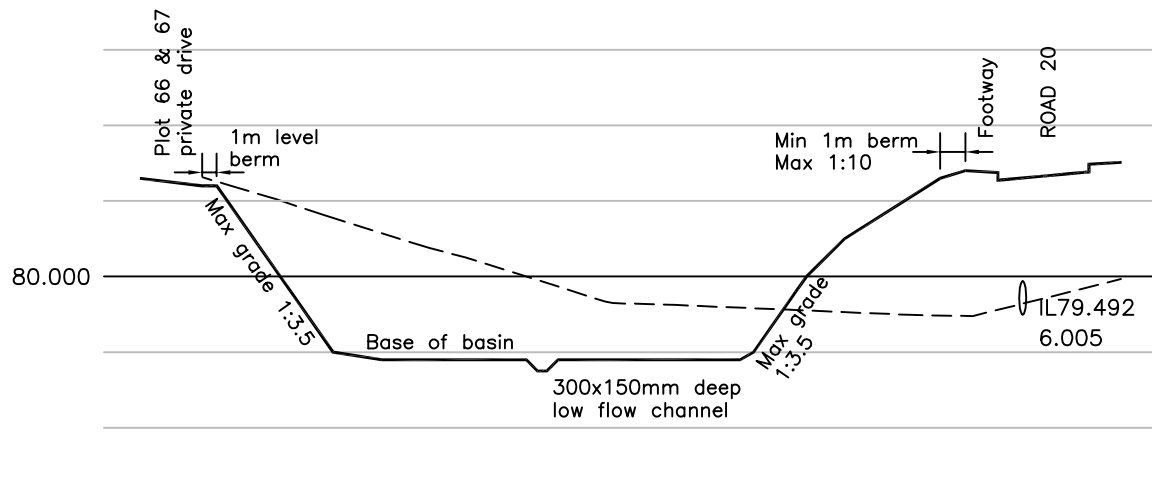
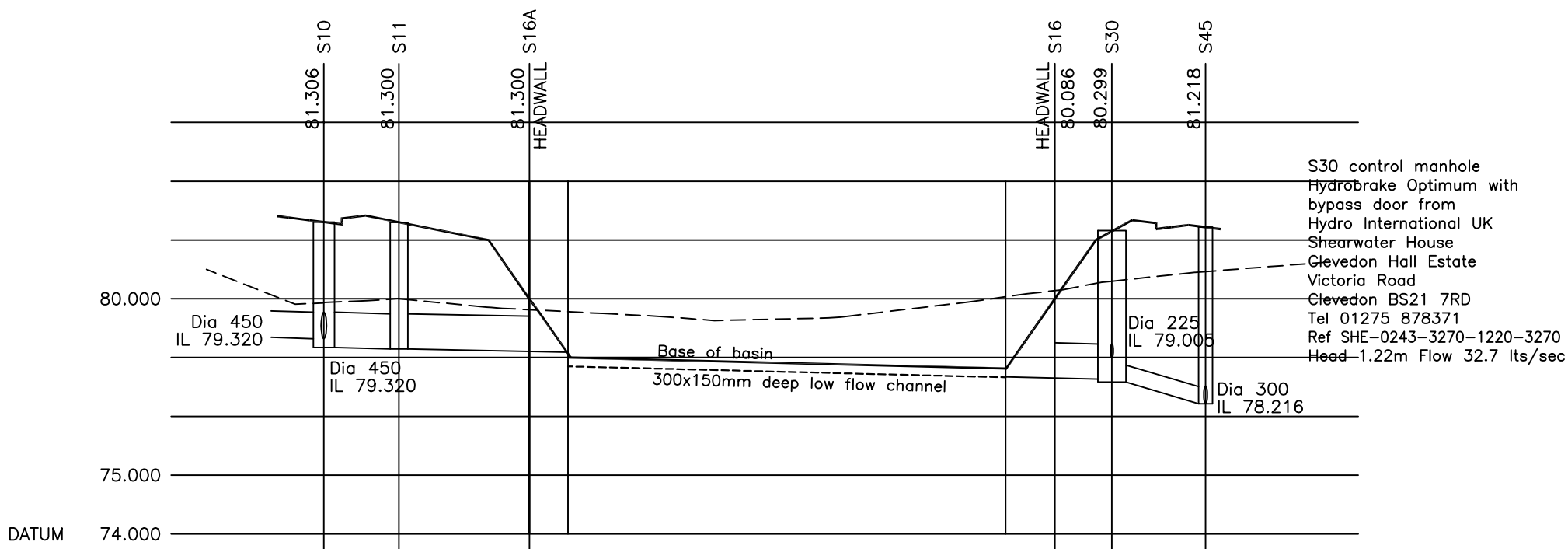
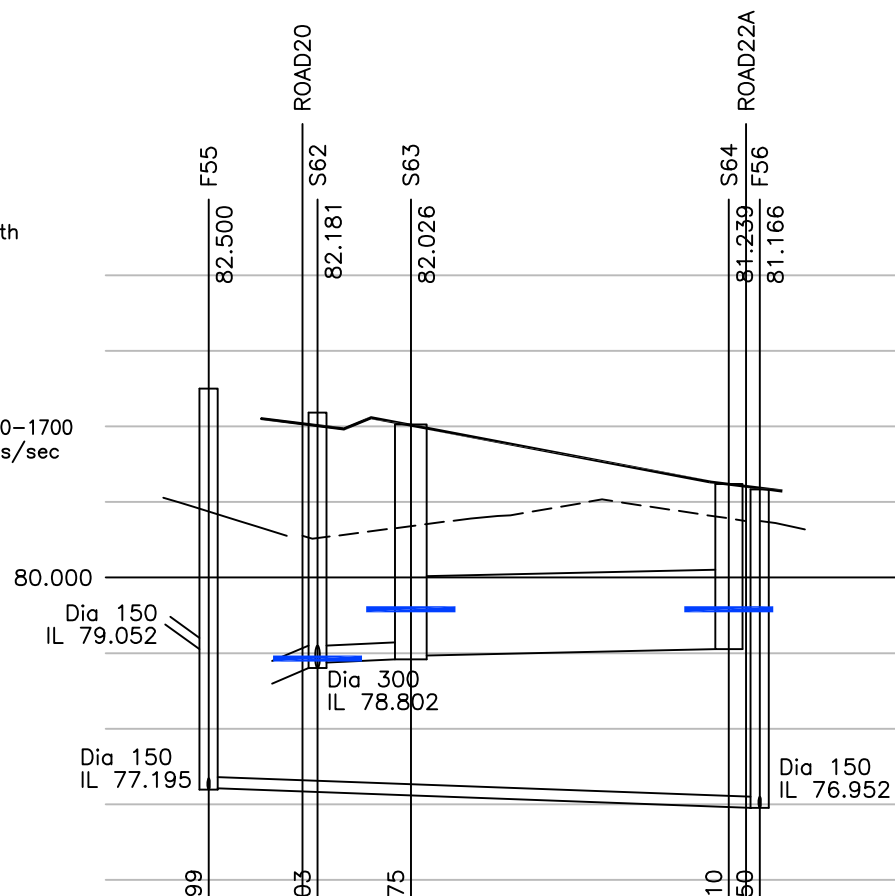
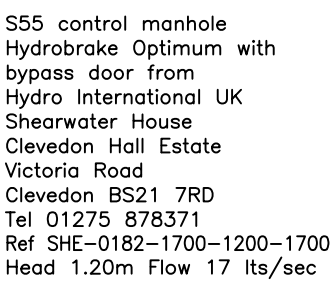


ROAD22A

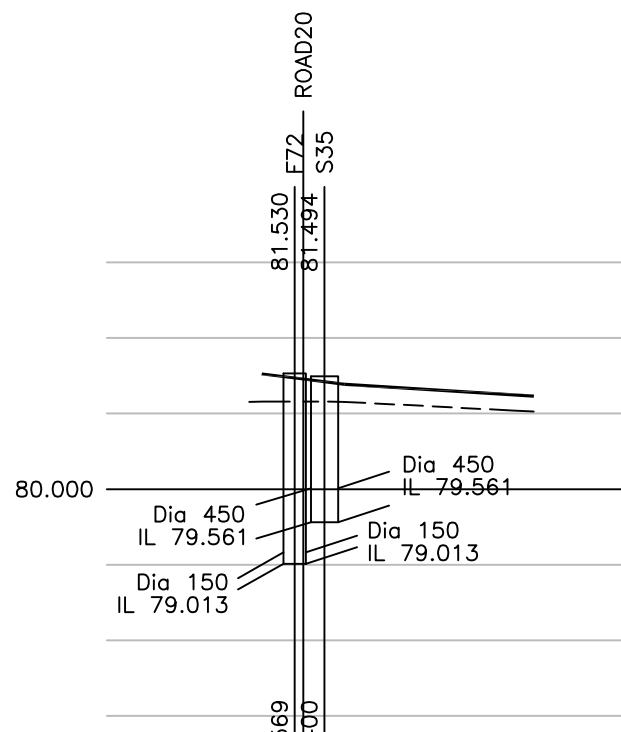
CHAINAGE		0.000	8.400	10.000	20.000	20.500	
EXISTING GROUND LEVEL		80.536	80.796		81.092	81.103	
ALIGNMENT LEVEL		81.100	81.225		81.350	81.356	
VERTICAL ALIGNMENT		G= 1.250‰ 1: 80.0					
HORIZONTAL ALIGNMENT							
LEFT HAND CHANNEL		81.160	81.285		81.410		
RIGHT HAND CHANNEL		81.040	81.165		81.290		
FOULWATER INVERT			76.692	PHASE 2A UU 4200029492			76.634
FOULWATER DETAILS				Pipe 1.007 Dia 150 POLYSEWER 1 in 140 WIS.4.35.01			
FOULWATER LENGTHS				44.470 Type S granular surround			

[illegible]

GROUND LEVEL	80.499	81.306	79.931	79.788	79.679	79.659	79.829	80.089	80.360	81.203
STORMWATER INVERT		79.170 79.144 79.144	79.098 79.050 79.000 78.850					78.800 78.650	78.650 78.630 78.580	78.216
STORMWATER DETAILS		Pipe 6.006 Dia 600 Circular 1:246	Pipe 6.007 Dia 600 CONC 1:246		DETENSION BASIN 1 in 200 1Yr Water level 79.087 30Yr water level 79.533 100Yr water level 79.771				6.008 D600 CONC 1:250	6.009 Dia 300 CLAY 1:22
STORMWATER LENGTHS		6.398	11.124		37.50				5.010	7.967



ROAD22

[illegible]

ROAD20A

CHAINAGE	0.000	2.750	8.750	10.000	15.250
EXISTING GROUND LEVEL	81.159		81.080		81.026
ALIGNMENT LEVEL	81.367		81.297		81.231
VERTICAL ALIGNMENT		$G = -1.250\%$ $1: -80.0$			
HORIZONTAL ALIGNMENT					
LEFT HAND CHANNEL		81.361	81.243		81.162
RIGHT HAND CHANNEL		81.365	81.235		81.300

A01. These notes are intended to augment drawings and specifications. Where conflict of requirements exists the order of precedence shall be as shown in the specification. Otherwise the strictest provision shall govern.

A02. This drawing to be read in conjunction with all other relevant engineers and architects drawings.

A03. Drawings not to be scaled. All dimensions to be checked on site by the contractor. Any discrepancies to be notified to the Engineer and further instructions obtained before work is commenced.

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Manhole construction - refer to CPA technical bulletin Sept 2001 outlining conditions to relevant British Product Standards BS5911-200:1994. All precast concrete products are to be kitemarked or they will be rejected as part of an adoptable system. Manhole covers to be BS5911

Manhole covers to have a clear opening of 600 x 600mm and shall be class D400 to BS EN124 with 150mm deep frames.

Filled ground must be filled and consolidated under the supervision of ST before any sewer works are carried out. All adoptable sewers to be BSI kitemarked, (certified to WIS-4-35-01)

Plastic channels are not acceptable

Adoptable sewer pipes to be laid in max 3m lengths unless there is a specific operational need to lay longer lengths.

United Utilities are not obliged to accept filter drain / land drainage runoff into the public sewer network or adoptable drainage network (directly or indirectly). An alternative method of disposal of land drainage runoff 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.

Cover slabs must carry the BSI Kitemark or will be rejected by United Utilities 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 United Utilities specified cover size. Please refer to Concrete Pipe Systems Association (CPSA), Technical Bulletin' issue Autumn 2004 for Kitemarked cover slab opening sizes.

Sulphate resistant cement (C20-DC2) and precast concrete products must be used or a laboratory report provided proving that such precautions are not necessary.

"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)".

Sewers to be laid in class S bedding (150mm granular bed and surround. Where depth of cover is less than 1.2m in highways and verges (or less than 900mm in non vehicle access areas) then a concrete slab should be provided above the granular bed and surround.

The chamber size of manholes with more than one connection in them may need to be increased one increment to accommodate the connection and bends. See individual manhole detail.

Contractors should be aware of significantly large diameter pipes and manhole chamber rings proposed in this design and precautions should be taken in movement and placing of such items. Also to be considered is the depth of excavation of the drainage works especially the large diameter components up to 8m deep excavations.

All adoptable sewer works and materials to be in accordance with Sewers for Adoption 6th edition. The relevant British / European and United Utilities standards / requirements / addendum & Kitemarked.

The adoptable sewers shall be a min 1.0m and manholes 0.5m from the curb and service margins.

Sewers must have 5m clearance from trees and hedges see SfA6 for restrictions on tree planting / types.

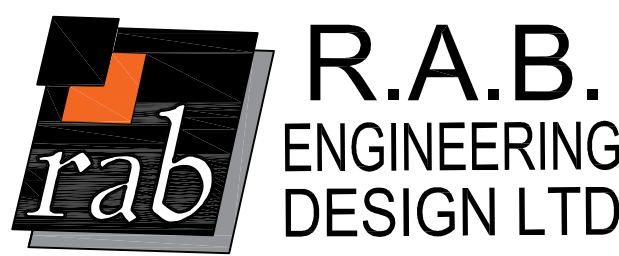
Bedding and backfill material to conform with the Water Industry specification 4-08-02 (table A2)

Top water level for the
30year 15min storm

ALL MANHOLES AND DRAINAGE COMPONENTS TO COMPLY WITH UNITED UTILITIES CURRENT STANDARD DETAILS. ANY DEVIATION BETWEEN THESE AND THE CURRENT DESIGN TO BE CLARIFIED PRIOR TO CONSTRUCTION.

OPTIONAL MANHOLE CONSTRUCTION.
IN LIEU OF THE STANDARD DETAILS UNITED UTILITIES
WILL ACCEPT FP MACcANN EASI-BASE PRECAST
MANHOLE BASES AND FP MACcANN WIDE WALLED
MANHOLE RINGS.
DEVIATION FROM THESE DRAWING BY UTILIZING THE
ABOVE PROJECTS MUST BE APPROVED FOR INDIVIDUAL
MANHOLES BY UNITED UTILITIES PRIOR TO CONSTRUCTION

H. Full redesign following layout changes and implementation of surface water storage basin	14-8-21
G. UU reference numbers added	2-8-20
F. phases 2A & 2B annotation added	16-7-20
E. S16-S30 increased to D900, 30 year water levels added	28-2-20
D. Revised following UU comment 29-11-19	2-12-19
C. Details/revisions for section 104 submission	28-11-19
B. Full redesign in line with Alpha Design layout	17-10-19
A. F55-F61 revised as client instruction	16-7-19



12 BERRY HOLME CLOSE
SHEFFIELD S35 1AB

High Grange Developments Ltd
Mill Hill, Cleator Moor Whitehaven Longitudinal Sections

DRAWN BY rab

SCALE H1:500 V1:100 DATE June19

DRAWING No 1083-2-4 REV H

PRELIMINARY ONLY