Appendix E

Environment Agency Flood Map for Planning

Flood map for planning

Your reference	Location (easting/northing)	Created
pall mall	**334197/390801**	**14 Jun 2019 3:35**

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

This means:

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

Notes

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

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

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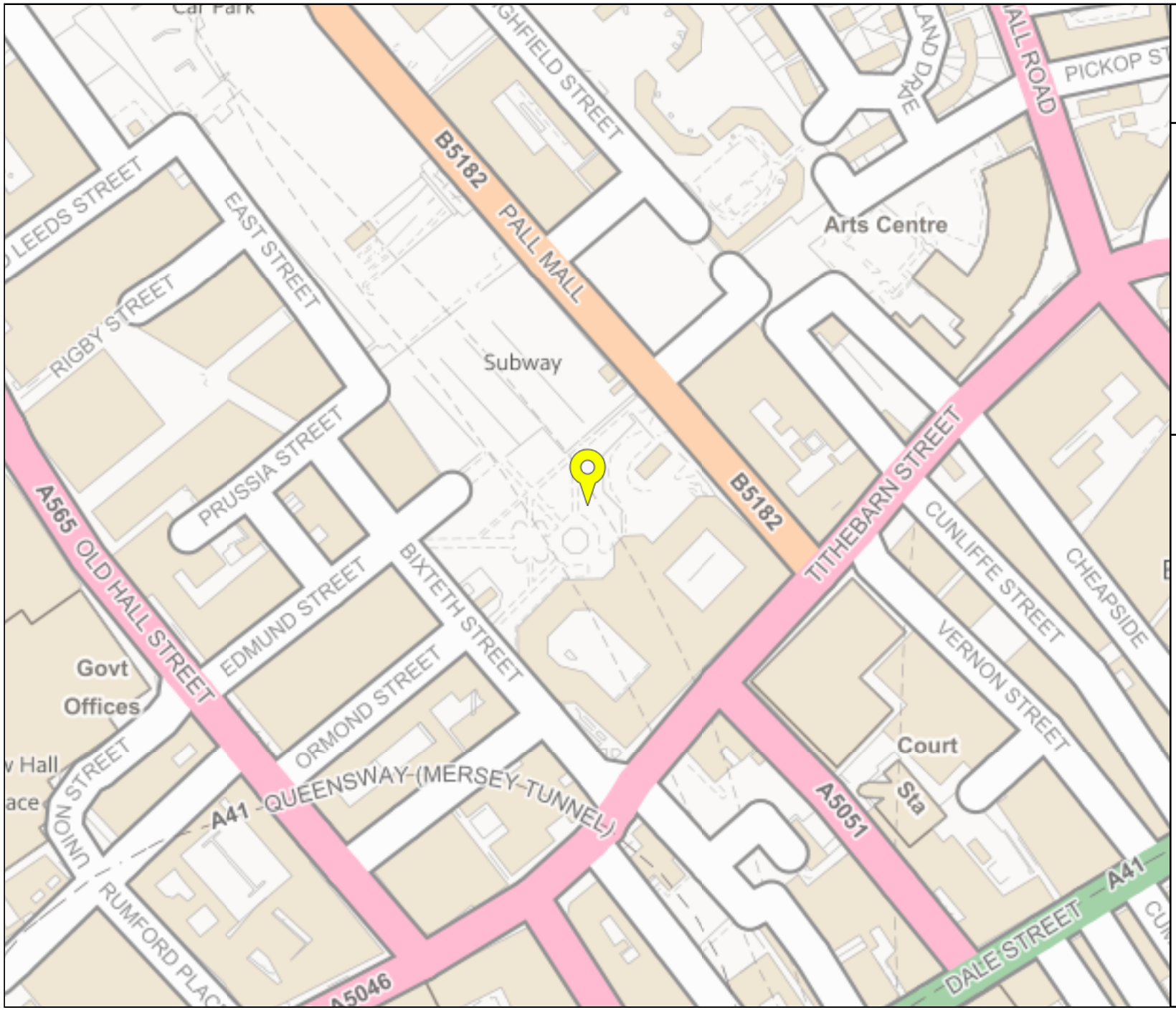
https://www.nationalarchives.gov.uk/doc/open-government-licence/version/3/



Environment Agency

Flood map for planning

Your reference
pall mall

Location (easting/northing)
334197/390801

Scale
1:2500

Created
14 Jun 2019 3:35

- 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 F

Existing Catchments

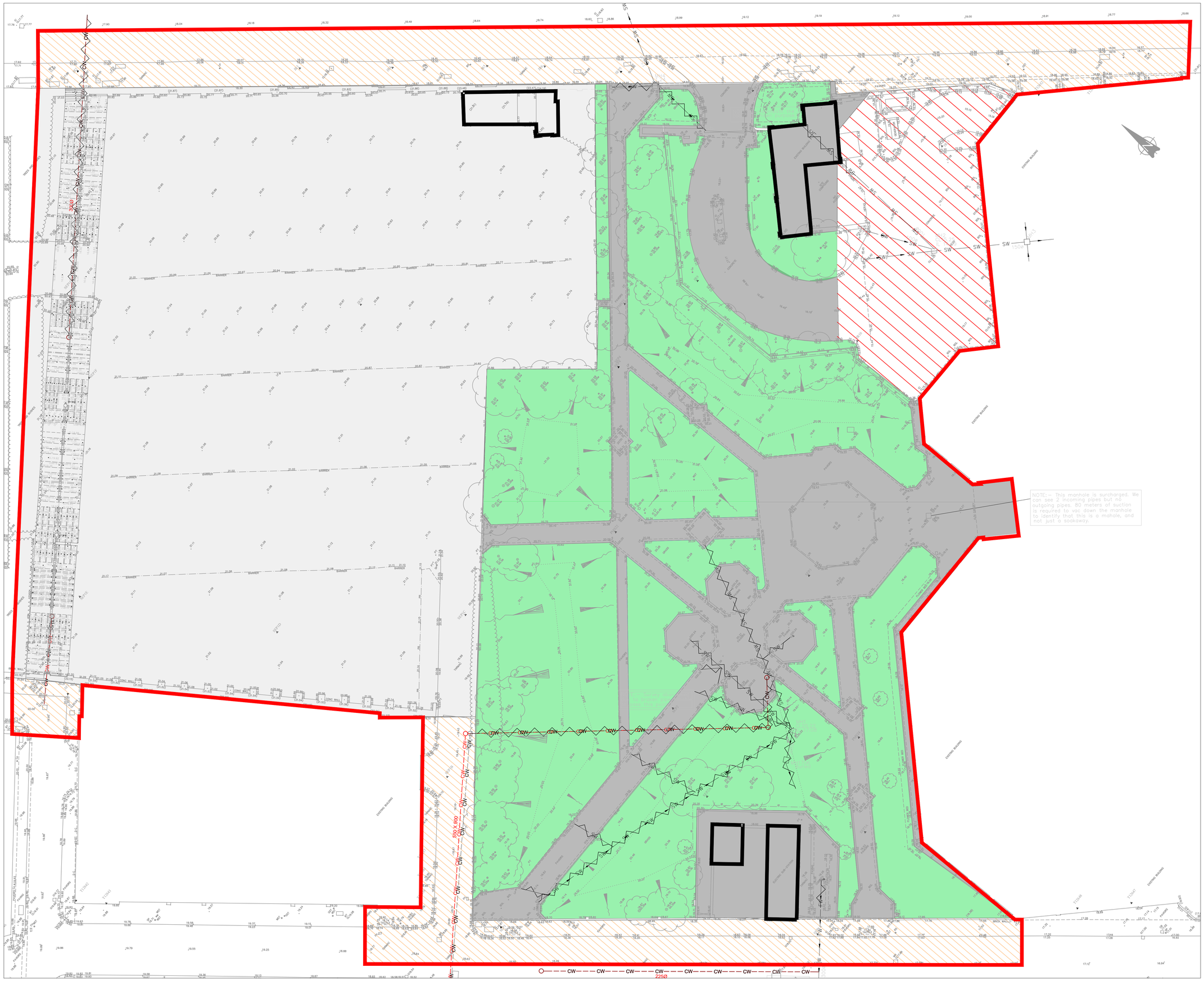
Existing Surface Water Discharge Rates

Proposed Surface Water Discharge Rates

Proposed Foul Discharge Rates (Building A only)

Proposed Catchments

Proposed Drainage Strategy



GENERAL NOTES:

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2. DO NOT SCALE THIS DRAWING. ANY AMBIGUITIES, OMISSIONS AND ERRORS ON DRAWINGS SHALL BE BROUGHT TO THE ENGINEERS ATTENTION IMMEDIATELY. ALL DIMENSIONS MUST BE CHECKED / VERIFIED ON SITE.

DRAWING BASED ON:
TOPOGRAPHICAL SURVEY BY SEP S16777-T-2D
CCTV SURVEY BY SEP APRIL 2017
UU RECORDS UU REF: 1369441 APRIL 2018

LEGEND:

EXISTING DRAINAGE BASED ON CCTV SURVEY MAY 2019

- FW — FOUL WATER PIPE
- SW — SURFACE WATER PIPE

EXISTING DRAINAGE BASED ON UU RECORDS APRIL 2018

- CW — COMBINED WATER PIPE
- CATCHMENT A — NOT POSITIVELY DRAINING AREA = 0.659 HA
- CATCHMENT B — GREEN SPACE AREA = 0.411 HA
- CATCHMENT C — POSITIVELY DRAINING AREA = 0.268 HA
- PLANNING BOUNDARY
- EXISTING BUILDINGS
- AREAS EXCLUDED FROM CALCULATIONS DUE TO LEVELS. AREA TO DRAIN AS EXISTING 0.088 HA.
- AREAS EXCLUDED FROM CALCULATIONS. HIGHWAY DRAINAGE AREA TO DRAIN AS EXISTING 0.239 HA.

AREA CATCHMENT TO DRAIN VIA DEVELOPMENT SURFACE WATER NETWORK = 1.338HA

Rev:	Description:	Date:	By:	Chkd:
P01	ISSUE FOR INFORMATION	14.06.19	OJT	CD

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Status: WORK IN PROGRESS — S0

Project: PALL MALL, LIVERPOOL

Drg Title: EXISTING CATCHMENT

Project No:	Size:	Date:	Drawn By:	Designed By:	Checked By:
064583	A1	14.06.2019	OJT	OJT	CD
	Scale: 1:250				

Project Code:	Originator:	Zone:	Level:	Type:	Discipline:	Category / Number:	Rev:
064583	CUR	XX	00	DR	C	92520	-P01

\\mafs02\Projects\064001 - 065000\064583 - Pall Mall Liverpool\0A\S-4 Production\4B Models & Drawings_Civil-C\CAD\

ICP SUDS Mean Annual Flood

Input

Return Period (years)	1	SAAR (mm)	800	Urban	0.000
Area (ha)	0.659	Soil	0.450	Region Number	Region 10

Results	**l/s**
QBAR Rural	3.4
QBAR Urban	3.4
Q1 year	2.9
Q1 year	2.9
Q30 years	5.7
Q100 years	7.0

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ICP SUDS Mean Annual Flood

Input

Return Period (years)	1	SAAR (mm)	800	Urban	0.000
Area (ha)	0.411	Soil	0.450	Region Number	Region 10

Results	**l/s**
QBAR Rural	2.1
QBAR Urban	2.1
Q1 year	1.8
Q1 year	1.8
Q30 years	3.6
Q100 years	4.4

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STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for Storm

Pipe Sizes STANDARD Manhole Sizes STANDARD

FSR Rainfall Model - England and Wales

Return Period (years)	1	PIMP (%)	100
M5-60 (mm)	18.800	Add Flow / Climate Change (%)	0
Ratio R	0.400	Minimum Backdrop Height (m)	0.200
Maximum Rainfall (mm/hr)	50	Maximum Backdrop Height (m)	1.500
Maximum Time of Concentration (mins)	30	Min Design Depth for Optimisation (m)	1.200
Foul Sewage (l/s/ha)	0.000	Min Vel for Auto Design only (m/s)	1.00
Volumetric Runoff Coeff.	0.750	Min Slope for Optimisation (1:X)	500

Designed with Level Soffits

Time Area Diagram for Storm

Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.160	4-8	0.050

Total Area Contributing (ha) = 0.210

Total Pipe Volume (m³) = 1.230

Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
1.000	4.400	0.044	100.0	0.210	5.00	0.0	0.600	o	300	Pipe/Conduit	
1.001	13.000	0.130	100.0	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
1.000	50.00	5.05	17.080	0.210	0.0	0.0	0.0	1.57	111.1	28.4
1.001	50.00	5.18	17.036	0.210	0.0	0.0	0.0	1.57	111.1	28.4

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Manhole Schedules for Storm

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (mm)	Pipe Out PN	Pipe Out Invert Level (m)	Pipe Out Diameter (mm)	Pipes In PN	Pipes In Invert Level (m)	Pipes In Diameter (mm)	Backdro (mm)
EX MH 1	20.220	3.140	Open Manhole	1200	1.000	17.080	300				
EX MH 1706	19.700	2.664	Open Manhole	1200	1.001	17.036	300	1.000	17.036	300	
	18.700	1.794	Open Manhole	0		OUTFALL		1.001	16.906	300	

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PIPELINE SCHEDULES for Storm

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
1.000	o	300	EX MH 1	20.220	17.080	2.840	Open Manhole	1200
1.001	o	300	EX MH 1706	19.700	17.036	2.364	Open Manhole	1200

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
1.000	4.400	100.0	EX MH 1706	19.700	17.036	2.364	Open Manhole	1200
1.001	13.000	100.0		18.700	16.906	1.494	Open Manhole	0

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Area Summary for Storm

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
1.000	-	-	100	0.210	0.210	0.210
1.001	-	-	100	0.000	0.000	0.000
				Total	Total	Total
				0.210	0.210	0.210

Free Flowing Outfall Details for Storm

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
1.001		18.700	16.906	0.000	0	0

Simulation Criteria for Storm

Volumetric Runoff Coeff	0.750	Additional Flow - % of Total Flow	0.000
Areal Reduction Factor	1.000	MADD Factor * 10m³/ha Storage	2.000
Hot Start (mins)	0	Inlet Coeffiecient	0.800
Hot Start Level (mm)	0	Flow per Person per Day (l/per/day)	0.000
Manhole Headloss Coeff (Global)	0.500	Run Time (mins)	60
Foul Sewage per hectare (l/s)	0.000	Output Interval (mins)	1

Number of Input Hydrographs	0	Number of Storage Structures	0
Number of Online Controls	0	Number of Time/Area Diagrams	0
Number of Offline Controls	0	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FSR	Profile Type	Summer
Return Period (years)	1	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	18.800	Storm Duration (mins)	30
Ratio R	0.400		

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Summary of Critical Results by Maximum Level (Rank 1) for Storm

Simulation Criteria

Areal Reduction Factor 1.000 Additional Flow - % of Total Flow 0.000
Hot Start (mins) 0 MADD Factor * 10m³/ha Storage 2.000
Hot Start Level (mm) 0 Inlet Coeffiecient 0.800
Manhole Headloss Coeff (Global) 0.500 Flow per Person per Day (l/per/day) 0.000
Foul Sewage per hectare (l/s) 0.000

Number of Input Hydrographs 0 Number of Storage Structures 0
Number of Online Controls 0 Number of Time/Area Diagrams 0
Number of Offline Controls 0 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.400
Region England and Wales Cv (Summer) 0.750
M5-60 (mm) 18.800 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 300.0 DVD Status OFF
Analysis Timestep Fine Inertia Status OFF
DTS Status ON

Profile(s) Summer and Winter
Duration(s) (mins) 15, 30, 60, 120, 240, 360, 480, 960, 1440
Return Period(s) (years) 2
Climate Change (%) 0

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)
1.000	EX MH 1	15 Winter	2	+0%					17.245
1.001	EX MH 1706	15 Winter	2	+0%					17.167

PN	US/MH Name	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
1.000	EX MH 1	-0.135	0.000	0.58		35.3	OK	
1.001	EX MH 1706	-0.169	0.000	0.39		35.2	OK	

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Summary of Critical Results by Maximum Level (Rank 1) for Storm

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	0.000
Hot Start (mins)	0	MADD Factor * 10m³/ha Storage	2.000
Hot Start Level (mm)	0	Inlet Coeffiecient	0.800
Manhole Headloss Coeff (Global)	0.500	Flow per Person per Day (l/per/day)	0.000
Foul Sewage per hectare (l/s)	0.000		

Number of Input Hydrographs	0	Number of Offline Controls	0	Number of Time/Area Diagrams	0
Number of Online Controls	1	Number of Storage Structures	0	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FSR	M5-60 (mm)	18.800	Cv (Summer)	0.750
Region	England and Wales	Ratio R	0.400	Cv (Winter)	0.840

Margin for Flood Risk Warning (mm)	300.0
Analysis Timestep	2.5 Second Increment (Extended)
DTS Status	OFF
DVD Status	OFF
Inertia Status	ON

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 240, 360, 480, 960, 1440
Return Period(s) (years)	100
Climate Change (%)	30

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.
1.000	1	120 Winter	100	+30%	100/60 Winter				18.275	0.383	0.000	0.03
1.001	2	120 Winter	100	+30%	100/30 Winter				18.275	0.623	0.000	0.02
1.002	3	120 Winter	100	+30%	100/15 Summer				18.275	1.175	0.000	0.16

PN	US/MH Name	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
1.000	1		13.2	SURCHARGED	
1.001	2		6.9	SURCHARGED	
1.002	3		2.2	SURCHARGED	

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Summary of Critical Results by Maximum Level (Rank 1) for Storm

Simulation Criteria

Areal Reduction Factor 1.000 Additional Flow - % of Total Flow 0.000
Hot Start (mins) 0 MADD Factor * 10m³/ha Storage 2.000
Hot Start Level (mm) 0 Inlet Coeffiecient 0.800
Manhole Headloss Coeff (Global) 0.500 Flow per Person per Day (l/per/day) 0.000
Foul Sewage per hectare (l/s) 0.000

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
Number of Online Controls 1 Number of Storage Structures 1 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR M5-60 (mm) 18.800 Cv (Summer) 0.750
Region England and Wales Ratio R 0.400 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 300.0
Analysis Timestep 2.5 Second Increment (Extended)
DTS Status OFF
DVD Status OFF
Inertia Status ON

Profile(s) Summer and Winter
Duration(s) (mins) 15, 30, 60, 120, 240, 360, 480, 960, 1440
Return Period(s) (years) 100
Climate Change (%) 30

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.
1.000	1	15 Winter	100	+30%	100/15 Summer				19.970	1.190	0.000	0.65
2.000	2	15 Winter	100	+30%	100/15 Summer				19.951	0.501	0.000	0.23
1.001	3	15 Winter	100	+30%	100/15 Summer				19.907	1.267	0.000	2.04
3.000	5	15 Winter	100	+30%	100/15 Summer				19.088	0.598	0.000	1.68
1.002	6	15 Winter	100	+30%	100/15 Summer				18.829	0.277	0.000	1.78
4.000	7	15 Winter	100	+30%	100/15 Summer				18.658	0.212	0.000	0.15
1.003	8	15 Winter	100	+30%	100/15 Summer				18.648	0.128	0.000	1.71
1.004	9	120 Winter	100	+30%	100/15 Summer				17.896	1.018	0.000	1.16
5.000	10	120 Winter	100	+30%					17.896	-0.054	0.000	0.19
6.000	11	15 Winter	100	+30%					18.201	-0.199	0.000	0.24
5.001	12	120 Winter	100	+30%	100/15 Summer				17.893	1.093	0.000	0.30
7.000	13	15 Winter	100	+30%	100/15 Summer				18.378	0.028	0.000	1.08
7.001	14	120 Winter	100	+30%	100/15 Summer				17.893	1.143	0.000	0.53
1.005	15	120 Winter	100	+30%	100/15 Summer				17.891	1.341	0.000	3.26
1.006	16	120 Winter	100	+30%	100/15 Summer				17.660	1.135	0.000	2.12
1.007	17	120 Winter	100	+30%	100/15 Summer				17.429	0.973	0.000	2.24
1.008	18	15 Winter	100	+30%	100/15 Summer				17.377	0.971	0.000	2.49
1.009	19	15 Winter	100	+30%	100/15 Summer				16.503	1.803	0.000	0.22

PN	US/MH Name	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
1.000	1		45.1	SURCHARGED	
2.000	2		41.3	SURCHARGED	
1.001	3		135.6	SURCHARGED	
3.000	5		101.9	SURCHARGED	
1.002	6		237.6	SURCHARGED	
4.000	7		9.2	SURCHARGED	
1.003	8		246.3	SURCHARGED	
1.004	9		97.0	SURCHARGED	
5.000	10		19.3	OK	
6.000	11		16.1	OK	
5.001	12		23.5	SURCHARGED	
7.000	13		100.8	SURCHARGED	
7.001	14		32.2	SURCHARGED	
1.005	15		22.3	SURCHARGED	
1.006	16		22.5	SURCHARGED	
1.007	17		22.7	SURCHARGED	
1.008	18		26.8	SURCHARGED	
1.009	19		25.2	SURCHARGED	

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Foul Drainage Calculations For
Pall Mall Building A
Rev 0

Floor	**DU per floor**
BASEMENT 1	2.4
GROUND FLOOR	5.7
FLOOR 1	22.5
FLOOR 2	22.5
FLOOR 3	22.5
FLOOR 4	22.5
FLOOR 5	22.5
FLOOR 6	22.5
FLOOR 7	22.5
FLOOR 8	22.5

Types of Building	KDU Frequentcy Factor
Dwelling, guesthouses, office (intermittent use)	0.5
Hospital, school, restaurant, hotel (frequent use)	0.7
Toilets and/or shower open to public (congested use)	1
Laboratory buildings (special use)	1.2
Types of Appliance	Discharge Unit
Washbasin, shower	0.3
Urinal	0.55
Bath, kitchen sink	1.05
Dishwasher	0.5
Household washing machine	0.65
Commercial washing machine	1.25
WC's (4.0 to 9.0l cistern)	1.2
Floor Drains (DN50 to DN100)	1.3

Total	188.1
KDU (Frequancy)	0.5
Total l/s	**6.9**

GENERAL NOTES:

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DRAWING BASED ON:
TOPOGRAPHICAL SURVEY BY SEP S16777-T-2D
LAYOUT: RF17-485-RFM-XX-00-M2-L-001
CCTV SURVEY BY SEP, APRIL 2017

LEGEND:

- ROOF AREA = 0.66 HA
- PAVEMENT AREA = 0.36 HA
- LANDSCAPE AREA = 0.22 HA
- OUTLINE PLANNING BOUNDARY
- DETAILED PLANNING BOUNDARY
- AREA TO DRAIN AS EXISTING 0.09 HA.
- EXISTING HIGHWAY DRAINAGE AREA TO DRAIN AS EXISTING 0.22 HA.

AREA CATCHMENT TO DRAIN VIA DEVELOPMENT SURFACE WATER NETWORK = 1.01HA

- PROPOSED HIGHWAY DRAINAGE AREA = 0.09 HA.

DESIGN PHILOSOPHY
SOAKAWAYS ARE (NOT) CONSIDERED APPROPRIATE FOR THIS SCHEME.
DISCHARGE TO PUBLIC SEWER PROPOSED

PROPOSED SURFACE WATER DISCHARGE RATE FOR 1 IN 100 YEAR + 30%: = 28.5 L/S
MAIN DRAINAGE DISCHARGE RATE: 26.2L/S
PROPOSED HIGHWAY DRAINAGE DISCHARGE RATE: 2.3L/S
(SEE DWG: 064583-CUR-XX-00-DR-C-92500 FOR DRAINAGE LAYOUT)

- PROPOSED SURFACE WATER DRAINAGE
- PROPOSED FOUL WATER DRAINAGE
- PROPOSED HIGHWAY DRAINAGE

Rev:	Description:	Date:	By:	Chkd:
P01	ISSUE FOR INFORMATION	14.06.19	OJT	CD

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Birmingham • Bristol • Cambridge • Cardiff • Douglas • Dublin • Edinburgh • Glasgow • Kendal • Leeds • Liverpool • London • Manchester • Nottingham

Status: WORK IN PROGRESS — S0

Project: PALL MALL, LIVERPOOL

Drg Title: PROPOSED FOUL AND SURFACE WATER CATCHMENTS

Project No:	Size:	Date:	Drawn By:	Designed By:	Checked By:
064583	A1	14.06.2019	OJT	OJT	CD
	Scale: 1:250				

Project Code:	Originator:	Zone:	Level:	Type:	Discipline:	Category / Number:	Rev:
064583	CUR	XX	00	DR	C	92521	-P01

\\mafs02\Projects\064001 - 065000\064583 - Pall Mall Liverpool\QMS 4 Production\4B Models & Drawings_Civil-C\CAD\

PROPOSED BUILDING BLOCK C

PROPOSED BUILDING BLOCK B

PROPOSED BUILDING BLOCK D

PROPOSED BUILDING BLOCK A

EXISTING SUBSTATION

AREA TO DRAIN AS EXISTING DUE TO LOW LEVELS VIA EXISTING DRAINAGE NETWORK.

CELLULAR STORAGE CIRCA 484m³

PI

EXISTING NETWORK RAIL LIVE TUNNEL

5m TUNNEL EASEMENT

SECTION 116 AGREEMENT BY OTHERS.

PROPOSED HIGHWAY DRAINAGE. ATTENUATION WITHIN PIPES. PIPES SIZED TO SUIT. CIRCA 43m³

APPROVAL FOR A SECTION 106 FOUL WATER CONNECTION REQUIRED BY UNITED UTILITIES

EXISTING SUB STATION DRAINAGE TO BE PICKED UP AND DRAIN VIA PROPOSED DEVELOPMENT DRAINAGE.

FLOW CONTROL CHAMBER RESTRICTED DISCHARGE RATE OF 2.3 l/s UPTO 1 IN 100 YEAR PLUS 30% FOR CLIMATE CHANGE.

APPROVAL FOR A SECTION 106 HIGHWAY DRAINAGE CONNECTION REQUIRED BY UNITED UTILITIES

FLOW CONTROL CHAMBER RESTRICTED DISCHARGE RATE OF 26.2 l/s UPTO 1 IN 100 YEAR PLUS 30% FOR CLIMATE CHANGE.

EXISTING BASEMENT EXTENTS TO BE CONFIRMED.

APPROVAL FOR A SECTION 106 SURFACE WATER CONNECTION REQUIRED BY UNITED UTILITIES

CHANGE OF USE TO SURFACE WATER FROM FOUL WATER UP TO EXISTING COMBINED CONNECTION, TO BE AGREED WITH UNITED UTILITIES.

GENERAL NOTES:

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DRAWING BASED ON:
TOPOGRAPHICAL SURVEY BY SEP S16777-T-2D
CCTV SURVEY BY SEP APRIL 2017
UU RECORDS UU REF: 1369441 APRIL 2018
EXISTING TUNNEL LAYOUT: PROPOSED GROUND INVESTIGATION AND APPROXIMATE UNDERGROUND TUNNEL LOCATIONS, ARUP, PMP-ARP-ZZ-ZZ-DR-CG-00004, DECEMBER 2016

EXISTING PUBLIC SEWER SURVEY REQUIRED TO CONFIRM INVERT LEVELS AT PROPOSED CONNECTION LOCATIONS.

ALL DRAINAGE PROPOSALS INDICATIVE SUBJECT TO DETAILED DESIGN.

EXISTING NETWORK RAIL TUNNEL LOCATION INDICATIVE SUBJECT TO SURVEY.

CELLULAR STORAGE VOLUME BASED ON DISCHARGE RATE OF 26.2 l/s. SIZE MAY INCREASE/DECREASE SUBJECT TO APPROVAL FROM UU AND LLFA.

KEY

- FW — FOUL WATER PIPE.
- FW — FOUL WATER PIPE TO BE ABANDONED.
- SW — SURFACE WATER PIPE.
- SW — SURFACE WATER PIPE TO BE ABANDONED.
- CW — COMBINED WATER PIPE
- CW — COMBINED WATER PIPE TO BE ABANDONED.
- CW — COMBINED WATER PIPE UNDER SEPARATE SECTION 116 AGREEMENT BY OTHERS.
- DETAILED PLANNING BOUNDARY
- OUTLINE PLANNING BOUNDARY
- PROPOSED SURFACE WATER DRAINAGE
- PROPOSED FOUL WATER DRAINAGE
- PROPOSED HIGHWAY DRAINAGE
- PROPOSED CELLULAR STORAGE.
- PROPOSED LANDSCAPING.
- PROPOSED POROUS PAVEMENT.
- POTENTIAL BIORETENTION TREE PIT SYSTEM
- PROPOSED BUILDINGS.
- AREA TO DRAIN AS EXISTING DUE TO LOW LEVELS.
- EXISTING HIGHWAY AREA TO DRAIN AS EXISTING.
- AREA PROPOSED FOR ADOPTION UNDER SECTION 38 AGREEMENT WITH LCC. PROPOSED HIGHWAY AREA TO DRAIN AS SHOWN VIA SEPARATE NETWORK TO MAIN SITE PROPOSED DRAINAGE.
- PI — PETROL INTERCEPTOR OR SIMILAR

Rev:	Description:	Date:	By:	Chkd:
P02	MINOR UPDATE	21.06.19	OJT	CD
P01	ISSUE FOR INFORMATION	14.06.19	OJT	CD

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Status: SUITABLE FOR INFORMATION — S2

Project: PALL MALL, LIVERPOOL

Drg Title: INDICATIVE DRAINAGE STRATEGY LAYOUT

Project No:	Size:	Date:	Drawn By:	Designed By:	Checked By:
064583	A1	14.06.2019	OJT	OJT	CD
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