APPENDIX 8.1
FLOOD RISK ASSESSMENT AND DRAINAGE STRATEGY



Downlands Farm, Uckfield

Flood Risk Assessment

May 2022

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Executive Summary

Waterman Infrastructure and Environment have been commissioned by Gleeson Land to undertake a Flood Risk Assessment for the proposed development at Downlands Farm in Uckfield, East Sussex.

Hybrid Planning Application comprising:

1. Outline Application (with all matters reserved except for access) for the erection of up to 424 residential dwellings including affordable housing, the provision of vehicular, pedestrian and cycle access and separate emergency access from the Uckfield Bypass (A22), pedestrian and cycle access from Snatts Road, open spaces including children's play space, sustainable urban drainage systems, associated landscaping, infrastructure and earthworks.
2. Full Application comprising creation of a Strategic SANG, associated landscaping and car parking, and demolition of existing residential property and other buildings and provision of pedestrian and cycle access from Rocks Road, associated landscaping, infrastructure and earthworks.'

Environment Agency mapping shows that the developable area is located entirely in Flood Zone 1, denoting a low risk of flooding from rivers or the sea.

The Shortbridge Stream and its tributary are located to the west of the A22. The flood extents associated with these watercourses are a minimum of 15m lower than the proposed development platform and are separated from the site by the A22. The risk of flooding from the Shortbridge Stream and its tributary is therefore considered to be low.

There are four Ordinary Watercourses located within or adjacent to the site, which connect into the Shortbridge Stream via culverts beneath the A22, summarised below:

- Budlett's Wood brook: This watercourse is located to the east of the site, such that no land raising or built development is proposed in its vicinity and would not impact upon the watercourse nor displace potential floodwater. The risk of flooding is therefore low.
- Longwood Gill and Shermanreed Wood brooks: These brooks are entirely surrounded by Ancient Woodland, which would remain undeveloped, including a 15m offset surrounding the woodland boundaries. Naturally, the watercourses are located at the bottom of the woodland ghylls, approximately 3m and 8m lower than the development platform for Shermanreed Wood and Longwood Gill, respectively. The watercourses originate within the site and are therefore pluvial in nature rather than fluvial. The watercourses would be retained within the proposals with more than the required 8m offset provided either side of the watercourse due to the surrounding Ancient Woodland. Post development, surface water runoff would be discharged into the brooks at the greenfield runoff rate. The risk of flooding is therefore low.
- Southern brook: This brook is located at the southern end of the developable area. It originates on site and is therefore pluvial in nature rather than fluvial. Post development, surface water runoff would be discharged at the greenfield runoff rate into the brook, mimicking the existing contributing drainage catchment. In addition, the developable area is located at a higher topography than the brook. The risk of flooding is therefore low.

Shallow groundwater was encountered beneath the site, limited to areas outside of the developable area. Groundwater levels beneath the developable area were typically recorded at depths of greater than 1.9m Above Ordnance Datum and the risk of groundwater flooding is therefore

considered to be low.

The risk of flooding from tidal, sewer, and artificial sources has been assessed and found to be low.

The existing site is undeveloped greenfield land, which currently drains via overland surface water flows into the existing on-site watercourses, which ultimately discharge into the Shortbridge Stream. In line with the drainage hierarchy, soakage testing was undertaken across the site, resulting in unfavourable rates. The drainage strategy therefore proposes to discharge surface water into the on-site watercourses to mimic the existing hydrological regime.

Surface water arising from the developable area would discharge into Longwood Gill brook, Shermanreed Wood brook, and the southern brook. Due to the sensitivity of the Ancient Woodland surrounding Longwood and Shermanreed brooks, the existing surface water inflow locations have been determined through a site visit and in collaboration with the arboriculturist and ecologist to accurately mimic the existing hydrological regime. There are existing incisions into the flanks of Longwood Gill, which indicate the route of overland inflows from the site into the watercourse. Inflows into the Shermanreed Wood brook are via overland flows at the upstream end, and via a channel inflow further downstream.

Surface water would be restricted to the Qbar greenfield runoff rate, calculated to be 2.0 l/s/hectare and 5.1 l/s/hectare for the parts of the site underlain by sand and clay, respectively, for the design 1 in 100 year event plus a 45% allowance for climate change. Attenuation would be provided in strategic detention basins as well as permeable paving sub-base storage within the development plots. Swales are proposed throughout to provide conveyance of runoff into the strategic Sustainable Drainage Systems. The drainage outfalls into the woodland brooks would be constructed using a directional drilling technique so as not to disturb the Ancient Woodland.

Appropriate treatment of surface water runoff would be provided with the detention basins, permeable paving, and swales, in line with the CIRIA Sustainable Drainage System Manual. Two wet ponds are proposed within the Great Crested Newt buffer zone to provide ecological enhancement. As the proposals develop during Reserved Matters, additional Sustainable Drainage Systems would be incorporated within the development plots to provide additional biodiversity, amenity, and biodiversity benefits.

The on-site Sustainable Drainage Systems would be privately managed and maintained, with exact maintenance responsibilities provided post planning.

The existing site comprises undeveloped land which would produce no foul flows. The proposed peak foul flow rate has been calculated to be 3.6 l/s based on 424 residential units. A Pre-Planning Enquiry Response has been received from Southern Water in March 2022 confirming that there is no capacity in any of the sewers to the east of the site, with the nearest current capacity being on the opposite side of the A22. Nevertheless, there are public sewers accessible from the proposed development via Snatts Road and Rocks Road. Southern Water have a legal obligation to provide a foul sewer connection and must provide any required off-site upgrades/reinforcement to deliver capacity in the sewers, funded by the infrastructure charge levied on each new dwelling. The lack of present capacity is therefore not considered a constraint on the proposals.

This report demonstrates that the proposed development has a low risk of flooding from tidal/fluvial, pluvial, groundwater and artificial sources. The report also confirms that surface water runoff from the site can be managed sustainably to ensure that flood risk is not increased elsewhere. It is considered that the information provided within this report satisfies the requirements of the National Planning Policy Framework and local policy.

1. Introduction

1.1. Waterman Infrastructure and Environment have been commissioned by Gleeson Land to undertake a Flood Risk Assessment (FRA) for the proposed development at Downlands Farm (hereafter referred to as 'the Site'), located in Uckfield, East Sussex.

1.2. There are a number of ecological, arboricultural, and landscape constraints within the Site which limit the developable area. There are areas of Ancient Woodland as well as amenity/open space and Suitable Alternative Natural Green Space (SANG) requirements that limit the developable area to the south of the Site surrounding the Longwood Gill and Shermanreed Wood woodlands.

1.3. This FRA therefore focuses on the area within the Site identified suitable for development (developable area in Figure 1 overleaf).

Site Description

1.4. The Site is located to the northwest of the town of Uckfield, within the administrative area of Wealden District Council (WDC). The land immediately surrounding the north, west, and south of the Site largely comprises a mixture of agricultural land interspersed with areas of Ancient and Semi-Natural Woodland.

1.5. The Site comprises a mixture of woodland and agricultural land. The majority of the woodland, with the exception of the woodland within the north and southeast, is classed as Ancient and Semi-Natural Woodland.

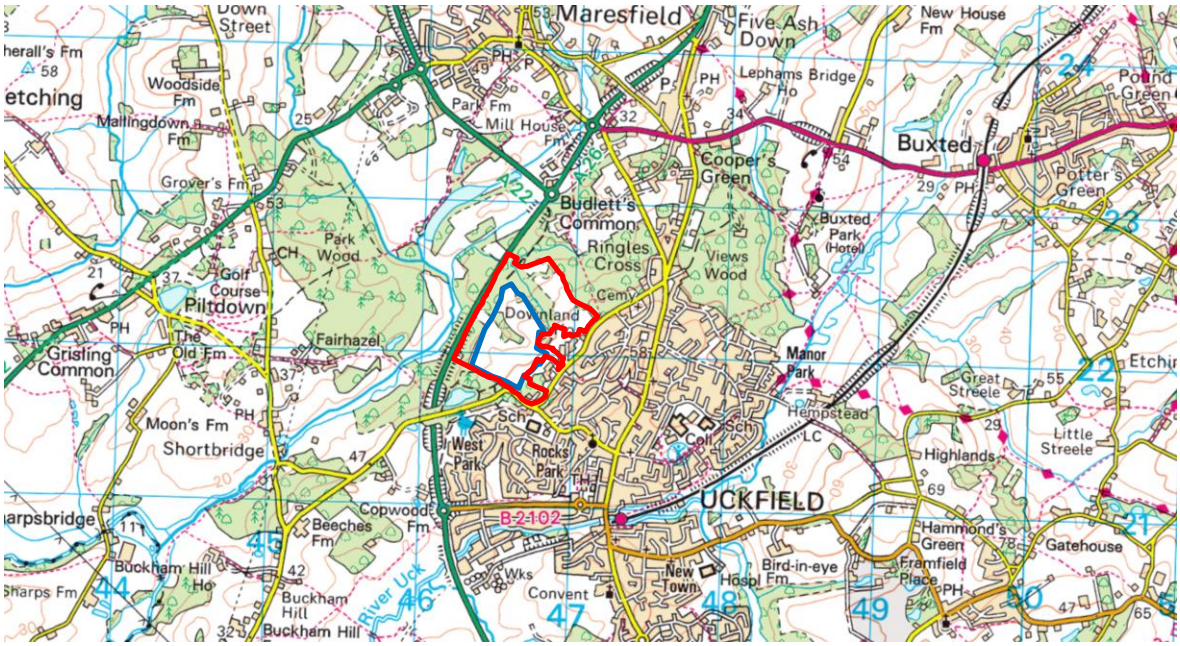
Hydrology

1.6. There are several watercourses within and in vicinity of the Site. The Shortbridge Stream, denoted a Main River, and its parallel tributary, are located to the west of the Site. In addition, there are four watercourses within or adjacent to the Site, as shown on the Environment Agency (EA) mapping and observed during site visits, which connect into the Shortbridge Stream via culverts beneath the A22. East Sussex County Council (ESCC) confirmed (Appendix A) that the on-Site watercourses are denoted Ordinary Watercourses. The watercourses are further detailed and assessed in Chapter 3.

Topography

1.7. The topographic survey (Appendix B) shows that the developable area falls from east to west from approximately 57.0m Above Ordnance Datum (AOD) to approximately 33.0m AOD in the southern part of the developable area and to approximately 23.5m AOD in the northern corner of the developable area.

Figure 1: Site Location



Key

Site Location

Developable Area

Source: *https://bing.com/maps*

Development Proposals

1.8. Hybrid Planning Application comprising:

- Outline Application (with all matters reserved except for access) for the erection of up to 424 residential dwellings including affordable housing, the provision of vehicular, pedestrian and cycle access and separate emergency access from the Uckfield Bypass (A22), pedestrian and cycle access from Snatts Road, open spaces including children's play space, sustainable urban drainage systems, associated landscaping, infrastructure and earthworks.
- Full Application comprising creation of a Strategic SANG, associated landscaping and car parking, and demolition of existing residential property and other buildings and provision of pedestrian and cycle access from Rocks Road, associated landscaping, infrastructure and earthworks.'

1.9. The development proposals are shown in Appendix C.

Scope of the Report

1.10. This report assesses the potential effects of tidal, fluvial, pluvial, groundwater, and artificial sources of flooding upon the development, in line with national and local planning policy. In addition, the management of foul and surface water runoff is assessed, so as not to have a detrimental effect on the Site or its surroundings.

2. Planning Policy Guidance

National Planning Policy Guidance

2.1. The National Planning Policy Framework[i] (NPPF), last revised in July 2021 states 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.

2.2. The NPPF states that when determining planning applications, Local Planning Authorities (LPA) should ensure that flood risk is not increased elsewhere. Where appropriate, applications should be supported by a site-specific FRA. Development should only be allowed in areas at risk of flooding where it can be demonstrated that:

- 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;
- 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;
- It incorporates Sustainable Drainage Systems (SuDS), unless there is clear evidence that this would be inappropriate;
- Any residual risk can be safely managed; and
- Safe access and escape routes are included where appropriate, as part of an agreed emergency plan.

2.3. Major developments should incorporate SuDS unless there is clear evidence that this would be inappropriate. The systems used should:

- Take account of advice from the Lead Local Flood Authority (LLFA);
- Have appropriate proposed minimum operational standards;
- Have maintenance arrangements in place to ensure an acceptable standard of operation for the lifetime of the development; and
- Where possible, provide multifunctional benefits.

Planning Practice Guidance

2.4. The Planning Practice Guidance (PPG)ii provides additional guidance to LPAs to ensure effective implementation of the planning policies set out within the NPPF regarding development in areas at risk of flooding.

2.5. The PPG states that developers and LPAs should seek opportunities to reduce the overall level of flood risk in the area and beyond through the layout and form of the development, and the appropriate application of SuDS. Referencing information provided by the EA, the PPG provides advice on taking account of climate change, setting out recommended contingency allowances for net sea level rise and peak rainfall intensities. It also advises on flood resilience and resistance measures when dealing with the residual risks remaining after applying the sequential approach and mitigating actions.

2.6. The PPG also includes advice on flood risk vulnerability and flood zone compatibility. The following flood zones refer to the probability of river and sea flooding, without the presence of defences:

- Zone 1 - low probability: less than 1 in 1000 annual probability of river or sea flooding (<0.1%) in any year;
- Zone 2 - medium probability: between a 1 in 100 and 1 in 1,000 annual probability of river flooding (1% to 0.1%) or between a 1 in 200 and 1 in 1,000 annual probability of sea flooding (0.5% to 0.1%) in any year;
- Zone 3a - high probability: 1 in 100 or greater annual probability of river flooding (>1%) or a 1 in 200 or greater annual probability flooding from the sea (>0.5%) in any year; and
- Zone 3b - the functional floodplain: where water has to flow or be stored in times of flood; identification should take account of local circumstances but would typically flood with an annual probability of 1 in 20 (5%) or greater in any year or is designed to flood in an extreme 1 in 1,000 (0.1%) flood.

2.7. Flood risk vulnerability is split into five classifications in Table 2 of the PPG, as follows, and the compatibility of these within each Flood Zone is set out in Table 3 of the PPG:

- Essential Infrastructure, e.g. essential transport and utility infrastructure, wind turbines;
- Highly Vulnerable, e.g. emergency services (those required to be operational during flooding), basement dwellings;
- More Vulnerable, e.g. residential dwellings, hospitals, schools, hotels, drinking establishments;
- Less Vulnerable, e.g. retail, offices, storage and distribution, leisure, restaurants; and
- Water-Compatible Development, e.g. docks, marinas, wharves.

Non-statutory Technical Standards for Sustainable Drainage Systems

2.8. The Non-Statutory Technical Standards for Sustainable Drainage Systems[iii] was published in March 2015 and is the current guidance for the design, maintenance and operation of SuDS.

2.9. The standards set out that the peak runoff rate should be as close as is reasonably practicable to the greenfield rate but should never exceed the pre-development runoff rate.

2.10. The standards also set out that the drainage system should be designed so that flooding does not occur on any part of the Site for a 1 in 30 year rainfall event, and that no flooding of a building (including basement) would occur during a 1 in 100 year rainfall event.

2.11. It is also noted within the standards that pumping should only be used when it is not reasonably practicable to discharge by gravity.

Water Industry Act

2.12. Thames Water is the local Sewerage Undertaker and provides sewerage services under the guidance of the Water Industry Act 1991.

2.13. Under Section 106 of the Water Industry Act, the developer currently maintains the automatic right to ‘communicate’ with the public foul water sewer system.

East Sussex Preliminary Flood Risk Assessment

2.14. ESCC in their role as Lead Local Flood Authority (LLFA) published the Preliminary Flood Risk Assessment[iv] (PFRA) in June 2011. The PFRA provides a summary of past flooding incidents and

outlines the future flood risk within the area, identifying which areas require particular focus and further assessment. Findings from the PFRA were used to inform the assessment of flood risk in Chapter 3.

Wealden District Core Strategy Local Plan

2.15. The Wealden District Local Plan[v] was adopted in 2013. It states that Uckfield suffered major flooding in 2000 and flood risk remains a major constraint on future proposals in the area.

2.16. The Council proposes significant further housing growth in Uckfield as part of the strategy for the town. Appropriate mitigation and avoidance measures should be incorporated within masterplans to ensure that future housing and employment is not subject to flood risk and does not exacerbate flood risk elsewhere.

Wealden District Strategic Flood Risk Assessment

2.17. The WDC Flood Risk Assessment[vi] (SFRA) was published in 2017 and provides a summary of latest flood risk information and available data. Findings from the SFRA were used to inform the assessment of flood risk in Chapter 3.

2.18. Where a surface water flow path crosses through a site, the development must understand the source of the flow path, manage the flow path in a green corridor where possible, and if diversion is required, then the impact upstream, downstream, and at the site must be understood.

Uckfield Stage 1 Surface Water Management Plan

2.19. The Uckfield Surface Water Management Plan[vii] (SWMP) was published in 2016 to understand the flood risk that arises from local flooding, which includes flooding from surface water runoff, groundwater, and ordinary watercourses. Findings from the SWMP were used to inform the assessment of flood risk in Chapters 3.

East Sussex Local Flood Risk Management Strategy 2016 – 2026

2.20. The East Sussex Local Flood Risk Management Strategy[viii] (LFRMS) was published in 2016 and provides the framework for the management of local flood risk for the next ten years as well as parameters for drainage strategy design. Findings from the LFRMS were used to inform the assessment of flood risk and drainage in Chapters 3 and 4.

Guide to Sustainable Drainage Systems in East Sussex

2.21. The Guide to Sustainable Drainage Systems[ix] was published in 2015 and outlines the process of designing and implementing SuDS within the East Sussex environment.

2.22. It states that during master planning and concept design, the conceptual design proposals should be discussed with the local planning authority and ESCC. In support of an outline planning application, the flow routes, storage requirements, and adoption arrangements of SuDS should be confirmed, and relevant ground investigations and surveys should be undertaken. The requirements for an outline drainage strategy have informed the drainage design presented in Chapter 4.

3. Sources of Potential Flood Risk

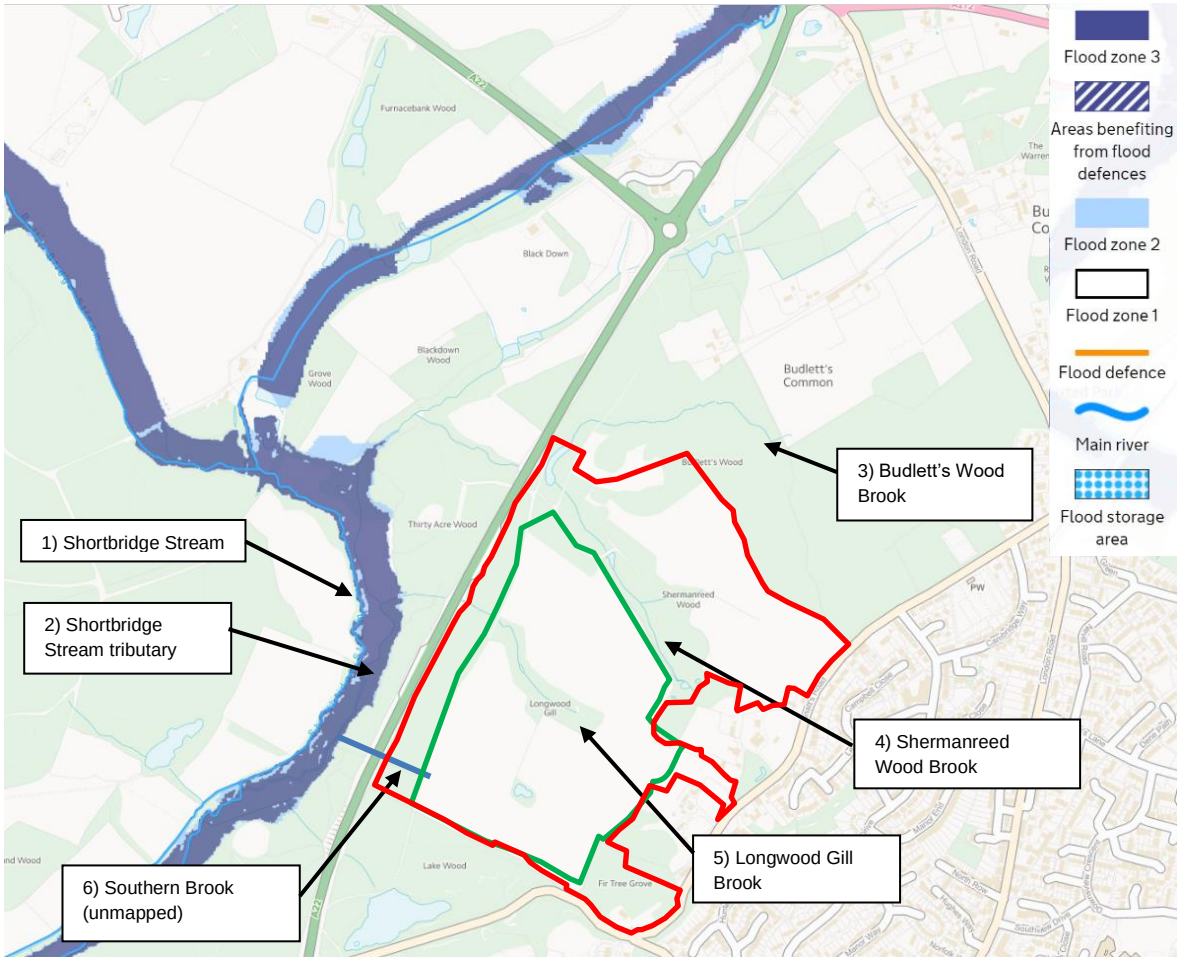
Tidal and Fluvial

3.1. The Site is located inland a considerable distance from the sea, such that the risk of tidal flooding is considered to be low.

3.2. The East Sussex LFRMS identified Uckfield as one of fourteen hotspots at highest risk of flooding, primarily due to the fluvial flood risk associated with the River Uck, which does not affect the Site.

3.3. The EA Flood Map for Planning (Figure 2) shows that the Site is located within Flood Zone 1, denoting a low risk (less than 0.1% annual probability) of flooding from rivers or the sea.

Figure 2: Environment Agency Flood Risk from Tidal and Fluvial Map



Source: https://flood-warning-information.service.gov.uk

3.4. The Shortbridge Stream and its parallel tributary are located to the west of the Site. In addition, there are four watercourses within or adjacent to the Site boundary, as identified on Figure 2.

3.5. Budlett's Wood brook is located to the north of the Site and Longwood Gill brook, Shermanreed Wood brook, and the Southern brook are located within/adjacent to the developable area.

3.6. The flooding mechanism for the watercourses within the Site (Longwood Gill brook, Shermanreed Wood brook, and Southern brook) is pluvial rather than fluvial as they originate on Site and their catchment area comprises predominantly the Site itself, such that they are directly responsive to rainfall. These watercourses are covered within the 'Pluvial'.

1) Shortbridge Stream

3.7. The closest Main River to the Site is the Shortbridge Stream, located approximately 120m to the west of the Site. The Site is separated from the Shortbridge Stream by the A22. The development platform would be located a minimum of 15m higher than the Flood Zone 3 extents associated with the stream. The risk of flooding from the Shortbridge Stream is therefore considered to be low.

2) Shortbridge Stream Tributary

3.8. There is an unnamed tributary, which flows generally parallel to the Shortbridge Stream, approximately 85m to the west of the Site. It has not been modelled by the EA and therefore the EA mapping (Figure 2) does not show its associated fluvial floodplain. The pluvial flood extents associated with the tributary (Figure 3 in the 'Pluvial' section) provide an indication of its likely fluvial flood extents and extend slightly further than the Shortbridge Stream fluvial floodplain. However, the Site would be located a minimum of 15m higher than the pluvial flood extents associated with the Shortbridge Stream tributary, and the risk of flooding is therefore considered to be low.

3) Budlett's Wood Brook

3.9. The Budlett's Wood brook is located outside of the developable area, such that no land raising or built development is proposed in its vicinity. The nature of the proposed SANG in this area is considered to be water compatible and would not impact upon the watercourse nor displace potential floodwater.

3.10. The risk of flooding from Budlett's Wood brook is therefore considered to be low.

Pluvial

3.11. Pluvial flooding occurs when natural and/or engineered systems lack the capacity to manage the volume of rainfall. Pluvial flooding can occur in urban areas during an extreme, high intensity, low duration summer rainfall event which overwhelms the local surface water drainage system or in rural areas during medium intensity, long duration events where saturated ground conditions prevent infiltration into the subsoil. This flood water would then be conveyed via overland flow routes based on the local topography.

Overland Surface Water

3.12. The EA Flood Risk from Surface Water map (Figure 3 overleaf) shows that the majority of the Site is at 'very low' risk (less than 0.1% annual probability) of surface water flooding.

3.13. The EA map shows several surface water flow paths through the Site, indicating the presence of the watercourses.

3.14. The flood mechanism of the watercourses located within/adjacent to the developable area (Longwood Gill brook, Shermanreed Wood brook, and Southern brook) is pluvial rather than fluvial

as they originate on Site and their catchment area comprises predominantly the Site itself, such that they are directly responsive to rainfall.

4) Shermanreed Wood Brook and 5) Longwood Gill Brook

3.15. The Longwood Gill and Shermanreed Wood brooks are located entirely within Ancient Woodland, before connecting into the Shortbridge Stream via culverts beneath the A22.

3.16. The pluvial floodplains associated with the woodland watercourses are narrow, which is representative of the steep banks. Naturally, the watercourses are located at the bottom of the ghylls, approximately 3m and 8m lower than the development platform for Shermanreed Wood and Longwood Gill, respectively. The levels flatten out at the downstream end of Shermanreed Wood, however, the Development is located approximately 60m away from the watercourse in that location. Ground levels would be raised to facilitate the development and SuDS basin in this location, providing additional protection from the watercourse.

3.17. In line with ESCC requirements (Appendix A), the watercourses would be retained within the Development with an appropriate offset (8m) provided to allow for access and maintenance. The Ancient Woodland designation surrounding the watercourses extends further than the 8m buffer and the pluvial flood extents. The Ancient Woodland would remain undeveloped with a 15m offset surrounding the woodland boundaries so as not to impact upon the existing setting. Development would therefore be set further than the required distance from the watercourses to ensure floodwater is not displaced as a result of the development.

3.18. The drainage strategy (outlined in Chapter 4) proposes to discharge surface water runoff into the woodland brooks at the greenfield runoff rate, such that the flows within the watercourses resemble the pre-development hydrological regime. The risk of flooding from the Longwood Gill and Shermanreed Wood brooks is therefore considered to be low.

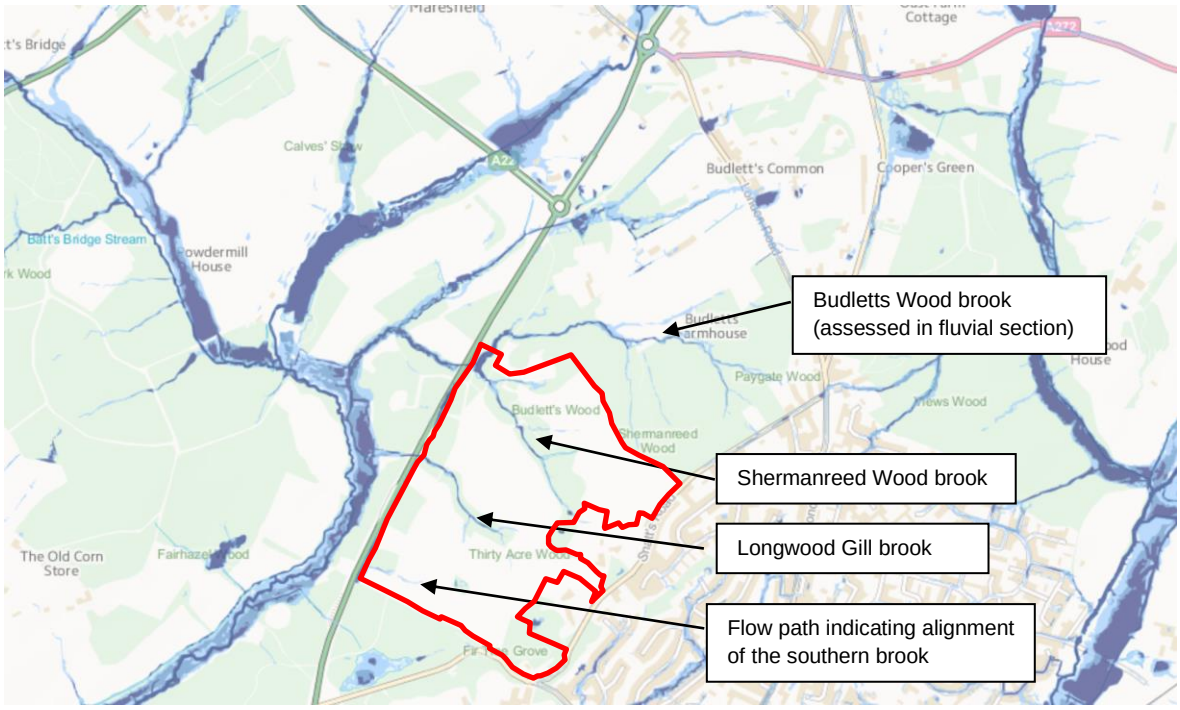
5) Southern Brook (unmapped)

3.19. A Site visit undertaken on 27th August 2020 confirmed the presence of un unmapped brook connecting the southern end of the Site to the Shortbridge Stream via a culvert beneath the A22. The brook is shown as a flow path on the EA Flood Risk from Surface Water map (Figure 3 overleaf).

3.20. The drainage strategy (outlined in Chapter 4) proposes to discharge surface water flows into the brook at the greenfield runoff rate, mimicking the existing drainage catchment.

3.21. In addition, the developable area is located upstream at a higher topography than the Southern brook and the risk of flooding is therefore considered to be low.

Figure 3: Environment Agency Flood Risk from Surface Water Map



Key

Site Location

Development Parcel

Source: https://flood-warning-information.service.gov.uk

Sewer Flooding

3.22. Southern Water asset plans (Appendix D) indicate that there are no existing public sewers beneath the Site. The nearest public sewer is a 150mm diameter foul sewer beneath Snatts Road.

3.23. The WDC SFRA states that there have been a significant number of historic flood incidents in the district with the main source of flooding being from surface water. In Uckfield Parish, there have been 46 recorded surface water flood incidents, further details provided in the ESCC consultation response (Appendix A).

3.24. The Uckfield SWMP identified hotspots where there are repeated flood incidents along with areas of predicted flood risk, including Snatts Road to the east of the Site. The main source of flooding has been identified as surface water from the highway caused by blocked drain. The SWMP notes that ESCC has undertaken extensive drainage improvement work in this area to resolve the blockage/capacity issues.

3.25. In addition, the proposed surface water drainage strategy (discussed in Chapter 4) would manage and restrict rainwater falling onto the Site to the greenfield runoff rate prior to discharging into the watercourses on Site as per the existing drainage regime. The proposed development would therefore not exacerbate any potential capacity issues of surface water sewers in the area.

3.26. The flood risk from sewer flooding is considered to be low.

Groundwater

3.27. Groundwater flooding is most likely to occur in low-lying areas underlain by permeable rocks.

3.28. The 1:50,000 scale British Geological Survey (BGS) soil mapping (Figure 4 overleaf) shows that the northern part of the developable area is underlain by sandstone which is a classified secondary aquifer. The southern part of the developable area is underlain by mudstone which is generally an unproductive stratum that does not support groundwater flows.

3.29. The Geo-Environmental Site Investigation Report[x] confirms the geology shown on the BGS mapping, summarised in Table 1 and illustrated in the conceptual model (Appendix E).

Table 1: Geology

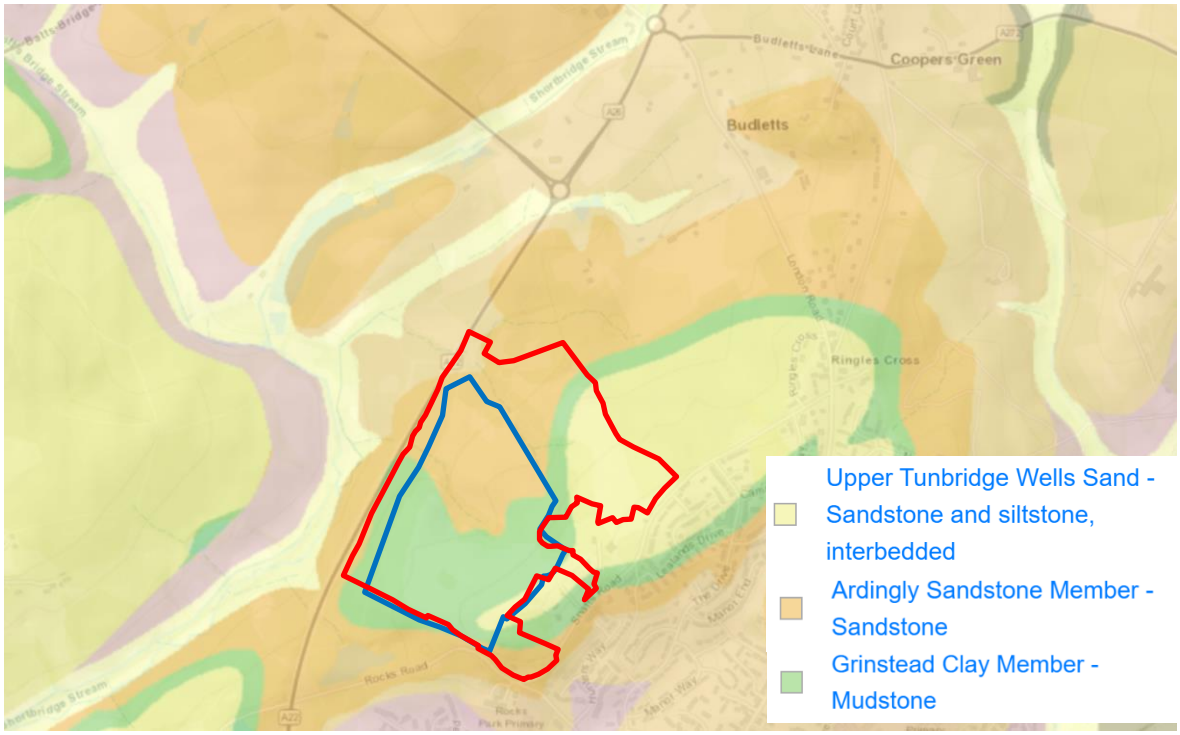
Geology	Description	Depth	Hydrological Significance
Made Ground	Sandy silty clay	0.2m – 0.3m	Unproductive
Upper Tunbridge Wells Sand	Silty sandy clay or very dense silty fine sand	Up to 2.9m	Secondary A Aquifer
Grinstead Clay Member	Silty Clay	Up to 5.5m	Unproductive
Ardingly Sandstone Member	Tabular gravel	Varies	Secondary A Aquifer
Lower Tunbridge Wells Sand	Silty sandy clay	Varies	Secondary A Aquifer

3.30. The ESCC consultation response (Appendix A) shows that there is limited potential for groundwater flooding to occur in the northern part of the developable area, corresponding to the presence of sandstone, with an anticipated groundwater table of less than 3m below surface. The ESCC mapping shows that the groundwater table beneath the southern part of the developable area is anticipated to be in excess of 5m. The PFRA mapping (Appendix F) does not place the Site within an area susceptible to groundwater flooding.

3.31. The Geo-Environmental Site Investigation Report states that shallow groundwater was encountered during the site investigations, up to 0.64m below ground level (bgl), however this was limited to areas outside of the developable area. Within the developable area, groundwater levels were typically recorded at depths of greater than 1.90m bgl. The report concludes that specific groundwater control is unlikely to be required. Limited pumping from sumps or bailing out may be required to manage slight seepages or surface water ingress during periods of inclement weather, which would be confirmed post planning.

3.32. In addition, no basements are proposed, such that there is no risk of displacing potential groundwater flows. It is therefore considered that the risk of groundwater flooding is low.

Figure 4: Geology of Britain Viewer



Key

Site Location

Developable Area

Source: British Geological Survey Geology of Britain Viewer

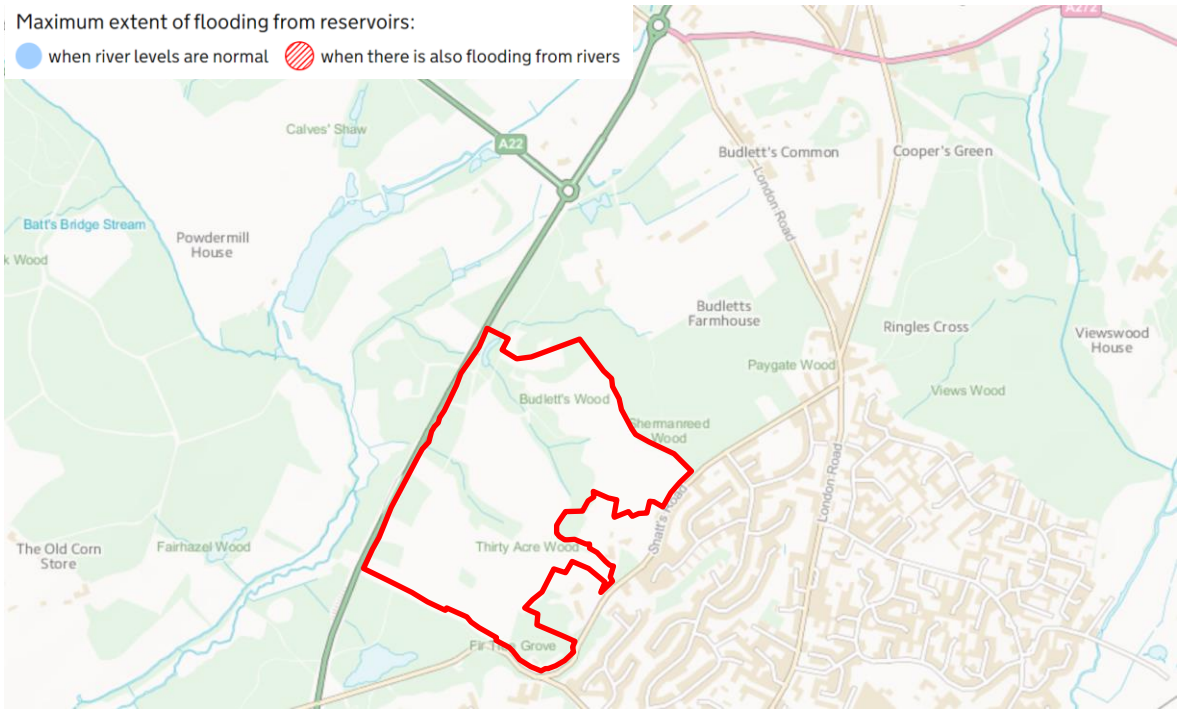
Artificial Sources

3.33. The EA Flood Risk from Reservoir mapping (Figure 5 overleaf) shows that the Site is not at risk of flooding in the event of a reservoir failure or overtopping.

3.34. There is an existing lake to the south of the Site, however it is lower than the surrounding ground. Any exceedance flows from the lake would flow to the west towards the SANG as dictated by topography and into the adjacent watercourse. There are a number of smaller ponds within the Site, which are at ground level and therefore pose a limited risk. Should water overtop these features, the water would be conveyed towards the watercourses within the proposed blue/green corridors and SuDS features as dictated by topography.

3.35. The risk of flooding from artificial sources is therefore considered to be low.

Figure 5: Environment Agency Flood Risk from Reservoirs



Key

Site Location

Source: *https://flood-warning-information.service.gov.uk*

Summary

3.36. The development has a low risk of flooding from tidal/fluvial, pluvial, and artificial sources. It is considered that with the proposed mitigation measures, the risk of flooding from groundwater sources is also low.

3.37. The development also needs to ensure that flood risk is not increased on or off-Site through an increase in surface water runoff. This is discussed in Chapter 4.

4. Surface Water Drainage

4.1. The drainage strategy has been prepared for the developable area only, as no built development is proposed elsewhere within the Site.

Existing Drainage

4.2. The existing Site is undeveloped greenfield land with no existing public surface water sewer infrastructure within or in vicinity of the Site as per Southern Water asset plans (Appendix D).

4.3. The existing drainage regime at the Site is governed by overland surface water flows feeding into the existing watercourses within the developable area, i.e. Longwood Gill brook, Shermanreed Wood brook, and the southern brook. The catchment area of the watercourses predominantly comprises the developable part of the Site.

4.4. Two of the watercourses (Longwood Gill brook and Shermanreed Wood brook) are located entirely within Ancient Woodland extents, which is a protected environment sensitive to change. The drainage strategy is therefore vital in enabling the woodland brooks to retain flows as per the existing situation. A site visit was undertaken on 9th November 2020 with arboriculturist Sylvan Consulting and ecologist Aspect Ecology to determine the existing hydrological characteristic of the woodland ghylls, so that the proposed drainage strategy could be designed to accurately mimic the existing regime and result in no material change to the Ancient Woodlands. The existing hydrological regime of the woodland brooks is described below.

Longwood Gill

4.5. Longwood Gill brook is located in a deep topographic depression, generally 8m lower than the adjacent land. There are existing incisions into the flanks of the woodland, indicating existing overland inflows into the watercourse. These inflows were visible in their channel-like appearance as well as having a particular type of water-compatible fern growing along the incision, indicating the flow of water in these locations.

Shermanreed Wood

4.6. Shermanreed Wood brook is also located in a topographic depression, generally 3m lower than the adjacent land at its upstream end. The topography flattens out towards the downstream end of the brook. At its upstream end, Shermanreed Wood does not have the same channel-like incisions into the woodland flanks as Longwood Gill, and the existing inflows are from overland flows driven by topography and shallow infiltration.

4.7. Along the central section of Shermanreed Wood there is an existing inflow into the brook in the form of a steep channel observed during the site visit.

Surface Water Discharge Location

4.8. The proposed surface water drainage system would be designed to convey surface water only, with foul water being discharged separately. The design would be in accordance with BS EN 752 – Drain and Sewer Systems Outside Buildings[xi], BS EN 12056 – Gravity Drainage Systems Inside Buildings[xii], and Approved Document H of Building Regulations[xiii].

4.9. In line with Building Regulations and the PPG, the following hierarchy of surface water disposal should be adhered to, in decreasing order of preference:

i) Discharge to ground;

ii) Discharge to a surface water body;

iii) Discharge to a surface water sewer; and

iv) Discharge to a combined sewer.

Discharge to Ground

4.10. ESCC confirmed (Appendix A) that the north and south of the developable area are located in Drainage Risk Areas 2 and 3, which are denoted as “infiltration is unlikely, ensure an outfall can be secured” and “infiltration techniques are likely to be inappropriate”.

4.11. Soakage testing was undertaken across the Site, which demonstrated soil permeability that was too low to calculate the infiltration rate in most locations. In one location a rate of 1.12×10^{-6} m/s was calculated, which is considered too low to successfully support infiltration. The Geo-Environmental Site Investigation report concludes that the disposal of surface water to soakaways will not be feasible at this Site due to the predominantly cohesive nature and proved low permeability of the underlying soils.

4.12. Discharge to ground is therefore precluded.

Discharge to a Surface Water Body

4.13. In line with the drainage hierarchy and ESCC Drainage Risk Areas, surface water would be discharged into the on-Site watercourses (Longwood Gill brook, Shermanreed Wood brook, and the southern brook).

4.14. The existing hydrological characteristic of the woodlands have been determined in collaboration with the arboriculturist and ecologist through identifying the existing inflows into the watercourses. The proposed drainage strategy would discharge into the watercourses using these existing inflow locations. The proposed outfalls would be constructed using a directional drilling technique (Appendix G) with the required cover provided for the tree roots to provide minimal disruption to the Ancient Woodland during construction. Further information and details would be provided post-planning.

Discharge to a Surface Water Sewer

4.15. It is proposed to discharge surface water to watercourses, which are higher in the drainage hierarchy, therefore discharge to a surface water sewer is not proposed.

Discharge to a Combined Sewer

4.16. It is proposed to discharge surface water to watercourses, which are higher in the drainage hierarchy, therefore discharge to a combined sewer is not proposed.

Sustainable Drainage Systems

4.17. The most sustainable way to drain surface water runoff is through the use of SuDS, which need to be considered in relation to Site-specific constraints.

4.18. SuDS mimic the natural drainage system and provide a method of surface water drainage, which can decrease the quantity of water discharged, and hence reduce the risk of flooding. In addition to reducing flood risk, SuDS features improve water quality, and provide biodiversity and amenity

benefits.

4.19. A variety of SuDS are available to temporarily hold back the discharge of surface water runoff. In order to adhere to the SuDS hierarchy, the constraints and opportunities for various SuDS have been assessed in Table 2. Justification is provided as to why certain features have been deemed unfeasible for this development.

Table 2: Sustainable Drainage Techniques

Device	Description	Constraints/Comments	✓/✗
Green / brown roofs (source control)	Provide soft landscaping at roof level which reduces surface water runoff	Green roofs are not suitable for residential homes with pitched roofs and are therefore not currently proposed.	✗
Infiltration devices & Soakaways (source control)	Store runoff and allow water to percolate into the ground via natural infiltration	The underlying ground conditions preclude the potential for infiltration.	✗
Pervious surfaces (source control)	Storm water is allowed to infiltrate through the surface into a storage layer, from which it can either infiltrate and / or slowly release to sewers	The underlying ground conditions preclude the potential for infiltration. However, lined permeable paving is proposed throughout the development.	✓
Rainwater harvesting (source control)	Reduces the annual average rate of runoff from a site by reusing water for non-potable uses e.g. toilet flushing or water butts	Rainwater harvesting is not considered suitable for this Site due to the requirement to discharge all rainwater falling onto the development into the watercourses to ensure no change to the hydrological regime of the Ancient Woodland ghylls. Post planning, the potential for rainwater harvesting would be further investigation in collaboration with Natural England and the Forestry Commission in terms of its potential effects on the Ancient Woodland hydrology.	✗
Swales (permeable conveyance)	Broad shallow channels that convey / store runoff, and allow infiltration (ground conditions permitting)	Lined swales are proposed throughout as a means of surface water conveyance.	✓
Filter drains & perforated pipes (permeable conveyance)	Trenches filled with granular materials (which are designed to take flows from adjacent impermeable areas) that convey runoff while allowing infiltration (ground conditions permitting)	There are no constraints to the incorporation of filter drains/trenches, and these should be incorporated within the development plots where appropriate.	✓

Device	Description	Constraints/Comments	✓/✗
Filter Strips (permeable conveyance)	Wide gently sloping areas of grass or dense vegetation that remove pollutants from runoff from adjacent areas.	There are no constraints to the incorporation of filter strips, and these should be incorporated within the development plots where appropriate.	✓
Infiltration basins (end of pipe treatment)	Depressions in the surface designed to store runoff and allow infiltration through the base	The underlying ground conditions preclude the potential for infiltration.	✗
Bioretention Systems / Rain Garden (end of pipe treatment).	A shallow landscaped depression which allows runoff to pond temporarily on the surface before filtering through vegetation and underlying soils	Rain gardens are not considered suitable for this Site due to the requirement to discharge all rainwater falling onto the development into the watercourses to ensure no change to the hydrological regime of the Ancient Woodland ghylls.	✗
Dry ponds (end of pipe treatment)	Depressions in the surface designed to store runoff without infiltration through the base	Dry detention basins are proposed to provide the bulk of the attenuation requirement.	✓
Attenuation underground (end of pipe treatment)	Oversized pipes or geo-cellular/sectional tanks designed to store water below ground level	Geo-cellular attenuation tanks are not proposed as more sustainable SuDS features are included.	✗

Permeable Paving (Lined)

4.20. Permeable paving is proposed throughout the development to provide attenuation of runoff as well as treatment of runoff. At this stage it has been assumed that 10% of the Site would be attenuated within the permeable paving aggregate sub-base, with details provided for each development plot during Reserved Matters.

Swales

4.21. Swales are proposed throughout the development as a means of surface water conveyance, with the exact alignments confirmed as the development plot proposals develop during Reserved Matters. The swales would convey, treat, and attenuate surface water runoff, as well as enhancing the natural landscape by providing aesthetic and biodiversity benefits.

Detention Basins (Lined)

4.22. Dry detention basins are proposed in strategic locations to provide the bulk of the attenuation requirement. The basins would treat runoff as well as providing amenity and biodiversity benefits. The basins would be planted appropriately to enhance the local flora and fauna, with details provided post planning.

4.23. Two wet ponds are proposed within the Great Crested Newt buffer, to provide ecological

enhancement.

Proposed Surface Water Drainage Strategy

4.24. In line with ESCC policy and industry best practice, surface water runoff from the proposed development would be restricted to the greenfield runoff rate for the design 1 in 100 year storm event, including a 45% allowance for climate change. The principles of the drainage strategy have been agreed with ESCC (Appendix A).

Assumptions

4.25. The following assumptions have informed the proposed drainage design:

- Proposed developable area = 12.56ha, excluding large areas of landscaping;
- 60% Proposed Impermeable Area (PIMP);
- 10% urban creep allowance;
- 10 % allowance for runoff from adjacent areas;
- 10% of attenuation provided within on plot permeable paving aggregate sub-base;
- Basin size increased in size by 30% to allow for earthworks; and
- Land raising/reprofiling required to facilitate the detention basins.

Discharge Rate and Attenuation

4.26. The existing Site is an undeveloped field, with surface water runoff discharging into the on-Site watercourses at the greenfield runoff rate.

4.27. The Qbar greenfield runoff rate has been calculated using the IoH method (Appendix H), resulting in 2.0 l/s/ha and 5.1 l/s/ha for the north and southern parts of the Site underlain by sand (sandstone) and clay (mudstone), respectively.

4.28. Table 3 and 4 overleaf summarise the drainage catchment areas, proposed discharge rates and corresponding attenuation requirements for the design 1 in 100 year event plus 45% climate change. The drainage system was modelled using MicroDrainage Source Control (Appendix H), which takes into account all storm durations. The required attenuation is provided in strategic SuDS features, as indicated on the preliminary drainage strategy plan (Appendix I).

4.29. There is a proposed sports pitch within drainage catchment 7. Details of the surfacing and use of the pitch would be refined during Reserved Matters. To provide the worst-case scenario, it is currently assumed that the pitch is hard-standing and positively drains into the drainage system. A proprietary drainage system would likely be required to ensure full functionality of the pitch throughout the year, with details provided post-planning.

4.30. The proposed SuDS features have been carefully positioned to allow inflow into the woodland ghylls in a controlled manner, with inflows making best use of existing flank incision features (natural channels entering the main ghyll) where these exist. Inflow from SuDS features would occur at 8 points into the watercourse at Longwood Gill, and a further 3 to Shermanreed Wood.

4.31. Proprietary flow control devices would be used at the downstream end of the SuDS features, before runoff is conveyed towards the brooks onsite via swales, aligned with the natural incisions to create a seamless flowpath into the brooks. Appropriate trenchless technologies (such as directional drilling or laser-guided auger bore) will be used to insert the pipe connections where

necessary within the Ancient woodland, and pre-fabricated headwalls used (if necessary) where an inflow is proposed within the area of Ancient Woodland. The method would not require excavation in the form of a trench, reception pit, nor for the installation of the headwall which would be pinned to the woodland floor.

4.32. During Reserved Matters/detailed design, a variable discharge rate could be proposed to reduce the attenuation requirement and match the proposed rate of discharge to each corresponding event.

Table 3: Sand Drainage Catchment Areas - Attenuation

Catchment	Impermeable area (ha)	Greenfield Rate (l/s)	Attenuation in Strategic Basins (m^3)
1	1.07	2.2	1,586
2	0.77	1.6	1,100
3	0.22	0.5*	335
4	0.29	0.6*	430
5	0.52	1.1	757

*minimum discharge rate of 1.0 l/s per outfall

Table 4: Clay Drainage Catchment Areas - Attenuation

Catchment	Impermeable area (ha)	Greenfield Rate (l/s)	Attenuation in Strategic Basins (m^3)
6	0.62	3.2	645
7	1.19	6.1	1,171
8	0.94	4.8	909
9	0.65	3.4	656
10	0.13	0.7*	148
11a	0.19	1.0	196
11b	0.19	1.0	204
11c	0.74	3.8	727

*minimum discharge rate of 1.0 l/s per outfall

4.33. The proposed Site-wide totals are as follows, subject to detailed design:

- Developable Area = 12.56ha
- Proposed Impermeable Area = 7.54ha
- Proposed Discharge Rate = 29.8 l/s
- Attenuation = 8,864m^3

Exceedance Routes

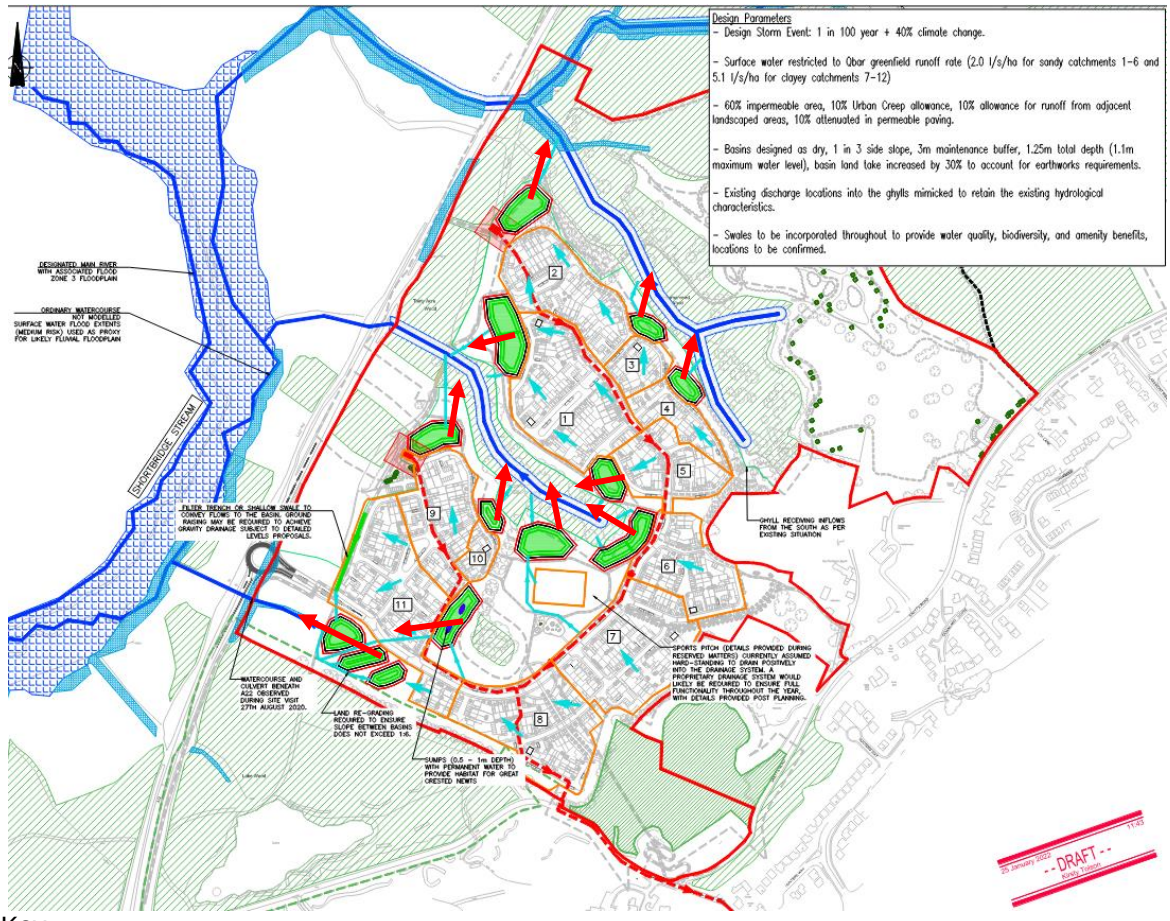
4.34. In the unlikely event of a severe blockage in the local drainage system or a storm greater than the design 1 in 100 year event plus 45% climate change, the proposed drainage system could exceed its capacity and overflow. These exceedance flow routes and flooded areas must be managed to

minimise the risks to the development and adjacent areas.

4.35. In an exceedance event, flood water would rise up at the flow restriction points of the strategic SuDS basins and overtop the banks. The proposed development is set topographically higher than the SuDS basins, apart from the central basin located within the Great Crested Newt buffer. Exceedance flood water would discharge overland from the basins into the watercourses, as dictated by topography and as per the natural situation in these extreme storm events. Exceedance flows from the basin in the Great Crested Newt buffer would be conveyed via a swale or other open SuDS network towards the basins and away from the Site towards the east, as shown on Figure 6.

4.36. The SuDS basins have been designed with 150mm freeboard between the top of bank and the design water level, providing additional protection against exceedance flows.

Figure 6: Exceedance Flood Flow Routing



Key

Exceedance Flood Flow Route

Water Quality

4.37. Appropriate treatment would be incorporated into the drainage system to ensure that the quality of water discharged off-Site is acceptable. In line with the CIRIA SuDS Manual[xiv], the pollution hazard index approach is used to ensure that sufficient treatment is provided for the proposed uses on Site.

4.38. The mitigation indices of the proposed SuDS must be equal or greater than the pollution hazard indices of the proposed runoff, which is dependent on the land use. The pollution hazard indices and SuDS mitigation indices for the Site are shown in Table 5 and 6. The pollution hazard level for the proposed uses on Site range from very low to medium.

Table 5: Pollution Hazard Indices (CIRIA C753 Table 26.2)

Land Use	Pollution Hazard Level	Total Suspended Solids (TSS)	Metals	Hydrocarbons (HC)
Residential roofs	Very low	0.2	0.2	0.05
Other roofs (typically commercial/industrial roofs)	Low	0.3	0.2	0.05
Individual property driveways, residential car parks, low traffic roads (e.g. cul-de-sacs, home zones and general access roads) and non-residential car parking with infrequent change i.e. <300 traffic movements/day	Low	0.5	0.4	0.4
Commercial yard and delivery areas, non-residential car parking with frequent change (e.g. hospitals, retail), all roads except low traffic roads and trunk roads/motorways	Medium	0.7	0.6	0.7

Table 6: Indicative SuDS Mitigation Indices (CIRIA C753 Table 26.3)

Type of SuDS Component	TSS	Metals	HC
Detention Basin	0.5	0.5	0.6
Swale	0.5	0.6	0.6
Permeable Pavement	0.7	0.6	0.7

4.39. The detention basins, swales, and permeable paving individually provide sufficient treatment for the roof runoff and residential access roads (very low and low pollution hazard).

4.40. A combination of a swale and detention basin would provide sufficient treatment for the major access roads within the development (medium pollution hazard).

4.41. The exact arrangement of the on-plot SUDS features, i.e. swales and permeable paving, would be provided during Reserved Matters, but the above demonstrates how sufficient treatment would be provided for surface water runoff prior to discharging off Site.

4.42. The at-source SuDS features (i.e. permeable paving car parks and driveways) would likely be privately managed and maintained. The strategic SuDS features, i.e. basins and swales would be managed by a private management company, to ensure they remain fit for purpose and function appropriately. Exact maintenance responsibilities would be confirmed at a later stage, with a potential management company/operator appointed post-planning.

4.43. Table 7 outlines what maintenance is anticipated for the proposed SuDS features, in line with guidance from the CIRIA SuDS Manual.

Table 7: Maintenance Plan for SuDS

SuDS and Task	Frequency
Detention Basin	
Remove litter and debris	Monthly
Cut grass	Monthly
Manage vegetation and remove nuisance plants	Monthly (at start, then as required)
Inspect inlets, outlets, overflows for blockages, and clear if required	Monthly
Inspect banksides, structures, pipework etc for evidence of physical damage	Monthly
Inspect inlets and facility surface for silt accumulation	Monthly (for first year) then annually or as required
Reseed areas of poor vegetation growth	As required
Remove sediment from inlets, outlets, forebay and main basin when required	Every 5 years or as required
Repair erosion or other damage by reseeding or re-turfing	As required
Relevel uneven surfaces and reinstate design levels	As required
Swales	
Remove litter and debris	Monthly or as required
Cut grass	Monthly during growing season or as required
Manage vegetation and remove nuisance plants	Monthly at start then as required
Inspect inlets, outlets and overflows for blockages and clear if required	Monthly
Inspect vegetation coverage	Monthly for 6 months, quarterly for 2 years, then half yearly
Inspect inlets and facility surface for silt accumulation, establish appropriate silt removal frequencies	Half yearly

SuDS and Task	Frequency
Reseed areas of poor vegetation growth, and alter plant types to better suit conditions, if required	As required if bare soil is exposed over 10% or more of the swale treatment area
Repair erosion or other damage by re-turfing or reseeding	As required
Relevel uneven surface and reinstate design levels	As required
Permeable Paving	
Initial inspection	Monthly for 3 months after installation
Inspect silt accumulation rates and establish appropriate brushing frequencies	Once a year
Stabilise contributing adjacent areas	As required
Removal of weeds or management using glyphosphase applied directly into the weeds	As required
Remediate work to any depressions, rutting and cracked or broken blocks considered detrimental to the structural performance or a hazard to users, and replace lost jointing material	As required
Inspect for evidence of poor operation and/or weed growth, if required, take remedial action	3-monthly, 48 hours after large storms in first six months
Monitor inspection chambers	Annually

5. Foul Drainage

5.1. Southern Water asset plans (Appendix D) indicate the presence of a 150mm foul sewer beneath Snatts Road to the east of the Site and a 150mm foul sewer crossing Church Street (which leads directly from Rocks Road) approximately 450m to the south-east of the site.

5.2. The existing Site comprises an undeveloped field, which currently produces no foul flows.

5.3. The proposed development would comprise 424 residential units, resulting in a peak foul flow rate of 3.6 l/s, as calculated using the Water Consumption Method (Appendix J).

5.4. Foul water arising from the proposed development would be discharged along public highways to into the nearest public foul sewer. Due to constraints regarding ancient woodland, this connection is likely to be via Rocks Road or potentially via Snatts Road; both locations where public sewers currently exist. However, a Pre-Planning Enquiry Response has been received from Southern Water in March 2022 confirming that there is no capacity in any of the sewers to the east of the site, with the nearest current capacity being on the opposite side of the A22. The response and precise location of current capacity is provided in Appendix D.

5.5. This means that the existing public foul infrastructure will require upgrades or reinforcement to accommodate the proposed flows. Southern Water have a legal obligation to accept foul flows following granting of a planning application and would be solely responsible for providing upgrades to their infrastructure, which would be funded by the infrastructure charge levied on each new dwelling. The typical timeframe for delivery of these upgrades is 24 months from receipt of a formal application to connect. The lack of capacity in any location east of the site means there is likely some flexibility in where and how upgrades take place to serve the development although this will need to be discussed with Southern Water post-planning.

5.6. The proposed route off site to Rocks Road appears to go through a surface outcrop of sandstone. Trenches in rock for rising mains up to 100 mm nominal diameter need to be excavated to provide a minimum clearance of 100 mm around the outside of pipe barrels and joints. For pipes with nominal diameters exceeding 100 mm, the minimum clearance needs to be increased to 150 mm for flexible and 200 mm for rigid pipelines.

5.7. The intended connection point in the existing foul sewer network is shown on the plan provided in Appendix D. While the precise arrangement will be confirmed at detailed design stage, the Developer may consider undertaking the works themselves under a Section 104 Agreement as it appears from an initial review that the route to the public sewer is all within Public Highway (beyond the site boundary).

5.8. Due to topography at the Site, foul water would need to be pumped off Site. Two adoptable pump stations have been shown on the drainage strategy plan (Appendix H). Due to the need to pump, there is some flexibility in the precise location of the outfall from the site to Rocks Road and at detailed design stage, consideration should be made to avoiding the need to go through the surface outcrop of sandstone or to potentially combine the outfall location with other utilities that may also require an outfall at this location to reduce the associated construction costs.

6. Conclusion

6.1. EA mapping shows that the developable area is located entirely in Flood Zone 1, denoting a low risk of flooding from rivers or the sea.

6.2. The Shortbridge Stream and its tributary are located to the west of the A22. The flood extents associated with these watercourses are a minimum of 15m lower than the proposed development platform and are separated from the Site by the A22. The risk of flooding from the Shortbridge Stream and its tributary is therefore considered to be low.

6.3. There are several Ordinary Watercourses located within the Site, which connect into the Shortbridge Stream via culverts beneath the A22, summarised below:

- Budlett's Wood brook: This watercourse is located to the east of the site, such that no land raising or built development is proposed in its vicinity and would not impact upon the watercourse nor displace potential floodwater. The risk of flooding is therefore low.
- Longwood Gill and Shermanreed Wood brooks: These brooks are entirely surrounded by Ancient Woodland, which would remain undeveloped, including a 15m offset surrounding the woodland boundaries. Naturally, the watercourses are located at the bottom of the ghylls, approximately 3m and 8m lower than the development platform for Shermanreed Wood and Longwood Gill, respectively. The watercourses originate within the Site and are pluvial in nature rather than fluvial. The watercourses would be retained within the proposals with more than the required 8m offset provided either side of the watercourse due to the surrounding Ancient Woodland. Post development, surface water runoff would be discharged into the brooks at the greenfield runoff rate. The risk of flooding is therefore low.
- Southern brook: This brook is located at the southern end of the developable area. It originates on Site and is therefore pluvial in nature rather than fluvial. Post development, surface water runoff would be discharged at the greenfield runoff rate into the brook, mimicking the existing drainage catchment. In addition, the developable area is located at a higher topography than the brook. The risk of flooding is therefore low.

6.4. The risk of flooding from sewer, groundwater, and artificial sources has been assessed and found to be low.

6.5. The existing Site is undeveloped greenfield land, which currently drains via overland surface water flows into the existing on-Site watercourses, which ultimately discharge into the Shortbridge Stream. In line with the drainage hierarchy, soakage testing was undertaken across the Site, resulting in unfavourable rates. The drainage strategy therefore proposes to discharge surface water into the on-Site watercourses to mimic the existing hydrological regime.

6.6. Surface water arising from the developable area would discharge into Longwood Gill brook, Shermanreed Wood brook, and the southern brook. Due to the sensitivity of the Ancient Woodland surrounding Longwood and Shermanreed brooks, the existing surface water inflow locations have been determined through a site visit and in collaboration with the arboriculturist and ecologist in order to accurately mimic the existing hydrological regime. There are existing incisions into the flanks of Longwood Gill, which indicate the route of overland inflows from the Site into the watercourse. Inflows into the Shermanreed brook are via overland flows at the upstream end, and via a channel inflow further downstream.

6.7. Surface water would be restricted to the Qbar greenfield runoff rate, calculated to be 2.0 l/s/ha and

5.1 l/s/ha for the parts of the Site underlain by sand and clay, respectively, up to and including the design 1 in 100 year event plus a 45% allowance for climate change. Attenuation would be provided in strategic detention basins as well as permeable paving sub-base storage within the development plots. Swales are proposed throughout to provide conveyance of runoff into the strategic SuDS features and potentially to direct restricted discharge into the existing overland flow routes into the Ancient Woodland, avoiding any direct impact on the woodland itself.

6.8. Appropriate treatment of runoff would be provided with the detention basins, permeable paving, and swales, in line with CIRIA SuDS Manual guidance. Two wet ponds are proposed within the Great Crested Newt buffer zone to provide ecological enhancement. As the proposals develop during Reserved Matters, additional SuDS would be incorporated within the development plots to provide additional biodiversity, amenity, and biodiversity benefits.

6.9. The on-Site SuDS features would be privately managed and maintained, with exact maintenance responsibilities provided post planning.

6.10. The existing site comprises undeveloped land which would produce no foul flows. The proposed peak foul flow rate has been calculated to be 3.6 l/s based on 424 residential units. A Pre-Planning Enquiry Response has been received from Southern Water in March 2022 confirming that there is no capacity in any of the sewers to the east of the site, with the nearest current capacity being on the opposite side of the A22. Nevertheless, there are public sewers accessible from the proposed development via Snatts Road and Rocks Road. Southern Water have a legal obligation to provide a foul sewer connection and must provide any required off-site upgrades/reinforcement to deliver capacity in the sewers, funded by the infrastructure charge levied on each new dwelling. The lack of present capacity is therefore not considered a constraint on the proposals.

6.11. This report demonstrates that the proposed development has a low risk of flooding from tidal/fluvial, pluvial, groundwater and artificial sources. The report also confirms that surface water runoff from the Site can be managed sustainably to ensure that flood risk is not increased elsewhere. It is considered that the information provided within this report satisfies the requirements of the NPPF and local policy.

7. References

[i] Ministry of Housing, Communities and Local Government, July 2021. National Planning Policy Framework.

[ii] Ministry of Housing, Communities and Local Government, March 2014. Planning Practice Guidance.

[iii] Department for Environment, Food and Rural Affairs, March 2015. Non-statutory technical standards for sustainable drainage systems

[iv] Halcrow, June 2011. East Sussex Preliminary Flood Risk Assessment.

[v] Wealden District Council / South Downs National Park Authority, Adopted February 2013. Core Strategy Local Plan.

[vi] JBA Consulting, June 2017. Wealden Strategic Flood Risk Assessment.

[vii] JBA Consulting, June 2016. Uckfield Stage 1 Surface Water Management Plan.

[viii] East Sussex County Council, September 2016. East Sussex Local Flood Risk Management Strategy 2016 - 2026

[ix] East Sussex County Council, June 2015. Guide to Sustainable Drainage Systems in East Sussex.

[x] Geo-Environmental Site Investigation, October 2020. BRD Environmental Ltd.

[xi] British Standards Institution, April 2008. BS EN 752:2008 – Drain and Sewer Systems Outside Buildings.

[xii] British Standards Institution, September 2000. BS EN 12056-2:2000 – Gravity Drainage Systems Inside Buildings.

[xiii] HM Government, 2010. The Building Regulations 2010: H, Drainage and Waste Disposal.

[xiv] CIRIA, 2015. C753: The SuDS Manual.

APPENDICES

A. East Sussex County Council Correspondence

Nora Balboni

From: Su DS Consultations - Flood <Su.DS@eastsussex.gov.uk>
Sent: 21 August 2020 15:51
To: Nora Balboni; Peter O'Flaherty
Cc: Su DS Consultations - Flood
Subject: FW: Downland Farm ref: SUD/PRE/WD/20/008 [Filed 24 Aug 2020 15:47]

Follow Up Flag: Follow up
Flag Status: Completed

Dear Nora,

Thank you for your query, please see my responses below.

Kind regards,

Victoria Lander
Sustainable Drainage Advisor
Flood Risk Management - CET

01273 335417
SuDS@eastsussex.gov.uk

From: Nora Balboni <nora.balboni@watermangroup.com>
Sent: 05 August 2020 17:31
To: Su DS Consultations - Flood <Su.DS@eastsussex.gov.uk>
Cc: Peter O'Flaherty <peter.oflaherty@watermangroup.com>
Subject: RE: Downland Farm ref: SUD/PRE/WD/20/008

Hi Josie

Thank you for sending through the drainage report – very useful. We have a few follow-up queries we'd appreciated your thoughts and comments on:

1. Our drainage strategy would discharge surface water into the Ordinary Watercourses within the site which are surrounded by Ancient Woodland. Do you have special requirements relating to the type of outfall or rate for discharge via the Ancient Woodlands? We want to ensure that the proposed outfall does not impact upon the sensitive habitat. We will also consult the Forestry Commission on this matter.

   We do not have specific requirements for the discharge of surface water into the Ancient Woodland area, but we would need to see evidence that an outfall point has been secured (i.e. the viability of discharging to the proposed outfall point has been confirmed). If there is a need to build pipework/a swale through the Ancient Woodland area in order to reach a discharge point, we would need the relevant authority (Forestry Commission/ Ecology officer at Wealden District Council) to confirm in writing that this is acceptable to them.

2. Are you able to advise whether the East Sussex County Council Highways Department is currently adopting roads with permeable paving?

I do not believe they do but this would have to be confirmed with them directly.

3. Agreement in principle to our proposed surface water drainage strategy, summarised below.

   We can confirm agreement to the principle of the drainage strategy below. We would require infiltration methods to be considered as a first option, following the drainage hierarchy. Should this option be found to be inadequate for the site, restricting discharge rates to Qbar would be suitable. Please note that we would expect the proposed discharge rate to be based on the developable area of the site and not the entire site area.
   The design of the detention basins should be informed by groundwater monitoring and we would expect a 1m unsaturated zone between the highest recorded groundwater level and the base of the pond. If this is not achievable, the basin should be lined to prevent groundwater ingress.

Proposed surface water drainage principles

In line with the drainage hierarchy, surface water runoff would be discharged into the Ordinary Watercourses within the site as per the existing situation. Runoff would be restricted to the QBAR greenfield runoff rate for events up to and including the 1 in 100 year event plus a 40% allowance for climate change. We calculated this to be 5.1 l/s/ha for the parts of the site underlain by Grinstead Clay and 2.0 l/s/ha for the parts of the site underlain by Ardingly Sandstone. The bulk of the attenuation requirement to restrict to these rates would be provided within detention basins, some of which may be designed as a permanent wetted feature to provide additional ecological/biodiversity benefits. A range of other SuDS would be incorporated within the site to provide water quality, amenity, and biodiversity benefits, including but not limited to rainwater harvesting, swales, permeable paving, filter strips, and/or rain gardens.

The design parameters are as follows:

- Detention basins: 1.25m deep, 1.1m maximum water level, 1 in 3 side slope, 3m maintenance buffer;
- Urban Creep Allowance: 10%
- Allowance for runoff from adjacent landscaped areas due to steep topography: 10%

The Ordinary Watercourses would be incorporated within the masterplan proposals. The surrounding Ancient Woodland designation extends beyond 8m either side of the watercourses and beyond the associated pluvial flood extents. This ensures that potential floodwater would not be displaced as a result of the development.

A site investigation is currently being commissioned/underway, including infiltration testing and groundwater monitoring. Should the investigations result in favourable infiltration rates and a low enough groundwater table to enable discharge into the ground, we would incorporate infiltrating SuDS into the strategy accordingly.

I appreciate your assistance with this.

Kind regards,

Nora Balboni MEng MCIWEM
Senior Engineer
Waterman Infrastructure & Environment Ltd

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From: Su DS Consultations - Flood <Su.DS@eastsussex.gov.uk>
Sent: 24 July 2020 10:08
To: Lucy Warman <lucy.warman@watermangroup.com>

Cc: Su DS Consultations - Flood <Su.DS@eastsussex.gov.uk>
Subject: RE: Flood Data Request

Good Morning,

Please find attached one of our standard drainage reports as requested.

The data suggests there are a number of surface water flow paths throughout the site. These should be considered when designing the site layout to ensure flood risk is not increased both on and off the site. Where possible these flow routes should be retained however if that is not possible they should be safely diverted supported by detailed assessments on flows and capacity.

The water table depth is indicated to vary across the site. Any proposals to use infiltration within the drainage design should be supported by infiltration testing in accordance with BRE365 at locations of and depths comparable to the proposed infiltration feature. Furthermore groundwater monitoring should be completed between autumn and spring where we would expect groundwater levels to be at their highest. We would typically expect a 1m unsaturated zone between the highest recorded groundwater level and the base of the infiltration structure.

There are a number of ordinary watercourse that flow through the site. Any planned works to these watercourses may require Ordinary Watercourse Consent for ESCC.

I hope you find the report of use and if you have any further questions, please don't hesitate to contact us.

Kind Regards,
Josie

Josie Bush
Flood Risk Technician
Flood Risk Management

01273 335474
eastsussex.gov.uk

From: Lucy Warman <lucy.warman@watermangroup.com>
Sent: 12 June 2020 16:01
To: Su DS Consultations - Flood <Su.DS@eastsussex.gov.uk>
Subject: Flood Data Request

Good afternoon,

We are undertaking flood works for a development in Uckfield, East Sussex (site location attached). Please could you provide the following information, alternatively please confirm you hold no such data:

- Groundwater levels
- Historic flooding data
- Ordinary watercourses map
- Lost rivers map

Many thanks,

Lucy Warman
Graduate Engineer
Waterman Infrastructure & Environment Ltd

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24/07/2020

Drainage Report

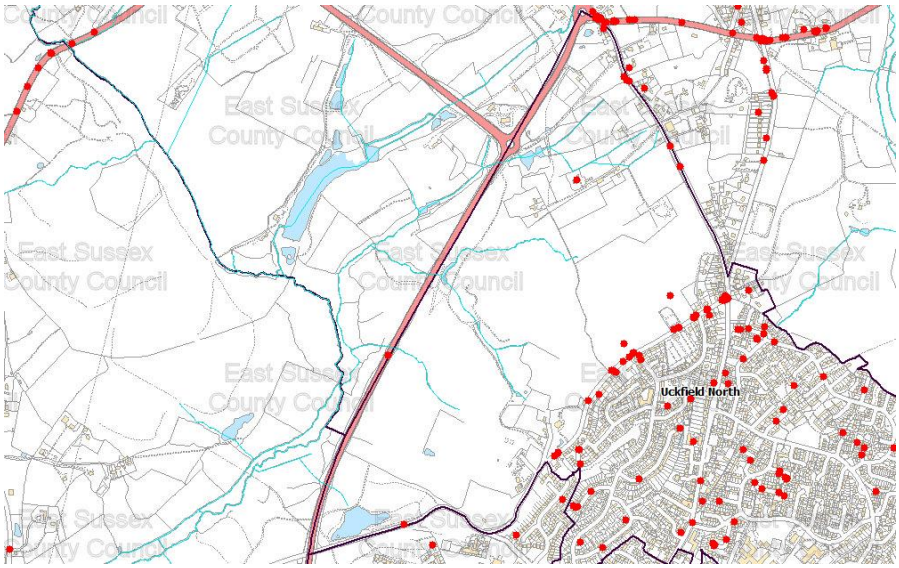
Site name: Downland Farm, Uckfield

ESCC Reference: SUD/PRE/WD/20/008

Flood Risk

Flood Risk	Is any part of the site at risk?	Where to obtain additional information
Fluvial/Coastal	No	Environment Agency
Surface water	Yes	Environment Agency
Groundwater	Yes	British Geological Survey

The map below shows the flood incidents recorded in our database in the vicinity of the development site.



Recorded flooding incident

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Figure 1: Recorded Flood Incidents

The table below provides details of the recorded flood incidents within the vicinity of the site.

Date	Source of flooding	Description
04/10/2010	Surface Water - Drainage	flooding and blocked drains
04/10/2010	Surface Water - Drainage	flooding and blocked drains
20/07/2007	Foul	Curtilage and highways flooding
08/01/2010	Surface Water	Junction flooded
08/03/2010	Surface Water - Drainage	Surface water issue around drains
04/08/2010	Surface Water - Drainage	Property flooding due to rainfall - drains are blocked
04/08/2010	Surface Water - Drainage	Drains blocked and property flooded due to heavy downpour
09/11/2010	Unknown	Phoned about flooding at the top of the hill
10/12/2010	Drainage	Drainage issues
14/01/2011	Drainage	gullies blocked
05/03/2014	Surface water- highway gully	Running water at junction affecting cemetery. blocked gullies.
09/09/2014	Surface water- blocked gully/pluvial runoff	Surface water flooding at the bottom of Uplands Drive, where it meets London Road.
18/01/2010	Drainage	Drainage issues causing flooding
04/08/2010	Surface Water	property flooded from water on highway
04/08/2010	Surface water	storm drains overflowing causing 1" water to enter and flood property
18/10/2010	Drainage	water leak from small drains
15/11/2010	Foul	surface water drains smell of sewage
11/01/2008	Unknown	Unknown
28/02/2014	Unknown	Flooding at traffic lights. Accident occurred recently.
24/02/2014	Surface water- highway gully	Surface water standing for long time on the road. Dangerous to traffic. Blocked drain.
27/02/2014	Surface water- pluvial runoff	Water running off fields and flooding A272- water ankle deep.
03/02/2014	Surface water- drainage	Flooding to garden and threatens house, even under light

		rain. Blocked pavement drain close to storm drain.
01/01/1995	Unknown	Sandbags required
13/01/2014	Unknown	Flooding of bridle path, and onto A272. Residents unable to leave houses.
01/03/1991	Drainage	Flooding of farm drive. Partial collapse of culvert.
01/10/2000	Unknown	Sandbags required
19/12/2013	Surface water- pluvial runoff	Road flooded, due to recent heavy rains.
03/01/2014	Surface water- highway gully	1, 2 & 3 Claremont Place have flooded basements- deep water when it rains heavily. Perhaps due to blocked drains outside No. 2 and an adjacent service road.
06/01/2014	Surface water- highway gully	A272 is flooded due to blocked drain. Reoccurring problem over this winter.
13/01/2014	Surface water- highway gully	Cellar severely flooded. Blocked gullies outside the house. Requires pumping every 30 minutes or so to avoid flooding.
21/01/2014	Surface water- pluvial runoff	Water travelling down the centre of the road and pooling at the bottom. Drainage on eastern side of the road not carrying water, as the drains are higher than the road.
27/01/2014	Surface water- highway gully	Drain blocked in turning circle- water building up and flooding it. Water at pavement height.
03/02/2014	Surface water- pluvial runoff	Road flooded, and cars driving through cause flooding to residential garden. Gully cleared before Christmas, but hasn't solved the problem
04/03/2014	Surface water- pluvial runoff/highway gully	Road completely flooded. Gully jetted, but still flooding after rainfall.
22/04/2014	Surface water- highway gully/pluvial runoff	Drainage problem since 2009. Large pool of water forms o/s No 19. Enters drive, back garden and shed. Drain o/s No 3 surcharges across road, bypassing drain opposite
28/07/2014	Groundwater/Surface water- pluvial runoff	Flooding in cellar, coming through from drain at no. 1 -3. Due to rising water table or highway runoff?
29/07/2014	Surface water- highway gully	A blocked drain at the end of the service road is causing water to overflow and run down into the customer's and neighbour's gardens.

29/01/2012	Unknown	Unknown
23/12/2013	Unknown	Unknown
15/02/2014	Unknown	Unknown
11/10/1993	Foul	Internal flooding
30/12/1993	Foul	Internal flooding
10/11/2008	Surface Water	Curtilage and highways flooding
13/11/2009	Foul	Curtilage flooding
01/01/1993	Unknown	Flooding of house and garden due to defective soakaway. Owner to carry out works.
01/10/1993	Drainage	Foul and SW sewers unable to take storm flows.
01/10/1993	Unknown	Sandbags required
01/12/1993	Unknown	Flooding of house and garden
01/01/1994	Surface Water	Flooding of unadopted road. Cannot proceed without owner.
01/01/1994	Unknown	Flooding of garden
01/01/1995	Unknown	Sandbags required
01/01/1995	Surface Water - Drainage	Flooding of property from car park. Blocked SW drain. In road.
01/08/1996	Surface Water - Drainage	Garden flooding storm drain
01/06/1997	Unknown	Constant flow of water-passed to SE water
01/08/1997	Unknonw	Sandbgas delivered
01/08/1997	Surface Water	Surface flooding off highway
01/11/1999	Unknown	Flooding at rear garden-developer to undertake works.
01/05/2000	Drainage	Blocked drain in unadopted road. Scheme to tarmac WDC owned footpath.
01/10/2000	Unknown	Sandbags required
01/10/2000	Unknown	Sandbags required
01/10/2000	Unknown	Sandbags required

01/10/2000	Unknown	Sandbags required
01/10/2000	Unknown	Sandbags required
01/10/2000	Unknown	Sandbags required
01/10/2000	Unknown	Sandbags required
01/10/2000	Unknown	Sandbags required
01/11/2000	Unknown	Sandbags required
01/11/2000	Unknown	Sandbags required
10/04/2001	Unknown	Water running from adjacent play area into front garden of property. Appears to be a spring. Once a pond at this location before development.
01/07/2007	Foul	Flooded indoors foul and sw sewers surcharge.
01/01/2008	Unknown	Sandbags required
20/12/2012	Surface water- highway drain	Flooded garages. Water leaving blocked drains.
04/08/2010	Surface Water - Drainage	Property flooding due to rainfall - has previous had visit from inspctor in February who advised that drains did appear to be blocked but would have to observe when raining to determine further action.
05/10/2010	Drainage	Drains o/s house blocked - water is clearing in rains but very, very slowly. As property flooded in 2000 floods and engineer from Millpond depot advised him to keep an aye on them would like us to get t hem cleared out.
19/11/2010	Unknown	Snatts Road junction with Ringles Cross flooded.
19/11/2010	Unknown	Several sites along the road flooded.
01/04/2005	Unknown	Water comes up from same spot in rear garden when raining - no drains shown on plan - suggest takes trial hole to investigate
01/07/2007	Unknown	Flooding indoors from surface water runoff - advised to install gulley/grate in front garden to control level of water before entering house.
Unknown	Unknown	Residential property; Flood water entering garages and shed causing damage to items on ground level. At least

		four times in the last 18 months.
29/10/2013	Unknown	Unknown
15/11/2013	Unknown	Unknown
03/01/2014	Unknown	Flooding reported on twitter. Been there since yesterday.
03/01/2014	Drainage	Customer reports that since the 23 December Nos. 1, 2 & 3 Claremont Place have flooded basements - 3" to 4" water when it rains heavily.
03/01/2014	Surface Water - Drainage	Two Drain covers close to the location on the map are completely blocked with debris and mud. these drains have been blocked before and led to flooding of nearby homes,
06/01/2014	Surface Water - Drainage	A272 Coopers Green, Travelling East towards Buxted, Lephams Bridge Road, TN22 4AT. X 2 drains blocked O/S Wellhouse and Old Oast Barn, causing surface water in heavy rain.
06/01/2014	Drainage	Customer reporting a blocked drain outside her property, gully details as follows:
06/01/2014	Unknown	Unknown
07/01/2014	Unknown	Reports of Flooding again on Budletts Lane, junction with London Road nr the A26 roundabout, Buxted.
13/01/2014	Surface Water - Drainage	Blocked gully outside house, causing flooding of cellar
13/01/2014	Unkown	flooding (6") bridle path o/side Kilworth House
14/01/2014	Surface Water - Drainage	Drainage grid is blocked. Large pool of water blocking access to garages. With the increased rain, it has been entering the private garages
17/01/2014	Surface Water	1 foot deep of water at this roundabout, residents cannot get out of their houses now
27/01/2014	Surface Water - Drainage	Drain in turning circle blocked and underwater in heavy rain
17/02/2014	Surface Water - Drainage	2 gullys in the road are blocked and have caused flooding over the path, and county council came out with sand bags this stooped the house from flooding
24/02/2014	Surface Water - Drainage	A272 on cross roads at Coopers Green, surface water been there for long time on the road, cannot see all the water

		when approaching from bend near the traffic lights and customer says it is dangerous.
26/02/2014	Unknown	A272 Coopers Green flooding
27/02/2014	Surface Water	Surface water running off fields on to A272
28/02/2014	Surface Water	Flooding at traffic lights
04/03/2014	Surface Water	Road completely flooded
14/07/2014	Surface Water - Drainage	Road drains are still overflowing.
29/07/2014	Surface Water - Drainage	Blocked drain at the end of our service road is causing a problem after it rains, the overflowing water then runs down into our garden and into adjoining neighbours garden.
01/08/2014	Surface Water - Drainage	Drain o/s his property at number 17 Lime Close, Uckfield is blocked. has said the recent downpour flooded the whole of the turning circle.
07/08/2014	Surface Water - Drainage	Two surface water drains outside her property are blocked. When it rains the water is running onto her property.
07/08/2014	Surface Water - Drainage	Customer reported that the drainage problem was only half sorted out and the water is still spreading across the road.
09/09/2014	Surface water	Issue of surface water flooding at the bottom of Uplands Drive, where it meets London Road.
18/01/2010	Surface Water - Drainage	Drainage issues causing flooding
04/08/2010	Surface Water - Drainage	Property flooding due to rainfall, drains did appear to be blocked but would have to observe when raining
04/08/2010	Surface Water - Drainage	2 storm drains at the end of The Mount are blocked and causing 19 The Mount to flood he said it is 1 inch from coming in his front door
04/08/2010	Surface water	house has flooded and he tells me the water is coming from the highway
04/08/2010	Surface Water - Drainage	Please can we take a look at drains in road she believes they may be blocked as her property flooded in heavy rains today
09/11/2010	Unknown	Phoned about flooding at the top of the hill

19/11/2010	Unknown	Snatts Road junction with Ringles Cross flooded.
17/01/2011	Surface Water - Drainage	Regular flooding believes there might be a blocked drain at this location which is causing the flooding
19/01/2011	Surface Water - Drainage	The gullies on the west side of this road from a point by the traffic sign to a point opposite the bus shelter are not working hence the carriageway is flooded
20/06/2011	Surface Water	Pavement and road flooded again Always happens when it rains Pedestrians forced to walk out to the white line in the road in order to avoid the puddle
01/09/2011	Surface Water	Last weeks rain immediately caused it to flood
13/01/2012	Surface Water - Drainage	Drain at beginning of Bridle Path is blocked and has caused flooding
22/10/2012	Surface Water - Drainage	There is a drain causing problems, It floods and the water runs down into the slope
19/12/2012	Surface Water - Drainage	two totally blocked drains causing flooding, tried to clear it without success there is a solid lump of soil in there
20/12/2012	Surface Water - Drainage	drains blocked to level of 8 inches and water pouring into properties causing garages to flood
20/12/2012	Unknown	flooding today to the property is far worse than it has ever been
20/12/2012	Surface Water - Drainage	The drains are filled up with leaves causing flooding to his property
02/01/2013	Unknown	flood we have at the bottom of the Bridle path
02/01/2013	Surface Water - Drainage	Blocked culvert taking away the water from the road drainage to a stream Causes flooding in road
27/02/2013	Surface Water	flooding to curtilage
07/03/2013	Surface Water	flooding on their properties South east water have visited the properties twice and have said that this is water running from the public footpath
04/04/2016	Surface Water - Drainage	drain is full of silt and leaves etc and it caused flooding when there is heavy rain and also knock on effect for the other roads as this is a steep hill
13/01/2016	Unknown	Garage is repeatedly getting flooded and caller feels this is

		because there aren't enough drains in this area
05/01/2016	Surface Water - Drainage	Road is flooding due to blocked gullies
04/01/2016	Surface Water - Drainage	Blocked gullies to the top. 5 of houses here have been flooded a couple of times previously, inside property
26/08/2015	Drainage	Properties have flooded 3 times over the years as drainage capacity is insufficient
16/01/2015	Surface Water	the area is flooding. This is a newly surfaced section of road which has historic drainage issues which are unresolved
20/10/2014	Surface Water	footpath has always been prone to flooding but seems to be getting worse
15/10/2014	Surface Water - Drainage	regarding flooding, drain at the bottom of Uplands Road, and London Road. There is a defect on London Road
08/10/2014	Surface Water - Drainage	water has flooded into her garden from the drains in Nevill Road
08/10/2014	Surface Water - Drainage	garage has been flooded due to blocked drains
01/08/2014	Surface Water	recent downpour flooded the whole of the turning circle
29/07/2014	Surface Water - Drainage	blocked drain at the end of our service road is causing a problem after it rains, the overflowing water then runs down into our garden and into neighbours garden.
17/02/2014	Surface Water - Drainage	2 gullys in the road are blocked and have caused flooding over the path, a drain is also blocked
08/12/2017	Surface water - pluvial runoff	Drainage line runs from catch pit k47292 through to his pond (as seen in photos) and floods his garden in heavy rain through the winter
10/08/2017	Surface Water	water floods down their driveway when it rains.
24/09/2018	Surface Water - Drainage	Drain on beside road at entrance to bridle path is blocked and is flooding with every rain. If not cleared, it will start to flood the A272 junction
03/12/2018	Unknown	Flooding at the junction stretching across the road. At Coopers Cross.
30/03/2018	Surface Water - Drainage	Land drain flooded quite deep across the road. Possible damage to house foundations and threat to road safety.

03/12/2018	Surface Water - Drainage	Cooper Green flooded over the weekend. The drain which goes through the wall is blocked and needs ridding.
28/11/2018	Surface Water	Junction frequently floods making it impassable for pedestrians, forcing them to cross the busy main road in order to pass.
29/01/2018	Surface Water - Drainage	Blocked drains causing flooding on the road and gardens.
30/04/2018	Surface Water - Drainage	The road drain on the bridle path is blocked, causing flooding.
12/08/2018	Surface Water - Drainage	The road drain at the entrance to the bridle path at the A272 turning to Buxted is blocked and flooding with every rain.
14/08/2018	Surface Water - Drainage	Flooding caused by the blocking of four gullies.
16/03/2018	Surface Water	Flooding across carriageway
30/11/2018	Surface Water - Drainage	One half of CW flooded, customers report advised that both sides had been flooded.

Please note that our records only provide a snapshot of the flood history in the area, as the majority of incidents were compiled after the County Council was established as the Lead Local Flood Authority in 2010. Therefore, other risk management authorities, such as the Environment Agency, the Local Planning Authority and Southern Water may hold additional records.

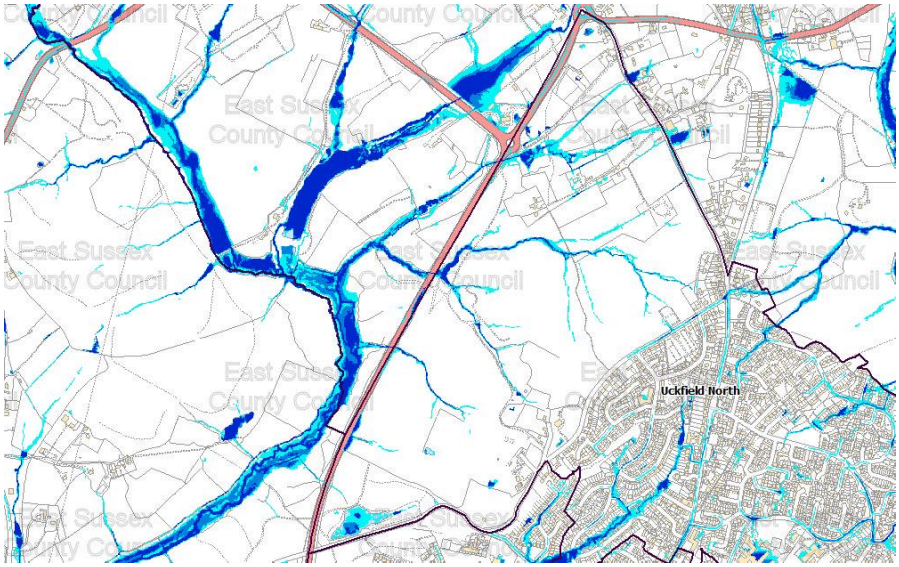
The surface water management strategy should include information on how the potential impacts of local flood risk sources on the proposed drainage arrangements have been considered and mitigated where necessary. Local flood risk sources include surface water, groundwater, sewer and ordinary watercourse flood risk.

Surface Water Flood Risk

The Environment Agency's surface water flood mapping shows the predicted surface water flood risk at the development site, and the table below gives the corresponding maximum flood depth:

Table 1: Surface Water Flood Depths

Flood Event	Maximum Depth
3.33% AEP (1 in 30 year)	1.92
1% AEP (1 in 100 year)	2.04
0.1% AEP (1 in 1000 year)	2.47

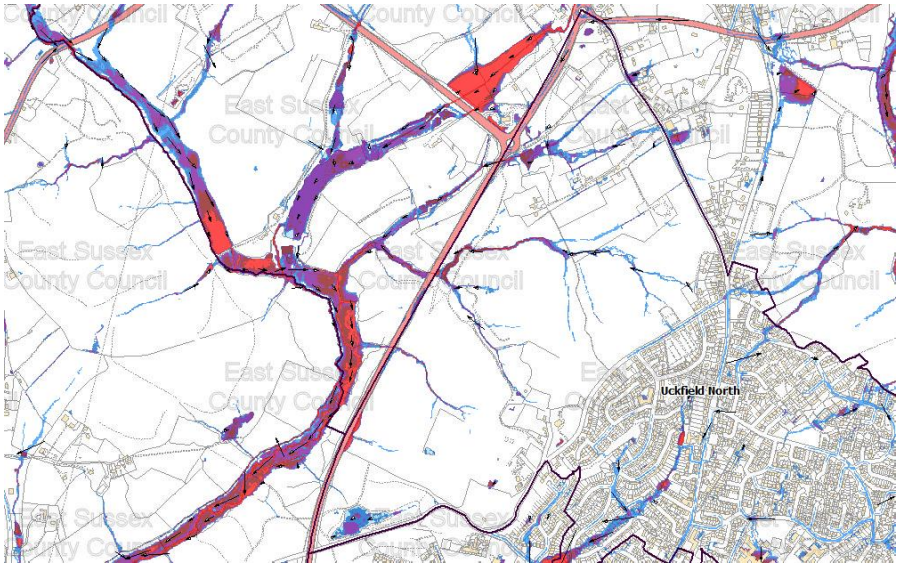


3.33% AEP Extent	1% AEP Extent	0.1% AEP Extent

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Figure 2: Surface Water Flood Risk

The map below shows predicted depths and flow direction of surface water for the 0.1% AEP (1 in 1000) event:



0.00 – 0.15m	0.15 – 0.30m	0.30 – 0.60m
0.60 - 0.90m	> 0.90 m	

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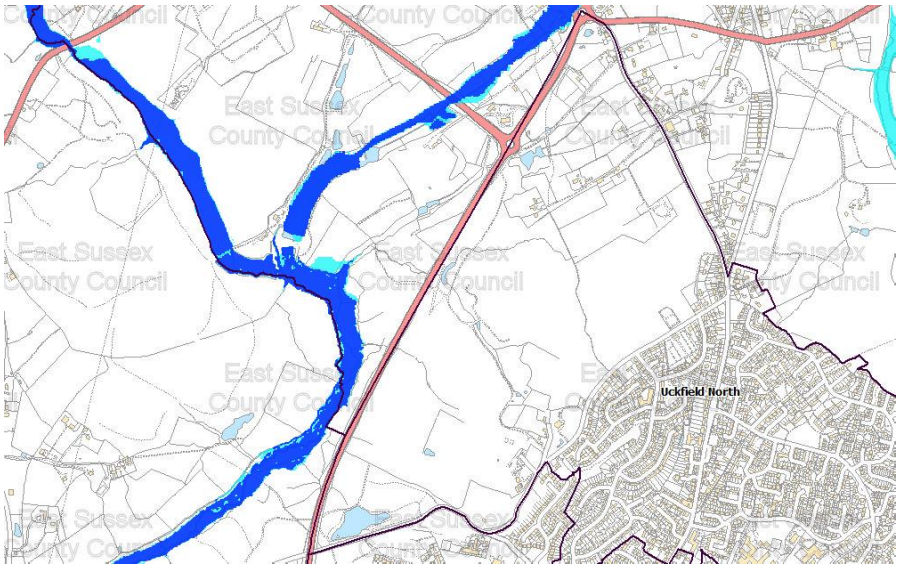
Figure 3: 0.1% AEP depth and flow direction

Further information can be viewed online on at the Environment Agency's pages on the GOV.UK website.

There are several surface water flow paths that run across the site. Some of these could be associated with watercourses. Nevertheless, these flow paths should be taken into consideration when designing the site layout and levels to ensure surface water flood risk is not increased both on and off the site. The overland flow routes should ideally be retained as they are, but if not possible they should be safely diverted and any proposed diversions should be supported with detailed assessments on flows and capacity.

Fluvial and Coastal Flood Risk

The Environment Agency's mapping shows that the property is in the vicinity of Flood Zone 2 and Flood Zone 3. However, it doesn't directly overlap with the site. Therefore, the site is probably at lower risk of flooding from fluvial sources.



Flood Zone 3	Flood Zone 2

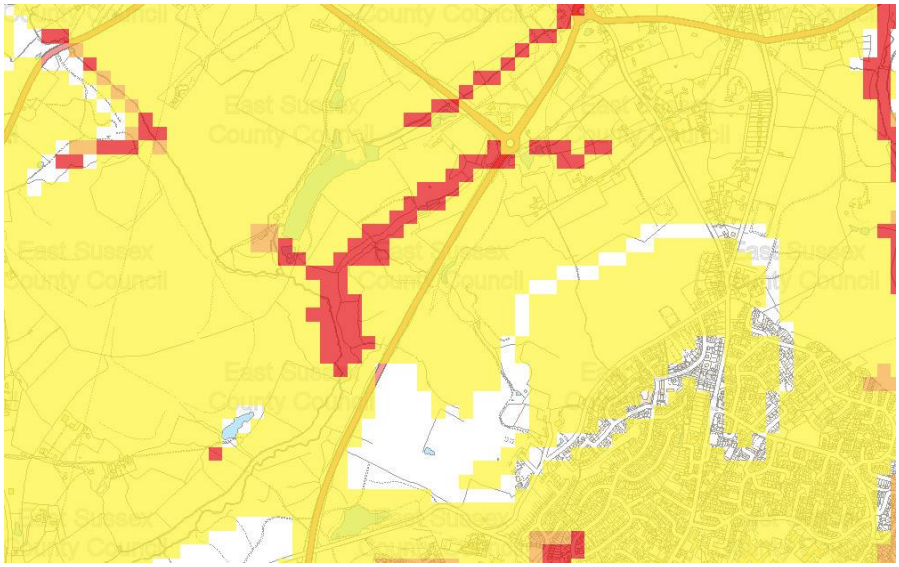
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Figure 4: Fluvial and Coastal Flood Risk

Further information can be viewed online at the Environment Agency's pages on the GOV.UK website.

Groundwater Flood Risk

Mapping from the British Geological Survey shows that there is limited potential for groundwater flooding to occur across most of the site.



Limited potential for groundwater flooding to occur	Potential for groundwater flooding of property situated below ground level	Potential for groundwater flooding to occur at surface

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Figure 5: Groundwater Flood Risk

Drainage Considerations

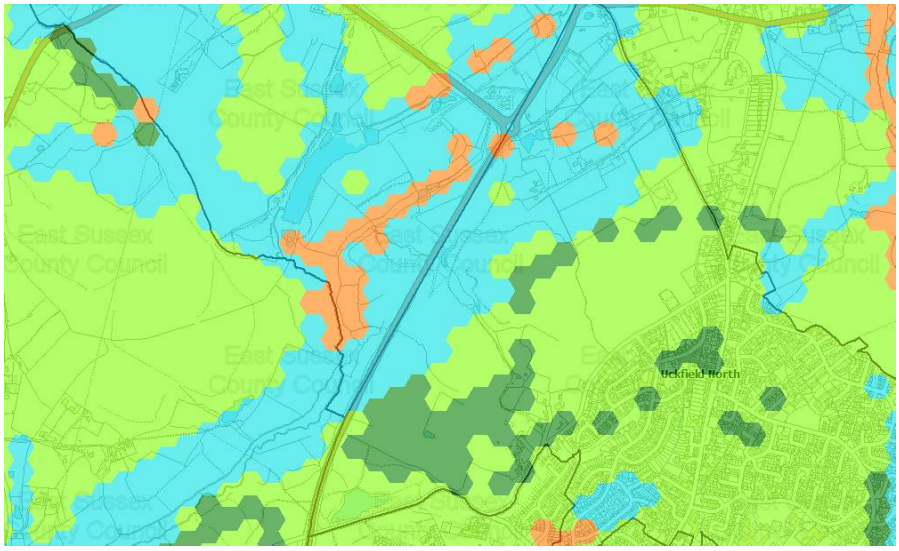
The council has carried out county wide analysis to classify East Sussex into four areas of broad drainage characteristics or Drainage Risk Areas (DRA). These spatial groupings are intended to inform the preparation of drainage strategies with development proposals, so that appropriate SuDS techniques are implemented in the county.

The site is shown to be within risk group 1, 2 and 3. The site may also the contain aspects of other DRA categories.

The LLFA requirements for each DRA are provided in Table 2 below.

Table 2: Drainage Risk Area Guidance

DRA Number	Colour	Guidance
1		Improvements upon greenfield runoff rates should be discussed with LLFA
2		Infiltration is unlikely, ensure an outfall can be secured
3		Infiltration techniques are likely to be inappropriate
4		Robust evidence is required to show the applicability of infiltration on site

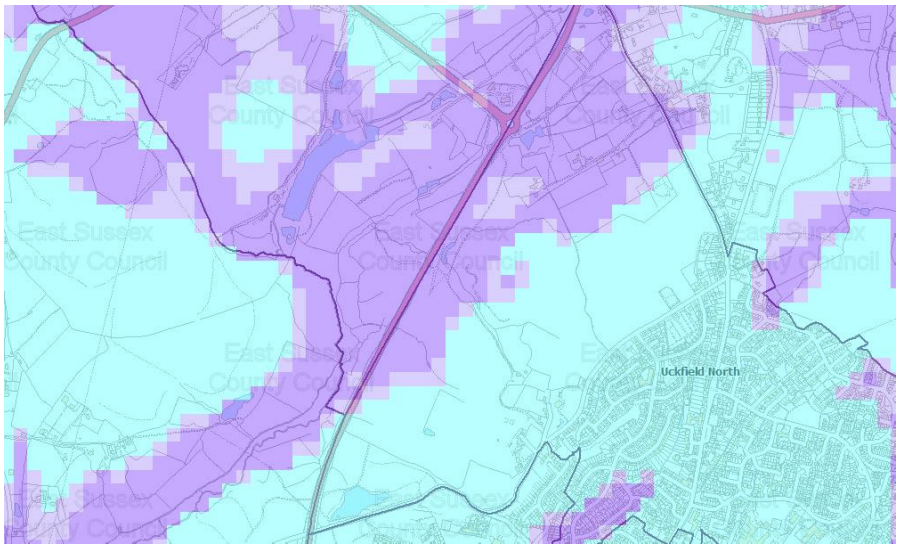


Risk area 1	Risk area 2	Risk area 3	Risk area 4

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Figure 6: Drainage Risk areas

Figure 7 below outlines the estimated water table depth for the site, based on data from the British Geological Survey. The legend contains the British Geological Survey advice for each groundwater depth band.



	>5m below surface	Observations of seasonal variations in groundwater level recommended
	3m – 5m below surface	Determine seasonal variations in groundwater level
	<3m below surface	Determine seasonal variations in groundwater level

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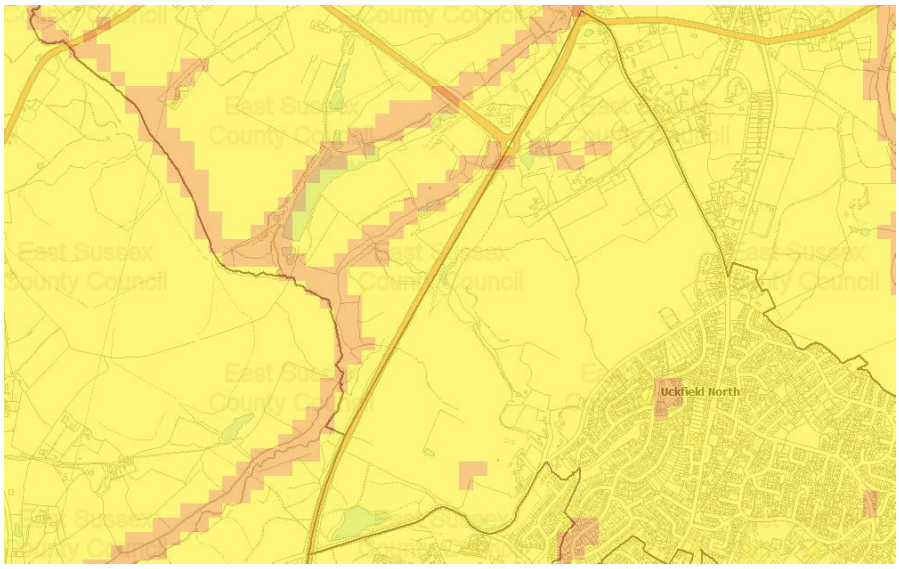
Figure 7: Depth to Groundwater

The map indicates that the water table depth varies across the site from less than 3m below surface in the Northern part of the site to greater than 5m in the Southern end. Therefore, any proposals to use infiltration within the drainage design will require infiltration testing to be undertaken at locations of and depths comparable to the proposed infiltration feature.

The groundwater levels can also vary across the year and therefore ground water monitoring should also be undertaken between autumn and spring. We would typically expect a 1m unsaturated zone between the base of the infiltration structure and the highest recorded groundwater level.

Figure 8 below outlines the estimated ground stability for the site, based on data from the British Geological Survey. The legend contains the British Geological Survey advice for each ground stability band.

The BGS data indicates that there is potential for a geohazard. Therefore, any proposals to use infiltration should take into consideration the impacts that may have on ground stability.



	Potential for Geohazard	Before installing infiltration SuDS consider the potential for or consequences of infiltration or ground stability
	Significant potential for Geohazard	Only install infiltration SuDS if the potential for or consequences of infiltration are considered no to be considerate
	Very significant constraints are indicated	Only install infiltration SuDS if the potential for or consequences of infiltration are considered no to be considerate

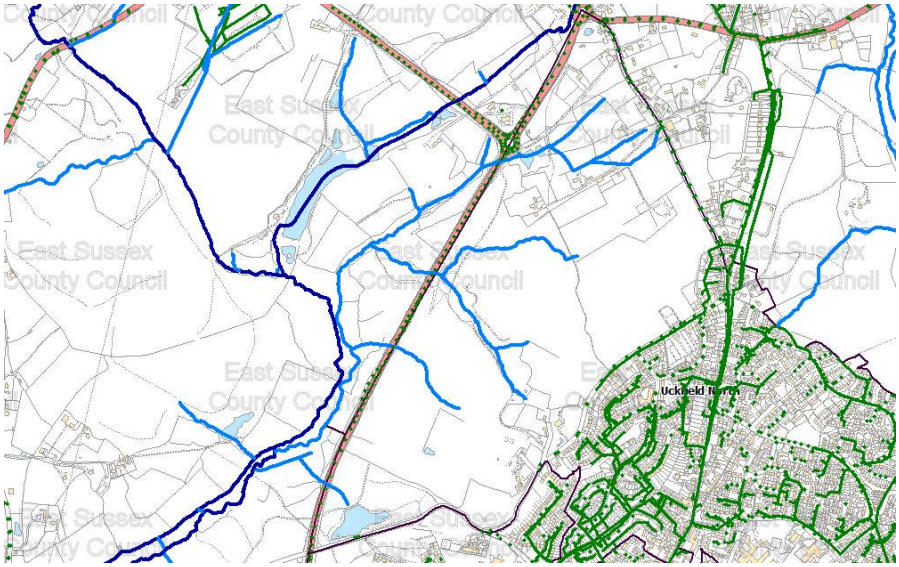
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Figure 8: Ground Stability

The information provided is guidance only. All development proposals must undertake the necessary site surveys to confirm the drainage constraints or opportunities. For further information on drainage strategy requirements, please refer to the ESCC Guide to Sustainable Drainage Systems in East Sussex and the Local Flood Risk Management Strategy. The 'surface water drainage checklist' available on our website lists the information we expect to be submitted in support of a planning application

Watercourses and Drainage Assets

Watercourses and drainage assets in the vicinity of the property are shown below.



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Figure 9: Watercourses

If any ordinary watercourses lie within the site boundary, any planned works to the watercourse map require a separate Ordinary Watercourse Consent from ESCC.

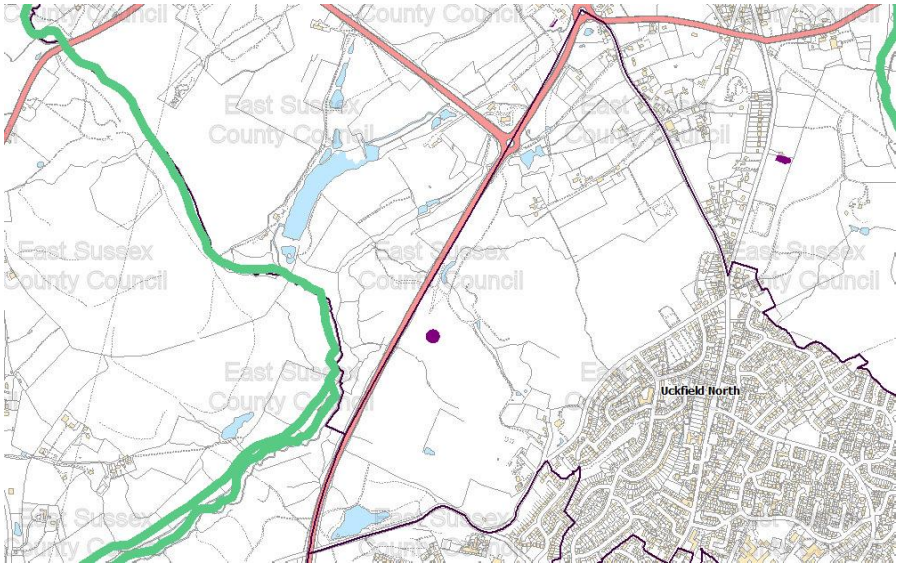
If a main river lies within the site boundary, any planned works to this watercourse may require an Environmental Permit (formerly Flood Defence Consent) from the Environment Agency. Contact the EA for enquiries at enquiries@environment-agency.co.uk

To connect into existing surface water and foul water systems, agreement must be obtained from Southern Water. Please refer to Southern Water for details on the capacity of the existing sewer system and applications for a new connection to the existing sewer system.

There are a number of ordinary watercourses that flow through the site. Please contact ESCC for further information regarding ordinary watercourse consents that may be required if there are any planned works on these streams.

Water Quality and Landfill

Figure 10 below shows the ecological status of adjacent waterbodies, as defined by the Water Framework Directive and any historic landfill sites.



High Ecological Status	Good Ecological Status	Moderate Ecological Status
Poor Ecological Status	Bad Ecological Status	Historic Landfill Site

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Figure 10: Water Quality and Landfill

If the site is adjacent to a sensitive waterbody, as defined by the Water Framework Directive, the Quality of water discharged from the site is likely to be a key consideration. Contact the EA for enquiries at enquiries@environment-agency.co.uk for further information.

If the site is in the vicinity of a historic landfill the EA may have additional comments on the associated water quality risks.

There is a very small historic landfill site located within the site.

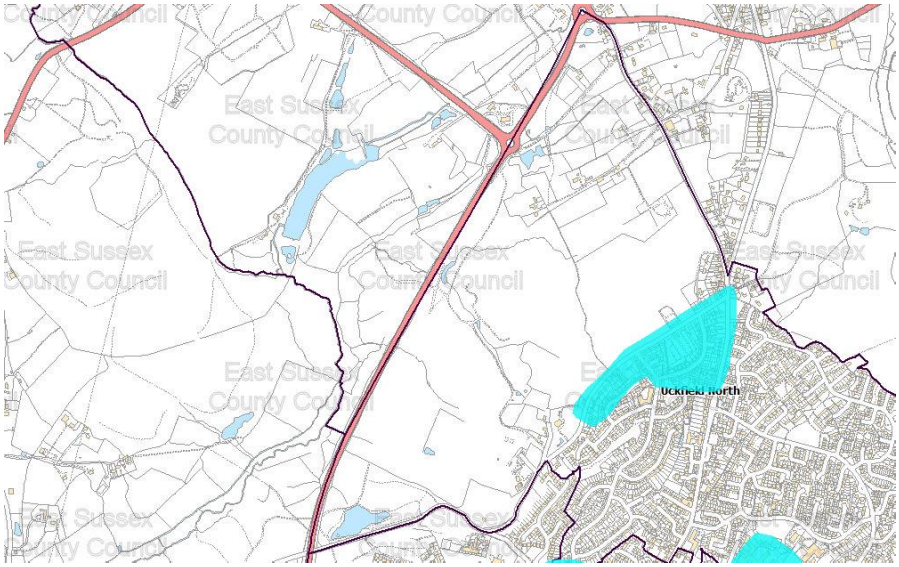
Investigations

ESCC has undertaken a broad range of investigations into historic flooding and drainage issues including section 19 reports, Land Drainage Investigations and Surface Water Management Plans. Figure 11 below illustrates the location of these investigations.

Where a significant flood event has occurred and the responsibility for managing the risk is unclear; ESCC may undertake a formal investigation under Section 19 of the Flood and Water Management Act 2010. The published report aims to identify the responsible party and proposed response to the

incident. To address less severe, localised flooding, ESCC may undertake a Land Drainage Investigation.

The Surface Water Management Plans (SWMP) in ESCC identified several risk 'hotspots'. If the site is adjacent to a hotspot, please refer to the full SWMP document for more information.



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Figure 11: Previous investigations

If the site is adjacent to any Section 19 Reports, Land Drainage Investigations or SWMP hotspots, please contact the Flood Risk Management Team at watercourse.consenting@eastsussex.co.uk

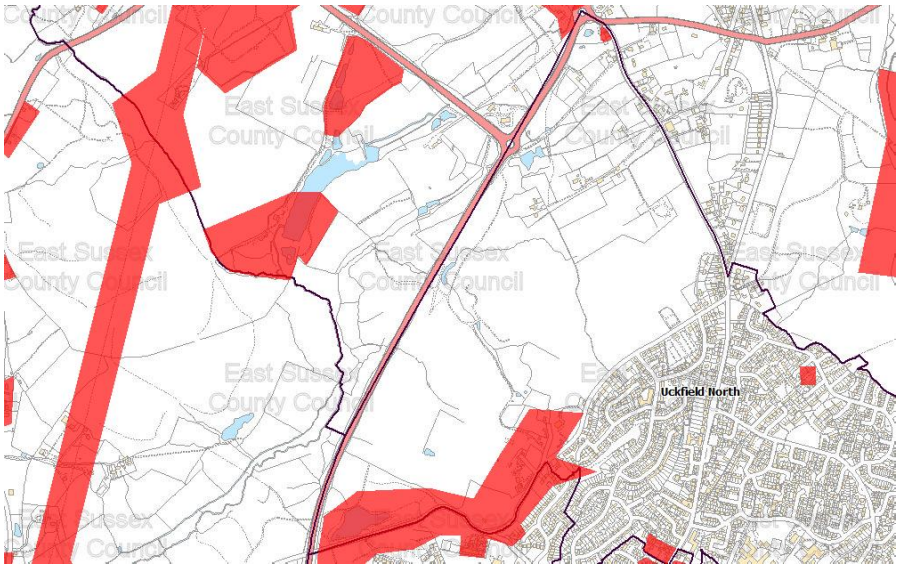
There is and SWMP hotspot directly adjacent to the site in Uckfield.

Other Information

The site lies with administrative area of the East Sussex County Council Internal Drainage Board, therefore any works affecting an ordinary watercourse should be agreed with the County Council. Additional requirements may need to be taken into consideration. Please contact the below relevant authority for further information.

Upper Medway Internal Drainage Board	enquiries@medwayidb.co.uk
Romney Marshes Area Internal Drainage Board	info@rmaidb@co.uk
Cuckmere and Pevensey Water Level Management Board	planning@wlma.org.uk
East Sussex County Council LLFA	**Watercourse.consenting@eastsussex.gov.uk**

Figure 12 below shows any known archaeological sites adjacent to the site. If there is an adjacent site, it is highly likely that information on the location and extent of heritage assets will be required, as well as the archaeological potential of the area. It is recommended to investigate the level of information required by contacting East Sussex Historic Environment Record (HER) at country.HER@eastsussex.gov.uk



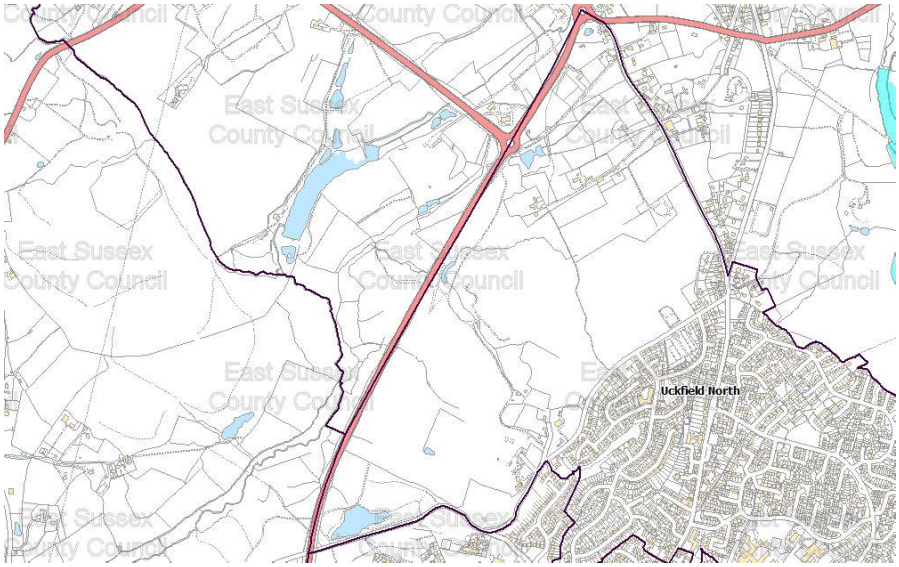
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Figure 12: Archaeology

East Sussex contains area of international, national and local importance for biodiversity. The below Figure 13 illustrates the location of RAMSAR sites, Sites of Specific Scientific Interest (SSSI), Special Areas of Conservation (SAC) and Special Protection Areas (SPA).

ESCC policy states that the development should provide net gain in biodiversity where possible. Therefore, Sustainable Drainage Systems (SuDS) should be designated as multifunctional features, which ensure that biodiversity can be compensated and/or enhanced.

Further information can be found in the Guide to Sustainable Drainage Systems in East Sussex



RAMSAR	SSSI	SAC	SPA

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Figure 13: Biodiversity

.

B. Topographic Survey

546740E 546760E 546780E 546800E 546820E 546840E 546860E 546880E 546900E 546920E

123180N 123160N 123140N 123120N 123100N 123080N 123060N

Filling Station

Service Area

Pond

Pond

Edge of woodland Avg H=11.0m

Gross

Mixed Foliage H=+18.0m

Ditch

Ditch

Unmade Track

STNP21 STNP22 STNP23

Tarmac

Gross

Sign

RS

LP

Notes:

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INDICATIVE

Legend:

Fences
Walls
Hedges
Trees

Buildings
Overhead Electric
Overhead Phone
Gate

Fences:
Barbed Wire Fence BW
Corrugated Iron Fence CI
Chestnut Paling Fence CP
Chestnut Pailing Fence CPF
Post Rail Fence PR
Post and Rail Fence PRF
Post and Wire Fence PW
Stockproof Fence SP
Timber Log Fence TLF
Wire Mesh Fence WM

Abbreviations:

BOLLARD	BO	MARKER	MK
BRITISH TELECOM IC	BT	MANHOLE WATER	MW
CONCRETE PAVING SLABS	CPS	ROAD NAME PLATE	RNP
COVER LEVEL	CL	ROAD SIGN	RS
ELECTRIC	E	RETAINING KERB	RK
ELECTRICITY POLE	EP	RETAINING WALL	RW
FINISHED FLOOR LEVEL	FFL	SUPERVISION PIT	SP
FLOORING	FL	STEEL POST	SP
GAS VALVE	GV	STOP VALVE	SV
HOT VALVE	HV	TELEGRAPH POLE	TP
INVERT	IN	TRAFFIC LIGHT	TL
INSPECTION COVER	IC	UNABLE TO LIFT	UTL
KERB OUTLET/LEVEL	KO	VENT PIPE	VP
MANHOLE	MH	WATER METER	WM

Sheet Layout

Rev. Suffix	Date	Initial	Revision Details

Surveyor	PD/LW	Verified By	PD/LW	CAD Operator	TJH	Approved By	ARL	Date	19.08.2020

Levelling GNSS Datum OSGB36

To an OS GNSS Datum

Client

Gleeson Homes Limited

Location

Downlands Farm
Uckfield

Drawing Title

Topographical Survey
Sheet 1 of 34

Job No. 2006047	Old Job No.
Drawing Number GHL/2006047/1	Revision Suffix
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546940E 546960E 546980E 547000E 547020E 547040E 547060E

123260N 123240N 123220N 123200N 123180N 123160N 123140N

Private Property – No Access

Mixed Foliage Avg Ht=4.0m

Grass Track

P/W Ht=1.2m

Grass

Edge of woodland Avg Ht=13.0m

Track

Edge of woodland Avg Ht=11.0m

Pond

Wooden Bridge

Gate

Unmade

Unmade Track

Unmade Path

Drain

STNH591 STNH58 STNGGR2 STNH57

Sign

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INDICATIVE

Legend:

Fences, Walls, Hedges, Trees, Buildings, Overhead Electric, Overhead Phone, Gate

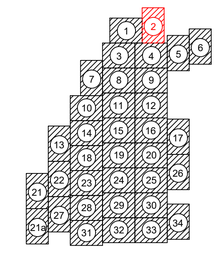
Fences:

Barbed Wire Fence	B/W
Corrugated Iron Fence	C/I
Closed Board Fence	C/B
Chestnut Paling Fence	C/P
Iron Railing Fence	I/R
Post and Chain Fence	P/CH
Post and Rail Fence	P/R
Post and Wire Fence	P/W
Interwoven	I/W
Chain Link Fence	C/L
Larch Lap Fence	L/L
Wire Mesh Fence	W/M

Abbreviations:

BOLLARD	BO	MARKER	MK
BRITISH TELECOM IC	BT	PARKING METER	PM
CONCRETE PAVING SLABS	CPS	POST NAME PLATE	PNP
COVER LEVEL	CL	ROAD SIGN	RS
DROP KERB	DK	RODDING EYE	RE
ELECTRICITY POLE	EP	RETAINING WALL	RTW
FIRE HYDRANT	FH	RAINWATER PIPE	RWP
FLOWER BED	F/B	SOIL VENT PIPE	SVP
FOOTPATH	FP	STOP VALVE	SV
GAS VALVE	GV	TELEGRAPH POLE	TP
KERB	KT	TRAFFIC LIGHT	TL
INSPECTION ICOVER	IC	UNABLE TO LIFT	UTL
INVERT KERBT LEVEL	IL	VENT PIPE	VP
KERB OUTLET	KO	WATER METER	WM
MAN HOLE	MH		

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123040N

123020N

123000N

122980N

122960N

122940N

Drain

Track

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INDICATIVE

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Walls
Hedges
Trees

Buildings
Overhead Dectric
Overhead Phone
Gate

Fences:
Barbed Wire Fence
Corrugated Iron Fence
Chestnut Paling Fence
Chestnut Pailing Fence
Post Railing Fence
Post and Rail Fence
Post and Wire Fence
Security Fence
Stockproof Fence
Split Log Fence
Wire Mesh Fence

Abbreviations:

BOLLARD
CONC. / YELLOW IC
CONCRETE PAVING SLABS
COVER LEVEL
ELECTRIC POLE
ELECTRICITY POLE
FINISHED FLOOR LEVEL
GRATING
HOUSING
INV. LEVEL
MANHOLE
PROTECTION COVER
ROAD GULLY LEVEL
ROAD SIGN
WIN VOLT

BOLLARD
CONC. / YELLOW IC
CONCRETE PAVING SLABS
COVER LEVEL
ELECTRIC POLE
ELECTRICITY POLE
FINISHED FLOOR LEVEL
GRATING
HOUSING
INV. LEVEL
MANHOLE
PROTECTION COVER
ROAD GULLY LEVEL
WIN VOLT

WARNER
WATER METER
ROAD NAME PLATE
ROAD SIGN
STOP VALVE
RETAINING WALL
REMOVED TREE
SIGN POST
TEL. VALVE
TELEPHONE POLE
TRAFFIC LIGHT
UNABLE TO LIFT
VALVE
WATER METER

BOLLARD
CONC. / YELLOW IC
CONCRETE PAVING SLABS
COVER LEVEL
ELECTRIC POLE
ELECTRICITY POLE
FINISHED FLOOR LEVEL
GRATING
HOUSING
INV. LEVEL
MANHOLE
PROTECTION COVER
ROAD GULLY LEVEL
WIN VOLT

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Client

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Downlands Farm
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Sheet 3 of 34

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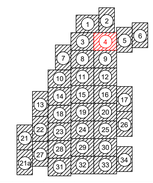
Fences
Walls
Hedges
Trees
Buildings
Overhead Electric
Overhead Phone
Gate

Fences:
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Chain Link Fence CL
Closed Board Fence CB
Chestnut Paling Fence CP
Post and Rail Fence PR
Post and Chain Fence PC
Post and Rail Fence PR
Stockproof Fence SP
Interwoven IW
Chain Link Fence CL
Open Mesh Fence OM
Wire Mesh Fence W/M

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CONCRETE PANEL SLABS	CPS	PARKING METER PLATE	PMP
COVER LEVEL	CL	ROAD SIGN	RS
DROP KERB	DK	WOODING TREE	TW
ELECTRICITY POLE	EP	SERVICE COVER	SC
ELECTRICITY	ELEC	SOAKAWAY	SA
FALLEN TREE	FT	SOAKAWAY PIPE	SAP
FOOTPATH	FP	SIGN POST	SP
GAS VALVE	GV	STREET LIGHTING POLE	SL
GULLY	GY	TELEPHONE POST	TP
INSPECTION COVER	IC	UNABLE TO LIFT	UTL
INVERT LEVEL	IL	VALVE	V
KERB OUTLET	KO	WATER METER	WM
MAN HOLE	MH		

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Client

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Location

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Sheet 4 of 34

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INDICATIVE

547100E 547120E 547140E 547160E 547180E 547200E 547220E

122900N 122880N

Budlett's Me

White House Farm

Private Property – No Access

STNH61 STNH65 STNH66 STNH67 STNH68 STNH68A STNH69

EP Stay Gate WM P/W Ht=1.1m

Grass Mixed Foliage Ht=8.0m Oak Ht=12.0m Unmade

Legend:

Fences, Walls, Hedges, Trees, Buildings, Overhead Electric, Overhead Phone, Gate

Fences: Barbed Wire Fence B/W; Corrugated Iron Fence C/I; Closed Board Fence C/B; Chestnut Paling Fence C/P; Iron Railing Fence I/R; Post and Chain Fence P/C; Post and Rail Fence P/R; Post Wire Fence P/W; Interwoven I/W; Close Lap Fence C/L; Cleft Lap Fence C/C; Wire Mesh Fence W/M

Abbreviations:

BOLLARD	BO	MARKER	MK
BRITISH TELECOM IC	BT	PARKING METER	PM
CONCRETE PAVING SLABS	CPS	ROAD NAME PLATE	RNP
COVER LEVEL	CL	ROAD SIGN	RS
DROP KERB	DK	RODDING EYE	RE
ELECTRICITY POLE	EP	RETAINING WALL	RTW
ELECTRICITY BOX	EB	SOIL VENT PIPE	SVP
FLOWER BED	F/B	SOUNDING PIPE	SOP
FOOTPATH	FP	STOP VALVE	SV
GAS VALVE	GV	TELEGRAPH POLE	TP
GULLY	GY	TRAFFIC LIGHT	TL
INSPECTION COVER	IC	UNABLE TO LIFT	UTL
PIPE INVERT LEVEL	IL	VENT PIPE	VP
KERB OUTLET	KO	WATER METER	WM
MAN HOLE	MH		

Sheet Layout

Rev. Suffix	Date	Initial	Revision Details

Surveyor	PD/LW	Verified By	PD/LW	CAD Operator	TJH	Approved By	ARL	Date	19.08.2020

Levelling GNSS Datum OSGB36

To an OS GNSS Datum

Client: Gleeson Homes Limited

Location: Downlands Farm, Uckfield

Drawing Title: Topographical Survey Sheet 5 of 34

Job No. 2006047	Old Job No.
Drawing Number GHL/2006047/5	Revision Suffix
Scale 1:200m (A0)	Date August 2020

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Private Property – No Access

Spring

Spring Cottage

STNH63

STNH62

Gate

Grass

Tarmac

Unmade

Hedge Wd=1.2m

P/R Ht=1.1m

P/R Ht=1.4m

P/W Ht=1.3m

Gravel Rain

Post

Stay

25901

25955

547240E 547260E 547280E 547300E 547320E 547340E 547360E

123120N 123100N 123080N 123060N 123040N 123020N 123000N 122980N 122960N 122940N 122920N

Notes:

Whilst every effort has been made to correctly identify species of trees on the site, we advise that an arborologist be consulted before any final decisions are made.

All information contained in this drawing (including digital data) should be checked and verified prior to any fabrication or construction.

Grid coordinates are based on an OS GNSS system on a plane grid with a scale factor of 1.0000.

——— OS Data, fitted as a 'Best Mean Fit' & should be used as indicative information only.

Due to the limited access area woodland areas and therefore the limited levels this may produce, contours outside of the main site should be used as indicative only.

Areas of dense woodland are limited access due to being densely populated with self seeded trees.

INDICATIVE

Legend:

Fences
Walls
Hedges
Trees
Buildings
Overhead Electric
Overhead Phone
Gate

Fences:

Barbed Wire Fence	B/W
Corrugated Iron Fence	C/I
Closed Board Fence	C/B
Chestnut Paling Fence	C/P
Iron Railing Fence	I/R
Post and Chain Fence	P/C
Post and Rail Fence	P/R
Post Wire Fence	P/W
Interwoven	I/W
Chain Link Fence	C/L
Close Mesh Fence	C/C
Wire Mesh Fence	W/M

Abbreviations:

BOLLARD	BD	MARKER	MK
BRITISH TELECOM IC	BT	PARKING METER	PM
CONCRETE PAVING SLABS	CPS	ROAD NAME PLATE	RNP
COVER LEVEL	CL	ROAD SIGN	RS
DROP KERB	DK	RODDING EYE	RE
ELECTRICITY POLE	EP	RETAINING WALL	RTW
ELECTRICITY	E	SOIL VENT PIPE	SVP
FLOWER BED	F/B	SOIL VENT PIPE	SVP
FOOTPATH	FP	STOP VALVE	SV
GAS VALVE	GV	TELEGRAPH POLE	TP
GULLY	GY	TRAFFIC LIGHT	TL
INSPECTION COVER	IC	UNABLE TO LIFT	UTL
PIPE INVERT LEVEL	IL	VENT PIPE	VP
KERB OUTLET	KO	WATER METER	WM
MAN HOLE	MH		

Sheet Layout

Rev. Suffix	Date	Initial	Revision Details

Surveyor	PD/LW	Verified By	PD/LW	CAD Operator	TJH	Approved By	ARL	Date	19.08.2020

Levelling GNSS Datum OSGB36

To an OS GNSS Datum

Client

Gleeson Homes Limited

Location

Downlands Farm
Uckfield

Drawing Title

Topographical Survey
Sheet 6 of 34

Job No. 2006047	Old Job No.
Drawing Number GHL/2006047/6	Revision Suffix
Scale 1:200m (A0)	Date August 2020

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546620E
546640E
546660E
122920N
122900N
122880N
122840N
122820N
122800N
122780N
122760N
122740N
122720N
122700N
Pond
Grass
Tarmac
Grass
Grass
STNP18
STNG35
15201
15264
15200
15202
Notes:

Whilst every effort has been made to correctly identify species of trees on the site, we advise that an arborologist be consulted before any final decisions are made.

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Grid coordinates are based on an OS GNSS system on a plane grid with a scale factor of 1.0000.

——— OS Data, fitted as a 'Best Mean Fit' & should be used as indicative information only.

Due to the limited access area woodland areas and therefore the limited levels this may produce, contours outside of the main site should be used as indicative only.

Areas of dense woodland are limited access due to being densely populated with self seeded trees.

INDICATIVE

Legend:

Fences
Walls
Hedges
Trees
Buildings
Overhead Electric
Overhead Phone
Gate

Fences:

Barbed Wire Fence	B/W
Corrugated Iron Fence	C/I
Closed Board Fence	C/B
Chestnut Paling Fence	C/P
Iron Railing Fence	I/R
Post and Chain Fence	P/C
Post and Rail Fence	P/R
Post Wire Fence	P/W
Interwoven	I/F
Close Board Fence	C/F
Larch Lap Fence	L/L
Wire Mesh Fence	W/M

Abbreviations:

BOLLARD	BO	MARKER	MK
BRITISH TELECOM IC	BT	PARKING METER	PM
CONCRETE PAVING SLABS	CPS	ROAD NAME PLATE	RNP
COVER LEVEL	CL	ROAD SIGN	RS
DROP KERB	DK	RODDING EYE	RE
ELECTRICITY POLE	EP	RETAINING WALL	RTW
FIRE HYDRANT	FH	RAINWATER PIPE	RPW
FLOWER BED	F/B	SOIL VENT PIPE	SVP
FOOTPATH	FP	STOP VALVE	SV
GAS VALVE	GV	TELEGRAPH POLE	TP
GULLY	GY	TRAFFIC LIGHT	TF
INSPECTION COVER	IC	UNABLE TO LIFT	U/L
PIPE INVERT LEVEL	IL	VENT PIPE	VP
KERB OUTLET	KO	WATER METER	WM
MAN HOLE	MH		

Sheet Layout

Rev. Suffix	Date	Initial	Revision Details

Surveyor	PD/LW	Verified By	PD/LW	CAD Operator	TJH	Approved By	ARL	Date 19.08.2020

Levelling GNSS Datum OSGB36

To an OS GNSS Datum

Client

Gleeson Homes Limited

Location

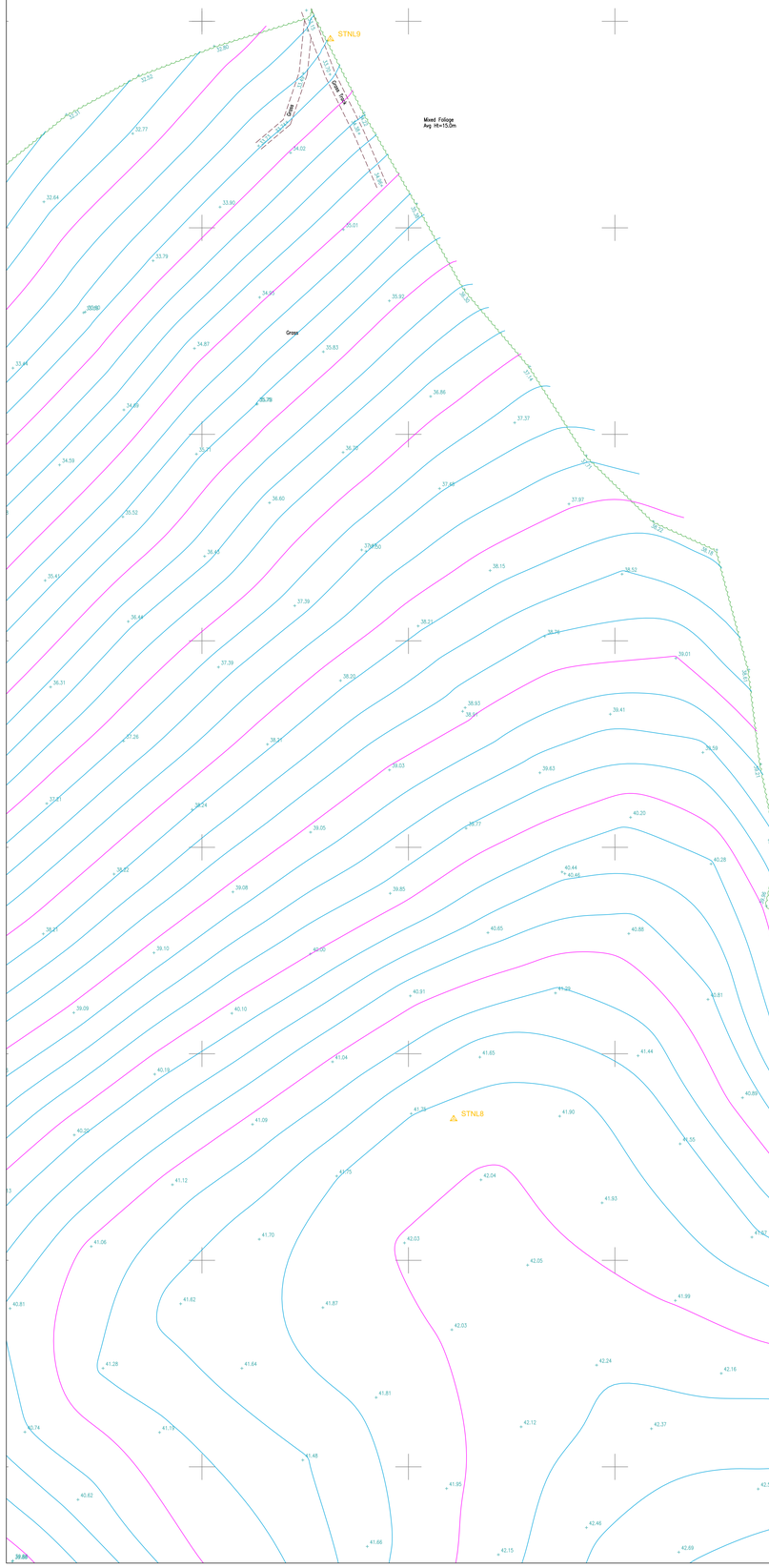
Downlands Farm
Uckfield

Drawing Title

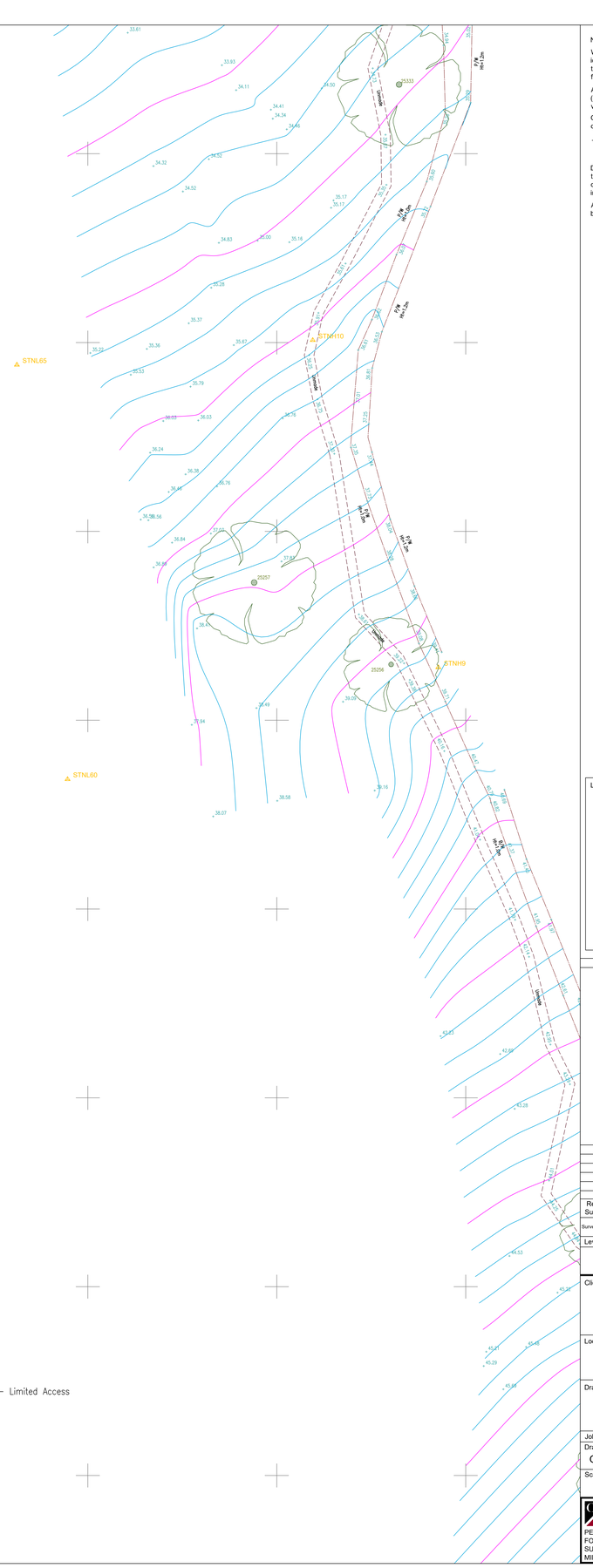
Topographical Survey
Sheet 7 of 34

Job No. 2006047	Old Job No.
Drawing Number GHL/2006047/7	Revision Suffix
Scale 1:200m (A0)	Date August 2020

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Dense Woodland – Limited Access



Notes:

Whilst every effort has been made to correctly identify species of trees on the site, we advise that an arboriculturist be consulted before any final decisions are made.

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Areas of dense woodland are limited access due to being densely populated with self seeded trees.

INDICATIVE

Legend:

Fences, Walls, Hedges, Trees

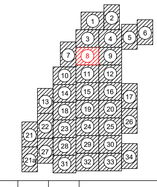
Buildings, Overhead Electric, Overhead Phone, Gate

Fences:
Barbed Wire Fence — B/W
Corrugated Iron Fence — C/G
Close Board Fence — C/B
Chestnut Paling Fence — C/P
Iron Railing Fence — I/R
Post and Rail Fence — P/R
Post and Rail Fence with Wire Netting — P/N
Stock Fence — S/F
Chain Link Fence — C/L
Wire Mesh Fence — W/M

Abbreviations:

BOLLARD	BO	MARKER	MK
BOTTOM/BELLCOM IC	B/C	MANHOLE METER	MH
CONCRETE PAVING SLABS	CPS	POST NEAR PLATE	PNP
COVER LEVEL	CL	ROAD SIGN	RS
DECIDUOUS	DC	STANDING TYE	ST
DROP KERB/ POLE	DK	WATERING WELL	WW
EDGE OF PATH	EOP	SUBMERGED TAP	SUBTAP
FIRE HYDRANT	FH	OVERHEAD TAP	OHTAP
INVERT LEVEL	IL	AIR VALVE	AV
MANHOLE	MH	SCAFFOLDING POLE	SP
NO. VALVE	NV	TELEGRAPH POLE	TP
OAK	OK	TELEPHONE	TEL
INSPECTION COVER	IC	UNABLE TO LIFT	UTL
KERB, INVERT LEVEL	K	WIRE PIPE	WP
SOFT SPOT	SS	WATER METER	WM
MIN HOLE	MH		

Sheet Layout



Rev. Suffix	Date	Initial	Revision Details

Surveyor	PDI/LW	Verified By	PDI/LW	CAD Operator	TJH	Approved By	ARL	Date 19.08.2020

Levelling GNSS Datum OSGB36

To an OS GNSS Datum

Client

Gleeson Homes Limited

Location

Downlands Farm
Uckfield

Drawing Title

Topographical Survey
Sheet 8 of 34

Job No. 2006047	Old Job No.
Drawing Number GHL/2006047/8	Revision Suffix
Scale 1:200m (A0)	Date August 2020

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Private Property – No Access

Budlett's Common

Budletts Cottage

er's House

Private Property – No Access

STNH53

STNH52

STNH51

STNH50

Mixed Foliage
Avg Ht=8.0m

Edge of woodland
Avg Ht=12.0m

Grass

Ditch

Post

Gate

Pole
HV/LV/Tel

Ridge

Eaves

Sky

EP

122860N

122840N

122820N

122800N

122780N

122760N

122740N

122720N

Notes:

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Areas of dense woodland are limited access due to being densely populated with self seeded trees.

INDICATIVE

Legend:

Fences
Walls
Hedges
Trees

Buildings
Overhead Electric
Overhead Phone
Gate

Fences:
Barbed Wire Fence B/W
Corrugated Iron Fence C/I
Chestnut Paling Fence C/P
Chestnut Pailing Fence
Iron Railing Fence I/R
Post and Rail Fence P/R
Post and Rail Wire Fence
Interwoven Fence I/F
Stock Proof Fence S/P
Close Lap Fence C/L
Close Board Fence C/B
Wire Mesh Fence W/M

Abbreviations:

BOLLARD	BO	MARKER	MK
BOTTOM YELLCOM +C	BY	MANHOLE METER	MH
CONCRETE PAVING SLABS	CPS	POST NEAR PLATE	PNP
COVER LEVEL	CL	ROAD SIGN	RS
DECIDUOUS TREE	DT	STANDING TYE	ST
DROP KERB/ PYLE	DK	TELEPHONE BOX	TB
EDGE OF ROAD	EOR	TELEPHONE POLE	TP
FILLING POINT	FP	TRAFFIC LIGHTS	TL
FLOWERBED	FB	TREE	T
GRID VALVE	GV	TELEPHONE DIALE	TD
HEDGE	H	UNKNOWN MANHOLE	UM
INSPECTION COVER	IC	UNABLE TO LIFT	UTL
KERB INVERT LEVEL	KIL	VENT PIPE	VP
MANHOLE	MH	WATER METER	WM
MINI KOLO	MK		

Sheet Layout

Rev. Suffix	Date	Initial	Revision Details

Surveyor	PDL/JH	Verified By	PDL/JH	CAD Operator	TJH	Approved By	ARL	Date	19.08.2020

Levelling GNSS Datum OSGB36

To an OS GNSS Datum

Client

Gleeson Homes Limited

Location

Downlands Farm
Uckfield

Drawing Title

Topographical Survey
Sheet 9 of 34

Job No. 2006047	Old Job No.
Drawing Number GHL/2006047/9	Revision Suffix
Scale 1:200m (A0)	Date August 2020

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546480E
546500E
546520E
122680N
122660N
122640N
122620N
122600N
122580N
122560N
122540N
ED & Ward Bdy
STNG34
STNG33
STNG32
STNG32A
STNG31
STNG50
STNP17
STNG46E
STN4E
STN4D
STN4C
STNJ14
STNJ15
STNJ16
STNJ17
STNBR51
Mixed Foliage H6=13.0m
Mixed Foliage H9=15.0m
Wood Foliage H6=13.0m
Gate
Overhead Electric
Overhead Phone
Hedges
Trees
Buildings
Fences
Walls
Gate
Legend:
Fences
Barbed Wire Fence
Corrugated Iron Fence
Chestnut Paling Fence
Chestnut Pailing Fence
Post Rail Fence
Post and Wire Fence
Post and Set Fence
Railings
Retaining Wall
Stock Link Fence
Wire Mesh Fence
Abbreviations:
BOLLARD
BOUNDARY BOLLOCOM AC
CONCRETE PAVING SLABS
COVER LEVEL
DRAIN MANHOLE
ELECTRICITY POLE
FENCE POST
FLAG STONES
HYDRANT
INVERT LEVEL
MOD VALVE
PIPE
INSPECTION COVER
ROAD OUTLET LEVEL
TELEPHONE POST
WIRE VOLT
WARNING
WATER METER
ROAD NAME PLATE
ROAD SIGN
SOIL VENT PIPE
RETAINING WALL
SUPERVISION PIT
TRAFFIC LIGHT
TRIAL HOLE
TELEPHONE DUCT
TREE
UNABLE TO LIFT
VALVE
WATER METER
Sheet Layout
Rev. Suffix
Date
Initial
Revision Details
Surveyor
PD/LV
Verified By
PD/LR
CAD Operator
TJH
Approved By
ARL
Date
19.08.2020
Levelling
GNSS
Datum
OSGB36
To an OS GNSS Datum
Client
Gleeson Homes Limited
Location
Downlands Farm
Uckfield
Drawing Title
Topographical Survey
Sheet 10 of 34
Job No.
2006047
Old Job No.
Drawing Number
GHL/2006047/10
Revision Suffix
Scale
1:200m (A0)
Date
August 2020
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Notes:
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Grid coordinates are based on an OS GNSS system on a plane grid with a scale factor of 0.0000.
OS Data, fitted as a 'Best Mean Fit' & should be used as indicative information only.
Due to the limited access area woodland areas and therefore the limited levels this may produce, contours outside of the main site should be used as indicative only.
Areas of dense woodland are limited access due to being densely populated with self seeded trees.
INDICATIVE

Notes:

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Areas of dense woodland are limited access due to being densely populated with self seeded trees.

INDICATIVE

Dense Woodland – Limited Access

Dense Woodland – Limited Access

Budlett's

Legend:

Fences
Walls
Hedges
Trees
Buildings
Overhead Electric
Overhead Phone
Gate

Fences:
Barbed Wire Fence BW
Corrugated Iron Fence CI
Chain Link Fence CL
Close Boarded Fence CB
Iron Railing Fence IR
Post and Rail Fence PR
Post and Wire Fence PW
Post Wire Fence PWF
Palisade PA
Chestnut Pale Fence CP
Cattle Grid Fence CG
Wire Mesh Fence WM

Abbreviations:

BOLLARD	BO	MANHOLE	MH
BRICK/ BLOCK/ TILE/ CONCRETE PAVING SLABS	BR	PARKING METER	PM
COVER LEVEL	CL	ROAD NAME PLATE	RNP
CONIFER	CN	ROAD SIGN	RS
DECIDUOUS	DC	ROAD SURVEY	RSP
ELECTRICITY POLE	EP	RETAINING WALL	RTW
FLOOD LIGHT	FL	SOIL VENT PIPE	SVP
FLOWER BED	FLB	SOIL/ WASTE PIPE	SWP
GULLY	G	TELEPHONE	T
HEDGE	HG	TELEPHONE POLE	TP
INSPECTION COVER	IC	TRAFFIC LIGHT	TL
INVERT LEVEL	I	UTILITY	U
KERB OUTLET	KO	WATER METER	WM
MAN HOLE	MH		

Sheet Layout

Rev. Suffix	Date	Initial	Revision Details

Surveyor	PD/LW	Verified By	PD/LW	CAD Operator	TJH	Approved By	ARL	Date	19.08.2020

Levelling GNSS Datum OSGB36

To an OS GNSS Datum

Client

Gleeson Homes Limited

Location

Downlands Farm
Uckfield

Drawing Title

Topographical Survey
Sheet 11 of 34

Job No. 2006047	Old Job No.
Drawing Number GHL/2006047/11	Revision Suffix
Scale 1:200m (A0)	Date August 2020

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Dense Woodland – Limited Access

Wood

122700N
122680N
122660N
122640N
122620N
122600N
122580N
122560N

STNH51
STNH51A
STNH50
STNH14
STNH12
STNH11

Notes:

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Areas of dense woodland are limited access due to being densely populated with self seeded trees.

INDICATIVE

Legend:

Fences
Walls
Hedges
Trees
Buildings
Overhead Electric
Overhead Phone
Gate

Fences:
Barbed Wire Fence BW
Close Board Fence CF
Chained Fence CH
Iron Railing Fence IR
Post and Chain Fence PC
Post and Rail Fence PR
Rail Wire Fence RW
Stockproof SP
Chestnut Pale Fence CP
Cleft Clip Fence CC
Wire Mesh Fence WM

Abbreviations:

BOLLARD BD
CONCRETE SILLCOCK IC
CONCRETE PAVING SLABS CPS
COVER LEVEL CL
DRAIN DR
ELECTRICITY POLE EP
FLAG (BROKEN) FLB
FLAG (UNBROKEN) FLU
HOVERING HV
INVERT LEVEL IL
MANHOLE MH
INSPECTION COVER IC
INSPECTION CHAMBER ICH
KERB OUTLET KO
MINI VOLE MV

MARKER MK
MONITORING METER MM
ROAD NAME PLATE RNP
ROAD SIGN RS
SOIL VENT PIPE SVP
RETAINING WALL RW
SUBMERGED SUB
TELEGRAPH POLE TP
TREE TR
TRAFFIC LIGHT TL
TRANSFORMER TRANS
UNKNOWN MANHOLE UMH
UNDER LIFT UL
WATER METER WM

Sheet Layout

Rev. Suffix	Date	Initial	Revision Details

Surveyor	PD/LW	Verified By	PD/LW	CAD Operator	TJH	Approved By	ARL	Date	19.08.2020

Levelling GNSS Datum OSGB36

To an OS GNSS Datum

Client
Gleeson Homes Limited

Location
Downlands Farm
Uckfield

Drawing Title
Topographical Survey
Sheet 12 of 34

Job No. 2006047	Old Job No.
Drawing Number GHL/2006047/12	Revision Suffix
Scale 1:200m (A0)	Date August 2020

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546340E
546360E
546380E
546400E
546420E
546440E
122480N
122460N
122440N
122420N
122400N
122380N
122360N
122340N
122320N
122300N
122280N
Mixed Foliage Ht=14.0m
Grass
Tarmac
Gy 24.78
Gy 24.55
MH 24.89
STN2
Gy 24.77
P/W Ht=1.2m
Gy 25.02
Gy 25.18
Ø=23.18 Pipe=525ø
Ø=26.27 Pipe=525ø
C/P Ht=1.1m
Gy 25.30
STNP42
3966
3967

Notes:

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INDICATIVE

Legend:

Fences
Walls
Hedges
Trees
Buildings
Overhead Electric
Overhead Phone
Gate

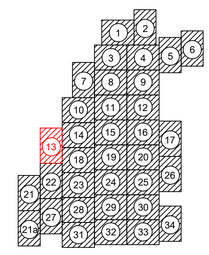
Fences:

Barbed Wire Fence	B/W
Corrugated Iron Fence	C/I
Chain Link Fence	C/L
Close Boarded Fence	C/B
Iron Railing Fence	I/R
Post and Chain Fence	P/C
Post and Rail Fence	P/R
Post Wire Fence	P/W
Interwoven	I/W
Chain Link Fence	C/L
Larch Lap Fence	L/L
Wire Mesh Fence	W/M

Abbreviations:

BOLLARD	BO	MARKER	MK
BRITISH TELECOM IC	BT	PARKING METER	PM
CONCRETE PAVING SLABS	CPS	ROAD NAME PLATE	RNP
COVER LEVEL	CL	ROAD SIGN	RS
DROP KERB	DK	RODDING EYE	RE
ELECTRICITY POLE	EP	RETAINING WALL	RTW
FIRE HYDRANT	FH	SHUWATER PIPE	SHW
FLOWERBED	F/B	SOIL VENT PIPE	SVP
FOOTPATH	FP	STOP VALVE	SV
GAS VALVE	GV	TELEGRAPH POLE	TP
GULLY	G	TRAFFIC LIGHT	TL
INSPECTION COVER	IC	UNABLE TO LIFT	U/L
PIPE INVERT LEVEL	IL	VENT PIPE	VP
KERB OUTLET	KO	WATER METER	WM
MAN HOLE	MH		

Sheet Layout



Rev. Suffix	Date	Initial	Revision Details

Surveyor	PD/LW	Verified By	PD/LW	CAD Operator	TJH	Approved By	ARL	Date	19.08.2020

Levelling GNSS Datum OSGB36

To an OS GNSS Datum

Client

Gleeson Homes Limited

Location

Downlands Farm
Uckfield

Drawing Title

Topographical Survey
Sheet 13 of 34

Job No. 2006047	Old Job No.
Drawing Number GHL/2006047/13	Revision Suffix
Scale 1:200m (A0)	Date August 2020

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122520N

Notes:

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Due to the limited access area woodland areas and therefore the limited levels this may produce, contours outside of the main site should be used as indicative only.

Areas of dense woodland are limited access due to being densely populated with self seeded trees.

INDICATIVE

Legend:

Fences
Walls
Hedges
Trees

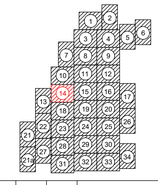
Buildings
Overhead Electric
Overhead Phone
Gate

Fences:
Barbed Wire Fence B/W
Corrugated Iron Fence C/I
Close Board Fence C/B
Chestnut Paling Fence C/P
Iron Railing Fence I/R
Post and Rail Fence P/R
Post and Rail Fence P/W
Palisade Fence PAL
Stakeout T/P
Temporary Fence T/F
Wire Mesh Fence W/M

Abbreviations:

BOLLARD	BO	MARKER	MK
BOUNDARY ELLECOM 4C	BD	POST MARKER METER	PM
BRACKET FIXING SLABS	BR	ROAD NAME PLATE	RNP
COVER LEVEL	CL	ROAD SIGN	RS
DROP KERB	DK	SIGNAL TYPE	ST
ELECTRICITY POLE	EP	SIGNPOST	SP
FIRE HYDRANT	FH	SUBMERGED TREE	STM
LAMP POST	LP	TELEGRAPH POLE	TP
MANHOLE	MH	TRAFFIC LIGHT	TL
OIL VALVE	OV	TELEPHONE KIOSK	TK
POST BOX	PO	TRIAL HOLE	TH
INSPECTION COVER	IC	UNABLE TO LIFT	UTL
KERB INVERT LEVEL	KIL	VENT PIPE	VP
MANHOLE	SCH	WATER METER	WM
MAIN VALV	MV		

Sheet Layout



Rev. Suffix	Date	Initial	Revision Details

Surveyor	PDI/LW	Verified By	PDI/LW	CAD Operator	TJH	Approved By	ARL	Date	19.08.2020

Levelling GNSS Datum OSGB36

To an OS GNSS Datum

Client

Gleeson Homes Limited

Location

Downlands Farm
Uckfield

Drawing Title

Topographical Survey
Sheet 14 of 34

Job No. 2006047	Old Job No.
Drawing Number GHL/2006047/14	Revision Suffix
Scale 1:200m (A0)	Date August 2020

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Dense Woodland – Limited Access

Mixed Foliage
Avg Ht=15.0m

Mixed Foliage
Avg Ht=15.0m

Mixed Foliage
Avg Ht=15.0m

Gross

Dense Foliage / Woodland

Woodland Area

Woodland Area

Woodland Area

Unmade Track

Unmade Track

Unmade Track

Ditch

Pipe
28.42

STN24

STNG19

STNG1

STNG11

STNG16B

STNG17

STNG18

STNG10

STNG12B1

STN23

Notes:

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INDICATIVE

Legend:

Fences
Walls
Hedges
Trees

Buildings
Overhead Electric
Overhead Phone
Gate

Fences:
Barbed Wire Fence — BW
Corrugated Iron Fence — CIF
Chestnut Paling Fence — CPF
Chestnut Rail Fence — CR
Iron Railing Fence — IR
Post and Barbed Wire Fence — PBW
Post and Rail Fence — PR
Palisade Fence — PF
Picket Fence — PK
Chain Link Fence — CLF
Wire Mesh Fence — WF
Wire Mesh Fence — W/M

Abbreviations:

BOLLARD	BD	WARNER	WR
BRITISH TELECOM IC	BTIC	PARKING METER	PM
BRITISH TELECOM SUBS	BTSS	PARKING PAY PLATE	PPP
CHILD CARE	CC	ROAD SIGN	RS
DROP KERB	DK	RODDING EYE	RE
ELECTRIC KIOSK	EK	TRAFFIC LIGHT	TL
FIRE HYDRANT	FH	TRANSFORMER	TF
FLOWERBED	FLB	SOIL VENT PIPE	SVP
GRATING	G	TELEPHONE	T
GAS VALVE	GV	TELEPHONE BOX	TB
INSPECTION COVER	IC	UNABLE TO LIFT	UTL
KERB HEIGHT LEVEL	KL	VENT	V
POOL VALVES	PV	WATER METER	WM
MAN HOLE	MH		

Sheet Layout

Rev. Suffix	Date	Initial	Revision Details

Surveyor	PD/LW	Verified By	PD/LW	CAD Operator	TJH	Approved By	ARL	Date	19.08.2020

Levelling GNSS Datum OSGB36

To an OS GNSS Datum

Client

Gleeson Homes Limited

Location

Downlands Farm
Uckfield

Drawing Title

Topographical Survey
Sheet 15 of 34

Job No. 2006047	Old Job No.
Drawing Number GHL/2006047/15	Revision Suffix
Scale 1:200m (A0)	Date August 2020

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Dense Woodland – Limited Access

Mixed Foliage
Avg Ht=15.0m

Grass

STNL9

STNL8

STNL65

STNL60

STNH10

STNH9

Notes:

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INDICATIVE

Legend:

Fences
Walls
Hedges
Trees

Buildings
Overhead Electric
Overhead Phone
Gate

Fences:
Barbed Wire Fence BW
Corrugated Iron Fence CI
Closed Board Fence CBF
Chestnut Paling Fence CP
Iron Railing Fence IR
Post and Chain Fence PC
Post and Rail Fence PR
Rail Wire Fence RW
Palisade PL
Chainlink Fence CL
Cleft Clip Fence CC
Wire Mesh Fence WM

Abbreviations:

BOLLARD BD
BRICK / TELECOM PC BC
CONCRETE PAVING SLABS CPS
COVER LEVEL CVR
ELECTRICITY PYLE EP
FLOWER BED FB
FLOWER POT FP
GRID GD
GULLY GY
INSPECTION COVER IC
INVS. WATER LEVEL WL
KERB OUTLET KO
MAN HOLE MH
MARKER MK
PARKING METER PM
ROAD NAME PLATE RNP
ROAD SIGN RS
STOP COCK SC
RETAINING WALL RW
SIGN POST SP
SIGN POST ARM SPA
STEPS ST
TELEGRAPH POLE TP
TRAFFIC LIGHT TL
UNKNOWN UK
VENT PIPE / LIFT VP / VL
WATER METER WM

Sheet Layout

Rev. Suffix	Date	Initial	Revision Details

Surveyor	PDI/LW	Verified By	PDI/LW	CAD Operator	TJH	Approved By	ARL	Date	19.08.2020

Levelling GNSS Datum OSGB36

To an OS GNSS Datum

Client

Gleeson Homes Limited

Location

Downlands Farm
Uckfield

Drawing Title

Topographical Survey
Sheet 16 of 34

Job No. 2006047	Old Job No.
Drawing Number GHL/2006047/16	Revision Suffix
Scale 1:200m (A0)	Date August 2020

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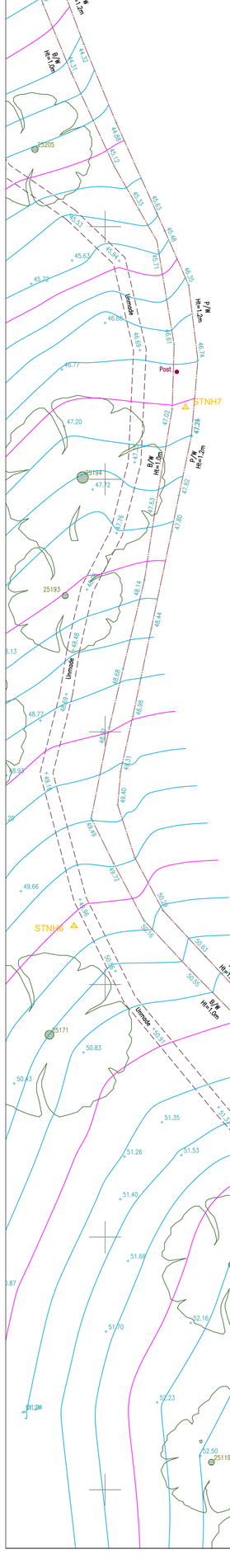
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122540N 122520N 122500N 122480N 122460N 122440N 122420N 122400N 122380N 122360N 122340N 122320N

STNH8 STNH7 STNH6 STNH5

25205 25194 25193 25171 25120 25118 25119

P/W Ht=1.2m B/W Ht=1.0m Ummoda Post



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INDICATIVE

Legend:

Fences, Walls, Hedges, Trees, Buildings, Overhead Electric, Overhead Phone, Gate

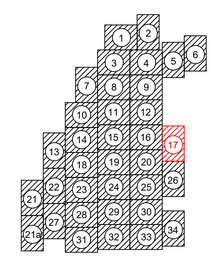
Fences:

Barbed Wire Fence	B/W
Corrugated Iron Fence	C/I
Closed Board Fence	C/B
Chestnut Paling Fence	C/P
Iron Railing Fence	I/R
Post and Chain Fence	P/C
Post and Rail Fence	P/R
Post Wire Fence	P/W
Interwoven	I/W
Chain Link Fence	C/L
Larch Lap Fence	L/L
Wire Mesh Fence	W/M

Abbreviations:

BOLLARD	BO	MARKER	MK
BRITISH TELECOM IC	BT	PARKING METER	PM
CONCRETE PAVING SLABS	CPS	ROAD NAME PLATE	RNP
COVER LEVEL	CL	ROAD SIGN	RS
DROP KERB	DK	RODDING EYE	RE
ELECTRICITY POLE	EP	RETAINING WALL	RTW
FIRE HYDRANT	FH	RAINWATER PIPE	RPW
FLOOR LEVEL	FFLB	SOIL VENT PIPE	SVP
FOOTPATH	FP	STOP VALVE	SV
GAS VALVE	GV	TELEGRAPHIC POLE	TP
GULLY	GY	TRAFFIC LIGHT	TL
INSPECTION COVER	IC	UNABLE TO LIFT	UTL
PIPE INVERT LEVEL	IL	VENT PIPE	VP
KERB OUTLET	KO	WATER METER	WM
MAN HOLE	MH		

Sheet Layout



Rev. Suffix	Date	Initial	Revision Details

Surveyor	PD/LW	Verified By	PD/LW	CAD Operator	TJH	Approved By	ARL	Date	19.08.2020

Levelling GNSS Datum OSGB36

To an OS GNSS Datum

Client

Gleeson Homes Limited

Location

Downlands Farm
Uckfield

Drawing Title

Topographical Survey
17 of 34

Job No. 2006047	Old Job No.
Drawing Number GHL/2006047/17	Revision Suffix
Scale 1:200m (A0)	Date August 2020

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INDICATIVE

Legend:

Fences
Walls
Hedges
Trees

Buildings
Overhead Electric
Overhead Phone
Gate

Fences
Barbed Wire Fence
Chain Link Wire Fence
Closed Board Fence
Concrete Post Fence
Iron Railing Fence
Post and Chain Fence
Post and Rail Fence
Rail Mesh Fence
Shelter
Stock Link Fence
Upright Link Fence
Wire Mesh Fence

Abbreviations:

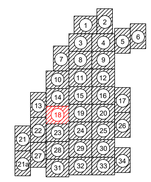
BOLLARD
BRICK / SILICONE IC
CONCRETE PAVING SLABS
COVER LEVEL
DROP KERB
ELECTRICITY POLE
FLAG PAVING
FLOWER BED
HYDRANT
INV. LEVEL
KERBING
INSPECTION COVER
INVERT COVER LEVEL
KERB OUTLET
MINI VOLE

BOU
BRK
CPS
CVL
DKB
EPO
FLP
FLB
HYD
IL
KBG
MH
OUT
MV

MARKER POST
MANHOLE
ROAD NAME PLATE
ROAD SIGN
STOP VALVE
RETAINING WALL
SOAKAWAY PIT
SOAKAWAY TRENCH
SOIL VENT PIPE
TRANSFORMER
UNKNOWN / C.P. LIFT
VALVE
WATER METER

MKR
MH
RNP
RSN
SVA
RWL
SKP
SKT
SVP
TFM
UNK
VA
WM

Sheet Layout



Rev. Suffix	Date	Initial	Revision Details

Surveyor	PD/LW	Verified By	PD/LW	CAD Operator	TJH	Approved By	ARL	Date	19.08.2020

Levelling GNSS Datum OSGB36

To an OS GNSS Datum

Client

Gleeson Homes Limited

Location

Downlands Farm
Uckfield

Drawing Title

Topographical Survey
Sheet 18 of 34

Job No. 2006047	Old Job No.
Drawing Number GHL/2006047/18	Revision Suffix
Scale 1:200m (A0)	Date August 2020

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INDICATIVE

Legend:

Fences
Walls
Hedges
Trees
Buildings
Overhead Electric
Overhead Phone
Gate

Fences:
Barbed Wire Fence BWF
Chestnut Pale Fence CPF
Closed Board Fence CBF
Chestnut Paling Fence CPF
Post & Rail Fence PRF
Post and Chain Fence PCF
Post and Rail Fence PRF
Ranch Fence RF
Stakenet Fence
Close Lap Fence CLF
Open Lap Fence OLF
Wire Mesh Fence WMF

Abbreviations:

BOLLARD	BD	MARKER	MK
BRICK/BLOCK/FLOOR/ PC		PARKING METER	PM
CONCRETE PAVING SLABS	CPS	ROAD NAME PLATE	RNP
CROSS (ON)	CR	SIGN	SN
DRAIN (ON)	DR	STUMP	ST
ELECTRICITY POLE	EP	RETAINING WALL	RW
FLAG POST	FP	RETAINING WALL	RW
FLOWER BED	FB	SOIL VENT PIPE	SVP
GRATING	GR	SOCKET	SK
KERB	KB	STREET LIGHT	SL
LAMP	LP	TELEPHONE POLE	TP
MANHOLE	MH	TRAFFIC LIGHT	TL
INSPECTION COVER	IC	UMBILL TP LIFT	UTL
MANHOLE COVER	MC	VALVE	V
HOSE OUTLET	HO	WATER METER	WM
MAN HOLE	MH		

Sheet Layout

Rev. Suffix	Date	Initial	Revision Details

Surveyor	PD/LW	Verified By	PD/LW	CAD Operator	TJH	Approved By	ARL	Date	19.08.2020

Levelling GNSS Datum OSGB36

To an OS GNSS Datum

Client

Gleeson Homes Limited

Location

Downlands Farm
Uckfield

Drawing Title

Topographical Survey
Sheet 19 of 34

Job No. 2006047	Old Job No.
Drawing Number GHL/2006047/19	Revision Suffix
Scale 1:200m (A0)	Date August 2020

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INDICATIVE

Legend:

Fences
Walls
Hedges
Trees
Buildings
Overhead Elec'ricity
Overhead Phone
Gate

Fences:
Barbed Wire Fence BWF
Chestnut Paling Fence CPF
Closed Board Fence CBF
Chestnut Pailing Fence CPF
Post and Rail Fence P&R
Post and Chain Fence PCF
Post and Rail Fence P&R
Ranch Fence RF
Retaining Wall RW
Chain Link Fence CLF
Close Link Fence CLF
Wire Mesh Fence W/M

Abbreviations:

BOLLARD			
CONCRETE BOLLDOW IC	BD	MARKER	MK
CONCRETE PAVING SLABS	CPS	POSTING METER	PM
FENCE END	FE	ROAD SIGN POLE	RSP
HAUL ROAD	HR	ROAD SIGN	RS
ELECTRICITY POLE	EP	STRAINING POST	SP
ELECTRICITY	E	RETAINING WALL	RW
TELEPHONE	T	CONCRETE WALL	CW
FOOTPATH	FP	STONE WALL	SW
GRASS	GR	TIMBER POST	TP
OIL PIPE	OP	TELEGRAPH POLE	TP
INSPECTION COVER	IC	TELEPHONE	T
SURFACE WATER	SW	UNABLE TO LIFT	UTL
FOUL OUTLET	FO	VALVE	V
MAN HOLE	MH	WATER METER	WM

Sheet Layout

Rev. Suffix	Date	Initial	Revision Details

Surveyor	PD/LW	Verified By	PD/LW	CAD Operator	TJH	Approved By	ARL	Date	19.08.2020

Levelling GNSS Datum OSGB36

To an OS GNSS Datum

Client

Gleeson Homes Limited

Location


Downlands Farm
Uckfield

Drawing Title

Topographical Survey
Sheet 20 of 34

Job No. 2006047	Old Job No.
Drawing Number GHL/2006047/20	Revision Suffix
Scale 1:200m (A0)	Date August 2020

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INDICATIVE

Legend:

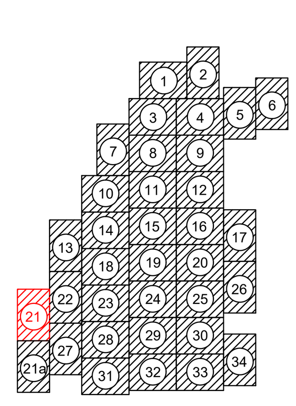
Fences, Walls, Hedges, Trees, Buildings, Overhead Electric, Overhead Phone, Gate

Fences:	
Barbed Wire Fence	B/W
Corrugated Iron Fence	C/I
Closed Board Fence	C/B
Chestnut Paling Fence	C/P
Iron Railing Fence	I/R
Post and Chain Fence	P/C
Post and Rail Fence	P/R
Post Wire Fence	P/W
Interwoven	I/W
Chain Link Fence	C/L
Larch Lap Fence	L/L
Wire Mesh Fence	W/M

Abbreviations:

BOLLARD	BO	MARKER	MK
BRITISH TELECOM IC	BT	PARKING METER	PM
CONCRETE PAVING SLABS	CPS	ROAD NAME PLATE	RNP
COVER LEVEL	CL	ROAD SIGN	RS
DROP KERB	DK	RODDING EYE	RE
ELECTRICITY POLE	EP	RETAINING WALL	Rtw
FIRE HYDRANT	FH	RAINWATER PIPE	RPW
FLOWER BED	F/B	SOIL VENT PIPE	SVP
FOOTPATH	FP	STOP VALVE	SV
GAS VALVE	GV	TELEGRAPH POLE	TP
GULLY	GY	TRAFFIC LIGHT	TL
INSPECTION COVER	IC	UNABLE TO LIFT	UTL
PIPE INVERT LEVEL	IL	VENT PIPE	VP
KERB OUTLET	KO	WATER METER	WM
MAN HOLE	MH		

Sheet Layout



Rev. Suffix	Date	Initial	Revision Details

Surveyor	PD/LW	Verified By	PD/LW	CAD Operator	TJH	Approved By	ARL	Date	19.08.2020

Levelling GNSS Datum OSGB36

To an OS GNSS Datum

Client

Gleeson Homes Limited

Location

Downlands Farm
Uckfield

Drawing Title

Topographical Survey
Sheet 21 of 34

Job No. 2006047 | Old Job No.

Drawing Number GHL/2006047/21 | Revision Suffix

Scale 1:200m (A0) | Date August 2020

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121960N
121940N
121920N
121900N
121880N
121860N
121840N
121820N
121800N
121780N
121760N
546220E
546240E
546260E
546280E
546300E
546320E
STNP33
STNP32
INDICATIVE

Notes:

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——— OS Data, fitted as a 'Best Mean Fit' & should be used as indicative information only.

Due to the limited access area woodland areas and therefore the limited levels this may produce, contours outside of the main site should be used as indicative only.

Areas of dense woodland are limited access due to being densely populated with self seeded trees.

Legend:

Fences
Walls
Hedges
Trees
Buildings
Overhead Electric
Overhead Phone
Gate

Fences:

Barbed Wire Fence	B/W
Corrugated Iron Fence	C/I
Closed Board Fence	C/B
Chestnut Paling Fence	C/P
Iron Railing Fence	I/R
Post and Chain Fence	P/C
Post and Rail Fence	P/R
Post Wire Fence	P/W
Chain Link Fence	C/L
Larch Lap Fence	L/L
Wire Mesh Fence	W/M

Abbreviations:

BOLLARD	BO	MARKER	MK
BRITISH TELECOM IC	BT	PARKING METER	PM
CONCRETE PAVING SLABS	CPS	ROAD NAME PLATE	RNP
COVER LEVEL	CL	ROAD SIGN	RS
DROP KERB	DK	RODDING EYE	RE
ELECTRICITY POLE	EP	RETAINING WALL	RTW
FIRE HYDRANT	FH	SUBMERGED PIPE	SUBP
FLOWER BED	F/B	SOIL VENT PIPE	SVP
FOOTPATH	FP	STOP VALVE	SV
GAS VALVE	GV	TELEGRAPH POLE	TP
KERB	KB	TRAFFIC LIGHT	TL
INSPECTION COVER	IC	UNABLE TO LIFT	UTL
KERB INVERT LEVEL	IL	VENT PIPE	VP
KERB OUTLET	KO	WATER METER	WM
MAN HOLE	MH		

Sheet Layout

Rev. Suffix	Date	Initial	Revision Details

Surveyor	PD/LW	Verified By	PD/LW	CAD Operator	TJH	Approved By	ARL	Date	19.08.2020

Levelling GNSS Datum OSGB36

To an OS GNSS Datum

Client

Gleeson Homes Limited

Location

Downlands Farm
Uckfield

Drawing Title

Topographical Survey
Sheet 21A of 34

Job No. 2006047	Old Job No.
Drawing Number GHL/2006047/21A	Revision Suffix
Scale 1:200m (A0)	Date August 2020

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Visit us at: www.cdsurveys.com

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INDICATIVE

Legend:

Fences
Walls
Hedges
Trees
Buildings
Overhead Electric
Overhead Phone
Gate

Fences:

Barbed Wire Fence	B/W
Corrugated Iron Fence	C/I
Closed Board Fence	C/B
Chestnut Paling Fence	C/P
Iron Railing Fence	I/R
Post and Chain Fence	P/C
Post and Rail Fence	P/R
Post Wire Fence	P/W
Interwoven	I/W
Concrete Post Fence	C/P
Chain Link Fence	C/L
Wire Mesh Fence	W/M

Abbreviations:

BOLLARD	BO	MARKER	MK
BRITISH TELECOM IC	BT	PARKING METER	PM
CONCRETE PAVING SLABS	CPS	ROAD NAME PLATE	RNP
COVER LEVEL	CL	ROAD SIGN	RS
DROP KERB	DK	ROCKING EYE	RE
ELECTRICITY POLE	EP	RETAINING WALL	RTW
FLOWER BED	FB	SOIL VENT PIPE	SVP
FLOWER POT	F/B	SOIL/VENT PIPE	SVP
FOOTPATH	FP	STOP VALVE	SV
GAS VALVE	GV	TELEGRAPH POLE	TP
GULLY	GY	TRAFFIC LIGHT	TL
INSPECTION COVER	IC	UNABLE TO LIFT	UTL
PIPE INVERT LEVEL	IL	VENT PIPE	VP
KERB OUTLET	KO	WATER METER	WM
MAN HOLE	MH		

Sheet Layout

Rev. Suffix	Date	Initial	Revision Details

Surveyor	PD/LW	Verified By	PD/LW	CAD Operator	TJH	Approved By	ARL	Date	19.08.2020

Levelling GNSS Datum OSGB36

To an OS GNSS Datum

Client

Gleeson Homes Limited

Location

Downlands Farm
Uckfield

Drawing Title

Topographical Survey
Sheet 22 of 34

Job No. 2006047	Old Job No.
Drawing Number GHL/2006047/22	Revision Suffix
Scale 1:200m (A0)	Date August 2020

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INDICATIVE

Legend:

Fences
Walls
Hedges
Trees

Buildings
Overhead Elec'ctric
Overhead Phone
Gate

Fences
Barbed Wire Fence B/W
Corrugated Iron Fence C/I
Closed Board Fence C/B
Concrete Post Fence C/P
Iron Railing Fence I/R
Post and Chain Fence P/C
Post and Rail Fence P/R
Post Wire Fence P/W
Chain Link Fence C/L
Hurdle Fence H/F
Wire Mesh Fence W/M

Abbreviations:

BOLLARD	BD	MARKER	MK
BRITISH TELECOM 'K'	BT	PARKING METER	PM
CONCRETE PAVING SLABS	CPS	PAVING SLAB / PLATE	PS
CONCRETE SLAB	CS	ROAD SIGN	RS
DROP KERB	DK	ROCKING EYE	RE
ELECTRICITY POLE	EP	SOIL VENT PIPE	SVP
FLOODLIGHT	FLD	SOUNDING PIPE	SP
FLOWER BED	FLB	STEEL VENT PIPE	SVP
GAS VALVE	GV	STUMP	STP
GD. VALVE	GD	TELEGRAPH POST	TP
HYDRANT	H	TRAFFIC LIGHT	TL
INSPECTION COVER	I.C.	VENT PIPE	VP
PIPE WATER LEVEL	PWL	WATER TAP	WT
KERB OUTLET	KO	WATER METER	WM
MAN HOLE	MH		

Sheet Layout

Rev. Suffix	Date	Initial	Revision Details

Surveyor	PDL/LW	Verified By	PDL/LW	CAD Operator	TJH	Approved By	ARL	Date	19.08.2020

Levelling GNSS Datum OSGB36

To an OS GNSS Datum

Client

Gleeson Homes Limited

Location

Downlands Farm
Uckfield

Drawing Title

Topographical Survey
Sheet 23 of 34

Job No. 2006047	Old Job No.
Drawing Number GHL/2006047/23	Revision Suffix
Scale 1:200m (A0)	Date August 2020

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INDICATIVE

Legend:

Fences
Walls
Hedges
Trees

Buildings
Overhead Elec/Tel
Overhead Phone
Gate

Fences:
Barbed Wire Fence B/W
Chestnut Paling Fence CPF
Closed Board Fence CBF
Chestnut Pailing Fence CPF
Post and Rail Fence P/R
Post and Chain Fence P/CH
Rail Bird Rail Fence R/B
Post and Wire Fence P/W
Hedge H
Chain Link Fence CLF
Wire Mesh Fence W/M
Wire Mesh Fence W/M

Abbreviations:
BOLLARD BO
BRITISH TELECOM PL BTPL
CABLE TV MANHOLE CTV
CHILDS SEAT CS
DROP KERB DK
ELECTRICITY POLE EP
FIRE HYDRANT FH
FLOWER BED FB
GRATE GR
GULLY GUL
INSPECTION COVER IC
KERB LEVEL KERB
KERB SETT LEVEL KERB
MAN HOLE MH
MANHOLE MH
PEDDING METER PM
PEDESTRIAN GATE PG
ROAD SIGN RS
WOODING TREE WT
STREET LIGHT SL
TRAFFIC LIGHT TL
TOOL CABIN TC
TELEGRAPH POLE TP
TRANSFORMER TR
UNABLE TO LIFT UTL
VALVE V
WATER METER WM

Sheet Layout

Rev. Suffix	Date	Initial	Revision Details

Surveyor	PDL/M	Verified By	PDL/M	CAD Operator	TJH	Approved By	ARL	Date	19.08.2020

Levelling GNSS Datum OSGB36

To an OS GNSS Datum

Client

Gleeson Homes Limited

Location

Downlands Farm
Uckfield

Drawing Title

Topographical Survey
Sheet 24 of 34

Job No. 2006047	Old Job No.
Drawing Number GHL/2006047/24	Revision Suffix
Scale 1:200m (A0)	Date August 2020

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INDICATIVE

Legend:

Fences
Walls
Hedges
Trees
Buildings
Overhead Electric
Overhead Phone
Gate

Fences:
Barbed Wire Fence
Chestnut Paling Fence
Closed Board Fence
Chestnut Paling Fence
Post and Rail Fence
Post and Chain Fence
Post and Rail Fence
Post and Wire Fence
Stakenet
Chain Link Fence
Iron Railings
Wire Mesh Fence

Abbreviations:
BOLLARD
BRICK / ELEVOM. C
CONCRETE SLABS
COVER (TEL)
DROP KERB
ELECTRICITY POLE
FILLING POINT
FOOTPATH
GAS
GAS VALVE
INSPECTION COVER
KERB (LOW LEVEL
KERB OUTLET
MAN HOLE
MARKER
PARKING METER
PAVING / TAR PLANE
ROAD SIGN
WIDDING TEL
STREET LIGHT
TELEPHONE BOX
TRAFFIC LIGHTS
WATER
WATER HYDRANT
UNABLE TO LIFT
WATER METER

Sheet Layout

Rev. Suffix	Date	Initial	Revision Details

Surveyor	PDS/LM	Verified By	PDS/LM	CAD Operator	TJH	Approved By	ARL	Date	19.08.2020

Levelling GNSS Datum OSGB36

To an OS GNSS Datum

Client
Gleeson Homes Limited

Location
Downlands Farm
Uckfield

Drawing Title
Topographical Survey
Sheet 25 of 34

Job No. 2006047	Old Job No.
Drawing Number GHL/2006047/25	Revision Suffix
Scale 1:200m (A0)	Date August 2020

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INDICATIVE

122300N
122280N
122260N
122240N
122220N
122200N
122180N
122160N
122140N
122120N
122100N

547100E
547120E
547140E
547160E
547180E
547200E
547220E

Dean Bank
Stonewold
Campbell Close
Snatts Road
17

Legend:

Fences
Walls
Hedges
Trees
Buildings
Overhead Electric
Overhead Phone
Gate

Fences:
Barbed Wire Fence B/W
Corrugated Iron Fence C/I
Closed Board Fence C/B
Chestnut Paling Fence C/P
Iron Railing Fence I/R
Post and Chain Fence P/C
Post and Rail Fence P/R
Post Wire Fence P/W
Interwoven I/W
Close Board Fence C/F
Larch Lap Fence L/L
Wire Mesh Fence W/M

Abbreviations:

BOLLARD	BO	MARKER	MK
BRITISH TELECOM IC	BT	PARKING METER	PM
CONCRETE PAVING SLABS	CPS	ROAD NAME PLATE	RNP
COVER	CV	ROAD SIGN	RS
DROP KERB	DK	RODDING EYE	RE
ELECTRICITY POLE	EP	RETAINING WALL	RTW
FIRE HYDRANT	FH	RAINWATER PIPE	RPW
FLOWER BED	F/B	SOIL VENT PIPE	SVP
FOOTPATH	FP	STOP VALVE	SV
GAS VALVE	GV	TELEGRAPH POLE	TP
GULLY	GY	TRAFFIC LIGHT	TL
INSPECTION COVER	IC	UNABLE TO LIFT	U/L
PIPE INVERT LEVEL	IL	VENT PIPE	VP
KERB OUTLET	KO	WATER METER	WM
MAN HOLE	MH		

Sheet Layout

Rev. Suffix	Date	Initial	Revision Details

Surveyor	PD/LW	Verified By	PD/LW	CAD Operator	TJH	Approved By	ARL	Date	19.08.2020

Levelling GNSS Datum OSGB36

To an OS GNSS Datum

Client

Gleeson Homes Limited

Location

Downlands Farm
Uckfield

Drawing Title

Topographical Survey
Sheet 26 of 34

Job No. 2006047	Old Job No.
Drawing Number GHL/2006047/26	Revision Suffix
Scale 1:200m (A0)	Date August 2020

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INDICATIVE

Legend:

Fences
Walls
Hedges
Trees
Buildings
Overhead Electric
Overhead Phone
Gate

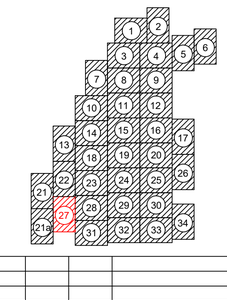
Fences:

Barbed Wire Fence	B/W
Corrugated Iron Fence	C/I
Closed Board Fence	C/B
Chestnut Paling Fence	C/P
Iron Railing Fence	I/R
Post and Chain Fence	P/C
Post and Rail Fence	P/R
Post and Wire Fence	P/W
Interwoven	I/W
Chain Link Fence	C/L
Lorch Lap Fence	L/L
Wire Mesh Fence	W/M

Abbreviations:

BOLLARD	BO	MARKER	MK
BRITISH TELECOM IC	BT	PARKING METER	PM
CONCRETE PAVING SLABS	CPS	ROAD NAME PLATE	RNP
COVER LEVEL	CL	ROAD SIGN	RS
DROP KERB	DK	RODDING EYE	RE
ELECTRICITY POLE	EP	RETAINING WALL	Rtw
FIRE HYDRANT	FH	RAINWATER PIPE	RPW
FLOWER BED	F/B	SOIL VENT PIPE	SVP
FOOTPATH	FP	STOP VALVE	SV
GAS VALVE	GV	TELEGRAPH POLE	TP
GRID	G	TRAFFIC LIGHT	TL
INSPECTION COVER	IC	UNABLE TO LIFT	U/L
PIPE INVERT LEVEL	IL	VALVE BOX	VB
KERB OUTLET	KO	WATER METER	WM
MAN HOLE	MH		

Sheet Layout



Rev. Suffix	Date	Initial	Revision Details

Surveyor	PD/LW	Verified By	PD/LW	CAD Operator	TJH	Approved By	ARL	Date	19.08.2020

Levelling GNSS Datum OSGB36

To an OS GNSS Datum

Client

Gleeson Homes Limited

Location

Downlands Farm
Uckfield

Drawing Title

Topographical Survey
Sheet 27 of 34

Job No. 2006047	Old Job No.
Drawing Number GHL/2006047/27	Revision Suffix
Scale 1:200m (A0)	Date August 2020

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INDICATIVE

Legend:

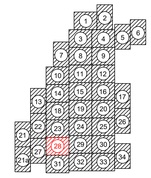
Fences
Walls
Hedges
Trees
Buildings
Overhead Electric
Overhead Phone
Gate

Fences:
Barbed Wire Fence — B/W
Corrugated Iron Fence — C/I
Chestnut Paling Fence — C/P
Chestnut Rail Fence — C/R
Iron Railing Fence — I/R
Post and Barbed Wire Fence — P/B
Post and Rail Fence — P/R
Post and Wire Fence — P/W
Timber Fence — T/F
Chain Link Fence — C/L
Wire Netting Fence — W/N
Wire Mesh Fence — W/M

Abbreviations:

BOLLARD	BO	MARKER	MK
BRITISH TELECOM 'K'	BT	PARKING METER	PM
CABLE TV MARKER	CTV	PROTECTIVE PLATE	PP
CHIMNEY	CH	ROAD SIGN	RS
DROP KERB	DK	WOODING CVE	TR
ELECTRICITY DOOR	ED	TRAFFIC LIGHT	TL
FIRE HYDRANT	FH	TRANSFORMER BOX	TB
FLOWER BED	FLB	SOIL VENT PIPE	SVP
GRATING	G	SOIL PIPE	SP
GAS VALVE	GV	TELEGRAPH POLE	TP
INSPECTION COVER	IC	TELEGRAPH POST	TP
POOL WATER LEVEL	PWL	UNABLE TO LIFT	U/L
RAIN WATER PIPE	RWP	VALVE	V
MAN HOLE	MH	WATER METER	WM

Sheet Layout



Rev. Suffix	Date	Initial	Revision Details

Surveyor	PDVLW	Verified By	PDVLW	CAD Operator	TJH	Approved By	ARL	Date	19.08.2020

Levelling GNSS Datum OSGB36

To an OS GNSS Datum

Client

Gleeson Homes Limited

Location

Downlands Farm
Uckfield

Drawing Title

Topographical Survey
Sheet 28 of 34

Job No. 2006047	Old Job No.
Drawing Number GHL/2006047/28	Revision Suffix
Scale 1:200m (A0)	Date August 2020

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INDICATIVE

Legend:

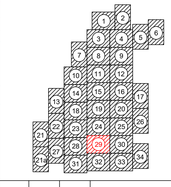
Fences
Walls
Hedges
Trees
Buildings
Overhead Elec'ricity
Overhead Phone
Gate

Fences:
Barbed Wire Fence BWF
Chestnut Pale Fence CPF
Closed Board Fence CBF
Chestnut Paling Fence CPF
Post and Rail Fence P&R
Post and Chain Fence P&C
Post and Rail Fence P&R
Post and Wire P&W
Hedgerow H
Chain Link Fence CLF
Close Board Fence CBF
Wire Mesh Fence W/M

Abbreviations:

BOLLARD		MARKER	MK
BRICK / TELECOM JC	BJC	PARKING METER	PM
CONCRETE PAVING SLABS	CPS	ROAD NAME PLATE	RNP
FLAG STONE	FS	SIGN POST	SP
HAND RAIL	HR	SOUNDING PIPE	SG
ELECTRICITY POLE	EP	RETAINING WALL	RW
ELECTRICITY BOX	EB	TELEPHONE POLE	TP
MANHOLE	MH	TRAFFIC LIGHT	TL
LIGHTING	LP	TREE	T
OIL STONE	OS	UTILITY POLE	UP
TELEPHONE	T	UNABLE TO LIFT	UTL
INSPECTION COVER	IC	VALVE	V
RODDING EYE	RE	WATER METER	WM
KERB OUTLET	KO		
MAN HOLE	MH		

Sheet Layout



Rev. Suffix	Date	Initial	Revision Details

Surveyor	PD/LW	Verified By	PD/LW	CAD Operator	TJH	Approved By	ARL	Date	19.08.2020

Levelling GNSS Datum OSGB36

To an OS GNSS Datum

Client

Gleeson Homes Limited

Location

Downlands Farm
Uckfield

Drawing Title

Topographical Survey
Sheet 29 of 34

Job No. 2006047	Old Job No.
Drawing Number GHL/2006047/29	Revision Suffix
Scale 1:200m (A0)	Date August 2020

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Oast Cottage

Charlwood Manor Cottage

Charlwood Manor

Partridges Oast

Swallow Barn

Pond

Snatt's Road

Downlands Cottages

122060N

122040N

122020N

122000N

STN13

STN14

STN15

STN16

STN17

STNP26

Notes:

Whilst every effort has been made to correctly identify species of trees on the site, we advise that an arborologist be consulted before any final decisions are made.

All information contained in this drawing (including digital data) should be checked and verified prior to any fabrication or construction.

Grid coordinates are based on an OS GNSS system on a plane grid with a scale factor of 1.0000.

——— OS Data, fitted as a 'Best Mean Fit' & should be used as indicative information only.

Due to the limited access area woodland areas and therefore the limited levels this may produce, contours outside of the main site should be used as indicative only.

Areas of dense woodland are limited access due to being densely populated with self seeded trees.

INDICATIVE

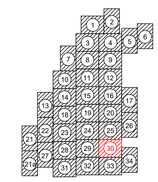
Legend:

Fences
Walls
Hedges
Trees
Buildings
Overhead Electric
Overhead Phone
Gate

Fences: Barbed Wire Fence, Chain Link Fence, Closed Board Fence, Concrete Post Fence, Iron Railing Fence, Post and Rail Fence, Post and Wire Fence, Rail Wire Fence, Stockade, Split Log Fence, Wire Mesh Fence

Abbreviations:
BOLLARD, BOT, CHILLCOM IC, CONCRETE PAVING SLABS, COVER LEVEL, EDGE OF ROAD, ELECTRICITY POLE, FLAG POLE, FLOWER BED, GATE POST, HYDRANT, INV, (PLAN), INVERT LEVEL, INSPECTION COVER, INSPECTION COVER LEVEL, KERB OUTLET, MINI VOLT, MARKER POST, METER, MANHOLE, ROAD NAME PLATE, ROAD SIGN, SOIL VENT PIPE, RETAINING WALL, SUSPENDED SIGN, TELEGRAPH POST, TOP OF BANK, TRAFFIC LIGHT, UNABLE TO LIFT, VALVE, WATER METER, BOT, CL, CVP, DP, EP, FH, GP, INV, LP, MH, PP, RP, SIGN, SP, TP, WM

Sheet Layout



Rev. Suffix	Date	Initial	Revision Details

Surveyor	PDL/LW	Verified By	PDL/K	CAD Operator	TJH	Approved By	ARL	Date	19.08.2020

Levelling GNSS Datum OSGB36

To an OS GNSS Datum

Client

Gleeson Homes Limited

Location

Downlands Farm
Uckfield

Drawing Title

Topographical Survey
Sheet 30 of 34

Job No. 2006047	Old Job No.
Drawing Number GHL/2006047/30	Revision Suffix
Scale 1:200m (A0)	Date August 2020

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INDICATIVE

Legend:

Fences
Walls
Hedges
Trees
Buildings
Overhead Electric
Overhead Phone
Gate

Fences
Barbed Wire Fence BW
Corrugated Iron Fence CIF
Chestnut Paling Fence CPF
Chestnut Pailing Fence CPF
Iron Railing Fence IRF
Post and Rail Fence PR
Post and Still Fence PS
Post Wire Fence PW
Stock Fence SF
Close Link Fence CLF
Wire Mesh Fence WM

Abbreviations:

BOLLARD	BD	MARKER	MK
BRITISH TELECOM AC	BT	PARKING METER	PM
CONCRETE PAD	CPA	ROAD SIGN	RSG
CONCRETE SLABS	CSL	ROAD STUD	RST
DROP KERB	DK	ROADING CAT	RC
ELECTRICITY POLE	EP	SERVICE COVER	SC
ELECTRICITY	ELEC	SURVEYED TREE	STN
FLOWER BED	FB	TELEPHONE BOX	TBX
MANHOLE	MH	TELEPHONE POLE	TP
OIL VALVE	OV	TELEGRAPH POLE	TGP
POST	PO	TRAFFIC LIGHT	TL
INSPECTION COVER	SCV	UNABLE TO LIFT	UTL
KERB, INVERT, LEVEL	SLI	VENT PIPE	VP
KERB, SPLAY, LIP, WIDTH, HOLE	SLI	WATER METER	WM

Sheet Layout

Rev. Suffix	Date	Initial	Revision Details

Surveyor	PDI/LW	Verified By	PDI/LW	CAD Operator	TJH	Approved By	ARL	Date	19.08.2020

Levelling GNSS Datum OSGB36

To an OS GNSS Datum

Client

Gleeson Homes Limited

Location

Downlands Farm
Uckfield

Drawing Title

Topographical Survey
Sheet 31 of 34

Job No. 2006047	Old Job No.
Drawing Number GHL/2006047/31	Revision Suffix
Scale 1:200m (A0)	Date August 2020

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INDICATIVE

Legend:

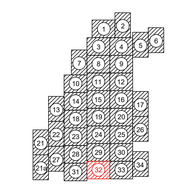
Fences
Walls
Hedges
Trees
Buildings
Overhead Elec'ric
Overhead Phone
Gate

Fences:
Barbed Wire Fence B/W
Close Boarded Fence CBF
Closed Board Fence CF
Chestnut Paling Fence CPF
Chain Link Fence CLF
Post and Chain Fence P/CH
Post and Rail Fence P/R
Post and Wire Fence P/W
Railings R
Chain Link Fence CLF
Post and Rail Fence P/R
Wire Mesh Fence W/M

Abbreviations:

BOLLARD	BO	MARKER	MK
BRITISH TELECOM 'K'	BT'K'	PARKING METER	PM
CONCRETE PAVING SLABS	CPS	PLANTING PLATE	PP
COVER LEVEL	CL	ROAD SIGN	RS
DROP KERB	DK	WOODING TREE	TR
ELECTRICITY POLE	EP	TRAFFIC LIGHTS	TL
FIRE HYDRANT	FH	DIAMANTIS BOX	DB
FLOWER BED	FB	GAS GATE	GG
GULLY	G	GAS VALVE	GV
IRON VALVE	IV	TELEGRAPH POLE	TP
KERB	K	UNABLE TO LIFT	UTL
INSPECTION COVER	I.C.	WATER GATE	WG
MANHOLE COVER	MH	WATER METER	WM
MINI BOLLARD	MB		
MINI HOLE	MH		

Sheet Layout



Rev. Suffix	Date	Initial	Revision Details

Surveyor	PDS/LW	Verified By	PDS/LW	CAD Operator	TJH	Approved By	ARL	Date	19.08.2020

Levelling GNSS Datum OSGB36

To an OS GNSS Datum

Client

Gleeson Homes Limited

Location

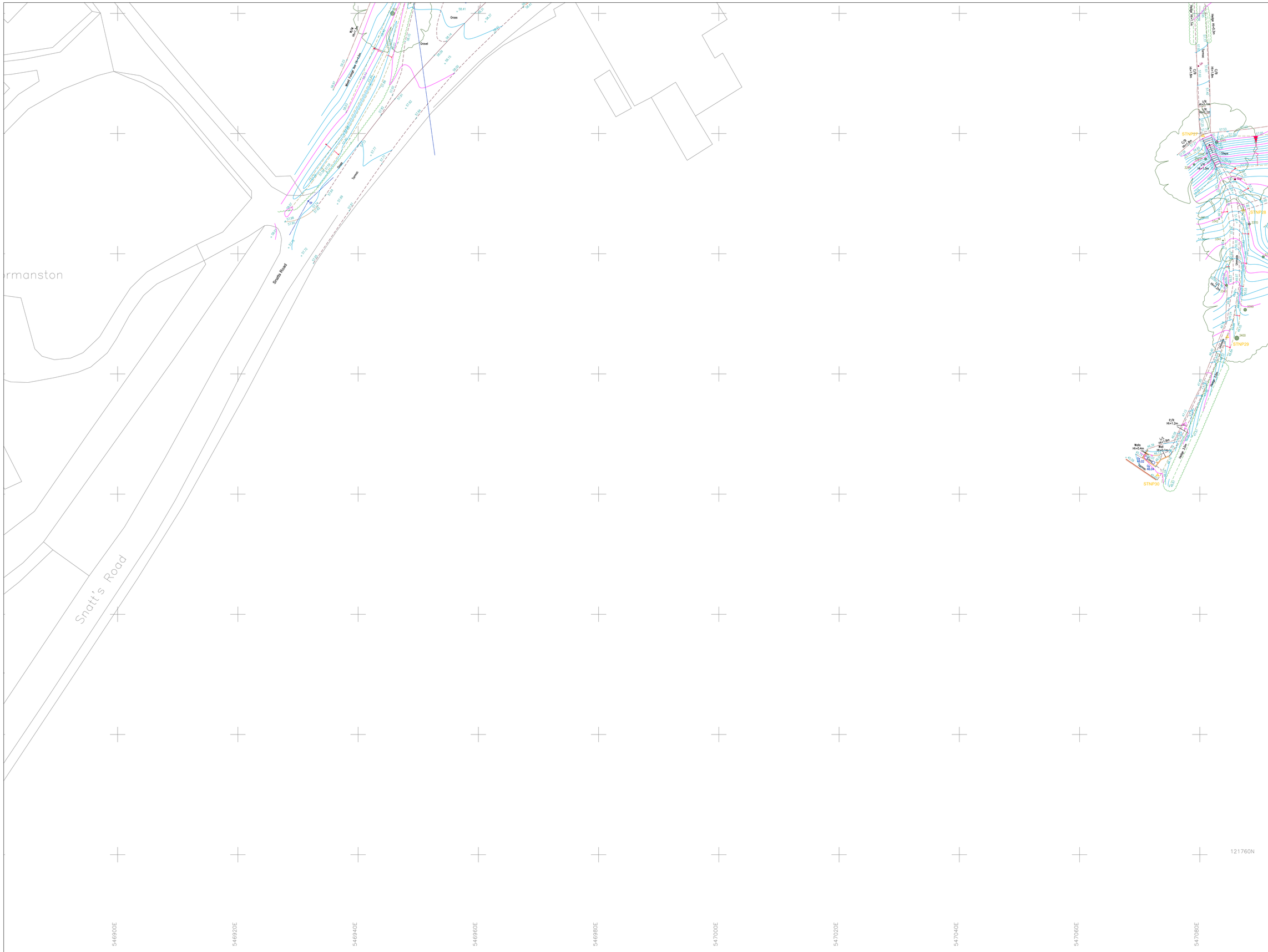
Downlands Farm
Uckfield

Drawing Title

Topographical Survey
Sheet 32 of 34

Job No. 2006047	Old Job No.
Drawing Number GHL/2006047/32	Revision Suffix
Scale 1:200m (A0)	Date August 2020

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Sheet Layout

Rev. Suffix	Date	Initial	Revision Details

Surveyor	PD/LW	Verified By	PD/LW	CAD Operator	TJH	Approved By	ARL	Date	19.08.2020

Levelling GNSS Datum OSGB36

To an OS GNSS Datum

Client

Gleeson Homes Limited

Location

Downlands Farm
Uckfield

Drawing Title

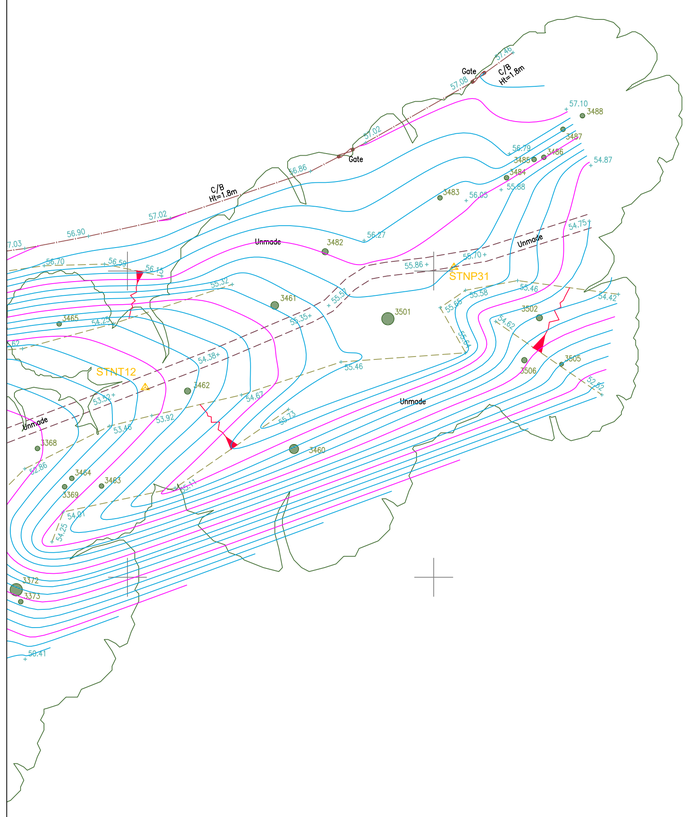
Topographical Survey
Sheet 33 of 34

Job No. 2006047	Old Job No.
Drawing Number GHL/2006047/33	Revision Suffix
Scale 1:200m (A0)	Date August 2020

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547100E 547120E 547140E 547160E 547180E 547200E 547220E

121980N 121960N 121940N 121920N 121900N 121880N 121860N 121840N 121820N 121800N 121780N



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INDICATIVE

Legend:

Fences
Walls
Hedges
Trees
Buildings
Overhead Electric
Overhead Phone
Gate

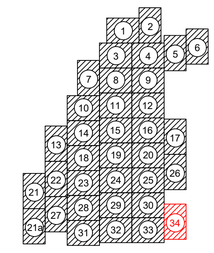
Fences:

Barbed Wire Fence	B/W
Corrugated Iron Fence	C/I
Closed Board Fence	C/B
Chestnut Paling Fence	C/P
Iron Railing Fence	I/R
Post and Chain Fence	P/C
Post and Rail Fence	P/R
Post and Wire Fence	P/W
Interwove	I/W
Chain Link Fence	C/L
Lorch Lap Fence	L/L
Wire Mesh Fence	W/M

Abbreviations:

BOLLARD	BO	MARKER	MK
BRITISH TELECOM IC	BT	PARKING METER	PM
CONCRETE PAVING SLABS	CPS	ROAD NAME PLATE	RNP
COVER LEVEL	CL	ROAD SIGN	RS
DROP KERB	DK	RODDING EYE	RE
ELECTRICITY POLE	EP	RETAINING WALL	Rtw
FIRE HYDRANT	FH	RAINWATER PIPE	RPW
FLOWER BED	F/B	SOIL VENT PIPE	SVP
FOOTPATH	FP	STOP VALVE	SV
GAS VALVE	GV	TELEGRAPH POLE	TP
GULLY	G	TRAFFIC LIGHT	TL
INSPECTION COVER	IC	UNABLE TO LIFT	U/L
PIPE INVERT LEVEL	IL	VALVE BOX	VP
KERB OUTLET	KO	WATER METER	WM
MAN HOLE	MH		

Sheet Layout



Rev. Suffix	Date	Initial	Revision Details

Surveyor	PD/LW	Verified By	PD/LW	CAD Operator	TJH	Approved By	ARL	Date	19.08.2020

Levelling GNSS Datum OSGB36

To an OS GNSS Datum

Client

Gleeson Homes Limited

Location

Downlands Farm
Uckfield

Drawing Title

Topographical Survey
Sheet 34 of 34

Job No. 2006047	Old Job No.
Drawing Number GHL/2006047/34	Revision Suffix
Scale 1:200m (A0)	Date August 2020

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Tree Schedule

Pt No	Spread	Bole	Height	Species
65	9.0	0.40	13.0	ASH
66	9.0	0.30	13.0	ASH
117	13.0	0.50	13.0	SILVER BIRCH
241	14.0	0.50	15.0	OAK
242	14.0	0.60	15.0	OAK
243	16.0	0.70	16.0	OAK
244	16.0	0.70	16.0	OAK
260	13.0	0.70	13.0	OAK
308	10.0	0.30	12.0	SYCAMORE
309	10.0	0.30	12.0	SYCAMORE
339	13.0	0.40	14.0	ASH
340	10.0	0.40	14.0	SYCAMORE
341	12.0	0.30	13.0	ASH
342	12.0	0.50	11.0	POPLAR
401	12.0	0.40	13.0	SYCAMORE
402	14.0	0.50	13.0	SYCAMORE
403	15.0	0.60	10.0	WILLOW
404	14.0	0.50	13.0	SYCAMORE
405	14.0	0.50	13.0	SYCAMORE
407	15.0	0.60	14.0	SYCAMORE
566	15.0	0.50	14.0	OAK
567	15.0	0.50	14.0	OAK
596	7.0	0.25	7.0	ASH
616	15.0	0.80	16.0	ASH
722	18.0	0.70	20.0	ASH
723	16.0	0.70	20.0	OAK
1119	13.0	0.40	13.0	ASH
1120	12.0	0.30	8.0	OAK
1133	13.0	0.60	15.0	ASH
1134	14.0	0.50	17.0	OAK
1137	16.0	0.80	17.0	SYCAMORE
1138	15.0	0.50	16.0	HORSECHESTNUT
1139	13.0	0.50	10.0	CHERRY
1140	15.0	0.50	17.0	ASH
1171	12.0	0.60	15.0	ASH
1172	13.0	0.40	13.0	OAK
1569	13.0	0.50	16.0	ASH
1576	13.0	0.60	16.0	OAK
1599	14.0	0.80	16.0	OAK
1600	14.0	0.60	17.0	BEECH
1601	12.0	0.40	13.0	OAK
1602	10.0	0.40	8.0	OAK
1603	0.4	0.40	10.0	MAPLE
1604	10.0	0.40	10.0	MAPLE
1605	12.0	0.50	10.0	MAPLE
1606	14.0	0.50	16.0	OAK
1607	14.0	0.50	16.0	OAK
1608	13.0	0.40	16.0	OAK
1609	13.0	0.40	16.0	OAK
1610	14.0	0.60	16.0	ASH
1611	12.0	0.40	15.0	OAK
1612	12.0	0.50	13.0	OAK
1613	15.0	0.70	16.0	OAK
1643	17.0	0.80	17.0	OAK
1644	16.0	0.50	16.0	OAK
1960	8.0	0.40	14.0	SPRUCE
1976	10.0	1.70	18.0	CYPRESS
1977	14.0	0.40	14.0	OAK
1978	14.0	0.60	17.0	ASH
1979	14.0	0.40	17.0	ASH
1980	13.0	0.50	15.0	SILVER BIRCH
1982	14.0	0.50	16.0	SYCAMORE
2002	16.0	0.80	18.0	OAK
2003	18.0	1.00	18.0	OAK
2013	14.0	0.40	17.0	ASH
2018	12.0	0.50	12.0	CHERRY
2019	12.0	0.50	12.0	CHERRY
2021	14.0	0.60	12.0	CHERRY
2032	15.0	0.60	16.0	BEECH
2034	15.0	0.50	16.0	ASH
2035	13.0	0.40	16.0	ASH
2036	13.0	0.40	16.0	ASH
2039	13.0	0.40	16.0	ASH
2040	13.0	0.40	16.0	ASH
2041	13.0	0.50	12.0	CHERRY
2042	13.0	0.40	12.0	CHERRY
2054	13.0	0.40	15.0	ASH
2055	14.0	0.50	16.0	OAK
2059	14.0	0.50	16.0	ASH
2060	14.0	0.60	16.0	ASH
2061	17.0	1.20	17.0	OAK
2070	16.0	0.50	12.0	WILLOW
2071	14.0	0.50	12.0	WILLOW
2072	13.0	0.40	12.0	WILLOW
2075	13.0	0.40	12.0	WILLOW
2076	12.0	0.40	16.0	OAK
2077	13.0	0.40	14.0	SWEET CHESTNUT
2081	14.0	0.40	16.0	OAK
2103	14.0	0.60	17.0	OAK
2104	14.0	0.60	17.0	OAK
2105	13.0	0.50	14.0	WILLOW
2106	14.0	0.40	17.0	OAK
2107	14.0	0.40	17.0	OAK
2108	14.0	0.40	17.0	OAK
2109	14.0	0.40	17.0	OAK
2112	14.0	0.50	17.0	OAK
2113	14.0	0.40	18.0	ASH
2114	13.0	0.50	14.0	SILVER BIRCH
2115	14.0	0.40	16.0	OAK
2124	12.0	0.40	16.0	OAK
2125	13.0	0.50	13.0	CHERRY
2126	14.0	0.40	16.0	OAK
2137	17.0	1.00	18.0	OAK
2138	9.0	0.80	10.0	ASH
2141	13.0	0.40	13.0	SILVER BIRCH
2142	14.0	0.50	16.0	OAK
2144	13.0	0.60	16.0	SWEET CHESTNUT
2145	15.0	0.40	8.0	SWEET CHESTNUT
2146	18.0	0.70	18.0	OAK
2147	14.0	0.40	9.0	SWEET CHESTNUT
2154	14.0	0.40	17.0	OAK
2159	14.0	0.40	10.0	WILLOW
2160	16.0	0.60	17.0	OAK
2161	14.0	0.40	17.0	OAK
2211	10.0	0.50	9.0	WILLOW
3295	13.0	0.5	13.0	OAK
3296	13.0	0.4	13.0	ASH
3298	6.0	0.2	7.0	HOLLY
3340	6.0	0.4	8.0	HOLLY
3341	7.0	0.2	14.0	SYCAMORE
3342	7.0	0.2	14.0	SYCAMORE
3368	8.0	0.3	14.0	SYCAMORE
3369	7.0	0.3	8.0	HOLLY
3370	10.0	0.4	15.0	SYCAMORE
3371	7.0	0.4	8.0	HOLLY
3372	16.0	0.8	16.0	OAK
3373	7.0	0.3	8.0	HOLLY
3399	14.0	0.5	16.0	SYCAMORE
3400	8.0	0.7	10.0	HOLLY
3460	16.0	0.6	16.0	OAK
3461	14.0	0.5	16.0	OAK
3462	13.0	0.4	16.0	SYCAMORE
3463	7.0	0.3	7.0	HOLLY
3464	7.0	0.3	7.0	HOLLY
3465	7.0	0.3	7.0	HOLLY
3482	13.0	0.4	16.0	SYCAMORE
3483	13.0	0.3	16.0	SYCAMORE
3484	13.0	0.3	16.0	SYCAMORE
3485	13.0	0.3	16.0	SYCAMORE
3486	13.0	0.3	16.0	SYCAMORE
3487	13.0	0.3	16.0	SYCAMORE
3488	13.0	0.3	16.0	SYCAMORE
3501	17.0	0.8	18.0	OAK
3502	13.0	0.4	14.0	SYCAMORE
3505	10.0	0.3	13.0	SYCAMORE
3506	7.0	0.4	8.0	HOLLY
14843	9.0	0.6	14.0	TREE UNKOWN
14896	9.0	0.5	15.0	TREE UNKOWN
14897	9.0	0.5	15.0	TREE UNKOWN
14898	9.0	0.4	14.0	TREE UNKOWN
14899	9.0	0.4	14.0	TREE UNKOWN
14917	10.0	0.7	13.0	TREE UNKOWN
14918	10.0	0.7	13.0	TREE UNKOWN
14942	9.0	0.5	13.0	TREE UNKOWN
14943	9.0	0.5	13.0	TREE UNKOWN
14944	10.0	1.3	13.0	TREE UNKOWN
14945	10.0	0.7	13.0	TREE UNKOWN
14946	10.0	0.7	13.0	TREE UNKOWN
14947	10.0	0.8	13.0	TREE UNKOWN
14948	10.0	0.5	13.0	TREE UNKOWN
14949	10.0	0.5	13.0	TREE UNKOWN
14950	10.0	0.5	13.0	TREE UNKOWN
14951	10.0	0.4	13.0	TREE UNKOWN
14952	10.0	0.4	13.0	TREE UNKOWN
14953	10.0	0.4	13.0	TREE UNKOWN
14954	10.0	0.6	13.0	TREE UNKOWN
15005	14.0	1.0	17.0	OAK
15007	11.0	0.8	13.0	OAK
15016	9.0	0.4	13.0	OAK
15017	16.0	0.9	17.0	OAK
3566	14.0	0.50	16.0	OAK
3605	18.0	0.70	20.0	ASH
3606	15.0	0.50	18.0	SWEET CHESTNUT
3607	15.0	0.50	18.0	SWEET CHESTNUT
3608	15.0	0.50	18.0	SWEET CHESTNUT
3609	15.0	0.50	18.0	SWEET CHESTNUT
3610	15.0	0.60	18.0	SWEET CHESTNUT
3611	15.0	0.80	18.0	SWEET CHESTNUT
3630	18.0	0.70	18.0	OAK
3631	16.0	0.80	18.0	ASH
3632	16.0	0.50	18.0	ASH
3633	16.0	0.80	16.0	OAK
3674	13.0	0.60	11.0	MAPLE
3675	14.0	0.55	14.0	OAK
3676	14.0	0.55	14.0	OAK
3678	14.0	0.55	14.0	OAK
3680	17.0	0.60	18.0	ASH
3681	15.0	0.60	18.0	ASH
3682	6.0	0.60	14.0	SPRUCE
3683	14.0	0.50	16.0	ASH
3684	18.0	0.70	18.0	ASH
3685	13.0	0.50	15.0	HORSECHESTNUT
3686	16.0	0.60	15.0	HORSECHESTNUT
3687	13.0	0.50	17.0	ASH
3688	16.0	0.50	17.0	ASH
3689	13.0	0.40	13.0	OAK
3690	18.0	0.40	18.0	OAK
3697	17.0	0.60	18.0	ASH
3727	16.0	0.90	17.0	OAK
3728	16.0	1.00	17.0	OAK
3773	14.0	0.35	12.0	ASH
3774	14.0	0.35	12.0	ASH
3775	14.0	0.35	12.0	ASH
3776	14.0	0.35	12.0	ASH
3777	14.0	0.25	12.0	ASH
3778	14.0	0.25	12.0	ASH
3779	13.0	0.25	11.0	ASH
3780	13.0	0.25	11.0	ASH
3795	17.0	0.60	17.0	OAK
3796	17.0	0.50	17.0	OAK
3797	14.0	0.50	17.0	ASH
3798	18.0	0.80	18.0	OAK
3799	18.0	0.50	18.0	OAK
3800	15.0	0.60	18.0	HORSECHESTNUT
3801	15.0	0.50	18.0	OAK
3802	18.0	0.80	18.0	OAK
3803	18.0	0.70	18.0	OAK
3804	15.0	0.60	18.0	OAK
3809	17.0	0.90	18.0	OAK
3810	17.0	0.50	18.0	OAK
3834	16.0	0.70	18.0	OAK
3835	16.0	0.60	18.0	OAK
3844	16.0	0.60	18.0	OAK
3854	16.0	0.55	18.0	OAK
3855	14.0	0.40	16.0	OAK
3861	16.0	0.50	16.0	OAK
3868	16.0	0.50	16.0	OAK
3869	16.0	0.70	18.0	OAK
3892	16.0	0.60	18.0	OAK
3893	16.0	0.50	18.0	OAK
3894	16.0	0.60	18.0	OAK
3895	16.0	0.60	18.0	ASH

Tree Schedule

Pt No	Spread	Bole	Height	Species
3896	16.0	0.50	17.0	OAK
3897	16.0	0.60	18.0	OAK
3898	14.0	0.50	18.0	ASH
3899	17.0	0.50	18.0	ASH
3900	14.0	0.50	18.0	ASH
3901	17.0	0.50	18.0	OAK
3902	16.0	0.40	16.0	BEECH
3966	14.0	0.50	16.0	ASH
3967	14.0	0.50	17.0	OAK
4025	15.0	0.50	17.0	ASH
4026	16.0	0.80	18.0	OAK
4027	16.0	0.70	18.0	OAK
4028	16.0	0.60	18.0	OAK
4029	17.0	0.90	20.0	OAK
4030	18.0	0.90	20.0	BEECH
4051	16.0	0.60	17.0	OAK
4058	16.0	0.60	17.0	OAK
4062	16.0	0.50	17.0	OAK
4063	16.0	0.50	17.0	OAK
4064	16.0	0.50	17.0	OAK
4069	16.0	0.50	17.0	OAK
4070	16.0	0.50	17.0	OAK
4071	16.0	0.50	17.0	OAK
4072	16.0	0.70	17.0	OAK
4073	16.0	0.50	17.0	OAK
4074	16.0	0.70	17.0	OAK
4076	16.0	0.60	17.0	OAK
4077	16.0	0.60	17.0	OAK
4078	16.0	0.70	17.0	OAK
4086	16.0	0.60	17.0	OAK
4087	14.0	0.50	18.0	POPLAR
4102	18.0	0.80	18.0	OAK
4103	18.0	0.70	18.0	BEECH
4104	12.0	0.60	16.0	PINE
4105	16.0	0.60	17.0	OAK
4106	14.0	0.50	16.0	OAK
4109	14.0	0.50	16.0	OAK
4110	14.0	0.50	16.0	OAK
4111	14.0	0.60	16.0	OAK
4112	16.0	0.80	20.0	BEECH
4120	18.0	0.80	20.0	BEECH
4141	13.0	0.90	18.0	PINE
4142	16.0	0.80	20.0	OAK
4143	16.0	0.50	17.0	OAK
4144	16.0	0.50	17.0	ASH
4146	16.0	0.60	17.0	OAK
4147	16.0	0.60	17.0	OAK
4148	16.0	0.70	17.0	OAK
4149	16.0	0.70	17.0	OAK
4150	15.0	0.50	17.0	ASH
4220	15.0	0.50	18.0	POPLAR
4221	15.0	0.50	17.0	OAK
5045	12.0	0.35	14.0	SWEET CHESTNUT
5046	13.0	0.35	14.0	SILVER BIRCH
5047	13.0	0.45	12.0	SWEET CHESTNUT
5048	14.0	0.55	13.0	ALDER
5049	14.0	0.50	13.0	OAK
5050	13.0	0.40	13.0	ALDER
5051	13.0	0.50	13.0	SILVER BIRCH
5052	14.0	0.60	15.0	SWEET CHESTNUT
5053	14.0	0.40	15.0	SWEET CHESTNUT
5054	14.0	0.50	15.0	SWEET CHESTNUT
10777	18.0	1.0	20.0	OAK
11000	14.0	0.90	16.0	OAK
11225	15.0	1.20	16.0	OAK
10777	18.0	1.00	20.0	OAK
13817	10.0	0.4	15.0	TREE UNKOWN
13818	10.0	0.4	15.0	TREE UNKOWN
13846	10.0	0.4	15.0	TREE UNKOWN
13869	10.0	0.4	15.0	OAK
13905	15.0	0.8	17.0	OAK
13906	15.0	1.0	18.0	OAK
13907	15.0	0.9	18.0	OAK
13908	13.0	0.4	16.0	OAK
13909	13.0	0.4	16.0	OAK
13910	13.0	1.2	15.0	TREE UNKOWN
13976	10.0	0.6	15.0	TREE UNKOWN
13977	10.0	0.6	15.0	TREE UNKOWN
13978	10.0	0.4	15.0	TREE UNKOWN
14006	12.0	0.6	15.0	OAK
14007	12.0	0.6	15.0	OAK
14008	12.0	0.5	15.0	OAK
14009	9.0	0.4	9.0	SILVER BIRCH
14010	12.0	0.4	13.0	OAK
14037	10.0	0.4	11.0	TREE UNKOWN
14038	16.0	1.0	16.0	OAK
14040	12.0	0.5	14.0	OAK
14044	10.0	0.6	15.0	OAK
14045	12.0	0.8	16.0	OAK
14046	10.0	0.4	15.0	TREE UNKOWN
14047	10.0	0.4	15.0	TREE UNKOWN
14048	10.0	0.4	15.0	TREE UNKOWN
14544	9.0	0.6	14.0	TREE UNKOWN
14545	9.0	0.6	14.0	TREE UNKOWN
14546	9.0	0.6	14.0	TREE UNKOWN
14547	9.0	0.6	14.0	TREE UNKOWN
14550	9.0	0.4	14.0	TREE UNKOWN
14565	9.0	0.6	14.0	TREE UNKOWN
14566	9.0	0.5	14.0	TREE UNKOWN
14567	9.0	0.5	14.0	TREE UNKOWN
14578	9.0	0.5	10.0	TREE UNKOWN
14579	9.0	0.4	14.0	TREE UNKOWN
14580	9.0	0.4	14.0	TREE UNKOWN
14581	9.0	0.4	14.0	TREE UNKOWN
14614	9.0	0.4	14.0	TREE UNKOWN
14615	9.0	0.4	14.0	TREE UNKOWN
14650	12.0	0.8	16.0	OAK
14651	12.0	0.5	12.0	TREE UNKOWN
14652	12.0	0.5	12.0	TREE UNKOWN
14691	12.0	0.5	12.0	TREE UNKOWN
14692	12.0	0.5	12.0	TREE UNKOWN
14693	12.0	0.5	12.0	TREE UNKOWN
14694	12.0	0.5	12.0	TREE UNKOWN
14695	12.0	0.7	16.0	TREE UNKOWN
14696	12.0	0.4	14.0	TREE UNKOWN
14700	12.0	0.5	14.0	TREE UNKOWN
14752	12.0	0.7	14.0	TREE UNKOWN
14771	12.0	0.5	14.0	OAK
14772	7.0	0.5	13.0	PINE
14776	12.0	0.5	14.0	OAK
14783	10.0	0.4	13.0	TREE UNKOWN
14784	10.0	0.4	13.0	TREE UNKOWN
14785	10.0	0.5	12.0	TREE UNKOWN
14796	13.0	0.6	15.0	TREE UNKOWN
14797	13.0	0.6	15.0	TREE UNKOWN
14798	13.0	0.6	15.0	TREE UNKOWN
14799	9.0	0.4	15.0	SILVER BIRCH
14813	9.0	0.4	15.0	SILVER BIRCH
14814	15.0	0.7	16.0	OAK
14815	15.0	0.8	16.0	OAK
13763	9.0	0.4	15.0	TREE UNKOWN
15022	13.0	0.60	14.0	TREE UNKOWN
15023	13.0	0.60	14.0	TREE UNKOWN
15024	13.0	0.60	14.0	TREE UNKOWN
15025	13.0	0.60	14.0	TREE UNKOWN
15026	13.0	0.60	14.0	TREE UNKOWN
15027	13.0	0.75	14.0	TREE UNKOWN
15028	13.0	0.50	14.0	TREE UNKOWN
15054	13.0	0.60	14.0	TREE UNKOWN
15055	13.0	0.60	14.0	TREE UNKOWN
15056	13.0	0.50	14.0	TREE UNKOWN
15057	13.0	0.50	14.0	TREE UNKOWN
15081	13.0	0.50	14.0	TREE UNKOWN
15093	13.0	0.60	14.0	TREE UNKOWN
15106	13.0	0.60	14.0	TREE UNKOWN
15107	13.0	0.50	14.0	TREE UNKOWN
15111	13.0	0.60	14.0	TREE UNKOWN
15112	13.0	0.50	14.0	TREE UNKOWN
15113	13.0	0.50	14.0	TREE UNKOWN
15114	13.0	0.50	14.0	TREE UNKOWN
15115	16.0	1.10	18.0	OAK
15138	10.0	0.55	10.0	TREE UNKOWN
15139	14.0	0.60	15.0	OAK
15144	14.0	0.60	15.0	OAK
15145	14.0	0.60	15.0	OAK
15146	12.0	0.60	13.0	TREE UNKOWN
15147	12.0	0.60	13.0	TREE UNKOWN
15148	12.0	0.60	13.0	TREE UNKOWN
15154	15.0	1.00	16.0	OAK
15172	14.0	0.60	15.0	OAK
15179	12.0	0.70	15.0	SILVER BIRCH
15194	12.0	0.60	15.0	TREE UNKOWN
15195	16.0	0.90	16.0	TREE UNKOWN
15196	12.0	0.50	15.0	TREE UNKOWN
15197	12.0	0.50	15.0	TREE UNKOWN
15198	13.0	1.10	16.0	OAK
15199	13.0	0.80	15.0	TREE UNKOWN
15200	12.0	0.60	14.0	TREE UNKOWN
15201	13.0	0.70	15.0	OAK
15202	13.0	0.70	15.0	OAK
15210	10.0	0.65	15.0	TREE UNKOWN
15211	10.0	0.65	15.0	TREE UNKOWN
15214	10.0	0.65	15.0	TREE UNKOWN
15255	9.0	0.30	14.0	TREE UNKOWN
15256	9.0	0.30	14.0	TREE UNKOWN
15257	13.0	0.60	15.0	TREE UNKOWN
15262	14.0	0.80	16.0	TREE UNKOWN
15263	14.0	0.70	15.0	OAK
15264	12.0	0.60	13.0	TREE UNKOWN
15275	10.0	0.50	10.0	TREE UNKOWN
15276	10.0	0.60	16.0	SILVER BIRCH
15302	15.0	1.10	15.0	TREE UNKOWN
15303	15.0	1.10	16.0	OAK
15304	9.0	0.50	13.0	OAK
15313	9.0	0.50	15.0	OAK
15315	9.0	0.50	15.0	OAK
15316	11.0	0.50	13.0	TREE UNKOWN
15331	11.0	0.50	13.0	OAK
15332	11.0	0.50	13.0	OAK
15333	10.0	0.50	14.0	SILVER BIRCH
15334	10.0	0.50	14.0	SILVER BIRCH
15354	17.0	1.30	18.0	OAK
15355	15.0	0.70	17.0	OAK
15356	10.0	0.50	14.0	SILVER BIRCH
15357	8.0	0.50	9.0	PINE
15394	10.0	0.50	14.0	SILVER BIRCH
15401	10.0	0.60	12.0	TREE UNKOWN
15408	15.0	0.80	17.0	OAK
15421	8.0	0.50	15.0	PINE
15423	8.0	0.50	15.0	PINE
15424	8.0	0.50	15.0	PINE
15433	18.0	0.80	18.0	OAK
15434	10.0	0.50	13.0	TREE UNKOWN
15435	10.0	0.50	13.0	SILVER BIRCH
15440	8.0	0.30	12.0	ASH
15441	8.0	0.30	12.0	ASH
15442	8.0	0.30	12.0	ASH
15443	8.0	0.30	12.0	ASH
15444	8.0	0.30	12.0	ASH
15445	8.0	0.30	12.0	ASH
15446	8.0	0.30	12.0	ASH
15447	8.0	0.30	12.0	ASH
15448	8.0	0.30	12.0	ASH
15449	8.0	0.20	12.0	ASH
15459	8.0	0.30	12.0	ASH
15484	9.0	0.50	14.0	TREE UNKOWN
15485	8.0	0.30	14.0	SILVER BIRCH
15514	9.0	0.50	14.0	SILVER BIRCH
15515	9.0	0.50	14.0	SILVER BIRCH
15558	9.0	0.50	13.0	TREE UNKOWN
15559	9.0	0.50	13.0	TREE UNKOWN
15569	8.0	0.30	12.0	TREE UNKOWN
15570	8.0	0.30	12.0	TREE UNKOWN
15573	12.0	0.50	15.0	TREE UNKOWN
15578	13.0	0.60	14.0	TREE UNKOWN
15603	8.0	0.30	12.0	ASH
15603	8.0	0.30	12.0	ASH
15604	8.0	0.30	12.0	ASH
15604	8.0	0.30	12.0	ASH

Tree Schedule

Pt No	Spread	Bole	Height	Species
15605	8.0	0.30	12.0	ASH
15605	8.0	0.30	12.0	ASH
15606	10.0	0.40	12.0	OAK
15606	10.0	0.40	12.0	OAK
15625	10.0	0.40	12.0	OAK
15625	10.0	0.40	12.0	OAK
15626	10.0	0.40	12.0	TREE UNKOWN
15626	10.0	0.40	12.0	TREE UNKOWN
15627	10.0	0.40	12.0	TREE UNKOWN
15627	10.0	0.40	12.0	TREE UNKOWN
15628	10.0	0.40	12.0	TREE UNKOWN
15628	10.0	0.40	12.0	TREE UNKOWN
15629	10.0	0.40	12.0	TREE UNKOWN
15629	10.0	0.40	12.0	TREE UNKOWN
15641	8.0	0.50	12.0	TREE UNKOWN
15654	9.0	0.50	15.0	PINE
15655	9.0	0.50	15.0	PINE
15656	9.0	0.50	15.0	PINE
15671	12.0	0.60	13.0	OAK
15678	9.0	0.55	13.0	SILVER BIRCH
15702	13.0	0.60	16.0	OAK
15738	12.0	0.60	15.0	TREE UNKOWN
15747	12.0	0.60	15.0	TREE UNKOWN
15753	12.0	0.80	15.0	TREE UNKOWN
15754	10.0	0.50	13.0	TREE UNKOWN
15770	10.0	0.70	13.0	TREE UNKOWN
15773	9.0	0.45	12.0	TREE UNKOWN
15805	9.0	0.60	12.0	TREE UNKOWN
15815	9.0	0.50	15.0	BEECH
15816	9.0	0.50	15.0	BEECH
15817	9.0	0.50	15.0	OAK
15822	12.0	0.70	16.0	TREE UNKOWN
15823	12.0	0.50	16.0	TREE UNKOWN
15869	15.0	1.10	17.0	TREE UNKOWN
15870	12.0	0.45	14.0	OAK
15895	14.0	0.60	15.0	OAK
15896	14.0	0.50	15.0	OAK
15912	14.0	0.70	16.0	TREE UNKOWN
15913	14.0	0.70	16.0	TREE UNKOWN
15914	14.0	0.70	16.0	TREE UNKOWN
15915	14.0	0.60	16.0	TREE UNKOWN
15916	14.0	0.70	16.0	OAK
15936	8.0	0.30	14.0	TREE UNKOWN
15937	13.0	0.50	15.0	OAK
15955	13.0	0.45	15.0	OAK
15956	13.0	0.60	15.0	OAK
15960	13.0	0.75	16.0	BEECH
15961	13.0	0.80	17.0	OAK
15962	13.0	0.80	17.0	OAK
15963	8.0	0.40	14.0	SILVER BIRCH
15964	8.0	0.40	14.0	SILVER BIRCH
15965	14.0	0.80	17.0	TREE UNKOWN
15966	12.0	0.40	15.0	TREE UNKOWN
16006	13.0	0.75	14.0	TREE UNKOWN
16007	13.0	0.75	14.0	TREE UNKOWN
16008	9.0	0.30	13.0	TREE UNKOWN
16009	9.0	0.50	13.0	TREE UNKOWN
16010	9.0	0.50	13.0	TREE UNKOWN
16011	9.0	0.50	13.0	TREE UNKOWN
16048	11.0	0.65	15.0	TREE UNKOWN
16049	11.0	0.50	15.0	TREE UNKOWN
16050	10.0	0.75	15.0	SILVER BIRCH
16051	10.0	0.50	14.0	TREE UNKOWN
16052	10.0	0.50	14.0	TREE UNKOWN
16053	9.0	0.40	9.0	HOLLY
16054	9.0	0.40	9.0	HOLLY
17100	10.0	0.60	14.0	OAK
17101	10.0	0.70	15.0	PINE
17102	10.0	0.60	15.0	PINE
17103	10.0	0.50	15.0	PINE
17104	10.0	0.50	15.0	PINE
17206	10.0	0.65	15.0	TREE UNKOWN
17207	10.0	0.65	15.0	TREE UNKOWN
17231	10.0	0.70	15.0	TREE UNKOWN
17232	10.0	0.70	15.0	TREE UNKOWN
17240	10.0	0.80	15.0	TREE UNKOWN
17241	14.0	1.00	17.0	TREE UNKOWN
17242	12.0	0.70	15.0	TREE UNKOWN
17274	14.0	0.90	16.0	OAK
17275	11.0	0.70	15.0	OAK
17276	11.0	0.70	12.0	TREE UNKOWN
17277	11.0	0.70	12.0	TREE UNKOWN
17282	13.0	0.75	16.0	TREE UNKOWN
17000	12.0	0.60	14.0	TREE UNKOWN
17001	12.0	0.60	14.0	SILVER BIRCH
17035	15.0	0.90	17.0	OAK
20089	11.0	0.45	12.0	OAK
20106	11.0	0.60	12.0	OAK
20107	12.0	0.50	12.0	OAK
20120	12.0	0.60	12.0	OAK
20121	11.0	0.45	12.0	OAK
20122	12.0	0.50	12.0	OAK
20167	12.0	0.50	12.0	OAK
20188	12.0	0.50	12.0	OAK
20189	13.0	0.55	12.0	OAK
20190	13.0	0.54	13.0	OAK
20232	12.0	0.40	12.0	OAK
20233	10.0	0.44	11.0	OAK
20243	12.0	0.70	11.0	OAK
20244	10.0	0.40	11.0	OAK
20245	9.0	0.35	10.0	OAK
20247	13.0	0.50	13.0	OAK
20248	12.0	0.50	13.0	OAK
20249	13.0	0.70	13.0	OAK
20257	12.0	0.50	13.0	OAK
20320	12.0	0.60	13.0	OAK
20321	12.0	0.48	13.0	OAK
20324	12.0	0.50	13.0	OAK
20342	12.0	0.68	12.0	BEECH
20358	12.0	0.60	12.0	OAK
20426	12.0	0.50	12.0	OAK
20427	12.0	0.45	11.0	OAK
20869	10.0	0.40	10.0	OAK
20870	14.0	0.70	12.0	OAK
20871	12.0	0.60	11.0	OAK
20925	13.0	0.60	11.0	OAK
20928	12.0	0.55	11.0	OAK
21089	12.0	0.65	12.0	OAK
21090	12.0	1.00	11.0	WILLOW
21091	6.0	0.20	9.0	OAK
21092	8.0	0.28	11.0	MAPLE
21093	9.0	0.30	11.0	TREE UNKOWN
21094	9.0	0.35	11.0	MAPLE
21095	9.0	0.30	10.0	TREE UNKOWN
21102	8.0	0.30	9.0	HOLLY
21103	12.0	0.80	10.0	WILLOW
21126	13.0	0.60	12.0	OAK
21127	11.0	0.50	12.0	OAK
21147	11.0	0.50	12.0	OAK
21169	9.0	0.45	12.0	SILVER BIRCH
21170	7.0	0.25	9.0	SYCAMORE
21171	7.0	0.25	9.0	SYCAMORE
21172	7.0	0.22	6.0	OAK
21173	5.0	0.20	5.0	ASH
21174	5.0	0.20	5.0	OAK
21183	11.0	0.70	12.0	OAK
21216	10.0	0.45	11.0	OAK
21314	9.0	0.26	10.0	MAPLE
21315	7.0	0.30	9.0	HOLLY
21316	13.0	0.80	12.0	MAPLE
21317	9.0	0.40	11.0	HOLLY
21318	9.0	0.40	11.0	HOLLY
21345	11.0	0.40	12.0	SYCAMORE
21355	10.0	0.40	10.0	OAK
21360	12.0	0.90	11.0	OAK
21361	9.0	0.30	10.0	OAK
21362	9.0	0.30	10.0	OAK
21363	9.0	0.30	10.0	OAK
21364	11.0	0.70	10.0	MAPLE
21365	11.0	0.70	10.0	WILLOW
21366	7.0	0.30	11.0	SILVER BIRCH
21367	10.0	0.46	10.0	WILLOW
21368	10.0	0.40	9.0	WILLOW
21397	10.0	0.35	11.0	OAK
21398	11.0	0.44	11.0	OAK
21399	11.0	0.50	11.0	OAK
21400	9.0	0.38	9.5	SILVER BIRCH
21412	9.0	0.40	9.0	ASH
21413	9.0	0.40	9.0	ASH
21414	9.0	0.30	10.0	CHERRY
21415	10.0	0.40	10.0	OAK
21416	7.0	0.25	10.0	ASH
21417	9.0	0.35	11.0	ASH
21418	8.0	0.27	11.0	ASH
21419	8.0	0.30	9.0	OAK
21420	8.0	0.30	9.0	OAK
21421	10.0	0.30	10.0	TREE UNKOWN
21422	9.0	0.30	11.0	ASH
21423	9.0	0.40	11.0	ASH
21424	10.0	0.40	11.0	ASH
21438	10.0	0.25	10.0	OAK
21439	10.0	0.25	10.0	OAK
21440	10.0	0.50	13.0	PINE
21441	10.0	0.50	13.0	PINE
21466	8.0	0.25	10.0	CHERRY
21467	8.0	0.45	9.0	OAK
21482	8.0	0.35	11.0	ASH
21488	7.0	0.28	11.0	ASH
21499	7.0	0.28	11.0	SILVER BIRCH
21500	8.0	0.30	8.0	HAWTHORN
21506	8.0	0.30	8.0	WILLOW
21515	10.0	0.35	10.0	OAK
21516	11.0	0.45	11.0	ASH
21521	12.0	0.70	12.0	OAK
21527	11.0	0.58	12.0	OAK
21528	8.0	0.50	10.0	OAK
21531	10.0	0.50	11.0	OAK
21532	10.0	0.60	11.0	OAK
21536	7.0	0.30	12.0	PINE
21537	7.0	0.30	10.0	PINE
21538	8.0	0.40	11.0	PINE
21543	9.0	0.35	11.0	OAK
21544	9.0	0.35	11.0	OAK
21545	9.0	0.25	11.0	OAK
21546	10.0	0.40	11.0	OAK
21547	12.0	0.45	11.0	OAK
21550	8.0	0.30	10.0	ALDER
21576	9.0	0.30	12.0	OAK
21577	11.0	0.40	12.0	OAK
21579	7.0	0.30	8.0	OAK
21580	7.0	0.28	5.0	WILLOW
21591	10.0	0.55	10.0	CHERRY
21592	7.0	0.30	10.0	CHERRY
21593	11.0	0.60	11.0	OAK
21600	11.0	0.44	12.0	OAK
21601	10.0	0.42	12.0	ASH
21623	10.0	0.30	8.0	WILLOW
21624	8.0	0.30	9.0	CHERRY
21625	10.0	0.60	11.0	ASH
21626	11.0	0.65	11.0	ASH
21637	7.0	0.30	11.0	ASH
21639	7.0	0.27	9.0	OAK
21640	5.0	0.25	11.0	PINE
21641	5.0	0.25	11.0	PINE
21658	9.0	0.26	10.0	OAK
21659	9.0	0.28	10.0	OAK
21663	10.0	0.30	10.0	CHERRY
21664	10.0	0.30	10.0	CHERRY
21669	8.0	0.27	10.0	CHERRY
21670	9.0	0.30	10.0	CHERRY
21671	7.0	0.27	9.0	CHERRY
21672	7.0	0.27	9.0	CHERRY
21673	7.0	0.25	9.0	CHERRY
21674	5.0	0.27	11.0	PINE
21675	6.0	0.30	11.0	PINE
21676	9.0	0.40	11.0	PINE
21702	7.0	0.27	10.0	SILVER BIRCH
21703	9.0	0.40	10.0	PINE
21704	12.0	0.40	10.0	OAK
21705	8.0	0.30	10.0	WILLOW

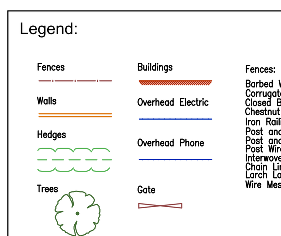
Tree Schedule

Pt No	Spread	Bole	Height	Species
21706	8.0	0.27	11.0	OAK
21707	12.0	0.80	10.0	WILLOW
21711	7.0	0.20	11.0	OAK
21712	9.0	0.30	10.0	WILLOW
21713	7.0	0.30	10.0	WILLOW
21714	9.0	0.33	11.0	WILLOW
21718	10.0	0.35	10.0	WILLOW
21721	7.0	0.35	10.0	PINE
21722	6.0	0.30	10.0	PINE
21723	7.0	0.35	10.0	PINE
21724	6.0	0.28	10.0	PINE
21725	7.0	0.35	10.0	PINE
21726	8.0	0.40	11.0	PINE
21733	10.0	0.36	10.0	SYCAMORE
21734	5.0	0.25	10.0	SILVER BIRCH
21735	5.0	0.25	10.0	SILVER BIRCH
21736	10.0	0.36	10.0	OAK
21739	7.0	0.30	10.0	WILLOW
21745	10.0	0.35	10.0	WILLOW
21746	12.0	0.60	10.0	WILLOW
21747	9.0	0.30	10.0	WILLOW
21753	8.0	0.30	9.0	WILLOW
21754	8.0	0.30	9.0	WILLOW
21757	7.0	0.30	11.0	ASH
21758	7.0	0.30	10.0	WILLOW
21763	8.0	0.30	10.0	CHERRY
21764	8.0	0.30	10.0	CHERRY
21765	9.0	0.40	10.0	WILLOW
21766	13.0	0.45	12.0	ASH
21770	7.0	0.37	10.0	WILLOW
21771	8.0	0.30	10.0	WILLOW
21772	9.5	0.30	11.0	WILLOW
21773	10.0	0.30	9.5	WILLOW
21774	10.0	0.30	9.0	OAK
21775	7.0	0.30	11.0	PINE
21776	11.0	0.45	12.0	ASH
21793	11.0	0.70	11.0	TREE UNKOWN
21798	7.0	0.27	11.0	TREE UNKOWN
21799	10.0	0.60	11.0	ASH
21805	9.0	0.40	9.0	SWEET CHESTNUT
21806	9.0	0.30	10.0	WILLOW
21807	9.0	0.30	10.0	WILLOW
21848	10.0	0.40	11.0	SWEET CHESTNUT
21849	8.0	0.40	11.0	ASH
21850	8.0	0.40	11.0	ASH
21851	10.0	0.70	11.0	SWEET CHESTNUT
21852	10.0	0.70	11.0	SWEET CHESTNUT
21858	7.0	0.30	11.0	ASH
21859	8.0	0.30	11.0	CHERRY
21860	8.0	0.30	11.0	ASH
21861	10.0	0.50	11.0	SWEET CHESTNUT
21862	9.0	0.27	11.0	CHERRY
21868	9.0	0.30	11.0	CHERRY
21907	9.0	0.35	12.0	ASH
21908	9.0	0.40	12.0	ASH
21909	9.0	0.35	12.0	ASH
21910	9.0	0.35	12.0	ASH
21911	10.0	0.55	12.0	ASH
21912	10.0	0.35	10.0	OAK
21913	10.0	0.40	10.0	OAK
21914	11.0	0.50	12.0	ASH
21915	11.0	0.50	12.0	ASH
21916	9.0	0.30	12.0	ASH
21917	8.0	0.30	10.0	CHERRY
21918	8.0	0.30	10.0	CHERRY
21919	10.0	0.5	15.0	ASH
21920	10.0	0.5	15.0	ASH
21921	10.0	0.4	13.0	ASH
21922	10.0	0.4	13.0	ASH
21923	10.0	0.6	12.0	CHERRY
21924	9.0	0.3	12.0	CHERRY
21976	10.0	0.3	10.0	TREE UNKOWN
21977	10.0	0.4	12.0	ASH
21978	11.0	0.4	133.0	ASH
21979	11.0	0.6	13.0	ASH
21980	9.0	0.4	13.0	ASH
21981	10.0	0.4	13.0	ASH
21982	11.0	0.5	12.0	ASH
22004	14.0	0.6	14.0	BEECH
22023	12.0	0.7	13.0	OAK
22024	11.0	0.4	11.0	OAK
22025	11.0	0.5	12.0	ASH
22026	11.0	0.5	11.0	OAK
22027	8.0	0.3	10.0	CHERRY
22028	8.0	0.3	10.0	CHERRY
22036	12.0	0.6	12.0	OAK
22073	9.0	0.4	12.0	ASH
22090	9.0	0.3	11.0	ASH
22091	9.0	0.3	10.0	CHERRY
22092	8.0	0.3	10.0	CHERRY
22122	7.0	0.3	10.0	WILLOW
22123	9.0	0.3	10.0	WILLOW
22131	13.0	0.5	12.0	OAK
22148	10.0	0.5	14.0	ASH
22149	10.0	0.5	14.0	ASH
22150	11.0	0.6	13.0	WILLOW
22151	10.0	0.5	13.0	ASH
22152	10.0	0.3	11.0	CHERRY
22153	12.0	0.7	13.0	ASH
22154	9.0	0.3	11.0	CHERRY
24018	12.0	0.60	12.0	OAK
24019	10.0	0.50	12.0	OAK
24020	13.0	0.60	12.0	OAK
25038	10.0	0.45	10.0	OAK
25039	12.0	0.60	12.0	OAK
25060	12.0	0.55	12.0	OAK
25061	13.0	0.70	13.0	OAK
25062	10.0	0.50	12.0	OAK
25063	10.0	0.50	12.0	OAK
25064	10.0	0.55	13.0	SILVER BIRCH
25118	11.0	0.60	12.0	OAK
25119	8.0	0.47	12.0	SILVER BIRCH
25120	11.0	0.48	12.0	OAK
25171	13.0	0.70	12.0	OAK
25172	12.0	0.60	12.0	OAK
25173	12.0	0.55	12.0	OAK
25174	12.0	0.65	12.0	OAK
25175	12.0	0.60	12.0	OAK
25193	9.0	0.48	13.0	SILVER BIRCH
25194	13.0	0.90	12.0	OAK
25205	9.0	0.50	12.0	SILVER BIRCH
25256	10.0	0.50	12.0	SWEET CHESTNUT
25257	13.0	0.60	13.0	OAK
25326	14.0	1.00	13.0	OAK
25333	13.0	0.60	13.0	OAK
25334	11.0	0.50	12.0	OAK
25359	11.0	0.65	12.0	OAK
25398	11.0	0.50	12.0	OAK
25451	9.0	0.28	8.0	OAK
25489	12.0	0.65	11.0	OAK
25490	12.0	0.60	11.0	OAK
25608	10.0	0.50	10.0	BEECH
25617	15.0	1.00	13.0	OAK
25618	15.0	0.75	13.0	OAK
25619	13.0	0.55	13.0	OAK
25620	13.0	0.65	13.0	OAK
25901	10.0	0.55	10.0	OAK
25955	10.0	0.75	8.0	HORSECHESTNUT
26092	20.0	1.90	14.0	OAK
26102	9.0	0.50	12.0	SILVER BIRCH
26103	11.0	0.50	11.0	OAK
26104	12.0	0.55	11.0	OAK
26111	13.0	0.60	11.0	OAK
26112	11.0	0.48	11.0	OAK
26122	11.0	0.50	11.0	OAK
26123	8.0	0.50	9.0	HAZEL
26124	11.0	0.55	11.0	OAK
26125	11.0	0.52	12.0	OAK
26140	14.0	0.60	10.0	WILLOW
26143	16.0	0.75	11.0	WILLOW
26170	10.0	0.50	11.0	TREE UNKOWN
26207	13.0	0.60	12.0	OAK
26208	13.0	0.80	13.0	OAK
26209	10.0	0.50	9.0	HAZEL
26210	14.0	0.60	10.0	WILLOW
26211	14.0	0.60	10.0	WILLOW
26239	12.0	0.50	10.0	WILLOW
26283	12.0	0.50	11.0	TREE UNKOWN
26284	12.0	0.55	12.0	OAK
26286	12.0	0.50	12.0	OAK
26341	13.0	0.60	10.0	OAK
26346	10.0	0.50	9.0	OAK
26347	13.0	0.70	12.0	OAK
26388	12.0	0.60	12.0	SILVER BIRCH
26396	12.0	0.50	12.0	TREE UNKOWN
26397	12.0	0.55	12.0	OAK
26398	12.0	0.60	13.0	TREE UNKOWN
26417	11.0	0.54	11.0	OAK
26418	11.0	0.50	11.0	OAK
26471	13.0	0.70	10.0	WILLOW
26472	10.0	0.50	10.0	WILLOW
26473	12.0	0.50	11.0	OAK
30070	15.0	0.70	17.0	ASH
30071	14.0	0.60	13.0	WILLOW
30072	12.0	0.80	14.0	SWEET CHESTNUT
30073	8.0	0.40	7.0	HAWTHORN
30074	10.0	0.50	8.0	HAWTHORN
30075	8.0	0.35	7.0	WILLOW
30094	15.0	0.80	18.0	ASH
30095	12.0	0.45	14.0	WILLOW
30096	9.0	0.45	9.0	WILLOW
30097	10.0	0.40	9.0	WILLOW
30098	10.0	0.40	9.0	WILLOW
30099	10.0	0.40	9.0	WILLOW
30100	10.0	0.40	9.0	WILLOW
30119	8.0	0.40	10.0	WILLOW
30120	8.0	0.40	10.0	WILLOW
30121	13.0	0.40	12.0	WILLOW
30122	8.0	0.40	14.0	WILLOW
30123	8.0	0.35	14.0	WILLOW
30124	8.0	0.35	14.0	WILLOW
30126	8.0	0.35	14.0	WILLOW
30127	8.0	0.40	14.0	WILLOW
30128	13.0	0.75	18.0	ASH
30129	12.0	0.30	11.0	SILVER BIRCH
30130	8.0	0.30	16.0	ASH
30131	8.0	0.30	14.0	SILVER BIRCH
30132	12.0	0.45	16.0	ASH
30134	12.0	0.35	16.0	ASH
30135	14.0	0.45	16.0	ASH
30136	14.0	0.35	16.0	ASH
30137	8.0	0.35	14.0	ASH
30138	13.0	0.35	14.0	ASH
30185	8.0	0.30	14.0	SILVER BIRCH
30186	8.0	0.30	14.0	SILVER BIRCH
30187	8.0	0.30	14.0	SILVER BIRCH
30188	8.0	0.30	14.0	SILVER BIRCH
30189	8.0	0.40	14.0	SILVER BIRCH
30190	8.0	0.40	14.0	SILVER BIRCH
30191	10.0	0.40	14.0	SILVER BIRCH
30192	8.0	0.30	14.0	SILVER BIRCH
30194	8.0	0.30	14.0	SILVER BIRCH
30223	14.0	0.70	18.0	ASH
30224	14.0	0.40	18.0	ASH
30225	9.0	0.35	16.0	SILVER BIRCH
30226	16.0	0.80	16.0	OAK
30227	12.0	0.60	12.0	ASH
30228	14.0	0.55	16.0	ASH
30230	11.0	0.35	14.0	ASH
30232	16.0	0.70	18.0	OAK
30233	10.0	0.40	10.0	OAK
30234	11.0	0.50	12.0	SILVER BIRCH
30235	12.0	0.50	14.0	WILLOW
30258	9.0	0.35	15.0	SILVER BIRCH
30259	9.0	0.35	15.0	SILVER BIRCH
30275	9.0	0.35	15.0	SILVER BIRCH
30276	9.0	0.35	15.0	SILVER BIRCH
30283	8.0	0.35	16.0	ASH
30344	15.0	0.60	16.0	OAK
30345	12.0	0.50	16.0	SILVER BIRCH
30354	9.0	0.40	16.0	SILVER BIRCH
30355	15.0	0.65	16.0	ASH
30356	16.0	1.20	16.0	WILLOW
30359	8.0	0.30	10.0	OAK
30360	14.0	0.45	14.0	OAK
30361	16.0	0.55	16.0	OAK
30362	10.0	0.40	14.0	SILVER BIRCH
30363	9.0	0.30	13.0	OAK
30364	14.0	0.45	15.0	OAK
30365	17.0	0.65	18.0	OAK
30366	15.0	0.45	15.0	POPLAR

Coordinate Table

Stn	Easting	Northing	Level
STN1	546484.879	122440.140	24.500
STN10	546557.197	121802.528	49.226
STN11	546691.305	121841.954	55.256
STN12	546796.084	122030.836	47.998
STN13	546883.457	122006.380	57.227
STN14	546922.454	121980.942	60.069
STN15	546942.129	121955.408	61.033
STN16	547002.292	121927.381	59.067
STN17	547081.689	121999.740	63.585
STN18	547111.862	122117.016	63.280
STN19	547178.571	122200.784	61.506
STN2	546443.565	122364.001	24.899
STN20	547138.509	122240.197	58.013
STN21	547057.172	122241.756	55.227
STN22	546973.690	122304.994	48.572
STN23	546840.964	122403.119	37.864
STN24	546710.691	122496.630	26.764
STN25	546639.803	122521.001	23.928
STN3	546534.194	122528.985	24.531
STN4	546597.423	122529.137	24.730
STN4A	546600.591	122481.443	25.578
STN4B	546629.565	122537.446	24.421
STN5	546567.897	122423.818	26.234
STN6	546539.411	122311.884	28.731
STN7	546489.305	122264.665	24.518
STN8	546477.601	122208.969	29.973
STN9	546465.735	122009.008	40.823
STNL1	547118.623	122268.717	55.380
STNL10	546958.154	122221.360	52.427
STNL10A	546995.392	122126.248	57.165
STNL11	546918.425	122202.765	51.633
STNL12	546909.438	122160.727	52.455
STNL13	547072.184	122149.772	60.188
STNL13A	547022.192	122179.520	56.600
STNL14	547064.578	122111.743	61.423
STNL15	546910.994	122302.799	43.095
STNL16	546921.960	122317.398	43.452
STNL17	546901.893	122324.664	42.175
STNL18	546892.510	122135.497	49.089
STNL19	546867.716	122125.917	47.353
STNL19A	546876.669	122108.635	49.026
STNL2	547130.777	122188.922	60.332
STNL20	546836.567	122125.558	48.189
STNL21	546871.952	122087.488	51.035
STNL3	547104.735	122154.351	61.246
STNL4	547058.310	122194.881	57.232
STNL5	547066.839	122280.805	53.195
STNL6	547043.803	122316.495	50.378
STNL7	547008.684	122275.127	51.906
STNL8	546924.377	122433.689	41.934
STNL9	546912.435	122538.283	33.481
STNP8	546745.144	122174.735	44.877
STNW1	547122.822	122301.324	54.236
STNZ1	546882.791	122174.209	50.147
STNZ2	546879.848	122148.191	46.590
STNG1	546704.07	122450.29	28.00
STNG10	546611.74	122445.96	26.36
STNG11	546631.81	122434.99	26.87
STNG12	546631.53	122435.21	26.81
STNG12A	546653.08	122452.01	26.67
STNG13	546653.62	122407.97	27.90
STNG14	546665.73	122396.45	28.74
STNG15	546695.16	122386.25	29.74
STNG16	546715.43	122395.14	28.94
STNG16A	546725.88	122361.72	28.93
STNG16B	546705.42	122409.88	27.27
STNG16C	546743.51	122337.07	29.86
STNG16D	546749.58	122325.73	30.31
STNG16E	546767.05	122308.21	31.36
STNG16F	546783.84	122297.32	31.99
STNG16G	546790.08	122275.77	33.31
STNG16H	546806.39	122264.86	36.97
STNG16I	546817.39	122289.55	36.30
STNG16I	546817.39	122289.55	36.30
STNG16J	546824.20	122309.07	36.50
STNG16J	546824.20	122309.07	36.50
STNG16K	546814.21	122331.04	38.24
STNG17	546727.63	122403.35	29.84
STNG18	546704.07	122450.29	28.00
STNG19	546729.89	122480.70	27.48
STNG20	546755.43	122382.17	31.73
STNG20	546755.47	122382.16	31.72
STNG22	546767.91	122366.42	33.18
STNG23	546787.47	122339.61	36.22
STNG24	546802.75	122343.11	37.23
STNG25	546844.20	122312.84	37.50
STNG26	546874.99	122313.51	40.38
STNG27	546871.83	122285.20	43.10
STNG28	546866.58	122260.26	44.75
STNG30	546835.86	122255.15	41.55
STNG30	546835.85	122255.15	41.55
STNGR10	546679.66	122391.83	29.22
STNGR11	546712.53	122429.38	28.69
STNGR3	546588.85	122460.77	25.73
STNGR4	546645.14	122445.47	26.70
STNGR8	546615.96	122509.48	24.72
STNGR9	546623.86	122525.87	24.40

Legend:



Fences:

Barbed Wire Fence	B/W
Corrugated Iron Fence	C/I
Closed Board Fence	C/B
Chestnut Paling Fence	C/P
Iron Railing Fence	I/R
Post and Chain Fence	P/C
Post and Rail Fence	P/R
Post Wire Fence	P/W
Interwoven	I/W
Chain Link Fence	C/L
Larch Lap Fence	L/L
Wire Mesh Fence	W/M

Abbreviations:

BOLLARD	BO	MARKER	MK
BRITISH TELECOM IC	BT	PARKING METER	PM
CONCRETE PAVING SLABS	CPS	ROAD NAME PLATE	RNP
COVER LEVEL	CL	ROAD SIGN	RS
DROP KERB	DK	RODDING EYE	RE
ELECTRICITY POLE	EP	RETAINING WALL	Rtw
FIRE HYDRANT	FH	RAINWATER PIPE	RPW
FLOWER BED	F/B	SOIL VENT PIPE	SVP
FOOTPATH	FP	STOP VALVE	SV
GAS VALVE	GV	TELEGRAPH POLE	TP
GULLY	GY	TRAFFIC LIGHT	TL
INSPECTION COVER	IC	UNABLE TO LIFT	UTL
PIPE INVERT LEVEL	IL	VENT PIPE	VP
KERB OUTLET	KO	WATER METER	WM
MAN HOLE	MH		

Rev. Suffix	Date	Initial	Revision Details

Surveyor PD/LW | Verified By PD/LW | CAD Operator TJH | Approved By ARL | Date 19.08.2020

Levelling GNSS Datum OSGB36

To an OS GNSS Datum

Client

Gleeson Homes Limited

Location

Downlands Farm
Uckfield

Drawing Title

Tree / Coordinate Schedules

Job No. 2006047 | Old Job No.

Drawing Number GHL/2006047/TS | Revision Suffix

Scale No Scale | Date August 2020

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C. Proposed Masterplan

Site

DOWNLANDS FARM, UCKFIELD

Drawing

Illustrative masterplan

Scale

1:2000@A1

Date

28.04.22

Drawing ref 1309.**02**

KEY

- Site boundary
- Woodland park incorporating SANG
- Amenity open space
- Community Orchard / amenity space
- Potential location for Natural Childrens Play Area
- Indicative landscape planting / ecology links
- SuDS
- P — Parking for SANG / open space
- Informal recreational footpath
- Proposed vehicular access
- Emergency access / bus only
- Strategic pedestrian / cycle route
- Strategic pedestrian route

N

Budlett's Wood

Thirty Acre Wood

Shermanreed Wood

Longwood Gill

Lake Wood

A22

SMATTS ROAD

HUNTERS WAY

DOWNLAND COPSE

RICHARDS ROAD

Dast Cottage

Partridges Dast

0 20 40 60 80 100m

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D. Southern Water Asset Plans and Correspondence



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Data updated: 18/05/20

Scale: 1:1250 | Date: 12/06/20 | Wastewater Plan A0
Map Centre: 546977,122743 | Our Ref: 396031 - 2 | Powered by digdat

Foul Gravity Sewer | Combined Gravity Sewer | Converted Water Course or Treated Effluent | Surface Water Gravity Sewer | Rising Main, Vacuum or Syphon
Combined Outfall | Foul Outfall | Surface Water Outfall | Surface Water Inlet
Combined Pumping Station | Surface Water Pumping Station | Foul Pumping Station | WTW Water Treatment Works | Section 104 Area | Building Over Agreement Area
Foul Manhole | Combined Manhole | Surface Water Manhole | Side Entry Manhole, Decantation Chamber, Vortex Separator or Surface Water Soakaway

lucy.warman@watermangroup.com

Plot1

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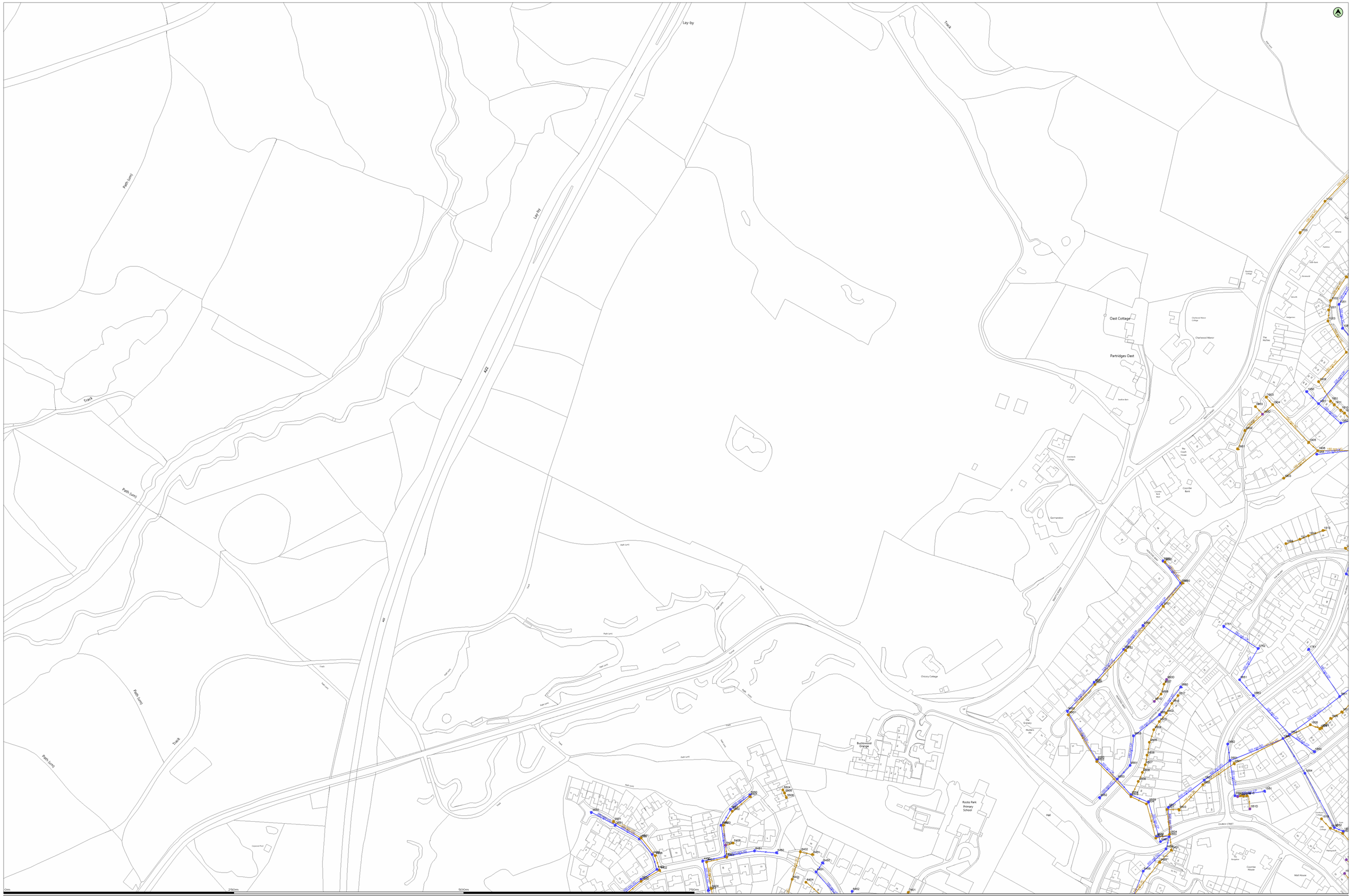
Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert
1001	F	66.64	64.83	
1002	F	66.79	64.89	
1003	F	66.13	64.66	
1101	F	67.17	65.23	
1102	F	61.56	60.08	
1103	F	62.16	60.69	
2101	F	67.49	65.91	
2102	F	67.72	66.54	
2103	F	0.00	0.00	
2104	F	0.00	0.00	
2105	F	65.44	64.57	
2201	F	60.87	59.42	
2202	F	58.54	57.11	
2203	F	65.44	0.00	
3001	F	63.15	61.43	
3009	F	62.77	61.27	
3010	F	62.15	60.37	
3011	F	0.00	0.00	
3012	F	0.00	0.00	
3013	F	0.00	0.00	
3014	F	0.00	0.00	
3015	F	0.00	0.00	
3018	F	61.50	58.75	
3019	F	62.00	0.00	
3101	F	64.40	62.85	
3201	F	0.00	0.00	
3202	F	0.00	0.00	
3203	F	0.00	0.00	
3204	F	65.41	64.68	
320D	F	0.00	0.00	
321D	F	0.00	0.00	
3301	F	57.24	56.00	
4001	F	53.70	52.25	
4002	F	52.65	50.93	
4003	F	0.00	0.00	
4101	F	54.05	52.98	
4102	F	54.48	53.50	
4103	F	54.90	53.43	
4104	F	0.00	0.00	
4105	F	0.00	0.00	
410D	F	0.00	0.00	
411D	F	0.00	0.00	
412D	F	0.00	0.00	
4201	F	0.00	0.00	
4203	F	0.00	0.00	
4204	F	0.00	0.00	
4301	F	56.62	55.33	
1050	S	65.15	64.12	
1051	S	66.66	65.00	
1150	S	67.25	66.05	
2051	S	64.23	63.39	
2053	S	64.46	63.59	
2150	S	67.89	66.34	
2151	S	68.22	66.58	
2152	S	68.18	66.82	
2153	S	0.00	0.00	
3050	S	63.82	63.12	
3051	S	64.24	63.22	
3052	S	64.63	63.44	
3053	S	63.86	62.97	
3057	S	58.95	0.00	
3058	S	53.70	0.00	
4050	S	56.25	54.64	
4051	S	53.76	0.00	
4056	S	54.58	0.00	
4057	S	0.00	0.00	
4150	S	53.84	0.00	
4151	S	54.55	53.12	
4152	S	54.52	0.00	
4153	S	63.05	0.00	
4162	S	57.67	0.00	

Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert

Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert

Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert

Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert



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Date: 12/06/20

Scale: 1:1250

Map Centre: 546465,121926

Data updated: 18/05/20

Our Ref: 396031 - 1

Wastewater Plan A0

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Foul Gravity Sewer
Combined Gravity Sewer
Overflow Course in Invert Effluent
Surface Water Gravity Sewer
Rising Main, Vacuum or Syphon
Combined Pumping Station
Surface Water Pumping Station
Foul Pumping Station
Section 104 Foul Sewers
Section 104 sw
Building Over Agreement Area
Foul Manhole
Combined Manhole
Surface Water Manhole
Blue Line Boundary Indicates Foul Sewers, Surface Water Sewers

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Plot2

from Southern Water.

Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert
0401	F	30.34	28.16	
0501	F	31.03	29.25	
0502	F	0.00	0.00	
0503	F	30.03	28.66	
0504	F	30.65	28.27	
050D	F	0.00	0.00	
0515	F	0.00	0.00	
0516	F	0.00	0.00	
0517	F	0.00	0.00	
051D	F	0.00	0.00	
0617	F	0.00	0.00	
0618	F	0.00	0.00	
0710	F	41.15	39.37	
0901	F	58.95	57.05	
0902	F	59.83	56.83	
0903	F	0.00	0.00	
1001	F	66.64	64.83	
1002	F	66.79	64.89	
1003	F	66.13	64.66	
1004	F	63.65	62.53	
1101	F	67.17	65.23	
1102	F	61.56	60.08	
1103	F	62.16	60.69	
140D	F	0.00	0.00	
143D	F	0.00	0.00	
1501	F	41.57	38.94	
1515	F	0.00	0.00	
1516	F	0.00	0.00	
1601	F	34.65	32.72	
1602	F	34.11	32.49	
1603	F	33.90	32.29	
1604	F	33.84	32.16	
1605	F	33.56	31.66	
1801	F	45.14	42.59	
1803	F	57.18	54.49	
1808	F	0.00	0.00	
1811	F	0.00	0.00	
1812	F	0.00	0.00	
1813	F	0.00	0.00	
1901	F	59.83	58.92	
1903	F	61.88	60.40	
1904	F	61.23	55.90	
1905	F	58.01	55.52	
1906	F	56.33	53.52	
1908	F	62.24	60.46	
1909	F	58.37	57.08	
190D	F	0.00	0.00	
1910	F	58.44	57.61	
1911	F	59.80	58.46	
3501	F	30.83	28.78	
4401	F	30.31	28.21	
4402	F	29.08	26.96	
4403	F	27.90	25.86	
4406	F	29.62	27.69	
4501	F	30.39	28.34	
5401	F	0.00	0.00	
5403	F	30.83	28.79	
5404	F	29.56	26.86	
5406	F	0.00	0.00	
540D	F	0.00	0.00	
5501	F	33.14	31.05	
5502	F	32.39	30.40	
5503	F	31.74	29.78	
5504	F	0.00	0.00	
5505	F	0.00	0.00	
5506	F	0.00	0.00	
6401	F	31.85	29.93	
6402	F	31.99	29.54	
6404	F	0.00	0.00	
7401	F	34.52	32.86	
8601	F	35.98	33.25	
9401	F	29.84	27.36	
9501	F	0.00	0.00	
9502	F	34.07	31.15	
9503	F	30.63	29.03	
9504	F	0.00	0.00	
9505	F	30.20	28.49	
9506	F	0.00	0.00	
9507	F	0.00	0.00	
9508	F	0.00	0.00	
9509	F	0.00	0.00	
9601	F	36.97	34.63	
9602	F	0.00	0.00	
9603	F	0.00	0.00	
9604	F	0.00	0.00	
9605	F	0.00	0.00	
9606	F	0.00	0.00	
9607	F	0.00	0.00	
960D	F	0.00	0.00	
961D	F	0.00	0.00	
9701	F	39.86	38.09	
9702	F	37.64	36.03	
9801	F	42.30	40.86	
0550	S	32.25	0.00	
0551	S	31.20	0.00	
0552	S	0.00	0.00	
0553	S	31.04	0.00	
0650	S	41.23	40.25	
0651	S	41.79	40.37	
0652	S	33.01	32.03	
0653	S	39.19	36.92	
0750	S	40.99	39.42	
0751	S	43.77	42.65	
0752	S	44.42	42.18	
1050	S	65.15	64.12	
1051	S	66.66	65.00	
1550	S	34.59	32.32	
1551	S	35.41	0.00	
1552	S	0.00	0.00	
1553	S	0.00	0.00	
1554	S	0.00	0.00	
1650	S	32.80	30.25	
1651	S	34.63	0.00	
1652	S	33.27	30.42	
1750	S	42.69	40.83	
1751	S	40.24	37.55	
1950	S	62.19	60.45	
1951	S	61.02	0.00	
1952	S	57.86	0.00	
1955	S	56.44	50.00	
3550	S	31.02	29.50	
3551	S	30.80	28.55	
4450	S	30.26	28.56	
4451	S	28.99	27.34	
4452	S	27.97	26.37	
4455	S	29.64	27.53	
4550	S	30.44	28.26	
5450	S	31.80	30.23	
5451	S	31.41	29.86	
5452	S	30.84	29.28	
5453	S	29.39	26.94	
5550	S	33.15	31.63	
5551	S	32.39	30.89	
5552	S	31.79	30.27	
6450	S	31.80	30.54	
6451	S	31.28	30.03	
6452	S	31.60	0.00	
8650	S	36.03	34.39	
9450	S	31.04	27.97	
9455	S	30.87	27.37	
9458	S	0.00	0.00	
9550	S	34.09	31.73	
9551	S	33.56	31.97	
9552	S	32.00	30.75	
9553	S	32.47	30.29	
9554	S	30.73	29.23	
9555	S	0.00	0.00	
9556	S	31.04	28.01	
9557	S	29.82	27.87	
9650	S	36.98	34.80	
9651	S	38.99	37.71	
9652	S	36.40	35.07	

Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert
9750	S	38.73	37.08	
9751	S	37.55	35.58	
9850	S	42.40	41.25	

Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert


Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert

Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert

Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert

Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert

Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert



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Date: 12/06/20 | Scale: 1:1250 | Map Centre: 546465,121926 | Data updated: 18/05/20 | Our Ref: 396031 - 1 | Wastewater Plan A0

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Combined Outfall | Foul Outfall | Surface Water Outfall | Surface Water Inlet

Combined Pumping Station | Surface Water Pumping Station | Foul Pumping Station | Water Treatment Works | Section 104 Area | Building Over Agreement Area

Foul Manhole | Combined Manhole | Surface Water Manhole | Side Entry Manhole, Decarcation Chamber, Dummy Manhole or Surface Water Soakaway

lucy.warman@watermangroup.com

Plot2

WATER for LIFE from Southern Water

Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert
0401	F	30.34	28.16	
0501	F	31.03	29.25	
0502	F	0.00	0.00	
0503	F	30.03	28.66	
0504	F	30.65	28.27	
050D	F	0.00	0.00	
0515	F	0.00	0.00	
0516	F	0.00	0.00	
0517	F	0.00	0.00	
051D	F	0.00	0.00	
0617	F	0.00	0.00	
0618	F	0.00	0.00	
0710	F	41.15	39.37	
0901	F	58.95	57.05	
0902	F	59.83	56.83	
0903	F	0.00	0.00	
1001	F	66.64	64.83	
1002	F	66.79	64.89	
1003	F	66.13	64.66	
1004	F	63.65	62.53	
1101	F	67.17	65.23	
1102	F	61.56	60.08	
1103	F	62.16	60.69	
140D	F	0.00	0.00	
143D	F	0.00	0.00	
1501	F	41.57	38.94	
1515	F	0.00	0.00	
1516	F	0.00	0.00	
1601	F	34.65	32.72	
1602	F	34.11	32.49	
1603	F	33.90	32.29	
1604	F	33.84	32.16	
1605	F	33.56	31.66	
1801	F	45.14	42.59	
1803	F	57.18	54.49	
1808	F	0.00	0.00	
1811	F	0.00	0.00	
1812	F	0.00	0.00	
1813	F	0.00	0.00	
1901	F	59.83	58.92	
1903	F	61.88	60.40	
1904	F	61.23	55.90	
1905	F	58.01	55.52	
1906	F	56.33	53.52	
1908	F	62.24	60.46	
1909	F	58.37	57.08	
190D	F	0.00	0.00	
1910	F	58.44	57.61	
1911	F	59.80	58.46	
3501	F	30.83	28.78	
4401	F	30.31	28.21	
4402	F	29.08	26.96	
4403	F	27.90	25.86	
4406	F	29.62	27.69	
4501	F	30.39	28.34	
5401	F	0.00	0.00	
5403	F	30.83	28.79	
5404	F	29.56	26.86	
5406	F	0.00	0.00	
540D	F	0.00	0.00	
5501	F	33.14	31.05	
5502	F	32.39	30.40	
5503	F	31.74	29.78	
5504	F	0.00	0.00	
5505	F	0.00	0.00	
5506	F	0.00	0.00	
6401	F	31.85	29.93	
6402	F	31.99	29.54	
6404	F	0.00	0.00	
7401	F	34.52	32.86	
8601	F	35.98	33.25	
9401	F	29.84	27.36	
9501	F	0.00	0.00	
9502	F	34.07	31.15	
9503	F	30.63	29.03	
9504	F	0.00	0.00	
9505	F	30.20	28.49	
9506	F	0.00	0.00	
9507	F	0.00	0.00	
9508	F	0.00	0.00	
9509	F	0.00	0.00	
9601	F	36.97	34.63	
9602	F	0.00	0.00	
9603	F	0.00	0.00	
9604	F	0.00	0.00	
9605	F	0.00	0.00	
9606	F	0.00	0.00	
9607	F	0.00	0.00	
960D	F	0.00	0.00	
961D	F	0.00	0.00	
9701	F	39.86	38.09	
9702	F	37.64	36.03	
9801	F	42.30	40.86	
0550	S	32.25	0.00	
0551	S	31.20	0.00	
0552	S	0.00	0.00	
0553	S	31.04	0.00	
0650	S	41.23	40.25	
0651	S	41.79	40.37	
0652	S	33.01	32.03	
0653	S	39.19	36.92	
0750	S	40.99	39.42	
0751	S	43.77	42.65	
0752	S	44.42	42.18	
1050	S	65.15	64.12	
1051	S	66.66	65.00	
1550	S	34.59	32.32	
1551	S	35.41	0.00	
1552	S	0.00	0.00	
1553	S	0.00	0.00	
1554	S	0.00	0.00	
1650	S	32.80	30.25	
1651	S	34.63	0.00	
1652	S	33.27	30.42	
1750	S	42.69	40.83	
1751	S	40.24	37.55	
1950	S	62.19	60.45	
1951	S	61.02	0.00	
1952	S	57.86	0.00	
1955	S	56.44	50.00	
3550	S	31.02	29.50	
3551	S	30.80	28.55	
4450	S	30.26	28.56	
4451	S	28.99	27.34	
4452	S	27.97	26.37	
4455	S	29.64	27.53	
4550	S	30.44	28.26	
5450	S	31.80	30.23	
5451	S	31.41	29.86	
5452	S	30.84	29.28	
5453	S	29.39	26.94	
5550	S	33.15	31.63	
5551	S	32.39	30.89	
5552	S	31.79	30.27	
6450	S	31.80	30.54	
6451	S	31.28	30.03	
6452	S	31.60	0.00	
8650	S	36.03	34.39	
9450	S	31.04	27.97	
9455	S	30.87	27.37	
9458	S	0.00	0.00	
9550	S	34.09	31.73	
9551	S	33.56	31.97	
9552	S	32.00	30.75	
9553	S	32.47	30.29	
9554	S	30.73	29.23	
9555	S	0.00	0.00	
9556	S	31.04	28.01	
9557	S	29.82	27.87	
9650	S	36.98	34.80	
9651	S	38.99	37.71	
9652	S	36.40	35.07	

Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert
9750	S	38.73	37.08	
9751	S	37.55	35.58	
9850	S	42.40	41.25	

Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert

Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert

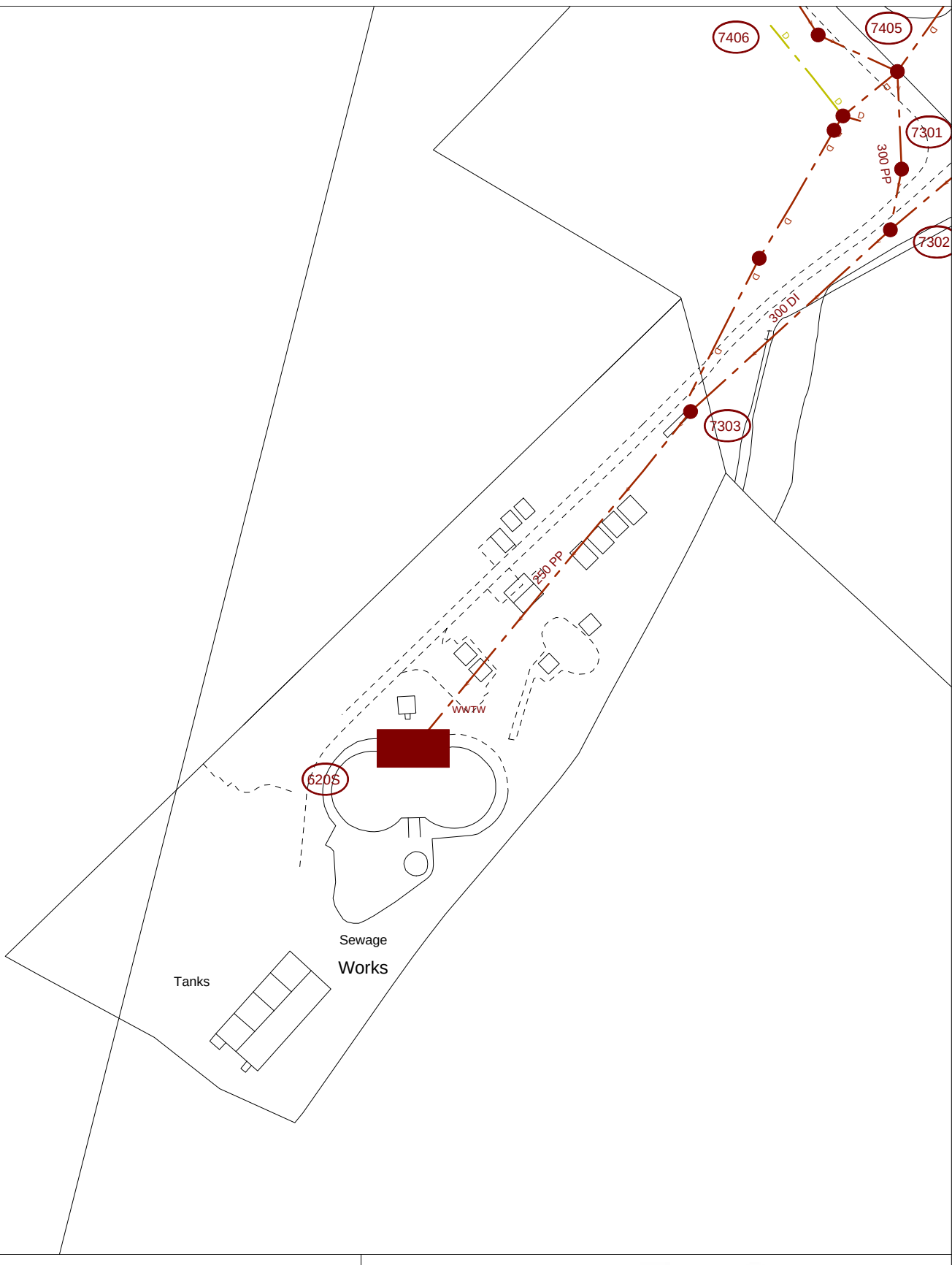
Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert

Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert

Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert

Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert

SOUTHERN WATER



The positions of pipes shown on this plan are believed to be correct, but Southern Water Services Ltd accept no responsibility in the event of inaccuracy. The actual positions should be determined on site.

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Southern Water

O.S. REF: TQ4523SE	Scale: 1:1250	Printed By: Prashanth	Date: 2-3-2022
Sewer Plot		Nearest Capacity	
WARNING: BAC pipes are constructed of Bonded Asbestos Cement		Requested By:	
WARNING: Unknown (UNK) materials may include Bonded Asbestos Cement			

from Southern Water

Kirsty Tolson
Waterman Group
Pickfords Wharf
London
SE1 9DG

Your ref

Our ref
DSA000008426

Date
02 March 2022

Contact
Tel 0330 303 0119

Dear Ms Tolson,

Level 1 Capacity Check Enquiry: Downlands Farm, Uckfield, East Sussex, TN22 2AN.

We have completed the capacity check for the above development site and the results are as follows:

Foul Water

There is currently inadequate capacity within the foul sewerage network to accommodate a foul flow of **3.83 l/s** for the above development at manhole reference TQ4721**0504**. The proposed development would increase flows to the public sewerage system which may increase the risk of flooding to existing properties and land. Additional off-site sewers or improvements to existing sewers will be required to provide sufficient capacity to service the development. Southern Water has a duty to provide Network capacity from the point of practical connection (point of equivalent or larger diameter pipe) funded by the New Infrastructure Charge.

Southern Water aim to provide this within 24 months following the date that planning has been granted for developments not identified as strategic sites in our current business plan. Strategic sites are larger developments and will often take longer than 24 months for a full solution to be provided.

The nearest point where capacity is currently available is at **Maresfield WTW** which is located approximately **1.2 km West** of the proposed development site. Rights are not issued for a direct connection to Wastewater Treatment Works (WTW). Please note that connection to the WTW will have to be agreed by Southern Water Services before being carried out.

New Infrastructure Charging

Please note as of 1st April 2018 we have moved to the “New Connections Services Charging Arrangements”. We understand that this may cause uncertainty for customers, particularly where they may have already committed to a development based on previous charging arrangements. We have worked with our stakeholders and Water UK to agree a set of principles by which we will base our charges. Please read through our new charging arrangement documents available at the following link: southernwater.co.uk/developing-building/connection-charging-arrangements

Southern Water Services Ltd, Registered Office: Southern House, Yeoman Road, Worthing, West Sussex, BN13 3NX Registered in England No. 2366670

Alternatively, New Appointees and Variations (NAVs), also known as ‘inset’ companies, can provide new connection services or take ownership of the new water and wastewater connection infrastructure provided for a new development. NAVs are appointed by Ofwat and replace the regional water company. It is for the developer to choose whether to use a NAV or the regional water company to supply services for new sites, according to certain legal criteria.

Connecting to our network

It should be noted that this information is only a hydraulic assessment of the existing sewerage network and does not grant approval for a connection to the public sewerage system. A formal Sewer Connection (S106) application is required to be completed and approved by Southern Water Services. To make an application visit: Developer Services Portal (southernwater.co.uk)

Please note the information provided above does not grant approval for any designs/drawings submitted for the capacity analysis. The results quoted above are only valid for 12 months from the date of issue of this letter.

Should it be necessary to contact us please quote our above reference number relating to this application by email at southernwaterplanning@southernwater.co.uk

Yours sincerely,

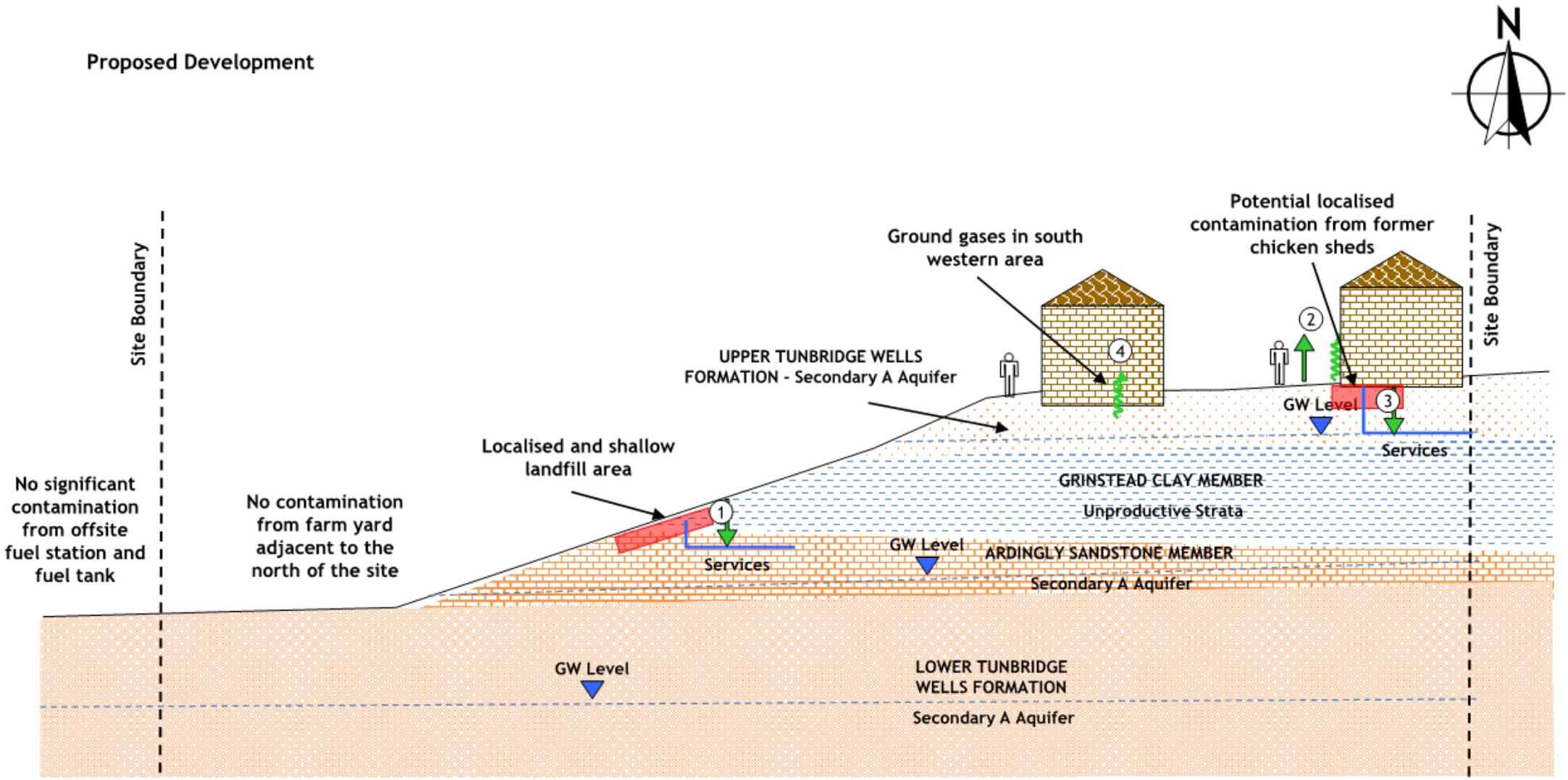
Growth Planning Team
Business Channels

southernwater.co.uk/developing-building/planning-your-development

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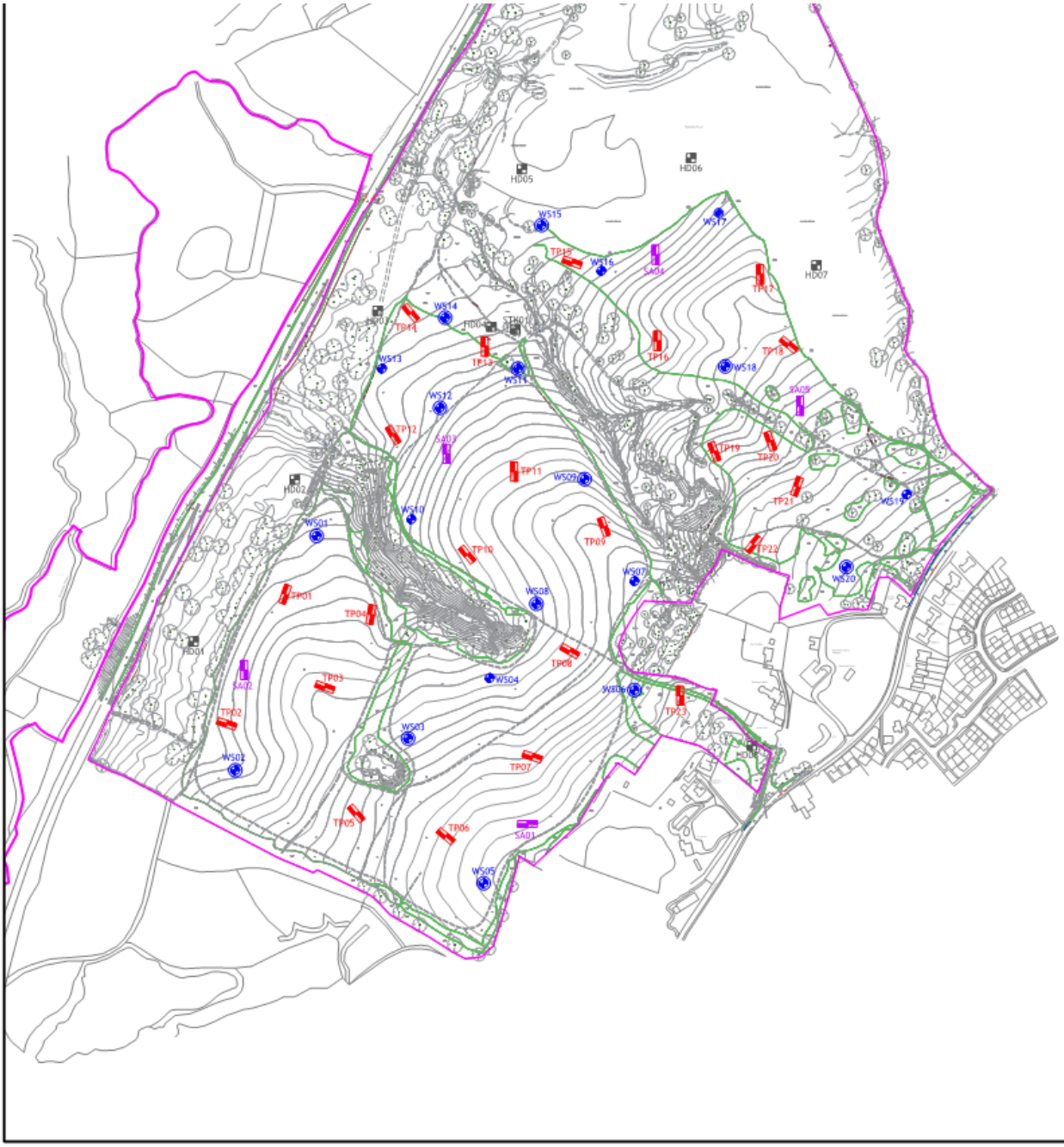
E. Ground Investigation Information

Revised Conceptual Model



Project Title:	Downlands Farm, Uckfield
Client:	Gleeson Strategic Land
BRD Reference:	BRD200653-OP8-A
Date Issued:	October 2020

BRD
01295 272244
info@brduk.com



KEY:

- BRD Trial Pit
- BRD Soakage Pit
- BRD Windowless Sample Borehole
- BRD Windowless Sample Borehole with Monitoring Well Installation
- BRD Hand Dug Pit
- Edges of Woodland
- Site boundary

NOTES:

Drawing reproduced from CD Surveys Ltd, 'Topographical Survey', Downlands Farm, Uckfield. Drawing ref. GHL/2006047/1. Dated August 2020.

The location of all BRD exploratory points were positioned by topographical survey but the Hand Dug locations that are approximate.

All boundaries are approximate.

Rev.	Date	Description	Drawn	Approved

Drawing title: EXPLORATORY POINT PLAN

Project title: DOWNLANDS FARM, UCKFIELD

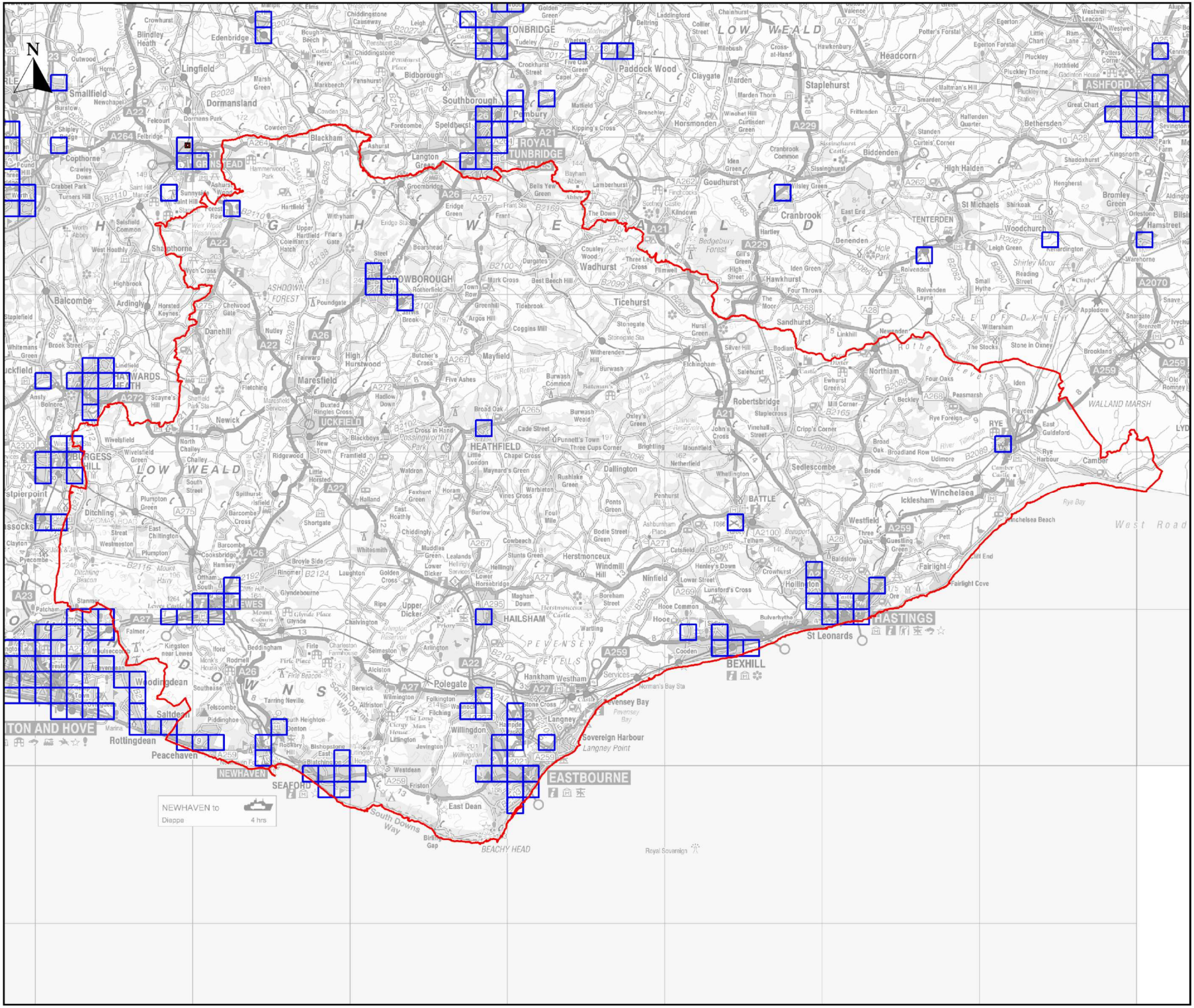
Client: GLEESON STRATEGIC LAND

Scale	Original dwg. orientation	Date
1:2500	A1 / C	19/10/20
Drawn: RM	Checked: MM	Approved: BD

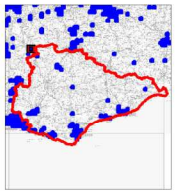
Drawing Number: BRD200653-OD3 | Rev: A

BRD Environmental Ltd
BRD
01295 272244
info@brduk.com
www.brduk.com

F. East Sussex Preliminary Flood Risk Assessment Mapping



Location Plan :



Legend

- PLACES ABOVE FLOOD RISK THRESHOLDS (BLUE SQUARE)
- EAST SUSSEX COUNTY COUNCIL BOUNDARY

Rev.	By	Date	Description

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County Hall,
Lewes, East Sussex
BN7 1UE

Project :

EAST SUSSEX PRELIMINARY FLOOD RISK ASSESSMENT

Drawing :

PLACES ABOVE FLOOD RISK THRESHOLDS (BLUE SQUARE) MAP

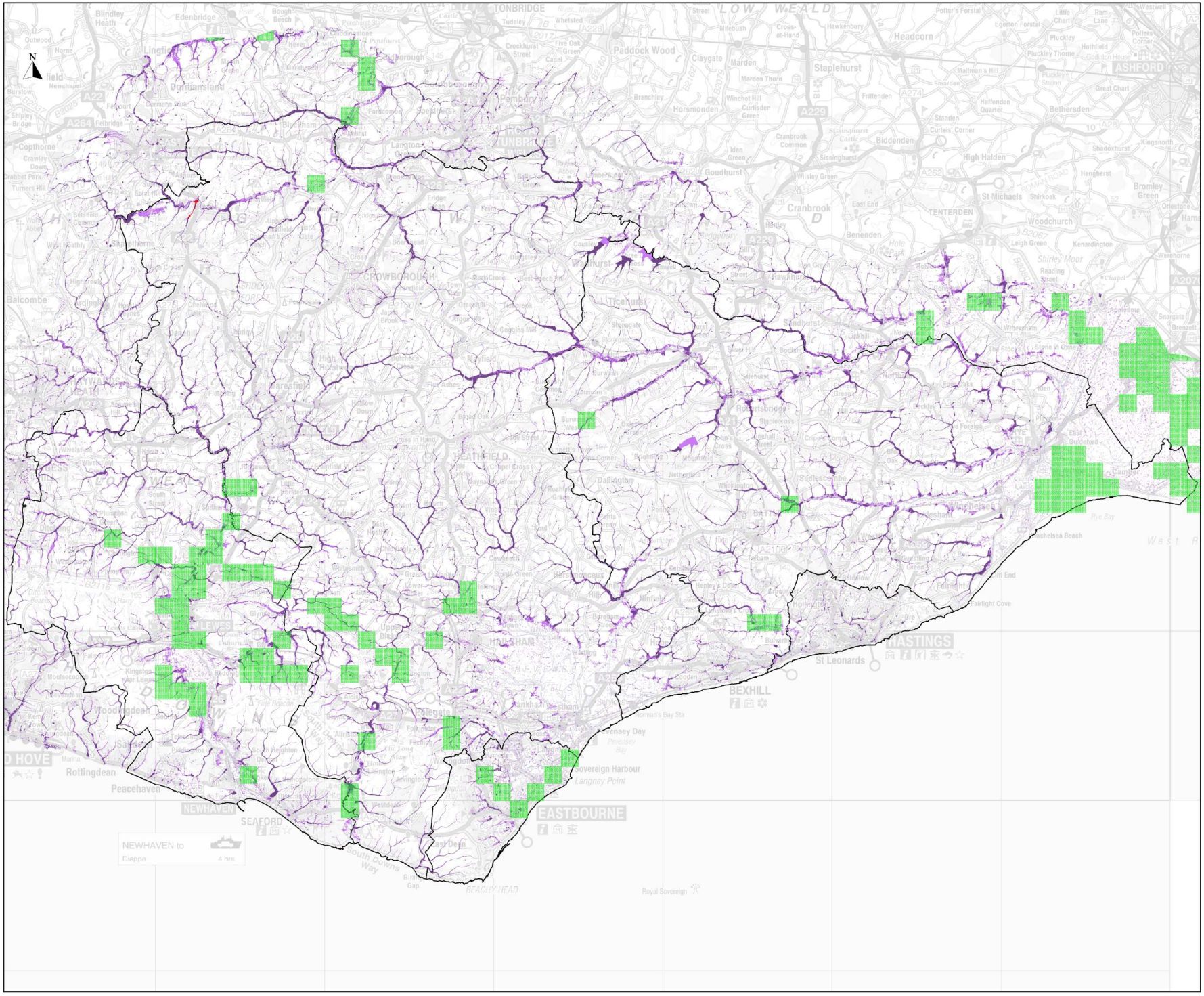
Drawn By :	PJ	Date :	15 June 2011
Checked By :	OE	Date :	15 June 2011
Approved By :	CD	Date :	15 June 2011

Drawing No. : WB/ EPFRA/ Map B.3

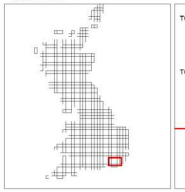
Revision : A

Drawing Scale : 1:225,000

Plot Scale : 1:225000 @ A3



Location Plan :



Legend:

- Main River (EA)
- Local Authortiy Boundary
- FMfSW 200yr Shallow (0.1-0.3 metres) (EA)
- FMfSW 200yr Deep (greater than 0.3 metres) (EA)
- Areas Susceptible to Groundwater Flooding (50% or greater proportion of each 1 km square that is susceptible to groundwater flood emergence) (EA)

Rev.	By	Date	Description

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County Hall
St Anne's Crescent
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Project :

EAST SUSSEX PRELIMINARY FLOOD RISK ASSESSMENT

Drawing :

Future Flood Risk - East Sussex

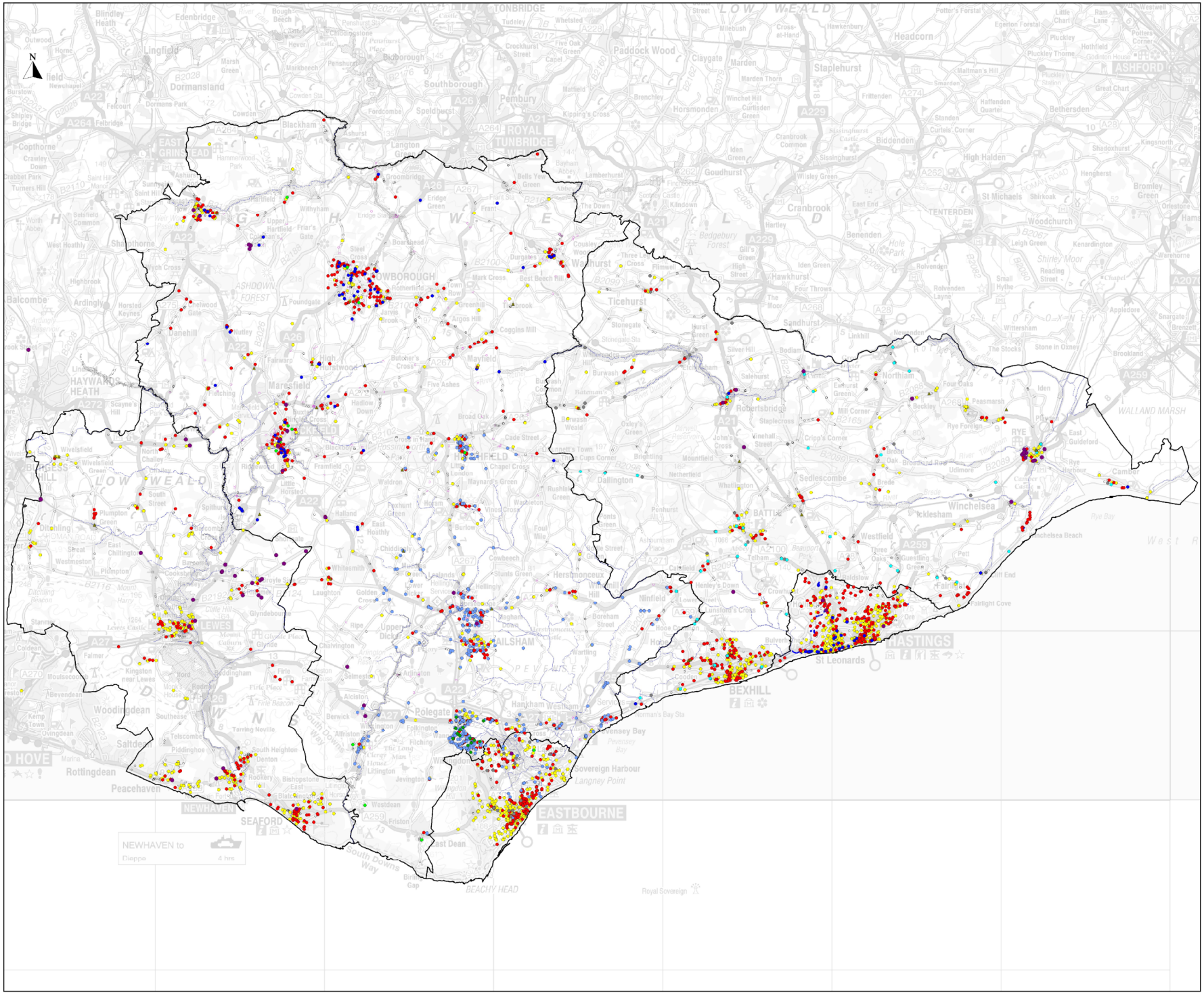
Drawn By :	OE	Date :	15 June 2011
Checked By :	AS	Date :	15 June 2011
Approved By :	CD	Date :	15 June 2011

Drawing No. : WB/EPFRA/ Map B.2

Revision : A

Drawing Scale : 1:107,000

Plot Scale : 1:107000 @ A1



Location Plan :



Legend:

Main River (EA)
Local Authority Boundaries

East Sussex
- Southern Water Flood Incidents - SIRF (SW)
- Flooded culverts (only part of dataset with X & Y) (ESCC)
- Highways Flooding (ESCC)
- Fault Reporting - Flooding (ESCC)
- Fire & Rescue Flood Records
- Public Consultation Data
- Historic Flood Map Extents (EA)

Rother District
- Highways Flooding Hotspots (SFRA)
- Poor surface water drainage areas (SFRA)
- Flood incidents - Reactive Maintenance East (ESCC)

Wealden District
- Historical sewer flooding (SFRA Level 1)
- Historical groundwater flooding (SFRA Level 1)
- Historical overland flooding (SFRA Level 1)
- Flood Events - all sources of flooding (WDC)
- Historical flood incidents - from Access database (WDC)
- Additional Historic Flooding (ESCC)

Hastings District
- Historical flooding under storm conditions (SFRA)

Eastbourne District
- Historical Flooding Incidents (EBC)

Lewes District
- Historical Flooding Incidents (SFRA)

Rev.	By	Date	Description

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County Hall
St Anne's Crescent
Lewes
East Sussex BN7 1UE

Project :

EAST SUSSEX PRELIMINARY FLOOD RISK ASSESSMENT

Drawing :

Historical Flood Risk - East Sussex

Drawn By :	OE	Date :	15 June 2011
Checked By :	AS	Date :	15 June 2011
Approved By :	CD	Date :	15 June 2011

Drawing No. : WB/EPFRA/ Map B.1

Revision : A

Drawing Scale : 1:107,000

Plot Scale : 1:107000 @ A1

G. Trenchless Drilling Contractor Correspondence

Nora Balboni

From: Dean Robinson <Dean.Robinson@aeyates.co.uk>
Sent: 12 October 2020 17:10
To: Nora Balboni; Info
Cc: Peter O'Flaherty; Nick Whitehead
Subject: [Pending]RE: trenchless solution - ancient woodland - enquiry [Spam score:8%]
Attachments: A E Yates Directional Drilling Brochure.pdf; A E Yates Group Brochure.pdf; Combined Soil Stabilisation Brochure.pdf; SPI Piling Brochure.pdf; Tritech Ground Engineering Brochure.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Good afternoon Nora

Thank you for your email regarding a trenchless solution, we can install various diameter of HDPE for a pumped sewer, this can be up to 600m in one length and up to 900mm dependant on ground conditions.

We have drilled under ancient woodlands before, so this is not a problem for us.

If you would like to send me some information regarding the pumped sewer you require with length and diameter and any ground information you have, I will gladly look at this for you.

Attached are our latest brochures for your perusal.

Kind regards

Dean Robinson
Drilling Manager / Estimator

Mobile: 07843 027706 | **Phone:** 01204 696175 | **aeyates.co.uk**



A E Yates Limited, Cranfield Road, Lostock Industrial Estate, Lostock, Bolton BL6 4SB | Registered in England and Wales: 415632 | VAT Registration Number: 145 6698 31

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From: Nora Balboni <nora.balboni@watermangroup.com>
Sent: 12 October 2020 16:51
To: Info <Info@aeyateshdd.co.uk>
Cc: Peter O'Flaherty <peter.oflaherty@watermangroup.com>
Subject: trenchless solution - ancient woodland - enquiry [Spam score:8%]

Good afternoon

We are working on the drainage strategy design for a site in Uckfield, East Sussex, approx post code TN22 2AN.

The surface water drainage strategy will include attenuation in detention basins, discharged into watercourses which are surrounded by Ancient Woodland. The foul water strategy will require pumped flow beneath a band of Ancient Woodland.

To avoid disrupting the Ancient Woodland, we will need to use a trenchless solution to install the drainage pipes and outfalls into the watercourse, i.e. directional drilling/guided auger. The topography of the site is rather steep falling towards the watercourses.

The challenge will be to

a) Ensure no disruption to the ancient woodland and its buffer zone during construction;
b) Provide sufficient cover above the pipe to protect the tree roots; and
c) Provide an outfall solution that is as un-intrusive as possible.

We'd appreciate if you could provide us your thoughts as to what is and isn't achievable. Feel free to give me a call to discuss / if you need further info.

Kind regards,

Nora Balboni MEng MCIWEM
Senior Engineer
Waterman Infrastructure & Environment Ltd

Pickfords Wharf | Clink Street | London SE1 9DG
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H. Surface Water Calculations

Design Parameters

– Design Storm Event: 1 in 100 year + 40% climate change.

– Surface water restricted to Qbar greenfield runoff rate (2.0 l/s/ha for sandy catchments 1–6 and 5.1 l/s/ha for clayey catchments 7–12)

– 60% impermeable area, 10% Urban Creep allowance, 10% allowance for runoff from adjacent landscaped areas, 10% attenuated in permeable paving.

– Basins designed as dry, 1 in 3 side slope, 3m maintenance buffer, 1.25m total depth (1.1m maximum water level), basin land take increased by 30% to account for earthworks requirements.

– Existing discharge locations into the ghylls mimicked to retain the existing hydrological characteristics.

– Swales to be incorporated throughout to provide water quality, biodiversity, and amenity benefits, locations to be confirmed.

DESIGNATED MAIN RIVER WITH ASSOCIATED FLOOD ZONE 3 FLOODPLAIN

ORDINARY WATERCOURSE NOT MODELLED SURFACE WATER FLOOD EXTENTS (MEDIUM RISK) USED AS PROXY FOR LIKELY FLUVIAL FLOODPLAIN

SHORTBRIDGE STREAM

FILTER TRENCH OR SHALLOW SWALE TO CONVEY FLOWS TO THE BASIN. GROUND RAISING MAY BE REQUIRED TO ACHIEVE GRAVITY DRAINAGE SUBJECT TO DETAILED LEVELS PROPOSALS.

WATERCOURSE AND CULVERT BENEATH A22 OBSERVED DURING SITE VISIT 27TH AUGUST 2020.

LAND RE–GRADING REQUIRED TO ENSURE SLOPE BETWEEN BASINS DOES NOT EXCEED 1:6.

SUMPS (0.5 – 1m DEPTH) WITH PERMANENT WATER TO PROVIDE HABITAT FOR GREAT CRESTED NEWTS

GHYLL RECEIVING INFLOWS FROM THE SOUTH AS PER EXISTING SITUATION

SPORTS PITCH (DETAILS PROVIDED DURING RESERVED MATTERS) CURRENTLY ASSUMED HARD–STANDING TO DRAIN POSITIVELY INTO THE DRAINAGE SYSTEM. A PROPRIETARY DRAINAGE SYSTEM WOULD LIKELY BE REQUIRED TO ENSURE FULL FUNCTIONALITY THROUGHOUT THE YEAR, WITH DETAILS PROVIDED POST PLANNING.

Thirty Acre Wood

Shermanreed Wood

Lake Wood

A22

SNATTS ROAD

CLAREMONT RISE

LOY LANE

CAUSEWAY

DOWNLAND COPSE

HUNTERS WAY

1:2000 0 20m 40m 60m 80m 100m 120m 140m 160m 180m 200m

1:1 0 10 20 30 40 50 60 70 80 90 100

GENERAL NOTES

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL ENGINEER'S, ARCHITECT'S OR OTHER RELEVANT DRAWINGS AND SPECIFICATIONS.
2. ALL DIMENSIONS AND LEVELS ARE TO BE CHECKED ON SITE BY THE CONTRACTOR PRIOR TO PREPARING ANY WORKING DRAWINGS OR COMMENCING ON SITE.
3. THE CONTRACTOR MUST ENSURE AND WILL BE HELD RESPONSIBLE FOR THE OVERALL STABILITY OF THE BUILDING/STRUCTURE/EXCAVATION AT ALL STAGES OF THE WORK.
4. ALL WORK BY THE CONTRACTOR MUST BE CARRIED OUT IN SUCH A WAY THAT ALL REQUIREMENTS UNDER THE HEALTH AND SAFETY AT WORK ACT ARE SATISFIED.
5. ALL WORK IS TO BE CARRIED OUT IN COMPLIANCE WITH THE REQUIREMENTS OF THE RELEVANT STATUTORY AUTHORITIES AND REGULATIONS.

KEY

- SITE BOUNDARY
- DRAINAGE CATCHMENTS
- ANCIENT WOODLAND
- FLOOD ZONE 3
- PLUVIAL FLOODPLAIN (MEDIUM RISK)
- WATERCOURSE WITH 8m BUFFER
- SURFACE WATER (SW) CONNECTION
- DIRECTION OF SW FLOW
- SWALE (3.5m WIDTH, 0.5m DEPTH)
- PROPOSED FOUL WATER SEWER
- FOUL PUMP STATION WITH 15m ODOUR/NOISE BUFFER

DETENTION BASIN

- TOP & BOTTOM OF BANK
- EARTHWORKS EXTENT (ASSUMED)
- MAINTENANCE BUFFER (3m)
- POTENTIAL DIRECTIONAL DRILLING SW ROUTE

Rev	Date	Description	By
P11	25.05.22	INCLUDED DIRECTIONAL DRILLING SECTIONS	POF
P10	09.05.22	AMENDED MASTERPLAN	POF
P09	25.01.22	AMENDED MASTERPLAN	KT
P08	01.12.20	AMENDED MASTERPLAN	NB
P07	06.11.20	SHERMANREED WOOD BASINS AMENDED	NB
P06	30.10.20	BASINS AMENDED	NB
P05	29.10.20	BASINS AMENDED	NB
P04	26.10.20	BASINS/DISCHARGE POINTS AMENDED	NB
P03	30.10.20	AMENDED MASTERPLAN	NB
P02	29.07.20	BASINS AMENDED	NB
P01	20.07.20	FIRST ISSUE	NB

Amendments

Project: DOWNLANDS FARM, UCKFIELD

Title: FLOOD RISK AND DRAINAGE CONSTRAINTS PLAN

Client: GLEESON LAND

waterman

Pickfords Wharf Clink Street London SE1 9DG
t 020 7928 7888
mail@watermangroup.com www.watermangroup.com

Drawing Status: PRELIMINARY

Designed by	NB	Checked by	POF
Drawn by	KT	Date	MAY 2022

Project No: WIE16835

Scales @ A1 work to figured dimensions only: 1:2000

Computer File No: 16835-WIE-ZZ-XX-DR-92001.dwg

Publisher	Zone	Category	Number	Revision
WIE	ZZ	92	001	P11

File Path: I:\Projects\WIE16835\001\CAD\Drawings\

1309_Downlands Farm_Masterplan Drawings_040122, A1-Wat-S

I. Preliminary Drainage Strategy Drawing

Attenuation Design
01.12.2020

NORTHERN SITE - SAND GEOLOGY

STORAGE REQUIRED PER CATCHMENT	Catchment 1	1586 m^3	Catchment 2	1100 m^3	Catchment 3	335 m^3	Catchment 4	430 m^3	Catchment 5	757 m^3

STORAGE PROVIDED

DETENTION BASIN			DETENTION BASIN			DETENTION BASIN			DETENTION BASIN			DETENTION BASIN		
Area of base	1404.0	m^2	Area of base	850.0	m^2	Area of base	195.0	m^2	Area of base	258.0	m^2	Area of base	505.0	m^2
Perimeter of base	183.0	m	Perimeter of base	112.0	m	Perimeter of base	64.0	m	Perimeter of base	70.0	m	Perimeter of base	91.0	m
Depth of storage	1.10	m	Depth of storage	1.10	m	Depth of storage	1.15	m	Depth of storage	1.15	m	Depth of storage	1.15	m
Gradient of sides	1 in	3	Gradient of sides	1 in	3	Gradient of sides	1 in	3	Gradient of sides	1 in	3	Gradient of sides	1 in	3
Volume	**1876**	**m^3**	**Volume**	**1138**	**m^3**	**Volume**	**351**	**m^3**	**Volume**	**435**	**m^3**	**Volume**	**761**	**m^3**

*Additional storage provided to account for the central bank within the basin

STORAGE PROVIDED PER CATCHMENT	1876 m^3	1138 m^3	351 m^3	435 m^3	761 m^3
outstanding	-290.0	-38.0	-16.0	-5.0	-4.0

Attenuation Design
01.12.2020

SOUTHERN SITE - CLAY GEOLOGY

STORAGE REQUIRED PER CATCHMENT	Catchment 6	645 m^3	Catchment 7	1171 m^3	Catchment 8	909 m^3	Catchment 9	656 m^3

DETENTION BASIN		DETENTION BASIN		DETENTION BASIN		DETENTION BASIN	
Area of base	487.0 m^2	Area of base	975.0 m^2	Area of base	575.0 m^2	Area of base	575.0 m^2
Perimeter of base	164.0 m	Perimeter of base	125.0 m	Perimeter of base	132.0 m	Perimeter of base	110.0 m
Depth of storage	1.10 m	Depth of storage	1.10 m	Depth of storage	1.15 m	Depth of storage	1.10 m
Gradient of sides	1 in 3	Gradient of sides	1 in 3	Gradient of sides	1 in 3	Gradient of sides	1 in 3
Volume	**833 m^3**	**Volume**	**1299 m^3**	**Volume**	**923 m^3**	**Volume**	**832 m^3**

*Additional storage provided to account for the central bank within the basin

STORAGE PROVIDED PER CATCHMENT	833 m^3	1299 m^3	923 m^3	832 m^3
outstanding	-188.0	-128.0	-14.0	-176.0

Attenuation Design
01.12.2020

SOUTHERN SITE - CLAY GEOLOGY

STORAGE REQUIRED PER CATCHMENT	Catchment 10	148 m^3	Catchment 11 A	196 m^3	Catchment 11 B	204 m^3	Catchment 11 C	727 m^3

DETENTION BASIN		DETENTION BASIN		DETENTION BASIN - NORTH		DETENTION BASIN - NORTH	
Area of base	90.0 m^2	Area of base	123.0 m^2	Area of base	105.0 m^2	Area of base	540.0 m^2
Perimeter of base	50.0 m	Perimeter of base	58.0 m	Perimeter of base	83.0 m	Perimeter of base	91.0 m
Depth of storage	1.10 m	Depth of storage	1.10 m	Depth of storage	1.10 m	Depth of storage	1.10 m
Gradient of sides	1 in 3	Gradient of sides	1 in 3	Gradient of sides	1 in 3	Gradient of sides	1 in 3
Volume	**189 m^3**	**Volume**	**240 m^3**	**Volume**	**266 m^3**	**Volume**	**759 m^3**

STORAGE PROVIDED PER CATCHMENT	189 m^3	240 m^3	266 m^3	759 m^3
outstanding	-41.0	-44.0	-62.0	-32.0

CALCULATIONS

Company:	WIE	Office:	London
Sheet No:	2 of 3	Project No:	WIE16835
By	N Balboni	Date	01/12/2020
Checked:	P O'Flaherty	Date	25/05/2022

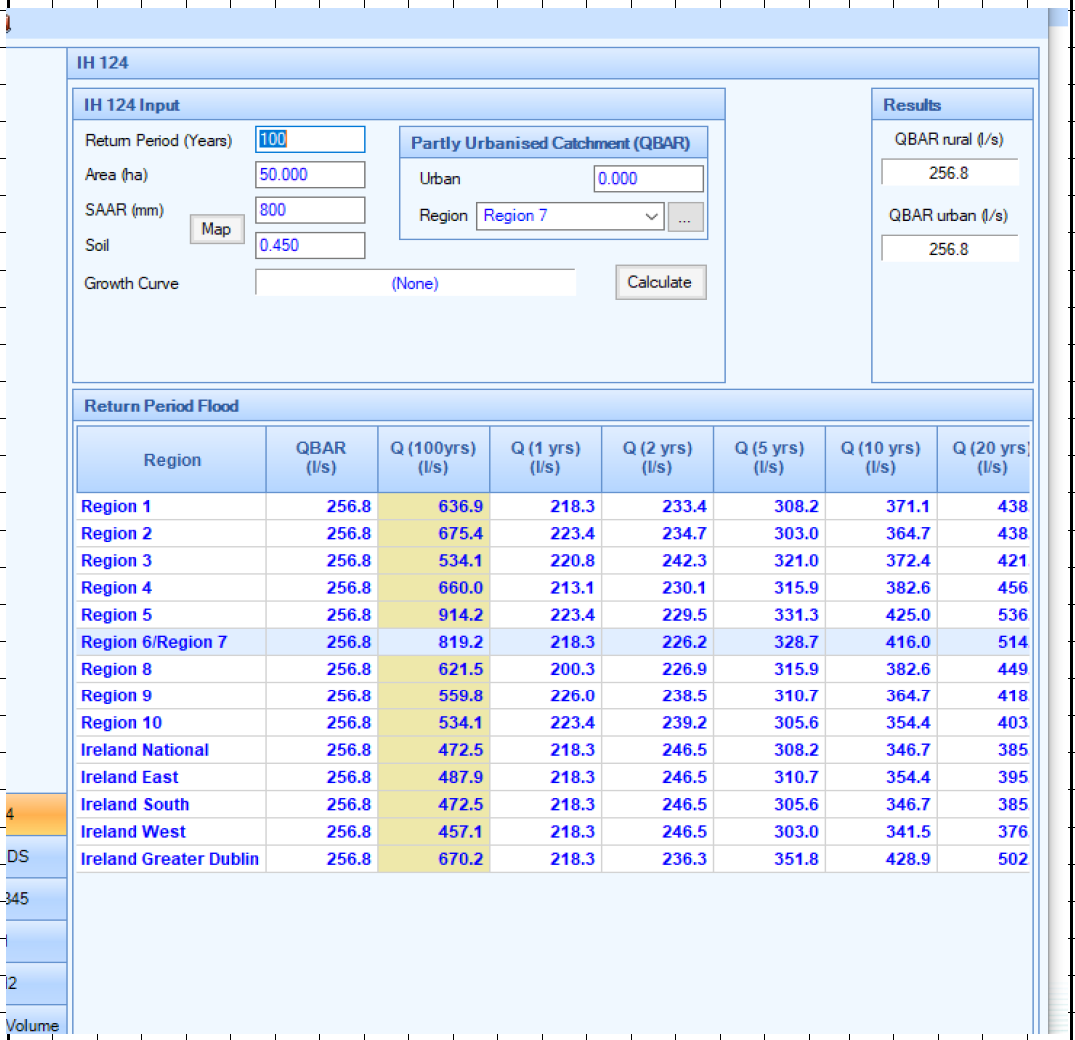
Project Title: **Downlands, Uckfield**

Calculations Title: **Greenfield Runoff Rate (IoH124) - Clay**

LOCATION	CALCULATIONS	OPTIONS

In order to calculate the rate of surface water discharge from the permeable portion of the Site, the Windes Microdrainage version 2019.1 Source Control module has been utilised. Rural runoff has been calculated using the IoH 124 Methodology. The input and output data for which are shown below;

An area of 50ha has been used in the calculations as this is the lowest catchment area which the IoH 124 method can calculate. The 50ha output is then prorated as set out in IoH 124



IH 124

IH 124 Input

Return Period (Years): 100
Area (ha): 50.000
SAAR (mm): 800
Map
Soil: 0.450
Growth Curve: (None)
Calculate

Partly Urbanised Catchment (QBAR)
Urban: 0.000
Region: Region 7

Results
QBAR rural (l/s): 256.8
QBAR urban (l/s): 256.8

Return Period Flood

Region	QBAR (l/s)	Q (100yrs) (l/s)	Q (1 yrs) (l/s)	Q (2 yrs) (l/s)	Q (5 yrs) (l/s)	Q (10 yrs) (l/s)	Q (20 yrs) (l/s)
Region 1	256.8	636.9	218.3	233.4	308.2	371.1	438
Region 2	256.8	675.4	223.4	234.7	303.0	364.7	438
Region 3	256.8	534.1	220.8	242.3	321.0	372.4	421
Region 4	256.8	660.0	213.1	230.1	315.9	382.6	456
Region 5	256.8	914.2	223.4	229.5	331.3	425.0	536
Region 6/Region 7	256.8	819.2	218.3	226.2	328.7	416.0	514
Region 8	256.8	621.5	200.3	226.9	315.9	382.6	449
Region 9	256.8	559.8	226.0	238.5	310.7	364.7	418
Region 10	256.8	534.1	223.4	239.2	305.6	354.4	403
Ireland National	256.8	472.5	218.3	246.5	308.2	346.7	385
Ireland East	256.8	487.9	218.3	246.5	310.7	354.4	395
Ireland South	256.8	472.5	218.3	246.5	305.6	346.7	385
Ireland West	256.8	457.1	218.3	246.5	303.0	341.5	376
Ireland Greater Dublin	256.8	670.2	218.3	236.3	351.8	428.9	502

4
DS
345
2
Volume

			per ha
Q1	218.3	l/s	4.4
Qbar (1 in 2.333)	256.8	l/s	5.1
1 in 100	819.2	l/s	16.4

CALCULATIONS

Company:	WIE	Office:	London
Sheet No:	3 of 3	Project No:	WIE16835
By	N Balboni	Date	01/12/2020
Checked:	P O'Flaherty	Date	25/05/2022

Project Title: **Downlands, Uckfield**

Calculations Title: **Greenfield Runoff Rate (IoH124) - Sand**

LOCATION	CALCULATIONS	OPTIONS

In order to calculate the rate of surface water discharge from the permeable portion of the Site, the Windes Microdrainage version 2019.1 Source Control module has been utilised. Rural runoff has been calculated using the IoH 124 Methodology. The input and output data for which are shown below;

An area of 50ha has been used in the calculations as this is the lowest catchment area which the IoH 124 method can calculate. The 50ha output is then prorated as set out in IoH 124

IH 124

IH 124 Input

Return Period (Years)	100
Area (ha)	50.000
SAAR (mm)	773
Soil	0.300
Growth Curve	(None)

Map | Calculate

Partly Urbanised Catchment (QBAR)

Urban: 0.000

Region: Region 7 ...

Results

QBAR rural (l/s): 102.3

QBAR urban (l/s): 102.3

Return Period Flood

Region	QBAR (l/s)	Q (100yrs) (l/s)	Q (1 yrs) (l/s)	Q (2 yrs) (l/s)	Q (5 yrs) (l/s)	Q (10 yrs) (l/s)	Q
Region 1	102.3	253.8	87.0	93.0	122.8	147.9	
Region 2	102.3	269.1	89.0	93.5	120.8	145.3	
Region 3	102.3	212.9	88.0	96.6	127.9	148.4	
Region 4	102.3	263.0	84.9	91.7	125.9	152.5	
Region 5	102.3	364.3	89.0	91.4	132.0	169.4	
Region 6/Region 7	102.3	326.5	87.0	90.2	131.0	165.8	
Region 8	102.3	247.7	79.8	90.4	125.9	152.5	
Region 9	102.3	223.1	90.1	95.1	123.8	145.3	
Region 10	102.3	212.9	89.0	95.3	121.8	141.2	
Ireland National	102.3	188.3	87.0	98.2	122.8	138.2	
Ireland East	102.3	194.4	87.0	98.2	123.8	141.2	
Ireland South	102.3	188.3	87.0	98.2	121.8	138.2	
Ireland West	102.3	182.2	87.0	98.2	120.8	136.1	
Ireland Greater Dublin	102.3	267.1	87.0	94.1	140.2	170.9	

			per ha
Q1	87.0	l/s	1.7
Qbar (1 in 2.333)	102.3	l/s	2.0
1 in 100	326.5	l/s	6.5

CALCULATIONS

Company:	WIE	Office:	London
Sheet No:	1 of 3	Project No:	WIE16835
By	N Balboni	Date	01/12/2020
Checked:	P O'Flaherty	Date	25/05/2022

Project Title: **Downlands, Uckfield**

Calculations Title: **Surface Water Management - Summary Sheet**

LOCATION | CALCULATIONS | OPTIONS

Surface water at the Site will be managed in accordance with the London Plan requirements, i.e. surface water discharge restricted to 50% of the existing rate, including for the impacts of climate change.

Existing surface water discharge regime (M100_60):

	Area (ha)	Calculation method	Discharge Rate		
Developable Area	12.56	IoH (page 2 and 3)	5.1	l/s/ha	Clay
			2.0	l/s/ha	Sand

Proposed surface water discharge regime:

Proposed impermeable area			7.54	ha
Maximum allowable discharge rate for greenfield (Qbar) rate		=	29.8	l/s

Pro Rata Attenuation

MicroDrainage Source Control Module used to calculate:

clay	per ha	800	m3	to 5.1 l/s (Qbar)
sand	per ha	1140	m3	to 2.0 l/s (Qbar)

Intial attenuation estimate

	Northern Catchments				
	1	2	3	4	5
Area (ha)	1.79	1.28	0.37	0.48	0.87
PIMP	1.07	0.77	0.22	0.29	0.52
GF rate (l/s)	2.2	1.6	0.5	0.6	1.1
+ 10% urban creep (ha)	0.11	0.08	0.02	0.03	0.05
+ 10% adjacent runoff (ha)	0.11	0.08	0.02	0.03	0.05
- 10% permeable paving (ha)	0.11	0.08	0.02	0.03	0.05
Contributing Area (ha)*	1.39	0.96	0.29	0.38	0.66
Geology	sand				
Attenuation (m3)	1586	1100	335	430	757
Total (m3)	4208				

	Southern Catchments							
	6	7	8	9	10	11a	11b	11c
Area (ha)	1.04	1.99	1.57	1.09	0.22	0.31	0.31	1.24
PIMP	0.62	1.19	0.94	0.65	0.13	0.19	0.19	0.74
GF rate (l/s)	3.2	6.1	4.8	3.4	0.7	1.0	1.0	3.8
+ 10% urban creep (ha)	0.06	0.12	0.09	0.07	0.01	0.02	0.02	0.07
+ 10% adjacent runoff (ha)	0.06	0.12	0.09	0.07	0.01	0.02	0.02	0.07
- 10% permeable paving (ha)	0.06	0.12	0.09	0.07	0.01	0.02	0.02	0.07
Contributing Area (ha)*	0.81	1.46	1.14	0.82	0.19	0.24	0.25	0.91
Geology	clay							
Attenuation (m3)	645	1171	909	656	148	196	204	727
Total (m3)	4655							

*Contributing Area (ha) includes surface area of SuDS basin itself

Total

Developable Area (ha)	12.56
Proposed Imp Area (ha)	7.54
Discharge Rate (l/s)	29.8
Attenuation (m3)	8863

Summary of Results for 100 year Return Period (+45%)

Storm Event	Max Level (m)	Max Depth (m)	Max Control (l/s)	Max Volume (m³)	Status
15 min Summer	0.363	0.363	5.1	290.2	O K
30 min Summer	0.485	0.485	5.1	387.8	O K
60 min Summer	0.616	0.616	5.1	493.0	O K
120 min Summer	0.706	0.706	5.1	564.6	O K
180 min Summer	0.756	0.756	5.1	605.2	O K
240 min Summer	0.790	0.790	5.1	631.8	O K
360 min Summer	0.829	0.829	5.1	662.9	O K
480 min Summer	0.850	0.850	5.1	679.7	O K
600 min Summer	0.861	0.861	5.1	688.9	O K
720 min Summer	0.867	0.867	5.1	693.4	O K
960 min Summer	0.868	0.868	5.1	694.2	O K
1440 min Summer	0.856	0.856	5.1	684.6	O K
2160 min Summer	0.842	0.842	5.1	673.3	O K
2880 min Summer	0.826	0.826	5.1	660.5	O K
4320 min Summer	0.788	0.788	5.1	630.2	O K
5760 min Summer	0.743	0.743	5.1	594.6	O K
7200 min Summer	0.691	0.691	5.1	552.9	O K
8640 min Summer	0.628	0.628	5.1	502.7	O K
10080 min Summer	0.562	0.562	5.1	449.3	O K
15 min Winter	0.407	0.407	5.1	325.4	O K
30 min Winter	0.544	0.544	5.1	435.0	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
15 min Summer	156.715	0.0	271.8	19
30 min Summer	105.223	0.0	359.0	34
60 min Summer	67.483	0.0	494.0	64
120 min Summer	39.341	0.0	574.5	124
180 min Summer	28.618	0.0	624.9	184
240 min Summer	22.798	0.0	661.4	242
360 min Summer	16.499	0.0	711.8	362
480 min Summer	13.116	0.0	745.1	482
600 min Summer	10.988	0.0	765.5	602
720 min Summer	9.516	0.0	772.8	720
960 min Summer	7.606	0.0	762.5	960
1440 min Summer	5.583	0.0	727.3	1224
2160 min Summer	4.146	0.0	1109.0	1604
2880 min Summer	3.374	0.0	1199.7	2016
4320 min Summer	2.537	0.0	1313.6	2856
5760 min Summer	2.074	0.0	1489.5	3696
7200 min Summer	1.770	0.0	1588.4	4536
8640 min Summer	1.554	0.0	1672.5	5360
10080 min Summer	1.392	0.0	1743.8	6056
15 min Winter	156.715	0.0	303.7	19
30 min Winter	105.223	0.0	393.0	33

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Summary of Results for 100 year Return Period (+45%)

Storm Event	Max Level (m)	Max Depth (m)	Max Control (l/s)	Max Volume (m³)	Status
60 min Winter	0.692	0.692	5.1	553.7	O K
120 min Winter	0.793	0.793	5.1	634.6	O K
180 min Winter	0.851	0.851	5.1	681.1	O K
240 min Winter	0.890	0.890	5.1	711.9	O K
360 min Winter	0.936	0.936	5.1	749.0	O K
480 min Winter	0.963	0.963	5.1	770.3	O K
600 min Winter	0.979	0.979	5.1	783.2	O K
720 min Winter	0.989	0.989	5.1	790.9	O K
960 min Winter	0.997	0.997	5.1	797.2	O K
1440 min Winter	0.988	0.988	5.1	790.1	O K
2160 min Winter	0.965	0.965	5.1	772.2	O K
2880 min Winter	0.941	0.941	5.1	752.6	O K
4320 min Winter	0.877	0.877	5.1	701.4	O K
5760 min Winter	0.802	0.802	5.1	641.5	O K
7200 min Winter	0.717	0.717	5.1	573.3	O K
8640 min Winter	0.609	0.609	5.1	487.0	O K
10080 min Winter	0.504	0.504	5.1	402.8	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
60 min Winter	67.483	0.0	552.5	64
120 min Winter	39.341	0.0	641.0	122
180 min Winter	28.618	0.0	695.2	180
240 min Winter	22.798	0.0	732.8	240
360 min Winter	16.499	0.0	777.9	356
480 min Winter	13.116	0.0	793.9	472
600 min Winter	10.988	0.0	791.8	588
720 min Winter	9.516	0.0	786.0	702
960 min Winter	7.606	0.0	771.8	924
1440 min Winter	5.583	0.0	743.9	1354
2160 min Winter	4.146	0.0	1240.6	1688
2880 min Winter	3.374	0.0	1339.4	2160
4320 min Winter	2.537	0.0	1392.3	3108
5760 min Winter	2.074	0.0	1668.4	4032
7200 min Winter	1.770	0.0	1779.1	4904
8640 min Winter	1.554	0.0	1873.9	5712
10080 min Winter	1.392	0.0	1954.8	6360

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Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	2013
Site Location	GB 546728 122241 TQ 46728 22241
Data Type	Point
Summer Storms	Yes
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Shortest Storm (mins)	15
Longest Storm (mins)	10080
Climate Change %	+45

Time Area Diagram

Total Area (ha) 1.000

Time (mins) From:	To:	Area (ha)
0	4	1.000

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Model Details

Storage is Online Cover Level (m) 2.000

Tank or Pond Structure

Invert Level (m) 0.000

Depth (m)	Area (m²)	Depth (m)	Area (m²)	Depth (m)	Area (m²)
0.000	800.0	1.000	800.0	1.001	0.0

Hydro-Brake® Optimum Outflow Control

Unit Reference	MD-SHE-0107-5100-1000-5100
Design Head (m)	1.000
Design Flow (l/s)	5.1
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	107
Invert Level (m)	0.000
Minimum Outlet Pipe Diameter (mm)	150
Suggested Manhole Diameter (mm)	1200

Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	1.000	5.1
Flush-Flo™	0.297	5.1
Kick-Flo®	0.640	4.2
Mean Flow over Head Range	-	4.4

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	3.6	1.200	5.6	3.000	8.5	7.000	12.8
0.200	5.0	1.400	6.0	3.500	9.2	7.500	13.2
0.300	5.1	1.600	6.3	4.000	9.8	8.000	13.6
0.400	5.0	1.800	6.7	4.500	10.3	8.500	14.0
0.500	4.9	2.000	7.0	5.000	10.9	9.000	14.4
0.600	4.5	2.200	7.4	5.500	11.4	9.500	14.8
0.800	4.6	2.400	7.7	6.000	11.9		
1.000	5.1	2.600	8.0	6.500	12.3		

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Summary of Results for 100 year Return Period (+45%)

Storm Event	Max Level (m)	Max Depth (m)	Max Control (l/s)	Max Volume (m³)	Status
15 min Summer	0.257	0.257	1.9	292.5	O K
30 min Summer	0.344	0.344	1.9	392.0	O K
60 min Summer	0.439	0.439	1.9	500.9	O K
120 min Summer	0.509	0.509	1.9	579.8	O K
180 min Summer	0.551	0.551	1.9	628.6	O K
240 min Summer	0.582	0.582	1.9	663.7	O K
360 min Summer	0.625	0.625	1.9	712.5	O K
480 min Summer	0.655	0.655	1.9	747.0	O K
600 min Summer	0.679	0.679	1.9	773.8	O K
720 min Summer	0.698	0.698	1.9	795.7	O K
960 min Summer	0.729	0.729	1.9	830.7	O K
1440 min Summer	0.772	0.772	1.9	879.5	O K
2160 min Summer	0.813	0.813	1.9	927.2	O K
2880 min Summer	0.838	0.838	1.9	954.8	O K
4320 min Summer	0.856	0.856	1.9	976.4	O K
5760 min Summer	0.862	0.862	1.9	982.7	O K
7200 min Summer	0.859	0.859	1.9	979.3	O K
8640 min Summer	0.852	0.852	1.9	971.7	O K
10080 min Summer	0.844	0.844	1.9	961.6	O K
15 min Winter	0.287	0.287	1.9	327.7	O K
30 min Winter	0.385	0.385	1.9	439.2	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
15 min Summer	156.715	0.0	160.1	19
30 min Summer	105.223	0.0	166.2	34
60 min Summer	67.483	0.0	329.8	64
120 min Summer	39.341	0.0	326.9	124
180 min Summer	28.618	0.0	320.2	184
240 min Summer	22.798	0.0	312.7	244
360 min Summer	16.499	0.0	298.4	364
480 min Summer	13.116	0.0	288.8	484
600 min Summer	10.988	0.0	282.1	604
720 min Summer	9.516	0.0	277.4	722
960 min Summer	7.606	0.0	272.3	962
1440 min Summer	5.583	0.0	272.5	1442
2160 min Summer	4.146	0.0	561.7	2160
2880 min Summer	3.374	0.0	554.5	2880
4320 min Summer	2.537	0.0	549.4	4024
5760 min Summer	2.074	0.0	1142.7	4736
7200 min Summer	1.770	0.0	1104.7	5544
8640 min Summer	1.554	0.0	1068.5	6312
10080 min Summer	1.392	0.0	1039.9	7152
15 min Winter	156.715	0.0	163.6	19
30 min Winter	105.223	0.0	166.7	34

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Summary of Results for 100 year Return Period (+45%)

Storm Event	Max Level (m)	Max Depth (m)	Max Control (l/s)	Max Volume (m³)	Status
60 min Winter	0.493	0.493	1.9	561.6	O K
120 min Winter	0.571	0.571	1.9	650.6	O K
180 min Winter	0.619	0.619	1.9	706.0	O K
240 min Winter	0.654	0.654	1.9	745.9	O K
360 min Winter	0.703	0.703	1.9	801.0	O K
480 min Winter	0.737	0.737	1.9	840.3	O K
600 min Winter	0.764	0.764	1.9	871.1	O K
720 min Winter	0.786	0.786	1.9	896.5	O K
960 min Winter	0.822	0.822	1.9	937.5	O K
1440 min Winter	0.874	0.874	1.9	996.1	O K
2160 min Winter	0.926	0.926	1.9	1056.0	O K
2880 min Winter	0.960	0.960	2.0	1093.8	O K
4320 min Winter	0.992	0.992	2.0	1131.0	O K
5760 min Winter	0.997	0.997	2.0	1136.8	O K
7200 min Winter	0.990	0.990	2.0	1129.1	O K
8640 min Winter	0.981	0.981	2.0	1118.8	O K
10080 min Winter	0.968	0.968	2.0	1103.3	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
60 min Winter	67.483	0.0	329.8	64
120 min Winter	39.341	0.0	319.1	122
180 min Winter	28.618	0.0	305.8	182
240 min Winter	22.798	0.0	296.7	242
360 min Winter	16.499	0.0	286.6	360
480 min Winter	13.116	0.0	281.9	478
600 min Winter	10.988	0.0	280.5	596
720 min Winter	9.516	0.0	281.3	714
960 min Winter	7.606	0.0	284.9	952
1440 min Winter	5.583	0.0	286.8	1414
2160 min Winter	4.146	0.0	579.1	2116
2880 min Winter	3.374	0.0	585.3	2796
4320 min Winter	2.537	0.0	579.1	4108
5760 min Winter	2.074	0.0	1169.4	5352
7200 min Winter	1.770	0.0	1147.7	5760
8640 min Winter	1.554	0.0	1133.7	6656
10080 min Winter	1.392	0.0	1110.6	7568

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Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	2013
Site Location	GB 546728 122241 TQ 46728 22241
Data Type	Point
Summer Storms	Yes
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Shortest Storm (mins)	15
Longest Storm (mins)	10080
Climate Change %	+45

Time Area Diagram

Total Area (ha) 1.000

Time (mins) From:	To:	Area (ha)
0	4	1.000

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Model Details

Storage is Online Cover Level (m) 2.000

Tank or Pond Structure

Invert Level (m) 0.000

Depth (m)	Area (m²)	Depth (m)	Area (m²)	Depth (m)	Area (m²)
0.000	1140.0	1.000	1140.0	1.001	0.0

Hydro-Brake® Optimum Outflow Control

Unit Reference	MD-SHE-0067-2000-1000-2000
Design Head (m)	1.000
Design Flow (l/s)	2.0
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	67
Invert Level (m)	0.000
Minimum Outlet Pipe Diameter (mm)	100
Suggested Manhole Diameter (mm)	1200

Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	1.000	2.0
Flush-Flo™	0.296	1.9
Kick-Flo®	0.599	1.6
Mean Flow over Head Range	-	1.7

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	1.6	1.200	2.2	3.000	3.3	7.000	4.9
0.200	1.9	1.400	2.3	3.500	3.5	7.500	5.1
0.300	1.9	1.600	2.5	4.000	3.8	8.000	5.2
0.400	1.9	1.800	2.6	4.500	4.0	8.500	5.4
0.500	1.8	2.000	2.7	5.000	4.2	9.000	5.5
0.600	1.6	2.200	2.9	5.500	4.4	9.500	5.7
0.800	1.8	2.400	3.0	6.000	4.6		
1.000	2.0	2.600	3.1	6.500	4.7		

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J. Foul Flow Estimate

		Sheet No:	1 of 1	Project No:	WIE16835
Project Title:	**Downlands Farm, Uckfield**	By:	K. Tolson	Date:	24.01.2022
Calculations Title:	**Proposed Foul Flow Estimate**	Checked:	P O'Flaherty	Date:	24.01.2022

		Dry Weather Flow Rate (per day)	Source	Number of	Factor	Profile (hours)	Peak Flow Rate (litres/second)
Residential					2.12	24	
Existing property =	*160 litres/person/day*	400.0 litres per unit	Thames Water Guidelines (2016)	0 existing units			0.000
New property =	*125 litres/person/day*	312.5 litres per unit	Thames Water Guidelines (2016)	424 proposed units			3.251
Occupancy =	*2.5 persons*						
Hotel		500.0 litres per room	British Water (2013)	0 rooms	3	24	0.000
Student Accommodation		200.0 litres per bed	Thames Water Guidelines (2016)	0 beds	3	24	0.000
Offices		750.0 litres per 100m^2	Jones (1992)	0 m^2	3	10	0.000
Retail		400.0 litres per 100m^2	Jones (1992)	0 m^2	3	3 DWF Flat	0.000
Cinema		10.0 litres per seat	Jones (1992)	0 seats*	3	8	0.000
Health Club/Sports Centre		50.0 litres per customer	British Water (2013)	0 customers**	3	16	0.000
Day School		90.0 litres per pupil	British Water (2013)	0 pupils	3	10	0.000
Boarding School		175.0 litres per pupil	British Water (2013)	pupils	3	24	0.000
Hospital		750.0 litres per bed	Jones (1992)	0 beds	3	3 DWF Flat	0.000
Nursing Home		350.0 litres per bed	British Water (2013)	0 beds	3	24	0.000
Restaurant		30.0 litres per cover	British Water (2013)	0 covers	3	8	0.000
Pub/Club		15.0 litres per customer	Butler and Davies (2004)	0 customers***	3	12	0.000
Warehouse		150.0 litres per 100m^2	Jones (1992)	0 m^2	3	3 DWF Flat	0.000
Manufacturing		550.0 litres per 100m^2	Jones (1992)	0 m^2	3	3 DWF Flat	0.000
Commercial		300.0 litres per 100m^2	Jones (1992)	0 m^2	3	3 DWF Flat	0.000
SUB TOTAL							3.3
Infiltration percentage	10%						0.3
TOTAL							**3.6**

* Foul flow rate needs to be calculated based on number of seats. An allowance of 4m^2 has been made for each seat.

Floor area = 0 m^2 4 m^2 per person

** Foul flow rate needs to be calculated based on number of customers. An allowance of 4m^2 has been made for each customer.

Floor area = 0 m^2 4 m^2 per person

*** Foul flow rate needs to be calculated based on number of customers. An allowance of 4m^2 has been made for each customer.

Floor area = 0 m^2 4 m^2 per person

UK and Ireland Office Locations

