



Department for Education

Gomersal St Mary's Primary School

Flood Risk Assessment

681977-R1(1)-FRA

February 2026



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RSK GENERAL NOTES

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Where field investigations have been carried out, these have been restricted to a level of detail required to achieve the stated objectives of the work.

This work has been undertaken in accordance with the quality management system of RSK LDE Ltd.

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1 INTRODUCTION

RSK Land and Development Engineering Ltd were commissioned by the Department for Education (the client) to provide a Flood Risk Assessment (FRA) to support the planning application at Gomersal St Mary's Primary School (the site). Development proposals include removal of the existing school building and temporary classrooms and the development of a new school building.

The purpose of the FRA is to establish the risk associated with the proposed development and to propose suitable mitigation, if required, to reduce the flood risk to a more acceptable level. The FRA must demonstrate that the development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere.

This document has been produced to assess the flood risk from tidal, fluvial, surface water, groundwater, sewers, reservoirs and artificial sources in line with the National Planning Policy Framework (NPPF)¹ and its corresponding Planning Practice Guidance (PPG)².

This assessment has been undertaken in consultation with the relevant authorities, and with reference to data, documents and guidance published by the Environment Agency (EA), the Lead Local Flood Authority (LLFA) (Kirklees Council), the Local Planning Authority (LPA) (Kirklees Council), and the Water Authority (Yorkshire Water).

The comments given in this report and opinions expressed are subject to RSK Group Service Constraints provided in **Appendix A**.

¹ Communities and Local Government, 'National Planning Policy Framework', published March 2012 and last updated February 2025.

² Communities and Local Government, 'Planning Practice Guidance - Flood Risk and Coastal Change, ID 7', published March 2014 and last updated September 2025.

2 SITE DESCRIPTION AND PROPOSALS

2.1 Existing site

2.1.1 Site description

The site is located in the centre of Gomersal on Shirley Avenue, and can be located at National Grid Reference 420753, 425710, postcode: BD19 4NA. A site location plan is included as **Figure 2.1**.

The site covers an area of approximately 9,178m² (0.918ha) and currently comprises five existing buildings: a school, day centre and three mobile classrooms. The school is located within the centre of the site and there is one main access point to the site from Shirley Avenue in the north-west corner of the site.

The hardstanding areas of the site consist of parking bays which are located along the western boundary. A large play area and basketball court are situated in the centre and south-western corner of the site, respectively.

An extensive playing field encompasses the entire south-east corner of the site. The field is adjacent to the basketball court and mobile classroom located in the south-west corner and is constrained to the centre of the site by the school building and play area. The field continues in a northerly direction along the eastern boundary of the site until the northern boundary.



Figure 2.1: Site location plan

2.1.2 Topography

A site-specific topographic survey has been conducted by Edi Surveys Ltd which indicates that the ground level varies between 152.01m Above Ordnance Datum (AOD) and 148.57m AOD and gently slopes from the north-west towards the south-east. The topographic survey is included in **Appendix B**.

Publicly available 1m resolution Digital Terrain Model (DTM) data has been used to produce a topographic map of the site and surrounding area, as displayed in **Figure 2.2** below.

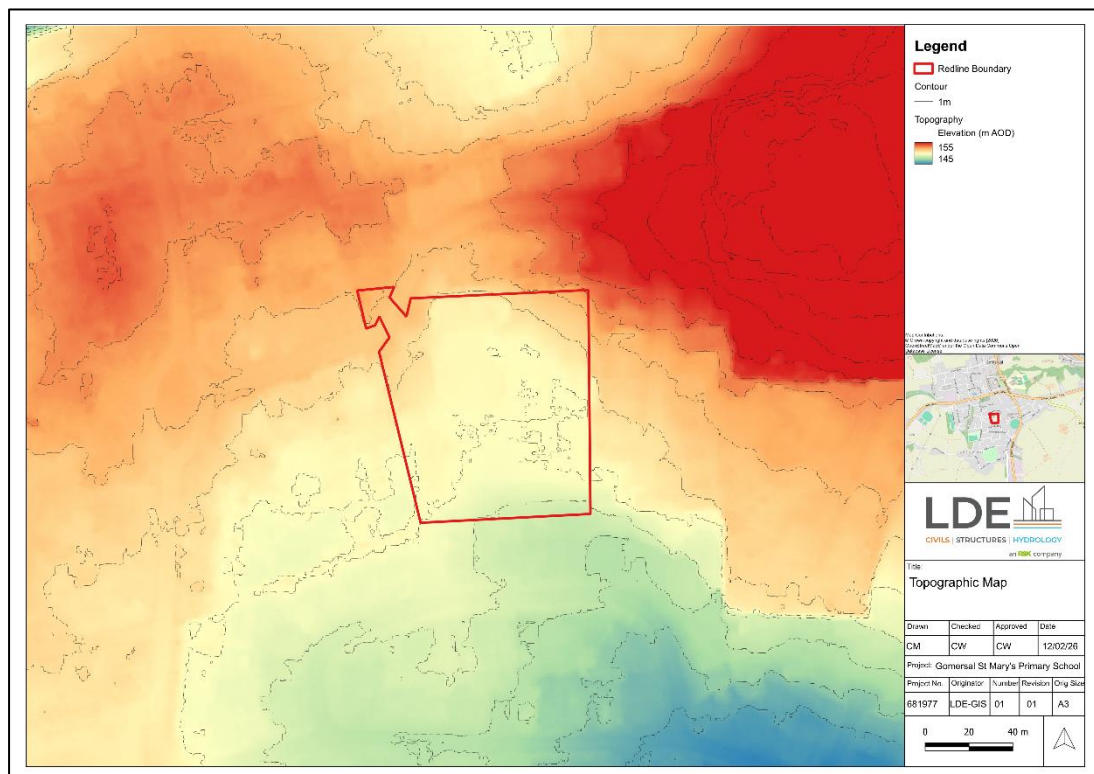


Figure 2.2: Topographic map

2.1.3 Existing drainage

2.1.3.1 Public

Yorkshire Water sewer plans have been obtained for the site and are included in **Appendix C**.

These plans indicate that there are numerous mains sewer pipes in and around the site. A 225mm diameter surface water sewer and a 150mm diameter foul water sewer run south-westerly along Shirley Avenue towards the site. Just outside the school entrance, the surface water sewer pipe increases from a 225mm diameter pipe to a 300mm diameter pipe. Both surface and foul water sewer pipes enter the site from the north, via the school entrance. The pipes proceed in a south-easterly direction underneath the car

park and basketball court. The surface water 300mm diameter pipe joins a large storage unit of five 1500mm diameter pipes located underneath the basketball court.

A second 300mm diameter surface water sewer and 150mm diameter foul water sewer enter the site underneath the eastern boundary from Shirley Avenue (cul-de-sac). Both sewers proceed westwards where they confluence underneath the basketball court with their corresponding sewers entering from the north of the site. At the point of convergence between the five 1500mm diameter surface water storage units and 300mm diameter surface water sewer (from the east), the surface water sewer pipe decreases in size into a 225mm diameter pipe. Both 225mm diameter surface water sewer and converged 150mm diameter foul sewer pipes proceed southwards and exit the site in the south-west corner of the site.

There is a combined sewer located off-site to the south-west, which drains the residential properties located on Shirley Square.

2.1.3.2 *Private*

Surface water runoff is currently thought to discharge to the public mains sewer on site with some infiltration likely within the soft landscaped areas.

2.2 Development proposals

The development proposals comprise the removal of the existing school building and temporary classrooms and the development of a new school building in the east of the site. The sports pitches will also be reconfigured as part of the works. The proposed layout is shown in **Figure 2.3**.



Figure 2.3: Proposed layout

3 ENVIRONMENTAL SETTING

3.1 Hydrology

Reference to Ordnance Survey (OS) mapping and the EA's web-based mapping indicates that the nearest EA Main River is Church Beck located 0.5km north-east of the site. Church Beck is a tributary of Smithies Beck located over 1.5km west of the site in the town of Birstall Smithies. There is another Main River, the River Spen, located 1.5km south-west of the site. There are no surface water features within the site boundary.

A map of hydrological features within the vicinity of the site is shown in **Figure 3.1**.

The site is not located within or hydrologically connected to an Internal Drainage Board (IDB) area.

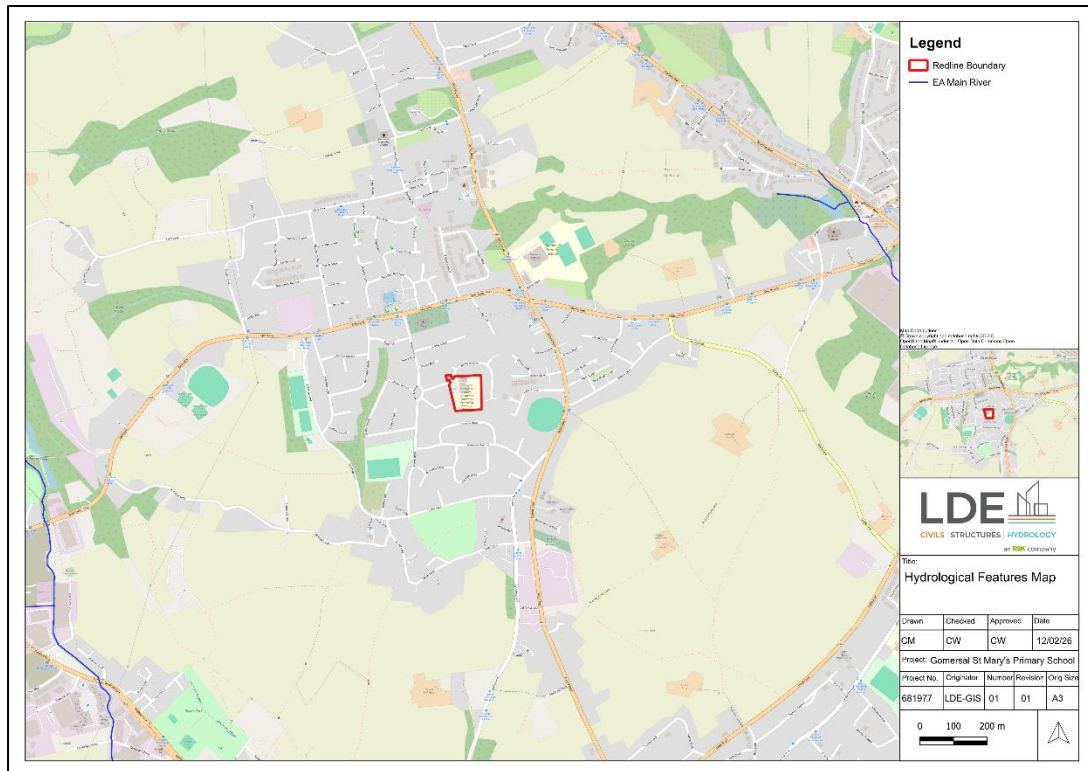


Figure 3.1: Hydrological features map

3.2 Geology

Based on published geological records for the area (British Geological Survey (BGS) online mapping), the site exhibits the following geology:

- Superficial Geology: None recorded.
- Bedrock Geology: Pennine Lower Coal Measures Formation - Mudstone, siltstone

and sandstone.

There are three available BGS borehole records (BGS Reference, SE22NW458, SE22NW459 and SE22NW460) located on the opposite side of the road from the site along Shirley Avenue. All three boreholes were completed on 19/06/1989, the results do not state if groundwater was struck during the 10m deep borehole drills. They all show similar results which are summarised in **Table 3.1**.

Table 3.1: Summary of borehole log strata

Description of Strata	Depth (m Below Ground Level (mBGL))
Silty clay	2.8
Soft mudstone	5.5
Medium/hard mudstone	6.3
Hard light mudstone	10.0

A Geo-Environmental Site Investigation report was produced by RSK Geosciences in January 2024 for the site³. The ground investigation was undertaken to provide information to assess land contamination sources, conduct a coal mining investigation and identify potential geotechnical constraints for the proposed development. The investigation indicated that where made ground was encountered within the site, it was recorded up to 0.9m thick. Elsewhere, the ground consisted of cohesive deposits of clay between 0.8m and 3.9m thick, with coal of varying thickness. The coal was underlain by bedrock of the Pennine Lower Coal Measures Formation with a thickness of more than 30m.

Groundwater was only encountered within two of the boreholes within the north-eastern corner of the site at a depth of 0.8m BGL. The groundwater level monitoring data for the site also indicated that groundwater was encountered at depths of between 0.2m BGL and 12.8m BGL.

A BRE 365 Infiltration Assessment was conducted by Roberts Environmental Ltd in December 2025 for the site⁴. The three trial pits encountered grass over topsoil underlain by sandy clay. The sandy clay was underlain by sandy gravelly clay and gravel comprising weathered sandstone. Percolation tests were carried out in all three trial pits, however the percolation rates were very slow therefore only one of the trial pits provided a calculated soil infiltration rate of $1.15 \times 10^{-5} \text{m/s}$. The assessment concluded that the water levels within two of the trial pits did not fall to a level to allow the coefficient of

³ RSK Geosciences (2024). Geo-Environmental Site Investigation Factual Report: Gomersal St. Mary's CE(C) Primary School. Report Ref: 323198-R01(00)

⁴ Roberts Environmental Ltd (2025). BRE 365 Infiltration Assessment – St. Mary's Primary School, Shirley Avenue, Cleckheaton, BD19 4NA. Report Ref: 251009.R.001.MH

permeability to be calculated, therefore the soils tested are potentially not suitable for supporting soakaways.

3.3 Hydrogeology

Hydrogeological information was obtained from Defra's online MAGIC Maps service. These maps indicate that the site is underlain by a Secondary A bedrock aquifer. Secondary A aquifers comprise permeable layers that can support local water supplies and may form an important source of baseflow to rivers.

The site is not located within a groundwater Source Protection Zone (SPZ), with the nearest SPZ located approximately 6km north of the site in Scholebrook Farm.

4 SOURCES OF FLOOD RISK

4.1 Criteria

In accordance with the NPPF and advice from the EA, an assessment of the risk associated with various flooding sources is required along with consideration of the effects of climate change over the design life of the development.

The EA's most recent climate change guidance, published in May 2022⁵, should be referenced in order to identify the appropriate peak river flow and rainfall intensity allowances for the scheme. The appropriate allowance for peak river flow is based on the location of the site in the country, the lifetime of development, the relevant flood zone and the vulnerability of the proposed end use.

The flood risk elements that need to be considered for any site are defined in BS 8533 'Assessing and managing flood risk in development Code of practice'⁶ as the "Forms of Flooding" and are listed as:

- Flooding from rivers (fluvial flood risk);
- Flooding from the sea (tidal flood risk);
- Flooding from the land;
- Flooding from groundwater;
- Flooding from sewers (sewer and drain exceedance, pumping station failure etc); and
- Flooding from reservoirs, canals and other artificial structures.

The following section reviews each of these in respect of the subject site.

4.2 Definitions of risk

Table 4.1: Flood risk category matrix from reservoirs, groundwater, sewers and other artificial sources

Flood Zone	Description
Flood Zone 1	Land assessed as having a less than 1 in 1,000 annual probability of river or sea flooding (<0.1%)
Flood Zone 2	Land assessed as having between a 1 in 100 and 1 in 1,000 annual probability of river flooding (1% – 0.1%), or between a 1 in 200 and 1 in 1,000 annual probability of sea flooding (0.5% – 0.1%) in any year

⁵ Environment Agency, 'Guidance: Flood Risk Assessments: Climate Change Allowances'. <https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances>, last updated May 2022.

⁶ BSI, 'BS 8533-2017 Assessing and managing flood risk in development Code of practice', December 2017.

Flood Zone	Description
Flood Zone 3	Land assessed as having a 1 in 100 or greater annual probability of river flooding (>1%), or a 1 in 200 or greater annual probability of flooding from the sea (>0.5%) in any year.
Flood Zone 3b	Land having the potential to flood for storm events up to the 1 in 30 year return period (>3.3% annual probability of flooding occurring). It is classified as 'functional floodplain'

Table 4.2: Flood risk from rivers or the sea and flood risk from surface water

Flood Risk	Description
High	High risk means that each year this area has a chance of flooding of greater than 3.3%. This takes into account the effect of any flood defences in the area. These defences reduce but do not completely stop the chance of flooding as they can be overtopped, or fail.
Medium	Medium risk means that each year this area has a chance of flooding of between 1% and 3.3%. This takes into account the effect of any flood defences in the area. These defences reduce but do not completely stop the chance of flooding as they can be overtopped, or fail.
Low	Low risk means that each year this area has a chance of flooding of between 0.1% and 1%. This takes into account the effect of any flood defences in the area. These defences reduce but do not completely stop the chance of flooding as they can be overtopped, or fail.
Very Low	Means that each year this area has a chance of flooding of less than 0.1%. This takes into account the effect of any flood defences in the area. These defences reduce but do not completely stop the chance of flooding as they can be overtopped, or fail.

Table 4.3: Flood risk category matrix from reservoirs, groundwater, sewers and other artificial sources

Threat Probability	Low Impact	Medium Impact	High Impact
High	Medium	Medium	High
Medium	Low	Medium	Medium
Low	Low	Low	Medium
Very Low	Very Low		

4.3 Flood risk from rivers (fluvial flood risk)

The EA Flood Zone mapping study for England is available on their website at: <https://flood-map-for-planning.service.gov.uk>.

The latest EA published flood zone map (**Figure 4.1**) shows that the entire site lies within Flood Zone 1. Flood Zone 1 mapping represents land with a less than 0.1% (1 in 1000 year) annual probability of flooding from fluvial sources.

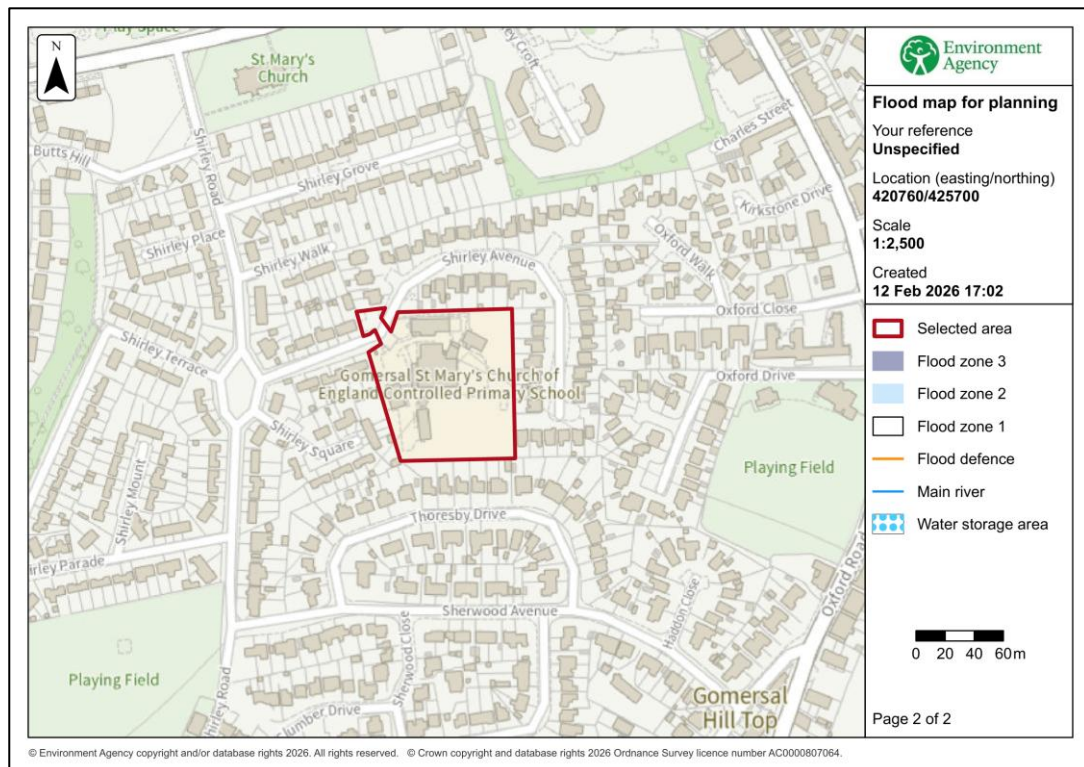


Figure 4.1: Environment Agency ‘Flood map for planning’

There are no known Ordinary Watercourses or culverts in close proximity to the site that could represent a fluvial risk.

4.3.1 Climate change

Fluvial flooding is likely to increase as a result of climate change. A greater intensity and frequency of precipitation is likely to raise river levels and increase the likelihood of a river overtopping its banks. Climate change guidance for river modelling was updated by the EA in May 2022. No model re-runs have been undertaken as part of this site-specific FRA. The impact upon the site should be negligible given its siting within Flood Zone 1.

The overall risk of fluvial flooding is considered to be **very low**.

4.4 Flood risk from the sea (tidal flood risk)

The site is not considered to be at risk from tidal flooding due to its inland location.

The overall tidal flood risk is considered to be **very low**.

4.5 Flood risk from the land (surface water flood risk)

If intense rain is unable to soak into the ground or be carried through manmade drainage systems, for a variety of reasons, it can run off over the surface causing localised floods before reaching a river or other watercourse.

Generally, where there is impermeable surfacing or where the ground infiltration capacity is exceeded, surface water runoff can occur. Excess surface water flows from the site are believed to drain primarily to the mains surface water sewers on the site.

The EA's surface water flood map (**Figure 4.2**) shows that whilst the majority of the site appears to be at a very low risk from surface water flooding, there is a low to medium risk of surface water flooding within the centre of the site. No flood risk is indicated within the site boundary during the high likelihood of flooding (1 in 30 year) event. During the medium likelihood of flooding (1 in 100 year) event, an area of surface water ponding is indicated directly north-east of the existing school building at the centre of the site. This increases to two additional minor localised areas of surface water ponding during the low likelihood of flooding (1 in 1000 year) event to the north-west and south-east of the school building.

The maximum surface water flood depths are very shallow at less than 20cm for the ponding to the north-west and south-east of the existing school building and up to 30cm for the ponding to the north-east of the school building. The areas affected are small and are likely to be associated with localised low points in the existing topography.

There are no surface water overland flow pathways indicated within the site boundary.

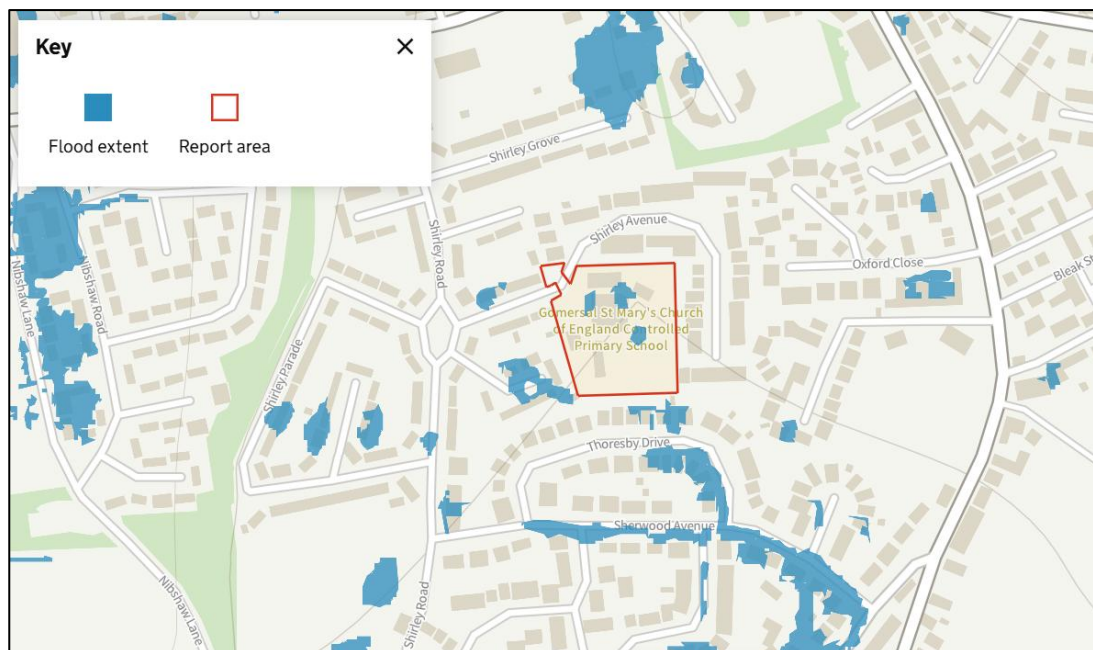


Figure 4.2: Environment Agency low likelihood 'Flood risk from surface water' map

The topography on site shows the site falls away towards the south-east and therefore any surface water runoff will likely fall away in this direction.

Surface water flooding is likely to increase as a result of climate change in a similar ratio to fluvial flooding. Increased intensity and frequency of precipitation is likely to lead to reduced infiltration and increased overland flow. However, climate change is unlikely to have a significant impact on the existing surface water flood risk, based on the limited present day flood risk extents.

The overall risk of surface water flooding at the site is considered to be **low**.

4.6 Flood risk from groundwater

Groundwater flooding tends to occur after long periods of sustained high rainfall. Higher rainfall means more water will infiltrate into the ground and cause the water table to rise above normal levels. In low-lying areas, the water table is usually at shallower depths anyway, but during very wet periods, with all the additional groundwater flowing towards these areas, the water table can rise up to the surface causing groundwater flooding.

The Kirklees Council Strategic Flood Risk Assessment (SFRA)⁷ indicates that the site is located in an area with a <25% susceptibility to groundwater flooding based on the EA Areas Susceptible to Groundwater Flooding mapping and that there are no recorded incidents of historic groundwater flooding in the Gomersal area. However, a Geo-Environmental Site Investigation report produced by RSK Geosciences in January 2024 for the site⁸ indicated that groundwater was encountered at depths of between 0.2mBGL and 12.8mBGL suggesting a highly variable water table with localised perched groundwater.

Climate change could increase the risk of groundwater flooding as a result of increased precipitation filtering into the groundwater body. This is less likely to cause a significant change to flood risk than from other sources, since groundwater flow is not as confined. It is probable that any locally perched aquifers may be more affected, but these are likely to be isolated. The change in flood risk as a result of climate change is likely to be low.

The overall groundwater flood risk is therefore considered to be **low**.

4.7 Flood risk from sewers

Flooding from artificial drainage systems occurs when flow entering a system, such as an urban storm water drainage system, exceeds its conveyance capacity, the system becomes blocked, or it cannot discharge due to a high-water level in the receiving watercourse. When exceeded, the surcharged pipe work could lead to flooding from backed up manholes and gully connections.

⁷ Kirklees Council (2016). Strategic Flood Risk Assessment. Available online at: <https://www.kirklees.gov.uk/beta/planning-policy/pdf/flood-risk/strategic-flood-risk-assessment-2.pdf>

⁸ RSK Geosciences (2024). Geo-Environmental Site Investigation Factual Report: Gomersal St. Mary's CE(C) Primary School. Report Ref: 323198-R01(00)

Sewer details have been referenced from sewer record plans obtained from Yorkshire Water. The plans indicate that there are numerous mains sewer pipes in and around the site including surface and foul water sewers which transverse along the western section of the site. A surface water sewer and foul water sewer are indicated to run under the southern end of the proposed school building within the south-eastern corner of the site. Consultation with Yorkshire Water should, therefore, be undertaken to determine the potential for sewer diversions and/or the requirement for specific development-free easements.

Based on the local topography, any surcharged water would most likely flow south-east towards the surrounding residential properties rather than ponding on the site itself.

Climate change is likely to result in an increase in flooding from sewers. Increased rainfall and more frequent flooding put existing sewer and drainage systems under additional pressure resulting in the potential for more frequent surcharging and potential flooding. This would increase the frequency of local sewer flooding but would not be significant in terms of the proposed development.

The overall sewer flood risk to the site is considered to be **low to medium**.

4.8 Flood risk from reservoirs

Flood events can occur from a sudden release of large volumes of water from reservoirs.

The EA reservoir flood map (reproduced as **Figure 4.3**) shows the largest area that might be flooded if a reservoir were to fail and release the water it holds. Since this is a prediction of a worst-case scenario, it is unlikely that any actual flood would be this large.

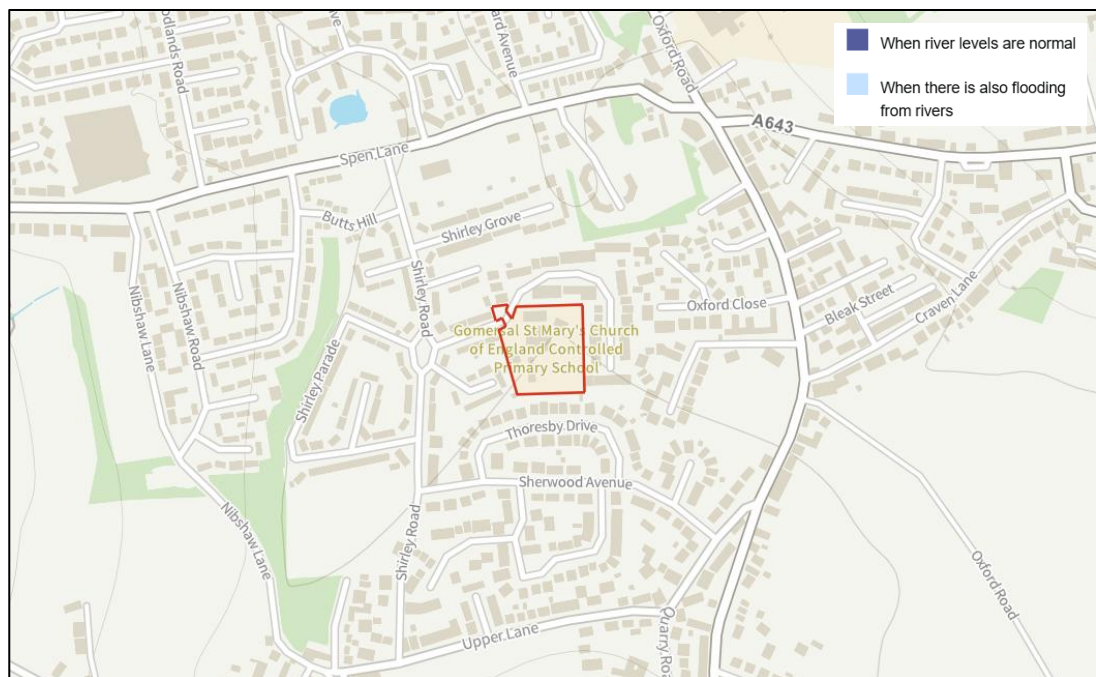


Figure 4.3: Environment Agency 'Flood risk from reservoirs' map

The EA mapping was updated in 2021 to demonstrate the potential maximum extent of flooding for two scenarios - a "dry day scenario" in which river levels are "normal", and a "wet day scenario" where the flooding from the reservoir coincides with flooding from rivers.

The map shows that the site is not in a location at risk of reservoir flooding when river levels are normal and should the peak fluvial event and reservoir failure occur at the same time.

Reservoir flooding is extremely unlikely. There has been no loss of life in the UK from reservoir flooding since 1925. Since then, reservoir safety legislation has been introduced to ensure reservoirs are maintained.

Reservoirs can be managed over time, controlling inflow/outflow of water and therefore there is the capacity to control the effects of climate change. Increased rainfall has the potential to increase base flow, but this should be minimal. It is unlikely that there will be a substantial change to the risk of flooding for this site as a result of climate change.

The resultant flood risk is considered to be **very low**.

4.9 Other sources of flood risk

4.9.1 Canals

There are no Canal & River Trust owned canals within the vicinity the site.

4.9.2 Other artificial features

No other artificial features with the potential to result in a flood risk to the site have been identified.

The flood risk from other sources is considered to be **very low**.

5 MITIGATION MEASURES AND RESIDUAL FLOOD RISK

5.1 Sequential approach within application boundary

The Sequential Approach, in the context of flood risk planning, is addressed in paragraph 173 of the NPPF and Paragraph 23 of the recently updated PPG. Paragraph 173 specifies that a sequential risk-based approach should be taken to individual applications in areas at risk of flooding. Application of the sequential approach in the plan making and decision-making process will help to ensure that development is steered to the lowest risk areas, where it is compatible with sustainable development objectives to do so.

The site lies entirely within Flood Zone 1. There are minor, localised areas of shallow surface water flood risk to the north-east, north-west and south-east of the existing school building. However, these relate to localised topographic depressions rather than a flow path through the site. A sequential approach has been followed by leaving these areas largely clear of any proposed built form, but regardless these areas of risk will be removed as a result of the proposed site levelling with the runoff managed via the proposed drainage strategy.

5.2 Overland flood flow

No overland flow routes have been identified across the site from any source of flooding.

5.3 Finished floor levels

As a best practice measure, it is recommended that finished floor levels are set a minimum of 150mm above the site access road which will act as an exceedance flow route, to prevent any internal surface water ingress.

5.4 Easements and consents

As discussed in **Section 4.7**, consultation with Yorkshire Water should be undertaken to determine the potential for sewer diversions and/or the requirement for specific development-free easements associated with the mains sewer pipes within the site boundary.

Any consent works usually take place post planning, prior to construction, however, the principals of any development within the appropriate easements should be agreed at the planning stage.

5.5 Flood compensation

The site is shown to be outside the 1 in 100 year climate change floodplain so floodplain compensatory measures are not deemed necessary.

5.6 Safe access/egress

The site lies outside of the 1 in 100 year plus climate change fluvial flood extent. Pre-development maximum surface water flood depths are very shallow at <30cm, but these areas of ponding will be removed via the proposed levelling/drainage strategy as part of the development. It is therefore, considered that safe access and egress will be available for the design flood event.

5.7 Groundwater flooding

Given the potential for elevated groundwater within the site boundary, the following mitigation measures should be considered and incorporated where feasible:

- Best practice should be followed for all new pipes/sewers to prevent the ingress of groundwater into the drainage systems;
- Non-return valves could also be fitted to prevent flooding within buildings;
- Any retained sewers and drains which may be leaking should be replaced and renewed;
- Additional jointing/sealing should be incorporated in manholes, in areas potentially at risk;
- The use of groundwater interception systems should be considered to divert groundwater flows around below ground level obstructions; and
- As stated above, raised building FFLs have been recommended as a best practice measure to mitigate against surface water flood risk and will also mitigate against groundwater flood risk.

6 PLANNING POLICY CONTEXT

6.1 National planning policy

Section 14 of the NPPF details the overarching requirements relating to flood risk for any development. The key message is that inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk (whether existing or future). Where development is necessary in such areas, the development should be made safe for its lifetime without increasing flood risk elsewhere.

In areas at risk of flooding, the NPPF requires that the following criteria are met:

- a) within the site, the most vulnerable development is located in areas of lowest flood risk, unless there are overriding reasons to prefer a different location;
- b) the development is appropriately flood resistant and resilient such that, in the event of a flood, it could be quickly brought back into use without significant refurbishment;
- c) it incorporates sustainable drainage systems, unless there is clear evidence that this would be inappropriate;
- d) any residual risk can be safely managed; and
- e) safe access and escape routes are included where appropriate, as part of an agreed emergency plan.

The PPG supports the NPPF and provides further advice regarding the assessment of flood risk and the application of the Sequential and Exception Tests.

6.1.1 Land use vulnerability

Table 2 of the PPG indicates the compatibility of various land uses in each flood zone, dependent on their vulnerability to flooding. **Table 6.1** below is reproduced from Table 2 of PPG.

Table 6.1: Flood risk vulnerability and flood zone ‘compatibility’

Flood Risk Vulnerability Classification		Essential Infrastructure	Water Compatible	Highly Vulnerable	More Vulnerable	Less Vulnerable
Flood Zone	Zone 1	Appropriate	Appropriate	Appropriate	Appropriate	Appropriate
	Zone 2	Appropriate	Appropriate	Exception Test Required	Appropriate	Appropriate
	Zone 3a	Exception Test Required	Appropriate	Should not be permitted	Exception Test Required	Appropriate

Flood Risk Vulnerability Classification		Essential Infrastructure	Water Compatible	Highly Vulnerable	More Vulnerable	Less Vulnerable
	Zone 3b functional floodplain	Exception Test Required	Appropriate	Should not be permitted	Should not be permitted	Should not be permitted

With reference to Annex 3 of the NPPF, the proposed development, based on its educational use, is classed as 'more vulnerable'. This classification of development is appropriate for areas within Flood Zone 1, and therefore, appropriate for the subject site.

6.1.2 Sequential Test

The Sequential Test aims to direct new development to areas with the lowest probability of flooding. The entire site lies within Flood Zone 1. There are minor, localised areas of surface water flood risk to the north-east, north-west and south-east of the existing school building.

Paragraph 27 of the PPG states that “*where a site-specific flood risk assessment demonstrates clearly that the proposed layout, design, and mitigation measures would ensure that occupiers and users would remain safe from current and future surface water flood risk for the lifetime of the development (therefore addressing the risks identified e.g. by Environment Agency flood risk mapping), without increasing flood risk elsewhere, then the sequential test need not be applied*”. This FRA has demonstrated that the proposed development will be safe from a surface water flood risk perspective as a result of the proposed removal of these ponding areas via the levelling strategy to facilitate development. The runoff collecting in these areas in the pre-development scenario will be managed via the proposed drainage strategy, whilst also ensuring there will be no increase in surface water runoff rates leaving the site. The development will therefore be safe from a surface water flood risk perspective, with no increase in flood risk elsewhere, so the Sequential Test does not need to be applied.

6.1.3 Exception Test

In accordance with **Table 6.1**, there is no requirement to apply the Exception Test for a ‘more vulnerable’ development within Flood Zone 1.

6.2 Local planning policy

Key policies attaining to current planning policy relating to flood risk and drainage for the Kirklees Council area where the proposed development is located are reproduced below.

Kirklees Council SFRA⁹ states:

⁹ Kirklees Council (2016). Strategic Flood Risk Assessment. Available online at: <https://www.kirklees.gov.uk/beta/planning-policy/pdf/flood-risk/strategic-flood-risk-assessment-2.pdf>

- Site-specific FRAs are required for proposals of 1ha or greater in Flood Zone 1, all proposals for new development in Flood Zones 2 and 3, for proposals in Critical Drainage Areas (CDAs), for proposals which may be subject to other sources of flooding and for proposals with a change to a higher vulnerability classification.
- The sequential approach should be adopted for all developments, with the Sequential Test and Exception Test applied where necessary.
- Climate change should be incorporated to account for changes in flood risk over the lifetime of the development.
- SuDS should follow the runoff destination preference of discharge to ground, to a surface water body, to a road drain or surface water sewer and to a combined sewer. It is noted that the runoff destination hierarchy has since been updated in the national standards for sustainable drainage systems guidance¹⁰ to include collection for non-potable use as the primary option for runoff.
- Effects of the development on water quality should also be considered.
- Developments which include areas designed to flood or have a residual risk associated with them will need to provide appropriate flood warning and evacuation plans to ensure the safety of users and residents.

Kirklees Council Local Plan¹¹ states:

- Policy LP27: Flood Risk:
 - *“Proposals for development which require a Sequential Test in accordance with national planning guidance will need to demonstrate that development has been directed to areas at the lowest probability of flooding, following a sequential risk based approach.*
 - *The whole Kirklees district should be the starting point for the sequential test with applicants required to provide justification where a smaller area of search is proposed.*
 - *If following application of the sequential test, there are no reasonably available sites which could accommodate the development in zones with a lower probability of flooding, it should also be demonstrated that a sequential approach has been applied within sites. This is to ensure that highly vulnerable and more vulnerable uses are directed towards the areas of lowest flood risk within the site. Proposals will also need to demonstrate that the exception test is passed, where applicable, as set out in national planning policy.*

¹⁰ DEFRA (2015). National standards for sustainable drainage systems (SuDS), last updated July 2025. Available online at: <https://www.gov.uk/government/publications/national-standards-for-sustainable-drainage-systems/national-standards-for-sustainable-drainage-systems-suds#standard-1-runoff-destinations>

¹¹ Kirklees Council (2019). Local Plan. Available online at: <https://www.kirklees.gov.uk/beta/planning-policy/pdf/local-plan-strategy-and-policies.pdf>

- *Proposals must be supported by an appropriate site specific Flood Risk Assessment in line with national planning policy. This must take account of all sources of flooding set out in the Strategic Flood Risk Assessment and demonstrate that the proposal will be safe throughout the lifetime of the development (taking account of climate change). The proposal must also not increase flood risk elsewhere and where possible should reduce flood risk. Mitigation measures, where necessary, should be proposed.”*
- Policy LP28: Drainage:
 - *“The presumption is that Sustainable Drainage Systems (SuDS) will be used to assist in achieving the following on each site:*
 - a. for proposals on greenfield sites, typical greenfield run-off rates should not be exceeded;*
 - b. for proposals on brownfield sites there should be a minimum 30% reduction in surface water run-off where previous positive surface water connections from the site can be proven. New connections will be subject to at least greenfield restrictions;*
 - c. No negative impact on local water quality and improvements in water quality where practicable;*
 - d. Consider whether proposed open spaces and green infrastructure within sites can contribute to the sustainable drainage of the site.*
 - *There will be a general presumption against pumping surface water. It must also be demonstrated that the surface water management solution is designed to meet requirements over the lifetime of the development including evidence that management and maintenance arrangements have been secured to cover that period. This includes ensuring proposals to store water meet national standards and latest best practice.*
 - *Flow paths accommodating water from outside the site or due to an exceedance event should be designed to avoid buildings and curtilages.*
 - *Development will only be permitted if it can be demonstrated that the water supply and waste water infrastructure required is available or can be co-ordinated to meet the demand generated by the new development.”*

7 CONCLUSIONS AND RECOMMENDATIONS

This FRA complies with the NPPF and PPG and demonstrates that flood risk from all sources has been considered in the proposed development. It is also consistent with the LPA requirements with regard to flood risk.

The proposed development site lies in an area designated by the EA as Flood Zone 1 and is outlined to have a chance of flooding of less than 1 in 1,000 (<0.1%) in any year from fluvial sources. There are minor, localised areas of surface water flood risk to the north-east, north-west and south-east of the existing school building. A sequential approach has been followed by leaving these areas largely clear of any proposed built form, but regardless these areas of risk will be removed as a result of the proposed site levelling with the runoff managed via the proposed drainage strategy.

The proposed development is classified as 'more vulnerable', and therefore, considered appropriate within Flood Zone 1 without application of the Exception Test.

This FRA has considered multiple sources of flooding and concluded the following:

Table 7.1: Flood risk summary

Source	Level of risk	Mitigation
Fluvial	Very Low – Flood Zone 1	The site lies within Flood Zone 1 only. The site is shown to be outside the 1 in 100 year climate change floodplain so floodplain compensatory measures are not deemed necessary. Safe access and egress will be available for the design flood event.
Tidal	Very Low	None required due to the site's inland location and distance to tidally influenced watercourses.
Surface water	Low	Whilst the majority of the site is not at risk of surface water flooding, there is a low to medium risk of surface water flooding within the centre of the site. As a best practice measure, it is recommended that FFLs are set a minimum of 150mm above the site access road which will act as an exceedance flow route, to prevent any internal surface water ingress. The development will incorporate a surface water drainage strategy to accommodate surface water generated on site.

Source	Level of risk	Mitigation
Groundwater	Low	Mitigation measures have been recommended to address the potential for groundwater flooding. These measures include non-return valves, groundwater interception systems and nominally raised building FFLs.
Sewers	Low to Medium	Consultation with Yorkshire Water should be undertaken to determine the potential for sewer diversions and/or the requirement for specific easements associated with mains sewer pipes within the site boundary.
Reservoir	Very Low	None required.
Other sources	Very Low	None required.

Overall, taking into account the above points, the development of the site should not be precluded on flood risk grounds.

APPENDIX A

RSK GROUP SERVICE CONSTRAINTS

1. This report and the drainage design carried out in connection with the report (together the "Services") were compiled and carried out by RSK LDE Ltd (RSK) for Department for Education (the "client") in accordance with the terms of a contract between RSK and the "client" dated October 2025. The Services were performed by RSK with the skill and care ordinarily exercised by a reasonable civil engineer at the time the Services were performed. Further, and in particular, the Services were performed by RSK taking into account the limits of the scope of works required by the client, the time scale involved and the resources, including financial and manpower resources, agreed between RSK and the client.
2. Other than that expressly contained in paragraph 1 above, RSK provides no other representation or warranty whether express or implied, in relation to the Services.
3. Unless otherwise agreed in writing, the Services were performed by RSK exclusively for the purposes of the client. RSK is not aware of any interest of or reliance by any party other than the client in or on the Services. Unless expressly provided in writing, RSK does not authorise, consent or condone any party other than the client relying upon the Services. Should this report or any part of this report, or otherwise details of the Services or any part of the Services be made known to any such party, and such party relies thereon that party does so wholly at its own and sole risk and RSK disclaims any liability to such parties. Any such party would be well advised to seek independent advice from a competent environmental consultant and/or lawyer.
4. It is RSK's understanding that this report is to be used for the purpose described in the introduction to the report. That purpose was a significant factor in determining the scope and level of the Services. Should the purpose for which the report is used, or the proposed use of the site change, this report may no longer be valid and any further use of or reliance upon the report in those circumstances by the client without RSK's review and advice shall be at the client's sole and own risk. Should RSK be requested to review the report after the date of this report, RSK shall be entitled to additional payment at the then existing rates or such other terms as agreed between RSK and the client.
5. The passage of time may result in changes in site conditions, regulatory or other legal provisions, technology or economic conditions which could render the report inaccurate or unreliable. The information and conclusions contained in this report should not be relied upon in the future without the written advice of RSK. In the absence of such written advice of RSK, reliance on the report in the future shall be at the client's own and sole risk. Should RSK be requested to review the report in the future, RSK shall be entitled to additional payment at the then existing rate or such other terms as may be agreed between RSK and the client.
6. The observations and conclusions described in this report are based solely upon the Services, which were provided pursuant to the agreement between the client and RSK. RSK has not performed any observations, investigations, studies or testing not specifically set out or required by the contract between the client and RSK. RSK is not liable for the existence of any condition, the discovery of which would require performance of services not otherwise contained in the Services. For the avoidance of doubt, unless otherwise expressly referred to in the introduction to this report, RSK did not seek to evaluate the presence on or off the site of asbestos, electromagnetic fields, lead paint, heavy metals, radon gas or other radioactive or hazardous materials.
7. The Services are based upon RSK's observations of existing physical conditions at the site gained from a walk-over survey of the site together with RSK's interpretation of information including documentation, obtained from third parties and from the client on the history and usage of the site. The Services are also based on information and/or analysis provided by independent testing and information services or laboratories upon which RSK was reasonably entitled to rely. The Services clearly are limited by the accuracy of the information, including documentation, reviewed by RSK and the observations possible at the time of the walk-over survey. Further RSK was not authorised and did not attempt to independently verify the accuracy or completeness of information, documentation or materials received from the client or third parties, including laboratories and information services, during the performance of the Services. RSK is not liable for any inaccurate information or conclusions, the discovery of which inaccuracies required the doing of any act including the gathering of any information which was not reasonably available to RSK and including the doing of any independent investigation of the information provided to RSK save as otherwise provided in the terms of the contract between the client and RSK.
8. The phase II or intrusive environmental site investigation aspects of the Services is a limited sampling of the site at pre-determined borehole and soil vapour locations based on the operational configuration of the site. The conclusions given in this report are based on information gathered at the specific test locations and can only be extrapolated to an undefined limited area around those locations. The extent of the limited area depends on the soil and groundwater conditions, together with the position of any current structures and underground facilities and natural and other activities on site. In addition chemical analysis was carried out for a limited number of parameters [as stipulated in the contract between the client and RSK] [based on an understanding of the available operational and historical information,] and it should not be inferred that other chemical species are not present.
9. Any site drawing(s) provided in this report is (are) not meant to be an accurate base plan, but is (are) used to present the general relative locations of features on, and surrounding, the site. Features (boreholes, trial pits etc) annotated on site plans are not drawn to scale but are centred over the appropriate location. Such features should not be used for setting out and should be considered indicative only.

APPENDIX B TOPOGRAPHIC SURVEY

APPENDIX C

YORKSHIRE WATER SEWER RECORDS

YORKSHIRE WATER PROTECTION OF MAINS AND SERVICES

1. The position of Yorkshire Water Services Ltd (YWS) apparatus shown on the existing mains record drawing(s) indicates the **general** position and nature of our apparatus and the accuracy of this information cannot be guaranteed. Any damage to YWS apparatus as a result of your works may have serious consequences and you will be held responsible for all costs incurred. Prior to commencing major works, the exact location of apparatus must be determined on site, if necessary by excavating trial holes. The actual position of such apparatus and that of service pipes which have not been indicated must be established on site by contacting the Customer Helpline on 0845 124 24 24 for both water and sewerage.
2. The public sewer and water network is lawfully retained in its existing position and the sewerage and water undertaker is entitled to have it remain so without any disturbance. The provisions of section 159 of the Water Industry Act 1991 provides that the undertaker may "inspect, maintain, adjust, repair or alter" the network. Those rights are given to enable the undertaker to perform its statutory duties. Any development of the land or any other action that unacceptably hindered the exercise of those rights would be unlawful. The provisions contained in Section 185 of the Water Industry Act 1991 state that where it is reasonable to do so, a person may require the water supply undertaker to alter or remove a pipe where it is necessary to enable that person to carry out a proposed change of use of the land. The provisions contained in Section 185 also require the person making the request to pay the full cost of carrying out the necessary works.
3. Ground levels over existing YWS apparatus are to be maintained. Sewers in highways will **generally** be laid to give 1200mm of cover from finished ground level working to kerb races, other permanent identification of the limits of the road or to an agreed line and level. Substantial increases or decreases to this 1200mm depth of cover will result in the sewer being re-laid at your expense. Water mains and services will **generally** be laid with a minimum of 750mm depth of cover however some mains and services usually those installed over 50 years ago may have less ground cover.
4. If surface levels are to be decreased / increased significantly the effects on existing water supply apparatus will be carefully considered and if any alterations are necessary, the costs of the alterations will be recharged to you in full. Outlets on fire hydrants must be no more than 300mm below the new levels and all surface boxes must be adjusted as part of the scheme.
5. To enable future repair works to be carried out without hindrance; any pipe, cable, duct, etc. installed parallel to a water main or service pipe should not be installed directly over or within 300mm of a water main or service pipe or 1000mm of a waste water asset. Where a pipe, cable, duct, etc. crosses a main or service it should preferably cross perpendicular or at an angle of no less than 45° and with a minimum clearance of 150mm. These requirements apply to activities within an existing highway and are relevant to the installation of pipes, cables, ducts, etc. up to and including 250mm in diameter (*see illustration below*). Necessary protection measures for installations greater than 250mm in diameter and/or in private land will need to be agreed on an individual basis. Installations within a new development site must comply with the National Joint Utilities Group publication Volume 2: NJUG Guidelines On The Positioning Of Underground Utilities Apparatus For New Development Sites.
6. All excavation works near to YW apparatus should be by hand digging only.
7. Backfilling with a suitable material to a minimum 300mm above YW apparatus is required.
8. Adequate support must be provided where any works pass under YW apparatus.
9. Jointing chambers, lighting columns and other structures must be installed in such a way that future repair or maintenance works to YW apparatus will not be hindered.
10. Apparatus such as; railings, sign posts, etc. must not be placed in such a way that they prevent access to or full operation of controlling valves, hydrants or similar apparatus. YWS surface boxes must not be covered or buried. Any adjustment, alteration or replacement of manhole covers must be agreed on site prior to the commencement of the works with a YWS Inspector who may be contacted via our Call Centre on 0845 124 24 24.
11. Explosives shall not be used within 100 metres of any Yorkshire Water Services apparatus or installations.
12. Vibrating plant should not be used directly over any apparatus. Movement or operation by vehicles or heavy plant is not to be permitted in the immediate vicinity of YWS plant or apparatus unless there has been prior consultation and, if necessary, adequate protection provided without cost to YWS.
13. **Under no circumstances** should thrust boring or similar trenchless techniques commence until the actual position of the Company's mains/services along the proposed route have been confirmed by trial holes.
14. Any alterations to the highway should be notified following the procedures outlined in the New Road and Street Works Act 1991 Code of Practice; Measures Necessary Where Apparatus Is Affected By Major Works (Diversionary Works).
15. You will be held responsible for any damage or loss to YWS apparatus during and after completion of work, caused by yourselves, your servant or agent. Any damage caused or observed to YWS plant or apparatus should be immediately reported to YWS. Should YW incur any costs as a result of non-compliance with the above, all costs will be rechargeable in full.
16. You should ensure that nothing is done on the site to prejudice the safety or operation of YWS employees, plant or apparatus.
17. In accordance with the New Roads and Street Works Act 1991, Chapter 22, Part 3, Section 80. The location of any identified YW asset "*which is not marked, or is wrongly marked, on the records made available*" should be communicated back to Yorkshire Water. The location of the apparatus should be identified on copies of the supplied plans which should be returned to Yorkshire Water (Asset Records Team) with photographic supporting evidence where possible.
18. The Government has decided that responsibility for private sewers serving two or more properties and lateral drains (the section of pipe beyond the boundary of a single property, connecting it to the public sewer) will be transferred to the water companies on Oct 1 2011.

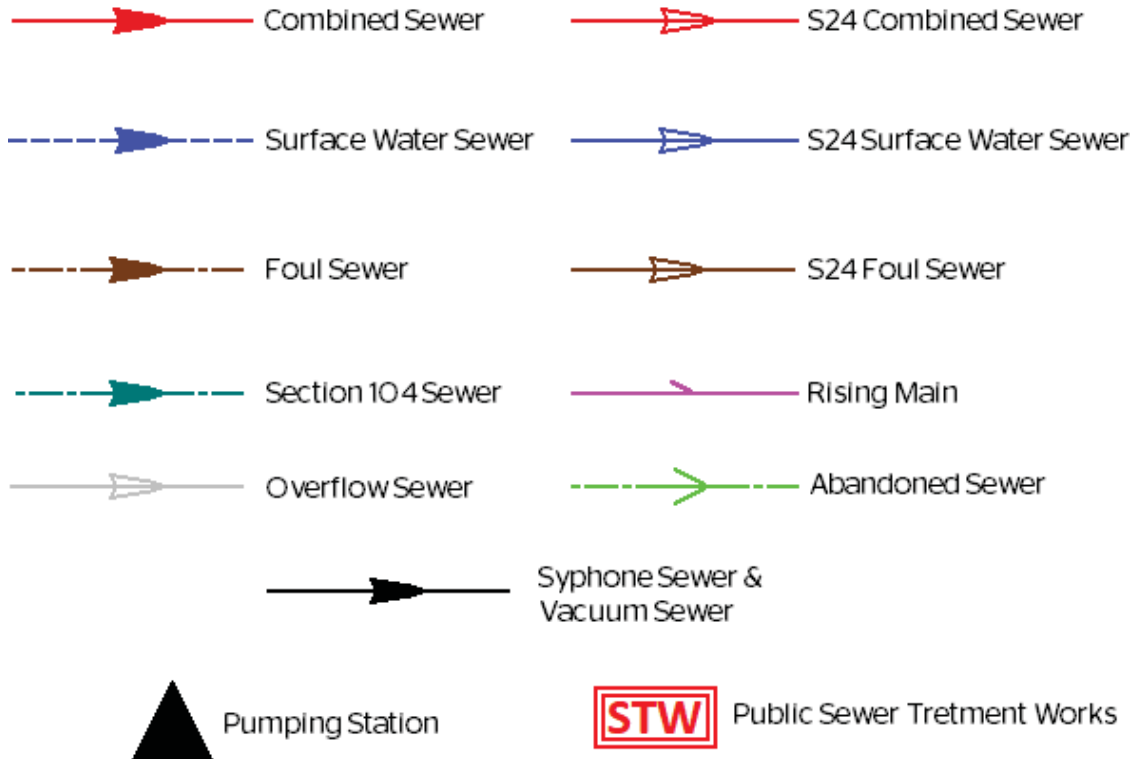
Private pumping stations will also transfer during the period 1 October 2011 – 1 Oct 2016. Records of these assets may not yet be shown on the existing mains record drawing(s). If you encounter any of these assets you must inform Yorkshire Water Services Ltd (YWS).

19. Please note that the information supplied on the enclosed plans is reproduced from Ordnance Survey material with the permission of the Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office, © Crown Copyright. Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings. Licence Number 1000019559.
20. This information is for guidance only and the position and depth of any YW apparatus is approximate only. Likewise, the nature and condition of any YW apparatus cannot be guaranteed. YW has no responsibility for recording the locations of privately owned apparatus. As of 1 October 2011, there may be some lateral drains and/or public sewers which are not documented on YW records but may still be present. For the avoidance of doubt, this information is not a substitute for appropriate professional and/or legal advice. YW accepts no responsibility for any inaccuracy or omissions in this information. The actual position of YW apparatus must be determined on site by excavating trial holes by hand. YW requires a minimum of two working days' written notice of the intention to excavate any trial holes before any excavation can be undertaken. If there are any queries in this respect please contact Yorkshire Water on 0845 124 24 24.

Property Identifier

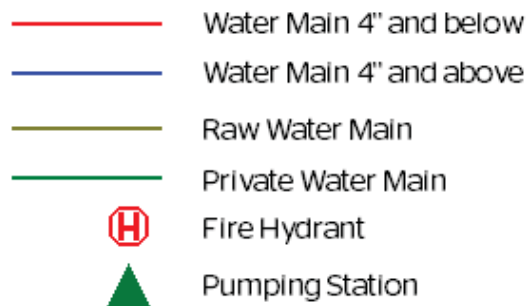


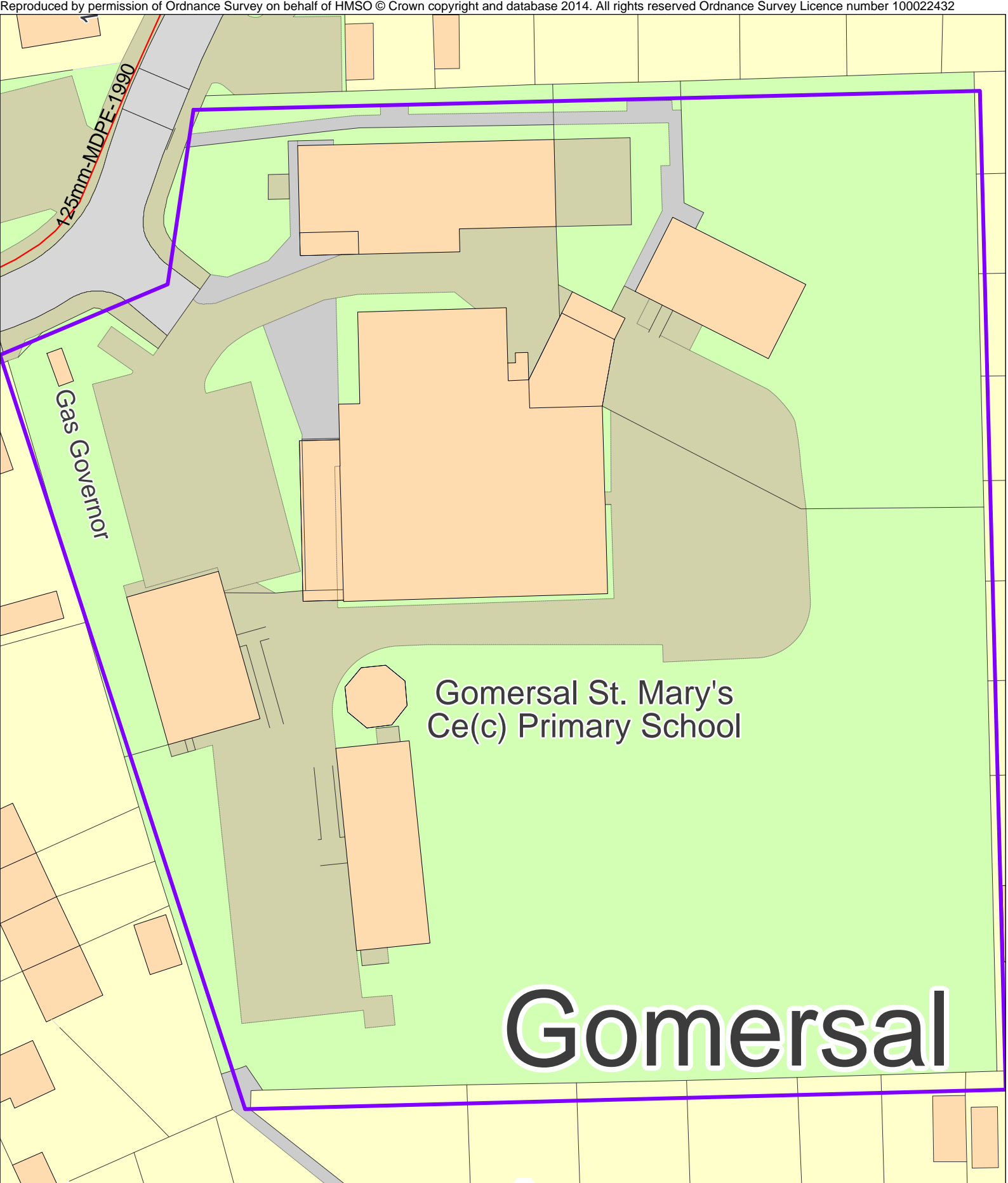
Sewer Legend



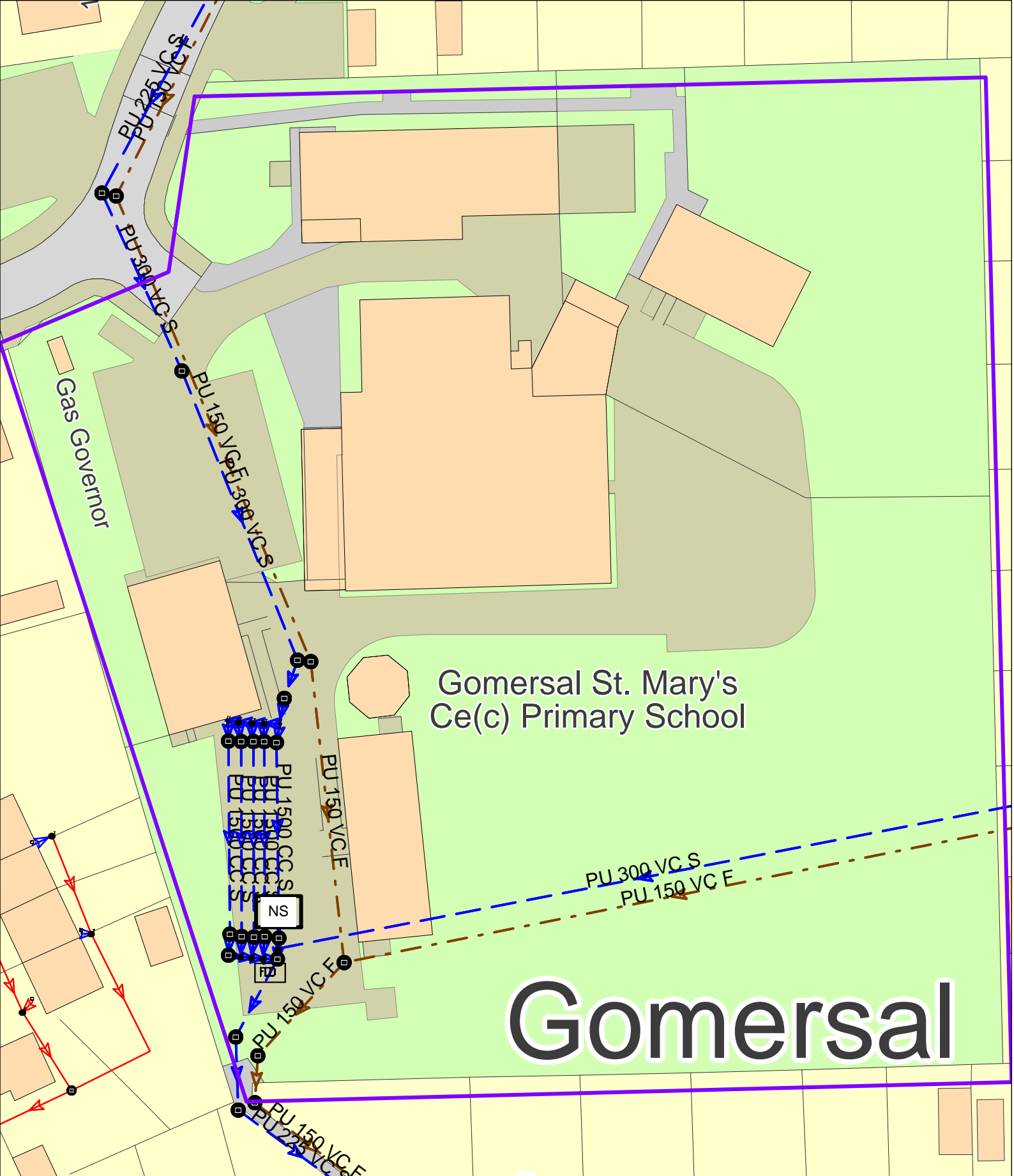
Please note that the direction of flow arrows may not always appear depending on the scale of the map.

Water Legend





Public Clean Water Network 28/10/2022 11:40:42 OS Grid Coordinates: 420705 : 425637 Map Name : SE2025NE svcGISSafeMovePD



Public Waste Water Network 28/10/2022 11:40:43 OS Grid Coordinates: 420705 : 425637 Map Name : SE2025NE svcGISSafeMovePD