



General Notes

- All dimensions are in metres unless otherwise stated.
- All levels are in metres.
- This drawing is to be read in conjunction with all relevant Engineers and Architect's drawings, Specifications, Reports and Engineering Details.
- Do not scale from this drawing.

General Drainage/Private Drainage Notes

- All pipe lengths and gradients are based on centre of manhole to centre of manhole.
- The exact position, level, size and use of existing sewers to be confirmed on site and reported to the Engineer prior to the commencement of works.
- All pipes are to be laid with level soffits or as indicated.
- All private drainage works to be in accordance with the requirements of Building Regulations 2000, Part H (drainage and waste disposal).
- All pipes to be bedded and backfilled in accordance with Part H, diagram 10. Shallow pipes shall be protected in accordance with Part H, diagram 11.
- Unless otherwise stated, all private drainage to be 100mm diameter. Gradients have been shown where there are pipe capacity issues, however minimum gradients are as below:
Surface water 100mm diameter pipes shall not be laid flatter than 1 in 100
Foul water 150mm diameter pipes shall not be laid flatter than 1 in 80
Foul water 150mm diameter pipes shall not be laid flatter than 1 in 40 unless there is a WC connected upstream at which it can be laid at 1 in 80
Foul water 150mm diameter pipes shall not be laid flatter than 1 in 150 providing there are minimum of 5 WCs connected.
- Foul water sewers serving more than 10 dwellings shall have a minimum diameter of 150mm.
- Pipes which run adjacent to buildings shall be installed in strict accordance with Part H, clauses 2.23 to 2.25 and diagram 8.
- All private manholes and inspection chambers situated in areas subject to light vehicular loading to have Class B125 covers and frames and those not subject to vehicular loading to have class A15 covers and frames all to BS EN 124.
- All drains near existing or proposed trees shall be constructed in accordance with the requirements of BS EN 12453 'practice note 3 building near trees'.
- Excavation of drain trenches must not be lower than the foundation of any nearby buildings. If the trench is within 3m of foundations, the trench needs to be filled with concrete up to the lowest level of the foundation. If the trench is further than 3m away from the foundations, the trench needs to be filled with concrete to a level below the lowest level of the building, equal to the distance from the building, less than 150mm.
- Adequate surface water drainage systems shall be provided to prevent unregulated discharge of water from a private drive onto the highway. These measures shall be implemented before the development is brought into use.
- Performed pipework to be used for distributor runs within permeable block paved areas.
- Trapped road gullies to be used for all gullies designed in shared parking areas.

Drawing Key

- Site boundary (Taken from latest site layout referenced)
- Adoptable section 104 surface water sewer with pipe diameter, pipe code, gradient and manhole
- Adoptable section 104 foul sewer with pipe diameter, pipe code, gradient and manhole
- Private surface water drainage run with 450mm inspection chamber, 600mm inspection chamber required for 225mm and 300mm pipework
- Private foul water drainage run with 450mm inspection chamber
- Private foul water drainage run with private access chamber < 0.6m deep 225mm
- Finished floor level
- Private rodding eye
- Linear drainage channel
- Perforated pipe
- Filter strip
- Extent of detention basin to be offered for S104 adoption
- Extent of detention basin micropool
- Section 38 trapped road gully
- Section 278 kerb drain and connection
- Permeable block paving

Threshold slot drains to be provided at all level thresholds on accordance with Architect's details

High Groundwater and Trench Instability

Deep Made Ground present within area of proposed detention basin and plots 13-22 (exact extents of Made Ground unknown). Constant inflow of groundwater and excavation collapse encountered in this area during ground investigations. There is also the risk of trench instability and high groundwater across the site. Excavations have been limited where possible by raising site levels.

Geogrid required - design to be undertaken by a specialist. Allowance to also be made for removal of Made Ground.

Prior to commencing works the Contractor is to familiarise themselves with the ground conditions detailed within the Element GI Ltd Phase II Geo-Environmental Investigation Report (Jan 2022, Ref: E2142/2/1) and the findings of PP Geotechnical additional ground investigations undertaken in February 2023. The Contractor is to ensure suitable safe working practices are followed in accordance with current best practice. The Contractor is to ensure the excavations are suitably merged with supports or bedded to prevent collapse, and where required 'pump equipment in place where required. Excavations are not to be left open for long periods.

Health, safety & the environment

In accordance with the Construction (Design and Management) Regulations 2015, the designs and details on this drawing have been the subject of a Designers Risk Assessment, to identify risks in the construction, use, or demolition of the scheme.

It is not considered necessary for Designers to highlight obvious and/or common risks (such as deep excavations, manual handling and working around heavy plant) which Contractors should be familiar with, and be able to control by good management and site practice.

So far as is reasonably practicable, the risks inherent in the design have been eliminated. Where it has been considered that elimination of a risk (or part of a risk) is not reasonably practicable, it has been reduced.

This drawing has been based/developed using the following external drawings					
Type	Company	Drawing date	Drawing title	Date received	Rev
Site Layout	AGA Architects	02.05.2023	23001_1000-P01 GA Site Layout	02.05.2023	P02
Topographical survey	EMP Survey LTD	July 2022	1021_Finchbeck Topographical Survey_Final	04.01.2023	POS
Utilities and Drainage survey	Survey Solutions	26.06.2023	48518NGUG-01 & 02	26.06.2023	8
Agreement		Approval Granted			
S23 (Land drainage consent)		NOT APPROVED			
S104 (Adoption of sewers)		NOT APPROVED			
S278 (Works in existing highway)		NOT APPROVED			
S106 (Foul connection)		Approved 23.05.2023			

WORKS TO BE IN ACCORDANCE WITH LINCOLNSHIRE COUNTY COUNCIL SECTION 278 WORKS SPECIFICATION + CONSTRUCTION - MARCH 2017

ALL ADOPTABLE DRAINAGE WORKS TO BE IN ACCORDANCE WITH CODES FOR ADOPTION DESIGN & CONSTRUCTION GUIDANCE

DRAWINGS HAVE NOT BEEN APPROVED, UNTIL THE DRAWINGS ARE APPROVED THE DESIGNS AND DETAILS SHOWN ON THIS DRAWING ARE SUBJECT TO CHANGE.

ANY WORKS UNDERTAKEN PRIOR TO TECHNICAL APPROVAL IS ENTIRELY AT THE CONTRACTORS' RISK.



Site Wide Build-Up

- Levels across the site have been lifted significantly above existing ground levels to allow for the following:
- To allow surface water drainage to drain to the existing ditch at the southern side of the site by gravity.
 - To avoid deep foul drainage required to allow the site to drain to the existing AW manhole by gravity (alternative solution is to pump foul flows via a rising main).
 - To limit excavations required for drainage and services in the unstable ground and Made Ground, where high groundwater is present.
- A geogrid will be required under all road, footway, parking areas and patios due to low strength soils (CBR values have been shown to range from 5.2% to 0.3%) and deep Made Ground. Geogrid to be designed by a specialist.
- Allowance to be made for Geogrid to extend below all manholes and inspection chambers, and also to cover PDS and garden areas where there is a risk of future settlement. Fill material specification also to be advised by Geotechnical Engineer to reduce risk of settlement - allowance to be made for removal of Made Ground material.

Works required in highway to form site access and construct new foul sewer in area where existing services are present, including water main, HV electric cables and gas mains.

Contractor to ensure all existing services in the vicinity of the works are accurately located prior to works commencing.

Contractor also to ensure all required licenses for works within the existing highway are obtained from Lincolnshire County Council Highways, and all required, fencing, barriers and signage are in place.



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- Infrastructure Design
- Structural Engineering
- Development Planning
- Geotechnical & Environmental
- Surveying
- Professional Advice

Rev	E	Adoptable and private drainage amended to suit S104 and S38 comments.
Rev	D	Kerb drainage removed and gullies added
Rev	C	Updated to suit latest site layout
Rev	B	Flow control flow rate and hydrobrake reference amended
Rev	A	Flow control manhole S6 cover level amended.

Drawn By:	AD	Client	Burnor Construction
Chkd By:	LC	Project	Land East of Surfleet Road Pinchbeck
Scale @ AD:	1:350	Title	Private Drainage Layout
Date:	February 2023		
Status:	PRELIMINARY		
Project No.:	26043	Drawing No:	110
Rev:	E		



By	SH	Checked	LC	12.09.2023
By	AD	Checked	LC	31.05.2023
By	AD	Checked	LC	10.05.2023
By	AD	Checked	LC	13.04.2023
By	SH	Checked	LC	17.03.2023