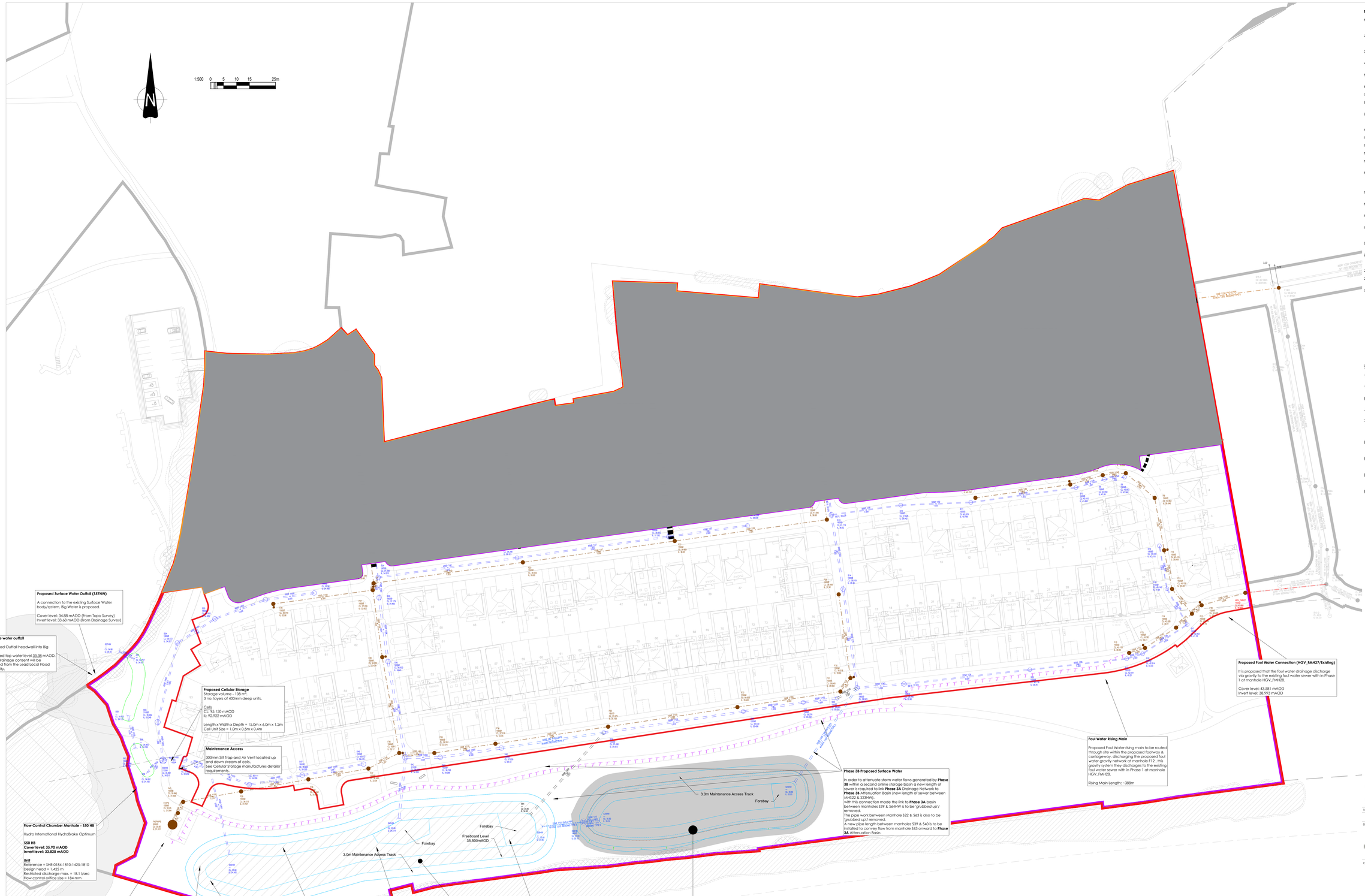


Notes

1. Design is produced using the topo survey provided by **Taylor Wimpey** and an architectural planning layout by **File Reference 1474-TWNW Holsnead P3 2026-01-21**.
2. The use of any other flow control devices not associated with the Hydro International Hydro-Brake Optimum references provided may constitute a flood risk.
3. Drainage design and construction is in accordance with Design and Construction Guidance 2020 (DCG) and the requirements of the statutory undertaker.
4. Tolerances in pipe laying to be in accordance with Design and Construction Guidance 2020 (DCG).
5. For pipes 150-450mm dia. all rocker pipes to be in accordance with Design and Construction Guidance 2020 (DCG).
6. Engineering bricks shall not contain frogs or holes.
7. Brickwork to manholes to be English bond.
8. Where pipes are surrounded in concrete, flexibility is to be maintained at pipe joints by the use of a suitable compressible material eg. "FLexcell" or "fibreboard".
9. All manhole covers and frames must comply with BS EN124. covers in roads to be grade D400 and be 150mm deep. manhole covers in car parking areas and drives to be grade B125, whilst landscaped areas may be grade A15.
10. Clayware pipes to be 65 extra strength quality "Hepseal" or similar approved.
11. Granolithic benching to manholes to be 40mm minimum thickness.
12. Precast concrete chamber rings to be reinforced.
13. The slope of benching in all cases should be 1 in 30.
14. Manholes shall not incorporate double square or double oblique channel junctions in their inverts.
15. All incoming pipes shall be surrounded with 150mm of concrete to the face of the collar of the first flexible joint and the outgoing pipe shall also be surrounded to within 50mm of the first flexible joint and a compressible filler used as a former between the concrete surround and downstream pipe collar.
16. All underground services to be confirmed by contractor prior to commencement on site. any discrepancies to be reported to engineer.
17. Private sewers not located in roads to be class F granular bed and surround as per standard details.
18. Sewers located under adopted roads to be class s granular bed and surround (more than 1.2m cover.)
19. Sewers located under private roads and car parking bays to be class f granular bed and surround as per standard details unless adopted, then provide class s (if more than 1.2m cover).
20. Private sewers with less than 0.6m of cover to be concrete surrounded as class Z on standard details.
21. Adopted sewers with less than 1.2m cover, provide class Z concrete bed and surround. concrete haunching may be suitable for large diameter storage sewers, guidance must be sought from adopting authority prior to use.
22. Road gullies to be pcc and trapped with 150mm ST4 concrete surround.
23. No deep or wide routed trees to be planted within close proximity of the proposed and existing public sewer system.
24. Pipes less than 300mm dia. to be Polypipe UPVC unless otherwise stated.

NOTE:-
ALL CONNECTIONS ON THE ADOPTABLE SEWER WORKS MUST BE SOFFIT TO SOFFIT CONNECTIONS

The adoptable drainage and highway works are subject to technical approval by **United Utilities** and **St.Helens Borough Council** respectively and may therefore change

MANHOLE REFERENCES:-

TYPE 1	UU MANHOLE TYPE 1 (STND/19/001 A)
TYPE 4	UU MANHOLE TYPE 4 (STND/19/003 A)
RH	UU SW SHALLOW MANHOLE (STND/19/004 A)
AMPS	ALTERNATIVE MANHOLE PLATFORM SYSTEM
SPEC	SPECIAL MANHOLE WITH MID SECTION LANDING (FOR MANHOLES +6.0m COVER TO SOFFIT - SEE SPECIFIC DETAILS)
HB	HYDROBRAKE MANOLE (SEE SPECIFIC MANHOLE DETAILS)
HW	HEAD WALL (SEE SPECIFIC DETAILS)
FWPS	FOUL WATER PUMPING STATION (SEE SPECIFIC DETAILS)
PS	FOUL WATER PEN STOCK MANHOLE (SEE SPECIFIC DETAILS)

Mark	Date	Details	By	Chk
C	21.01.26	Updated with Layout: 1474-TWNW Halsnead P3 2026-01-21		CP
B	20.08.25	Drainage Design for Phase 3A shown Discharge rate amended to be 29.8l/s		NR
A	20.05.25	Preliminary issue for review		JC

Revision history

Drawing originator:

BETTS HYDRO CONSULTING ENGINEERS
BETTS ASSOCIATES CONSULTING ENGINEERS
BETTS GEO CONSULTING ENGINEERS

Client:

Taylor Wimpey

Project title:

Halsnead Phase 3
Whiston

Drawing title:

Main Drainage Layout

Scale: 1:500 for the original size of A0

Drawn by: JC | Checked by: | Passed by: | Date: 20.05.25

Drawing status:

Planning

Job No:	Drawing No: Project	Origin	Volume	Level	Type	Discip	Number	Revision:
TAY132	XX	BET	XX	XX	C	101		C

Do not scale this drawing

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