

**Notes**

- This drawing is to be read in conjunction with all relevant structural engineer's drawings and details, the specification for the works, the relevant architect's drawings and any other specialist's drawings.
- Any discrepancies found on this or any other drawings are to be reported to and resolved by Schema Engineering Ltd before the commencement of any work relevant to the discrepancy.
- The principal contractor is to provide fully designed propping/shoring to facilitate the works. All propping & bracing is to be adequately founded to ensure the stability/integrity of the existing/proposed structures &/or earthworks is maintained. Unless indicated on the drawings, the temporary works are not to impose reactions on the permanent structure without prior written consent from Schema Engineering Ltd.
- This document has been prepared in accordance with the scope of Schema Engineering Ltd appointment with its client and is subject to the terms of that appointment. Schema Engineering Ltd accepts no liability for any use of this document other than by its client and only for the purposes for which it was prepared and provided. Only written dimensions shall be used.
- This drawing is based on a topographical survey and planning drawings by Cripps Developments.
- Dimensions are stated in meters unless shown otherwise. Chainages are stated in metres. Levels are in metres and related to ordnance datum.
- The contractor is to verify the accuracy of information provided by others.
- Existing public utility services and private apparatus are not necessarily all shown on this drawing. The contractor shall liaise with the appropriate utility provider to determine precisely where on site existing services are located. Services shall be located and marked out on site prior to any excavation work being commenced.
- All existing services, sewers and drains indicated on this and any other related drawings are shown only indicatively, and shall have their position and level confirmed on site by the contractor.
- The surface course on the access road shall be deferred until building work for the whole development is complete. Gully frames and grates and other ironwork shall be temporarily set flush with the base course and raised at the time the surface course is constructed.
- All works within the existing highway shall be carried out fully in accordance with the new works and street works act 1991 and to chapter 8 of the traffic signs manual. The contractor shall provide, erect, maintain and remove upon completion all temporary signing required for works carried out within the highway. The contractor shall liaise with the highways inspector of Suffolk County Council with regard to agreeing appropriate methods of traffic management.
- The reinstatement of the highway shall be carried out fully in accordance with the HAUC 'specification for the reinstatement of openings in highways'. Reinstatement shall be permanent (on first visit), trench backfill material shall be type 1 granular sub-base.
- The contractor shall submit to the street works coordinator and utility companies the appropriate 'in' notices. Upon completion of the works the contractor shall submit to the street works coordinator the appropriate 'r' notice.
- All proprietary materials shall be installed in accordance with the manufacturer's instructions and recommendations.
- No trees, hedges or shrubs shall be taken up or otherwise damaged unless noted to the contrary on the drawings, or express permission is first obtained from the employer.
- For precise positions and details of domestic paths, sheds, bin stores, washing lines etc please refer to the architects drawings.
- For details of landscaping and planting please refer to the landscaping drawing prepared by others.
- The main contractor is responsible for achieving and maintaining the stability of earthworks and any existing structures on the site and adjoining sites, taking all necessary precautions to safeguard this stability. Adequate shoring is to be inserted during the works to ensure stability and such shoring is to be adequately founded and braced.
- As underlying ground conditions may be variable across the site the contractor shall undertake onsite porosity tests at the location and depth of each soakaway. Tests should be undertaken in accordance with BRE365 and results forwarded to the engineers to allow verification of designs.
- Prior to commencing any drainage works the contractor shall check and confirm back to Schema Engineering Ltd the existing invert level of all outfalls and/or connections to existing sewers. Any work carried out without doing this is entirely at the contractor's own risk.
- All adoptable drainage to be installed/constructed to 'Design and Construction Guidance (DCG)' standards and in accordance with Anglian Water's additions and deletions document.
- Connections to the existing sewers shall be subject to the approval of Anglian Water and shall be carried out by a contractor approved by Anglian Water. The contractor shall comply with the requirements of Anglian Water with regards to submitting method statements, risk assessments etc for obtaining a 'permit to work' on the existing sewer.
- Where drainage is to be adopted, manhole covers are to be permanently and visibly badged with the AW logo and the lettering 'SW' for surface water and 'FW' for foul water.
- Where possible orientation of manhole access covers to be orthogonal to adjacent kerb line.
- Manhole covers to be set flush with binder course on new road construction and raised to final levels when surface course is laid at later date.
- Sulphate resisting cement and concrete products to be used for foul sewerage.
- All pipes entering or leaving manholes shall be laid with their soffits level, unless shown or agreed otherwise.
- Gully connections to be 150mm dia at a gradient no flatter than 1 in 150 unless stated otherwise.
- The private foul and storm water drainage shall be subject to inspections by the local building control officer. The contractor shall liaise with the building inspector with regard to making inspections at the appropriate stages of the work.
- All private foul and storm water sewers shall be 100/110mm dia clayware or PVC unless stated otherwise. Storm sewers shall be laid at a gradient no flatter than 1 in 100, and foul sewers to a gradient no flatter than 1 in 80 unless stated otherwise on the drawings.
- All shallow inspection chambers to be a depth of 600mm from cover to invert unless stated otherwise.
- All connections to adoptable sewers to be made in vitrified clay only.

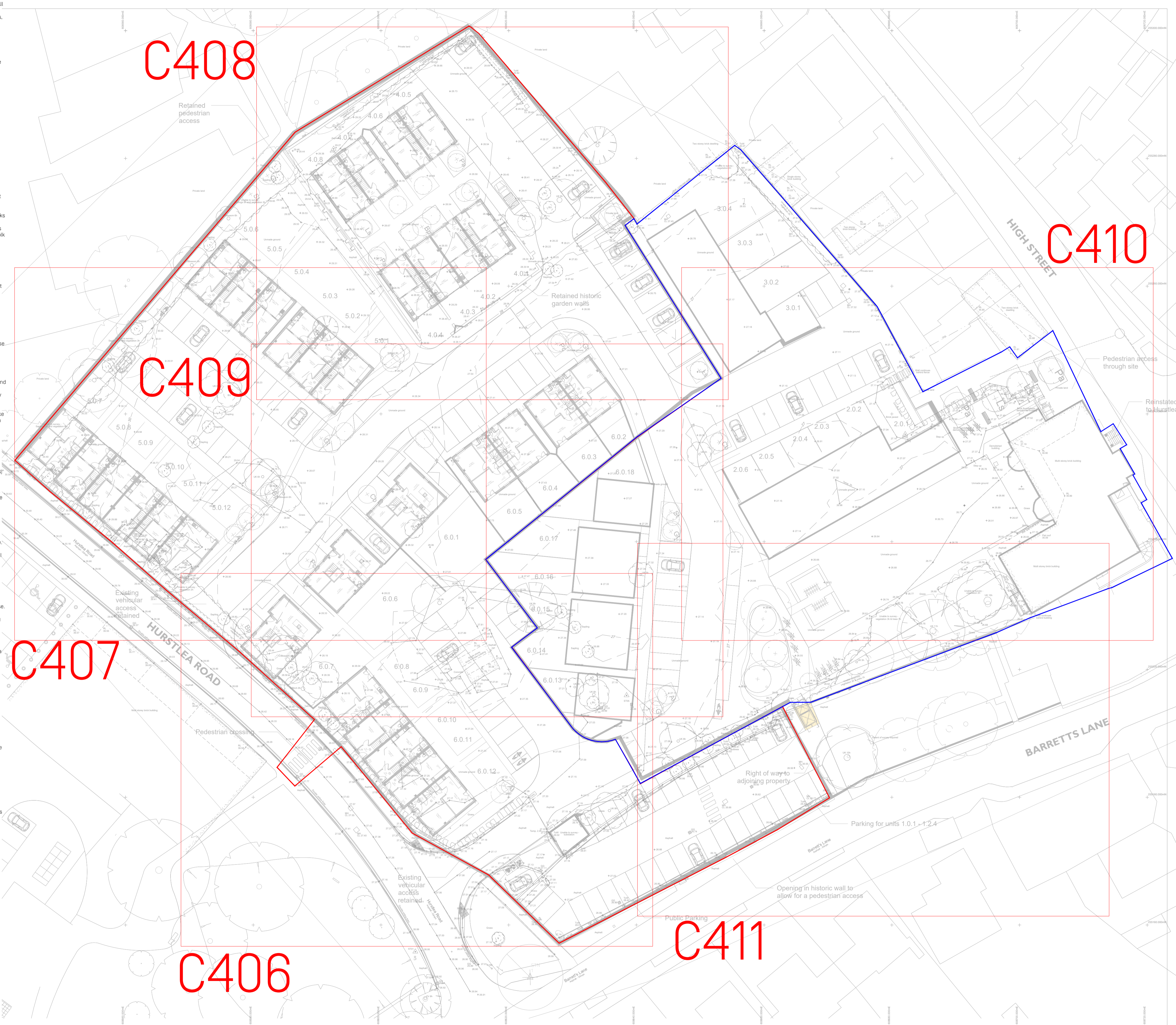
**PROTECTION TO ADOPTABLE SEWERS:-**

- Type S bedding to be used in non-trafficked areas.
- Type S bedding to be used in trafficked areas where the cover to the crown of the sewer is greater than or equal to 1200mm.
- Concrete Slab Protection to be provided in trafficked areas where the cover to the crown of the sewer is less than 1200mm.

**PROTECTION TO PRIVATE SEWERS:-**

- Type S bedding to be used in non-trafficked areas.
- Type S bedding to be used in trafficked areas where the cover to the crown of the sewer is greater than or equal to 900mm.
- Type Z bedding to be used in trafficked areas where the cover to the crown of the sewer is less than 900mm.

Schema Engineering Ltd 2023.



**CDM REGULATIONS HEALTH AND SAFETY INFORMATION FOR THE LIFETIME OF THE DEVELOPMENT**

The hazards noted are in addition to the normal hazards and risks faced by a competent contractor when dealing with the type of works detailed on this drawing.

**CONSTRUCTION RISKS:**

- Confined spaces entry and hazardous waste materials / gas.
- Deep manholes / excavations
- Contractor to locate services prior to excavating.
- Asbestos may be present.
- Drainage connection requires deep excavation temp works required.
- Existing drains to be protected and bridged over where required.
- Works adjacent to busy road and river. Watercourse / ditch levels may rise rapidly following prolonged periods of rainfall.
- Soft ground during construction works particularly in wet weather.

**MAINTENANCE/CLEANING RISKS:**

- Pavement deformations to be monitored to ensure that designed pavement falls are maintained. If significant deformation is allowed to propagate then localised flooding could occur.
- Silt traps, drainage channels, permeable pavements and inspection chambers require the standard periodic inspection regime and clearing routine to ensure continued performance and reduce the risk of flooding.
- Works adjacent to Watercourse / ditch. Watercourse / ditch levels will vary during heavy rainfall events.
- Potential for soft spots within existing ground after heavy rainfall.
- Dust and noise impacts on local community.
- Existing live services and utilities.
- Deep manholes / excavations - appropriate entry equipment required.
- Soft ground during construction works particularly in wet weather.

**DEMOLITION / ADAPTION RISKS:**

- Apparatus located in landscaped areas has not been designed to support heavy vehicle loading.
- The surface water drainage apparatus has been designed to accommodate the designed catchment area. no additional areas of hardstanding can be connection into the system without risk of localised flooding on site.
- Hazardous waste materials / dust and debris released into the air.
- Deep manholes / excavations - appropriate entry equipment required.
- Works adjacent to river. Watercourse / ditch levels will vary during heavy rainfall events.
- Unknown ground conditions during / after heavy rainfall.
- Soft ground during construction works particularly in wet weather.

**PRELIMINARY DRAWING:**

This drawing is for preliminary purposes only and must not be read as a construction issue. The design is not fixed and design changes are likely.

Rev	Date	Description	By	Check
P1	28/07/23	Preliminary	RB	PP

Copyright: The copyright of this drawing is vested in Schema Engineering Ltd. To be read in conjunction with all other project related drawings, reports and surveys etc. It shall not be used without permission by anyone for any purpose. Do not scale this drawing electronically or manually. Work to figured dimensions only. All dimensions are in metres unless stated otherwise. Do not turn on layers that have been turned off. Do not thaw layers that have been frozen.

<b>Client</b>	Cockledge Building Contractors
<b>Project</b>	Barrett's Lane, Needham Market Suffolk IP68DL
<b>Title</b>	Engineering Layout / Setting Out Key Plan
<b>Scale @ A1</b>	1:500
<b>Status</b>	Preliminary



Date	Job Number	By	Checked By
July 2023	0304	RB	JRS
<b>Drawing No.</b>	C405	<b>Revision</b>	P1