Proposed Clubhouse for

Thornton-Cleveleys FC

Flood Risk and Surface Water Drainage Assessment.

For: Thornton Cleveleys FC

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Ref: 3204-FRA
Job: 3204
Rev:
By: NS

Date: Oct 19

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APPENDICES

Appendix 1	Site Location Plan
Appendix 2	Environment Agency Flood Mapping
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1. INTRODUCTION

1.1 Integra Consulting has been commissioned by Steve Abbott of Thornton-Cleveleys Football Club to undertake a Flood Risk and Surface Water Drainage Assessment (FRA) for the site at Gamble Road, Thornton. This document has been prepared to accompany the planning application for the proposed development of the application site.

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

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

- Department for Communities and Local Government document 'National Planning Practice Guidance: Flood Risk and Coastal Change'
- Wyre Council Strategic Flood Risk Assessment Level 1 dated July 2016
- Wyre Council Strategic Flood Risk Assessment Level 2 ref: B2236400|D03 by Jacobs dated October 2016
- 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).

2. STANDARDS AND LIMITATIONS

This report has been prepared solely for use by Thornton-Cleveleys Football Club.

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. CURRENT SITUATION

3.1 Site Location and Description

The circa 1.4 hectare irregular shaped site is located directly to the south of Gamble Road, Fleetwood. The site is centred at National Grid reference 333795, 443878 as shown on the site location plan in Appendix 1.

The site is bounded to the north by Gamble Road / Butts Road, to the east and west by residential properties and to the south by the Fleetwood Town FC training facility.

3.2 Hydrology and Flooding

Current Environment Agency flood mapping is attached in Appendix 2 with the proposed clubhouse lying wholly within Flood Zone 1.

The Environment Agency have confirmed that they have no records of flooding at the subject site.

A review of the EA / DEFRA mapping indicates that no risk of surface water flooding or reservoir flooding is evident at the site.

3.3 Existing Sewers

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

- 300mm diameter surface water sewer extending north beneath Wembley Road and Crystal Road from the north west corner of the site;
- 300mm diameter foul water sewer extending from west to east beneath Butts Road from the north eastern corner of the site;

4. PROPOSED DEVELOPMENT

4.1 Development Proposals

It is proposed to undertake a sports / leisure based development of the application site with access from Wembley Road.

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

Desk study evidence confirms that the site is underlain by low permeability cohesive deposits - on this basis, soakaways and permeable surfaces are deemed unsuitable at this site.

The nearest watercourse to the site is located approximately 250m to the north of the site through a series of third party land ownerships. On this basis, direct discharge of post-development surface water to watercourse is not considered viable.

Accordingly, it is proposed to discharge suitably attenuated post-development surface water from the new clubhouse and associated car park/ access road at greenfield runoff rates into the existing adopted 300mm diameter surface water beneath Wembley Road from United Utilities manhole number 6903 which is located adjacent to the north west corner of the site – this surface water sewer in turn discharges to an unnamed watercourse circa 150m to the north of the site.

Proposed post-development run off from the existing greenfield area of the development site equates to 2.5 litres per second over a 1 hectare hard surfaced area of the post-development site (refer to Appendix 5).

The above proposed greenfield runoff rate results in estimated on site storage to cater for a 1 in 100 year plus 30% climate change event of approximately 280 m3 (refer to Appendix 5 for estimated storage calculation details) with underground storage to cater for the 1 in 30 year event (approximately 150 m3). It is noted that these estimated figures are naturally subject to future detailed drainage design.

It is proposed to accommodate the approximate storage volumes noted above within a combination of below ground storage crates, drainage pipework and manholes with circa 130 m3 stored above ground level in post-development car park areas and naturally retained within the site boundary in a critical storm event. The approximate 130 m3 above ground storage relates to a depth of circa 40mm over the proposed 3000 m2 car park area.

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 + 30% climate change storm event. Sufficient surface water storage and shallow ponding volume will be available to ensure there is no risk to property.

4.3 Foul Water Drainage

It is proposed to connect the limited foul flows from the site into the existing adopted 300mm diameter foul sewer that extends from west to east beneath Butts Road from United Utilities manhole number 8904 located adjacent to the north eastern corner of the site.

4.4 National Planning Policy Framework and Technical Guidance

The sport / leisure site development proposals are classed as 'water-compatible' development in Table 2 of the Flood Risk and Coastal Change guidance.

'Water-compatible' development in Flood Zone 1, Flood Zone 2 and Flood Zone 3 (defended) 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 a combination of Flood Zone 1, Flood Zone 2 and Flood Zone 3 (defended)
Sea – there is no risk of flooding from the sea
Land – there are no undrained land slopes towards the site
Groundwater – there are no springs or weep areas on the site
Sewers – there have been no local reports of sewer surcharge

4.5 Strategic Flood Risk Assessment & EA Mapping Review

From our review of the Wyre Council Level 1 Strategic Flood Risk Assessment by dated July 2016 and the Wyre Level 2 Strategic Flood Risk Assessment by Jacobs dated October 2016, the site does not lie within a Critical Drainage Area.

4.6 Safe Access and Egress

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

5. CONCLUSIONS

5.1 Flooding

Current Environment Agency flood mapping is attached in Appendix 2 with the proposed clubhouse lying wholly within Flood Zone 1.

The Environment Agency have confirmed that they have no records of flooding at the subject site.

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 + 30% climate change event.

5.2 Site Surface Water Drainage

It is proposed to discharge suitably attenuated post-development surface water from the new clubhouse and associated car park / access road at greenfield runoff rates into the existing adopted United Utilities surface water sewer network beneath Wembley Road at United Utilities manhole number 6903. This surface water sewer in turn discharges to an unnamed watercourse circa 150m to the north of the site.

5.3 Site Foul Water Drainage

It is proposed to connect foul flows from the site into the existing adopted 300mm diameter foul sewer that extends from west to east beneath Butts Road from United Utilities manhole number 8904.

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% plus climate change event.

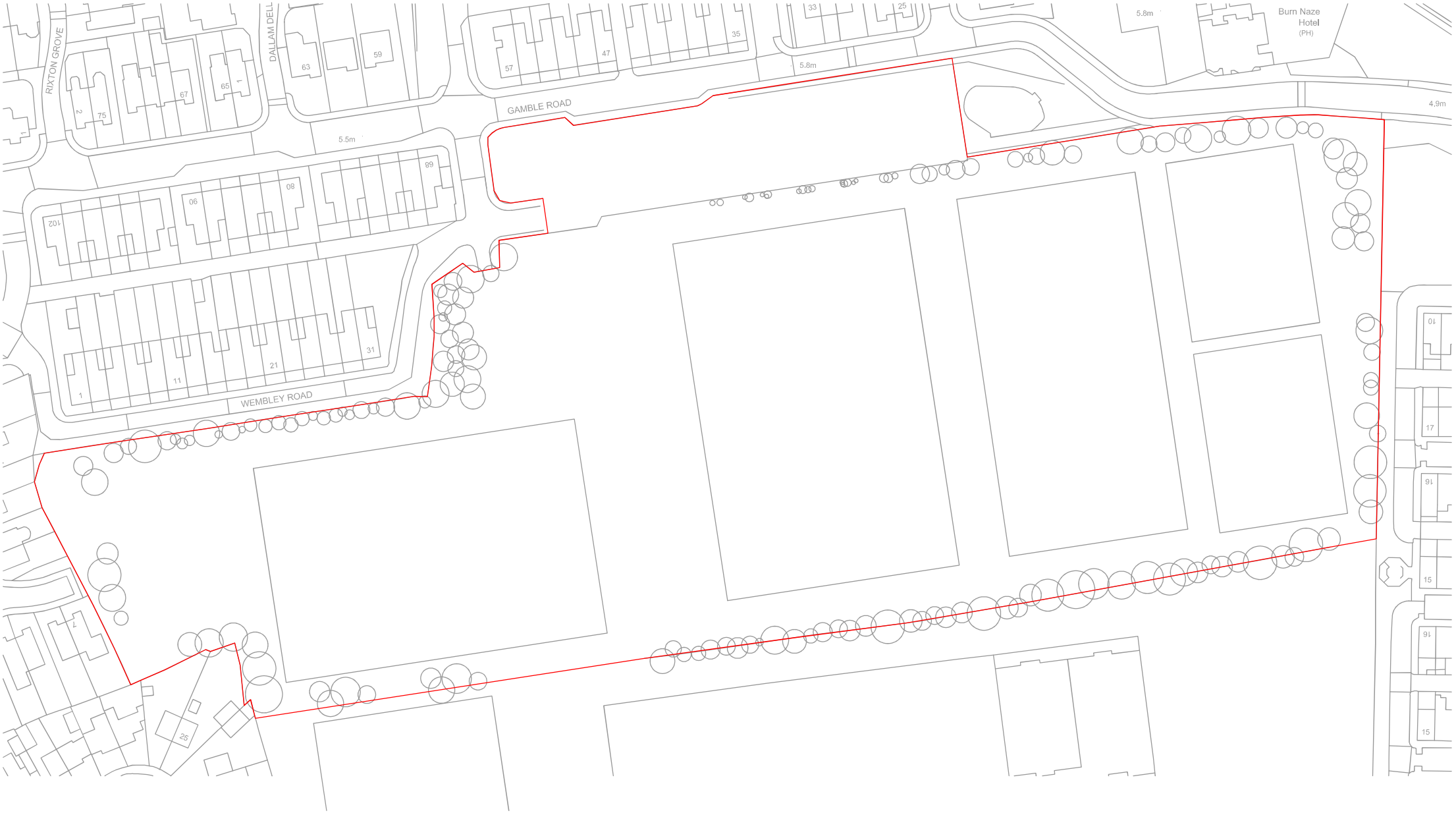
5.6 Residual Risk

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 Wembley Road.

APPENDIX 1

SITE LOCATION PLAN



THORNTON-CLEVELEYS FC

PROPOSED CLUBHOUSE
Gamble Road, Thornton

EXISTING SITE LAYOUT PLAN

Scale 1 : 500 @ A1
Date August 2019
Drawn GA
Drawing No. A 19 . 12 / 4

GEOFF ATTWATER
ARCHITECTURAL DESIGN SERVICE

40, Stanah Gardens,
Thornton - Cleveleys,
Lancs, FY5 5JH.

Tel:01253 828848 / Mob:07539 264785
Email:geoffattwater@talktalk.net

APPENDIX 2

ENVIRONMENT AGENCY FLOOD MAPPING

Flood map for planning

Your reference	Location (easting/northing)	Created
Thornton-Cley	**333763/443810**	**9 Oct 2019 22:24**

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

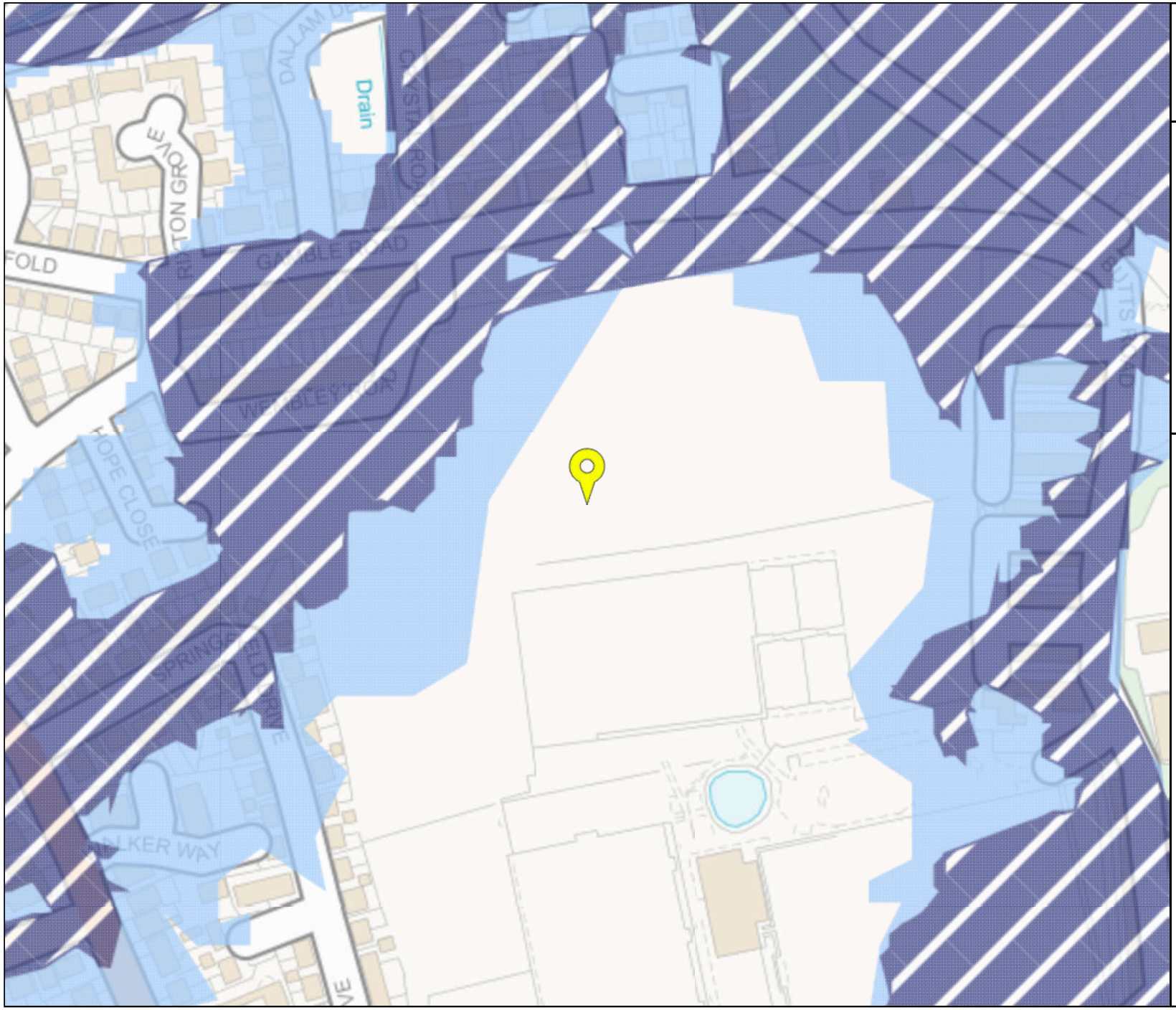
This means:

- 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.



Environment Agency

Flood map for planning

Your reference
Thornton-Cley

Location (easting/northing)
333763/443810

Scale
1:2500

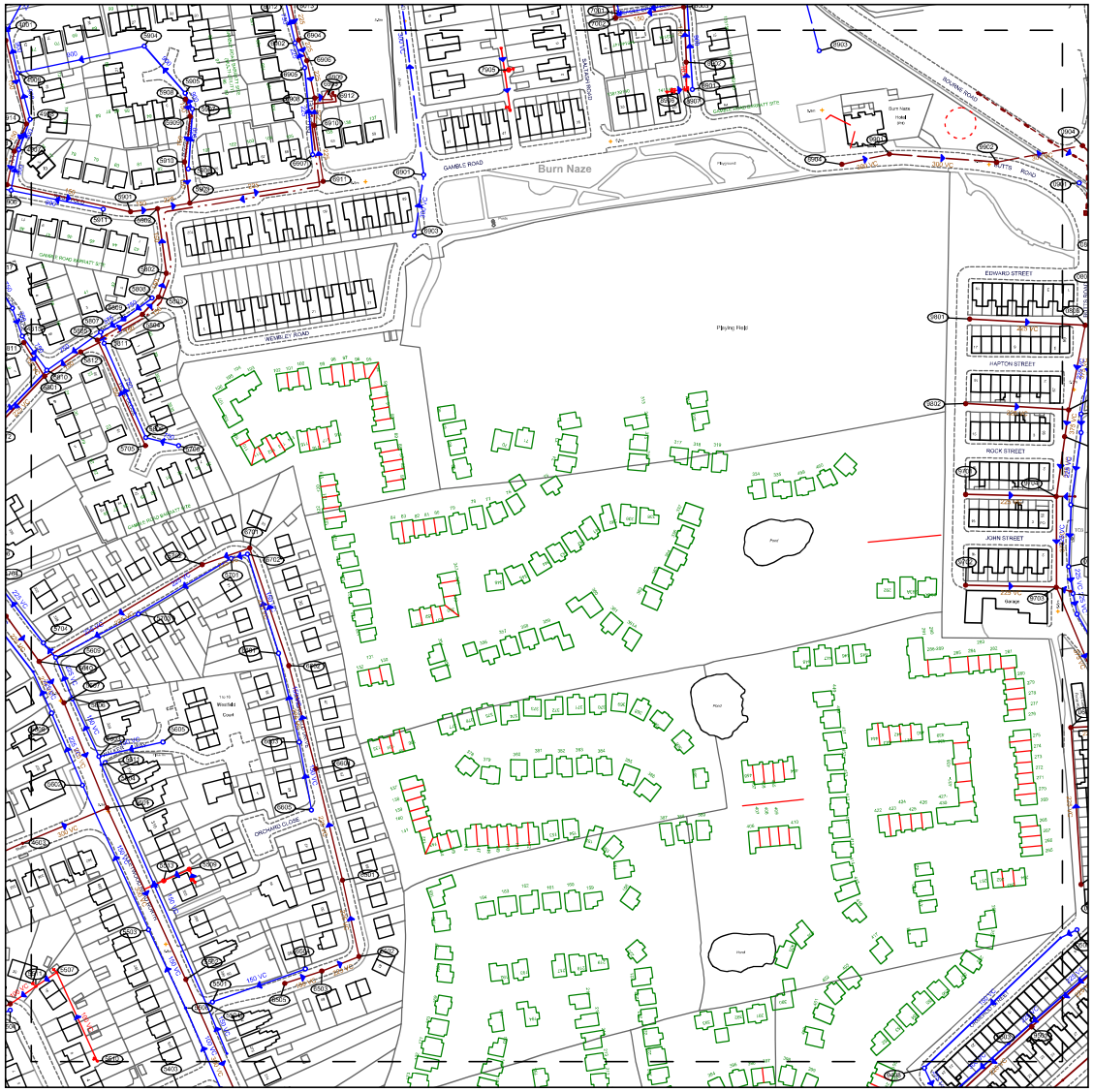
Created
9 Oct 2019 22:24

- 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

APPENDIX 3

UNITED UTILITIES SEWER PLAN



OS Sheet No: SD3343NE

Scale 1:1250 Date: 19-Jul-2013

Printed by: Gareth Hindley

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5510		C	J		100		C	VC		47.31
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5512		F	J							
5513		C	M				C			19.27
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5605	5.72	S	M	4.62	150		C	VC	118	31.78
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5607	5.43	F	M	3.05	225		C	VC	394	55.15
5608	5.37	S	M	4.25	225		C	VC		21.93
5609	5.29	S	M	4.13	225		C	VC	-115	9.22
5610	5.41	F	M	3.07	225		C	VC		23.32
5611		S	J		150		C	VC		4.12
5612		S	G		225		C	VC		62.81
5701	5.36	S	M	4.23	225		C	VC	750	52.48
5702	5.33	F	M	3.58	225		C	VC	188	91.92
5703	5.38	S	M	4.07	225		C	VC		45.18
5704	5.38	S	M	4.21	225		C	VC	217	47.8
5705	6.04	F	M	3.96	150		C		161	56.23
5706	5.94	S	M	4.3	750		C		818	16.36
5801	6.46	F	M	4.1	225		C	VC	809	48.44
5802	5.78	F	M	3.3	150		C		55	31.63
5803	5.83	F	M	3.37	150		C		172	12.06
5804		F	M	3.47	150		C		116	11.56
5805	6.35	F	M	3.61	150		C		179	25.05
5806	6.11	S	M	4.26	750		C		454	49.97
5807	6.37	S	M	4.15	750		C		838	31.92
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5809	6.42	S	M	4.18	375		C		429	12.88
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5901	6.1	F	M	2.88	150		C		82	13.17
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8905		C	Z		100		C			3.08
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9701	5.71	F	M	4.29	225		C	VC	20	44.01
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9903		F	Q				C			86.87

WASTE WATER SYMBOLOGY

MANHOLE

SIDE ENTRY MANHOLE

PUBLIC MAIN

PRIVATE MAIN

SECTION 104

PUMPING MAIN

HIGHWAY DRAIN

SLUDGE MAIN

ABANDONED

SITE TERMINATION

T-JUNCTION (SADDLE)

AIRVALVE

LAMP HOLE

CASCADE

OIL INTERCEPTOR

CONTROL KIOSK

PENSTOCK

CONTROL VALVE

PUMP

EXTENT OF SURVEY

RODDING EYE

FLOW METER

SEA OUTFALL

GULLEY

SOAKAWAY

HATCHBOX

SUMMIT NODE

HEAD OF SYSTEM

TUMBLING BAY

HEADWALL

UNSPECIFIED

HYDROBRAKE

VALVE

INLET

VALVE CHAMBER

INSPECTION CHAMBER

WASHOUT

GHOST NODE (inc. GN - Rising Main & GN - Dual Function)

EXPEDIENCY NODE (CHANGE OF CHARACTERISTIC)

BIFURCATION

DROPSHAFT

CATCHPIT

FLOW CONTROL

CHAMBER

SCREEN CHAMBER POWERED

CONTAINMENT

SCREEN CHAMBER

Note - ALL flow arrowheads are BLUE - colour not significant

NODE TABLE ABBREVIATIONS

MANHOLE FUNCTION

- F Foul
- S Surface
- C Combined
- T Transition
- O Overflow
- U Unspecified

MANHOLE / NODE TYPE

- M Manhole
- J Junction
- L Lamphole
- H Hatchbox
- R Rodding Eye
- F Outfall
- V Combined Sewer Overflow
- P Pumping Station
- S Soakaway
- D Dual Function Manhole
- W Treatment Works
- Z Ghost in Rising Main
- C Cascade
- Y Gulley
- E Ejector
- O Oil Injector
- I Inlet
- B Hydrobrake
- T Vent Column
- X Valve
- U Unspecified
- Q Expediency Node
- G Ghost (to allow pipe bends)

SEWER SHAPE

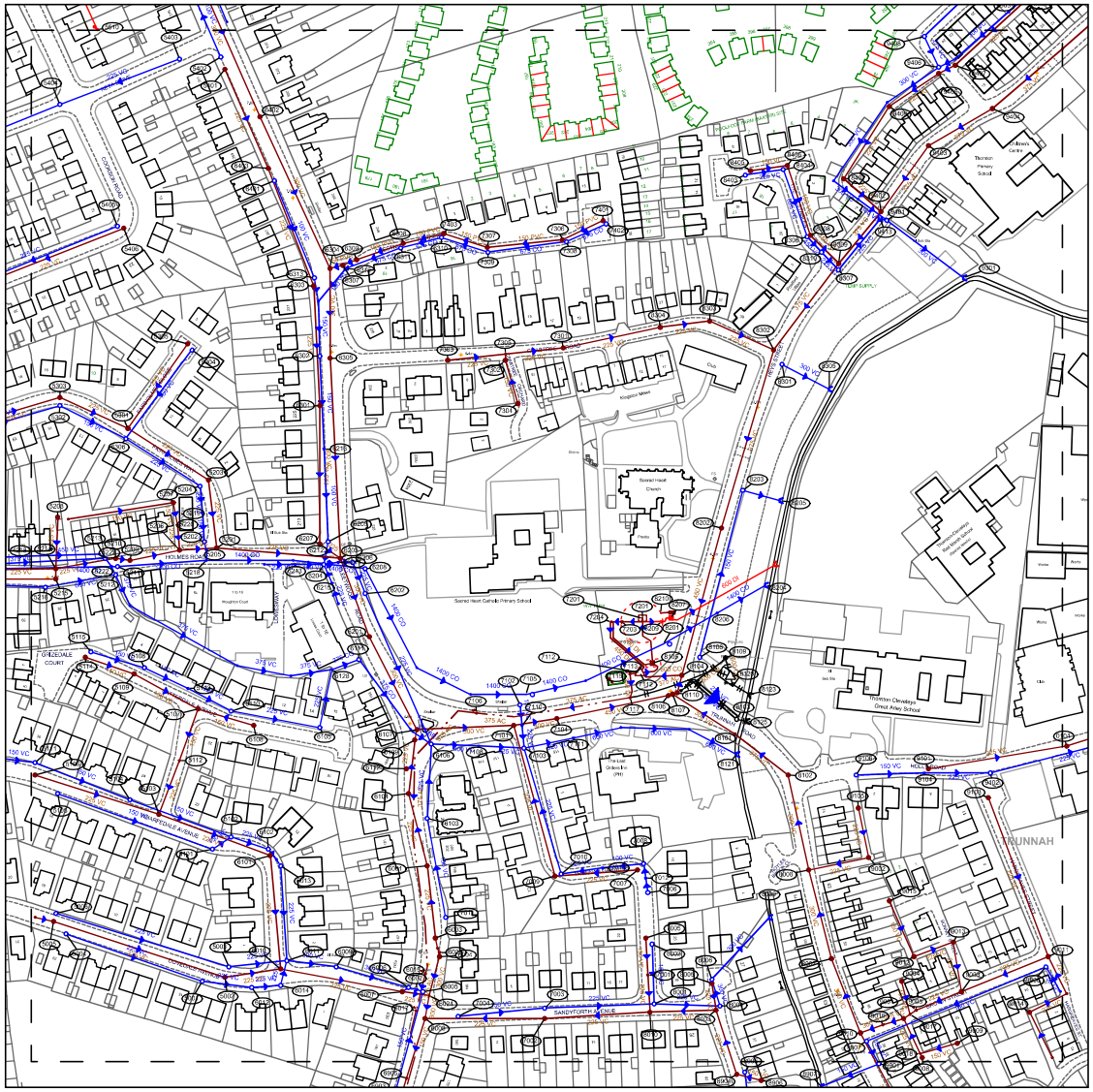
- C Circular
- E Egg
- O Oval
- F Flat Top
- R Rectangular
- S Square
- T Trapezoidal
- A Arch
- B Barrel
- H Horseshoe
- U Unspecified

SEWER MATERIAL

- AC Asbestos Cement
- BR Brick
- CI Cast Iron
- SI Spun (Grey) Iron
- CO Concrete
- CS Concrete Segments (Bolted)
- CS Concrete Segments (Unbolted)
- CC Concrete Box Culvert
- DI Ductile Iron
- GR Glass Reinforced Concrete
- GR Glass Reinforced Plastic
- PS Plastic / Steel Composite
- PV Polyvinyl Chloride
- PE Polyethylene
- RP Reinforced Plastic Matrix
- ST Steel
- VC Vitrified Clay (All Clayware)
- PP Polypropylene
- PF Pitch Fibre
- MA Masonry - In Regular Courses
- MA Masonry - Randomly Coursed
- U Unspecified

OS Sheet No: SD3343NE
Scale 1:1250 Date: 19-Jul-2013
103 Nodes
Sheet 1 of 1

United Utilities
SEWER RECORDS



OS Sheet No: SD3343SE

Scale 1:1250 Date: 19-Jul-2013

Printed by: Gareth Hindley

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5214	4.32	F	M	1.79	225	C	VC	-368	29.43										
5215	4.4	F	M	2	225	C	VC	25	5										
5216	4.52	S	M	2.72	600	C	VC	1726	34.53										
5217		S	G		450	C	VC		2.24										
5218		S	J		1400	C	CO		42										
5219		S	Q	3.74	150	C	VC	117	14.04										
5220		F	Q	2.81	225	C	VC	13	12.04										
5221		S	G		375	C	VC		59.04										
5222		S	Q	2.84	600	C	CO	34	4.47										
5223		S	Q		300	C	VC		1.41										
5224		F	G		150	C	VC		91.82										
5301	5.28	F	M	3.84	225	C	VC	290	46.32										
5302	5.16	S	M		150	C	VC		35.78										
5303	5.11	F	M	3.95	225	C	VC	453	36.25										
5304	5.31	S	M	5.31	150	C	VC	59	53.6										
5305	6.61	F	M	4.75	225	C	VC	59	50.22										
5306	5.3	S	M	4.13	225	C	VC	203	42.72										
5401	7.46	F	M	5.91	225	C	VC	109	52.39										
5402	7.43	S	M	6.33	100	C	VC	57	42.54										
5403	6.63	S	M	5.61	225	C	VC	69	62.03										
5404	5.65	S	M	4.65	225	C	VC	142	90.62										
5405	5.54	S	M	4.18	225	C	VC	167	88.39										
5406	5.54	F	M	3.96	225	C	VC	101	79.48										
6001	4.75	F	M	2.89	225	C	VC	66	36.14										
6002		S	M	3.34	225	C	VC	27	4.12										
6003	4.94	F	M	2.64	225	C	VC	69	35.23										
6004	4.93	F	M	2.7	300	C	VC		19.65										
6005	4.89	S	M	3.49	150	C	VC	21	5.16										
6006	5.93	S	M	3.88	225	C	VC	90	3.61										
6007	4.91	F	M	2.77	225	C	VC		13.15										
6008	5.04	F	M	2.46	150	C	VC	234	30.36										
6009	5.16	S	M	3.22	300	C	VC	728	36.4										
6010	5.29	F	M	2.96	225	C	VC	400	60.02										
6011	5.18	S	M	3.33	300	C	VC	269	24.19										
6012	5.31	S	M	3.51	225	C	VC	201	14.04										
6013	5.18	S	M	3.6	225	C	VC	200	46.1										
6014	5.24	S	M	3.41	225	C	VC	247	12.37										
6015		F	H		375	C	AC		18.4										
6017		F	H		375	C	AC		315.02										
6023		F	G		225	C	VC		5.1										
6023		F	G		150	C	VC		2.24										
6024		F	J		300	C	VC		11.16										
6025		F	Q		225	C	VC		2										
6028		S	G		225	C	VC		3.61										
6101	5.12	F	M	3.34	225	C	VC	173	55.23										
6102	5.19	S	M	3.69	225	C	VC		6.4										
6103	4.61	S	M	3.29	225	C	VC	49	36.06										
6104	4.46	F	M	1.51	225	C	VC		26.17										
6105	4.8	S	M	3.19	225	C	VC		28.84										
6106	4.4	S	M	2.58	600	C	VC	256	23.02										
6107	4.43	S	M	1.77	300	C	VC	181	47.24										
6108	4.98	F	M	4.13	150	C	VC	128	28.16										
6109	4.44	F	M		225	C	VC		5.1										
6111	4.25	S	M	2.84	375	C	CO		42.2										
6112	4.36	F	M																
6117		S	G		375	C	VC		20.22										
6120		S	G		375	C	VC		20.48										
6124		S	G		1400	C	CO		29.07										
6128		S	J		375	C	CO		13.93										
6129		S	G		375	C	BR		1.41										
6130		S	G		375	C	BR		19.82										
6201	4.44	F	M	1.24	300	C	VC	459	50.54										
6202	4.58	S	M	3.63	225	C	VC	177	79.71										
6203	4.6	F	M	1.45	300	C	VC	238	49.5										
6204	4.59	S	M	3.19	150	C	VC	177	7.07										
6205	4.52	S	M	3.49	100	C	VC	46	5.1										
6206	4.63	S	M	3.14	225	C	VC	231	16.16										
6207	4.53	F	M	2.97	225	C	VC	10	12.21										
6208	4.62	S	M		1400	C	CO		54.12										
6209		S	G		225	C	VC		15										
6210		S	G		225	C	VC		19.44										
6211		S	Q	3.21	225	C	VC	175	7										
6212		S	Q	3.38	150	C	VC	61	6.08										
6213		S	Q	1.66	150	C	VC	-9	14										
6214		S	G		1400	C	CO		35.23										
6215		S	Q		150	C	VC		9.85										
6216		S	Q	3.87	100	C	VC	132	45.04										
6301	5.44	F	M	4.3	225	C	VC	74	67										
6302	5.64	S	M	4.2	150	C	VC	136	45.04										
6303	6.14	F	M	4.86	225	C	VC	62	58.08										
6304	6.37	F	M	2.12	300	C	VC		43.01										
6305	5.73	F	M		300	C	VC		97.13										
6306		S	G		150	C	VC		26.47										
6307	6.34	F	M	2.57	150	C	PVC	14	6.39										
6308	6.84	F	M	4.78	150	C	PVC	96	23.89										
6309	6.45	F	M	4.53	150	C	PVC	4	7.36										
6310	7.53	S	M	5.24	675	C	CO	68	20.43										
6311	6.82	S	M	4.94	675	C	CO	94	28.25										
6312	6.37	S	F	4.64	150	C	VC		21.06										
6313		S	M		100	C	VC		11.65										
6401	7.31	F	M	6.33	100	C	VC		50.87										
6402	7.77	F	M	2.36	300	C	VC	426	80.93										
6403	7.46	F	M	5.39	225	C	VC	122	61.1										
7001		F	Q	3.62	225	C	VC	280	18.03										
7002	5.07	F	M	2.97	225	C	VC	252	58										
7003	5.07	S	M	3.54	225	C	VC	379	53.04										
7004	4.96	S	M	3.76	150	C	VC	192	42.19										
7005	5.01	F	M	3.69	150	C	VC	256	19.83										
7006	5.04	S	M	3.91	150	C	VC	118	7.07										
7007	5.03	F	M	3.42	225	C	VC	67	40.11										
7008	5.09	S	M	3.75	100	C	VC	63	20.1										
7009	5.02	F	M	2.81	225	C	VC	43	75.69										
7010	4.91	S	M	3.08	225	C	VC	167	63.6										
7011	5.02	S	M	3.78	150	C	VC	104	46.84										
7012		S	Q	3.85	100	C	VC	88	7.87										
7013		S	S	3.43	225	C	VC	63	20.22										
7101	4.3	F	M	0.83	300	C	VC	2117	21.17										
7102	4.37	S	M	3.23	150	C	VC	40	10.05										
7103	4.39	S	M	2.4	525	C	VC	20	24.52										
7104	4.21	F	M	0.81	450	C	VC	290	55.03										
7105	4.98	S	M	2.28	1400	C	CO		29.53										
7106		F	H		375	C	AC		145.26										
7108		S	Q	2.49	525	C	VC	275	22.02										
7109		S	G		600	C	VC		33.02										
7110		S	Q	2.98	225	C	VC	43	11.05										
7111		S	Q	1.19	600	C	VC		23.54										
7112	5	F	P	1.23	250	C	DI	-3	4.91										
7112	5	F	P	-0.3	600	C	CO	-130	13.04										
7113		F	X	2.75	350	C	DI	47	11.74										
7114		S	G		1400	C	CO		41.74										
7115		F	K																
7117		S	Z		375	C	AC		75.41										
7118		S	G		1400	C	CO		27										
7201	5.15	F	K	-0.05	600		CO		11.65										
7201	5.15	F	K		600		CO		10.94										
7203		F	Q	-0.05	200	C		-2	5.19										
7204		F	J	2.75	200	C	DI	35	32.25										
7204		S	J	2.75	450	C	DI	22	33.97										
7301	6.84	F	M	3.27	225	C	VC	120	48.05										
7302	6.6	F	M	4.83	150	C	VC		3										
7303	6.32	F	M	3.85	225	C	VC		28.16										
7304	6.82	F	M	5.25	150	C	VC	78	21.94										
7305		F	J		225	C	VC		28.16										
7306	8.36	F	M	6.25	150	C	PVC	78	36.63										
7307	7.9	F	M	5.78	150	C	PVC	77	22.2										
7308	8.39	S	M	5.86	675	C	CO	96	38.32										
7309	7.9	S	M	5.46	675	C	CO	107	23.62										
7401	8.87	F	M	6.6	150	C	PVC	62	21.7										
7402	8.91	S	M	5.94	675	C	CO	265	21.18										
7403	7.54	F	M	5.49	150	C	PVC	28	20.14										
8001	5.03	S	M	3.36	225	C	VC	-267	32.02										
8002	5.02	S	M	3.42	150	C	VC	223	29.02										
8003	4.92	F	M	3.73	225	C	VC	146	32.02										
8004	4.91	S	M	3.21	200	C	VC	170	13.6										
8005	4.79	F	M	3.9	225	C	VC	438	13.15										
8006	4.87	S	M	3.09	300	C	VC		41.04										
8007	4.87	F	M	0.97	300	C	VC	888	44.38										
8008	4.66	F	M	0.89	300	C	VC	471	47.07										
8009		S	F																
8010	5	F	M	3.49	225	C	VC	98	51.09										
8101		F	M	0.67	300	C	VC	445	35.61										
8102	4.21	F	M	0.75	375	C	VC	410	32.8										
8103	4.19	S	M																
8104	4.23	F	M	0.24	600	C	CO	234	21.05										
8105	5		J		600	C	CO		23.95										
8106	4.32	F	M	0.44	450	C	VC	-76	2.28										
8107	4.29	F	M	0.47	450	C	VC		2.32										
8108	4.1	F	M	2.89	150	C	VC		83.57										
8109	4.61	F	M																
8110	4.31	F	M	0.44	450	C	CO	177	8.83										
8111		F	Z																
8113		F	Q																
8116		S	G		600	C	VC		25.94										
8120		F	P																
8121		S	F																
8122		S	G																
8123		C	F																
8124		C	G																
8125		S	F																
8126		S	G																
8201	5.02	F	M	2.18	1400	C	CO	-1507	30.14										
8202	3.91	F	M	0.67	450	C	VC	264	73.89										
8203	3.88	S	M		150		VC		18.68										
8204		F	S																
8205		S	F																
8206		S	Q	2.2	1400	C	CO	-1349	26.99										
8207	4.9	C	J	2.35	600	C	DI	576	57.65										
8208		F	J																
8209		C	Q		600	C			5.58										
8210		F	T																
8301	3.66	F	M	2.49	300	C	VC		25.94										
8302	3.72	F	M	0.81	375	C	VC	818	89.94										
8303	5.98	F	M	2.61	225	C	VC	20	34.01										
8304	6.55	F	M	2.82	225	C	VC	151	24.19										
8305		S	F																
8306	4.87	S	M	2.7	450	C	VC	85	10.22										
8307	3.99	F	M	2.54	225	C	VC	318	31.83										
8308	4.86	F	M	3.51	150	C	VC	18	19.33										
8309	4.02	F	M		375	C	VC		52.49										
8310	4.13	S	M	2.58	225	C	VC	296	11.83										
8401	4.88	S	M	3.21	225	C	VC	22	5.08										
8402		S	G		300	C	VC		14.94										
8403	6.9	S	M	5.24	225	C	VC	8	18.6										
8404	6.01	S	M	3	825	C	VC	115	34.58										
8405	6.8	F	M	5.45	150	C	VC	24	18.05										
8406	6.04	F	M	4.69	150	C	VC	30	35.62										
9001	4.72	F	M	1.55	225	C	VC	65	10.44										
9002	5	F	M	2.49	225	C	VC	21	29.61										
9003	4.82	F	M	2.05	225	C	VC		23.77										
9004	4.85	M	M	3.25	150	C	VC		18.49										
9005		F	R		225	C	VC		3.61										
9006	4.82	S	M	3.94	150	C	VC	724	94.15										
9007	4.82	S	M	3.77	150	C	VC	13	12.53										
9008	4.65	S	M	3.32	150	C	VC		2.24										
9009	4.88	F	M	2.91	150	C	VC		18.68										
9010	4.68	F	M	1.05	300	C	VC	773	38.63										
9011	4.89	F	M	2.77	225	C	VC	70	45.31										
9012	4.95	F	M	2.57	225	C	VC	113	20.25										
9013	5.16	F	M	2.35	225	C	VC	87	24.33										
9014		F	M		150	C	VC		20.12										
9015		F	M		150	C	VC		29.55										
9016		F	G		225	C	VC		24.6										
9017		F	J		225	C	VC		3.61										
9018		F	J		225	C	VC		18.79										
9019		F	Q	1.39	300	C	VC	73	11.7										
9020		S	G		150	C	VC		13.89										
9101	4.89	S	M	3.67	225	C	VC	340	67.9										
9102	5	S	M	3.63	225	C	VC	4026	80.52										
9103	4.86	F	M	3.68	225	C	VC	92	82.28										
9104		S	M	3.89	225	C	VC	139	32										
9105		F	M		225	C	VC		24.92										
9106	4.87	S	M	4.13	150	C	VC	138	33.02										
9301		S	F																
9401	4.14	S	M	2.35	300	C	VC		46.38										
9402	4.15	F	M	1.92	375	C	VC		32.33										
9403	4.37	F	M	1.13	375	C	VC	438	39.41										
9404	4.62	F	M	1.12	375	C	VC	-717	35.85										
9405	4.87	F	M	3.4	225	C	VC	-481	28.94										
9406	4.95	S	M	3.15	300	C	VC		30.23										
9407	5.11	F	M	3.5	225	C	VC	179	8.84										
9408	5.07	S	M	3.33	225	C	VC	138	16.55										
9409	4.57	F	M	3.42	225	C	VC	318	41.34										
9410		S	G		300	C	VC		8.84										
9411		S	G		300	C	VC		17.29										
9412		S	G		300	C	VC		46.04										
9413	4.1	S	F	2.44	225	C	VC	37	3.35										

WASTE WATER SYMBOLOGY

MANHOLE

FOUL SURFACE COMBINED DUAL

SIDE ENTRY MANHOLE

FOUL SURFACE COMBINED

PUBLIC MAIN
PRIVATE MAIN
SECTION 104
PUMPING MAIN
HIGHWAY DRAIN
SLUDGE MAIN
ABANDONED

SITE TERMINATION
T-JUNCTION (SADDLE)
AIRVALVE
LAMP HOLE
CASCADE
OIL INTERCEPTOR
CONTROL KIOSK
PENSTOCK
CONTROL VALVE
PUMP
EXTENT OF SURVEY
RODDING EYE
FLOW METER
SEA OUTFALL
GULLEY
SOAKAWAY
HATCHBOX
SUMMIT NODE
HEAD OF SYSTEM
TUMBLING BAY
HEADWALL
UNSPECIFIED
HYDROBRAKE
VALVE
INLET
VALVE CHAMBER
INSPECTION CHAMBER
WASHOUT

GHOST NODE (inc. GN - Rising Main & GN - Dual Function)
EXPEDIENCY NODE (CHANGE OF CHARACTERISTIC)

BIFURCATION
DROPSHAFT
CATCHPIT
FLOW CONTROL
CHAMBER
SCREEN CHAMBER POWERED
CHAMBER
SCREEN CHAMBER UNPOWERED

Note - ALL flow arrows are BLUE. Colour not significant

NODE TABLE ABBREVIATIONS

MANHOLE FUNCTION

F	Foul	T	Transition
S	Surface	O	Overflow
C	Combined	U	Unspecified

MANHOLE / NODE TYPE

M	Manhole	Z	Ghost in Rising Main
J	Junction	C	Cascade
L	Lamphole	Y	Gulley
H	Hatchbox	E	Ejector
R	Rodding Eye	O	Oil Injector
F	Outfall	I	Inlet
V	Combined Sewer Overflow	B	Hydrobrake
		T	Vent Column
P	Pumping Station	X	Valve
S	Soakaway	U	Unspecified
D	Dual Function Manhole	Q	Expediency Node
		G	Ghost (to allow pipe bends)
W	Treatment Works		

SEWER SHAPE

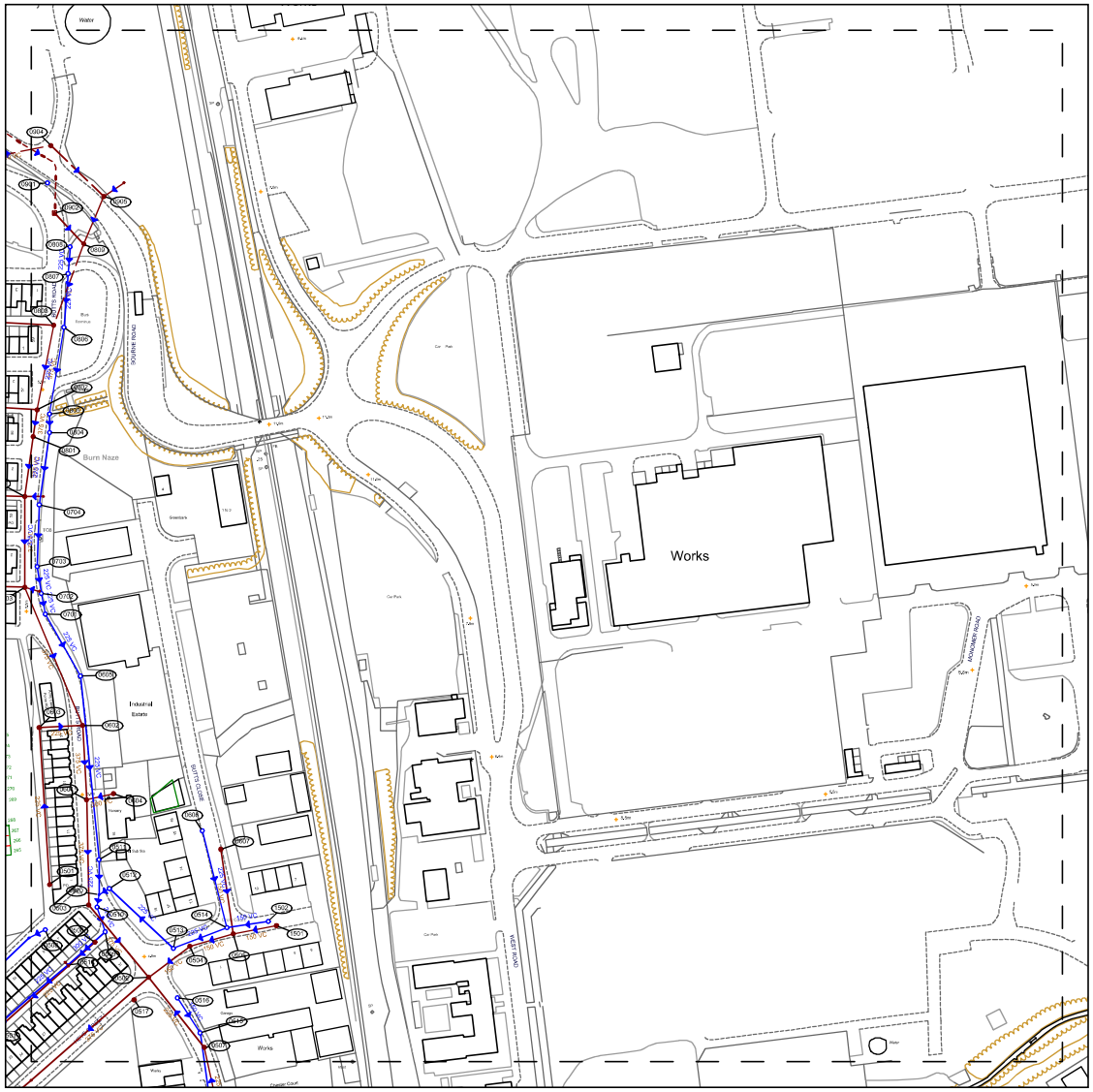
C	Circular	T	Trapezoidal
E	Egg	A	Arch
O	Oval	B	Barrel
F	Flat Top	H	Horseshoe
R	Rectangular	U	Unspecified
S	Square		

SEWER MATERIAL

AC	Asbestos Cement
BR	Brick
CI	Cast Iron
SI	Spun (Grey) Iron
CO	Concrete
CS	Concrete Segments (Bolted)
CS	Concrete Segments (Unbolted)
CC	Concrete Box Culvert
DI	Ductile Iron
GR	Glass Reinforced Concrete
GR	Glass Reinforced Plastic
PS	Plastic / Steel Composite
PV	Polyvinyl Chloride
PE	Polyethylene
RP	Reinforced Plastic Matrix
ST	Steel
VC	Vitrified Clay (All Clayware)
PP	Polypropylene
PF	Pitch Fibre
MA	Masonry - In Regular Courses
MA	Masonry - Randomly Coursed
U	Unspecified

OS Sheet No: SD3343SE
Scale 1:1250 Date: 19-Jul-2013
272 Nodes
Sheet 1 of 1

United Utilities
SEWER RECORDS



OS Sheet No: SD3443NW

Scale 1:1250 Date: 19-Jul-2013

Printed by: Gareth Hindley

Refno	Cover	Func	Type	Invert	Size_x	Size_y	Shape	Mat	Grad	Length
0501	5.25	F	M	3.95	225		C	VC	152	76.16
0502	5.04	F	M	1.43	375		C	VC		75.82
0503	5.36	F	M	1.56	375		C	VC	649	45.45
0504	5.22	F	M	3.03	150		C	VC	199	25
0505	5.48	F	M	3.35	150		C	VC	78	21.84
0506	4.97	F	M	4.03	225		C	VC	64	17.15
0507	5.04	F	M	1.79	225		C	VC	271	43.42
0508	5.25	S	M	4.52	150		C	VC		8.94
0509	5.12	S	M	3.38	300		C	VC		24.08
0510	5.27	S	M	3.46	225		C	VC	-1265	12.65
0511	5.45	S	M	3.63	225		C	VC		17
0512		S	M		225		C	VC		5.83
0513	5.18	S	M	3.86	225		C	VC		42.45
0514	5.45	S	M	4.1	225		C	VC	121	27.86
0515	4.99	S	M	3.47	225		C	VC	287	86.83
0516	4.97	S	M	3.85	150		C	VC	113	20.35
0517		F	M							
0518		S	Q		225		C	VC		24.84
0519		F	Q				C			2.31
0520		S	J		225		C	VC		6.08
0521		F	Q	4.03	225		C	VC	165	44.47
0601	5.5	F	M	1.63	375		C	VC	1275	51.01
0602	5.55	F	M	1.75	375		C	VC	328	36.06
0603	5.61	F	M	3.44	225		C	VC	75	21.92
0604	5.72	F	M	2.34	300		C	VC	36	13.34
0605	5.64	S	M	3.83	225		C	VC	471	89.45
0606		S	M		225		C	VC		48.51
0607		F	M		150		C	VC		41.44
0701	5.56	S	M	3.93	225		C	VC	383	34.48
0702	5.54	S	M	3.94	225		C	VC		10.2
0703	5.47	S	M	4	225		C	VC	263	13.15
0704	5.45	S	M	4.03	225		C	VC	1501	30.02
0705		F	G		225		C	VC		9
0706		F	G		225		C	VC		7.28
0801		F	M		375		C	VC		29.27
0802		F	M		375		C	VC		13.15
0803	5.74	F	M	2.15	375		C	VC		41.77
0804	5.49	S	M	4.06	225		C	VC	1768	35.36
0805	5.54	S	M	4.15	225		C	VC	112	9
0806	5.8	S	M	4.2	225		C	VC	1064	42.58
0807		S	M		225		C	VC		26.08
0808	6.31	S	M	4.53	225		C	VC		13.04
0809		F	M				C	VC		41.92
0901	6.18	S	M							
0902		F	J				C			20.59
0903		F	G							11.71
0904		F	M				C			35.55
0905		F	M							25.09
1501	5.72	F	M	3.86	150		C	VC	71	21.38
1502	5.7	S	M	4.3	150		C	VC	119	20.22

WASTE WATER SYMBOLOGY

MANHOLE
SIDE ENTRY MANHOLE
PUBLIC MAIN
PRIVATE MAIN
SECTION 104
PUMPING MAIN
HIGHWAY DRAIN
SLUDGE MAIN
ABANDONED
SITE TERMINATION
T-JUNCTION (SADDLE)
AIR VALVE
LAMP HOLE
CASCADE
OIL INTERCEPTOR
CONTROL KIOSK
PENSTOCK
CONTROL VALVE
PUMP
EXTENT OF SURVEY
RODDING EYE
FLOW METER
SEA OUTFALL
GULLEY
SOAKAWAY
HATCHBOX
SUMMIT NODE
HEAD OF SYSTEM
TUMBLING BAY
HEADWALL
UNSPECIFIED
HYDROBRAKE
VALVE
INLET
VALVE CHAMBER
INSPECTION CHAMBER
WASHOUT
GHOST NODE (inc. GN - Rising Main & GN - Dual Function)
EXPEDIENCY NODE (CHANGE OF CHARACTERISTIC)
BIFURCATION
DROP SHAFT
CATCHPIT
FLOW CONTROL
CHAMBER
SCREEN CHAMBER POWERED
CONFLUENCE
VENT COLUMN

Note - ALL flow arrows are BLUE - colour not significant

NODE TABLE ABBREVIATIONS

MANHOLE FUNCTION

F Foul	T Transition
S Surface	O Overflow
C Combined	U Unspecified

MANHOLE / NODE TYPE

M Manhole	Z Ghost in Rising Main
J Junction	C Cascade
L Lamphole	Y Gulley
H Hatchbox	E Ejector
R Rodding Eye	O Oil Injector
F Outfall	I Inlet
V Combined Sewer Overflow	B Hydrobrake
	T Vent Column
P Pumping Station	X Valve
S Soakaway	U Unspecified
D Dual Function Manhole	Q Expediency Node
	G Ghost (to allow pipe bends)
W Treatment Works	

SEWER SHAPE

C Circular	T Trapezoidal
E Egg	A Arch
O Oval	B Barrel
F Flat Top	H Horseshoe
R Rectangular	U Unspecified
S Square	

SEWER MATERIAL

AC	Asbestos Cement
BR	Brick
CI	Cast Iron
SI	Spun (Grey) Iron
CO	Concrete
CS	Concrete Segments (Bolted)
CS	Concrete Segments (Unbolted)
CC	Concrete Box Culvert
DI	Ductile Iron
GR	Glass Reinforced Concrete
GR	Glass Reinforced Plastic
PS	Plastic / Steel Composite
PV	Polyvinyl Chloride
PE	Polyethylene
RP	Reinforced Plastic Matrix
ST	Steel
VC	Vitrified Clay (All Clayware)
PP	Polypropylene
PF	Pitch Fibre
MA	Masonry - In Regular Courses
MA	Masonry - Randomly Coursed
U	Unspecified

OS Sheet No: SD3443NW
Scale 1:1250 Date: 19-Jul-2013
50 Nodes
Sheet 1 of 1

United Utilities
SEWER RECORDS

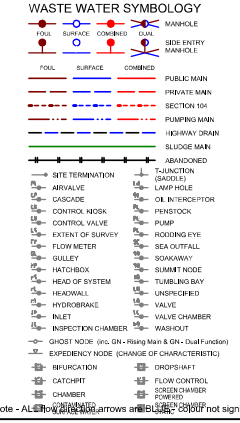
Refno	Cover	Func	Type	Invert	Size,x	Size,y	Shape	Matl	Grad	Length
0001	5.03	S	M		150		C	VC		39.29
0002		F	G		225		C	VC		28.12
0101	5.09	F	M	2.98	225		C	VC	269	45.8
0102		F	Q	3.9	225		C	VC	54	9.22
0104	4.97	F	M	3.46	225		C	VC	237	99.62
0105	5.05	S	M	3.3	225		C	VC	216	23.77
0107	5.11	S	M	3.8	225		C	VC	128	38.28
0108	4.97	F	M	4.07	150		C	VC	53	9.06
0201	5.02	F	M	3.64	225		C	VC		66.03
0202	5.01	F	M	3.72	225		C	VC	588	47.04
0203		S	M		225		C	VC		64.01
0301	4.75	F	M		225		C	VC		82.2
0302	4.83	S	M	2.75	300		C	VC		7.21
0303	4.78	S	M	3.26	300		C	VC	122	64.76
0304		S	I		2400		C			43.86
0401	5.08	S	M	3.84	300		C	VC		88.81
0402		F	M		225		C	VC		32.76
0403	5.07	F	M	2.81	225		C	VC		61.4
0404		F	G		375		C	VC		44.69
1101	5.17	F	M	3.11	225		C	VC	165	28.02
1102	5.16	F	M	3.46	225		C	VC	200	67.91
1103	5.2	S	M	3.34	225		C	VC		12.84
1104	5.22	S	M	3.9	225		C	VC	183	95.68
1105	5.17	S	M	3.19	225		C	VC		42.52
1201	4.98	F	M	2.39	225		C	VC	295	38.33
1202	5.21	F	M	2.81	225		C	VC	181	74.17
1203	5.07	S	M	2.85	300		C	VC		36.22
1204	5.16	S	M	3.09	300		C	VC	218	43.57
1205		S	J		225		C	VC		41.19
1301	4.86	F	M	2.2	225		C	VC	368	66.29
1302	4.81	F	M	2.26	225		C	VC	345	17.26
1303	4.87	S	M		2400		C			7.21
1304		S	J		2400		C			5
1305		S	J		2400		C			8.49
1309		S	F							
1310		S	J		2400		C			56.58

OS Sheet No: SD3443SW

Scale 1:1250 Date: 19-Jul-2013

Printed by: Gareth Hindley

WASTE WATER SYMBOLOGY



Note - ALL flow/direction arrows are BLUE - colour not significant

NODE TABLE ABBREVIATIONS

MANHOLE FUNCTION

F	Foul	T	Transition
S	Surface	O	Overflow
C	Combined	U	Unspecified

MANHOLE / NODE TYPE

M	Manhole	Z	Ghost in Rising Main
J	Junction	C	Cascade
L	Lamphole	Y	Gulley
H	Hatchbox	E	Ejector
R	Rodding Eye	O	Oil Injector
F	Outfall	I	Inlet
V	Combined Sewer Overflow	B	Hydrobrake
		T	Vent Column
P	Pumping Station	X	Valve
S	Soakaway	U	Unspecified
D	Dual Function Manhole	Q	Expediency Node
		G	Ghost (to allow pipe bends)
W	Treatment Works		

SEWER SHAPE

C	Circular	T	Trapezoidal
E	Egg	A	Arch
O	Oval	B	Barrel
F	Flat Top	H	Horseshoe
R	Rectangular	U	Unspecified
S	Square		

SEWER MATERIAL

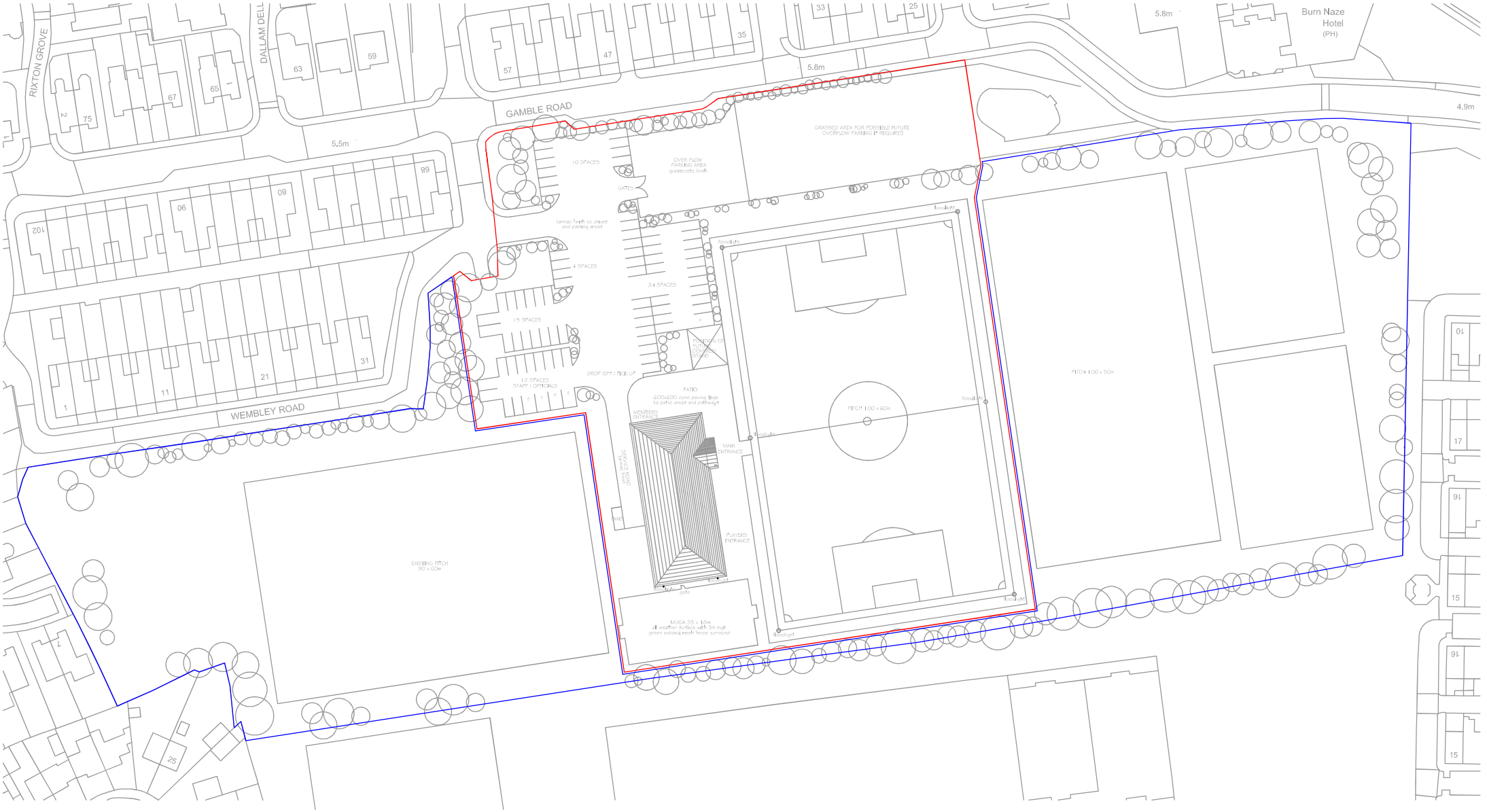
AC	Asbestos Cement
BR	Brick
CI	Cast Iron
SI	Spun (Grey) Iron
CO	Concrete
CS	Concrete Segments (Bolted)
CS	Concrete Segments (Unbolted)
CC	Concrete Box Culvert
DI	Ductile Iron
GR	Glass Reinforced Concrete
GR	Glass Reinforced Plastic
PS	Plastic / Steel Composite
PV	Polyvinyl Chloride
PE	Polyethylene
RP	Reinforced Plastic Matrix
ST	Steel
VC	Vitrified Clay (All Clayware)
PP	Polypropylene
PF	Pitch Fibre
MA	Masonry - In Regular Courses
MA	Masonry - Randomly Coursed
U	Unspecified

OS Sheet No: SD3443SW
Scale 1:1250 Date: 19-Jul-2013
36 Nodes
Sheet 1 of 1

United Utilities
SEWER RECORDS

APPENDIX 4

PROPOSED SITE MASTERPLAN



C. - 04.10.19 - Red edge amended.
B. - 27.08.19 - Redesigned.
A. - 18.07.19 - Redesigned.

THORNTON-CLEVELEYS FC

PROPOSED CLUBHOUSE
Gamble Road, Thornton

SITE LAYOUT PLAN

Scale 1 : 500 @ A1
Date August 2019
Drawn GA
Drawing No. A 19 . 12 / 1 rev C

GEOFF ATTWATER
ARCHITECTURAL DESIGN SERVICE

40, Stanah Gardens,
Thornton - Cleveleys,
Lancs, FY5 5JH.
Tel:01253 828848 / Mob:07539 264785
Email:geoffattwater@talktalk.net

APPENDIX 5

SURFACE WATER STORAGE CALCULATION ESTIMATES

Integra Consulting		Job No	Date
		Sheet	By jh
Calculations	Telephone: 0161 237 3400		

Job Title TCFC

Storm Water Flood Model

M5-60 = 17 r = 0.4 Return, T = 30 Area (m²) = 4500

CC Factor = 0 Limit (l/s) = 2

Totals 143 143

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	9.00	13.28	79.66	98.94	98.94	58.16	58.16
15.00	10.70	16.05	64.19	79.72	79.72	69.95	69.95
20.00	11.95	17.98	53.94	66.99	66.99	77.99	77.99
25.00	12.93	19.55	46.93	58.28	58.28	84.42	84.42
30.00	13.75	20.86	41.72	51.82	51.82	89.68	89.68
35.00	14.45	21.99	37.69	46.81	46.81	94.11	94.11
40.00	15.07	22.97	34.46	42.80	42.80	97.93	97.93
45.00	15.62	23.86	31.81	39.51	39.51	101.27	101.27
50.00	16.12	24.66	29.59	36.75	36.75	104.24	104.24
55.00	16.58	25.39	27.70	34.40	34.40	106.91	106.91
60.00	17.00	26.06	26.06	32.37	32.37	109.32	109.32
65.00	17.39	26.69	24.63	30.60	30.60	111.52	111.52
70.00	17.76	27.27	23.38	29.03	29.03	113.54	113.54
75.00	18.11	27.82	22.26	27.64	27.64	115.39	115.39
80.00	18.43	28.34	21.25	26.40	26.40	117.10	117.10
85.00	18.74	28.83	20.35	25.27	25.27	118.69	118.69
90.00	19.03	29.29	19.53	24.25	24.25	120.17	120.17
95.00	19.32	29.74	18.78	23.33	23.33	121.55	121.55
100.00	19.58	30.16	18.10	22.47	22.47	122.84	122.84
105.00	19.84	30.56	17.46	21.69	21.69	124.05	124.05
110.00	20.09	30.95	16.88	20.97	20.97	125.19	125.19
115.00	20.33	31.32	16.34	20.30	20.30	126.26	126.26
120.00	20.56	31.68	15.84	19.68	19.68	127.27	127.27
125.00	20.78	32.03	15.37	19.10	19.10	128.21	128.21
130.00	21.00	32.36	14.94	18.55	18.55	129.11	129.11
135.00	21.20	32.69	14.53	18.04	18.04	129.95	129.95
140.00	21.41	33.00	14.14	17.57	17.57	130.75	130.75
145.00	21.60	33.30	13.78	17.12	17.12	131.51	131.51
150.00	21.79	33.60	13.44	16.69	16.69	132.22	132.22
155.00	21.98	33.88	13.12	16.29	16.29	132.90	132.90
160.00	22.16	34.16	12.81	15.91	15.91	133.54	133.54
165.00	22.34	34.43	12.52	15.55	15.55	134.15	134.15
170.00	22.51	34.70	12.25	15.21	15.21	134.73	134.73
175.00	22.68	34.95	11.98	14.88	14.88	135.27	135.27
180.00	22.84	35.20	11.73	14.57	14.57	135.79	135.79
185.00	23.00	35.45	11.50	14.28	14.28	136.28	136.28
190.00	23.16	35.68	11.27	14.00	14.00	136.75	136.75
195.00	23.31	35.92	11.05	13.73	13.73	137.19	137.19
200.00	23.46	36.14	10.84	13.47	13.47	137.61	137.61

Integra Consulting		Job No	Date
		Sheet	By jh
Calculations	Telephone: 0161 237 3400		

Job Title TCFC

Storm Water Flood Model

M5-60 = 17 r = 0.4 Return, T = 100 Area (m²) = 4500

CC Factor = 0.3 Limit (l/s) = 2

Totals 201 280

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	9.00	16.98	101.88	126.54	164.50	74.72	97.50
15.00	10.70	20.74	82.95	103.02	133.93	90.92	118.73
20.00	11.95	23.29	69.87	86.78	112.81	101.73	132.97
25.00	12.93	25.40	60.96	75.72	98.43	110.57	144.65
30.00	13.75	27.16	54.32	67.47	87.71	117.85	154.28
35.00	14.45	28.68	49.16	61.06	79.37	124.02	162.48
40.00	15.07	30.01	45.01	55.90	72.67	129.36	169.61
45.00	15.62	31.19	41.59	51.66	67.16	134.08	175.92
50.00	16.12	32.27	38.72	48.09	62.52	138.28	181.57
55.00	16.58	33.25	36.28	45.05	58.57	142.08	186.68
60.00	17.00	34.16	34.16	42.42	55.15	145.53	191.34
65.00	17.39	35.00	32.31	40.12	52.16	148.68	195.63
70.00	17.76	35.78	30.67	38.09	49.52	151.59	199.59
75.00	18.11	36.52	29.21	36.28	47.17	154.28	203.26
80.00	18.43	37.21	27.91	34.66	45.06	156.78	206.69
85.00	18.74	37.87	26.73	33.20	43.16	159.10	209.89
90.00	19.03	38.49	25.66	31.87	41.43	161.28	212.91
95.00	19.32	39.08	24.68	30.65	39.85	163.32	215.74
100.00	19.58	39.64	23.78	29.54	38.40	165.24	218.42
105.00	19.84	40.18	22.96	28.52	37.07	167.05	220.95
110.00	20.09	40.70	22.20	27.57	35.84	168.76	223.35
115.00	20.33	41.19	21.49	26.69	34.70	170.38	225.63
120.00	20.56	41.67	20.83	25.88	33.64	171.91	227.80
125.00	20.78	42.13	20.22	25.11	32.65	173.36	229.86
130.00	21.00	42.57	19.65	24.40	31.72	174.73	231.83
135.00	21.20	43.00	19.11	23.73	30.85	176.04	233.71
140.00	21.41	43.41	18.60	23.11	30.04	177.29	235.51
145.00	21.60	43.81	18.13	22.51	29.27	178.47	237.24
150.00	21.79	44.19	17.68	21.96	28.54	179.60	238.89
155.00	21.98	44.57	17.25	21.43	27.86	180.68	240.47
160.00	22.16	44.93	16.85	20.93	27.21	181.71	241.99
165.00	22.34	45.29	16.47	20.45	26.59	182.69	243.44
170.00	22.51	45.63	16.11	20.00	26.00	183.63	244.84
175.00	22.68	45.97	15.76	19.57	25.45	184.53	246.19
180.00	22.84	46.29	15.43	19.17	24.92	185.39	247.49
185.00	23.00	46.61	15.12	18.78	24.41	186.21	248.73
190.00	23.16	46.92	14.82	18.40	23.92	187.00	249.94
195.00	23.31	47.22	14.53	18.05	23.46	187.75	251.09
200.00	23.46	47.52	14.26	17.71	23.02	188.47	252.21