ABLEY LETCHFORD PARTNERSHIP
Consulting Engineers

LAND AT WATER LANE, ANGMERING

CONSTRUCTION MANAGEMENT PLAN

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28 OCTOBER 2020

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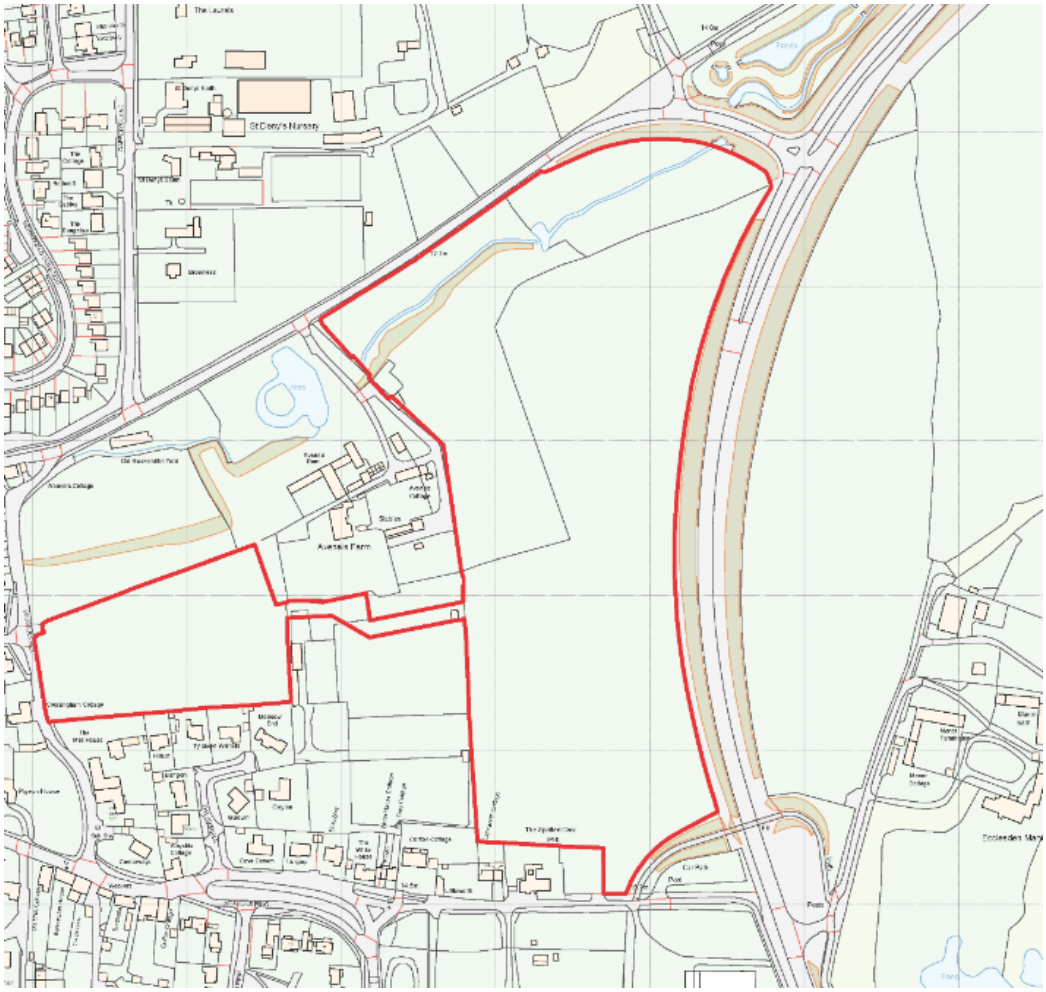
1.0 Introduction

Context

1.1. This Construction Management Plan (CMP) has been prepared on behalf of Barratt David Wilson Homes as part of a Reserved Matters planning application for a residential development of 175 dwellings on Land South of Water Lane, Angmering.

1.2. The location of the site, which already benefits from outline planning approval for residential development, is depicted below while the proposed Layout was submitted under application reference: A/109/20/RES.

Figure 1 : Site Location Plan



1.3. The development site comprises c.9.2ha of former agricultural fields. As shown above, the site is made up of two land parcels, the eastern most land being larger at c.7.7ha while the western land area is c.1.5ha.

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1.4. The site is bordered to the north by Water Lane and to the east by the A280, while to the south and west are existing residential areas.

Planning Requirements

1.5. Outline planning permission (Ref: A/99/17/OUT) was granted by Arun District Council on the 12th March 2019 for the development of up to 175 dwellings, public open space, play areas with associated infrastructure including roads, drainage and landscaping.

1.6. This Construction Management Plan relates to the discharge of Condition 21 as set out in the Decision Notice issued by Arun District Council which states:

> *'Prior to the commencement of development, including any works of demolition, a Construction Management Plan shall be submitted for approval in writing by the Local Planning Authority. Thereafter the approved Plan shall be implemented and adhered to throughout the entire construction period. The Plan shall provide detailed as appropriate but not necessarily be restricted to the following matters:*
>
> - *The anticipated number, frequency and types of vehicles used during construction,*
> - *The method of access and routing of vehicles during construction,*
> - *Soil resources plan,*
> - *Dust mitigation measures,*
> - *Noise reduction measures,*
> - *The parking of vehicles by site operatives and visitors,*
> - *The loading and unloading of plant, materials and waste,*
> - *The storage of plant and materials used in construction of the development,*
> - *The erection and maintenance of security hoarding,*
> - *The provision of effective wheel washing facilities and other works required to mitigate the impact if construction upon the public highway (including provision of temporary Traffic Regulation Orders),*
> - *Details of public engagement both prior to and during construction works.*

1.7. The principal aim of this Construction Management Plan is to ensure that the construction works are organised and delivered in a manner that mitigates the environmental impact and safeguards the amenity of the area surrounding the development site during the construction period.

1.8. Whilst the principles of the construction strategy are established within this Report, it should be noted that the construction programme may be subject to change once the specific Principal Contractor is appointed. Any subsequent changes to the Construction Management Plan that may occur would need to be agreed with officers at Arun District Council.

Construction Liaison Officer

1.9. To ensure that the Construction Management Plan is implemented efficiently and as agreed with the local authority, the Site Manager will act as construction liaison and their details posted upon appointment. They will in turn have support within Barratt David Wilson Homes Head Office to deal with any concerns which arise.

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Construction Phasing

1.10. It is anticipated that the development will be built in the following sequence, with the overall program comprising distinct components of work, as follows:

- Site setup, including confirmation that tree protection measures have been implemented (as per Planning Condition 6), clearance of the existing field access to allow crews and equipment onsite as well as installation of perimeter fencing and the site compound.
- Construction of a site access onto High Street to the south, to at least base course level, to be used as an interim construction access and haul route (until the northern access is completed). Set up of Construction Compound in the vicinity.
- Construction of permanent site access onto Water Lane, including for the crossing of Black Ditch facilitate access.
- At the same time as the northern access is being formed; Site Infrastructure, including primary drainage infrastructure and SUDS features, will be started in order to create an efficient build programme.
- Following completion of the northern access, return of High Street access to pedestrian / emergency link only
- Construction of dwellings and formation of associated landscaping.
- Final fixing and finishing. Following completion of all dwellings the site compound will be deconstructed and the perimeter fencing removed. The primary street and access will be completed to wearing course.

1.11. Construction works will start following the discharge of all pre-commencement planning conditions, with the development anticipated to take in the region of 3 to 4 years to complete.

Construction Working Hours

1.12. The planning decision notice does not stipulate any specific construction working hours or restrictions. At this stage it is anticipated that the standard construction guidance provided by Arun District Council for major developments will be adhered to. On this basis, construction activities will not take place outside of:

- 07:30 to 18:00 hrs (Monday – Friday)
- 07:30 to 13:00 hrs (Saturday)
- No noisy activities on Sundays or Bank Holidays.

1.13. The Principal Contractor will make every effort to ensure noise is kept to a minimum during construction hours.

1.14. No construction work shall take place on the public highway network outside the time periods agreed with and approved by the highway authority under the relevant S278 Agreement.

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2.0 Construction Traffic Management

Construction Access

2.1. Due to the need for the permanent access from Water Lane needing to be formed by way of a crossing structure of Black Ditch, a temporary construction access to the site is proposed via the existing field gate at the southern frontage of the site onto the High Street. This will allow the necessary significant infrastructure works associated with constructing the Black Ditch Crossing to be undertaken from within the safety of the site as opposed to needing to implement traffic management measures on Water Lane.

2.2. Since the High Street access will be the only way to access the site until the completion of the permanent access, initial works for the development must use the temporary access. The use of this method of construction will allow construction vehicles to park within the confines of the site during the initial enabling works, thereby negating any need for site vehicles to park on the public highway, such as at Water Lane which would have a greater impact on the operation of the local highway network, which could result in traffic backing up to the A280.

2.3. Once the crossing has been completed and construction vehicles are able to use the Water Lane access, then the southern construction access will then be closed off to vehicles and altered to become a pedestrian / cycle / emergency access in line with the approved access layout. This closure of the temporary access onto High Street is likely to occur during 2022, although this may alter depending on the completion and adoption of the northern access. The Developer will endeavour to reduce the time taken to construct the northern access wherever possible to alleviate the time the High Street access needs to be used.

2.4. Although the existing condition of High Street in the vicinity of the temporary access is narrow with no facilities for pedestrians, the route is currently used for construction vehicles for works at the adjacent Manor Nursey site (Application Number: A/51/14/OUT) and so is deemed suitable for construction traffic. Indeed, the adjacent development includes footway improvements to High Street that will separate pedestrians and motor traffic along the route. Notwithstanding these improvements, vehicles will be expected to phone ahead to notify the construction site of the time of their arrival, and trained banksmen will be utilised to ensure the safe entry and exit for construction vehicles throughout the use of the temporary access at High Street. In addition, suitable times for delivery will be provided as part of each sub-contractor delivery note

2.5. Drawing No. A290-SK02/P2 included in **Appendix A** shows swept path analysis of an articulated low-loader entering the site in the location of the existing field access using the existing southern access. This robust assessment, being based on a large articulated HGV, demonstrates that large vehicles would be able to operate using these arrangements during the initial construction phases. Notwithstanding, a pre-condition survey of the routes to be utilised by construction traffic, which includes the access and part of High Street, would be undertaken prior to construction commencing to ensure that remedial works will return it to is original or improved condition after completion. This survey would be completed with a member of West Sussex County Council Highways present.

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2.6. It is expected that the main access from Water Lane shall be subsequently constructed at minimum to base course level, to allow construction vehicle access. The approved access and internal roads would then be completed to wearing course level as dwelling occupations are achieved on the development.

2.7. The Principal Contractor will ensure that appropriate traffic management schemes are proposed to facilitate the construction of the accesses.

2.8. Once the accesses have been constructed, the traffic management schemes will be removed. Qualified banksmen appointed by the Principal Contractor will be available on-site at all times during construction and occupation to ensure the safe ingress of construction and residential vehicles.

2.9. It is not envisaged that any additional off-site traffic management measures for construction vehicle movements will be required.

2.10. Any gates provided at the accesses as part of the site perimeter shall be set back a minimum of 20m from the edge of the carriageway to ensure no vehicle overhangs the public highway when waiting to enter the site.

Construction Vehicle Types

2.11. The development proposals represent a typical residential build, with normal construction vehicles. It is anticipated that construction of the Water Lane access will involve the use of large mobile cranes in order to position long section beams for the structure. Outside of this, it is not expected that any abnormally large or heavy machinery or vehicles will be required on site.

2.12. All tracked or slow-moving construction vehicles will be delivered / collected from the site via a flat-bed trailer, or other suitable appliance. All loading / unloading of construction vehicles will take place within the site compound.

Construction Traffic Routing Strategy

2.13. To ensure the impact of construction traffic is minimised the West Sussex County Council advisory HGV route plan has been consulted (see **Appendix B**) and an assessment of the local highway network undertaken to identify suitable routes. This is to ensure that construction traffic does not result in inappropriate movements, cause damage to the highway and local structures or significantly impact traffic flow.

2.14. The development site is located between the A27 corridor to the north and A259 corridor to the south, both of which are connected by the A280 which runs along the site's eastern boundary.

2.15. The A27 corridor is a key strategic link in West Sussex along the southern coast, connecting with the M27 motorway at Cosham to the west. Similarly, the A259 corridor is a major local distributor road, linking through coastal towns such as Bognor Regis and Littlehampton in a vicinity of the site. Based upon the West Sussex County Council HGV routing advice it is considered appropriate that construction traffic utilises these main routes in order to access the site. A routing plan detailing the routes for construction traffic is provided at **Appendix C**.

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2.16. A clear signing strategy will be implemented to direct all construction traffic into the site, avoiding the use of unsuitable roads. The location of such signage is shown at the routing plan provided. Routing information and delivery instructions will also be provided to all suppliers prior to the scheduled delivery date.

2.17. Signage at the site entrance will also include information detailing times when access to the site can be gained by construction traffic.

2.18. West Sussex County Council guidance classes an abnormal load as being 44 tonnes, 2.9m wide or 18.65m long.

2.19. Should this be required in respect of constructing the northern access, the Principal Contractor will be responsible for appointing a competent specialist haulier who will communicate with West Sussex County Council Highways and any other relevant authorities. Movement notifications should be sent to ENVabloads@westsussex.gov.uk and current legislation stipulates the following notice periods are required:

- 2 clear working days for 44-80 tonnes
- 5 clear working days for 80-150 tonnes
- 150 tonnes + require a special order as specified in The Road Vehicles Order 2003

Construction Traffic Generation

2.20. Given the approximate 3 to 4 year construction programme, it is anticipated that c.50 dwellings will be delivered per annum.

2.21. Based upon previous experience at other construction sites, a development of 50 units per annum typically generates approximately 8 HGV movements per day during the house construction phase. However, initial infrastructure and access works will likely have a greater intensity of movements during these phases as described below.

2.22. In terms of construction worker movements, information obtained at other residential development sites indicates that approximately 4 construction workers can be expected on site for every 3 residential dwelling being constructed per annum. For the scale and rate of development proposed there is anticipated to be in the region of 65 construction workers on site at a time. However, conversely during the initial infrastructure and access works the number on workers on site is likely to be lower, in the region of 35 workers a day.

2.23. Construction worker vehicle trip rates obtained from other residential construction sites indicate that the number of light vehicle movements that would be generated by the 65 construction workers would be in the region of 95 two-way movements a day. The majority of these would be outside peak periods, with activity during the morning and evening peak hours being only 6 two-way movements. This is unlikely to have any perceptible impact on the operation of the local highway network.

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2.24. The busiest period for construction access associated with use of the High Street access will be during construction of the Haul Road. During this period the number of HGV movements are likely to equate to 2 to 3 movements an hour equating to 20-30 movements a day. Other works in terms of constructing the access itself is likely to result in fewer movements of 1 to 2 movements an hour.

2.25. The efficiency of operations will be maximised wherever possible to minimise the number of movements required. Furthermore, movements will be evenly spread through the day (avoiding busiest periods where possible) to again minimise the impact on the local highway network.

Delivery Management

2.26. The delivery schedule will be maintained and managed by the Principal Contractor who will provide all suppliers / drivers with relevant delivery instructions and information prior to receiving orders on-site.

Site Compound and Storage

2.27. A secure compound will be provided on site from the outset of construction to facilitate the safe storage of plant and materials as well as the provision of site offices, car parking and welfare facilities.

2.28. The construction compound will be sited in the southern half of the development away from nearby residential property.

2.29. The compound area will comprise a prefabricated building for staff as well as welfare facilities such as toilets, showers, a drying room and a canteen / eating area.

2.30. A designated parking area for staff and visitors will also be available at the compound. Sufficient space for vehicles to park and manoeuvre safely will be provided, thereby negating any need for site vehicles to park on the public highway.

2.31. The compound will be designed to ensure sufficient room for vehicles to turn and egress the site in a forward gear. No loading / unloading activities will take place near the public highway.

2.32. The Principal Contractor will provide a sufficient number of qualified banksmen during construction times to ensure vehicle manoeuvres are undertaken in a safe and controlled manner and that the turning area remains free of obstructions. Within the site itself, a one way system will be implemented.

2.33. Topsoil will be managed as detailed within the Soil Management Strategy at Section 5 of this report.

Haul Routes

2.34. The access and internal estate roads through the site shall be constructed at minimum to base course level. This will provide a suitable route for construction vehicles within the site. In line with Planning Condition 11, the access onto Water Lane shall be completed to final course prior to first occupation of any dwellings.

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2.35. In the interests of safety and the reduction of noise and dust creation, a site wide speed limit of 20mph shall be enforced by the Principal Contractor.

Public Rights of Way

2.36. No Public Rights of Way have been identified across the site. However, it is noted that Bridleway No. 3692 connects with the western end of the High Street adjacent to the existing field access at the southern frontage of the site (see West Sussex County Council Definitive Map in **Appendix D**). As such appropriate safeguards shall be implemented to ensure this route remains safe for use and free from obstruction by all authorised road users.

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3.0 Environmental Controls

Context

3.1. There are inherent environmental sensitivities to be dealt with whilst construction activity is occurring on site. It is important therefore that construction impacts are addressed wherever possible.

3.2. The Principal Contractor and all sub-contractors will actively implement best practice construction guidance. All personnel working on the site will be required to undergo a site induction, where site procedures, health & safety and expected working practices will be highlighted and explained.

3.3. The following specific measures have been identified which will be used to mitigate specific environmental concerns at the site.

Perimeter Fencing

3.4. Perimeter fencing / hoarding will be provided around the whole site boundary and the construction compound in order to prevent unauthorised access. In addition, a secure lockable gate will be provided at the access.

3.5. As previously stipulated, the gate shall be set back a minimum of 20m from the edge of the carriageway to ensure no vehicle overhangs the public highway when waiting to enter the site.

Wheel Washing Facilities

3.6. Wheel washing facilities will be provided at the access, within the site, to keep the local highway network free of mud and detritus. All vehicles exiting the site will be subject to wheel washing.

3.7. The washing facilities will be designed to ensure no surface water run-off from the wheel washing area enters the adopted highway or drainage network. In addition, the highway in the vicinity of the site access will be regularly swept by trained personnel to further ensure there is no build-up of mud of dirt.

3.8. The Principal Contractor will promptly arrange for a road sweeper to clean the highway in the vicinity of the site should a build-up of mud, dirt or run-off occurs. Notwithstanding, a road sweeper will visit site on a daily basis as necessary whilst there are heavy movements of vehicles during the ground works phase of the project i.e. roads and sewer construction.

Noise Reduction

3.9. Further to the restriction on working hours, a number of practices can be implemented to reduce noise that may affect local and new residents, these include:

- The use of quieter alternative mechanical plant / equipment, and the use of mains power rather than generators where reasonably practicable.
- Locating plant, equipment, site offices, storage areas and worksites away from neighbouring properties.

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- The use of site hoardings within the construction compound or portable acoustic enclosures/screens, where reasonably practicable.
- Maintaining and operating all vehicles, plant and equipment in an appropriate manner, to ensure that extraneous noise from mechanical vibration, creaking and squeaking is kept to a minimum.
- Shutting down equipment when not in use.

Dust Suppression

3.10. A number of control procedures will be implemented in order to reduce the potential for dust emission / creation as far as practicable. Such measures include:

- In dry weather, haul routes and stockpiles will be 'dampened' down to help prevent dust migrating from the site.
- Ensure construction vehicles adhere to the 20mph speed limit within the site.
- Use appropriate sheeting / screening and packing of materials in storage to prevent dust from escaping.

Vibration

3.11. No piling foundations are anticipated to be required for the site. If any piling works are required, the Principal Contractor shall ensure that any equipment or plant used for such operations is properly maintained and the works are undertaken in a considerate manner. This will include the use of low noise/vibration techniques in order to reduce impact on existing or newly built residential units.

3.12. Where construction works are to be undertaken in close proximity to neighbouring properties or public rights of way, the Principal Contractor will ensure that measures are first put in place to prevent vibration, or if this is not possible control exposure limits.

3.13. All construction crews will be required to undertake risk assessments and on-site training when using hand tools that create vibration, in order to minimise the risk of 'white-finger' and repetitive strain injuries.

Fire Prevention

3.14. In line with best practice and in the interests of site health & safety, no burning of any materials will be permitted on site.

3.15. All flammable materials stored on-site will be kept in an appropriately secure location within the main construction compound in order to reduce the risk of fire, tampering or theft.

Lighting

3.16. For most of the year, the permitted construction times fall entirely within daylight hours which will largely negate the need for the use any artificial lighting. During the winter months however, when natural daylight is restricted, there may be a need to employ temporary lighting to ensure the safety of workers.

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3.17. In such instances, precautions will be taken to ensure that any lighting does not cause any significant disturbance to neighbouring properties, particularly at the western and southern boundaries of the site.

3.18. Any temporary lighting must be focused inwards on the construction site to keep light spillage to a minimum.

Mud Prevention

3.19. Wheel washing facilities will be provided at the designated site access to ensure the highway network is kept clear from mud and debris.

3.20. All HGV's removing spoil from the site will be fully sheeted to minimise the risk of any mud spilling onto the highway.

3.21. Regular inspections of the construction access will be undertaken to ensure the above measures are effective. Provision for cleaning of the road, if required, will be undertaken using road sweepers.

Surface Water Management Measures

3.22. The Environment Agency (EA) Flood Map for Planning shows that almost the entire site lies within Flood Zone 1, with a small area along the northern boundary following a local stream, being within Flood Zones 2 and 3. This indicates the site in general has a low probability of flooding. A copy of the EA Flood Map output is provided at **Appendix E**.

3.23. As such no special considerations are proposed in terms of storage of materials within a designated floodplain, given that the site compound and associated works areas will be located within the Flood Zone 1 areas of the site.

3.24. Notwithstanding this, the contractor will employ appropriate measures to ensure that any water run-off from site works / exposed ground, or silty water from wheel washing facilities does not enter watercourses.

3.25. Fuel, lubricating oils and chemicals will be stored appropriately within the secure construction compound. All storage areas within the compound will be constructed with an impervious base and surrounded with an effective and impervious bund capable of holding the full contents of the store plus 10%. All stores are to be kept locked when not in use.

3.26. Refuelling of equipment, plant or vehicles will only be permitted to take place within the site compound. All empty drums or chemical containers will be stored in a covered, secure store for collection and removal from the site.

3.27. Should any fuel or chemical containers be found to be leaking, a qualified person should be informed immediately, and appropriate action taken to stop the leak. All spills will be cleared immediately by a suitably trained person.

3.28. The procedure for any leak / spill discovery and required action shall be communicated clearly as part of the site induction and displayed on information boards within the site.

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Trees and Hedges

3.29. Measures for the identification and protection of trees to be retained on site shall be installed prior to the commencement of any onsite works.

3.30. Specific measures for the protection of the retained trees and hedgerows are to be confirmed by an arborocologist and will be implemented by the Principal Contractor.

Construction Waste

3.31. The majority of waste material generated during the construction phases will be from earthwork activities. Subsoil arisings will also be re-utilised within each respective parcel where practicable whereas **Section 5** of this report sets out how measures will be taken to ensure that topsoil is stored and reused on-site in an effective manner.

3.32. Recycling and reuse of other materials, preferably on-site, will also be encouraged throughout the construction of the development. Inert waste will be used for hard standing and drives throughout the project.

3.33. During the construction process the following waste arisings have the potential to be segregated for potential re-use on site, or for off-site recycling: (recycling reports will be made available throughout the project for inspection).

- Concrete
- Wood
- Metals
- Hard and soft plastics
- Cardboard
- Pallets
- Packaging
- Soils and subsoils
- Concrete Rubble
- Residual general site waste
- Residual glass waste

3.34. Where practicable these waste streams will be sorted on site into easily identifiable designated bins / skips within waste storage compounds. In addition, waste compounds will have separate areas for waste receptacles for the disposal of residual general site waste that cannot be recycled or re-used. The waste compound will be checked regularly by the Principal Contractor to ensure that the correct bins are being used and the recycling directives followed.

3.35. All contractors and suppliers will be encouraged to reduce packaging on any materials used on the site. The Principal Contractor will have overall responsibility for the management and recycling of materials during the construction period.

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Site Waste Minimisation Strategy

3.36. In addition to recycling, measures will be implemented to reduce waste creation during the construction period. Table 3.1 summarises the proposed measures.

Table 3.1: Waste Minimisation Measures

Activity	Avoid
Ordering	• Over-ordering (order just on time) • Ordering standard lengths rather than lengths required. • Ordering for delivery at the wrong time (update programme regularly)
Delivery	• Damage during unloading • Delivery to inappropriate areas of the site • Accepting incorrect deliveries, specification or quantity
Storage	• Loss, theft or vandalism through secure storage and on-site security. • Damage to material from incorrect storage.
Handling	• Damage or spillage through incorrect or repetitive handling.

3.37. Best practice measures for minimising potential wastage include:

- On-site segregation and re-use of materials.
- Efficient planning of material deliveries to the site by contractors and sub-contractors to avoid damage to the materials and the unnecessary generation of waste.
- Effective co-ordination between contractors and suppliers to avoid the excessive purchase of raw materials and to prevent the risk of materials being lost, stolen or damaged.
- Effective handling and storage of delivered materials to prevent loss or damage through exposure to the weather, mud and on-site vehicles.

3.38. Provision of safe and secure storage areas for construction materials is important throughout the construction process to ensure that potential loss of materials from damage, vandalism or theft is avoided. These measures can be supported by:

- Ensuring well-timed deliveries to the site.
- Providing on-site security when necessary.
- Installing temporary site security fencing.

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4.0 Construction Management

Context

4.1. This section sets out the measures, management structure and control processes that will be put in place to implement, monitor and manage the Construction Management Plan. The Principal Contractor will either appoint or act as the Construction Liaison Officer who will oversee the implementation of the Construction Management Plan and ensure that the control processes are efficiently communicated and implemented.

Considerate Constructors

4.2. The construction activities will be managed in a manner that is considerate towards the environment and neighbours. The broad principles that are to be followed include:

- **Considerate:** Work to be carried out with consideration to the public, businesses, site personnel and visitors.
- **Environmentally Conscious:** Noise to be kept to a minimum with attention to waste management and pollution.
- **Cleanliness:** Site to be kept clean and in good order.
- **Good Neighbour:** Good communication links with neighbours.
- **Safe:** All working practices to be carried out with care and consideration.
- **Responsible:** Everyone on site complies with the code.
- **Accountable:** Site contact details to be easily accessed.

Implementation and Communication Strategy

4.3. The Principal Contractor has overall responsibility for implementing and developing the Construction Management Plan which will sit alongside other systems and procedures relating to environmental management. The Construction Management Plan will be reviewed and updated as necessary on an ongoing basis.

4.4. The Principal Contractor will have a suitably qualified person to undertake the role of Construction Liaison Officer. Contact details for the Principal Contractor and Construction Liaison Officer will be provided to Arun District Council, West Sussex County Council and other local key stakeholders.

4.5. The Construction Liaison Officer would be responsible for keeping site neighbours and Arun District Council / West Sussex County Council informed of the construction progress and to ensure there is adequate liaison between all stakeholders throughout the construction period.

4.6. Whilst the Principal Contractor and Construction Liaison Officer will use reasonable endeavours to ensure that site neighbours are informed of the construction programme and associated impacts, there is potential for complaints to be raised by local residents regarding the programme of works. The Construction Liaison Officer will therefore be available to meet and explore issues with concerned residents directly via a dedicated email address / telephone number, or face to face by appointment. Contact details for the Construction Liaison Officer will be displayed prominently at the site entrance.

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Construction Travel Management

4.7. To ensure the impact of construction / delivery related traffic is minimised, the Principal Contractor will seek to encourage the workforce to travel to and from the site by sustainable modes.

4.8. The nearest bus stops are located within a 400m walk of the centre of the site on High Street, via the southern site access. From here bus service 9 provides an hourly service between Shoreham, Littlehampton and Arundel as well as Angmering railway station. The most recent bus timetable is attached within **Appendix F**.

4.9. Angmering railway station is located within a 2.3km journey (7-minutes by bicycle) of the site and is accessible by bus, or via local footways.

4.10. In addition, staff will be encouraged to co-ordinate their travel arrangements i.e lift share where possible in order to reduce the instances of single occupancy vehicle trips.

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5.0 Soil Management Strategy

Context

5.1. It is vital to the success of developments that existing natural resources such as topsoil and subsoil and their structure are protected from excessive uncontrolled compaction, particularly in areas that are designated for landscape planting that rely on good quality soil to encourage new growth. Furthermore, excessive compaction of soil can result in reduced internal soil drainage and reduced rainfall infiltration.

5.2. Without a soil management plan in place to control the soil resources on site there is a high risk of losing, damaging or contaminating this valuable material. In this regard, the following operations all need to be carefully managed during the construction process:

- Topsoil and subsoil strip
- Topsoil temporary and permanent storage
- Subsoil temporary and permanent storage
- Site segregation
- All excavation, deposition, spreading, levelling and compaction of soils

Exclusion Zones to Prevent Soil Compaction

5.3. The initial phase of construction is intended to enable the early delivery of the highway, drainage and utilities infrastructure which will serve the development.

5.4. Any areas identified to be avoided in order to reduce potential compaction will, where necessary, be protected by temporary secure fencing with a minimum height of 1.8m minimum and set at least 2m away from the boundary, with clear warning signage fixed to the same.

5.5. Any fencing and signage erected for this purpose will be regularly inspected and maintained whilst works are in progress and will act as demarcation for heavy plant movements on-site.

5.6. Movement of construction vehicles liable to cause compaction, will generally be confined to temporary haul roads formed along the main infrastructure roadways. The only requirement to encroach out of these areas to any significant extent would be to excavate basins and ditches that may be required.

5.7. In these cases, excavations will be clearly set out and if close to an area that needs protecting, will be fenced off as effectively as possible. In addition, unless otherwise agreed, no topsoil or subsoil stockpiling or materials storage will be permitted on areas that are to be protected from compaction.

5.8. Where it is impossible to avoid tracking construction vehicles over a protected area, the Principal Contractor will look to use proprietary protection matting or similar to reduce compaction as far as possible. Where soil compaction cannot be avoided, soil remediation measures such as small-scale soil replacement, burying of the soils, soil amendment and drainage and aeration systems will need to be considered, subject to agreement.

ARUN DISTRICT COUNCIL A/157/20/DOC

Handling and Storage of Topsoil

Stripping

5.9. The formation of the primary highway infrastructure, attenuation basins and drainage ditches are likely to necessitate the removal of a topsoil strip in areas of construction. A portion of this topsoil will be re-used to finish these features however, any remaining balance will be stockpiled in an appropriate location as determined by the Principal Contractor.

5.10. Prior to topsoil stripping, surface vegetation will be removed by blading off, scarification and raking as appropriate.

5.11. Topsoil stripping should be undertaken in dry conditions using tracked machinery as much as possible. The stripping should be undertaken by the excavator standing on the surface of the topsoil to be stripped, digging the topsoil to its maximum depth and loading onto site transport vehicles.

5.12. Movements of trucks or dumpers should be confined to designated temporary haul routes.

Stockpiling

5.13. To enable the reuse of soil at a later stage, material will be stored in temporary stockpiles to minimise the surface area occupied and to prevent damage from inclement weather and construction activities.

5.14. Stockpiles will be located in accessible areas of the site where they will not interfere with other site operations and can remain undisturbed. All areas designated for the storage of topsoil will cleared of vegetation and in-situ topsoil prior to use.

5.15. The Principal Contractor will determine the most appropriate stockpiling method (Dry Soil or Wet Soil) to ensure top-soil is useable at the required stage of the construction plan.

5.16. Once stockpiles are completed the areas will be cordoned off with secure fencing to prevent any disturbance or contamination by other construction activities.

5.17. If the soil is to be stockpiled for more than six months, the surface should be seeded with a grass / clover mix to minimise soil erosion and to help reduce infestation by nuisance weeds that may spread.

5.18. Management of weeds that do appear should be undertaken during the summer months, either by spraying to kill them or mowing to prevent their spread.

Placement

5.19. Prior to the reintroduction of top-soil, subsoil that is heavily compacted during the construction period will be loosened to break up any panning in order to reduce subsequent flood risk and promote deeper root growth as agreed with the soil engineer.

5.20. Once the subsoil has been suitably prepared, the topsoil will be replaced using the 'loose tipping' method by use of dump trucks and hydraulic excavators to move and spread the topsoil. This method entails working to a strip system and replacing soil sequentially across the soiling area.

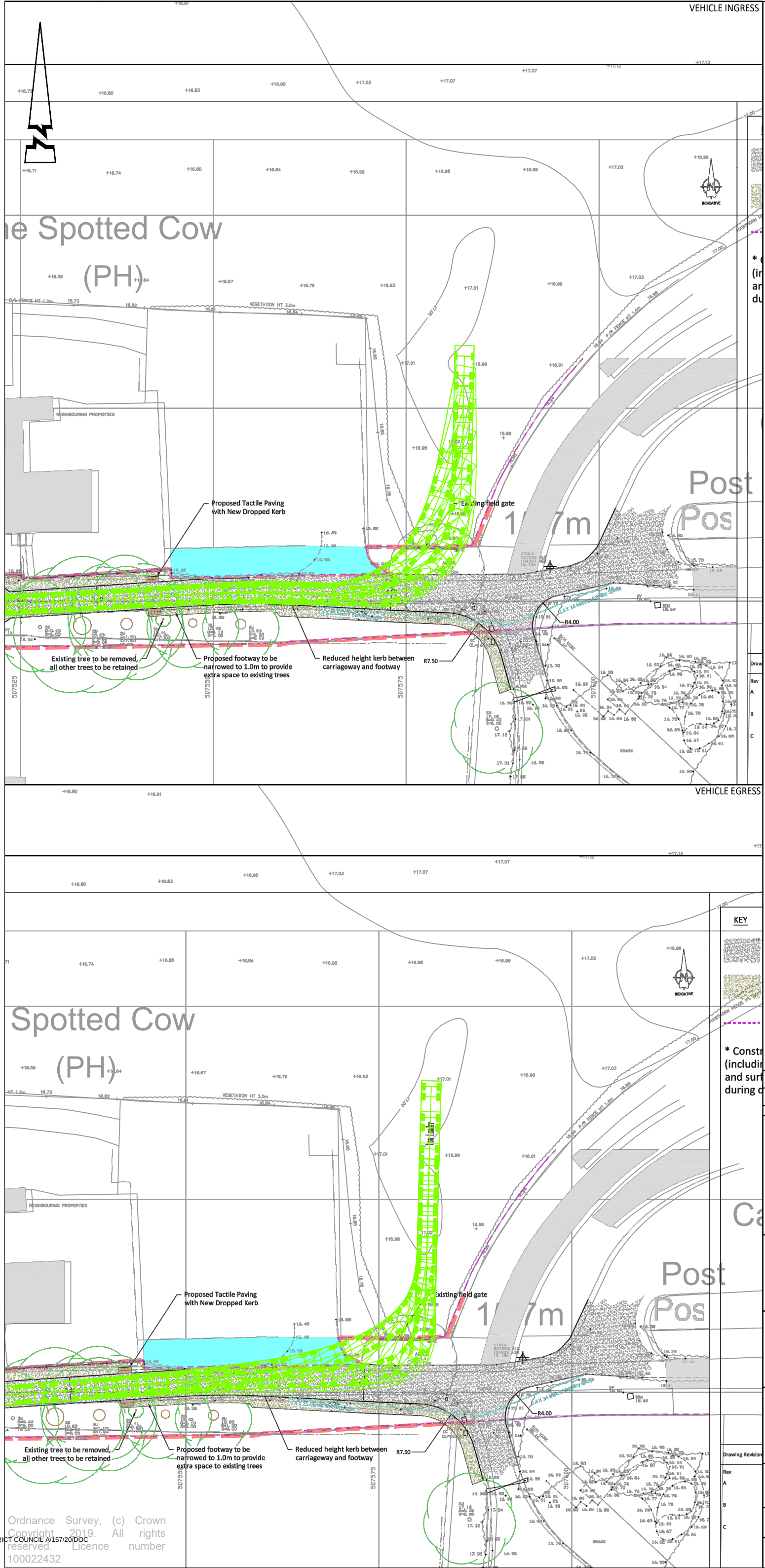
ARUN DISTRICT COUNCIL A/157/20/DOC

Appendices

ARUN DISTRICT COUNCIL A/157/20/DOC

Appendix A – High Street Construction Access : Swept Path Analysis

ARUN DISTRICT COUNCIL A/157/20/DOC



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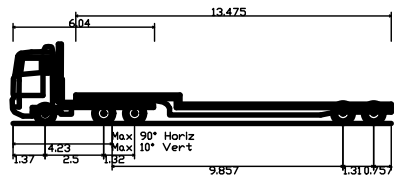

Low Loader	
Overall Length	16.154m
Overall Width	2.520m
Overall Body Height	3.393m
Min Body Ground Clearance	0.318m
Max Track Width	2.500m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	6.990m

Assumed Highway Boundary
Based on CEP Drawing 22995-710A

Unregistered Land

Rev	Date	Description	Drawn	Checked
P2	01/20	ADDITIONAL INFORMATION	TDM	NB
P1	01/20	FIRST ISSUE	TDM	NB

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Client
BARRATT HOMES

Project
WATER LANE, ANGMERING

Title
16.2m LOW LOADER, SWEPT PATH ANALYSIS

Status
PRELIMINARY

Scale	Date	Drawn	Checked
1:500@A3	JAN 2020	TDM	NB

Drawing No: A290-SK02
Revision: P2

ARUN DISTRICT COUNCIL A/157/20/DOC

Appendix B – WSCC HGV Route Plan

ARUN DISTRICT COUNCIL A/157/20/DOC

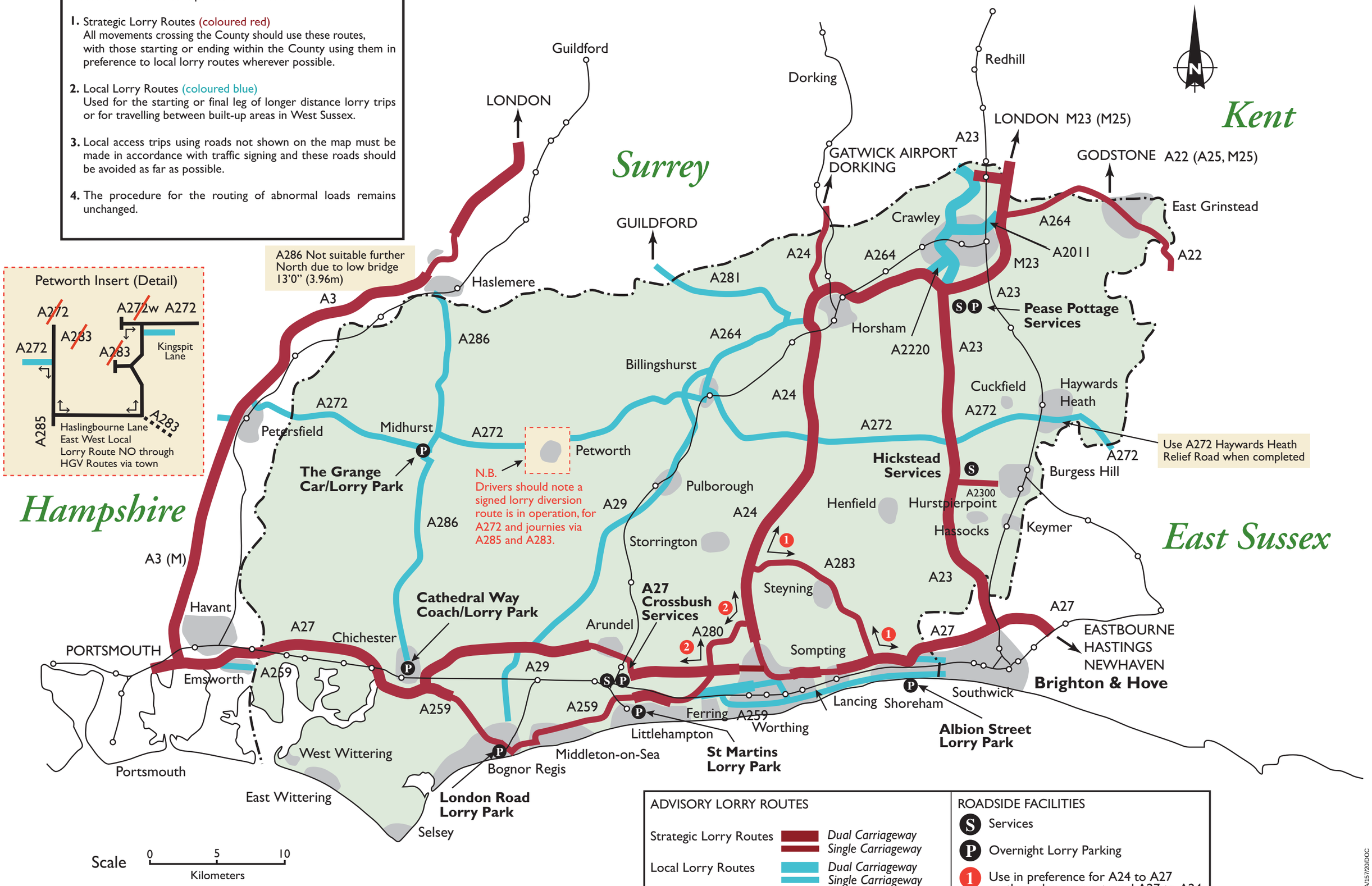
Notes for Guidance to Operators & Drivers of Lorries:

1. Strategic Lorry Routes (coloured red)
   All movements crossing the County should use these routes, with those starting or ending within the County using them in preference to local lorry routes wherever possible.

2. Local Lorry Routes (coloured blue)
   Used for the starting or final leg of longer distance lorry trips or for travelling between built-up areas in West Sussex.

3. Local access trips using roads not shown on the map must be made in accordance with traffic signing and these roads should be avoided as far as possible.

4. The procedure for the routing of abnormal loads remains unchanged.



ADVISORY LORRY ROUTES		ROADSIDE FACILITIES
Strategic Lorry Routes	*Dual Carriageway* / *Single Carriageway*	(S) Services
Local Lorry Routes	*Dual Carriageway* / *Single Carriageway*	(P) Overnight Lorry Parking
Railway Lines		(1) Use in preference for A24 to A27 eastbound movements and A27 to A24 northbound movements
County Boundary		(2) Use in preference for A24 to A27 westbound movements and A27 to A24 northbound movements

Red and Blue routes are free from height and width restrictions within West Sussex. Routes not shown may carry restrictions.

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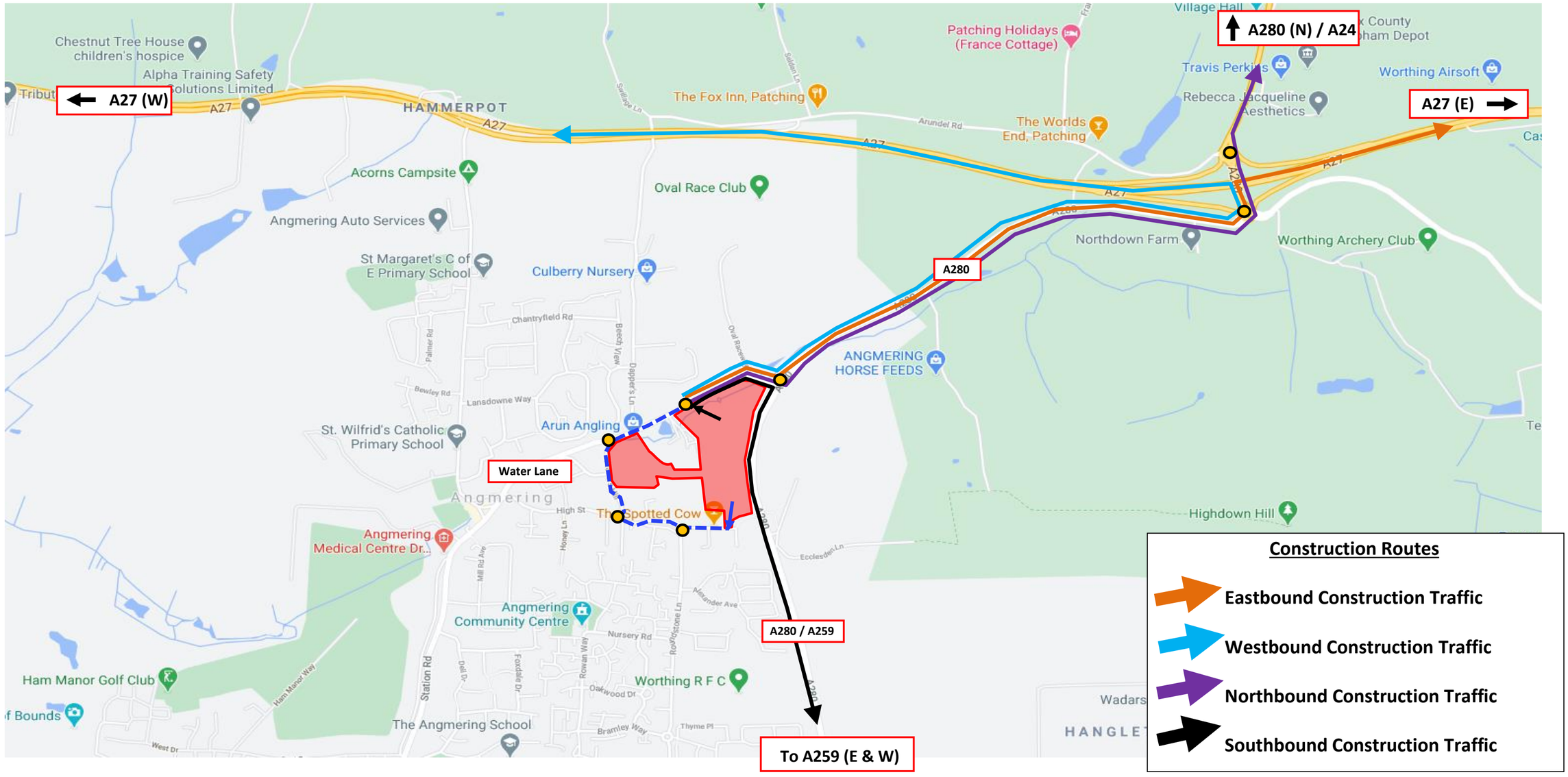
Appendix C – Routing Plan

ARUN DISTRICT COUNCIL A/157/20/DOC



Key:

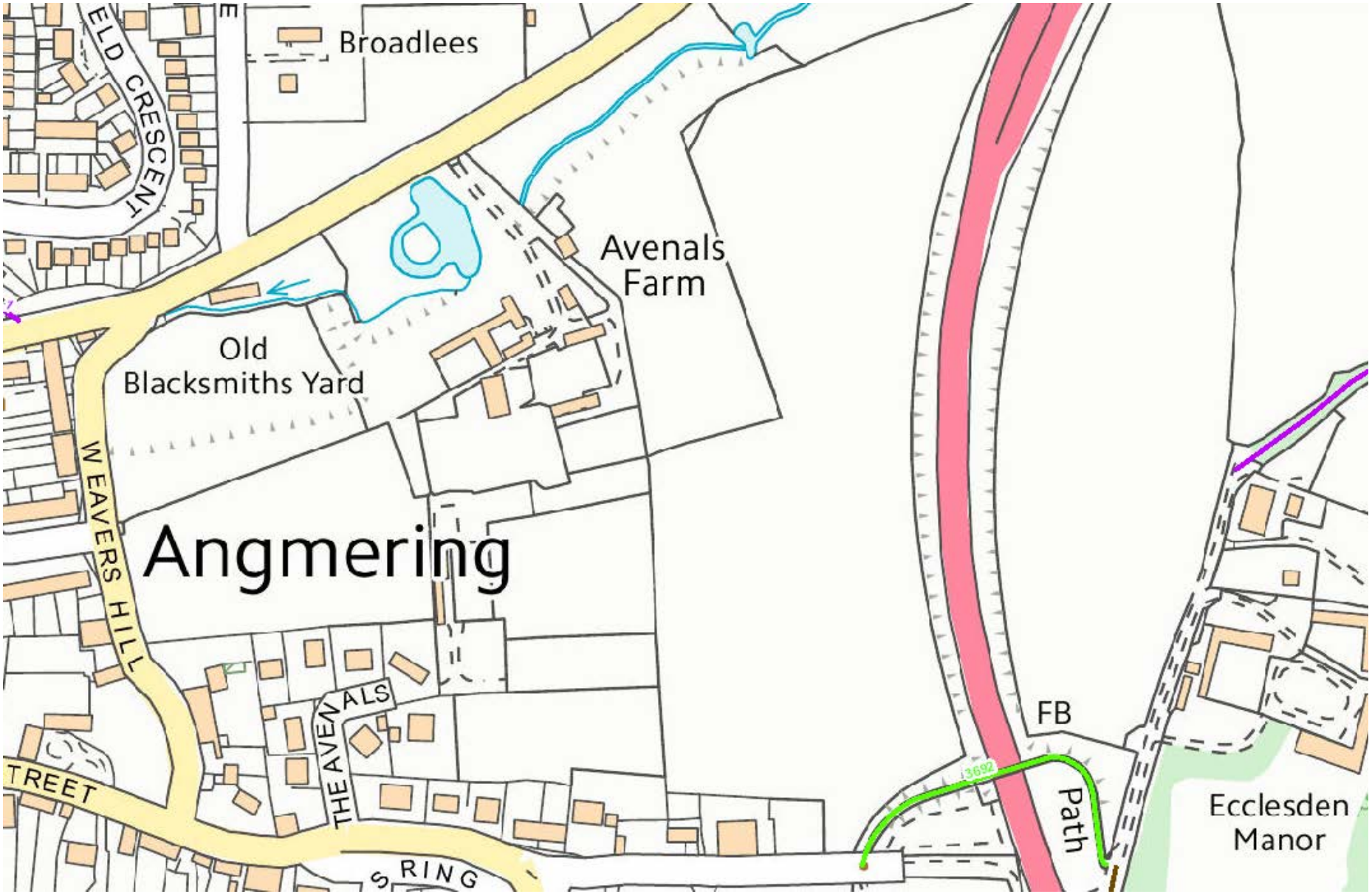
- Approximate Site Area
- Location of Proposed Routing Sign
- Primary Construction Access
- Interim Construction Access

ABLEY LETCHFORD PARTNERSHIP
Consulting Engineers

Job No A290	Project : Water Lane, Angmering
Date Oct 2020	Title : Construction Routing Plan
Drawn AG	Drawing No : A290-001/P1

Appendix D – WSCC Public Rights of Way Map

ARUN DISTRICT COUNCIL A/157/20/DOC


Broadlees
ELD CRESCENT
Avenals
Farm
Old
Blacksmiths Yard
W EAVERS HILL
Angmering
THE AVENALS
TREET
S RING
FB
Path
Ecclesden
Manor

Appendix E – EIA Flood Map

ARUN DISTRICT COUNCIL A/157/20/DOC

Flood map for planning

Your reference	Location (easting/northing)	Created
A290 Angmerin	**507465/104484**	**9 Mar 2020 11:25**

Your selected location is in flood zone 1, an area with a low probability of flooding.

This means:

- you don't need to do a flood risk assessment if your development is smaller than 1 hectare and not affected by other sources of flooding
- you may need to do a flood risk assessment if your development is larger than 1 hectare or affected by other sources of flooding or in an area with critical drainage problems

Notes

The flood map for planning shows river and sea flooding data only. It doesn't include other sources of flooding. It is for use in development planning and flood risk assessments.

This information relates to the selected location and is not specific to any property within it. The map is updated regularly and is correct at the time of printing.

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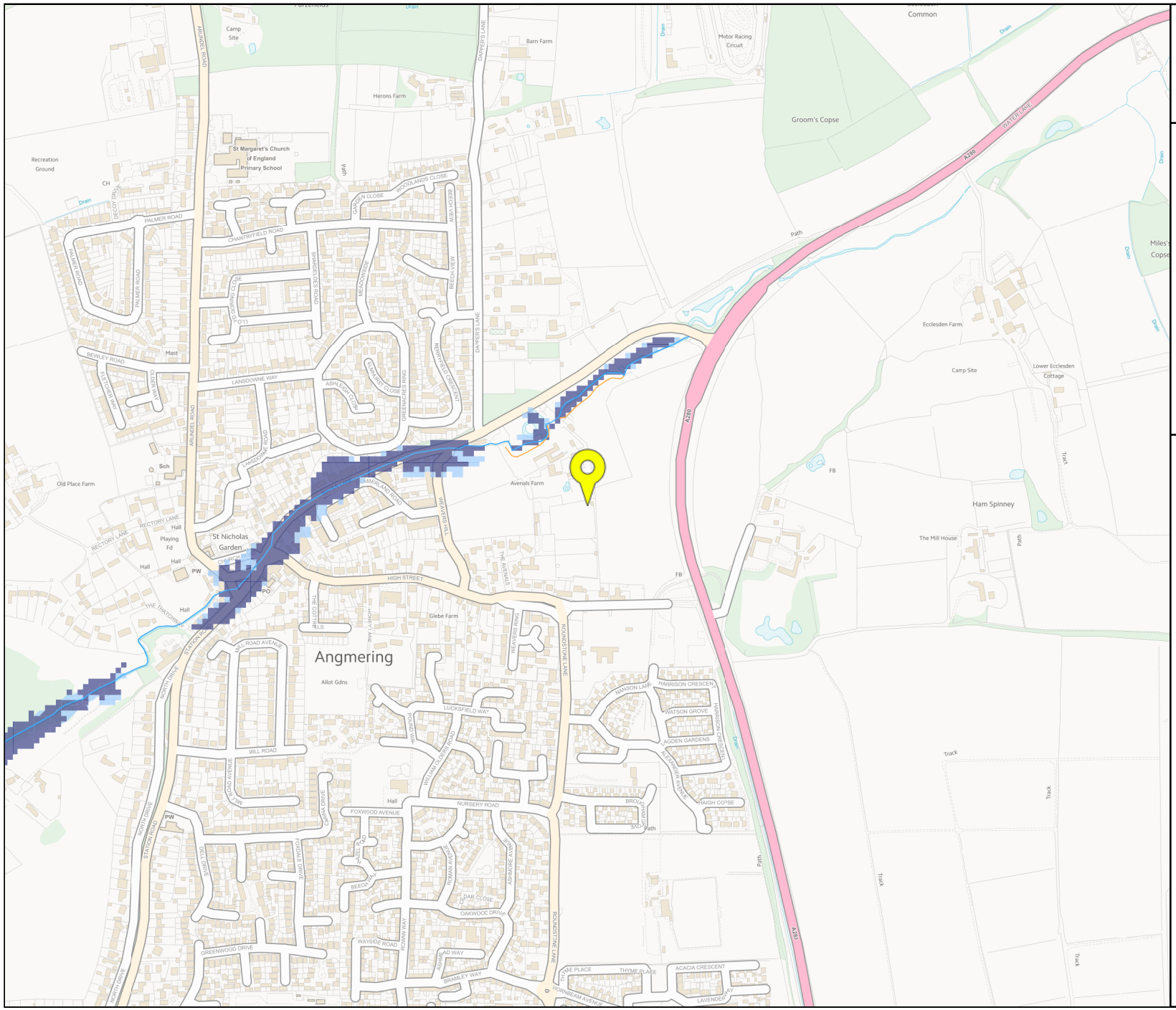
ARUN DISTRICT COUNCIL A/157/20/DOC

ARUN DISTRICT COUNCIL A/157/20/DOC



Environment Agency

Flood map for planning

Your reference
A290 Angmerin

Location (easting/northing)
507465/104484

Scale
1:10000

Created
9 Mar 2020 11:25

- Selected point
- Flood zone 3
- Flood zone 3: areas benefitting from flood defences
- Flood zone 2
- Flood zone 1
- Flood defence
- Main river
- Flood storage area

0 100 200 300m

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Appendix F - Bus Timetable

ARUN DISTRICT COUNCIL A/157/20/DOC

from 30 April 2017

9 buses to **Arundel**

Mondays to Fridays except public holidays

Shoreham Holmbush Centre		0633	0728	0838	*then at these mins past each hour*	38	*until*	1338	1438	1538	1638	1738	1838
Southlands Hospital H		0638	0733	0843		43		1343	1443	1543	1643	1743	1843
Shoreham Rail Station		0643	0738	0848		48		1348	1448	1548	1648	1748	1848
Mash Barn Shadwells Road		0657	0756	0903		03		1403	1503	1603	1703	1803	1901
Lancing Rail Station		0702	0801	0908		08		1408	1508	1608	1708	1808	1906
Western Road Carnforth Road		0706	0805	0912		12		1412	1512	1612	1712	1812	1910
Worthing Hospital H		0718	0817	0922		22		1422	1522	1622	1722	1822	1918
Worthing Marine Parade stop D *(arr)*		0724	0823	0928		28		1428	1528	1628	1728	1828	1923
Worthing Marine Parade stop D *(dep)*	0635	0728	0827	0932		32		1432	1532	1632	1732	1832	
Goring Road Wallace Avenue	0643	0738	0838	0943		43		1443	1543	1643	1743	1843	
The Causeway Golden Lion	0647	0742	0843	0948		48		1448	1548	1648	1748	1848	
Maybridge The Avenue	0651	0746	0847	0952		52		1452	1552	1652	1752	1852	
Roundstone Garden Centre	▼	▼	0855	1000		00		1500	1600	1700	▼	▼	
Angmering Chantryfield Road	0703	0758	0903	1008		08		1508	1609	1709	1808	1904	
Angmering Village Green	0708	0803	0908	1013		13		1513	1614	1714	1813	1908	
Angmering Rail Station	0712	0808	0913	1018		18		1518	1620	1720	1818		
Rustington Shops The Street	0719	0816	0921	1026		26		1526	1630	1730	1826		
Beaumont Park Shops	0725	0823	0928	1033		33		1533	1637	1737	1833		
Littlehampton Anchor Springs *(arr)*	0734	0834	0939	1044		44		1544	1649	1749	1844		
Littlehampton Anchor Springs *(dep)*	0737	0837	0942	1047		47		1547	1652	1752	1847		
Wick Street Post Office	0742	0842	0947	1052		52		1552	1657	1757	1852		
Arundel Riverbank	0755	0855	1001	1104		04		1604	1710	1810	1904		
Arundel Jarvis Road	0759	0859	1005	1108		08		1608	1714	1814	1908		

Saturdays

	0738	*then at these mins past each hour*	38	*until*	1538	1638	1738	1838
	0743		43		1543	1643	1743	1843
	0748		48		1548	1648	1748	1848
	0803		03		1603	1703	1803	1901
	0808		08		1608	1708	1808	1906
	0812		12		1612	1712	1812	1910
	0822		22		1622	1722	1822	1918
	0828		28		1628	1728	1828	1923
0738	0832		32		1632	1732	1832	
0748	0843		43		1643	1743	1843	
0752	0848		48		1648	1748	1848	
0756	0852		52		1652	1752	1852	
▼	0900		00		1700	▼	▼	
0808	0908		08		1708	1808	1904	
0813	0913		13		1713	1813	1908	
0818	0918		18		1718	1818		
0826	0926		26		1726	1826		
0833	0933		33		1733	1833		
0844	0944		44		1744	1844		
0747	0847	0947	47		1747	1847		
0752	0852	0952	52		1752	1852		
0804	0904	1004	04		1804	1904		
0808	0908	1008	08		1808	1908		

Terminates at Ford Road, arriving 1910.

9 buses to **Shoreham**

Mondays to Fridays except public holidays

Arundel Jarvis Road				0654	0759	0859	1005	1108	*then at these mins past each hou*	08	*until*	1608	1714	1814
Arundel Norfolk Arms				0702	0807	0907	1014	1116		16		1616	1722	1822
Wick Street Post Office *opposite*				0717	0822	0922	1028	1128		28		1628	1735	1835
Littlehampton Anchor Springs *(arr)*				0724	0829	0929	1034	1134		34		1634	1742	1842
Littlehampton Anchor Springs *(dep)*				0727	0832	0932	1037	1137		37		1637	1745	1845
Beaumont Park Shops				0737	0842	0942	1047	1147		47		1647	1755	1855
Rustington Shops The Street				0746	0851	0951	1055	1155		55		1655	1803	1903
Angmering Rail Station				0754	0859	0959	1102	1202		02		1702	1810	1910
Angmering, Village Green				0759	0904	1004	1106	1206		06		1706	1814	1914
Angmering Chantryfield Road				0804	0909	1009	1110	1210		10		1710	1818	1918
Roundstone Garden Centre				▼	0917	1017	1117	1217		17		1717	▼	▼
Maybridge The Avenue			0720	0820	0925	1025	1125	1225		25		1725	1830	1930
The Causeway Golden Lion			0723	0824	0929	1029	1129	1229		29		1729	1833	1933
Goring Road Wallace Avenue			0727	0829	0934	1034	1134	1234		34		1734	1837	1937
Worthing Marine Parade stop F *(arr)*			0737	0840	0945	1045	1145	1245		45		1745	1845	1945
Worthing Marine Parade stop F *(dep)*	0550	0634	0739	0844	0949	1049	1149	1249		49		1749		
Worthing Hospital H	0554	0639	0744	0849	0954	1054	1154	1254		54		1754		
Lancing Carnforth Road	0602	0647	0752	0857	1002	1102	1202	1302		02		1802		
Lancing North Road Shops	0605	0652	0757	0902	1007	1107	1207	1307		07		1807		
Mash Barn Shadwells Road	0608	0656	0801	0906	1011	1111	1211	1311		11		1811		
Shoreham Rail Station	0621	0711	0821	0921	1026	1126	1226	1326		26		1826		
Southlands Hospital H	0626	0716	0826	0926	1031	1131	1231	1331		31		1831		
Shoreham Holmbush Centre	0631	0721	0831	0931	1036	1136	1236	1336		36		1836		

Saturdays

	0713	0808	*then at these mins past each hou*	08	*until*	1608	1708	1808
	0721	0816		16		1616	1716	1816
	0733	0828		28		1628	1728	1828
	0739	0834		34		1634	1734	1834
	0742	0837		37		1637	1737	1837
	0753	0847		47		1647	1747	1847
	0800	0855		55		1655	1755	1855
	0807	0902		02		1702	1802	1902
	0811	0906		06		1706	1806	1906
	0815	0910		10		1710	1810	1910
	▼	0917		17		1717	▼	▼
0725	0825	0925		25		1725	1822	1922
0729	0829	0929		29		1729	1826	1926
0734	0834	0934		34		1734	1830	1930
0745	0845	0945		45		1745	1840	1940
0649	0749	0849	0949	49		1749		
0654	0754	0854	0954	54		1754		
0702	0802	0902	1002	02		1802		
0707	0807	0907	1007	07		1807		
0711	0811	0911	1011	11		1811		
0726	0826	0926	1026	26		1826		
0731	0831	0931	1031	31		1831		
0736	0836	0936	1036	36		1836		

9 buses to **Arundel**

Sundays and public holidays

Littlehampton Anchor Springs	0847	0947	1047	1147	1347	1447	1547	1647
Wick Street Post Office	0852	0952	1052	1152	1352	1452	1552	1652
Arundel Riverbank	0904	1004	1104	1204	1404	1504	1604	1704
Arundel Jarvis Road	0908	1008	1108	1208	1408	1508	1608	1708

9 buses to **Littlehampton**

Sundays and public holidays

Arundel Jarvis Road	0908	1008	1108	1208	1408	1508	1608	1708
Arundel Norfolk Arms	0916	1016	1116	1216	1416	1516	1616	1716
Wick Street Post Office *opposite*	0928	1028	1128	1228	1428	1528	1628	1728
Littlehampton Anchor Springs	0934	1034	1134	1234	1434	1534	1634	1734

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