DRAINAGE STATEMENT

FOUL SEWER TO PLOT 1 TO CONNECT TO ADJACENT PUBLIC COMBINED SEWER WITH A SECTION 106 CONNECTION.
FOUL SEWER TO PLOTS 2 AND 3 TO CONNECT TO EXISTING FOUL SEWER IN BRIDGE STREET, SECTION 104 APPROVED

SURFACE WATER TO CONNECT TO EXISTING DRAIN IN GARDEN OF HOUSE 6 DISCHARGE LIMITED TO 2.5 LRIE/S (WELSH WATER) AT S5

MAC= POLYPROPYLENE MINI-ICCESS CHAMBER [180mm DIAMETER]
PPIC = POLYPROPYLENE INSPECTION CHAMBER [450mm DIAMETER]
PC = PRE-CAST CONCRETE RINGS
ALL PIPEWORK TO BE UPVC 'D BS 4660
ALL SURFACE WATER GRADES 1:80 UNLESS NOTED
ALL FOUL GRADES 1:80 UNLESS NOTED

PPIC INSPECTION CHAMBERS TO BE.EN 125 AND BS 7903

DRAINAGE LEGEND

EXISTING PUBLIC DRAINAGE
EXISTING 150mm DRAIN TO BE OFFERED TO HIGHWAYS
EXISTING 150mm COMBINED SEWER AND MANHOLE
EXISTING RISING MAIN

PROPOSED DRAINAGE: [SHOWN OVERSIZE FOR CLARITY]
F1 — ADOPTABLE FOUL SEWER AND MANHOLE
S1 — ADOPTABLE SURFACE WATER SEWER AND MANHOLE
PROPOSED EASEMENT IN THIRD PARTY LANE
BOUNDARY TO AFFECTED THIRD PARTY LAND

PRIVATE DRAINAGE
S1 — SURFACE WATER SEWER AND MANHOLE
F1 — FOUL SEWER AND MANHOLE
SOIL VENT PIPE
BACK INLET GULLY
RAINWATER PIPE (RWP)
RE — RODDING EYE
G1 — PRIVATE GULLY: LOCATIONS TO BE CONFIRMED
DRAINAGE CHANNEL: LOCATIONS TO BE CONFIRMED
FFL 172.50 — PROPOSED FINISHED FLOOR LEVELS
172.16 — SURVEY SPOT LEVEL
PROPOSED LEVEL
AREA TO BE RE-SURFACED 222m2

ADOPTABLE SURFACE WATER DRAINAGE SCHEDULE:

REF	COVER LEVEL(m)	INVERT LEVEL(m)	DEPTH TO INVERT(m)	MAIN PIPE DIA (mm)	MANHOLE INTERNAL DIA (m)	MANHOLE TYPE	LOCATION/ COVER TYPE	NOTES
S1	171.85	171.05	0.80	100	MAC	TYPE 4	A15 LIGHT	GRADE 1:80
S3	172.10	170.95	1.15	150	IC	TYPE 3	B125 MEDIUM	GRADE 1:11
S4	171.94	170.540	1.40	150/225	PC 1200	TYPE 2	D400 HEAVY	GRADE 1:167
S5	171.60	170.455	1.145	225/150	PC 1800	TYPE 2	D400 HEAVY	WITH FLOW CONTROL GRADE1:150
EXISTING	171.50	170.358	1.142	150	IC	TYPE 3	A15 LIGHT	NEW MANHOLE ON EXISTING SEWER [CONFIRM INVERT]
S2	172.40	171.40	1.00	150	MAC	TYPE 4	A15 LIGHT	GRADE 1:19 TO S3
S20	171.85	171.05	0.80	100	MAC	TYPE 4	A15 LIGHT	GRADE 1:80
S21	171.85	170.98	0.87	150	MAC	TYPE 4	A15 LIGHT	GRADE 1:11.6 TO S5

S4, S5 TO HAVE MIN. 900mm COVER TO CROWN

FLOW CONTROL DEVICE (HYDROBRAKE) WITH PIVOTING BY-PASS DOOR
BY HYDRO-INTERNATIONAL: TEL 01 275 878371
REF: SHE-0077-2500-0900-2500

765x 420 x 85mm WIDTH
DEVICE TO LIMIT DISCHARGE TO 2.5 LITRES/SECOND.
HEAD 0.6m
TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS

WELSH WATER NOTE:

THE DEVELOPER MUST SELF-VET AND CERTIFY THAT THE DESIGN CRITERIA, MATERIAL STANDARDS AND WORKMANSHIP SPECIFICATIONS FOR THE PROPOSED ADOPTABLE SEWERS CONFIRM WITH PART E OF SEWERS FOR ADOPTION 7TH, THE WELSH MINISTERS STANDARDS AND THE REQUIREMENTS OF DCWW AS THE STATUTORY SEWERAGE UNDERTAKER
SUBJECT TO A SECTION 104 ADOPTION AGREEMENT BEING COMPLETE, A SECTION 106 APPLICATION TO CONNECT MUST BE MADE TO DCWW. THE DEVELOPER SHALL GIVE 21 DAYS NOTICE PRIOR TO CONNECTION. THE WORKS MAY ONLY BE UNDERTAKEN BY AN SSIP HEALTH & SAFETY APPROVED CONTRACTOR
THE ADOPTABLE MATERIALS AND WORKMANSHIP CONFORM TO PART E OF "SEWERS FOR ADOPTION" 7th EDITION

NOTES

LAYOUT TAKEN FROM DRAWING NUMBER HV/PD/D01 AUGUST 2017, BY HDS ARCHITECTURAL SERVICES.
SURVEY TAKEN FROM DRAWING CH/HW/1 20 MAY 2018 BY WAYNE EVANS SURVEYING Ltd

PRIVATE DRAINAGE

1. ALL HOUSE DRAINAGE SHALL COMPLY WITH BS 8301 : 1985.
2. PIPEWORK
   PIPEWORK UNDER PARKING AREAS / ACCESS ROAD TO BE UPVC AS WATER AUTHORITY STANDARD.
   ALL OTHER PIPEWORK TO BE UPVC TO BS 4660
3. INSPECTION CHAMBERS / MANHOLES
   SEE DRAWING /
4. MANHOLE COVERS
   MANHOLE COVERS TO INSPECTION CHAMBERS IN, DRIVEWAYS / TRAFFIC AREAS TO BE BS 497 GRADE 'B' MEDIUM DUTY.
   MANHOLE COVERS TO INSPECTION CHAMBERS IN LANDSCAPED AREAS TO BE BS 497 GRADE 'C' LIGHT DUTY.
5. BEDDING
   HOUSE DRAINS TO BE LAID ON GRANULAR BEDDING DETAILED ON DRAINS LOWER THAN AND ADJACENT TO FOOTINGS TO HAVE CONCRETE BED AND SURROUND

ADOPTABLE DRAINAGE:

1 PIPE STRENGTH AND TYPE:
SEWERS FOR ADOPTION OF NOMINAL DIAMETER UP TO 900mm SHALL BE:
UPVC to BS EN 1401-1 AND 12666-1 and SEWERS FOR ADOPTION 7th, CI E2.21, E 2.22.
PIPES UP TO 500mm DIAMETER SHALL HAVE SHORT-TERM STIFFNESS NOT LESS THAT 8 KN/m2 [SN8]
PIPES GREATER THEN 500mm DIAMETER SALL HAVE SHORT-TERM STIFFNESS NOT LESS THAT 2 KN/m2 [SN2]

OR
VITRIFIED CLAY FLEXIBLY JOINTED SPIGOT AND SOCKET IN ACCORDANCE WITH SEWERS FOR ADOPTION 7th CI E2.18 [UP TO 300mmDIAMETER] DIAMETERS 375mm and OVER TO BE CLASS M CONCRETE TO BS3911 PART 100

2 MANHOLE AND CHAMBERS:
PPIC CHAMBERS TO BE IN ACCORDANCE WITH SEWERS FOR ADOPTION 7th CI E2.31 and PRECAST CONCRETE MANHOLES TO E2.32
ALSO TO BS EN 13598 PARTS 1 AND 2

3 BEDDING:
BEDDING SHALL BE IN ACCORDANCE WITH SEWERS FOR ADOPTION 7th CI E2.25, E5.2, E5.4

4 COVER:
MINIMUM COVER REQUIRED TO CROWN FOR ADOPTABLE DRAINAGE:
DOMESTIC GARDENS AND PATHS 0.35m
DRIVEWAYS, LIGHT PARKING AREAS 0.5m
PUBLIC OPEN SPACE 0.9m
ROADS 1.2m
COVER LESS THAN ABOVE WILL REQUIRE ADDITIONAL PROTECTION

5 MANHOLE COVERS:
ALL COVERS TO BE SO SEWERS FOR ADOPTION 7th CI 2.32 and BS EN 125, BS 7903.
CARRIAGEWAY / PARKING: CLASS D400 -HEAVY DUTY
FOOTWAY / LANDSCAPING: CLASS B125-MEDIUM DUTY
PRIVATE GARDEN: CLASS A15-LIGHT DUTY

CONTRACTOR TO ENSURE THAT THE ADOPTABLE UPVC PIPES MEET WELSH WATER STANDARDS.
EXAMPLES:
POLYPIPE RIGID DRAIN: DOES NOT COMPLY
POLYPIPE RIGI-SEWER DOES COMPLY
PIPES TO BE LAID IN 3m Lengths, OR 10 X DIAMETER

THE FOLLOWING ITEMS AWAIT CONFIRMATION:
EXACT LOCATIONS OF RWP AND SOIL PIPES

CROSSING / DEPTHS OF EXISTING SEWERS AND DRAINS IN BRIDGE STREET TO BE CHECKED ON SITE BEFORE CONSTRUCTION COMMENCES

PENDING WELSH WATER AND HIGHWAYS APPROVAL

Rev	Description	Date	Drwn	Chkd
E	SURFACE WATER CONNECTION TO EXISTING	16:02:19	AK	AK
D	WELSH WATER COMMENTS	23:01:19	AK	AK
C	SURFACE WATER REVISED	09:01:19	AK	AK
B	WELSH WATER COMMENTS AT F3	31:07:18	AK	AK
A	PLOT 1 RELOCATED, WELSH WATER COMMENTS	03:07:18	AK	AK

PROPOSED CONNECTION EXISTING MANHOLE.
-SECTION 106 AGREEMENT REQUIRED.
-NOT PART OF THIS SECTION 104 AGREEMENT

WELSH WATER MANHOLE REF 8501 150mm pipe CL 172.31m IL 171.02m

WELSH WATER MANHOLE REF 7550 150mm pipe CL 172.75m IL 171.55m

PROPOSED SADDLE CONNECTION TO EXISTING 150mm COMBINED SEWER -90o ANGLE WITH CURVED SQUARE JUNCTION

WELSH WATER MANHOLE REF 7508 150mm pipe CL 173.13m IL

EXISTING PIPE UNDER PROPOSED CAR PARKING:
-IF COVER TO CROWN IS LESS THAN 1.2m, 150mm DEPTH CONCRETE SLAB TO BE LAID ON TOP OF PIPE FOR PROTECTION.

900m STATION 172.857

NO SURFACE WATER DRAINAGE FROM PROPOSED THREE PROPERTIES OR PARKING BAYS TO FALL TO EXISTING ROAD

WELSH WATER MANHOLE REF 7552 100mm pipe CL 172.87m IL 171.75m

NOTES ON CONSTRUCTION OF S4 AND S5:
-S5 IS 1800mm INTERNAL DIAM. WITH TWO CHAMBERS – SEE DRAWING 05.
-MINIMUM COVER TO CROWN FOR BOTH MANHOLES 900mm
-MINIMUM 500mm FROM OUTSIDE OF MANHOLE CONCRETE SURROUND TO EXISTING KERB
-EXISTING ABANDONED MANHOLE TO BE DEMOLISHED AND BACKFILLED TO HIGHWAY SPECIFICATION
-OUTLINE OF EXISTING MANHOLE (TO BE OFFERED FOR ADOPTION TO HIGHWAYS) ASSUMED AND SHOWN DASHED. TO BE CONFIRMED PRIOR TO SEWER CONSTRUCTION. DEPTH TO BE CONFIRMED (CURRENTLY INDICATED SHALLOW)
-EXISTING GULLY CONNECTION TO BE RELOCATED. NEW ROUTE INDICATED
EXISTING ROUTE TO BE ABANDONED SHOWN THUS: ////////
CLEARANCE BETWEEN TOP OF STORAGE PIPE AND HIGHWAY DRAIN INVERT = 275mm

ADOPTABLE FOUL DRAINAGE SCHEDULE:

REF	COVER LEVEL(m)	INVERT LEVEL(m)	DEPTH TO INVERT(m)	MAIN PIPE DIA (mm)	MANHOLE INTERNAL DIA (m)	MANHOLE TYPE	LOCATION/ COVER TYPE	NOTES
F1	171.85	170.85	1.00	100	MAC	TYPE 4	A15 LIGHT	GRADE 1:80
F2	171.85	170.81	1.04	100	MAC	TYPE 4	A15 LIGHT	GRADE 1:11
EXISTING	171.48	169.78	1.70	150	SADDLE	SADDLE		INVERT 169.78 150mm EXISTING INVERT 169.83 100mm SOFFIT/SOFFIT

MAC = MINI 180mm DIAM POLYPROPYLENE INSPECTION CHAMBER (TYPE 4)
IC = POLYPROPYLENE INSPECTION CHAMBER (TYPE 3)
PC = PRECAST CONCRETE RINGS: DIAMETER AS NOTED (TYPE 2)
TYPE 4 LATERAL REFER TO "SEWERS FOR ADOPTION 7th" = PLASTIC INSPECTION CHAMBERS. MAX DEPTH 2.0m
TYPE 3 LATERAL REFER TO "SEWERS FOR ADOPTION 7th" = PLASTIC INSPECTION CHAMBERS. DEPTH 2.0–3.0m
ALL PIPEWORK TO BE UPVC TO BS 4660
ALL COVER LEVELS [FOUL AND SURFACE WATER] TO BE CONFIRMED ON SITE
INVERT OF SADDLE CONNECTION TO BE CONFIRMED

FLOW CONTROL DEVICE AT S5 (HYDROBRAKE) WITH PIVOTING BY-PASS DOOR
BY HYDRO-INTERNATIONAL: TEL 01 275 878371
REF: SHE-0077-2500-0900-2500
765x 420 x 85mm WIDTH
DEVICE TO LIMIT DISCHARGE TO 2.5 LITRES/SECOND.
HEAD 0.6m

100mm dia pipe and manhole IL 171.11 (blocked up) ABANDONED Unowned

PROPOSED NEW GULLY CONNECTION

LOCATION OF HIGHWAY DRAIN / UTILITIES / ANY OTHER EXISTING SEWERS TO BE CONFIRMED

PROPOSED EASEMENT 3m EITHER SIDE OF SEWER. TOTAL 6m MINIMUM

CONNECT TO MANHOLE SJ28458440 ON EXISTING SEWER. DEPTH 1.14m TO BE CONFIRMED.

WELSH WATER MANHOLE REF 8542 150mm pipe CL 171.50m IL

WELSH WATER MANHOLE REF 8550 150mm pipe CL 171.47m IL 169.82m

PROPOSED SADDLE CONNECTION TO EXISTING 150mm COMBINED SEWER -90o ANGLE WITH CURVED JUNCTION

unable to lift

WELSH WATER CHAMBERS MIN 0.5m FROM KERB

EXISTING DROPPED KERBS TO REMAIN

EXISTING FOOTPATH

EXISTING DRAIN TO BE OFFERED TO HIGHWAYS

225mm grade 1:167 PIPE 14.52m LENGTH STORAGE

150mm GEN3 CONCRETE SURROUND S4–S5

150mm grade 1:150 LENGTH 14.5m

WELSH WATER 150mm SURFACE WATER SEWER

WELSH WATER RISING MAIN

EXISTING HIGHWAY DRAIN

COMBINED SEWER

HAWTHORN VIEW (EXISTING)

bridge Street

Aet-y-Bryn

footpath

Plot 1 — FFL 172.70
Plot 2 — FFL 172.00
Plot 3 — FFL 172.00

2.0m
3.0m
5.0m

SITE BOUNDARY

GARDEN

BUILDING

F1 F2 F3 S1 S2 S3 S4 S5 S20 S21

EP TP

IL 170.96

WREXHAM COUNTY BOROUGH COUNCIL APPROVED PLANNING DEPARTMENT

18 FEB 2019

KANE DESIGN
Civil Engineering Design
15 Winchester Way
Gresford
Wrexham
LL12 8HH
Tel: 01 978 855888

P2019/0128

Client
RTF DEVELOPMENTS Ltd

Project
PROPOSED DEVELOPMENT at
HAWTHORN VIEW, PENYCAE, WREXHAM LL14 2DF

Title
DRAINAGE LAYOUT
SECTION 104

DRAWING NUMBER 1420/21

SCALE	1:100	@ A1
DATE	09:08:18	REVISION
DRAWN	AK	E
CHECKED	A.K	