



Figure 08-6: Mole Bridge

The vertical alignment has followed the existing ground profile as much as possible between the River Mole and Charlwood Road (max around +/- 300mm), except where it has been necessary to raise the profile to cross the River Mole, (allowing sufficient headroom beneath the bridge for flood conveyance purposes and access) and to keep the finished road level out of the flood zone refer to the longsections. This has reduced the requirement for additional fill material and be in keeping with the openness of the country park area.

Due to the constraints within the area of the proposed corridor as outlined above it has not been possible to avoid all existing vegetation. There have been certain trees which will require removal as part of the proposal and these are T396, T366, T367 and T368 which are shown in Figure 08-7, further information on these can be found within the Arboricultural Impact Assessment. However, the corridor has been positioned to avoid and minimise the impact on key areas of vegetation, in the northern section of the corridor T376 adjacent the Scheduled Monument and Hotel has been avoided along with trees T379, T380 and T381 which are a part of the historic character of the Scheduled Monument, which are shown in the Figure 08-7



Figure 08-7: Corridor Impact on Arboriculture in Northern Section

Further to this the corridor and associated River Mole Bridge has been further rationalised as outlined above and positioned in order to avoid and minimise impact on W334, W316, W346, W347, W T340, T345, T348, T465 and T466 as shown in Figure 08-8.



Figure 08-8: Corridor Impact on Arboriculture – River Mole Bridge

A key area of vegetation which the development looks to retain as much as possible is W446, in the southern section of the corridor. In order for this to occur and not impact on W447 to the north, the alignment of the corridor in this location has been rationalised during the design development moving the carriageway as north as possible and separating the shared footway/cycleway southwards, as shown in Figure 08-9

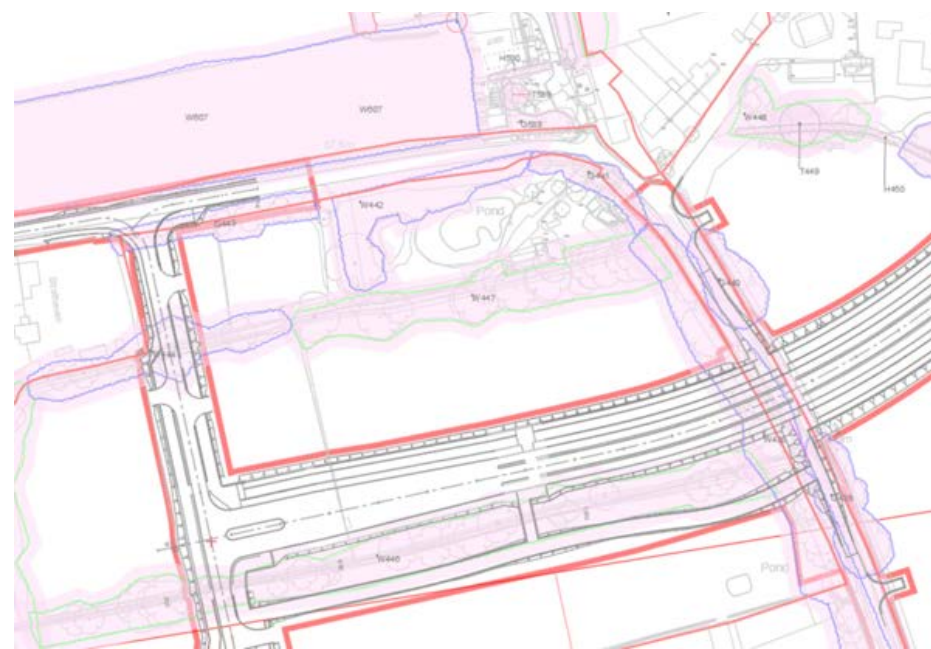


Figure 08-9: Corridor Impact on Arboriculture in Southern Section

Following further discussions with Horsham District Council and the desire to keep the multi-modal travel corridor in keeping with the Country Park setting, north of the proposed River Mole Bridge, the design considered options of creating greater separation between the active travel route and the highway. The length this could be applied to was constrained by the flood zone and 4 options were developed and presented to HDC, with the options presented below Fig 08-10. The agreed option that has been taken forward as part of the proposal is the “orange” colour route which segregates the users in an indirect route in keeping more with the existing topography of the land and the Country Park setting.

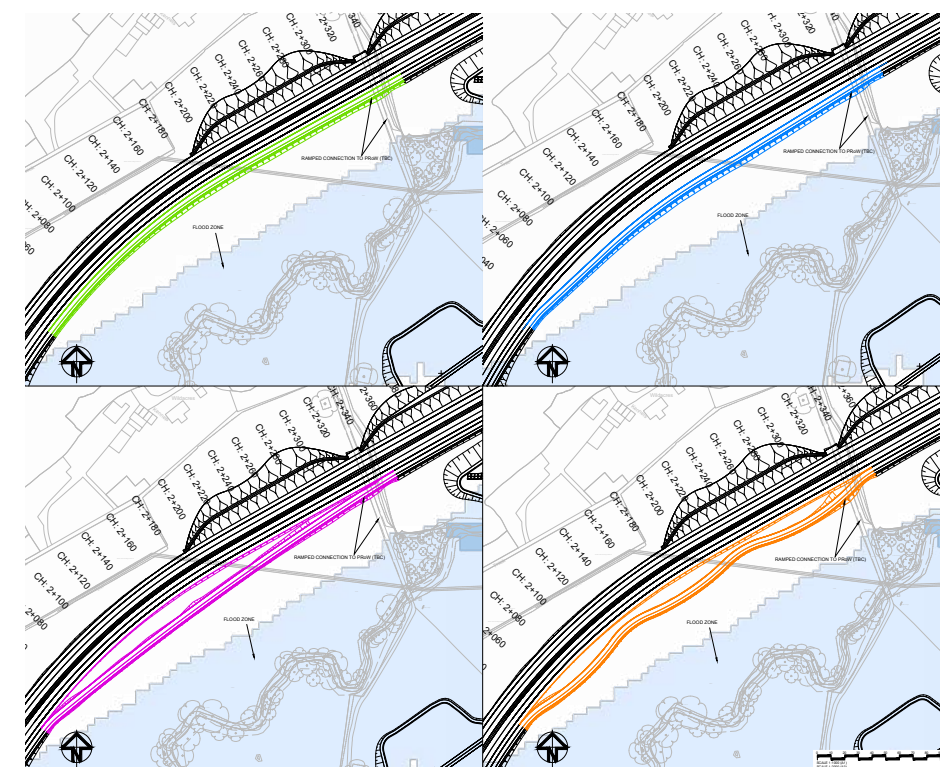


Figure 08-10: Active Travel Corridor Options

8.3.2 Primary Road

The Primary Street is a vital component of the transportation infrastructure within the new development, connecting directly to the western end of the CWMMC. This corridor is designed to support various modes of transportation, including vehicles, buses, cyclists, and pedestrians, ensuring efficient movement throughout the area. The Primary Street provides essential linkages to the secondary and tertiary roads within Phase 1 of the development, extending eastward to connect with Rusper Road. However, access from Rusper Road is restricted to buses, cyclists, and pedestrians only, prohibiting general vehicular traffic to maintain a safe and sustainable environment.

The design of the Primary Street has been carefully planned according to the standards set out in the Manual for Streets and the West Sussex County Council (WSCC) highways adoptable design guidelines. These standards ensure that the road is not only functional but also safe and accessible for all users. The street incorporates dedicated paths for active travel, such as walking and cycling, along with designated bus routes to promote sustainable transportation options.

Furthermore, the Primary Street is integrated with Sustainable Drainage Systems (SuDS) and green infrastructure, which are key elements in managing surface water and enhancing the environmental quality of the area. These features are part of a broader strategy to create a resilient and ecologically friendly urban environment.

In addition to serving the immediate needs of Phase 1, the Primary Street is designed with future expansion in mind. It includes spur junctions that will connect to future secondary and tertiary roads as the development grows. These junctions are also equipped with the necessary drainage and utility spurs, ensuring that future phases of development can be integrated with the existing infrastructure. This forward-thinking approach ensures that the Primary Street will remain a central artery in the development, capable of supporting continued growth and evolution over time.

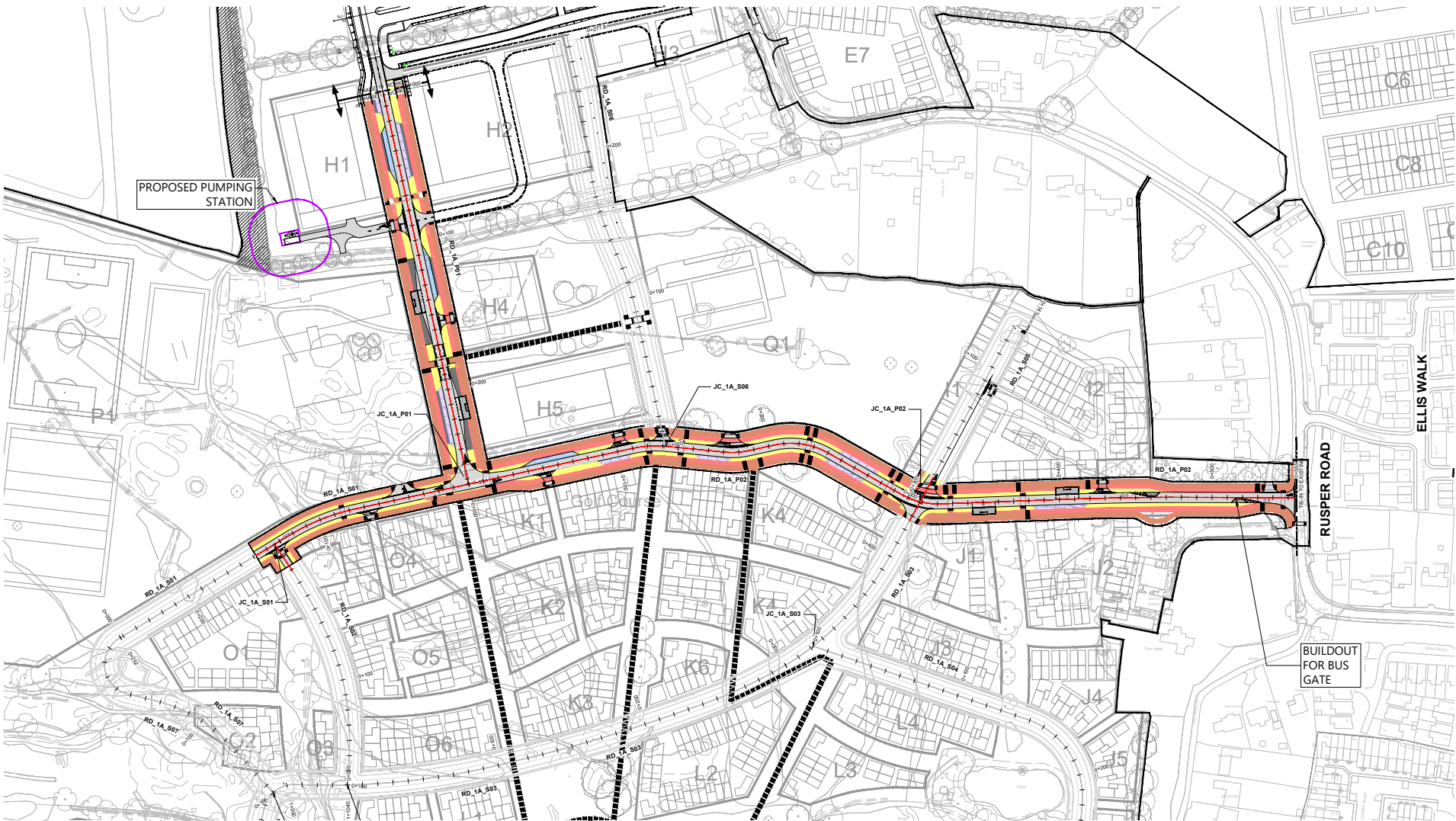


Figure 08-11: Phase 1 Highway General Arrangement

- LEGEND:**
- EXISTING TOPO SURVEY / OS DATA
 - PROPOSED MASTERPLAN
 - INDICATIVE FUTURE DEVELOPMENT
 - RIGHT OF WAY (ROW)
 - INDICATIVE ALTERNATIVE ROUTE
 - RED LINE BOUNDARY
 - ROAD CARRIAGEWAY (WIDTH VARIES)
 - PARKING BAY (3m WIDE & 6m LONG)
 - LOADING BAY
 - FOOTWAY / SHARED FOOTWAY (2.5m - 3m WIDTH)
 - VERGE / LANDSCAPE
 - CYCLEWAY (PRIMARY- 3m)
 - BUS STOP
 - INDICATIVE MOBILITY HUBS
 - BUS GATE
 - EMPLOYMENT PARCELS
 - MIXED USE DEVELOPMENT PARCEL
 - EDUCATIONAL PARCEL
 - RESIDENTIAL PLOT
 - PROPOSED ALIGNMENT
 - INDICATIVE FUTURE ALIGNMENT
 - RD_1A_PXX PRIMARY STREET
 - RD_1A_SXX SECONDARY STREET
 - JC_1A_PXX JUNCTION PRIMARY STREET
 - JC_1A_SXX JUNCTION SECONDARY STREET
 - SECTION MARKER
 - PROPOSED PHASE 1B ROAD LAYOUT

8.3.3 Rusper Road Bus Improvements

The Phase 1 Primary Street is designed to function as a primary bus route, connecting with the CWMMC and facilitating access to the Rusper Road bus gate. This connection is critical for accommodating the planned high-frequency bus services that will enter the site from the east, ensuring efficient and reliable public transportation for the new development. By integrating these services, the Primary Street will play a central role in connecting the new community to the broader regional transport network, promoting accessibility and reducing reliance on private vehicles.

As part of its comprehensive design, the Primary Street will feature two strategically located Mobility Hubs. These hubs are envisioned as essential access points for multimodal transportation, offering a range of facilities that support various modes of travel. Each Mobility Hub will include bus boarding areas equipped with shelters and seating for passenger comfort, as well as facilities for cyclists, including secure bike parking and maintenance stations. Additionally, the hubs will provide designated car club parking spaces, encouraging shared vehicle use and further supporting sustainable transport options.

The Primary Street and its associated Mobility Hubs are key components of the Phase 1 development’s transportation strategy. They are designed to ensure that the new community is well-integrated into the wider transport system, offering diverse and sustainable travel options that meet the needs of both current and future residents.

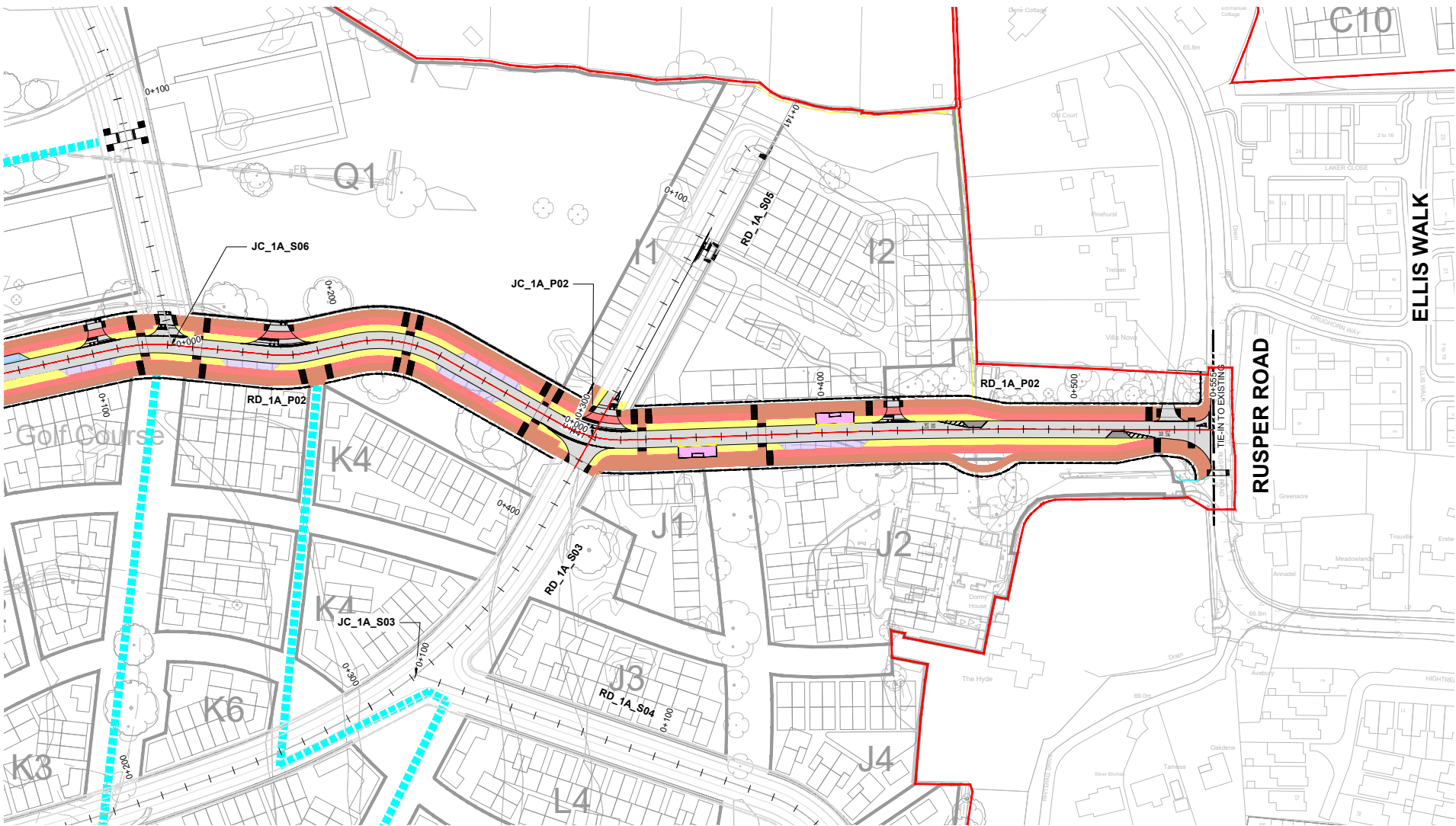


Figure 08-12: Rusper Road Bus Gate

8.3.4 Enabling Works for the Secondary School

The design and development of the Phase 1 Primary Street have been planned to not only serve the immediate needs of the new community but also to accommodate future requirements, including those of the proposed secondary school. The Primary Street's connection to the CWMMC has been specifically designed to support this future educational facility, ensuring that essential services and infrastructure are in place from the outset.

The Primary Street corridor has been thoughtfully engineered to include dedicated utility corridors, which will house the necessary connections for various services, including water, electricity, telecommunications, and other utilities. Additionally, the design incorporates foul drainage spurs and surface water drainage systems, ensuring efficient and sustainable management of waste and stormwater. These provisions are crucial for the integration of the secondary school into the broader infrastructure network, ensuring that the school can operate effectively and sustainably from the moment it opens.

The strategic location of the secondary school, near the local center, is complemented by the Primary Street's robust public transport and active travel facilities. The street is equipped with bus routes and stops, as well as walking and cycling paths, ensuring that students, staff, and visitors have convenient and sustainable options for accessing the school. These facilities are designed to promote the use of public transportation and active travel modes, reducing traffic congestion and minimizing the environmental impact of the school's operations.

Furthermore, the development plan includes a temporary construction access point from Rusper Road, which will provide a critical link for the school's construction phase. This access will facilitate the efficient delivery of construction materials and equipment until the CWMMC is fully operational, ensuring that the school can be built on schedule without disrupting the ongoing development of the surrounding area. Once the CWMMC is completed, the school will benefit from the enhanced connectivity and transportation options it provides, further integrating the educational facility into the community.

The Phase 1 Primary Street has been designed with a forward-looking approach, incorporating essential infrastructure and transportation facilities to support the proposed secondary school and the broader community. The integration of utility corridors, drainage systems, and multimodal transport options within the Primary Street corridor ensures that the school will be well-served and accessible, while the temporary construction access from Rusper Road provides a practical solution for the school's development phase.



Figure 08-13: Secondary School Construction Access

- LEGEND:
- EXISTING TOPO SURVEY / OS DATA
 - PROPOSED MASTERPLAN
 - INDICATIVE FUTURE DEVELOPMENT
 - RIGHT OF WAY (ROW)
 - INDICATIVE ALTERNATIVE ROUTE
 - RED LINE BOUNDARY
 - ROAD CARRIAGEWAY (WIDTH VARIES)
 - PARKING BAY (3m WIDE & 6m LONG)
 - LOADING BAY
 - FOOTWAY / SHARED FOOTWAY (2.5m - 3m WIDTH)
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 - RESIDENTIAL PLOT
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 - INDICATIVE FUTURE ALIGNMENT
 - RD_1A_PXX PRIMARY STREET
 - RD_1A_SXX SECONDARY STREET
 - JC_1A_PXX JUNCTION PRIMARY STREET
 - JC_1A_SXX JUNCTION SECONDARY STREET
 - SECTION MARKER
 - PROPOSED PHASE 1B ROAD LAYOUT

8.3.5 Utilities and Foul Drainage Infrastructure

Foul Drainage

Thames Water are the public sewerage undertaker in the area, and their asset record plans show there is an existing foul/combined 675mm diameter trunk sewer running northwards adjacent to Ifield Brook, close to the eastern boundary of the outline application site, and approximately 275m east of the eastern end of the Phase 1 Primary Street.

The asset plans also show the presence of an existing foul connection extending into the eastern end of the Phase 1 site, which appears to serve the existing Ifield Golf Club clubhouse. This is a 150mm diameter pipe, and whilst the asset plans do not state an invert level at this point on the sewer network, it is the head of a run and therefore likely to be relatively shallow, and has been discounted as a possible point of connection for flows from the development.

Foul sewerage infrastructure is to be constructed within the Phase 1 Primary and Secondary Streets to serve the adjacent future development parcels shown on the Indicative Masterplan (ref. WOI-DWG-REF-PP) for the outline elements of the application. This new system is designed to discharge via a new connection to the existing Thames Water 675mm diameter public sewer network further east on Rusper Road.

The topography of the wider outline application site has been considered in the Phase 1 design, and the foul sewer system within the Primary and Secondary Streets will provide capacity and connections for future foul flows from the adjacent housing parcels. These are shown on the Indicative Masterplan (ref. P12061-00-001-GIL- 0105 Illustrative Landscape Masterplan) and include plots G1-5, H1-5, I1-2, J1-6, K1-K6,



Figure 08-14: Phase 1 Drainage Catchment

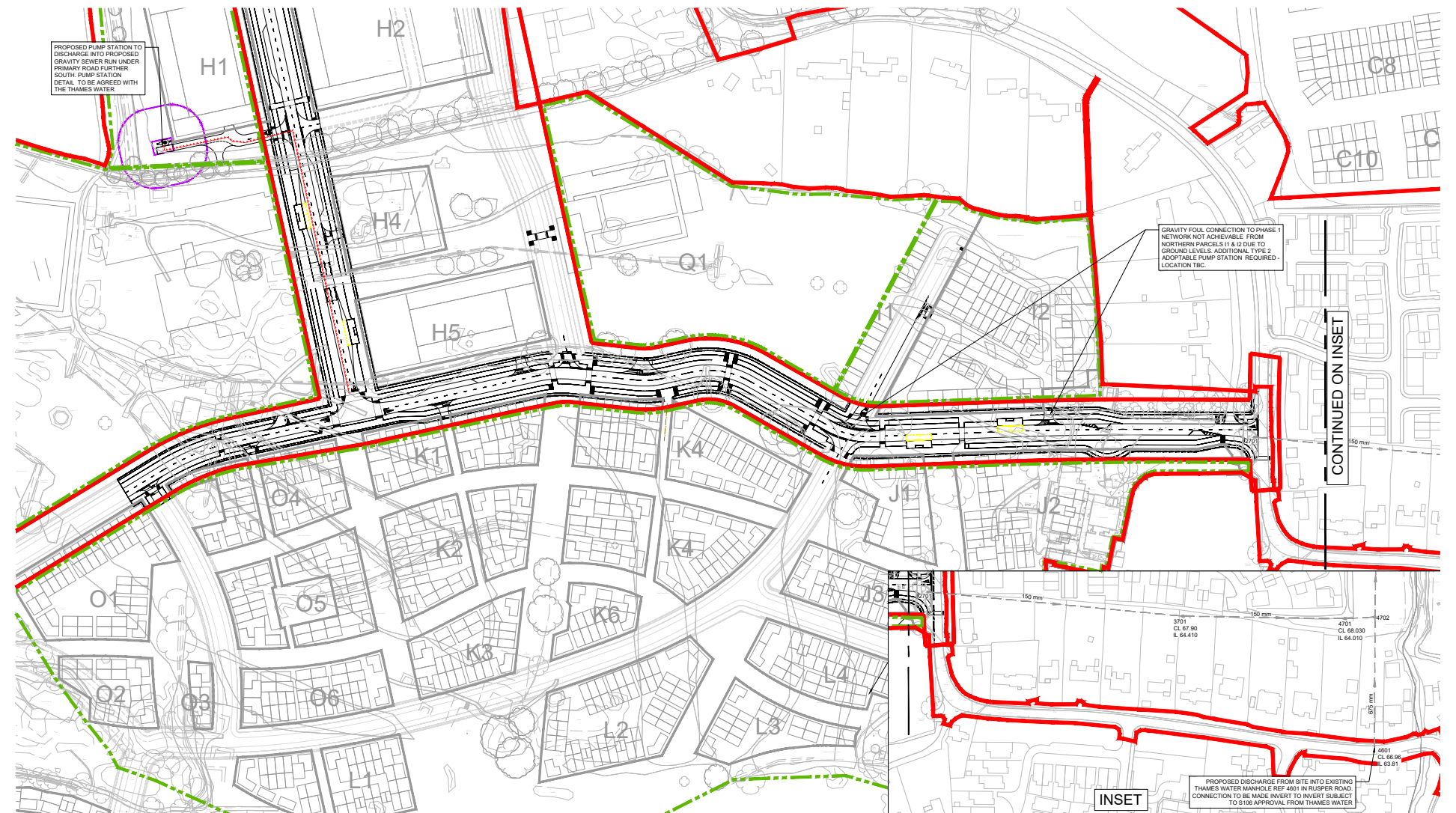


Figure 08-15: Foul Drainage Plan

L1-L4, O1-O6, P1 and Q1.

Due to the relative site levels foul flows from the development parcels to the north of the Phase 1 Primary Street will discharge to a proposed pumping station, which is situated to the west, and adjacent to Parcel H. .

Based on the quantum of development proposed in the parcels served by Phase 1 and listed in the Development Schedule, the foul sewerage system being constructed as part of the Phase 1 works will be designed to eventually convey a peak flow rate of approximately 90l/s.

A Pre-Planning Enquiry has been submitted to Thames Water relating to the Phase 1 foul flows and the proposed Point of Connection on Rusper Road to Thames Water manhole 4601. Thames Water have advised that there may be insufficient spare capacity in their existing foul sewer network for the proposed flows and have already been carrying out modelling assessments to consider potential options for upgrade works. Liaison with Thames Water on this matter is on-going.

Utilities

Electricity

UK Power Networks (UKPN) are the Distribution Network Operator in the area. From initial enquiries with UKPN, it is understood that the long-term strategy for the supply of electricity to the outline elements of the application involves the provision of a new Primary Sub-Station. It is understood that the new Primary Sub-Station will likely be positioned within the “S”-parcels shown on the Indicative Masterplan(ref. P12061-00-001-GIL- 0105 Illustrative Landscape Masterplan) for the outline elements, with the incoming 33kV twin supply to be coming from the Three Bridges Grid Site approximately 7km to the east of the site.

The route of this incoming 33kV twin supply is not yet determined, but it is assumed that this would most likely follow the route of Rusper Road, continuing northwards past the proposed Rusper Road – Primary Street junction, before crossing under the proposed CWMMC to reach the “S”-parcels.

The timeframe required to provide the required Primary Sub-Station is such that for the initial phase of built development, specifically the Secondary School, an alternative supply strategy is likely to be required. Initial enquiries with UKPN have indicated that there is sufficient spare capacity at the existing Southgate Primary Sub-Station approximately 4km to the south-east to supply the Secondary School.

Again, whilst the route of the incoming 11kV twin supply is not yet confirmed, it is assumed that this would most likely follow the route of Rusper Road, before turning into the development and following the route of the Phase 1 Primary Street as far as the Secondary School parcel.

Provision will also be made within the design of the Phase 1 Primary Street for future provision of 11kV twin supplies which will eventually run from the new Primary Sub-Station to the north of the CWMMC to supply future final distribution sub-stations which will be required as part of the future build-out of the outline elements of the scheme to either side of the Phase 1 road network. These 11kV ducts will be provided within key utility corridors within the proposed footways to either side of the Phase 1 Primary Street.

Finally additional cable ducts will be provided within the same utility corridors to enable the provision of Low Voltage (LV) networks to supply adjacent development and street lighting and signage within the Primary Street corridor.

Potable Water

Southern Water are the potable water undertaker in the area. Initial enquiries with Southern Water have indicated that the most likely point of connection to their existing supply network is in Peverel Road, to the south-east of the site.

The route of the incoming potable water supply to the development is unknown but is assumed will most likely follow the route of Rusper Road, before turning into the development and following the route of the Phase 1 Primary Street to supply the early phases of built development.

Potable water supply to future development parcels forming the outline elements of the development further north may follow the route of Rusper Road further north past the proposed Rusper Road – Primary Street junction, before crossing under the proposed CWMMC

In addition to the potable water supply infrastructure, a separate non-potable water supply network is proposed across the development to ensure the development achieves water neutrality.

It is understood that this non-potable water system will include a series of large storage tanks capturing surface water runoff from proposed building roofs and hard standings, although the exact location and size of these is not yet fully determined.

Provision has been allowed within the key utility corridors within the Phase 1 Primary Street for the inclusion of this non-potable water supply network running alongside the potable water supply network.

Telecommunications

BT Openreach and Virgin Media asset plans show extensive existing networks supplying existing development surrounding the site including within Rusper Road and Charlwood Road. Initial enquiries with BT Openreach and Virgin Media have indicated that Ultra fast Full Fibre to the Premises (FTTP) is not yet currently available in the area.

It is assumed that incoming telecommunications network connections to serve the development will enter the site at the Rusper Road – Primary Street junction and follow the route of the Phase 1 Primary Street to supply the early phases of built development.

Provision has been allowed within the key utility corridors within the Phase 1 Primary Street for the inclusion of telecommunications networks.