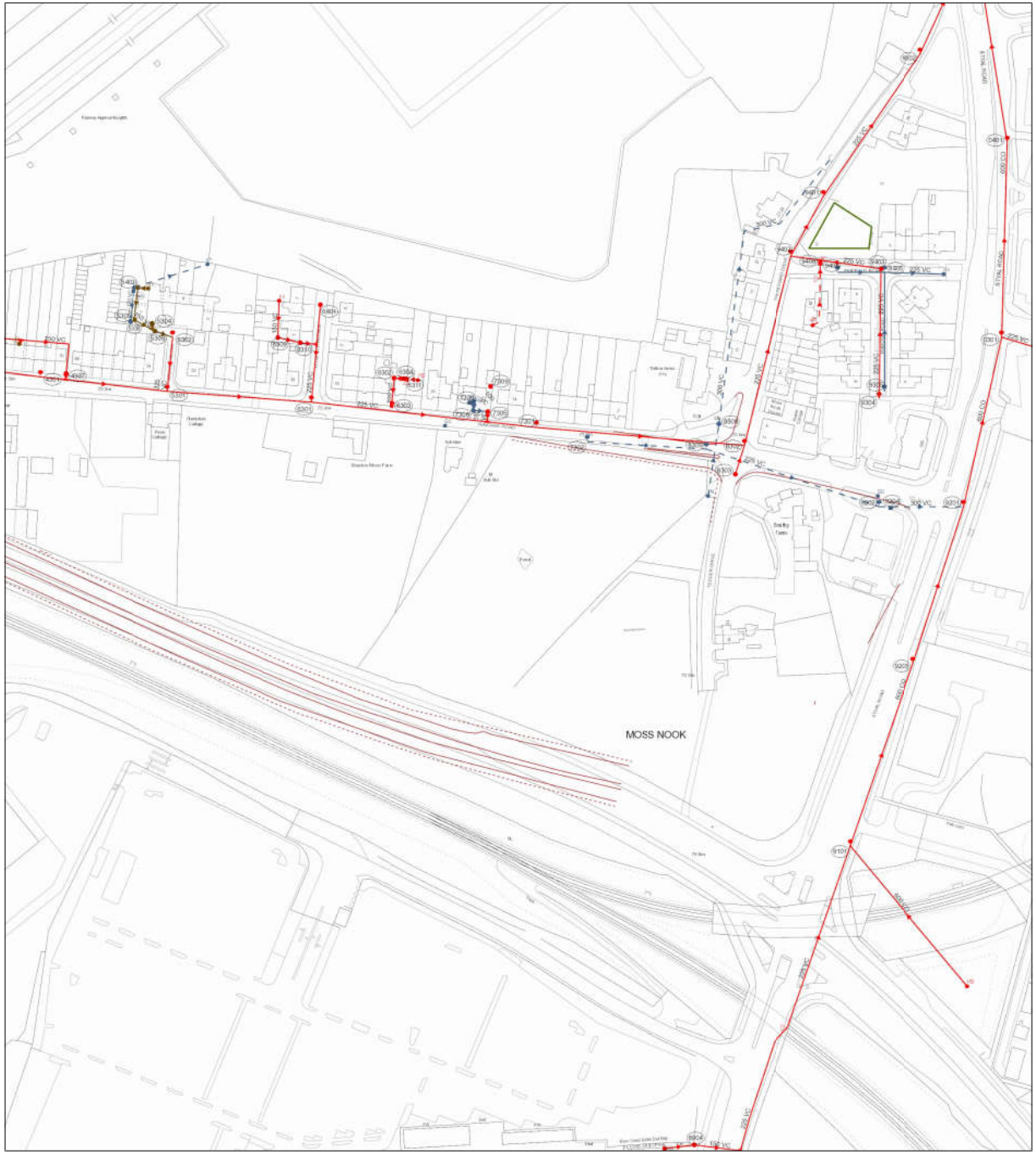
TERMS AND CONDITIONS - WASTEWATER AND WATER DISTRIBUTION PLANS

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:

- 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.
- 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.
- In particular, the position and depth of any UUWL apparatus shown on the Map are approximate only. 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.

United Utilities Water Limited
Registered In England & Wales No. 2366678
Registered Office Haweswater House, Lingley Mere Business Park,
Lingley Green Avenue, Great Sankey, Warrington, WA5 3LP



Refno	Cover	Func	Invert	Size x	Size y	Shape	Mat	Length	Grad
6308	74.84	SW	73.3	300			VC	174.0151	
6309		FO		150			VC	15.27927	
9401	72.81	CO	0	225			VC	85.89221	
9401	72.81	CO	0	225			VC	85.89221	
6803		CO		150			VC	16.2457	
6302		CO		150			VC	13.58974	
9502	71.35	CO	69.19	225			VC	62.64062	1 in 92
9502	71.35	CO	69.19	225			VC	62.64062	1 in 92
9502	71.35	CO	69.19	225			VC	62.64062	1 in 92
9101	76.38	CO	72.22	600			CO	106.8525	1 in 345
0401	72.24	CO	67.47	600			CO	106.342	1 in 118
0401	72.24	CO	67.47	600			CO	106.342	1 in 118
0401	72.24	CO	67.47	600			CO	106.342	1 in 118
6307		CO		150			VC	3.441697	
6301	75.5	CO	72.49	225			VC	125.7816	1 in 179
6303		CO	71.27	225			VC	15.76335	1 in 29
6406		SW		150			VC	17.00919	
9402	73.63	SW	72.18	225			VC	37.38089	1 in 12
9402	73.62	CO	70.21	225			VC	37.38089	
7306		SW		100			VC	5.284672	
6302	74.7	CO	73.35	225			VC	30.14963	1 in 167
9305	74.25	SW	72.02	225			VC	68	1 in 213
9405	73.62	SW	71.89	225			VC	35.01515	
9203	75.48	CO	71.25	600			CO	91.39474	1 in 35
9203	75.48	CO	71.25	600			CO	91.39474	1 in 35
6303		FO		150			VC	15.10282	
7306		SW		100			VC	5.288813	
7302	76.26	SW	73.37	225			VC	66.1211	1 in 367
6304		CO		100			VC	5.380961	
6301	75.25	CO	73.15	225			VC	89.22469	1 in 125
6304	74.23	CO	71.54	225			VC	72.00694	1 in 218
6309	74.86	SW	73.12	225			VC	101.1929	1 in 71
6302	75.03	CO	71.27	225			VC	106.1712	1 in 249
9406	73.7	SW	71.66	225			VC	28	1 in 173
9202	74.49	SW	71.62	300			VC	47	1 in 25
6303		CO		100			VC	1.671064	
0301	73.73	CO	68.81	600			CO	106.0417	1 in 121
0301	73.73	CO	68.81	600			CO	106.0417	1 in 121
9403	73.63	CO	71.77	225			VC	53.48753	1 in 252
6402		FO		150			VC	17.97534	
9201	75.28	CO	69.43	600			CO	85.31716	1 in 172
9201	75.28	CO	69.43	600			CO	85.31716	1 in 172
9201	75.26	CO	73.26	225			VC	79.45596	1 in 391
6304		CO		150			VC	25.60136	
7305		CO		150			VC	5.715599	
7301	75.24	CO	71.75	225			VC	145.434	1 in 251
6304		CO		150			VC	1.479469	
6311		CO		150			VC	1.479469	
6401	74.92	CO	73.29	225			VC	54.2364	1 in 94
6310		CO		150			VC	9.349198	
6309		CO		150			VC	12.6057	

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

LEGEND

Abandoned | Foul | Surface Water | Combined

- Public Sewer
- Private Sewer
- Section 104
- Rising Main
- Sludge Main
- Overflow
- Water Course
- Highway Drain

All point assets follow the standard colour convention:
red - combined | blue - surface water
brown - foul | purple - overflow

- Manhole
- Head of System
- Extent of Survey
- Rodding Eye
- Inlet
- Discharge Point
- Vortex
- Penstock
- Washout Chamber
- Valve
- Air Valve
- Non Return Valve
- Soakaway
- Gully
- Cascade
- Flow Meter
- Hatch Box
- Oil Interceptor
- Summit
- Drop Shaft
- Orifice Plate
- Side Entry Manhole
- Outfall
- Screen Chamber
- Inspection Chamber
- Bifurcation Chamber
- Lamp Hole
- T Junction / Saddle
- Catchpit
- Valve Chamber
- Vent Column
- Vortex Chamber
- Penstock Chamber
- Network Storage Tank
- Sewer Overflow
- Ww Treatment Works
- Ww Pumping Station
- Septic Tank
- Control Kiosk
- Change of Characteristic

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

Address or Site Reference:

MIOC,

OS sheet Number: SJ8385SE
Scale: 1:1250 **Date:** 31/08/2020
Nodes: 51
Sheet: 1 of 4

Printed by: Property Searches

SEWER RECORDS

United Utilities — helping life flow smoothly

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.

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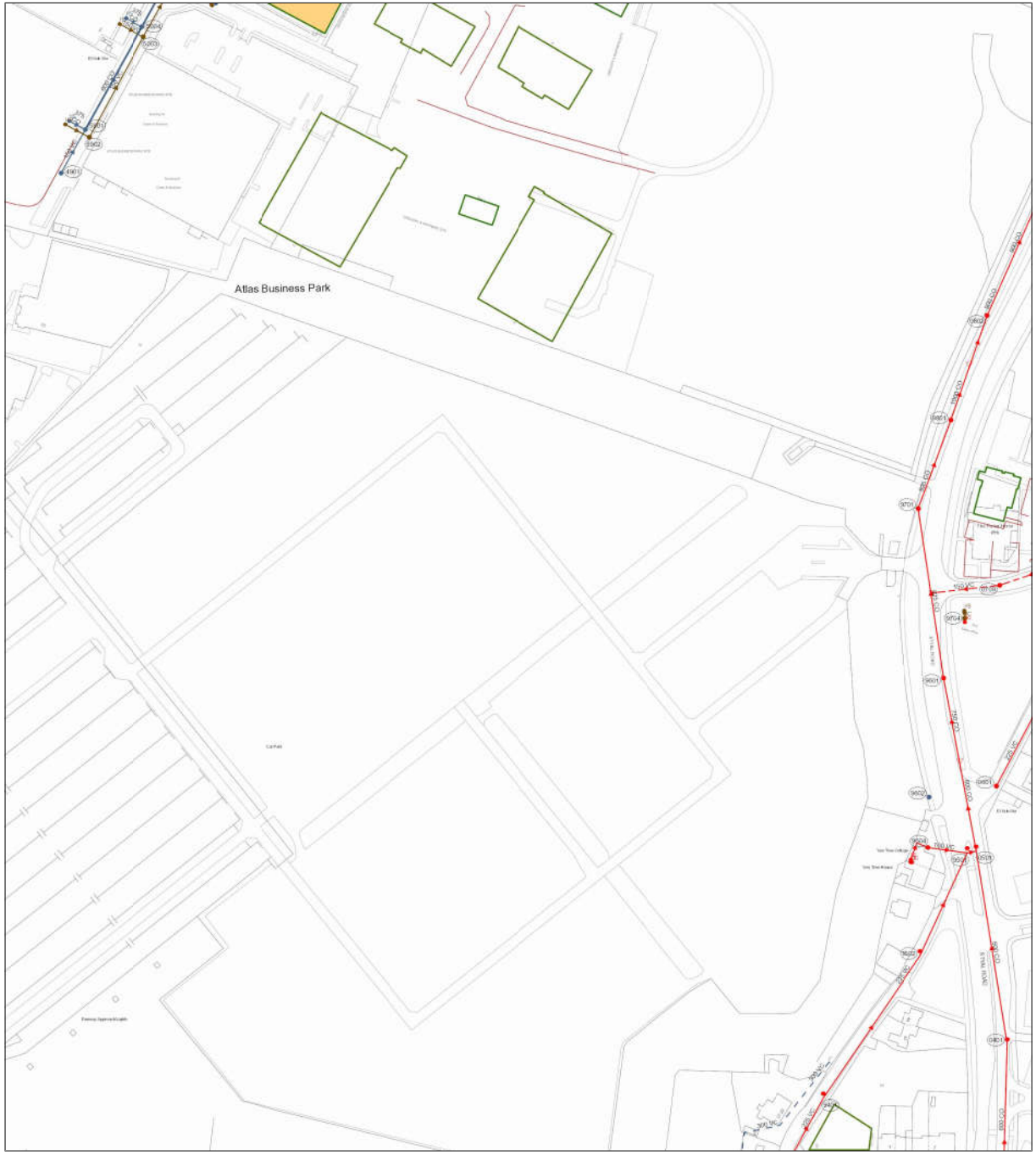

Refno	Cover	Func	Invert	Size x	Size y	Shape	Mat	Length	Grad
8308	74,84	SW	73,3	300			VC	17b.0151	
4901	69,46	SW	67	150			VC	27,46501	1 in 19
9901	70,9	CO	68,47	225			VC	5,09932	1 in 3
9401	72,91	CO	0	225			VC	65,66021	
9401	72,91	CO	0	225			VC	65,66021	
9302	69,21	FO	68,06	150			VC	63,15095	1 in 150
9203	69,7	FO	68,44	150			VC	38,19139	1 in 100
9502	71,35	CO	69,18	225			VC	62,64952	1 in 92
9502	71,35	CO	69,18	225			VC	62,64952	1 in 92
9502	71,35	CO	69,18	225			VC	62,64952	1 in 92
0401	72,24	CO	67,47	600			CO	106,342	1 in 118
0401	72,24	CO	67,47	600			CO	106,342	1 in 118
0401	72,24	CO	67,47	600			CO	106,342	1 in 118
0301	73,67	CO	69,46	600			CO	45,63646	1 in 271
9901		CO	0	1000			CO	30,65172	
0901	65,2	SW	63,26	600			CO	69,60733	1 in 299
9901		CO		150			VC	21,00163	
9904		SW		150			VC	7,16753	
8704	65,2	SW	64,36	600			CO	38,23539	1 in 191
9402	73,62	CO	70,31	225			VC	37,58989	
0301	73,73	CO	69,81	600			CO	106,0417	1 in 121
0301	73,73	CO	69,81	600			CO	106,0417	1 in 121
0801	70,15	CO	67,91	225			VC	106,5801	1 in 55
9701		CO	0	825			CO	52,20153	
9601	69,65	CO	63,43	825			CO	95,03869	
0802	66,22	CO	64,29	900			CO	89,32445	1 in 299

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

LEGEND

Abandoned | Foul | Surface Water | Combined

- Public Sewer
- Private Sewer
- Section 104
- Rising Main
- Sludge Main
- Overflow
- Water Course
- Highway Drain

All point assets follow the standard colour convention:
red - combined | blue - surface water
brown - foul | purple - overflow

- Manhole
- Head of System
- Extent of Survey
- Rodding Eye
- Inlet
- Discharge Point
- Vortex
- Penstock
- Washout Chamber
- Valve
- Air Valve
- Non Return Valve
- Soakaway
- Gully
- Cascade
- Flow Meter
- Hatch Box
- Oil Interceptor
- Summit
- Drop Shaft
- Orifice Plate
- Side Entry Manhole
- Outfall
- Screen Chamber
- Inspection Chamber
- Bifurcation Chamber
- Lamp Hole
- T Junction / Saddle
- Catchpit
- Valve Chamber
- Vent Column
- Vortex Chamber
- Penstock Chamber
- Network Storage Tank
- Sewer Overflow
- Ww Treatment Works
- Ww Pumping Station
- Septic Tank
- Combrel Kiosk
- Change of Characteristic

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

Address or Site Reference:

MIOC,

OS sheet Number: SJ8385NE

Scale: 1:1250 **Date:** 31/08/2020

Nodes: 26

Sheet: 2 of 4

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SEWER RECORDS

United Utilities — helping life flow smoothly

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.

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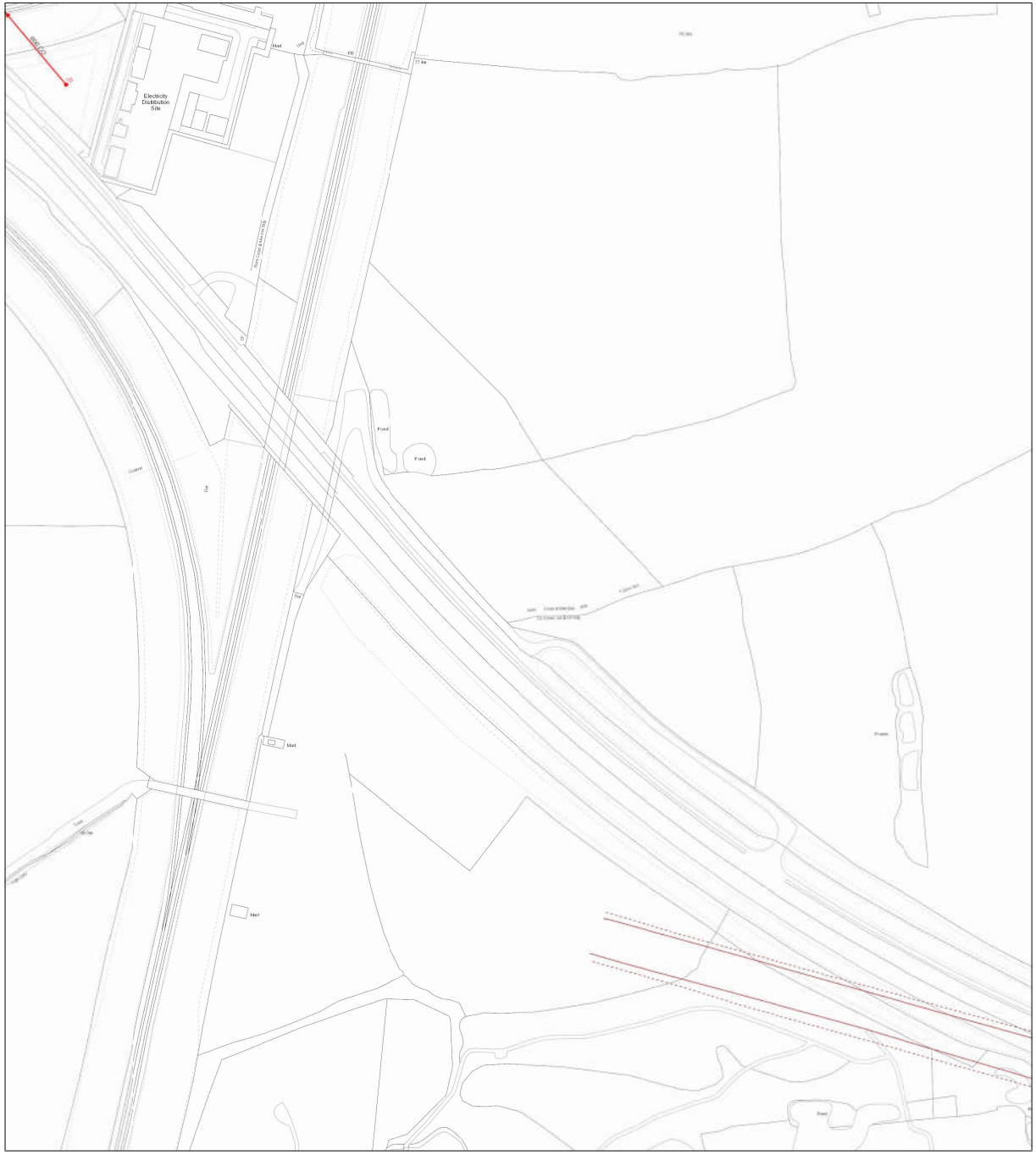

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Refno Cover Func Invert Size x Size y Shape Mat Length Grad

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

LEGEND

Abandoned Foul Surface Water Combined

Public Sewer
Private Sewer
Section 104
Rising Main
Sludge Main
Overflow
Water Course
Highway Drain

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- Penstock
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- Air Valve
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- Ww Pumping Station
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- Control Kiosk
- Change of Characteristic

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SI	Spun Iron
ST	Steel
VC	Vitrified Clay
PP	Polypropylene
PF	Pitch Fibre
MAC	Masonry, Coursed
MAR	Masonry, Random
U	Unspecified

Address or Site Reference:

MIOC,

OS sheet Number: SJ8484NW

Scale: 1:1250 **Date:** 31/08/2020

Nodes: 0

Sheet: 3 of 4

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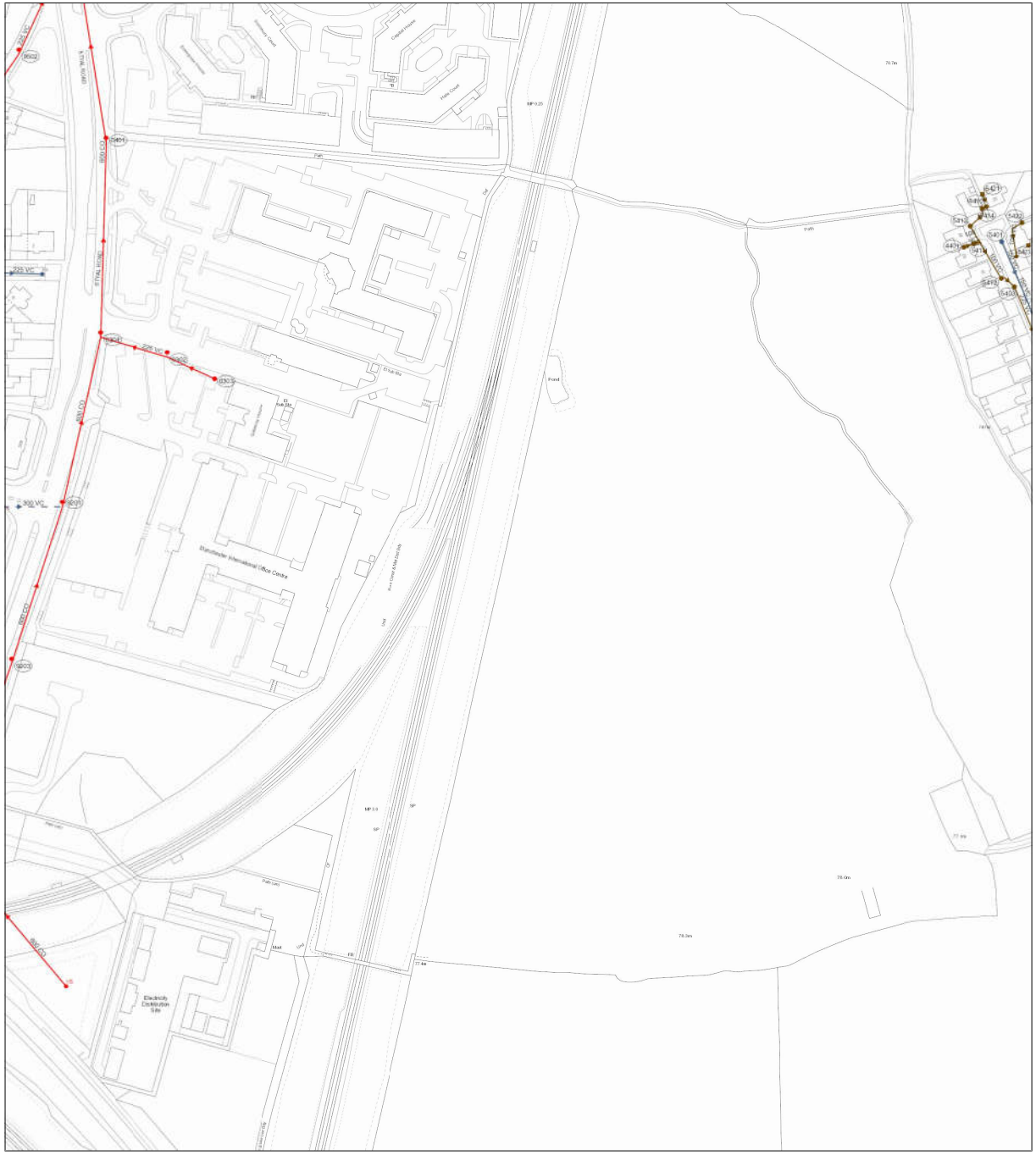
SEWER RECORDS

United Utilities
helping life flow smoothly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