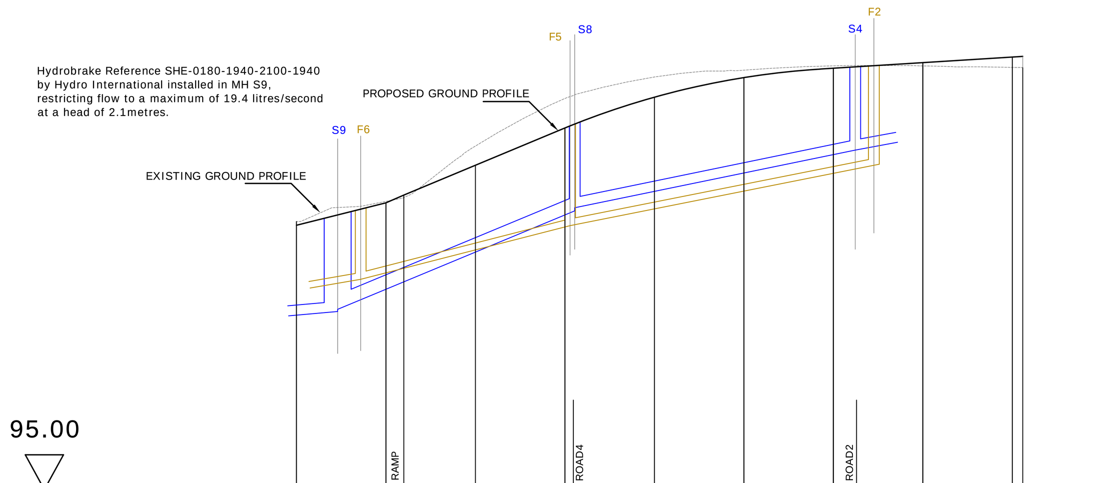


Datum 95.00

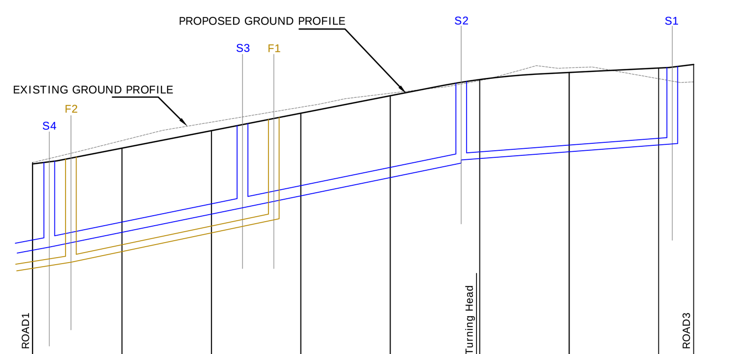
CHAINAGE	EXISTING LEVELS	CENTRELINE LEVEL
0.000	100.910	100.910
5.000	101.310	101.160
10.000	101.444	101.410
12.000		
15.000	101.941	101.835
20.000	102.681	102.252
25.000	103.258	102.668
30.000	103.745	103.085
30.941		
35.000	104.027	103.462
40.000	104.224	103.773
45.000	104.345	104.022
50.000	104.377	104.212
55.000	104.438	104.343
60.000	104.474	104.420
62.590		
65.000	104.483	104.483
70.000	104.473	104.545
75.000	104.452	104.608
80.000	104.440	104.670
81.159	104.438	

VERTICAL ALIGN: 1 in 20.000 L=10.000; 1 in 12.000 L=17.624; Vert Curv L=28.999 k=4.094; 1 in 80.000 L=22.536

HORIZONTAL ALIGN: Str. L=16.746; LH curve R=33.250 L=32.344; LH curve R=44.250 L=31.760

	Run 1	Run 2
S.W. COVER LEVEL	101.10 → 103.45	103.45 → 104.43
S.W. INVERT LEVEL	98.98 / 99.03 → 101.23	101.30 → 102.59
S.W. DETAILS	300Ø 1:12.0 "POLYPIPE TWINWALL" CLASS S BEDDING	225Ø 1:24.4 "POLYPIPE TWINWALL" CLASS S BEDDING
S.W. LENGTHS/Nos	26.49m 1.004	31.35m 1.003
F.W. COVER LEVEL	101.40 → 103.50	103.50 → 104.50
F.W. INVERT LEVEL	99.70 → 100.90	100.90 → 102.25
F.W. DETAILS	150Ø 1:19.5 TYPE EX.ST.V.C. CLASS S BEDDING	150Ø 1:25.1 TYPE EX.ST.V.C. CLASS S BEDDING
F.W. LENGTHS/Nos	23.41m	33.95m

Road 1
Horiz. 1:500 Vert. 1:100



Datum 100.00

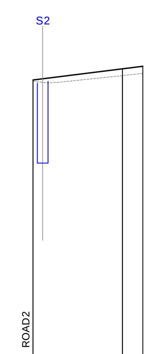
CHAINAGE	EXISTING LEVELS	CENTRELINE LEVEL
0.000	104.483	104.453
5.000	104.724	104.610
10.000	104.975	104.805
15.000	105.219	105.001
20.000	105.387	105.197
25.000	105.555	105.392
30.000	105.722	105.588
35.000	105.914	105.783
40.000	106.035	105.979
45.000	106.152	106.175
48.633 / 50.000	106.319	106.342
55.000	106.577	106.446
60.000	106.605	106.500
65.000	106.537	106.550
70.000	106.360	106.599
73.913	106.290	106.680

VERTICAL ALIGN: 1 in 40.000 L=2.750; 1 in 25.559 L=42.524; Vert Curv L=11.647 k=3.988; 1 in 100.831 L=14.242; 1 in 40.000 L=2.750

HORIZONTAL ALIGN: Str. L=21.034; R=27.750 L=4.843; Str. L=9.884; RH curve R=34.750 L=27.779; Str. L=10.373

	Run 1	Run 2	Run 3
S.W. COVER LEVEL	104.43 → 105.25	105.25 → 106.20	106.20 → 106.59
S.W. INVERT LEVEL	102.59 → 103.47	103.47 → 104.47	104.54 → 104.90
S.W. DETAILS	225Ø 1:24.5 "POLYPIPE TWINWALL" CLASS S BEDDING	225Ø 1:24.5 "POLYPIPE TWINWALL" CLASS S BEDDING	150Ø 1:66.5 "POLYPIPE TWINWALL" CLASS S BEDDING
S.W. LENGTHS/Nos	21.60m 1.002	24.45m 1.001	23.60m 1.000
F.W. COVER LEVEL	104.50 → 105.40		
F.W. INVERT LEVEL	102.25 → 103.20		
F.W. DETAILS	150Ø 1:24.0 TYPE EX.ST.V.C. CLASS S BEDDING		
F.W. LENGTHS/Nos	22.68m		

Road 2
Horiz. 1:500 Vert. 1:100



Datum 100.00

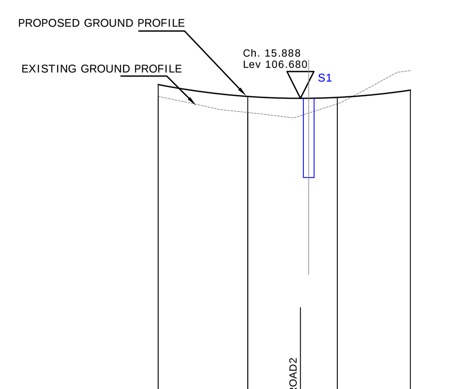
CHAINAGE	EXISTING LEVELS	CENTRELINE LEVEL
0.000	106.305	106.332
5.000	106.325	106.457
10.000	106.430	106.582
12.272	106.480	106.638

VERTICAL ALIGN: 1 in 40.000 L=12.272

HORIZONTAL ALIGN: Str. L=12.272

S.W. COVER LEVEL: 106.20; S.W. INVERT LEVEL: 104.47 / 104.54

Turning Head
Horiz. 1:500 Vert. 1:100



Datum 100.00

CHAINAGE	EXISTING LEVELS	CENTRELINE LEVEL
0.000	106.723	106.989
5.000	106.513	106.824
10.000	106.363	106.722
15.000	106.244	106.681
15.888		
20.000	106.558	106.700
25.000	107.077	106.781
28.168	107.299	106.863

VERTICAL ALIGN: Vert Curv L=28.168 k=4.059

HORIZONTAL ALIGN: LH curve R=44.250 L=28.168

S.W. COVER LEVEL: 106.59; S.W. INVERT LEVEL: 104.90

Road 3
Horiz. 1:500 Vert. 1:100

CONSTRUCTION RISKS		
CONSTRUCTION RISKS	MAINTENANCE RISKS	DEMOLITION RISKS
Public gaining access to the site. - risk of accidents, injury, death. ensure site fully fenced off and secured. The site is adjacent to a school, the existing car park is the current school car park, and as such, the Contractor should be aware of children and parents attempting access to the site. The site is adjacent to a public highway risk of conflict with road users. This is a rural area, road users could include livestock, horses, large farm vehicles. Working close to existing services, both known and unknown - risk of injury or death. ensure all services located prior to commencement of works. Working with existing sewers and watercourses - risk of Lymes Disease and Weils Disease		

In addition to the hazards/risks normally associated with this type of work detailed on this drawing take note of the above. iD Civils Design are only required to provide information about any significant risks associated with the design.

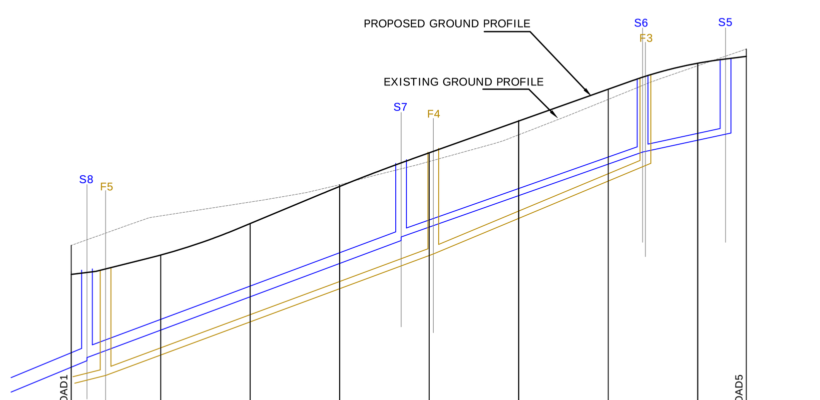
Health and Safety Notes/CDM Regulations 2015

In line with the above regulations we are obliged to inform the Contractor of the abnormal risks that may be encountered in the construction of these works. As part of the design process all the salient health & safety aspects are given full consideration and these are observed within the designs viewed on this document. Although considerable effort is undertaken to eliminate risks, the very nature of the project gives rise to some hazards and risks.

Significant risks that cannot be eliminated by design and could not be foreseen by a competent contractor are noted in the risk assessment boxes on the drawings.

NOTES.

1. Manholes, sewers etc. and any other part of the works intended for adoption under a Section 104 Agreement or gullies etc. intended for adoption as Highway Drainage are to be constructed in accordance with the W.A.A specification "Sewers for Adoption" 6th Edition, and to any requirements of the Adopting Authority and the Local Council.
2. Unadopted FW and SW drainage is to be constructed in accordance United Utilities standard details (see separate note and link below)and with the Building Regulations, BS. 8301 and relevant Agreement Certificates.
3. All private drainage to be 100mmØ unless indicated otherwise. All connections from private to adoptable manholes/sewers to be 150mmØ(min).
4. Private drainage with less than 0.9m of cover in drives and car parking areas to have minimum 150mm concrete bed and surround.
5. Private Drains are to be constructed using flexibly-jointed vitrified clay pipes to BS. 65 "Super Strength" specification and BS EN 295 (e.g. Hepworth SuperSleeve or similar) or uPVC Building Drainage system pipe work to EN 1401-1, bedded and back filled in accordance with the manufacturers instructions and the specifications listed in Note 2.
6. Backfilling of drain trenches adjacent to dwellings or other structures to be in accordance with BS. 8301-Fig.9.
7. Access fittings and inspection chambers less than 1m deep are to be clayware or pre-formed polypropylene as appropriate to the depth and number of connections. Chambers greater than 2.0m deep are to be of pre-cast concrete construction with 150mm in-situ concrete surround, or polpropolene reduced access system. Inspection chamber sizes are to be in accordance with Table 8 of BS.8301.
8. Cover levels indicated on the drawing are nominal and may be adjusted to suit finished ground levels as necessary. Private inspection chamber covers should be Grade B in areas accessible to wheeled vehicles and Grade C elsewhere.
9. Rainwater down pipes to be connected direct to drain using an appropriate adapter and removable section of down pipe to permit rodding access.
10. Where drains pass through foundations or other rigid structures, a lintel or sleeve is to be used and provision for flexibility is to be made with "rocker pipes".
11. The positions of SVPs, stub-stacks, W.C. outlets etc. and rainwater down pipes are to be accurately located from the house-type working drawings.
12. Gullies situated in areas accessible to wheeled vehicles are to be of suitable construction. Typically Hepworth square gully ref. SG2/1 with driveway grating ref. 1H2C for a single private drive. For communal parking areas refer to the detail shown on iD Civils Design drawing number 4663-C-D3-01.
13. Drains within areas of "made ground" to be constructed by first making up the area to approx. finished level and then excavating through the fill material into undisturbed ground. The drain trench is then to be back filled to formation level using suitable granular fill material well-compacted in layers not exceeding 225mm.
14. Drains to be constructed under dwellings with suspended floor slabs should either be installed using a proprietary hanger system where "beam and pot" or similar construction is used, or should be cast into local slab thickening where reinforced concrete ground slabs are to be poured in-situ.
15. Finished ground levels have been prepared assuming that the level threshold to the building, is in accordance with part M of the building regulations, is at the front of the property unless otherwise stated.
16. For all details of fences/walls and enclosures refer to architect for details.
17. ACO type drainage to all car parking areas serving more than two cars to be ACO Multidrain MD, 200mm wide channel with min. C250 covers with "heelguard" type openings. ACO type drainage to private garages to be minimum 150mm wide channels and to door threshes minimum 100mm wide channels. SHALLOW DEPTH CHANNELS SHALL NOT BE USED



Datum 100.00

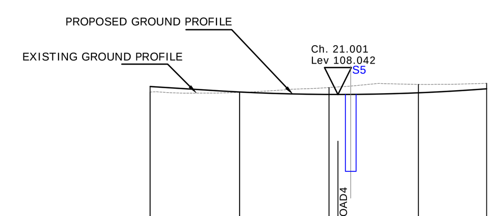
CHAINAGE	EXISTING LEVELS	CENTRELINE LEVEL
0.000	103.812	103.161
5.000	104.169	103.342
10.000	104.471	103.595
15.000	104.627	103.907
20.000	104.782	104.301
25.000	104.950	104.717
30.000	105.169	105.132
35.000	105.433	105.521
40.000	105.689	105.883
45.000	105.966	106.239
50.000	106.287	106.595
55.000	106.676	106.951
60.000	107.080	107.307
65.000	107.485	107.649
70.000	107.832	107.890
75.000	108.178	108.032
75.432	108.207	

VERTICAL ALIGN: 1 in 20.000 L=5.876; Vert Curv L=10.000 k=3.000; 1 in 12.000 L=9.449; Vert Curv L=10.000 k=8.257; 1 in 14.041 L=24.729; Vert Curv L=9.877 k=2.216

HORIZONTAL ALIGN: Str. L=21.567; LH curve R=97.750 L=41.780; R=8.750 L=4.084; Str L=8.001

	Run 1	Run 2	Run 3
S.W. COVER LEVEL	103.45 → 105.70	105.70 → 107.55	107.55 → 108.00
S.W. INVERT LEVEL	101.23 / 101.30 → 103.92	104.00 → 105.90	105.90 → 106.30
S.W. DETAILS	225Ø 1:13.4 "POLYPIPE TWINWALL" CLASS S BEDDING	150Ø 1:14.2 "POLYPIPE TWINWALL" CLASS S BEDDING	150Ø 1:23.2 "POLYPIPE TWINWALL" CLASS S BED.
S.W. LENGTHS/Nos	35.10m 2.002	26.98m 2.001	9.27m 2.000
F.W. COVER LEVEL	103.50 → 105.90	105.90 → 107.65	
F.W. INVERT LEVEL	100.90 → 103.62	103.62 → 105.60	
F.W. DETAILS	150Ø 1:13.5 TYPE EX.ST.V.C. CLASS S BEDDING	150Ø 1:12.0 TYPE EX.ST.V.C. CLASS S BEDDING	
F.W. LENGTHS/Nos	36.62m	23.70m	

Road 4
Horiz. 1:500 Vert. 1:100



Datum 105.00

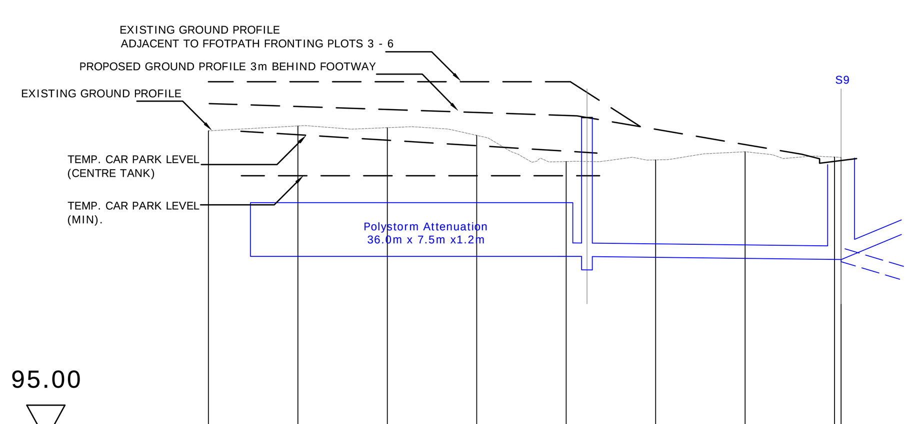
CHAINAGE	EXISTING LEVELS	CENTRELINE LEVEL
0.000	108.097	108.219
5.000	108.072	108.156
10.000	108.089	108.097
15.000	108.144	108.059
20.000	108.197	108.043
21.001		
25.000	108.278	108.050
30.000	108.266	108.079
35.000	108.276	108.131
37.627	108.292	108.168

VERTICAL ALIGN: 1 in 80.000 L=7.251; Vert Curv L=30.376 k=10.995

HORIZONTAL ALIGN: LH curve R=42.750 L=37.627

S.W. COVER LEVEL: 108.00; S.W. INVERT LEVEL: 106.30

Road 5
Horiz. 1:500 Vert. 1:100

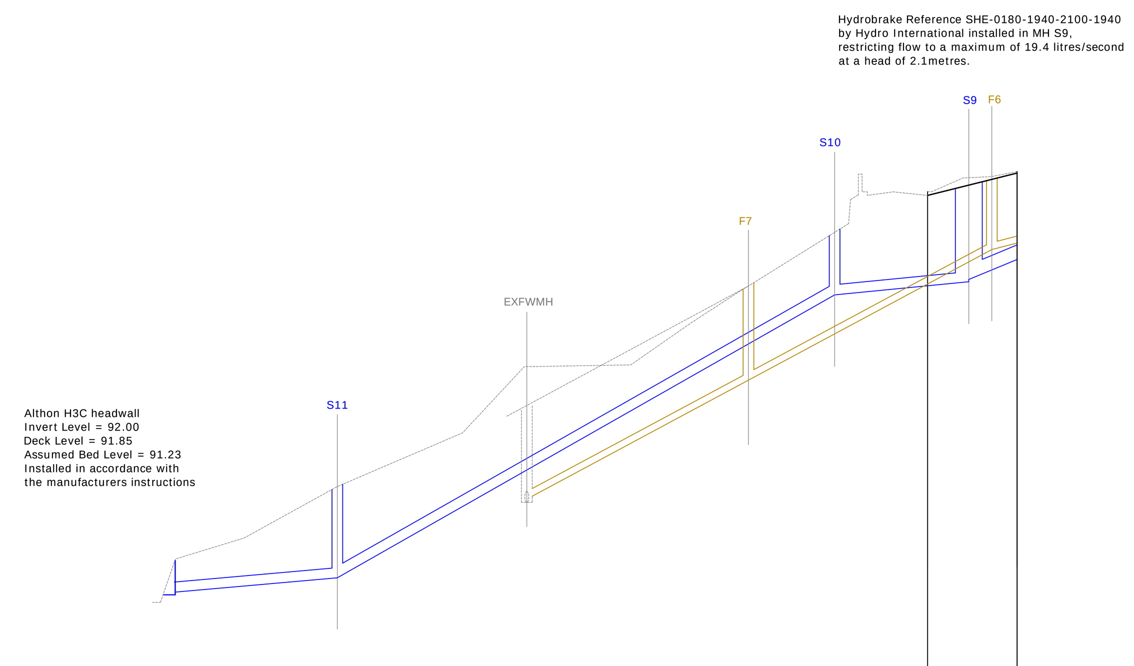


Datum 95.00

CHAINAGE	EXISTING LEVELS
0.000	102.012
5.000	101.956
10.000	101.974
15.000	101.967
20.000	101.802
25.000	101.337
30.000	101.218
35.000	101.248
40.000	101.254
45.000	101.377
50.000	101.436
55.000	101.297
60.000	101.318
60.732	101.310

	Run 1	Run 2
S.W. COVER LEVEL	103.00 / 102.50 → 102.90/ /102.00	102.20 → 101.24
S.W. INVERT LEVEL	99.20 → 99.20	99.20 → 99.03 / 98.98
S.W. DETAILS	Polystorm Attenuation	450Ø 1:167 "CONC CLASS C120" CLASS S BEDDING
S.W. LENGTHS/Nos	36.0m x 7.5m x1.2m	28.41m

Surface Water Attenuation
Horiz. 1:500 Vert. 1:100



Datum 90.00

CHAINAGE	EXISTING LEVELS	CENTRELINE LEVEL
	91.81	
	92.78	
	93.25	
	94.40	
	95.60	
	97.08	
	97.12	
	98.08	
	98.69	
	100.28	
	101.02	
	100.92	
	100.99	
0.000	100.91	100.91
5.000	101.310	101.160
10.000	101.444	101.410

VERTICAL ALIGN: 1 in 20.000 L=10.353

	Run 1	Run 2	Run 3
S.W. COVER LEVEL	92.78 → 94.40	94.40 → 100.30	100.30 → 101.10
S.W. INVERT LEVEL	91.85 / 92.00 → 92.36	92.36 → 98.79	98.79 → 98.98 / 99.03
S.W. DETAILS	225Ø 1:50.0 "POLYPIPE TWINWALL" CLASS S BEDDING	225Ø 1:8.94 "POLYPIPE TWINWALL" CLASS S BEDDING	225Ø 1:77.8 "POLYPIPE TWINWALL" CLASS S BEDDING
S.W. LENGTHS/Nos	18.10m 1.007	55.60m 1.006	15.00m 1.005
F.W. COVER LEVEL		96.16 → 98.90	98.90 → 101.40
F.W. INVERT LEVEL		94.07 / 94.12 → 96.78	96.78 → 99.70
F.W. DETAILS		150Ø 1:9.32 TYPE EX.ST.V.C. CLASS S BEDDING	150Ø 1:9.32 TYPE EX.ST.V.C. CLASS S BEDDING
F.W. LENGTHS/Nos		24.78m	27.20m

Off-site sewer Connections
Horiz. 1:500 Vert. 1:100

DRAINAGE CONSTRUCTION DETAILS
For construction details of all main drainage, refer to United Utilities Standard details STND/19/001 to STND/19/012
Link:
http://www.unitedutilities.com/documents/developer-services-construction-details.pdf

Rev	Description	By	Date
B	ISSUED FOR CONSTRUCTION	AH	05:07:17
A	Attenuation and off site sewers revised	AH	19:06:17

Client:
HILLCREST HOMES

Project Title:
WHALLEY ROAD, HURST GREEN

Drawing Title:
LONGITUDINAL SECTIONS

Scale	Date	
H=1:500/V=1:100	NOVEMBER 2016	
Drawing No	Revision	Status
4663-C-D2-01	B	Constr.

Geo Structures Civils
iD Civils Design Consulting Engineers
North East & Yorkshire: Aske Stables, Aske, Richmond, North Yorkshire, DL10 5HG t: 01748 889015 f: 01565 740263
North West & Midlands: Caledonian House, Tatton Street, Knutsford, Cheshire, WA16 6AG t: 01565 755557 f: 01565 740263