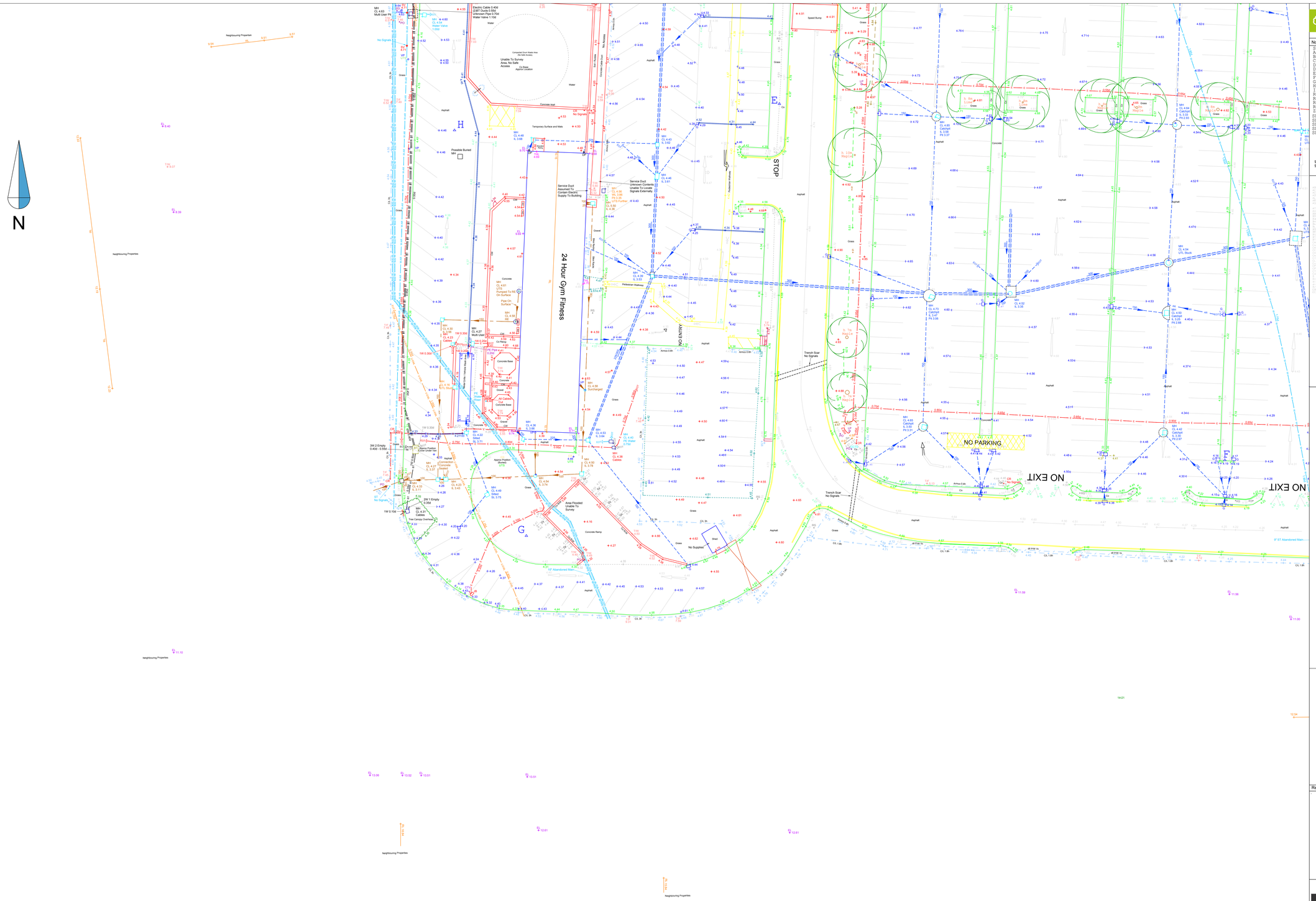


Notes :

Station	Easting	Northing	Level
A	471327.174	105618.327	5.139
B	471287.031	105621.157	5.047
C	471223.321	105623.643	4.907
D	471150.333	105638.388	5.041
DHL	471086.942	105613.662	4.603
E	471138.230	105558.475	4.859
F	471204.372	105505.594	4.301
G	471100.662	105494.346	4.442
H	471089.990	105554.522	4.446
I	471090.650	105580.715	4.591
RI1	471401.011	105657.802	7.633
RI2	471386.909	105675.284	7.584
RI4	471105.132	105819.519	5.133
RI5	471091.903	105809.524	5.373
Z	471338.290	105617.911	5.144
SEA	471441.101	105765.709	7.673
SEB	471500.619	105763.903	8.388
SEC	471416.131	105855.587	7.946
SECHL	471353.984	105867.887	5.373
SED	471516.282	105854.354	5.263

Stations A, B, C, D, DHL, E, F, H, I, Z, RI4, RI5 and SED are marked with a PK Nail.
Stations G, RI1, RI2, SEA, SEB, SEC and SECHL are marked with a Wooden stake.

ON DETAIL SURVEY

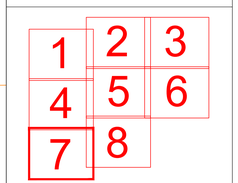
AB	Air Bricks	CL	Cleanout Eye
AC	Air Conditioning Unit	CO	Cover
AD	Advertising Board	CP	Concrete Post
AG	Air Valve	CR	Cover Reduced
AP	Artificial Stone	CS	Cover Square
AS	Ash	CT	Cover Triangular
BA	Bar Anode	DA	Data Point
BB	Bollard	DB	Distribution Board
BC	Bar Cathode	DC	Direction Change
BE	Beacon	DE	Dead End
BH	Bore Hole	DI	Drain Inspect
BL	Bollard Light	DM	Dummy Point
BM	Benchmark	DO	Drain Outlet
BO	Bollard Post	DP	Downpipe
BR	Bracket	DR	Drain
BS	Bus Stop	DS	Downstand
BT	Bollard Post Bell	DT	Drain Trap
BU	Bubbler	EA	Electric Arch
BV	Boundary Valve	EB	Electric Box
CA	Cable Post	EC	Electric Cabinet
CB	Catch Basin	EG	Electric Gate
CC	Cable Cover	EH	Electric Hatch
CD	Cable Duct	EM	Electric Meter
CE	Cable End	EP	Electric Post
CF	Cable Fence	ER	Electric Riser
CG	Cattle Grid	ES	Electric Switch
CH	Chamber	ET	Electric Trap
CI	Cast Iron	EW	Electric Wire
CJ	Construction Joint	FA	Fire Alarm
CK	Cleanout Key	FB	Field Boundary
CL	Cleanout Eye	FC	Field Corner
CM	Cable Marker	FD	Field Drain
CN	Cleanout Nut	FE	Fire Extinguisher
CO	Cover	FH	Fire Hydrant
CP	Concrete Post	FL	Flag Post
CR	Cover Reduced	FM	Flow Meter
CS	Cover Square	FO	Fence Post
CT	Cover Triangular	FP	Footpath
DA	Data Point	FR	Fire Riser
DB	Distribution Board	FS	Flow Switch
DC	Direction Change	FT	Fire Trap
DE	Dead End	FW	Fire Wire
DI	Drain Inspect	GA	Gas Valve
DM	Dummy Point	GB	Grit Bin
DO	Drain Outlet	GC	Gas Cock
DP	Downpipe	GD	Gas Data
DR	Drain	GE	Gas Emergency
DS	Downstand	GF	Gas Flow
DT	Drain Trap	GG	Gas Governor
EA	Electric Arch	GH	Gas Hatch
EB	Electric Box	GI	Gas Inspect
EC	Electric Cabinet	GL	Gas Light
EG	Electric Gate	GM	Gas Meter
EH	Electric Hatch	GO	Gas Outlet
EM	Electric Meter	GP	Gas Post
EP	Electric Post	GR	Gas Riser
ER	Electric Riser	GS	Gas Switch
ES	Electric Switch	GT	Gas Trap
ET	Electric Trap	GV	Gas Valve
EW	Electric Wire	HA	Hatch
FA	Fire Alarm	HB	Hedge
FB	Field Boundary	HC	Hand Control
FC	Field Corner	HD	Hand Dryer
FD	Field Drain	HE	Hedge End
FE	Fire Extinguisher	HF	Hand Free
FH	Fire Hydrant	HG	Hedge Gap
FL	Flag Post	HH	Hand Hole
FM	Flow Meter	HL	Hedge Line
FO	Fence Post	HO	Hole
FP	Footpath	HP	Hand Post
FR	Fire Riser	HR	Hedge Row
FS	Flow Switch	HS	Hose Set
FT	Fire Trap	HT	Hedge Top
FW	Fire Wire	IC	Inspection Cover
GA	Gas Valve	IL	Inspection Light
GB	Grit Bin	IP	Iron Post
GC	Gas Cock	IR	Iron Rod
GD	Gas Data	IS	Inspection Shaft
GE	Gas Emergency	JB	Junction Box
GF	Gas Flow	JC	Junction Chamber
GG	Gas Governor	JP	Junction Post
GH	Gas Hatch	KB	Kerb Block
GI	Gas Inspect	KC	Kerb Corner
GL	Gas Light	KD	Kerb Drop
GM	Gas Meter	KE	Kerb End
GO	Gas Outlet	KF	Kerb Flat
GP	Gas Post	KG	Kerb Gap
GR	Gas Riser	KH	Kerb Height
GS	Gas Switch	KI	Kerb Inset
GT	Gas Trap	KL	Kerb Line
GV	Gas Valve	KR	Kerb Radius
HA	Hatch	KS	Kerb Set
HB	Hedge	LA	Level Area
HC	Hand Control	LB	Light Base
HD	Hand Dryer	LC	Level Change
HE	Hedge End	LD	Level Data
HF	Hand Free	LE	Lamp Edge
HG	Hedge Gap	LG	Level Gauge
HH	Hand Hole	LH	Lamp Head
HL	Hedge Line	LI	Level Inspect
HO	Hole	LP	Lamp Post
HP	Hand Post	LR	Level Rod
HR	Hedge Row	LS	Lamp Standard
HS	Hose Set	LT	Level Top
HT	Hedge Top	LV	Level Value
IC	Inspection Cover	MA	Manhole
IL	Inspection Light	MB	Mail Box
IP	Iron Post	MC	Manhole Cover
IR	Iron Rod	MD	Manhole Data
IS	Inspection Shaft	ME	Measure Point
JB	Junction Box	MF	Manhole Fence
JC	Junction Chamber	MG	Manhole Gas
JP	Junction Post	MH	Manhole
KB	Kerb Block	MI	Manhole Inspect
KC	Kerb Corner	MK	Mark
KD	Kerb Drop	MO	Manhole Other
KE	Kerb End	MP	Manhole Post
KF	Kerb Flat	MR	Manhole Radio
KG	Kerb Gap	MS	Manhole Sewer
KH	Kerb Height	MT	Manhole Telecom
KI	Kerb Inset	MU	Manhole Unknown
KL	Kerb Line	MV	Manhole Valve
KR	Kerb Radius	MW	Manhole Water
KS	Kerb Set	NP	Notice Post
LA	Level Area	OB	Object
LB	Light Base	OC	Overhead Cable
LC	Level Change	OD	Overhead Data
LD	Level Data	OE	Overhead Electric
LE	Lamp Edge	OF	Overhead Fibre
LG	Level Gauge	OG	Overhead Gas
LH	Lamp Head	OH	Overhead Hydrant
LI	Level Inspect	OL	Overhead Line
LP	Lamp Post	OP	Overhead Post
LR	Level Rod	OR	Overhead Radio
LS	Lamp Standard	OS	Overhead Sewer
LT	Level Top	OT	Overhead Telecom
LV	Level Value	OU	Overhead Unknown
MA	Manhole	OV	Overhead Valve
MB	Mail Box	OW	Overhead Water
MC	Manhole Cover	PA	Parking Area
MD	Manhole Data	PB	Post Box
ME	Measure Point	PC	Point Change
MF	Manhole Fence	PD	Point Data
MG	Manhole Gas	PE	Pedestrian Crossing Point
MH	Manhole	PF	Pedestrian Crossing Flashing
MI	Manhole Inspect	PG	Post Gate
MK	Mark	PH	Post Hole
MO	Manhole Other	PI	Post Inspect
MP	Manhole Post	PL	Post Light
MR	Manhole Radio	PM	Post Marker
MS	Manhole Sewer	PO	Post
MT	Manhole Telecom	PP	Pedestrian Post
MU	Manhole Unknown	PR	Post Radio
MV	Manhole Valve	PS	Post Sign
MW	Manhole Water	PT	Post Telecom
NP	Notice Post	PU	Post Unknown
OB	Object	PV	Post Valve
OC	Overhead Cable	PW	Post Water
OD	Overhead Data	RA	Road Arch
OE	Overhead Electric	RB	Road Bridge
OF	Overhead Fibre	RC	Road Change
OG	Overhead Gas	RD	Road Data
OH	Overhead Hydrant	RE	Road Edge
OL	Overhead Line	RF	Road Flat
OP	Overhead Post	RG	Road Gap
OR	Overhead Radio	RH	Road Height
OS	Overhead Sewer	RI	Road Inset
OT	Overhead Telecom	RL	Road Line
OU	Overhead Unknown	RR	Road Radius
OV	Overhead Valve	RS	Road Set
OW	Overhead Water	SA	Service Area
PA	Parking Area	SB	Service Box
PB	Post Box	SC	Service Cover
PC	Point Change	SD	Service Data
PD	Point Data	SE	Service Entrance
PE	Pedestrian Crossing Point	SF	Service Fence
PF	Pedestrian Crossing Flashing	SG	Service Gas
PG	Post Gate	SH	Service Hatch
PH	Post Hole	SI	Service Inspect
PI	Post Inspect	SL	Service Light
PL	Post Light	SM	Service Meter
PM	Post Marker	SO	Service Other
PO	Post	SP	Service Post
PP	Pedestrian Post	SR	Service Radio
PR	Post Radio	SS	Service Sewer
PS	Post Sign	ST	Service Telecom
PT	Post Telecom	SU	Service Unknown
PU	Post Unknown	SV	Service Valve
PV	Post Valve	SW	Service Water
PW	Post Water	TA	Tank
RA	Road Arch	TB	Tree Base
RB	Road Bridge	TC	Tree Change
RC	Road Change	TD	Tree Data
RD	Road Data	TE	Tree Edge
RE	Road Edge	TF	Tree Flat
RF	Road Flat	TG	Tree Gap
RG	Road Gap	TH	Tree Height
RH	Road Height	TI	Tree Inset
RI	Road Inset	TL	Tree Line
RL	Road Line	TR	Tree Radius
RR	Road Radius	TS	Tree Set
RS	Road Set	TT	Tree Trunk
SA	Service Area	UA	Water Arch
SB	Service Box	UB	Water Bridge
SC	Service Cover	UC	Water Change
SD	Service Data	UD	Water Data
SE	Service Entrance	UE	Water Edge
SF	Service Fence	UF	Water Flat
SG	Service Gas	UG	Water Gap
SH	Service Hatch	UH	Water Height
SI	Service Inspect	UI	Water Inset
SL	Service Light	UL	Water Line
SM	Service Meter	UR	Water Radius
SO	Service Other	US	Water Set
SP	Service Post	VA	Vehicle Area
SR	Service Radio	VB	Vehicle Bay
SS	Service Sewer	VC	Vehicle Change
ST	Service Telecom	VD	Vehicle Data
SU	Service Unknown	VE	Vehicle Edge
SV	Service Valve	VF	Vehicle Flat
SW	Service Water	VG	Vehicle Gap
TA	Tank	VH	Vehicle Height
TB	Tree Base	VI	Vehicle Inset
TC	Tree Change	VL	Vehicle Line
TD	Tree Data	VR	Vehicle Radius
TE	Tree Edge	VS	Vehicle Set
TF	Tree Flat	WA	Water Area
TG	Tree Gap	WB	Water Box
TH	Tree Height	WC	Water Change
TI	Tree Inset	WD	Water Data
TL	Tree Line	WE	Water Edge
TR	Tree Radius	WF	Water Flat
TS	Tree Set	WG	Water Gap
TT	Tree Trunk	WH	Water Height
UA	Water Arch	WI	Water Inset
UB	Water Bridge	WL	Water Line
UC	Water Change	WR	Water Radius
UD	Water Data	WS	Water Set
UE	Water Edge	WT	Water Tank
UF	Water Flat		
UG	Water Gap		
UH	Water Height		
UI	Water Inset		
UL	Water Line		
UR	Water Radius		
US	Water Set		
VA	Vehicle Area		
VB	Vehicle Bay		
VC	Vehicle Change		
VD	Vehicle Data		
VE	Vehicle Edge		
VF	Vehicle Flat		
VG	Vehicle Gap		
VH	Vehicle Height		
VI	Vehicle Inset		
VL	Vehicle Line		
VR	Vehicle Radius		
VS	Vehicle Set		
WA	Water Area		
WB	Water Box		
WC	Water Change		
WD	Water Data		
WE	Water Edge		
WF	Water Flat		
WG	Water Gap		
WH	Water Height		
WI	Water Inset		
WL	Water Line		
WR	Water Radius		
WS	Water Set		
WT	Water Tank		

ON FENCES/RAILS/DIVIDERS

FC	Barbed Wire Fence	FW	Post and Wire Fence
FD	Post and Rail Fence	FX	Post and Wire Fence
FE	Railing Fence	FY	Post and Wire Fence
FF	Corrugated Iron Fence	FZ	Chain Link Fence
FG	Post and Rail Fence	GA	Gate Post Fence
FH	Hoarding Fence	GB	Gate Post Fence
FI	Post and Wire Fence	GC	Gate Post Fence
FJ	Railing Fence	GD	Gate Post Fence
FK	Wooden Fence	GE	Gate Post Fence
FL	Post and Wire Fence	GF	Gate Post Fence
FM	Post and Wire Fence	GG	Gate Post Fence
FN	Post and Wire Fence	GH	Gate Post Fence
FO	Post and Wire Fence	GI	Gate Post Fence
FP	Post and Wire Fence	GJ	Gate Post Fence
FQ	Post and Wire Fence	GK	Gate Post Fence
FR	Post and Wire Fence	GL	Gate Post Fence
FS	Post and Wire Fence	GM	Gate Post Fence
FT	Post and Wire Fence	GN	Gate Post Fence
FU	Post and Wire Fence	GO	Gate Post Fence
FV	Post and Wire Fence	GP	Gate Post Fence

ON BUILDINGS

BA	Base Level	BW	Brick Wall
BB	Bay Window	CA	Canopy Area
BC	Bay Change	CB	Cantilever Block
BD	Bay Data	CC	Cantilever Change
BE	Bay Edge	CD	Cantilever Data
BF	Bay Flat	CE	Cantilever Edge
BG	Bay Gap	CF	Cantilever Flat
BH	Bay Height	CG	Cantilever Gap
BI	Bay Inset	CH	Cantilever Height
BL	Bay Line	CI	Cantilever Inset
BR	Bay Radius	CL	Cantilever Line
BS	Bay Set	CR	Cantilever Radius
BT	Bay Trap	CS	Cantilever Set
BU	Building	CT	Cantilever Trap
BV	Bay Value	DW	Dwelling
BW	Brick Wall	EW	External Wall
CA	Canopy Area	FA	Fascia Area
CB	Cantilever Block	FB	Fascia Block
CC	Cantilever Change	FC	Fascia Change
CD	Cantilever Data	FD	Fascia Data
CE	Cantilever Edge	FE	Fascia Edge
CF	Cantilever Flat	FF	Fascia Flat
CG	Cantilever Gap	FG	Fascia Gap
CH	Cantilever Height	FH	Fascia Height
CI	Cantilever Inset	FI	Fascia Inset
CL	Cantilever Line	FL	Fascia Line
CR	Cantilever Radius	FR	Fascia Radius
CS	Cantilever Set	FS	Fascia Set
CT	Cantilever Trap	FT	Fascia Trap
DW	Dwelling	FV	Fascia Value



Rev:	Comments	By	Chkd	Date

SURVEYBASE
Surveying & BIM
www.surveybase.co.uk
Bath: 01225 314370 - London: 02039 066892

Langstone Technology Park,
Langstone Road, Havant, PO9 1SA

File Name:
Db4207-USP

Drawing Title :
Utilities Survey Of Langstone Technology Park
Sheet (7 of 8 A0)

Client:	Date
AWW	26/04/2019
	Scale
	A0 @ 1:200

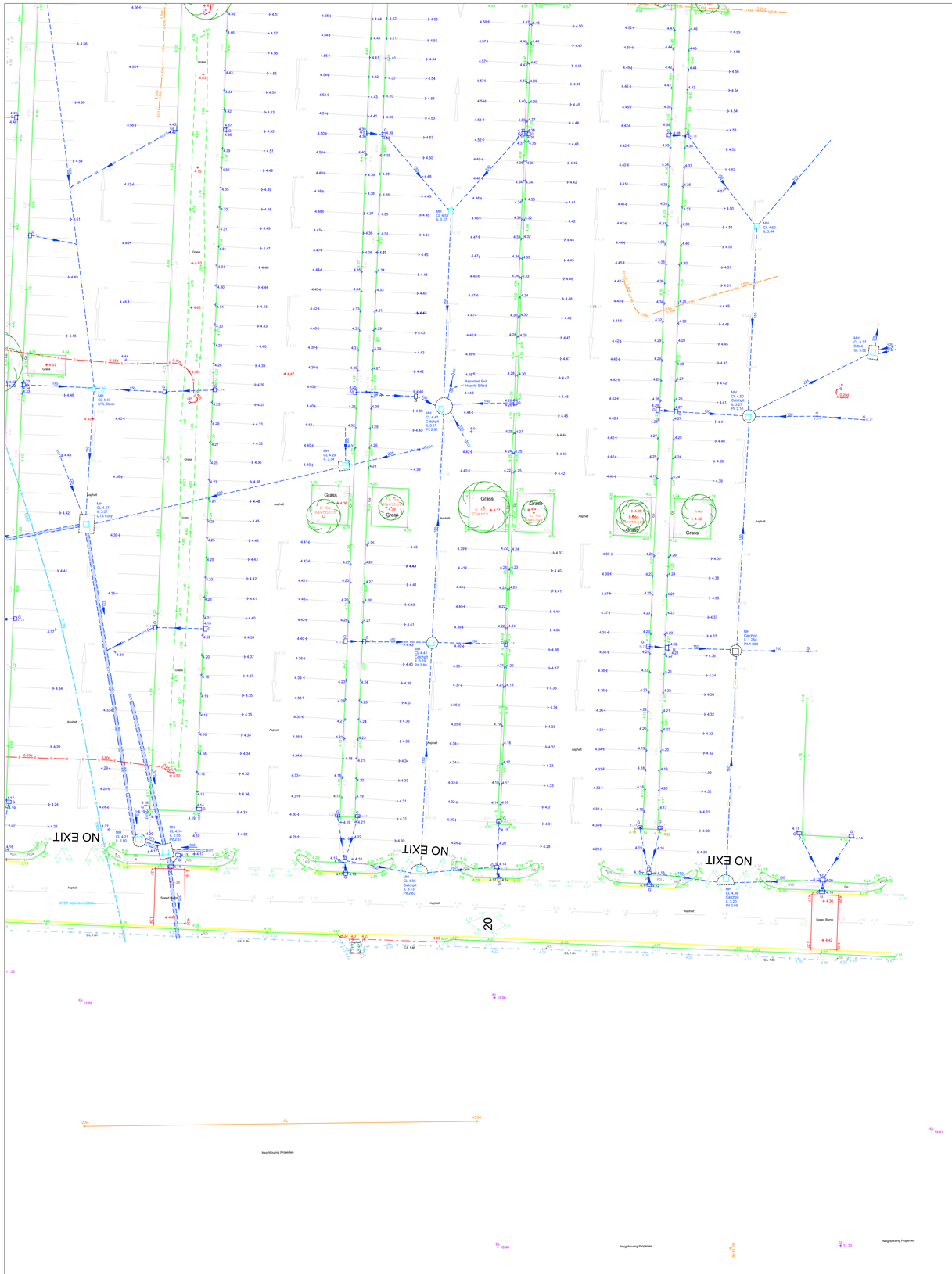
Drawn by:	Checked by:	Project Code:	Revision:
db - AS	db - RI	Db4207-USP	---

Grid Orientation:	Site Level Datum
North GPS	OS GPS

0 3m 6m 9m 12m 15m 18m 21m 24m 27m 30m

All dimensions are to be checked on site where applicable.This drawing must not be scaled, and only written dimensions should be respected.

Tree species and sizes on this drawing are not guaranteed, and if critical should be verified by an arboriculturist. Tree spreads are average about the tree, and heights are approximate at the time of the survey.



Gas	GAS
Water	W
Telephone	BT
Catv	CATV
CCTV	CCTV
Comms	COM
Fibre Optics	FO
Pipe	PIPE
Vents	V
Fuel	F
Offsets	O
Vapour Recovery	VR
Gauge Lines	G
Unidentified GPR	U.GPR
Unidentified EML	U.ERL
Taken From Records	E.TFR
Assumed Routes	GAS.AR
Empty Ducts	ED
Earth Rod	ER
Rising Main	RM
Overhead	OH
Heating Pipes	H
Traffic Signals	TS

Where chamber extents are significantly greater than the cover size, their approximate extents are shown thus;

ABBREVIATION KEY

AR	assumed route
BD	base bend
BD	backdrop
CP	cable pit
CL	cover level
DP	down pipe
DP	down pipe
EOT	end of trace
EP	electricity pole
FH	fire hydrant
GP	gas
GV	gate valve
HOR	head of run
HL	high level
IC	inspection chamber
IL	invert level
Jun	junction
PRV	pressure reducer
RE	rodding eye
RWP	rainwater pipe
SV	stop valve
SP	soil vent pipe
TP	trapped exit
TFR	taken from records
TP	telegraph pole
UTF	unable to find
UTL	unable to lift
UTS	unable to survey
UTT	unable to trace
VP	vent pipe
WM	water meter
WM	water meter
WO	wash out valve

UTILITY SURVEY NOTES

ELECTROMAGNETIC AND/OR GROUND PENETRATING RADAR TECHNIQUES HAVE BEEN USED TO LOCATE AND MAP UNDERGROUND UTILITIES AND FEATURES ON THIS DRAWING. ALL HAVE MADE EVERY ENDEAVOUR TO MAKE SURE THE INFORMATION SHOWN IS ACCURATE AND THE RESULTS FULLY REFLECT THE EVIDENCE AVAILABLE TO US. HOWEVER, THE RESULTS FROM THESE TYPES OF SURVEYS ARE NOT 100% RELIABLE AND SHOULD THE LOCATION AND DEPTH OF SERVICES/FEATURES BE OF PARTICULAR IMPORTANCE TO A PROJECT, THEN IT IS STRONGLY ADVISED THAT TRIAL EXCAVATIONS SHOULD BE UNDERTAKEN TO CONFIRM SURVEY RESULTS.

ALL HAVE USED ALL RECORD DRAWINGS THAT WERE AVAILABLE TO US BY THE CLIENT OR BY THE STATUTORY UTILITY PROVIDERS AT THE TIME OF THE SURVEY. ANY INFORMATION TAKEN FROM THESE DRAWINGS DE PIPE SIZES, DEPTHS, MATERIALS, ETC. IS ASSUMED TO BE ACCURATE AND WE ACCEPT NO RESPONSIBILITY FOR ANY INACCURACIES STEMMING FROM RECORDS (TFR). HISTORIC RECORD INFORMATION IS OFTEN INCOMPLETE/INACCURATE AND CANNOT BE RELIED UPON.

A SINGLE LINE INDICATING A UTILITY MAY INDICATE THE PRESENCE OF MULTIPLE SERVICES WITHIN CLOSE PROXIMITY TO EACH OTHER. WHERE A SINGLE LINE TYPE IS SHOWN WE RECOMMEND HAND DIGGING WITHIN 0.5m, TO EXPOSE HIDDEN SERVICES.

WHERE QUOTED, DEPTH INFORMATION OF UNDERGROUND SERVICES/FEATURES IS STATED, DEPTHS ARE GENERALLY WITHIN +/- 100 ACCURATE, BUT CANNOT BE GUARANTEED. ANY DEPTHS SHOWN ARE USUALLY TO THE TOP OF SERVICE/FEATURE. (EXCEPTIONS: SEWERS AND DRAINS ARE USUALLY TO INVERT (BASE OF DRAINAGE CHANNEL) UNLESS OTHERWISE STATED.)

AT ASS WE USE SKILLED STAFF AND MODERN CALIBRATED EQUIPMENT TO PERFORM OUR SURVEYS. HOWEVER, THE COMPLETENESS OF ANY UNDERGROUND SURVEY CANNOT BE 100% GUARANTEED AND WE CANNOT BE HELD RESPONSIBLE FOR ANY INACCURACIES BEYOND THOSE THAT COULD BE REASONABLY EXPECTED BY A COMPETENT COMPANY.

CONTRACTORS UTILISING OUR DRAWINGS FOR INTRUSIVE WORK SHOULD TAKE ALL REASONABLE MEASURES TO WORK SAFELY IN ACCORDANCE WITH HSG47 GUIDELINES "AVOIDING DANGER FROM UNDERGROUND SERVICES".

N

0 3m 6m 9m 12m 15m 18m 21m 24m 27m 30m

Notes :

Station	Easting	Northing	Level
A	471327.174	105618.327	5.139
B	471287.031	105621.157	5.047
C	471223.321	105623.643	4.507
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Stations A, B, C, D, DML, E, F, H, I, Z, RI4, RI5 and SED are marked with a PK Nail.
Stations G, RI1, RI2, SEA, SEB, SEC and SECHL are marked with a Wooden stake.

ON DETAIL SURVEY

AB	Air Bellows	CP	Concrete Post	BP	Bend Post
AC	Air Conditioner	CR	Cover	BS	Bend Stump
AD	Advanced Detection	CS	Cover Small	BT	Bollard Type Post
AG	Advanced Stop Line	CT	Cover Telecom	BU	Bus Stop Post
AP	Artificial Stone Pitch	CW	Cover Water	CA	Cattle Grid
AS	Air Valve	DA	Data Point	CB	Cycle Barrier
AV	Air Vent	DC	Drain Cover	CC	Cycle Counter
BA	Bin Area	DE	Drain Edge	CD	Cycle Detector
BB	Bus Bay	DG	Drain Grate	CF	Cycle Flow
BC	Bus Cage	DI	Drain Inlet	CH	Cycle Hoop
BE	Bollard Electric	DM	Dummy Manhole	CL	Cycle Locker
BH	Bollard Halogen	DP	Down Pipe	CP	Cycle Parking Place
BL	Bollard Light	DR	Drain	CR	Cycle Rack
BM	Benchmark	DS	Downstand	CS	Cycle Stand
BO	Bollard Other	DT	Dummy Tank	CT	Cycle Turnstile
BR	Bollard Reflector	DU	Dummy Utility	DB	Dedicated Bus Lane
BS	Bollard Solar	EB	Electric Box	DC	Dedicated Cycle Lane
BT	Bollard Type	EC	Electric Control	DL	Dedicated Lane
BU	Bollard Unknown	EG	Electric Generator	DT	Dedicated Taxi Lane
CA	Cabinet	EH	Electric Heater	EB	Electric Bollard
CB	Catch Basin	EL	Electric Light	EC	Electric Charging Point
CC	Control Cabinet	EM	Electric Meter	EP	Electric Post
CD	Cleaning Eyes	EP	Electric Pole	FB	Feeder Bus Lane
CE	Cover Electric	FH	Fire Hydrant	FL	Feeder Lane
CF	Cover Fire	FM	Flow Meter	GA	Gantry Arm
CG	Cover Gas	FP	Footpath	GB	Gantry Base
CH	Cover Hole	GA	Gas Valve	GC	Gantry Cabinet
CI	Cover Invert	GB	Gas Box	GD	Gantry Display
CJ	Cover Junction	GC	Gas Control	GE	Gantry Equipment
CL	Cover Level	GM	Gas Meter	GF	Gantry Foot
CM	Cover Manhole	GP	Gas Post	GH	Gantry Height
CO	Cover Other	GR	Gas Regulator	GL	Gantry Light
CP	Cover Post	GS	Gas Sign	GP	Gantry Post
CR	Cover Road	GT	Gas Tap	GR	Gantry Rail
CS	Cover Small	GV	Gas Valve	GS	Gantry Sign
CT	Cover Telecom	HA	Hatch Area	GT	Gantry Tank
CW	Cover Water	HB	Hedge Boundary	HA	Hatch Area
DA	Data Point	HC	Hedge Centre	HB	Hedge Boundary
DE	Drain Edge	HE	Hedge Edge	HC	Hedge Centre
DG	Drain Grate	HL	Hedge Line	HE	Hedge Edge
DI	Drain Inlet	HP	Hedge Post	HL	Hedge Line
DM	Dummy Manhole	HS	Hedge Stump	HP	Hedge Post
DP	Down Pipe	HT	Hedge Top	HS	Hedge Stump
DR	Drain	IC	Inspection Chamber	HT	Hedge Top
DS	Downstand	IL	Invert Level	IC	Inspection Chamber
DT	Dummy Tank	IP	Inspection Point	IL	Invert Level
DU	Dummy Utility	JB	Junction Box	IP	Inspection Point
EB	Electric Box	JC	Junction	JB	Junction Box
EC	Electric Control	JP	Junction Point	JC	Junction
EG	Electric Generator	KB	Kerb	JP	Junction Point
EH	Electric Heater	KC	Kerb Corner	KB	Kerb
EL	Electric Light	KD	Kerb Dropped	KC	Kerb Corner
EM	Electric Meter	KE	Kerb Edge	KD	Kerb Dropped
EP	Electric Pole	KF	Kerb Flat	KE	Kerb Edge
FH	Fire Hydrant	KG	Kerb Gap	KF	Kerb Flat
FM	Flow Meter	KH	Kerb Height	KG	Kerb Gap
FP	Footpath	KL	Kerb Line	KH	Kerb Height
GA	Gas Valve	KP	Kerb Point	KL	Kerb Line
GB	Gas Box	KR	Kerb Raised	KP	Kerb Point
GC	Gas Control	KS	Kerb Stone	KR	Kerb Raised
GM	Gas Meter	LA	Landscape Area	KS	Kerb Stone
GP	Gas Post	LB	Light Base	LA	Landscape Area
GR	Gas Regulator	LC	Light Column	LB	Light Base
GS	Gas Sign	LD	Light Down	LC	Light Column
GT	Gas Tap	LE	Light Edge	LD	Light Down
GV	Gas Valve	LF	Light Footing	LE	Light Edge
HA	Hatch Area	LG	Light Gantry	LF	Light Footing
HB	Hedge Boundary	LH	Light Height	LG	Light Gantry
HC	Hedge Centre	LL	Light Line	LH	Light Height
HE	Hedge Edge	LM	Light Mast	LL	Light Line
HL	Hedge Line	LP	Light Post	LM	Light Mast
HP	Hedge Post	LR	Light Raised	LP	Light Post
HS	Hedge Stump	LS	Light Stump	LR	Light Raised
HT	Hedge Top	LT	Light Top	LS	Light Stump
IC	Inspection Chamber	LU	Light Up	LT	Light Top
IL	Invert Level	LW	Light Wall	LU	Light Up
IP	Inspection Point	MB	Mast Base	LW	Light Wall
JB	Junction Box	MC	Mast Column	MB	Mast Base
JC	Junction	MD	Mast Down	MC	Mast Column
JP	Junction Point	ME	Mast Edge	MD	Mast Down
KB	Kerb	MF	Mast Footing	ME	Mast Edge
KC	Kerb Corner	MG	Mast Gantry	MF	Mast Footing
KD	Kerb Dropped	MH	Mast Height	MG	Mast Gantry
KE	Kerb Edge	ML	Mast Line	MH	Mast Height
KF	Kerb Flat	MP	Mast Post	ML	Mast Line
KG	Kerb Gap	MR	Mast Raised	MP	Mast Post
KH	Kerb Height	MS	Mast Stump	MR	Mast Raised
KL	Kerb Line	MT	Mast Top	MS	Mast Stump
KP	Kerb Point	MU	Mast Up	MT	Mast Top
KR	Kerb Raised	MW	Mast Wall	MU	Mast Up
KS	Kerb Stone	OT	Other	MW	Mast Wall
LA	Landscape Area	PA	Parking Area	OT	Other
LB	Light Base	PB	Post Box	PA	Parking Area
LC	Light Column	PC	Pump Control	PB	Post Box
LD	Light Down	PD	Pump Down	PC	Pump Control
LE	Light Edge	PE	Pump Equipment	PD	Pump Down
LF	Light Footing	PF	Pump Foot	PE	Pump Equipment
LG	Light Gantry	PG	Pump Gauge	PF	Pump Foot
LH	Light Height	PH	Pump Height	PG	Pump Gauge
LL	Light Line	PL	Pump Line	PH	Pump Height
LM	Light Mast	PM	Pump Meter	PL	Pump Line
LP	Light Post	PO	Pump Other	PM	Pump Meter
LR	Light Raised	PP	Pump Post	PO	Pump Other
LS	Light Stump	PR	Pump Raised	PP	Pump Post
LT	Light Top	PS	Pump Stump	PR	Pump Raised
LU	Light Up	PT	Pump Tank	PS	Pump Stump
LW	Light Wall	PU	Pump Unknown	PT	Pump Tank
MB	Mast Base	RA	Road Area	PU	Pump Unknown
MC	Mast Column	RB	Road Bollard	RA	Road Area
MD	Mast Down	RC	Road Cone	RB	Road Bollard
ME	Mast Edge	RD	Road Down	RC	Road Cone
MF	Mast Footing	RE	Road Edge	RD	Road Down
MG	Mast Gantry	RF	Road Footing	RE	Road Edge
MH	Mast Height	RG	Road Gantry	RF	Road Footing
ML	Mast Line	RH	Road Height	RG	Road Gantry
MP	Mast Post	RL	Road Line	RH	Road Height
MR	Mast Raised	RM	Road Marking	RL	Road Line
MS	Mast Stump	RP	Road Post	RM	Road Marking
MT	Mast Top	RR	Road Raised	RP	Road Post
MU	Mast Up	RS	Road Stump	RR	Road Raised
MW	Mast Wall	RT	Road Top	RS	Road Stump
OT	Other	RU	Road Up	RT	Road Top
PA	Parking Area	RW	Road Wall	RU	Road Up
PB	Post Box	SA	Service Area	RW	Road Wall
PC	Pump Control	SB	Service Box	SA	Service Area
PD	Pump Down	SC	Service Cover	SB	Service Box
PE	Pump Equipment	SD	Service Duct	SC	Service Cover
PF	Pump Foot	SE	Service Edge	SD	Service Duct
PG	Pump Gauge	SF	Service Footing	SE	Service Edge
PH	Pump Height	SG	Service Gantry	SF	Service Footing
PL	Pump Line	SH	Service Height	SG	Service Gantry
PM	Pump Meter	SL	Service Line	SH	Service Height
PO	Pump Other	SM	Service Meter	SL	Service Line
PP	Pump Post	SP	Service Post	SM	Service Meter
PR	Pump Raised	SR	Service Raised	SP	Service Post
PS	Pump Stump	SS	Service Stump	SR	Service Raised
PT	Pump Tank	ST	Service Top	SS	Service Stump
PU	Pump Unknown	SU	Service Up	ST	Service Top
RA	Road Area	SW	Service Wall	SU	Service Up
RB	Road Bollard	TA	Tank Area	SW	Service Wall
RC	Road Cone	TB	Tank Base	TA	Tank Area
RD	Road Down	TC	Tank Column	TB	Tank Base
RE	Road Edge	TD	Tank Down	TC	Tank Column
RF	Road Footing	TE	Tank Edge	TD	Tank Down
RG	Road Gantry	TF	Tank Footing	TE	Tank Edge
RH	Road Height	TG	Tank Gantry	TF	Tank Footing
RL	Road Line	TH	Tank Height	TG	Tank Gantry
RM	Road Marking	TL	Tank Line	TH	Tank Height
RP	Road Post	TM	Tank Meter	TL	Tank Line
RR	Road Raised	TP	Tank Post	TM	Tank Meter
RS	Road Stump	TR	Tank Raised	TP	Tank Post
RT	Road Top	TS	Tank Stump	TR	Tank Raised
RU	Road Up	TT	Tank Top	TS	Tank Stump
RW	Road Wall	TU	Tank Up	TT	Tank Top
SA	Service Area	TW	Tank Wall	TU	Tank Up
SB	Service Box	VA	Vent Area	TW	Tank Wall
SC	Service Cover	VB	Vent Base	VA	Vent Area
SD	Service Duct	VC	Vent Column	VB	Vent Base
SE	Service Edge	VD	Vent Down	VC	Vent Column
SF	Service Footing	VE	Vent Edge	VD	Vent Down
SG	Service Gantry	VF	Vent Footing	VE	Vent Edge
SH	Service Height	VG	Vent Gantry	VF	Vent Footing
SL	Service Line	VH	Vent Height	VG	Vent Gantry
SM	Service Meter	VL	Vent Line	VH	Vent Height
SP	Service Post	VM	Vent Meter	VL	Vent Line
SR	Service Raised	VP	Vent Post	VM	Vent Meter
SS	Service Stump	VR	Vent Raised	VP	Vent Post
ST	Service Top	VS	Vent Stump	VR	Vent Raised
SU	Service Up	VT	Vent Top	VS	Vent Stump
SW	Service Wall	VU	Vent Up	VT	Vent Top
TA	Tank Area	VW	Vent Wall	VU	Vent Up
TB	Tank Base	WA	Water Area	VW	Vent Wall
TC	Tank Column	WB	Water Base	WA	Water Area
TD	Tank Down	WC	Water Column	WB	Water Base
TE	Tank Edge	WD	Water Down	WC	Water Column
TF	Tank Footing	WE	Water Edge	WD	Water Down
TG	Tank Gantry	WF	Water Footing	WE	Water Edge
TH	Tank Height	WG	Water Gantry	WF	Water Footing
TL	Tank Line	WH	Water Height	WG	Water Gantry
TM	Tank Meter	WL	Water Line	WH	Water Height
TP	Tank Post	WM	Water Meter	WL	Water Line
TR	Tank Raised	WP	Water Post	WM	Water Meter
TS	Tank Stump	WR	Water Raised	WP	Water Post
TT	Tank Top	WS	Water Stump	WR	Water Raised
TU	Tank Up	WT	Water Tank	WS	Water Stump
TW	Tank Wall	WU	Water Unknown	WT	Water Tank
VA	Vent Area	WW	Water Wall	WU	Water Unknown
VB	Vent Base			WW	Water Wall
VC	Vent Column				
VD	Vent Down				
VE	Vent Edge				
VF	Vent Footing				
VG	Vent Gantry				
VH	Vent Height				
VL	Vent Line				
VM	Vent Meter				
VP	Vent Post				
VR	Vent Raised				
VS	Vent Stump				
VT	Vent Top				
VU	Vent Up				
VW	Vent Wall				

ON FENCES/RAILS/DIVIDERS

FA	Barbed Wire Fence	FW	Post and Rail Fence
FB	Brick Wall Fence	FX	Post and Wire Fence
FC	Concrete Fence	FY	Post Fence
FD	Corrugated Iron Fence	FZ	Steel Railings
FE	Electric Fence	GA	Gate Fence
FF	Feather Board Fence	GB	Gate Post
FG	Fence	GC	Gate Post Concrete
FH	Fence Hedge	GD	Gate Post Wood
FI	Fence Iron	GE	Gate Post Brick
FJ	Fence Post	GF	Gate Post Metal
FK	Fence Post Concrete	GG	Gate Post Stone
FL	Fence Post Wood	GH	Gate Post Railway Sleeper
FM	Fence Post Brick	GI	Gate Post Railway Sleeper
FN	Fence Post Metal	GJ	Gate Post Railway Sleeper
FO	Fence Post Stone	GK	Gate Post Railway Sleeper
FP	Fence Post Railway Sleeper	GL	Gate Post Railway Sleeper
FQ	Fence Post Railway Sleeper	GM	Gate Post Railway Sleeper
FR	Fence Post Railway Sleeper	GN	Gate Post Railway Sleeper
FS	Fence Post Railway Sleeper	GO	Gate Post Railway Sleeper
FT	Fence Post Railway Sleeper	GP	Gate Post Railway Sleeper
FU	Fence Post Railway Sleeper	GQ	Gate Post Railway Sleeper
FV	Fence Post Railway Sleeper	GR	Gate Post Railway Sleeper
FW	Fence Post Railway Sleeper	GS	Gate Post Railway Sleeper
FX	Fence Post Railway Sleeper	GT	Gate Post Railway Sleeper
FY	Fence Post Railway Sleeper	GU	Gate Post Railway Sleeper
FZ	Fence Post Railway Sleeper	GV	Gate Post Railway Sleeper
GA	Gate Post Railway Sleeper	GW	Gate Post Railway Sleeper
GB	Gate Post Railway Sleeper	GX	Gate Post Railway Sleeper
GC	Gate Post Railway Sleeper	GY	Gate Post Railway Sleeper
GD	Gate Post Railway Sleeper	GZ	Gate Post Railway Sleeper
GE	Gate Post Railway Sleeper	HA	Hedge Area
GF	Gate Post Railway Sleeper	HB	Hedge Boundary
GG	Gate Post Railway Sleeper	HC	Hedge Centre
GH	Gate Post Railway Sleeper	HE	Hedge Edge
GI	Gate Post Railway Sleeper	HL	Hedge Line
GJ	Gate Post Railway Sleeper	HP	Hedge Post
GK	Gate Post Railway Sleeper	HS	Hedge Stump
GL	Gate Post Railway Sleeper	HT	Hedge Top
GM	Gate Post Railway Sleeper		
GN	Gate Post Railway Sleeper		
GO	Gate Post Railway Sleeper		
GP	Gate Post Railway Sleeper		
GQ	Gate Post Railway Sleeper		
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GS	Gate Post Railway Sleeper		
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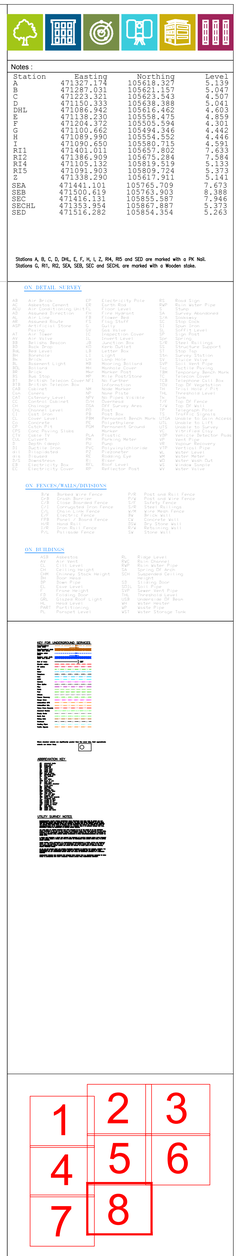
GU	Gate Post Railway Sleeper		
GV	Gate Post Railway Sleeper		
GW	Gate Post Railway Sleeper		
GX	Gate Post Railway Sleeper		
GY	Gate Post Railway Sleeper		
GZ	Gate Post Railway Sleeper		
HA	Hedge Area		
HB	Hedge Boundary		
HC	Hedge Centre		
HE	Hedge Edge		
HL	Hedge Line		
HP	Hedge Post		
HS	Hedge Stump		
HT	Hedge Top		

ON BUILDINGS

AP	Apartments		
BA	Bar Area		
BC	Bar Counter		
BF	Bar Front		
BG	Bar Gantry		
BH	Bar Height		
BL	Bar Line		
BP	Bar Post		
BR	Bar Raised		
BS	Bar Stump		
BT	Bar Top		
BU	Bar Up		
BW	Bar Wall		
CA	Canopy Area		
CB	Canopy Base		
CC	Canopy Column		
CD	Canopy Down		
CE	Canopy Edge		
CF	Canopy Footing		
CG	Canopy Gantry		
CH	Canopy Height		
CL	Canopy Line		
CP	Canopy Post		
CR	Canopy Raised		
CS	Canopy Stump		
CT	Canopy Top		
CU	Canopy Up		
CW	Canopy Wall		
DA	Dwelling Area		
DB	Dwelling Base		
DC	Dwelling Column		
DD	Dwelling Down		
DE	Dwelling Edge		
DF	Dwelling Footing		
DG	Dwelling Gantry		
DH	Dwelling Height		
DL	Dwelling Line		
DP	Dwelling Post		
DR	Dwelling Raised		
DS	Dwelling Stump		
DT	Dwelling Top		
DU	Dwelling Up		
DW	Dwelling Wall		
EA	Entrance Area		
EB	Entrance Base		
EC	Entrance Column		
ED	Entrance Down		
EE	Entrance Edge		
EF	Entrance Footing		
EG	Entrance Gantry		
EH	Entrance Height		
EL	Entrance Line		
EP	Entrance Post		
ER	Entrance Raised		
ES	Entrance Stump		
ET	Entrance Top		
EU	Entrance Up		
EW	Entrance Wall		
FA	Factory Area		
FB	Factory Base		
FC	Factory Column		
FD	Factory Down		
FE	Factory Edge		
FF	Factory Footing		
FG	Factory Gantry		
FH	Factory Height		
FL	Factory Line		
FP	Factory Post		
FR	Factory Raised		
FS	Factory Stump		
FT	Factory Top		
FU	Factory Up		
FW	Factory Wall		
GA	Garage Area		
GB	Garage Base		
GC	Garage Column		
GD	Garage Down		
GE	Garage Edge		
GF	Garage Footing		
GG	Garage Gantry		
GH	Garage Height		
GL	Garage Line		
GP	Garage Post		
GR	Garage Raised		
GS	Garage Stump		
GT	Garage Top		
GU	Garage Up		
GW	Garage Wall		
HA	Hotel Area		
HB	Hotel Base		
HC	Hotel Column		
HD	Hotel Down		
HE	Hotel Edge		
HF	Hotel Footing		
HG	Hotel Gantry		
HH	Hotel Height		
HL	Hotel Line		
HP	Hotel Post		
HR	Hotel Raised		
HS	Hotel Stump		
HT	Hotel Top		
HU	Hotel Up		
HW	Hotel Wall		
IA	Industrial Area		
IB	Industrial Base		
IC	Industrial Column		
ID	Industrial Down		
IE	Industrial Edge		
IF	Industrial Footing		
IG	Industrial Gantry		
IH	Industrial Height		
IL	Industrial Line		
IP	Industrial Post		
IR	Industrial Raised		
IS	Industrial Stump		
IT	Industrial Top		
IU	Industrial Up		
IW	Industrial Wall		
MA	Mill Area		
MB	Mill Base		
MC	Mill Column		
MD	Mill Down		
ME	Mill Edge		
MF	Mill Footing		
MG	Mill Gantry		
MH	Mill Height		
ML	Mill Line		
MP	Mill Post		
MR	Mill Raised		
MS	Mill Stump		
MT	Mill Top		
MU	Mill Up		
MW	Mill Wall		
OA	Office Area		
OB	Office Base		
OC	Office Column		
OD	Office Down		
OE	Office Edge		
OF	Office Footing		
OG	Office Gantry		
OH	Office Height		
OL	Office Line		
OP	Office Post		
OR	Office Raised		
OS	Office Stump		
OT	Office Top		
OU	Office Up		
OW	Office Wall		
PA	Public Area		
PB	Public Base		
PC	Public Column		
PD	Public Down		
PE	Public Edge		
PF	Public Footing		
PG	Public Gantry		
PH	Public Height		
PL	Public Line		
PP	Public Post		
PR	Public Raised		
PS	Public Stump		
PT	Public Top		
PU	Public Up		
PW	Public Wall		
RA	Residential Area		
RB	Residential Base		
RC	Residential Column		
RD	Residential Down		
RE	Residential Edge		
RF	Residential Footing		
RG	Residential Gantry		
RH	Residential Height		
RL	Residential Line		
RP	Residential Post		
RR	Residential Raised		
RS	Residential Stump		
RT	Residential Top		
RU	Residential Up		
RW	Residential Wall		
SA	Shop Area		
SB	Shop Base		
SC	Shop Column		
SD	Shop Down		
SE	Shop Edge		
SF	Shop Footing		
SG	Shop Gantry		
SH	Shop Height		
SL	Shop Line		
SP	Shop Post		
SR	Shop Raised		
SS	Shop Stump		
ST	Shop Top		
SU	Shop Up		
SW	Shop Wall		
TA	Tower Area		
TB	Tower Base		
TC	Tower Column		
TD	Tower Down		
TE	Tower Edge		
TF	Tower Footing		
TG	Tower Gantry		
TH	Tower Height		
TL	Tower Line		
TP	Tower Post		
TR	Tower Raised		
TS	Tower Stump		
TT	Tower Top		
TU	Tower Up		
TW	Tower Wall		



Rev:	Comments	By	Chkd	Date
-	-			-

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Langstone Technology Park,
Langstone Road, Havant, PO9 1SA

File Name:
Db4207-USP

Drawing Title :
Utilities Survey Of Langstone Technology Park
Sheet (8 of 8 A0)

Client:
AWW

Date
26/04/2019

Scale
A0 @ 1:200

Drawn by:	Checked by:	Project Code:	Revision:
db - AS	db - RI	Db4207-USP	---

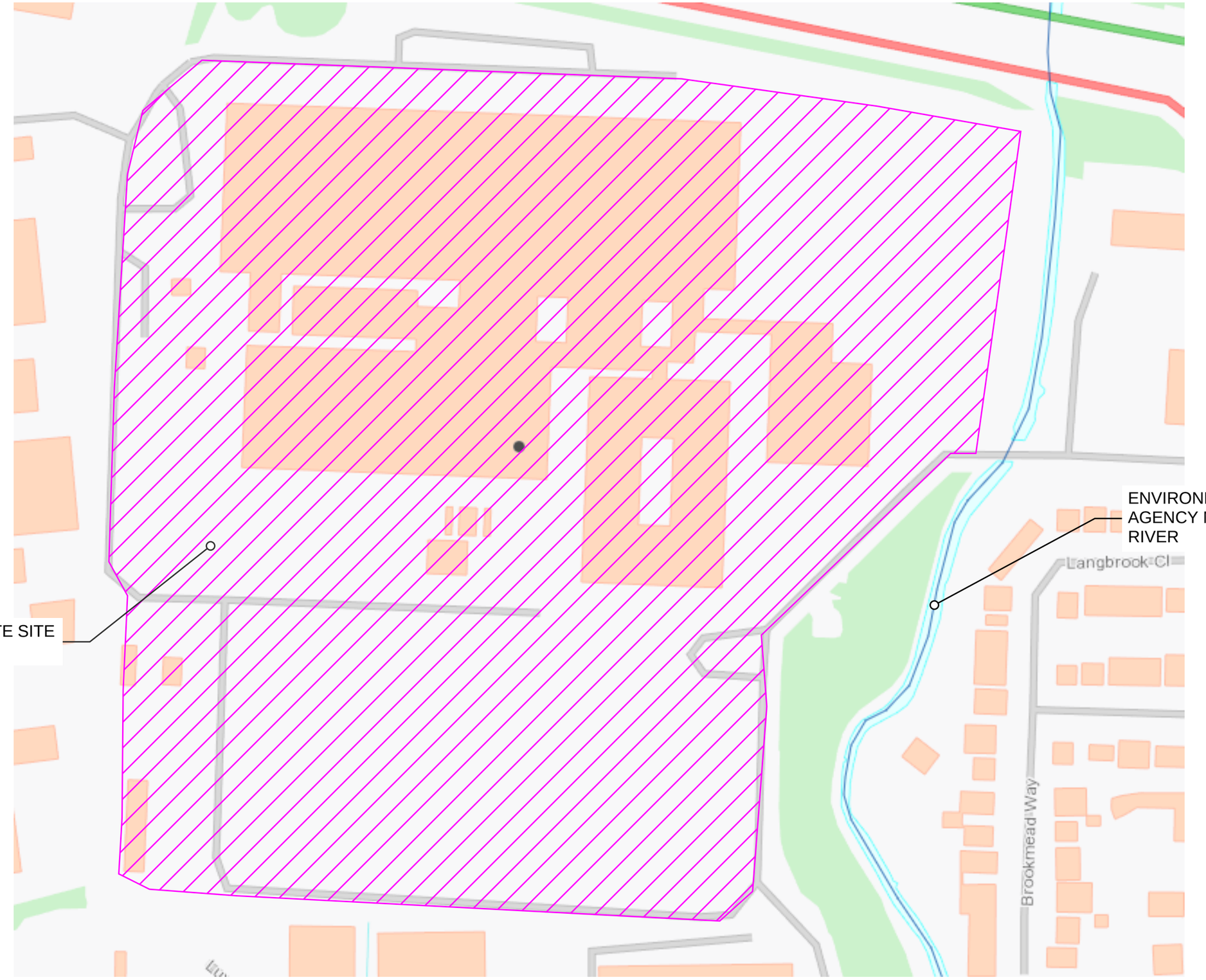
Grid Orientation:	Site Level Datum
North GPS	OS GPS

All dimensions are to be checked on site where applicable.This drawing must not be scaled, and only written dimensions should be respected.

Tree species and sizes on this drawing are not guaranteed, and if critical should be verified by an arboriculturist. Tree spreads are average about the bole, and heights are approximate at the time of the survey.

APPENDIX C

Existing Drainage



SOURCE: ENVIRONMENT AGENCY MAIN RIVER MAP

clancy consulting
Over 40 years in business

JOB NUMBER : 8/1982

DRAWING NUMBER : SK003

TITLE : EA MAIN RIVER LOCATION

DRAWN BY : CH

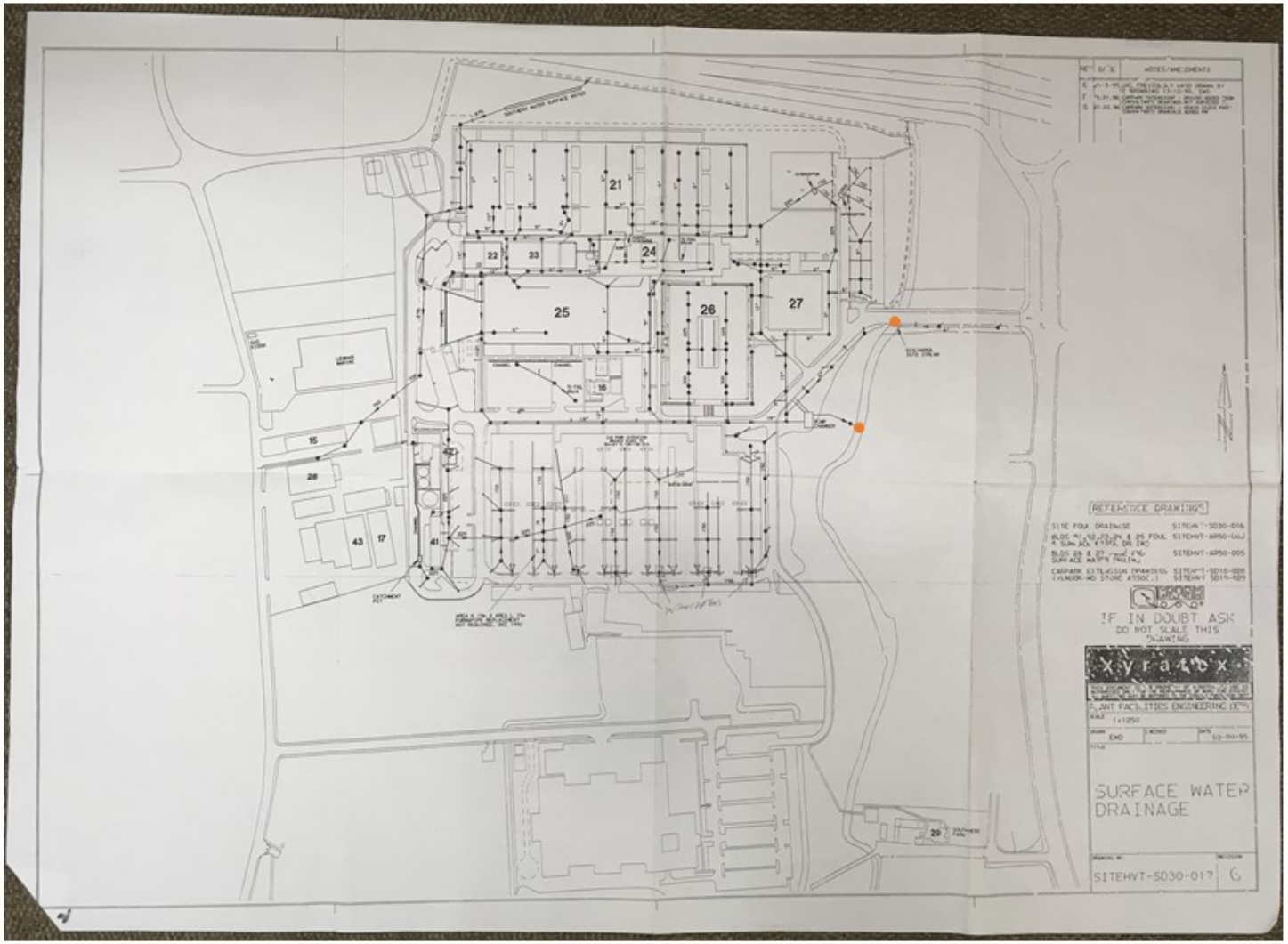
DATE : JUNE 2019

REVISION P01

Flow control currently on site in north car park.

The following photos were taken after the CCTV survey was undertaken to identify the previously unknown flow control devices. The restriction on the flow is currently unknown and will be required to be established in detailed design for full hydraulic modelling.

BS EN124 D400



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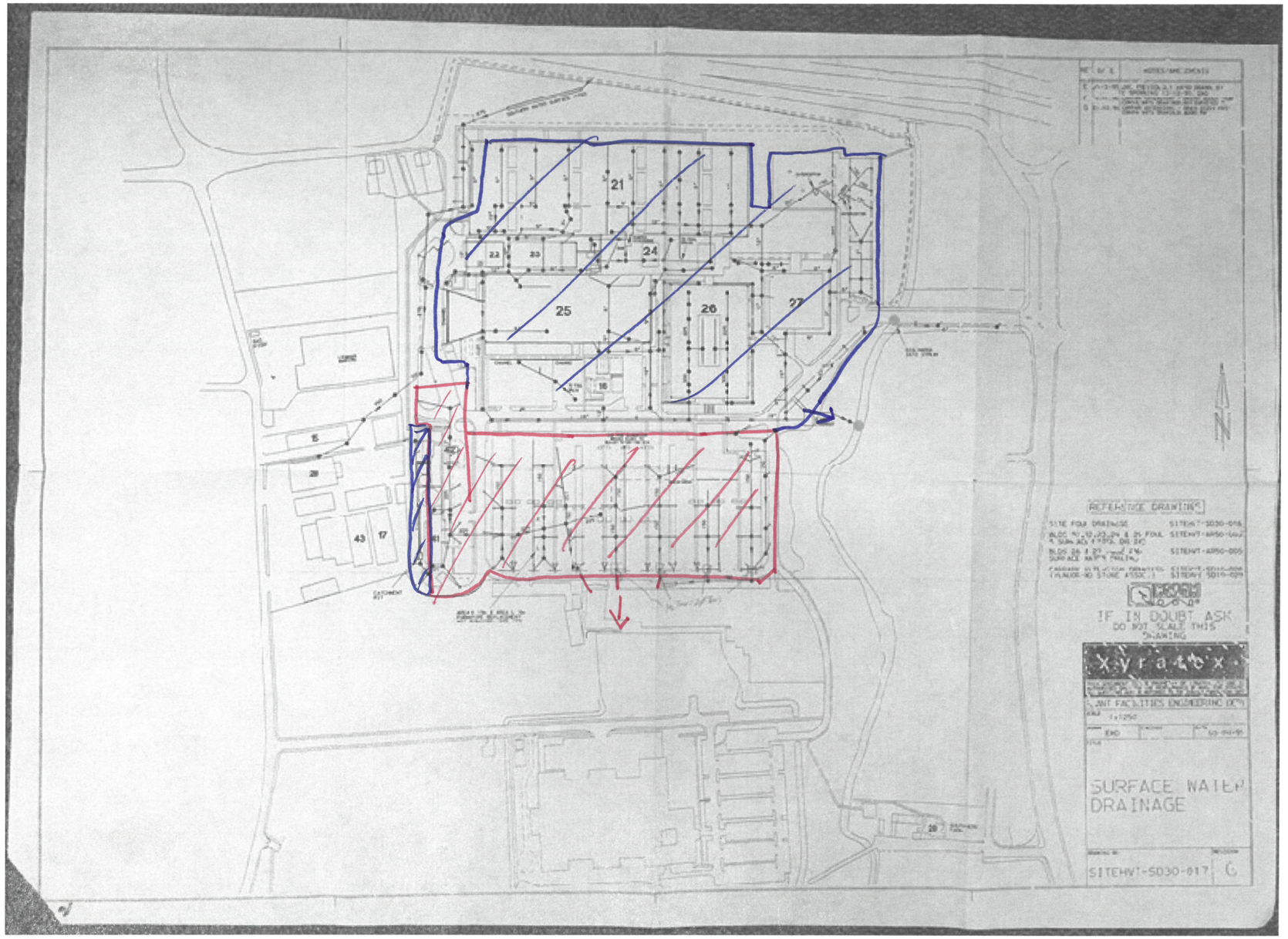
29
REFERENCE DRAWINGS
SITE FOUL DRAINAGE
IF IN DOUBT ASK
DO NOT SCALE THIS DRAWING
xyratex
PLANT FACILITIES ENGINEERING DEPT
SCALE 1:1250
DRAWN EMD
DATE 03-04-95
SURFACE WATER DRAINAGE
SITEHVT-SD30-017
G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REFERENCE DRAWINGS
IF IN DOUBT ASK
DO NOT SCALE THIS
DRAWING
SURFACE WATER
DRAINAGE
SITEHWT-S030-017
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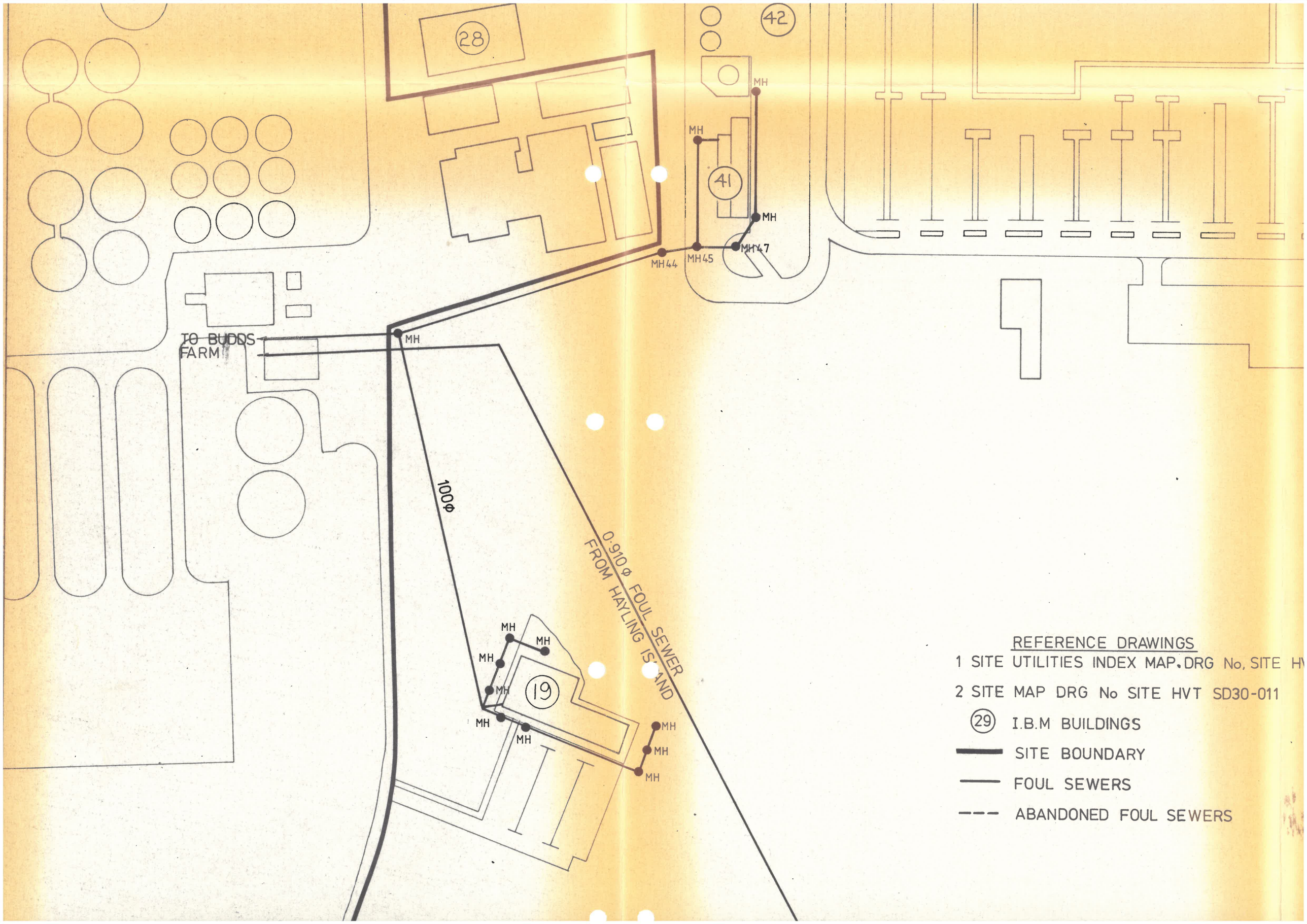
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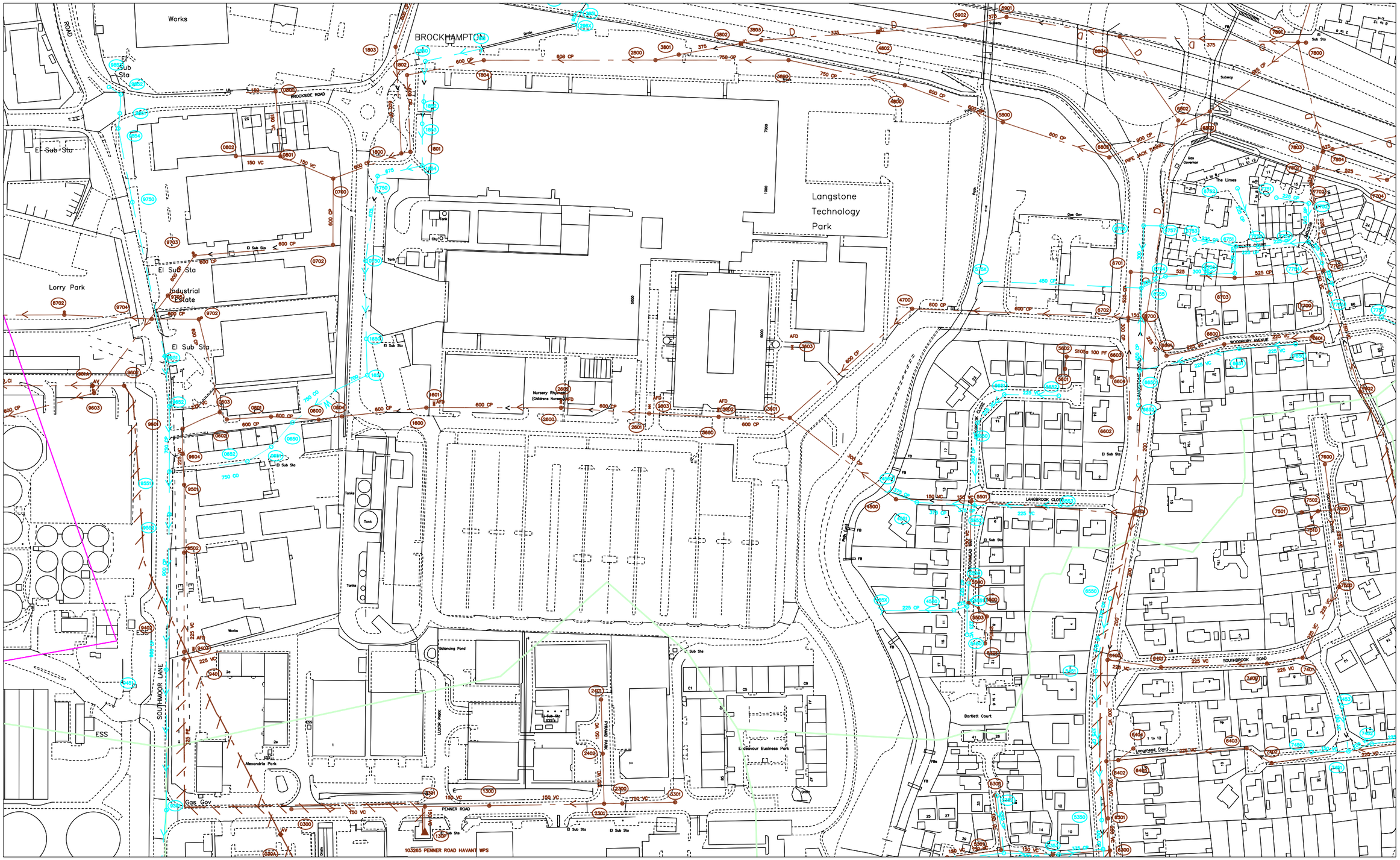
MH
MH44
MH45
MH47
TO BUDDS FARM
100Φ
0.910Φ FOUL SEWER FROM HAYLING ISLAND
REFERENCE DRAWINGS
1 SITE UTILITIES INDEX MAP. DRG No, SITE HV
2 SITE MAP DRG No SITE HVT SD30-011
29 I.B.M BUILDINGS
SITE BOUNDARY
FOUL SEWERS
ABANDONED FOUL SEWERS

SEWER RECORDS PAGE 1 OF 2

105916



105338

470855

471797

O.S. REF. SU7105NW	Drawn by: ghoshri	The positions of pipes shown on this plan are believed to be correct, but Southern Water Services Ltd accept no responsibility in the event of inaccuracy. The actual positions should be determnined on site. WARNING: BAC pipes are constructed of Bonded Asbestos Cement WARNING: Unknown (UNK) materials may Include Bonded Asbestos Cement
	Scale: 1:2500	
Title: Langstone Technology Park 2B	Date: 12/10/2015	Based upon Ordnance Survey Digital Data with the permission of the controller of H.M.S.O. Crown Copyright Reserved Licence No. WU 298530.

N

Southern Water

SEWER RECORDS PAGE 2 OF 2

Node	Cover	Invert	Size	Material	Shape	
0300X	4.118	1.693	150	VC	CIRC	
030AX			900	UNK	CIRC	
0600X	4.04	1.19	600	CP	CIRC	
0601X	3.95		600	CP	CIRC	
0602X	3.9	0.94	600	CP	CIRC	
0603X	3.89		600	CP	CIRC	
0604X			UNK	UNK	CIRC	
0650X			750	CO	CIRC	
0651X			750	CO	CIRC	
0652X			750	CO	CIRC	
065ZX		4.346	750	CO	CIRC	
0700X	4.64		600	CP	CIRC	
0702X	4.41	1.26	600	CP	CIRC	
0750X	5.1	3.7	UNK	UNK	CIRC	
0800X	4.51		150	VC	CIRC	
0801X	4.8		150	VC	CIRC	
0802X	4.75	3.44	150	VC	CIRC	
1300X	4.232	0.803	150	VC	CIRC	
1301X	4.244	0.309	150	VC	CIRC	
130PX			125	PE	CIRC	
1600X	5.09	1.14	600	CP	CIRC	
1650X	5.416	3.516	UNK	UNK	CIRC	
1651X	5.426		700	UNK	CIRC	
1750X			675	UNK	CIRC	
1800X	5.54	1.61	600	CP	CIRC	
1801X	5.35	1.45	600	CP	CIRC	
1802X	5.3	1.7	600	CP	CIRC	
1803X	4.96	2.1	600	CP	CIRC	
1804X	5.39	1.79	600	CP	CIRC	
1850X			UNK	UNK	CIRC	
1852X	5.528	3.958	UNK	UNK	CIRC	
1853X	5.415	3.975	UNK	UNK	CIRC	
1854X	6.59	3.905	675	UNK	CIRC	
185IX	−1		UNK	UNK	CIRC	
2300X	4.149	1.549	150	VC	CIRC	
2301X	4.165	1.456	150	VC	CIRC	
2401X	4.057	1.981	150	VC	CIRC	
2402X	3.976	1.7	150	VC	CIRC	
2600X	4.72	1.48	600	CP	CIRC	
2601X	5.64		600	CP	CIRC	
2800X	5.69		600	CP	CIRC	
295IX	−1		600	UNK	CIRC	
3301X	4.2	1.816	150	VC	CIRC	
3600X	4.701	1.711	UNK	UNK	CIRC	
3601X	6.13		600	CP	CIRC	
3800X	6.1	2.7	750	CP	CIRC	
3801Y	5.383		UNK	UNK	CIRC	*
3801X	5.383	1.939	375	UNK	CIRC	*
3803X	5.913	2.161	375	UNK	CIRC	
4500X	4.6	2.43	300	CP	CIRC	
4550X	4.78	4.03	225	CP	CIRC	
4551X	4.95	4.34	375	CP	CIRC	
4700X	5.18	2.18	600	CP	CIRC	
4800X	5.84		750	CP	CIRC	
5300X	5.15	4.61	150	VC	CIRC	
5301X	5.42		150	VC	CIRC	
5350X	5.58	3.78	450	CP	CIRC	
5351X	5.43		450	CP	CIRC	
5352X	5.19	4.34	225	CP	CIRC	
5353X	5.56	3.67	375	CP	CIRC	
5354X	5.42		300	CP	CIRC	
5401X			UNK	UNK	CIRC	
5450X	4.86	4.29	225	VC	CIRC	
5451X	6.33	4.27	375	CP	CIRC	
5500X	4.6	3.71	150	VC	CIRC	

Node	Cover	Invert	Size	Material	Shape	
5501X	5.05	3.41	150	VC	CIRC	
5503X			UNK	UNK	CIRC	
550DX			UNK	UNK	CIRC	
5550X	5.03	4.26	225	CP	CIRC	
5551X	4.91		225	VC	CIRC	
5552X	5.15	4.37	375	CP	CIRC	
5553X	6.12	5.23	225	VC	CIRC	
5601X			100	PF	CIRC	
5602X			100	PF	CIRC	
5650X	5.37	4.62	300	CP	CIRC	
5651X	5.77	4.98	225	VC	CIRC	
5652X	6.57	5.71	225	VC	CIRC	
5800X	5.02	2.52	600	CP	CIRC	
5901X	7.48	3.228	375	UNK	CIRC	
5902X	7.583	3.124	375	UNK	CIRC	
6300X	5.37		200	VC	CIRC	
6301X	5.52	3.78	200	VC	CIRC	
6400X	6.05		200	VC	CIRC	
6401X	6.12	4.73	225	VC	CIRC	
6402X	5.62		200	VC	CIRC	
6403X	5.76	4.37	225	VC	CIRC	
6404X			UNK	UNK	CIRC	
6405X			225	VC	CIRC	
6501X	6.486	5.557	200	UNK	CIRC	*
6501Y	6.486	5.078	200	UNK	CIRC	*
6501Y	6.486		UNK	UNK	CIRC	*
6550X	6.3	4.5	375	CP	CIRC	
6600X	7.02	5.59	225	VC	CIRC	
6601X	6.94	5.29	225	VC	CIRC	
6602X			300	CP	CIRC	
6603X			100	PF	CIRC	
6650X	7.02		450	CP	CIRC	
6651X	7.11	6.4	225	VC	CIRC	
6652X	6.842	5.322	UNK	UNK	CIRC	
6700Y	7.12	4.52	UNK	UNK	CIRC	*
6700X	7.12		150	CP	CIRC	*
6701X	7.23	3.28	525	CP	CIRC	
6702X	7.07		600	CP	CIRC	
6703X	7.84	3.58	525	UNK	CIRC	
6750X	7.88	5.5	300	CP	CIRC	
6751X	7.97		300	CP	CIRC	
6752X	8.31	6.71	225	CP	CIRC	
6753X	7.98	6.05	225	CP	CIRC	
6754X	7.92	5.31	300	CP	CIRC	
6755X	7.429		450	CP	CIRC	
6756X	7.64	6.795	300	UNK	CIRC	
6757X	7.354	6.869	UNK	UNK	CIRC	
6800X	8.23	3.18	900	CP	CIRC	
6804X	9.101	3.514	UNK	UNK	CIRC	
6805X	6.53	2.58	600	CP	CIRC	
7400X	6.01	5.01	225	VC	CIRC	
7401X	5.92	5.12	225	VC	CIRC	
7402X	5.694	4.499	UNK	UNK	CIRC	
7450X	5.48	4.56	150	VC	CIRC	
7451X	5.26		225	VC	CIRC	
7452X	5.45	4.18	225	VC	CIRC	
7453X	5.17	4.42	150	VC	CIRC	
7500X	6.16	5.2	225	VC	CIRC	
7501X			UNK	UNK	CIRC	
7502X			UNK	UNK	CIRC	
750DX			225	VC	CIRC	
751DX			UNK	UNK	CIRC	
7600X	6.72	5.71	225	VC	CIRC	
7601X	7.15	5.9	225	VC	CIRC	
7602X	7.01	5.11	150	VC	CIRC	

Node	Cover	Invert	Size	Material	Shape	
7650X	7.23	6.55	225	VC	CIRC	
7700X	7.09	3.94	150	VC	CIRC	
7701X	7.34		525	CP	CIRC	
7702X	7.92	4.02	525	CP	CIRC	
7704Y	8.767		525	UNK	CIRC	
7750X	7.8		225	CP	CIRC	
7751X	8.01	6.44	225	CP	CIRC	
7752X	7.87	6.27	225	CP	CIRC	
7753X	7.6		225	CP	CIRC	
7754X	7.47	6.2	225	CP	CIRC	
7755X	7.36	6.38	225	CP	CIRC	
7756X	6.852	5.972	UNK	UNK	CIRC	
7800X	8.2	3.7	525	CP	CIRC	
7801Y	8.12		525	CP	CIRC	*
7801Y	8.12		375	UNK	CIRC	*
7801X	8.12	3.47	UNK	UNK	CIRC	*
7802X	8.53		525	CP	CIRC	
7803X	8.274		UNK	UNK	CIRC	
7804X	8.172	4.107	525	UNK	CIRC	
8702X	4.51	0.36	600	CP	CIRC	
9351X	3.04	1.54	900	CP	CIRC	
9401X	3.14	1.96	225	VC	CIRC	
9402X	3.04	1.94	225	VC	CIRC	
9451X	2.84	1.69	900	CP	CIRC	
9501X	3.4	1.61	225	VC	CIRC	
9502X	3.39	1.88	225	VC	CIRC	
9551X	3.59	1.98	750	CP	CIRC	
9552X	3.33	1.76	900	CP	CIRC	
9601X	3.81		225	VC	CIRC	
9602X			UNK	UNK	CIRC	
9603X	4.42	0.64	600	CP	CIRC	
9604X	3.49	1.54	225	VC	CIRC	
961AX	3.99	1.56	900	CI	CIRC	
9651X	3.95	2.26	750	CP	CIRC	
9652X	3.76	2.11	750	CP	CIRC	
9702X	4.14	0.57	600	CP	CIRC	
9703X	4.73	0.85	600	CP	CIRC	
9704X	3.96	0.52	600	CP	CIRC	
9705X	4.54	0.87	600	CP	CIRC	
9750X	4.59		750	CP	CIRC	
9851X			600	CP	CIRC	
9852X			600	CP	CIRC	
9853X			675	CP	CIRC	
9854X			750	CP	CIRC	

Node	Cover	Invert	Size	Material	Shape

LINE STYLES / COLOURS

Brown: Foul; Foul Syphon Sewer; Foul Vacuum Main; Foul Rising Main
Red: Combined; Combined Syphon Sewer; Combined Rising Main; Lateral Drain
Orange: Building Over Agreement Area
Dark Blue: Treated Effluent
Purple: Sludge; Sewer Catchment; Section 104 Area
Light Blue: Surface Water; Surface Water Rising Main
Yellow: Private
Green: Access Shaft; Decommissioned

MATERIALS

AK Alkathene
BAC Bonded Asbestos Cement
BRC Brick (Common)
BRE Brick (Engineering)
CC Concrete Box Culvert
CI Cast Iron
CO Concrete (In-Situ)
CP Concrete (Pre-Cast)
CSB Concrete Segments (bolted)
CSU Concrete Segments (unbolted)
DI Ductile Iron
GRC Glass Reinforced Concrete
GRP Glass Reinforced Plastic
MAC Masonry in regular Courses
MAR Masonry in random Courses
PE Polyethylene
PF Pitch Fibre
PP Polypropylene
PVC Polyvinyl Chloride
RPM Reinforced Plastic Matrix
SI Spun Iron
ST Steel
VC Vitrified Clay
XXX Other
ZZZ Unknown

Manhole (SW)
Manhole (F&C)
Lamp hole (SW)
Lamp hole (F&C)
Pumping Station (SW)
Pumping Station (F&C)
Side entry manhole (SW)
Side entry Manhole (F&C)
Blind shaft (SW)
Blind shaft (F&C)
Ejector station (SW)
Ejector station (F&C)
Watertight door (SW)
Watertight door (F&C)
Flushing ch. Mn=e (SW)
Flushing ch. Mn=e (F&C)
Flushing ch. No=e (SW)
Flushing ch. No=e (F&C)
Demarcation Chamber

LEGEND - SEWERS

Washout (SW)
Washout (F&C)
Rodding Eye (SW)
Rodding Eye (F&C)
Gauging point (SW)
Gauging point (F&C)
Intercept chamber (SW)
Intercept chamber (F&C)
Storm Tank (SW)
Storm Tank (F&C)
Vortex chamber (SW)
Vortex chamber (F&C)
Label ellipse
Dummy/S24 manhole
Outfall
Penstock chamber
Damboards
Storm Overflow
Backdrop manhole

Other (s)
Other
Change in sewer (s)
Change in sewer
Reflux valve
Flap valve
Cascade
Anode
Valve
Closed Valve
Air Valve
Hatch box (SW)
Hatch box (F&C)
Direction arrow
Emptying valve
Catchpit
Soakaway
Inlet
Balancing Pond

Wastewater treatment works
Marine treatment works
Outfall headworks
Vent
Vent column
Tidal storage tank
Blank end
Head of Public Sewer
Micro Pumping Station

SHAPES (S)

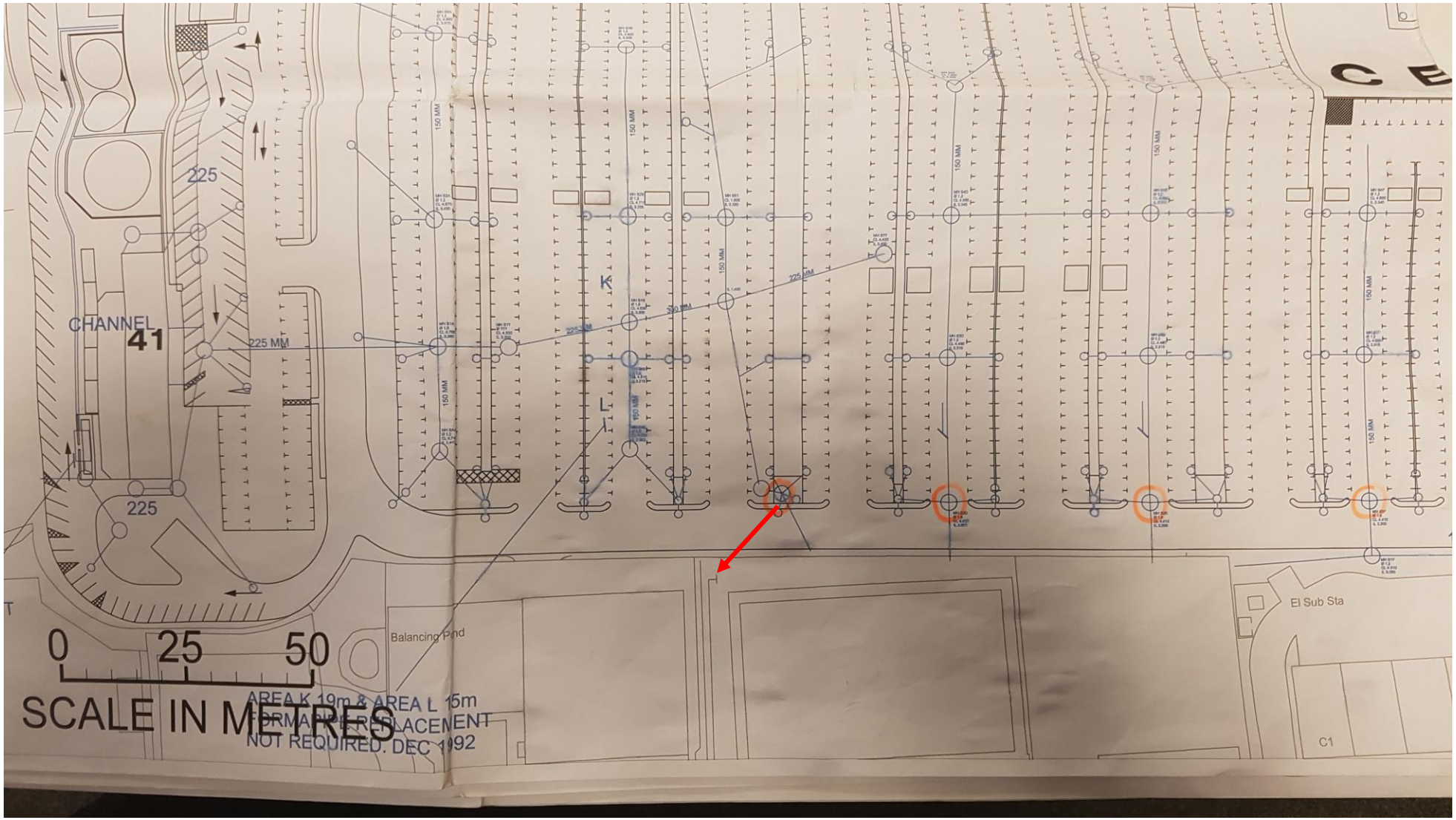
A Arched
B Barrel
C Circular
E Egg
H Horseshoe
R Rectangular
S Square
T Trapezoidal
U U Shape
X Other

NODE REFERENCING SYSTEM

1st digit: hundred metre easting identifier
2nd digit: hundred metre northing identifier
3rd digit: sewer type identifier
0-4 = Foul/Combined
5-9 = Surface Water
4th digit: next sequential node

Drawn by:	ghoshri
Title:	Langstone Technology Park 2B
Date:	12/10/2015

Southern Water


CHANNEL
41
225
225
225 MM
150 MM
K
L
Balancing Pond
El Sub Sta
C1
0 25 50
SCALE IN METRES
AREA K 19m & AREA L 15m
FORMAL PIPE REPLACEMENT
NOT REQUIRED. DEC 1992

APPENDIX D

Drainage Calculations

DESIGN RAINFALL

In accordance with the Wallingford Procedure

Tedds calculation version 2.0.01

Design rainfall intensity

Location of catchment area	Bournemouth
Storm duration	D = **15** min
Return period	Period = **1** yr
Ratio 60 min to 2 day rainfall of 5 yr return period	r = **0.350**
5-year return period rainfall of 60 minutes duration	M5_60min = **19.0** mm
Increase of rainfall intensity due to global warming	$p_{climate}$ = **0** %
Factor Z1 (Wallingford procedure)	Z1 = **0.62**
Rainfall for 15min storm with 5 year return period	$M5\_15min_i = Z1 \times M5\_60min$ = **11.7** mm
Factor Z2 (Wallingford procedure)	Z2 = **0.61**
Rainfall for 15min storm with 1 year return period	$M1\_15min = Z2 \times M5\_15min_i$ = **7.2** mm
Design rainfall intensity	I_{max} = M1_15min / D = **28.7** mm/hr

Maximum surface water runoff

Catchment area	A_{catch} = **2044** m^2
Percentage of area that is impermeable	p = **46** %
Maximum surface water runoff	$Q_{max} = A_{catch} \times p \times I_{max}$ = **7.5** l/s

DESIGN RAINFALL

In accordance with the Wallingford Procedure

Tedds calculation version 2.0.01

Design rainfall intensity

Location of catchment area	Bournemouth
Storm duration	D = **15** min
Return period	Period = **30** yr
Ratio 60 min to 2 day rainfall of 5 yr return period	r = **0.350**
5-year return period rainfall of 60 minutes duration	M5_60min = **19.0** mm
Increase of rainfall intensity due to global warming	$p_{climate}$ = **0** %
Factor Z1 (Wallingford procedure)	Z1 = **0.62**
Rainfall for 15min storm with 5 year return period	$M5\_15min_i = Z1 \times M5\_60min$ = **11.7** mm
Factor Z2 (Wallingford procedure)	Z2 = **1.50**
Rainfall for 15min storm with 30 year return period	$M30\_15min = Z2 \times M5\_15min_i$ = **17.6** mm
Design rainfall intensity	I_{max} = M30_15min / D = **70.4** mm/hr

Maximum surface water runoff

Catchment area	A_{catch} = **2044** m^2
Percentage of area that is impermeable	p = **46** %
Maximum surface water runoff	$Q_{max} = A_{catch} \times p \times I_{max}$ = **18.4** l/s

DESIGN RAINFALL

In accordance with the Wallingford Procedure

Tedds calculation version 2.0.01

Design rainfall intensity

Location of catchment area	Bournemouth
Storm duration	D = **15** min
Return period	Period = **100** yr
Ratio 60 min to 2 day rainfall of 5 yr return period	r = **0.350**
5-year return period rainfall of 60 minutes duration	M5_60min = **19.0** mm
Increase of rainfall intensity due to global warming	$p_{climate}$ = **0** %
Factor Z1 (Wallingford procedure)	Z1 = **0.62**
Rainfall for 15min storm with 5 year return period	$M5\_15min_i = Z1 \times M5\_60min$ = **11.7** mm
Factor Z2 (Wallingford procedure)	Z2 = **1.94**
Rainfall for 15min storm with 100 year return period	$M100\_15min = Z2 \times M5\_15min_i$ = **22.7** mm
Design rainfall intensity	I_{max} = M100_15min / D = **90.8** mm/hr

Maximum surface water runoff

Catchment area	A_{catch} = **2044** m^2
Percentage of area that is impermeable	p = **46** %
Maximum surface water runoff	$Q_{max} = A_{catch} \times p \times I_{max}$ = **23.7** l/s

DESIGN RAINFALL

In accordance with the Wallingford Procedure

Tedds calculation version 2.0.01

Design rainfall intensity

Location of catchment area	Bournemouth
Storm duration	D = **15** min
Return period	Period = **1** yr
Ratio 60 min to 2 day rainfall of 5 yr return period	r = **0.350**
5-year return period rainfall of 60 minutes duration	M5_60min = **19.0** mm
Increase of rainfall intensity due to global warming	$p_{climate}$ = **0** %
Factor Z1 (Wallingford procedure)	Z1 = **0.62**
Rainfall for 15min storm with 5 year return period	$M5\_15min_i = Z1 \times M5\_60min$ = **11.7** mm
Factor Z2 (Wallingford procedure)	Z2 = **0.61**
Rainfall for 15min storm with 1 year return period	$M1\_15min = Z2 \times M5\_15min_i$ = **7.2** mm
Design rainfall intensity	I_{max} = M1_15min / D = **28.7** mm/hr

Maximum surface water runoff

Catchment area	A_{catch} = **25439** m^2
Percentage of area that is impermeable	p = **100** %
Maximum surface water runoff	$Q_{max} = A_{catch} \times p \times I_{max}$ = **203.2** l/s

DESIGN RAINFALL

In accordance with the Wallingford Procedure

Tedds calculation version 2.0.01

Design rainfall intensity

Location of catchment area	Bournemouth
Storm duration	D = **15** min
Return period	Period = **30** yr
Ratio 60 min to 2 day rainfall of 5 yr return period	r = **0.350**
5-year return period rainfall of 60 minutes duration	M5_60min = **19.0** mm
Increase of rainfall intensity due to global warming	$p_{climate}$ = **0** %
Factor Z1 (Wallingford procedure)	Z1 = **0.62**
Rainfall for 15min storm with 5 year return period	$M5\_15min_i = Z1 \times M5\_60min$ = **11.7** mm
Factor Z2 (Wallingford procedure)	Z2 = **1.50**
Rainfall for 15min storm with 30 year return period	$M30\_15min = Z2 \times M5\_15min_i$ = **17.6** mm
Design rainfall intensity	I_{max} = M30_15min / D = **70.4** mm/hr

Maximum surface water runoff

Catchment area	A_{catch} = **25439** m^2
Percentage of area that is impermeable	p = **100** %
Maximum surface water runoff	$Q_{max} = A_{catch} \times p \times I_{max}$ = **497.6** l/s

DESIGN RAINFALL

In accordance with the Wallingford Procedure

Tedds calculation version 2.0.01

Design rainfall intensity

Location of catchment area	Bournemouth
Storm duration	D = **15** min
Return period	Period = **100** yr
Ratio 60 min to 2 day rainfall of 5 yr return period	r = **0.350**
5-year return period rainfall of 60 minutes duration	M5_60min = **19.0** mm
Increase of rainfall intensity due to global warming	$p_{climate}$ = **0** %
Factor Z1 (Wallingford procedure)	Z1 = **0.62**
Rainfall for 15min storm with 5 year return period	$M5\_15min_i = Z1 \times M5\_60min$ = **11.7** mm
Factor Z2 (Wallingford procedure)	Z2 = **1.94**
Rainfall for 15min storm with 100 year return period	$M100\_15min = Z2 \times M5\_15min_i$ = **22.7** mm
Design rainfall intensity	I_{max} = M100_15min / D = **90.8** mm/hr

Maximum surface water runoff

Catchment area	A_{catch} = **25439** m^2
Percentage of area that is impermeable	p = **100** %
Maximum surface water runoff	$Q_{max} = A_{catch} \times p \times I_{max}$ = **641.6** l/s

Greenfield runoff estimation for sites

www.uksuds.com | Greenfield runoff tool

Calculated by:	
Site name:	Langstone Technology Park (Area 3)
Site location:	Havant

This is an estimation of the greenfield runoff rate limits that are needed to meet normal best practice criteria in line with Environment Agency guidance "Preliminary rainfall runoff management for developments", W5-074/A/TR1/1 rev. E (2012) and the SuDS Manual, C753 (Ciria, 2015). This information on greenfield runoff rates may be the basis for setting consents for the drainage of surface water runoff from sites.

Site coordinates

Latitude:	50.84623° N
Longitude:	0.98899° W
Reference:	
Date:	2019-06-17 10:02

Methodology	IH124

Site characteristics

Total site area (ha)	0.1822

Methodology

Qbar estimation method	Calculate from SPR and SAAR
SPR estimation method	Calculate from SOIL type

	Default	Edited
SOIL type	3	3
HOST class	---	---
SPR/SPRHOST	0.37	0.37

Hydrological characteristics

	Default	Edited
SAAR (mm)	719	719
Hydrological region	7	7
Growth curve factor: 1 year	0.85	0.85
Growth curve factor: 30 year	2.3	2.3
Growth curve factor: 100 year	3.19	3.19

Notes:

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

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

Where flow rates are less than 5.0 l/s consents are usually set at 5.0l/s if blockage from vegetation and other materials is possible. Lower consent flow rates may be set in which case blockage work must be addressed by using appropriate drainage elements

(3) Is SPR/SPRHOST ≤ 0.3?

Greenfield runoff rates

	Default	Edited
Qbar (l/s)	0.54	0.54
1 in 1 year (l/s)	0.46	0.46
1 in 30 years (l/s)	1.24	1.24
1 in 100 years (l/s)	1.72	1.72

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 http://uksuds.com/terms-and-conditions.htm. The outputs from this tool have been used to estimate storage volume requirements. 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 use of this data in the design or operational characteristics of any drainage scheme.