LATERAL MANHOLE SCHEDULE

REF	EASTING	NORTHING	APP COVER LEVEL	INVERT LEVEL	DEPTH	SIZE	TYPE	PIPE SIZE	BACKDROP
SURFACE WATER									
PS1	440263.781	401969.494	45.95	44.55	1.40	500	PPIC	150	
PS2	440295.052	401928.829	46.35	44.57	1.78	500	PPIC	150	
PS3	NOT PRESENT								
PS4	NOT PRESENT								
PS5	440308.706	401923.653	45.65	43.50	2.15	500	PPIC	150	
PS6	440384.280	401899.827	43.45	41.22	2.23	1050	CONC	150	42.35
PS7	NOT PRESENT								
PS8	440342.291	401961.458	47.95	46.48	1.47	500	PPIC	150	
PS9	440389.425	401948.381	45.95	44.40	1.55	500	PPIC	150	
PS10	440422.845	401910.930	42.80	41.30	1.50	500	PPIC	150	
PS11	440450.273	401928.515	42.95	41.25	1.70	500	PPIC	150	
PS12	NOT PRESENT								
PS13	440483.443	401931.119	42.12	40.65	1.47	500	PPIC	150	
PS14	440523.542	401933.854	41.45	40.00	1.45	500	PPIC	150	
PS15	440521.971	401897.668	40.40	37.50	2.90	1200	CONC	225	
PS16	440529.525	401869.642	39.70	37.90	1.80	500	PPIC	150	
PS17	440540.275	401878.293	39.90	37.96	1.94	500	PPIC	150	
PS18	440574.846	401886.757	38.95	37.50	1.45	500	PPIC	150	
PS19	440603.547	401898.061	38.35	36.90	1.45	500	PPIC	150	
PS20	440538.504	401838.861	38.80	37.35	1.45	500	PPIC	150	
PS21	440550.126	401842.556	38.90	37.35	1.55	500	PPIC	150	
PS22	440546.451	401813.670	38.05	36.60	1.45	500	PPIC	150	
PS23	440589.705	401830.811	37.15	35.70	1.45	500	PPIC	150	
PS24	440613.406	401857.187	36.40	34.90	1.50	500	PPIC	150	
PS25	440634.639	401873.845	36.20	34.45	1.75	500	PPIC	150	
FOUL WATER									
PF1	440282.657	401964.519	46.60	44.60	2.00	500	PPIC	150	
PF2	440313.647	401950.276	47.50	44.05	3.45	1050	CONC	150	45.50
PF3	440285.394	401885.599	43.12	40.76	2.36	500	PPIC	150	
PF4	440313.905	401878.075	42.42	40.78	1.64	500	PPIC	150	
PF5	440343.391	401911.301	44.45	40.65	3.80	1050	CONC	150	42.15
PF6	440385.360	401900.893	43.45	40.45	3.00	1050	CONC	150	41.95
PF7	440394.362	401917.391	44.00	42.00	2.00	500	PPIC	150	
PF8	440404.708	401918.267	43.76	41.76	2.00	500	PPIC	150	
PF9	440407.317	401891.906	42.73	39.78	2.95	1050	CONC	150	
PF10	440438.952	401917.114	42.60	40.15	2.45	500	PPIC	150	
PF11	440455.547	401908.484	42.11	40.10	2.01	500	PPIC	150	
PF12	440478.809	401930.295	42.15	39.84	2.31	500	PPIC	150	
PF13	440525.663	401934.654	41.52	39.47	2.05	500	PPIC	150	
PF14	440521.601	401900.021	40.45	38.45	2.00	500	PPIC	150	
PF15	440528.792	401866.979	39.58	37.55	2.03	500	PPIC	150	
PF16	440541.496	401877.960	39.80	37.36	2.44	500	PPIC	150	
PF17	440577.458	401888.531	38.92	37.05	1.87	500	PPIC	150	
PF18	440606.379	401896.152	38.05	36.36	1.69	500	PPIC	150	
PF19	440611.013	401862.337	36.70	34.46	2.24	500	PPIC	150	
PF20	440619.993	401867.764	36.65	33.96	2.69	500	PPIC	150	
PF21	440546.149	401811.325	38.05	36.05	2.00	500	PPIC	150	
PF22	440591.330	401832.564	37.10	35.20	1.90	500	PPIC	150	
PF23	440615.526	401842.756	36.10	34.25	1.85	1050	CONC	150	35.10

NOTES TO MEET YORKSHIRE WATER REQUIREMENTS

1. All adoptable sewer works and material to be in accordance with Sewers for Adoption 6th Edition, The Relevant British/European and Yorkshire Water's Standards/Requirements/Addendum to the Mechanical and Electrical Specification and Kitemarked.
2. Manhole covers shall/must have a clear opening of 600mm and shall be Class D400 to BS EN 124 with 150mm deep frames in highways.
3. Filled ground must be filled and consolidated under the supervision and to the satisfaction of Yorkshire Water before any sewer works are carried out.
4. Yorkshire Water is not obliged to accept filter drain/land drainage run-off into the public sewer network or adoptable drainage system (directly or in-directly). An alternative method of disposal of the land drainage run-off will therefore be required and you will have to liaise with the Local Authority, Land Drainage Section with regard to the disposal of the filter drain/land drainage run-off.
5. Cover slabs must carry the BSI Kitemark or will be rejected by Yorkshire Water Inspector. Where the clear opening of the Kitemarked product is different to that of the cover and frame, a loading bearing slab should be fitted above the cover slab to bring the size down to 600mm x 600mm for the Yorkshire Water specified cover size. Please refer to Concrete Pipe Systems Association (CPSA), 'Technical Bulletin' issued Autumn 2004 for Kitemarked cover slab opening sizes.
6. Sulphate resistant cement (C20-DC2) and precast concrete products must be used or a laboratory report provided proving that such precautions are not necessary.
7. The adoptable sewers should be a minimum of 1m and manholes 0.5m from kerb faces and service margins.
8. Sewers must have 5 metres clearance from trees and hedges (please also refer to Figure 2.3 on page 33 in Sewers for Adoption 6th Edition for restrictions on tree planting adjacent to sewers).
9. Sewers to be laid in Class S Bedding (150mm granular bed and surround). Where depth of cover to top of the sewer is less than 1.2m in highways and verges (or less than 900mm in none vehicular access areas) then a concrete slab should be provide above granular bed and surround.
10. Bedding and backfill material to conform to the requirement of Water Industry Specification 4-08-02 (Table A2).
11. The chamber size of manholes with more than one connection in them may need to be increased an increment to accommodate the connections and bends.
12. Yorkshire Water policy is not to accept Type C brick manholes and 1050mm dia manhole rings. Instead it is preferred that you use a type B manhole with 1200mm dia or 1500mm dia rings, with the opening sited over the channel where depth of cover to pipe soffit is 1-1.5m.
13. Adoptable plastic sewer pipes to be BSI Kitemarked (certified to WIS 4-35-01 and BS/EN13476). Adoptable plastic sewer pipes to be laid in maximum 3 metre lengths unless there is a specific operational need to lay longer lengths. Plastic channel sections in manholes are not acceptable and Yorkshire Water would prefer clay ware channel in manholes.
14. The minimum crushing strength for clay pipes should be as follows : 100mm dia. 40KN/m, 150mm dia. 40KN/m, 225mm dia. 45KN/m and 300mm dia. 72KN/m. The minimum crushing strength for concrete pipes should be - (Class 120 to EN 1916/BS5911-1 2002). Plastic pipes should conform to WIS 4-35-01 and BS EN13476.
15. Where a B125 cover and frame has been approved, this must not be coated in plastic and must have lifting eyes suitably sized to accommodate standard lifting keys. Screw down covers are not acceptable.

NOTE THAT IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT ALL WORKS ARE CARRIED OUT TO THE REQUIRED STANDARD STIPULATED BY PERSIMMON HOMES INCLUDING CURRENT EDITIONS OF THE BUILDING REGULATIONS, SEWER FOR ADOPTION, RELEVANT BRITISH STANDARDS, EUROCODES AND GOOD BUILDING PRACTICE. IF IN DOUBT, REFER TO PH TECHNICAL DEPARTMENT FOR CLARIFICATION.

General notes :

1. All work to be in accordance with the current building regulations.
2. Drains passing through buildings to be protected with lintel over.
3. No building to take place within 3.000M of an adoptable sewer.
4. All adoptable sewer works and material to be in accordance with Sewers for Adoption 6th Edition, the relevant British/European and Yorkshire Waters standards/requirements/addendum and be kitemarked.
5. All adoptable sewers to be in hepsleve clay (150ø 40KN/m or 225ø 45KN/M) or Concrete (Class 120) with class S bedding. Concrete pipes to comply with EN 1916/BS5911-1 : 2002.
6. Highway construction to be in accordance with BMBC Highway Design Guide (or equivalent) and to the requirements of BMBC Highways.
7. Private drainage to be in 100mm dia. plastic pipe (unless specified otherwise on domestic drainage layouts) with granular bed and surround to satisfaction of the building control officer. Minimum gradient 1/80 for SW, 1/60 for foul.
8. Adoptable manholes to be concrete ring type 1200mm diameter, unless specified otherwise in schedules. Covers to have min 600mm opening and shall be Class D400 to BS EN 124 with 150mm deep frames in highways.
9. PC Concrete road gullies to be trapped, have rodding eye, chain, metal stopper and 150mm dia. outlet. 915mm deep X 375mm internal diameter. Grates and frames to be approved type ref. BS EN 124 D400 in ductile iron and to be kite marked.
10. Sewers to be laid in Class S bedding (150mm granular bed and surround). Where depth of cover to top of the sewer is less than 1.2m in highways and verges (or less than 900mm in none vehicular access areas) then a concrete slab should be provide above granular bed and surround

— · — · — · — · — foul sewer

— — — — — — — surface water sewer

11. Where appropriate levels marked on dwellings refer to finished ground floor level.
12. Note minimum pipe sizes for adoptable purposes to be 150mm dia.
13. All works to be in accordance with the BMBC Specification for Roads & Private Street Works. Details subject to confirmation on site by BMBC Highways Inspector/Engineer.
15. NOTE THAT ALL FENCING AND SCREEN WALLING/FENCING DETAILS TO BE AS DEFINED ON PLANNING DRAWING
16. The chamber size of manholes with more than one connection in them may need to be increased by an increment to accommodate connections and bends.
17. Sewers must have 5m clearance from trees and hedges (please also refer to Fig 2.3 on page 33 in Sewers for Adoption 6th Edition for restrictions on tree planting adjacent to sewers).
18. Where depth to crown is 1-1.5m, then the manhole opening should be sited over the channel.
19. PEDESTRIAN CROSSING AND TACTILE PAVING AT JUNCTIONS TO BE IN ACCORDANCE WITH DETAIL SHOWN ON CROSS SECTIONS DRAWING
20. STREET LIGHTING, WHITE LINING AND SIGNAGES ALL TO BE AGREED WITH BMBC HIGHWAYS.
21. Private drainage connections not direct to a manhole are to be made via a 45 degree junction and not saddles.
22. Cover slabs must carry the BSI kitemark or will be rejected by the Yorkshire Water inspector. Where the clear opening of the kitemarked product is different to that of the cover and frame, a load bearing slab should be fitted above the cover slab to bring the size down to 600mm x 600mm for the Yorkshire Water specified cover size. Please refer to Concrete Pipe Systems Association (CPSA) 'Technical Bulletin' issued Autumn 2004 for kitemarked cover slab opening sizes.
23. All filled ground to be filled and consolidated under supervision and to the satisfaction of Yorkshire Water prior to any sewer works being carried out. Bedding and back fill material to conform to the requirement of Water Industry Specification 4-08-02 (Table A2).
24. Yorkshire Water is not obliged to accept filter drain/land drainage run-off into public sewers or adoptable drainage systems (directly or indirectly). An alternative method of disposal of the land drainage run-off will be required to be agreed with the Local Drainage Section.
25. Sulphate resistance cement (C20-DC2) and precast concrete products must be used or a laboratory report provided proving that such precautions are not necessary.
26. The adoptable sewers should be a minimum of 1m and manholes 0.5m from kerb faces and service margins.
27. Traffic Management to be in accordance with the Safety at Street works and Road works - A Code of Practice - 2nd impression and is the responsibility of the Contractor to implement and maintain.

NOTE THAT ALL TREES LOCATED WITHIN 5M OF THE ADOPTABLE ESTATE ROADS AND EXISTING ADOPTED HIGHWAYS TO BE PROVIDED WITH ROOT BARRIER PROTECTION (BY MESSRS GREENBLUE URBAN OR SIMILAR)

ALL PROPOSED TREES CENTRED IN A LOCATION WITHIN 3.0M OF THE PROSPECTIVELY ADOPTABLE HIGHWAY TO BE PROVIDED WITH ROOT BARRIER MEMBRANES INSTALLED ON THE TREE SIDE ALONG THE BACK EDGING OF THE HIGHWAY AND ARE TO EXTENT A MINIMUM OF 3M EITHER SIDE FROM THE TREE TRUNK TO THE HIGHWAY BOUNDARY AND ARE TO BE A MINIMUM DEPTH OF 1M.

All survey data established using OSGB36

All survey level information is relative to GPS Station CS1 at an elevation of 39.990m

1. All work to be in accordance with the current Building Regulations
2. Only written dimensions to be used
3. Discrepancies and abnormalities to be reported.
4. If in doubt Ask.

YW REF H-3-264-056



RISK ASSESSMENT : SIGNIFICANT RISKS THAT CANNOT BE DESIGNED OUT		
RISK	LEVEL OF RISK (H/M)	SUGGESTED ACTION
DEEP EXCAVATIONS ASSOCIATED WITH NEW DRAINAGE WORKS.	HIGH	ENSURE ALL EXCAVATIONS HAVE ADEQUATE TRENCH SUPPORTS.
HANDLING LARGE DIAMETER MANHOLE RINGS, CONCRETE PIPES AND PRE CAST CONCRETE SECTIONS ASSOCIATED WITH TANK	HIGH	USE CORRECT LIFTING EQUIPMENT AND ENSURE OPERATIVES WEAR APPROPRIATE PROTECTIVE CLOTHING/HARD HATS.
CONTACT WITH SEWAGE.	MED	OPERATIVES TO USE CORRECT BREATHING EQUIPMENT.
NOISE.	MED	OPERATIVES TO USE CORRECT EAR PROTECTION.
EXCAVATIONS ADJACENT EXISTING BOUNDARY STRUCTURES	HIGH	ENSURE CORRECT SUPPORTS ARE PROVIDED TO TRENCHES AND BUILDINGS WHERE REQUIRED.
EXCAVATIONS IN PUBLIC HIGHWAY.	HIGH	ENSURE CORRECT USE OF TRENCH SUPPORTS IN EXCAVATION AND SCREEN BARRIERS TO PROTECT MEMBERS OF THE PUBLIC.
MAINTAIN ACCESS TO ADJACENT PROPERTIES AND OCCUPIERS.	HIGH	ENSURE WORKS ARE PROTECTED WITH BARRIERS AND SIGNS TO GUIDE THE PUBLIC AWAY FROM THE WORKS.
DRAINAGE EXCAVATIONS NEAR TO EXISTING SERVICES	HIGH	ENSURE WORKS ARE PROTECTED WITH BARRIERS AND SIGNS TO GUIDE MEMBERS OF THE PUBLIC AWAY FROM THE AREA.
IT IS ASSUMED THAT WORKS ASSOCIATED WITH THIS DESIGN WILL BE UNDERTAKEN BY A PERSON OR PERSONS WHO ARE COMPETENT AND HAVE THE REQUIRED LEVEL OF EXPERIENCE AND EXPERTISE		

NOTE THAT R&S CONTRACTOR TO ESTABLISH INVERT LEVEL OF PUBLIC FOUL SEWER MANHOLE AND SURFACE WATER CULVERT AT PROPOSED POINT OF CONNECTION PRIOR TO UNDERTAKING NEW WORKS ON SITE

B. 30/09/18 amended to suit BMBC Highways/YW comments
A. 19/04/18 slab level amendments to suit ExtWorks
Revision.

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A0

Client. Persimmon Homes

Site. Lundhill Road, Wombwell.

Title. Engineering Layout

Date:	Scales.	Drawing No.
Apr 2018	1/500	18/692/9036B