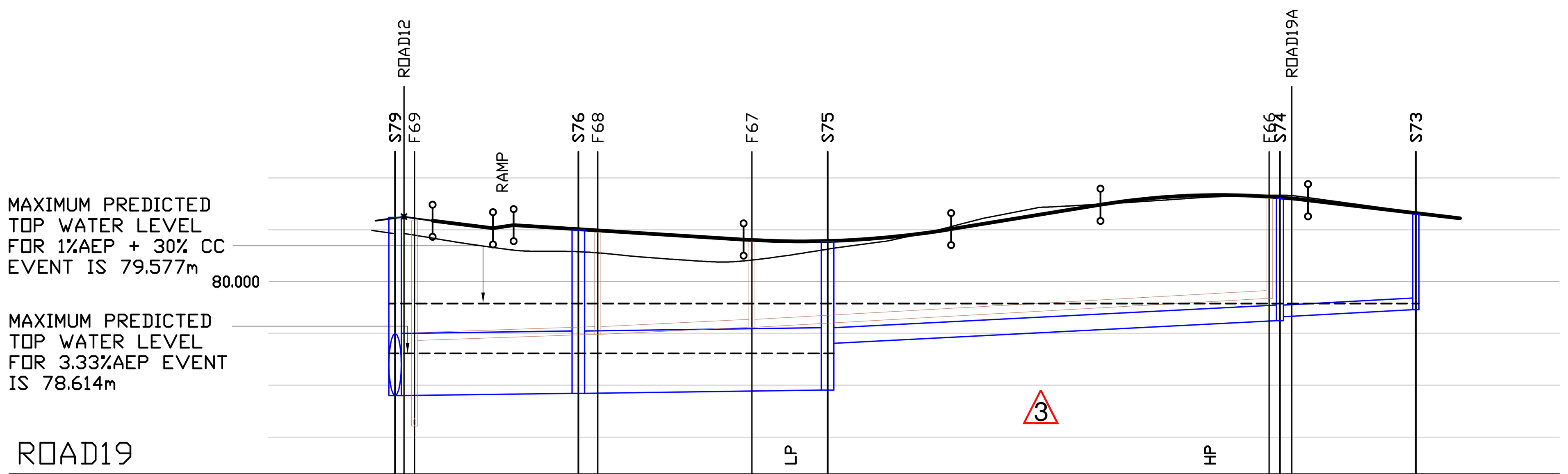
MAXIMUM PREDICTED TOP WATER LEVEL FOR 1%AEP + 30% CC EVENT IS 79.577m

MAXIMUM PREDICTED TOP WATER LEVEL FOR 3.33%AEP EVENT IS 78.614m



ROAD19

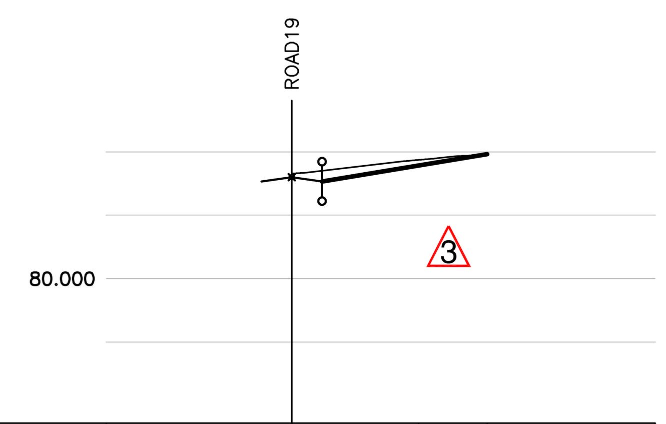
CHAINAGE	EXISTING GROUND LEVEL	ALIGNMENT LEVEL
0.000	80.926	
2.750		81.173
8.573		81.027
10.000	80.620	81.087
10.573		
13.676		
20.000	80.531	80.969
20.697		
30.000	80.379	80.844
32.723		80.810
38.272		80.775
40.000	80.598	80.779
50.000	80.930	80.930
52.723		81.011
60.000	81.383	81.248
67.123		81.479
70.000	81.527	81.561
78.696		81.668
80.000	81.648	81.665
81.005		
85.566		
87.123		81.568
89.801	81.540	81.500
90.000		
100.000	81.269	81.263
101.766	81.221	81.221

VERTICAL ALIGNMENT: G= -2.500% 1: -40.0; G= -1.250% 1: -80.0; R= 443.931 L= 20.000; G= 3.255% 1: 30.7; L= 20.000 R= -355.523; G= -2.370% 1: -42.2

HORIZONTAL ALIGNMENT: R= 13.558; R= 8.400

STORMWATER DETAILS: CL 81.237 IL 77.801; Pipe 13.003 Dia 1200 Circular CONC 1 in 386 17.748; CL 80.994 IL 77.847 IL 77.847; Pipe 13.002 Dia 1200 Circular CONC 1 in 389 24.124; CL 80.771 IL 77.909 IL 78.809; Pipe 13.001 Dia 300 Circular UPVC 1 in 100 43.838; CL 81.598 IL 79.247 IL 79.322; Pipe 13.000 Dia 225 Circular UPVC 1 in 100 13.363; CL 81.299 IL 79.456

FOULWATER DETAILS: CL 81.172 IL 78.866; Pipe 13.002 Dia 150 Circular UPVC 1 in 145 17.076; CL 80.949 IL 78.984 IL 78.984; Pipe 13.001 Dia 150 Circular UPVC 1 in 107 14.657; CL 80.767 IL 79.121 IL 79.121; Pipe 13.000 Dia 150 Circular UPVC 1 in 89 49.507; CL 81.605 IL 79.675



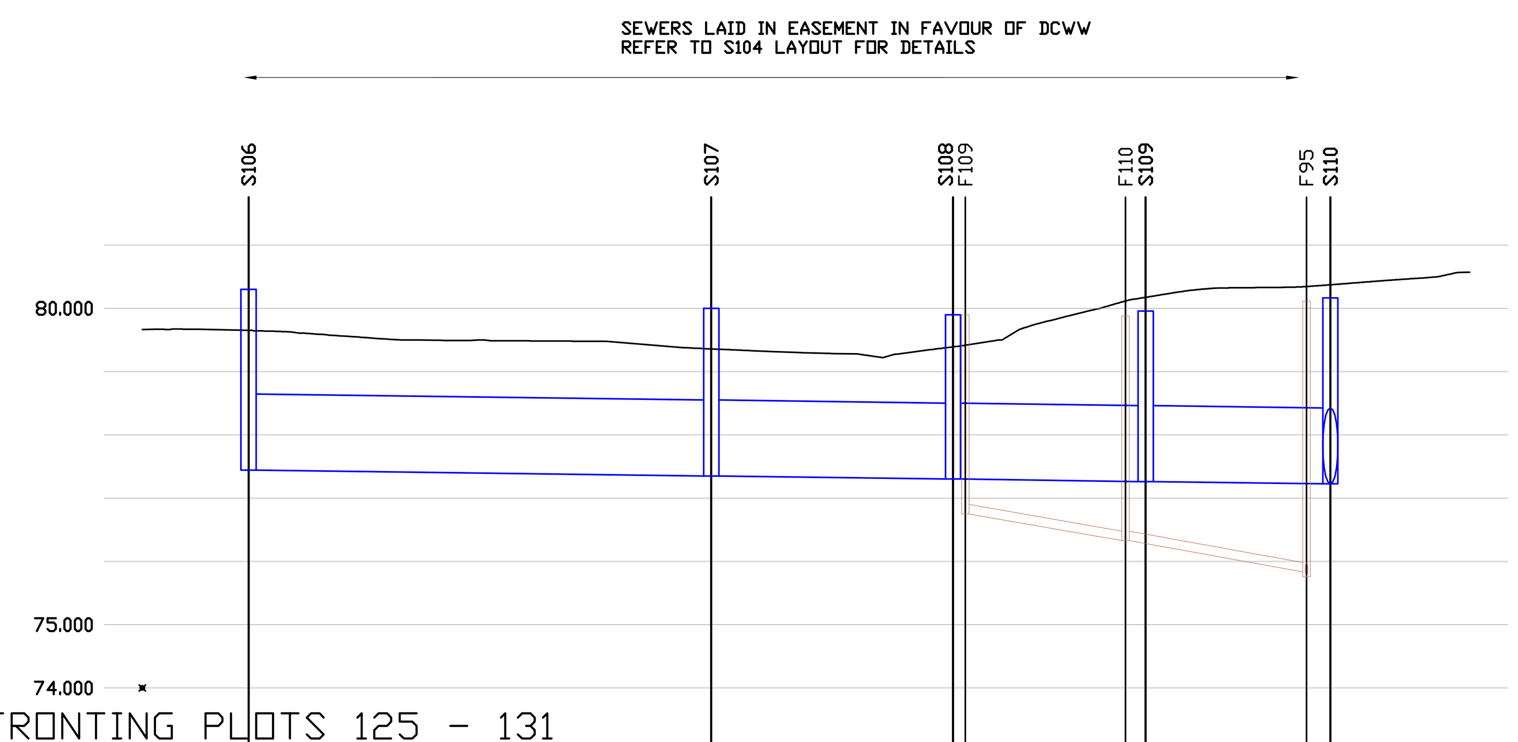
ROAD19A

CHAINAGE	EXISTING GROUND LEVEL	ALIGNMENT LEVEL
0.000	81.658	
2.400		81.535
10.000	81.875	81.786
15.422	81.964	81.964

VERTICAL ALIGNMENT: G= 3.296% 1: 30.3

HORIZONTAL ALIGNMENT

SEWERS LAID IN EASEMENT IN FAVOUR OF DCWW
REFER TO S104 LAYOUT FOR DETAILS



SEWERS FRONTING PLOTS 125 – 131

GROUND LEVEL: 79.664; 79.641; 79.505; 79.487; 79.424; 79.315; 79.287; 79.711; 80.197; 80.332; 80.465

STORMWATER DETAILS: CL 80.300 IL 77.445; Pipe 19.000 Dia 1200 Circular CONC 1 in 389 36.566; CL 80.000 IL 77.351 IL 77.351; Pipe 19.001 Dia 1200 CONC 1 in 394 19.304; CL 79.900 IL 77.302 IL 77.302; Pipe 19.002 Dia 1200 CONC 1 in 390 15.224; CL 79.956 IL 77.263 IL 77.263; Pipe 19.003 Dia 1200 CONC 1 in 395 14.605; CL 80.163 IL 77.226

FOULWATER DETAILS: CL 79.900 IL 76.750; Pipe 17.000 Dia 150 UPVC 1 in 30 12.661; CL 79.877 IL 76.328 IL 76.328; Pipe 17.001 Dia 150 UPVC 1 in 30 14.759; CL 80.116 IL 75.834

Note 1- SFA 7th Footnote

The Developer must self-vet and certify that the design criteria, material standards and workmanship specifications for the proposed adoptable sewers are in accordance with those set out in "Sewers for Adoption" 7th Edition and the requirements of DCWW as the Statutory Sewerage Undertaker, and the Welsh Ministers Build Standards.

Note 2 - Connection

"A Section 106 application to connect to adopted sewers must be made to DCWW, the developer shall give 21 days notice prior to connection, the works may only be undertaken by a DCWW Health & Safety approved contractor."

Note - 3 Materials

All materials are to comply fully with the requirements of clause "E" in Sewers for Adoption 7th Edition, of which the contractor must fully acquaint himself with to ensure compliance.

SCALE IN METRES 0 5 10 20 50

ALL EXISTING MANHOLE INVERT LEVELS ARE TO LOCATED AND SURVEYED PRIOR TO START ON SITE TO ENSURE THAT THEY ARE CORRECT AND ALSO TO ENSURE THAT LEVEL CLASHES ARE AVOIDED AND THAT INTERPOLATED INVERT LEVELS ARE CORRECT. ANY DISCREPANCY TO BE REPORTED TO REFA PRIOR TO START TO ENABLE ANY CHANGES TO BE MADE TO DESIGN THAT PROVE NECESSARY

CIVILS DESIGN RISK MANAGEMENT

Abnormal or unusual residual risks associated with the design outcomes shown on this drawing are:-

1. EXISTING SERVICES
2. WORKING ON EXISTING HIGHWAY WORKING IN AREAS WHERE MEMBERS OF THE PUBLIC HAVE ACCESS
3. DANGER OF COLLAPSE TO ALL EXCAVATIONS - RISK TO BE ASSESSED AND MANAGED BY CONTRACTOR IN ACCORDANCE WITH HSE GUIDANCE

REFA Ltd has followed its Design Risk Management process for Hazard Elimination and Risk reduction in developing the designs shown on this drawing. Abnormal or unusual residual risks may be shown above where it is considered that such risk may not normally be expected by competent persons engaged on work of this nature or type

THE OFF SITE SEWER CONNECTIONS HAVE BEEN DESIGNED TO TIE IN WITH THE EXISTING SEWERS AND WHILST IT IS ANTICIPATED NO CLASHES WITH EXISTING SERVICES WILL OCCUR DUE TO THE INHERENT INACCURACIES IN DEPTHS OF EXISTING SERVICES THIS CANNOT BE GUARANTEED.

REFA WOULD ADVISE THE CLIENT TO EMPLOY A SUITABLY EXPERIENCED COMPANY TO UNDERTAKE A SURVEY ALONG THE ROUTE OF THE CONNECTIONS TO ASCERTAIN THE EXISTENCE AND PROXIMITY OF ANY SERVICES AND ADVISE REFA OF ANY POTENTIAL CLASHES TO ASCERTAIN IF DESIGN CHANGES CAN BE MADE.

DUE TO THE NEED FOR OFF SITE SEWER WORKS IT IS STRONGLY ADVISED THAT THESE ARE CONSTRUCTED PRIOR TO ANY WORKS ON SITE TO ALLOW DESIGN CHANGES ON SITE TO BE MADE IN THE EVENT THAT THE OFF SITE DESIGNS REQUIRE REVISION.
REFA WILL NOT BE HELD RESPONSIBLE FOR ANY ABORTIVE WORKS IF THIS PROCEDURE IS NOT FOLLOWED

ALL EXISTING SERVICES TO BE LOCATED AT COMMENCEMENT IN ACCORDANCE WITH UNDERTAKERS REQUIREMENTS AND PROTECTED ACCORDINGLY DURING THE WORKS

CONTRACTOR TO BE AWARE OF AND TAKE APPROPRIATE ACTION TO ENSURE DE-STABILISATION OF ANY EXISTING STRUCTURES, TREES, EMBANKMENTS OR OTHER FEATURES DOES NOT OCCUR AS A RESULT OF ANY EXCAVATIONS WORKS UNDERTAKEN IN ACCORDANCE WITH THE DESIGNS SHOWN ON THIS DRAWING IF CONTRACTOR IS UNSURE ABOUT ANY ASPECT OF THE ABOVE HE SHOULD SEEK ADVICE BEFORE COMMENCING EXCAVATION WORK.

ALL STORAGE MANHOLES ON THE TANK SEWER WILL NEED TO BE CONCRETE SURROUNDED AS THEY ARE WATER RETAINING.

FOUNDATIONS TO BE DESIGNED / CONSTRUCTED TO TAKE INTO ACCOUNT THE PROXIMITY AND DEPTH OF ADJACENT SEWERS AND DRAINS IN ACCORDANCE WITH SFA 7TH EDITION PART B

TO CATER FOR ANY DEVIATIONS IN THE AS CONSTRUCTED ROAD / FOOTPATH LEVELS IN RELATION TO THE DESIGN LEVELS, THE PROPOSED FLOOR LEVELS SHOWN MUST BE CHECKED ON SITE BY THE SITE AGENT OR ENGINEER IN RELATION TO AS BUILT ROAD LEVELS TO ENSURE COMPLIANCE WITH PART M OF THE BUILDING REGULATIONS

BENCH MARK INFORMATION

HORIZONTAL AND VERTICAL CONTROL ESTABLISHED USING SMARTNET GPS NETWORK AND OSGB36(02) COORDINATE SYSTEM

PLEASE NOTE THAT THIS DRAWING IS ISSUED FOR INFORMATION/TENDER PURPOSES ONLY UNTIL TECHNICAL APPROVAL HAS BEEN GRANTED.
ANY WORK UNDERTAKEN PRIOR TO TECHNICAL APPROVAL BEING GRANTED IS AT THE CLIENTS RISK.

GENERAL

1. All adoptable sewers and associated works are to comply fully with "Sewers for Adoption" 7th.Edition dated August 2012.
2. All highway works to be to adoptable standards and to to comply fully with the Local Authority specification.
3. All private drainage works are to comply fully with part H of the Building Regulations
4. All existing invert levels to be checked by the Contractor at the start of works and any discrepancies notified to REFA. All levels are based on topographical survey information provided by others.
5. All materials to bear the relevant B.S.Kitemark and comply fully with the specifications. All concrete & concrete products must use Sulphate resistant cement (unless the site investigation report proves that sulphate attack from soils and groundwater will not occur)
6. All opening notices etc. as required under highways acts etc. are to be obtained prior to commencement of works. All works are to be inspected by L.A., NHBC or Relevant Water Authority as applicable.

C.D.M. REGULATIONS 2015

In line with the above regulations we are obliged to inform the Client of their responsibilities under section CDM 15/1, and residual risks that may be encountered in the construction of these works. All design work has been carried out with Health and Safety aspects given full consideration. Wherever possible risks have been eliminated from the design, however due to the very nature of this type of work it is not possible to remove all the risks from the design. We would also respectfully remind the Client of his obligations to take all reasonable steps in ensuring that only competent Contractors who have a valid safety policy are employed. They should also provide satisfactory responses at tender stage as to the manner in which they will deal with the elements of risk involved in this type of work and in particular those highlighted by REFA below:–

1. Support / treatment for ALL excavation work.
2. Guarding to edges of excavations to prevent people,materials and vehicles falling into excavation.
3. Guarding of excavations outside working hours to prevent unauthorised access.
4. Undermining to adjacent roads or structures.
5. Confined space operations.
6. Dealing with existing services.
7. Traffic management on existing highways.
8. Procedure to be followed in event of accident or emergency.
9. Method of working where contaminated ground is present on site.
10. Confirmation will be required that all operatives are adequately trained, copies of relevant training certificates to be supplied.

The above list is by no means exhaustive but it does highlight operations that present a risk to contractors and the general public.
For clarification on any item please contact REFA.

rev	Revision details	Rev.By	Date
A	TO PLANNING REV P	GWH	28.8.18

smas worksafe consultant www.smasltd.com SSIP SAFETY SCHEMES IN PROCUREMENT

Drawing Stage		Drawing Status	
Draft	Comments	● Tender	
● Issued	Information	Construction	
	● Approval	As Built	

Client
ANWYL HOMES
BELLWAY HOMES

Job title
GRESFORD ROAD
LLAY, WREXHAM

Drawing title
ROAD AND MAIN
LONG SECTIONS DRG 7

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CIVIL • STRUCTURAL
GEOTECHNICAL • ENVIRONMENTAL

Date	Scale	Drawn
12.2.18	1/500H &1/100V	GWH

DRAWING No 17040/08/14 Rev A

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A1 SHEET