APPENDIX 3.5 - OUTLINE CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

Updated OCEMP

West Sussex County Council

A29 REALIGNMENT

Outline Construction Environmental Management Plan

4.0
APRIL 2021

PUBLIC

West Sussex County Council

A29 REALIGNMENT

Outline Construction Environmental Management Plan

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Outline Construction Environmental Management Plan

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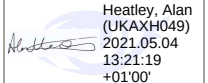
Signature					
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ECOLOGY MANAGEMENT PLAN

List of acronyms used in this report

Acronym	Definition
AMS	Arboricultural Method Statement
BES	BRS Environmental & Sustainability Standard
BPM	Best Practicable Means
BS	British Standard
CEMP	Construction Environmental Management Plan
CIRIA	Construction Industry Research and Information Association
CL:AIRE	Contaminated Land: Applications in Real Environments
CLMP	Contaminated Land Management Plan
CTMP	Construction Traffic Management Plan
DMRB	Design Manual for Roads and Bridges
EA	Environment Agency
EMP	Ecological Management Plan
EMS	Environmental Management System
IAN	Interim Advice Note
IEEM	Institute of Ecology and Environmental Management
MMP	Material Management Plan
NEC	New Engineering Contract
PLO	Public Liaison Officer
PRoW	Public Right of Way
QMS	Quality Management System
RAMS	Risk Assessments and Method Statements
REAC	Register of environmental actions and commitments
RPA	Root Protection Area
SWMP	Site Waste Management Plan
TBT	Toolbox Talk
UK	United Kingdom

WRAP	Waste and Resource Action Programme
WSCC	West Sussex County Council

1. INTRODUCTION

1.1. BACKGROUND

1.1.1. WSP has been appointed by West Sussex County Council (WSCC) to prepare an Outline CEMP for the realignment of the A29 (referred to as the 'Scheme'), to the north of Eastergate and the north-west of Barnham, villages north of Bognor Regis (Phase 1).

The proposed planning application will seek permission for:

"Construction of a single carriageway with shared cycleway / footway, roundabouts, road markings, traffic signals, bus stops, provision of hard and soft landscaping, construction of a substation building, installation of a noise barrier, and other associated works"

~~*1.1.2. "The construction of a 1.3km single carriageway with a 3m wide shared cycleway / footway, one uncontrolled pedestrian crossing to enable users of the Public Right of Way to cross the carriageway, three roundabouts, provision of hard and soft landscaping, road markings, traffic signals, bus stops, and signalised pedestrian crossings, construction of a substation building; installation of a noise barrier, and other associated works".*~~

1.1.3. The environmental management of the construction works associated with the Scheme shall be delivered through the Construction Environmental Management Plan (CEMP). This Outline CEMP forms the basis of the Principal Contractor's (the 'Contractor') CEMP and describes how construction activities should be undertaken and managed in accordance with:

- Design Manual for Roads and Bridges (DMRB), Volume 11, Section 2, Part 5, titles 'Assessment and Management of Environmental Effects';
- DMRB, Volume 11, Section 2, Part 6, titled 'Reporting of Environmental Impact Assessments; and
- LA 120 Environmental management plans (formerly IAN 183/16 (W) Environmental Management Plan) Revision 1.

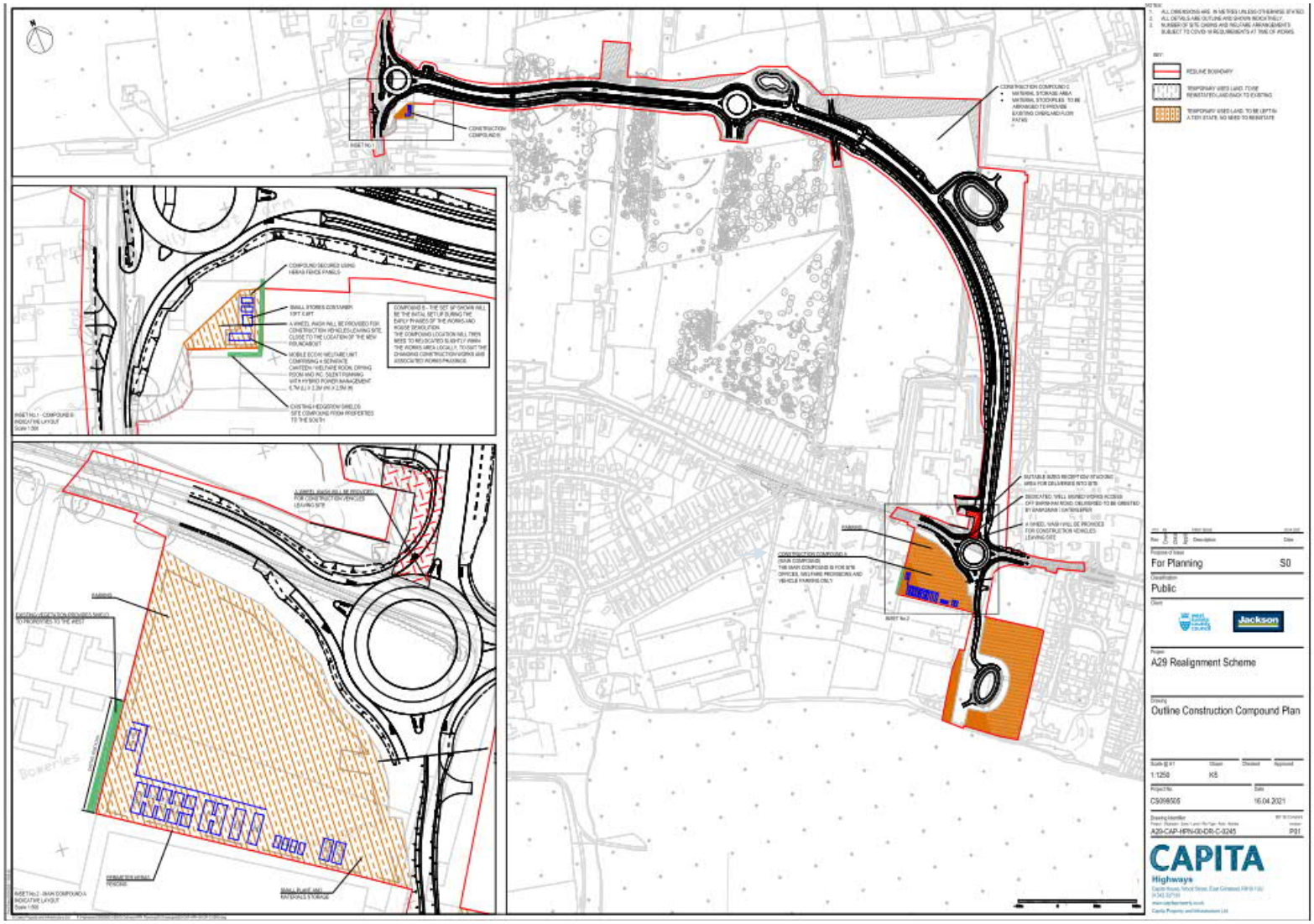
1.1.4. The Contractor shall be responsible for reviewing the environmental requirements in this Outline CEMP, developing the construction methodology in light of those requirements, and updating the Outline CEMP in greater detail prior to construction commencing. Once this exercise has been completed the document is then referred to as the Contractor's CEMP. The Contractor will be responsible for safeguarding the environment and for mitigating the effects of the construction works (the 'works') by implementing general environmental requirement of the CEMP. The Contractor will regularly review and update the CEMP and incorporate it into the Contractor's Quality Management System (QMS) and/or Environmental Management System (EMS).

1.2. SCHEME LOCATION AND DESCRIPTION

1.2.1. The area to be directly impacted by the Scheme (the total construction footprint of the works) is referred to herein as 'the Site'. The Site is located within a rural/suburban area to the north of Eastergate and the north-west of Barnham, both villages north of Bognor Regis. The Site comprises arable fields, woodland, orchard and areas of managed grassland. The Site is bound by agricultural fields to the north, the B2233 (Barnham Road) to the south, the A29 to the west and the rear of residential properties on Murrell Gardens to the east. The Site is not currently used for agricultural

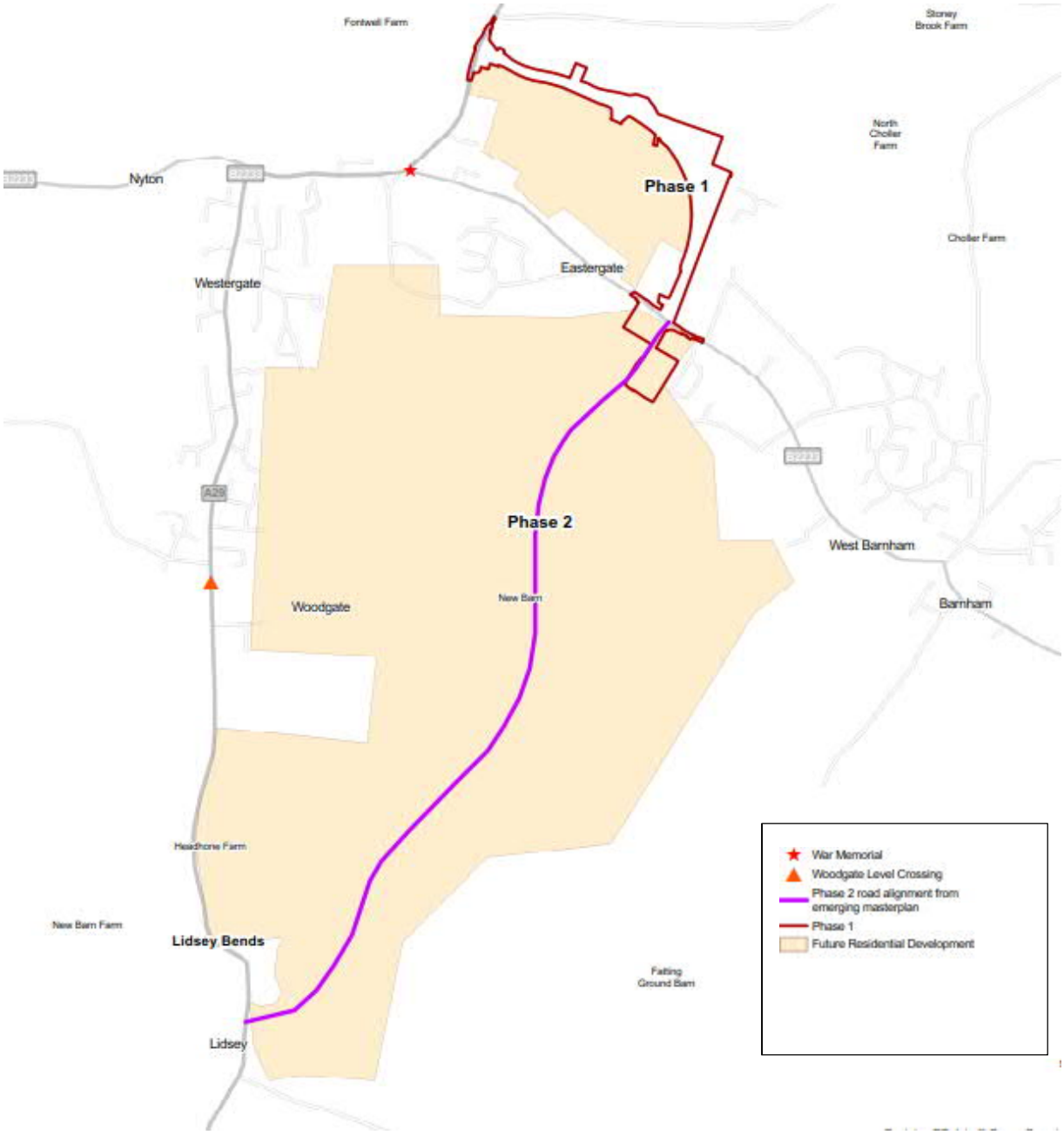
purposes. The Site location and compounds sites ~~is~~ are shown in **Figure 1-1**, further detail of the Site Boundary and Scheme can be seen in the General Arrangement Drawings (see **Appendix E**).

Figure 1-1 - Site Location and Site Compounds



1.2.2. The A29 Realignment Scheme will be delivered in two phases as shown in **Figure 1-2**. Phase 1 is 1.3km long from the A29 south of Eastergate Lane to a new junction with Barnham Road, Phase 2 from Barnham Road to a new junction on the A29 south of Lidsey bends. The Scheme relates to Phase 1 (North) and is the primary focus of this CEMP.

Figure 1-2 - Phase 1 and Phase 2 Alignment



1.2.3. The Scheme includes the proposal to create a new approximately 1.3km, single carriageway road in an arc shape from north-west to south east, connecting with the eastern side of the A29 and the northern side of the B2233.

1.2.4. The Site is approximately 11.8 hectares (ha) in size, comprising 9.2ha of permanent land take and 2.6ha to be returned to the landowner following construction.

1.2.5. The realignment of the A29 (phases 1 and 2 together) will create capacity for expected traffic growth and will tackle planned and potential development to support the delivery of around 11,400 new dwellings and 104,000sqm of commercial development on permitted or planned development sites in this part of Arun District.

1.3. PURPOSE AND CONTENT

1.3.1. The document is an Outline CEMP and provides an overarching framework for the environmental management during the construction works.

1.3.2. The Outline CEMP provides the following:

- A summary of the construction effects at sensitive receptors identified in Environmental Statement and the associated appendices;
- Mitigation measures to reduce construction effects at sensitive receptors, as identified in the Environmental Statement and the associated appendices;
- Ecological Management Plan (**Appendix F**); and
- Recommendations of further works, such as monitoring, to be undertaken prior to/ during the works.

1.3.3. This is a 'live document' and shall be subject to a regular review and update by the Contractor prior to and during construction activities (refer to Table A-1, **Appendix A).** Each section will be reviewed and updated as necessary and an electronic version of the updated CEMP circulated to the Contractor's Project Manager (see **Appendix A**). Updates to the CEMP must be incorporated into the Contractor's QMS and/or EMS.

1.3.4. Other requirements to be completed by the Contractor are as follows:

- A register or legal requirements, training undertaken and completion of site monitoring sheets (**Appendix A** Table A-2);
- An Environmental Aspects and Impacts Register (**Appendix B**);
- A Register or Consents, Undertakings and Assurances (**Appendix C**);
- Emergency Contact details for the works (**Appendix D**);
- Register the construction site under the Considerate Constructors Scheme; and
- Comply with the Considerate Constructors Schemes' Code of Considerate Practice in providing the works.

1.3.5. The Environmental Aspects and Impacts Register ('the Register') in **Appendix B** is a record of all sensitive environmental features that have the potential to be affected by the works. The Register also includes information on how these features will be affected and the control measures required to mitigate any potential impacts (see **Appendix B**).

1.3.6. A draft register of consents, undertaking and assurances, including a suggested list of specific environmental licenses, consents and applicable permits shall be completed by the Contractor (see **Appendix C**).

1.3.7. The emergency contact details for the works shall be clearly displayed at the site where the public can see them (see **Appendix D**).

1.3.8. All documentation in relation to the environmental management of the works shall be maintained by the Contractor and made available to the Project Manager.

1.3.9. The performance of the Contractor's CEMP in meeting environmental objectives and targets, mitigating environmental effects and in achieving effective environmental management shall be subject to review by the Project Manager (refer to **Appendix A**) every two months.

2. SCHEME CONSTRUCTION

2.1. ANTICIPATED CONSTRUCTION PROGRAMME

2.1.1. The currently anticipated construction programme is detailed below in Table 2-1, however this is subject to land dedication and planning approval.

Table 2-1 – Construction Programme

Stage	Programme
Construction compound construction	Early to mid 2022 ~~Early to mid 2021~~
Site clearance (including demolition)	Early to mid 2022 ~~Early to mid 2021~~
Utilities Diversion	Mid to late 2021 ~~Early to late 2021~~
Construction of Road	Mid 2022 to mid 2023.~~Early to late 2021~~
Street Lighting	Late 2022 ~~Mid to late 2021~~
Landscaping	Early to mid 2023 ~~Late 2021 to early 2022~~

2.1.2. The normal site working (construction) hours are proposed to be:

- Monday to Friday 7.00 to 18.00 (please note, Noise Generating Activities (as defined by BS 5228) will be limited to an 8:00 start); and
- Saturdays 8.00 to 13.00.

2.1.3. Normal site operations are expected to be limited to the hours above. However, at times there will be a need to work during the night, work longer hours during the day, and work full weekend shifts, depending on the task being carried out.

2.1.4. ~~However~~Should works outside the hours specified above (including night-time working) be required then prior consent would need to be sought from WSCC under Section 61 of the Control of Pollution Act 1974.

2.2. CONSTRUCTION METHODOLOGY

2.2.1. The construction of the Scheme will include the following elements:

- Set up construction compound and access;
- Installation of temporary fencing and/or hoarding;
- Vegetation clearance;
- Demolition of two storey residential dwelling, courtyard and associated weatherboard structure;
- Excavation and earthworks;
- Construction of infrastructure associated with the Scheme including noise barriers;
- Construction of the Scheme; and
- Landscaping.

2.2.2. As part of the iterative development of this CEMP, as the design is progressed and as construction commences, the Contractor will be responsible for providing further details.

2.3. CONSTRUCTION SITE COMPOUND

2.3.1. There will be 3 site compounds used during construction of the Scheme – A, B & C, refer to **Figure 1-1**.

2.3.2. Compound A (the main compound) will be located just south of Barnham Rd on the Fleurie Nursery site. The key benefit of this site is that it already has a dedicated access and egress point from Barnham Road.

- The purpose of this main site compound would be to house the main site offices, welfare, a small stores and car parking facilities only. There would be no large deliveries of materials or plant made to this site compound area.
- This compound would be secured with perimeter heras fencing panels and a secure gated entrance, with security being present during non-working times.
- Vehicular access into this site compound would be directly off Barnham Road using the existing nursery access to begin with. This would be a short term measure only during the time the site compound is being set up. Once the new roundabout is under construction it is anticipated an access will be provided through the works then ultimately along the southern leg of the new Barnham Road roundabout.
- Suitable temporary signage will be displayed explaining traffic routing into the compound from Barnham Road, and once off Barnham Road where parking and office reception is located. This signage will be continually reviewed and updated throughout the works to match the evolving works and differing traffic management solutions/phases deployed on Barnham Road whilst constructing the new roundabout.
- For construction vehicles intending to travel to the site compound and leaving the site compound, they will be directed away from Barnham village. This means that when leaving the site compound these vehicle types will be directed to turn left only onto Barnham Road.
- For large plant and material deliveries a dedicated well-signed works access shall be provided into the site on the northern side of Barnham Road where the proposed new road intersects it. Here a suitably sized on-site reception/stacking area shall be provided where deliveries pull into and are greeted by banksman/gatekeeper who will deal with and direct them along the site. Egress of vehicles will be via the same access.

2.3.3. Compound B, located just off Fontwell Avenue.

- The purpose of this satellite compound would be to house a small welfare unit, a small stores and office which would be secured using heras fence panels.
- This will provide localised parking for site staff, welfare and storage for some small plant and materials.
- For deliveries to this area of works its envisaged that another well-signed works access (managed similar to the southern access) off Fontwell Avenue would be established at the proposed roundabout location and position the office compound to the side of that.

2.3.4. Compound C will be located half-way along the Scheme adjacent to Pond 3, offline from the new carriageway alignment. It is envisaged this compound will be used for materials storage.

Each compound will be in-situ for the whole duration of the construction works (as indicated within the programme).

- ~~This compound will be for the location of the main site offices, staff parking, meetings, contract admin, welfare etc.~~

~~Compound B will be located just off Fontwell Avenue.~~

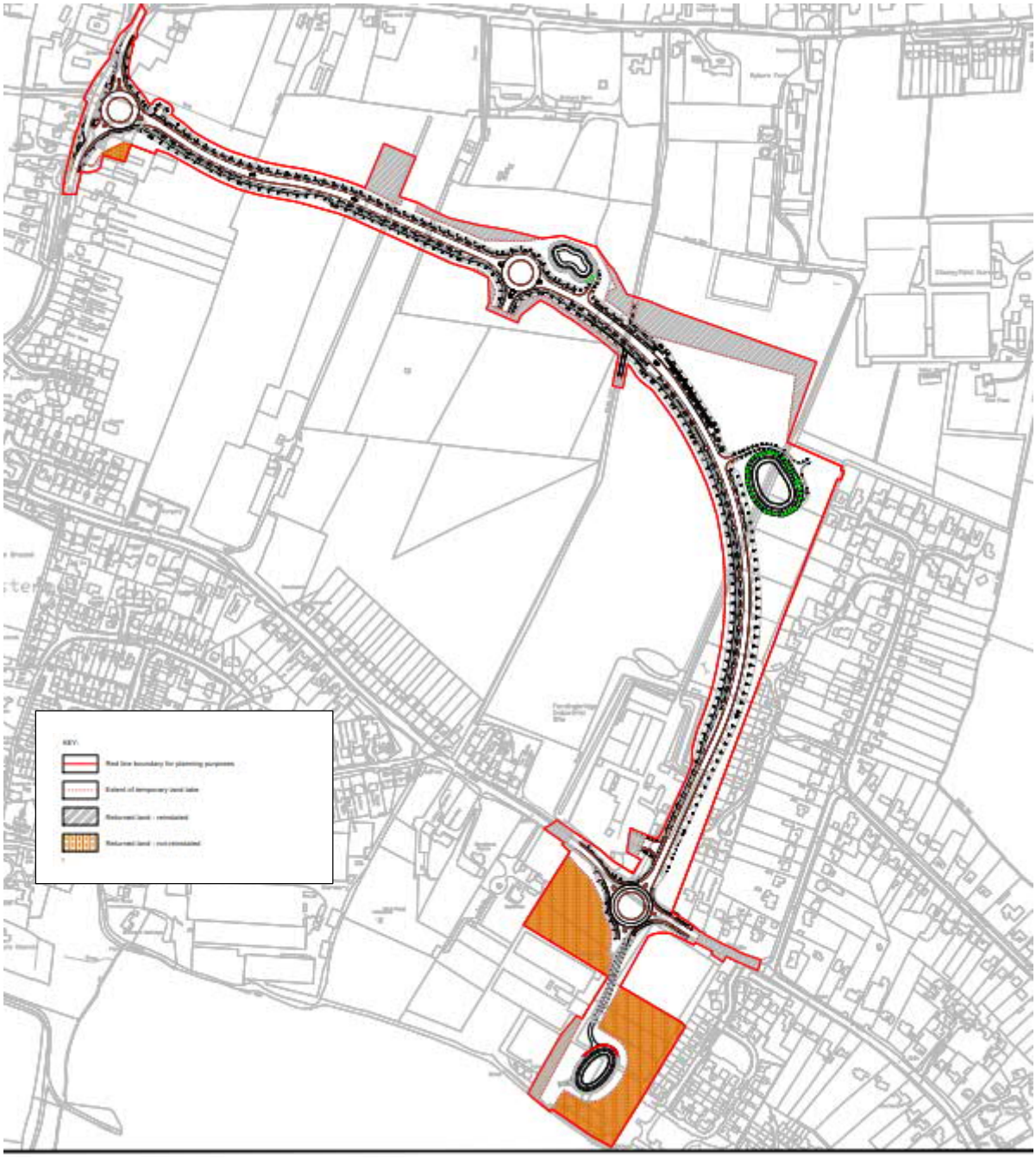
- ~~This will provide localised parking for site staff, welfare and some plant and materials.~~

~~2.3.5. Compound C will be located half-way along the Scheme adjacent to Pond 3, offline from the new carriageway alignment.~~

2.4. TEMPORARY CONSTRUCTION LAND

2.4.1. Temporary construction land falls within the red line boundary shown in **Figure 2-1**.

Figure 2-1 Temporary and permanent land take



2.5. CONSTRUCTION TRAFFIC MANAGEMENT PLAN (CTMP)

2.5.1. Most of the Scheme will be constructed offline which will ensure minimal impacts to the existing road network. A CTMP will be prepared providing details of the construction routes, control, management and monitoring measures. The CTMP will ensure the following:

- Details of routes, dedicated works areas and Compound locations including areas to sign in are clearly documented;

- Suitable temporary traffic signage will be procured and erected at the A27 / A29 junction directing deliveries to site;
- All delivery drivers will be instructed to call the site security / VBMS operative 20 mins prior to arrival to confirm their ETA;
- Site team will provide clear delivery instructions indicating which dedicated works access (Compound A or B) the delivery is to report to;
- Suitable temporary traffic signage will be procured and erected at the A27 / A29 junction directing deliveries to site. All delivery drivers will be instructed to call the site security / VBMS operative 20 mins prior to arrival to confirm their ETA; and
- Full traffic management drawings will be prepared and approved by WSCC prior to the start on site date.

2.5.2. It is recognised that a key access route to the site would be via the A27 which passes through the South Downs National Park.

2.5.3. A Construction Worker Travel Plan will be prepared prior to the start on site date with the aim of reducing the amount of single occupancy private cars arriving at the work site.

~~Details of construction traffic management are currently unknown and will be addressed via a Construction Traffic Management Plan (CTMP) to be prepared by the Contractor~~

Access to Compound A (Main Site Compound)

2.5.4. Compound A shall be located within the existing Fleurie Nursery site. A key benefit of this site is that it already has a dedicated access and egress point from Barnham Road.

2.5.5. The purpose of this main site compound would be to house site offices, welfare, a small stores and car parking facilities only. There would be no large deliveries of materials or plant made to this site compound area.

2.5.6. Vehicular access into this site compound would be directly off Barnham Road using the existing nursery access to begin with. This would be a short term measure only during the time the site compound is being set up. Once the new roundabout is under construction an access will be provided through the works then ultimately along the southern leg of the new roundabout.

2.5.7. Suitable temporary signage will be displayed explaining traffic routing into the compound from Barnham Road, and once off Barnham Road where parking and office reception is located. This signage will be continually reviewed and updated throughout the works to match the evolving works and differing traffic management solutions/phases deployed on Barnham Road whilst constructing the new roundabout.

2.5.8. For construction vehicles intending to travel to the site compound and leaving the site compound, they will be directed away from Barnham village. This means that when leaving the site compound these vehicle types will be directed to turn left only onto Barnham Road.

2.5.9. For large plant and material deliveries a dedicated well-signed works access will be provided into the main site on the northern side of Barnham Road where the proposed new road intersects it. Here a suitably sized on-site reception/stacking area will be provided where deliveries pull into and are greeted by banksman/gatekeeper who will deal with the delivery and direct them along the site. Egress of vehicles will be via the same access.

2.5.10. All large or bulky materials will be delivered direct to the work face, and plant will be parked close to but not obstructing this access during non-working times so they are readily visible to the out of hours security.

2.5.11. All vehicles will access the main site entrance from the West on Barnham Road turning left into site. When exiting, all vehicles will be signed (and at times forced by traffic management provisions) to turn right, thus keeping construction traffic out of the Barnham Road village. The existing height restriction on the railway overbridge on Barnham Road east of the site will prevent large vehicles from travelling through Barnham village in any case.

2.5.12. All large vehicle deliveries will be pre-booked using a site specific vehicle booking management system and allocated a delivery time. This will eliminate multiple vehicles arriving on site at the same time, thus reduce traffic congestion and reduce the total numbers of vehicles on site at one time.

2.5.13. No site vehicles will be directed towards Barnham village. All delivery drivers will be emailed a map prior to attending site showing what site compound/access they are to attend and a specific time to arrive. This information will also be included within their subcontract orders prior to attending site for the first time. They will also be given a short briefing from site security explaining the one way systems in use and instructed where to offload. Vehicle marshals will be in attendance for all lorry movements on site.

Access to Main Works Site

2.5.14. All large deliveries of materials or plant will be directed to the main works site rather than enter into site compound A. This will reduce the number of traffic movements needed to be made across the existing Barnham Road significantly whilst also eliminating the double handling of materials.

2.5.15. For large plant and material deliveries a dedicated well-signed works access will be provided into the site on the northern side of Barnham Road where the proposed new road intersects it. Here a suitably sized on-site reception/stacking area would be provided where deliveries pull into and are greeting by banksman/gatekeeper who will deal with the delivery and direct them along the site. Egress of vehicles will be via the same access.

2.5.16. All large or bulky materials will be delivered direct to the work face, and plant will be parked close to but not obstructing this access during non-working times so they are readily visible to the out of hours security.

2.5.17. All vehicles will access the main site entrance from the West on Barnham Road turning left into site. When exiting all vehicles will be signed (and at times forced by T/M provisions) to turn right, thus keeping construction traffic out of the Barnham Road village. The existing height restriction on the railway overbridge on Barnham Road east of the site will prevent large vehicles from travelling through Barnham village in any case. The construction team will monitor vehicle movements and if its found that vehicles do use the village route then they will be excluded from returning to the site.

2.5.18. All large vehicle deliveries will be pre-booked using a site specific vehicle booking management system and allocated a delivery time. This will eliminate multiple vehicles arriving on site at the same time, thus reduce traffic congestion and reduce the total numbers of vehicles on site at one time.

2.5.19. No site vehicles will be directed towards Barnham village. All delivery drivers will be emailed a map prior to attending site showing what site compound/access they are to attend and a specific time to arrive. This information will also be included within their subcontract orders prior to attending site for the first time. They will also be given a short briefing from site security explaining the one way

systems in use and instructed where to offload. Vehicle marshals will be in attendance for all lorry movements on site.

Access to Site Compound B

2.5.20. Compound B is a smaller "satellite" compound which would include a small welfare unit, a small stores and office which would be secured using heras fence panels.

2.5.21. There is an existing shared access driveway into this land (shared with next door neighbour Folly Farm), which is located directly off Fontwell Avenue. This existing vehicular access into compound B would be used to begin with. This would be a short term measure only during the time the site compound is being set up and it is anticipated vehicle movements utilising this existing access would be minimal. Once the new Fontwell Avenue roundabout is under construction it is anticipated that an access will be provided through the works (managed such as the well-signed works access to the southern access) off Fontwell Road at the proposed roundabout location and position the office compound to the side of that.

2.5.22. All large vehicle deliveries will be pre-booked using a site specific vehicle booking management system and allocated a delivery time, with pre-booked delivery times ensuring that traffic congestion is minimised.

2.5.23. Access to site compound B will be only allowed from the North using the A29 - no vehicles will be authorised to access site from the South (Barnham) due to the potential traffic congestion that may be caused by waiting on Fontwell Avenue to turn right into the access as noted above.

2.6. CONSTRUCTION WORKER TRAVEL PLAN

2.6.1. A Construction Worker Travel Plan (CWTP) will be prepared for inclusion in the CTMP, prior to the commencement of the construction works, with the aim of reducing the amount of single occupancy private cars arriving at the site.

2.6.2. Barnham Station is located approximately 0.6km to the southeast of the site. Furthermore, there are six bus services within the vicinity of the scheme. This provides a good opportunity to promote use of public transport for the workforce to reach the site, and this is what the CWTP will encourage.

2.6.3. The CWTP will set out the projects aspirations for all staff, operatives and subcontractors to use public transport where possible to attend site.

2.6.4. During site inductions the CWTP will be introduced to all personal visiting the site. Local train and bus timetables will also be shared so to further encourage their use.

2.6.5. Its envisaged that the CWTP may contain initiatives such as, the use of a mini bus to replace a number of private car movements with a single mini-bus pickup from the station and/or walking/cycling from the bus stops/station. Workers would also be encouraged to use alternative forms of transport such as walking or cycling as a way of promoting overall well-being and fitness. Initiative's like 'get off a stop early' – challenging personnel to get off the train or bus earlier than they normally would do to increase their levels of physical activity and wellbeing generally, will be encouraged. This would be included as part of the project's toolbox talk training programme.

2.6.6. A bike shed will also be provided within the main site compound to provide a safe and secure area for all bicycles.

3. PROJECT TEAM

3.1. CONSTRUCTION TEAM

3.1.1. To fulfil the aims of the Outline CEMP and to ensure that all the environmental commitments for the construction of the works are met, it is important to ensure that the roles of all staff are clearly set out, and that prior to, and throughout the works, they are made aware of the environmental sensitivities and commitments that are required to be adhered to. Roles include:

- Project Manager; and
- Site Manager.

3.1.2. The Contractor shall be responsible for safeguarding the environment and for mitigating the effects of the Scheme and its construction throughout the works in line with the contractual requirements.

3.1.3. Following the appointment of the Contractor for the works it will be the Site Manager's responsibility to maintain and update the Outline CEMP and to produce the Contractor's CEMP. The Contractor's CEMP will meet the applicable requirements of BS EN ISO14001. The Contractor's CEMP will set out the Contractor's roles and responsibilities, together with appropriate control measures, training and briefing procedures, risk assessments, stakeholder engagement and monitoring systems to be employed during planning and constructing the works for all relevant topic areas.

3.1.4. As part of the Contractor's CEMP, the Contractor will be required to plan the works in advance to ensure that measures to reduce environmental effects are integrated into the construction methods. The CEMP will cover all the activities undertaken by the Contractor. The Contractor will also be required to coordinate with relevant parties whose actions may affect the works. This will be documented in the CEMP, as appropriate.

3.2. ENVIRONMENTAL TEAM REQUIREMENTS

3.2.1. This section provides further details on the roles and responsibilities of all key members of the Contractor's project environmental team. It is anticipated that for the Scheme the following would be included:

- Project Manager;
- Site Manager;
- Environmental Manager;
- Environmental Clerk of Works;
- Ecological Clerk of Works;
- Project Arboriculturalist; and
- Public Liaison Officer.

Project Manager

3.2.2. The roles below will report to the Project Manager.

Site Manager

3.2.3. The Project Manager will appoint a Site Manager to manage the day to day activities on the construction site.

Environmental Manager

3.2.4. The Environmental Manager will be involved in the management of construction phases of the works. They will ensure the work takes place within the parameters as set out in the CEMP. The Environmental Manager shall have a minimum of ten years' experience in the environmental aspects of construction for highway/road projects.

3.2.5. They shall be responsible for:

- Developing the CEMP, on-going review and update of the CEMP and relevant procedures;
- Ensuring that all environmental standards and commitments are adhered to;
- Assist the Site Manager with carrying out environmental inductions and training;
- Monitoring compliance of construction activities within the CEMP;
- Conducting inspections and reporting non-compliances to the Site Manager and Project Manager;
- Liaising with the Contractor's management and operatives on all matters of the environment;
- Monthly site inspections and issue of a monthly report of the on-going environmental activities until completion;
- Working to ensure commitments made during the design phase are carried through to construction;
- Working with the Ecological Clerk of Works to produce the Ecological Management Plan (EMP), including root protection zones and no-go areas;
- Ensuring that all necessary works included within the CEMP are suitably catered for in the construction programme;
- Undertaking quarterly environmental audits throughout the works;
- Attending formal contract progress meetings and third-party interest groups as required;
- Immediate reporting of non-compliances and alerting the Environment Agency in the event of an incident;
- Sharing information with the WSCC Environment Team; and
- Reporting to the Site Manager.

Environmental Clerk of Works

3.2.6. The Environmental Clerk of Works shall have a minimum of five years' experience in the environmental aspects of construction. They will have at least two years' recent experience as an Environmental Clerk of Works, preferably on UK highway schemes.

3.2.7. They shall be responsible for:

- Recording and reporting all environmental works;
- Maintenance of related records;
- Regular site inspections (minimum weekly);
- Attendance at any environmental incidents on site; and
- Reporting to the Environmental Manager.

Ecological Clerk of Works

3.2.8. The Ecological Clerk of Works shall be experienced in ecological assessment for highway/road projects, with recent experience on UK projects.

3.2.9. They shall be responsible for:

- Working with the Environmental Manager to produce the Ecological Management Plan (**Appendix F**) within the CEMP before construction;
- Provide a briefing of ecological risks and procedures to contractors undertaking the works;
- Monitoring clearance works and supervise higher risk activities;
- Working with the Environmental Manager to review, update and maintain the EMP throughout the works;
- Consult with machine operators prior to operating vegetation clearance machinery;
- Check for potential hibernacula/refugia (such as discarded materials, logs and burrows) to be removed or destructively searched carefully outside hibernation season;
- Oversee clearance of habitat to confirm areas are unsuitable for hibernating animals;
- Carrying out pre-construction surveys and watching briefs on the site as required in the EMP; and
- Reporting to the Environmental Manager.

Project Arboriculturalist

3.2.10. The Project Arboriculturalist shall be responsible for:

- Interpreting tree protection requirements, advising on their implementation and providing technical review of any amendments to agreed details;
- Supervision of sensitive works in the vicinity of retained trees;
- Advising team with respect to specimens subject to Tree Preservation Orders, protection measures and monitoring requirements;
- Observing works in the vicinity of trees to be retained and maintaining records;
- Alerting the Environmental Manager with regard to stopping work where there is the potential for retained trees to be damaged, or where works represent a previously unidentified risk to retained trees; and
- Providing input into the Ecological Management Plan (**Appendix F**), work method statements and pruning schedule.

Public Liaison Officer

3.2.11. The Contractor will appoint a Public Liaison Officer (PLO) to carry out liaison duties with the public and others and will develop and maintain the Communication Plan for the Scheme. The PLO will be responsible for maintaining a register of community consultation including list of complaints and actions. This is to be made available to the local authority on request.

3.2.12. The PLO will be responsible for informing stakeholders of the works and programme and advising in the event of upcoming works with the potential for noise disturbance.

3.3. ROLES AND RESPONSIBILITIES

3.3.1. **Table 3-1** outlines key environmental roles and responsibilities:

Table 3-1 – Environmental Roles and Responsibilities

Activity	Responsible Person
Ensure resources are made available to carry out environmental responsibilities	Project Manager
The performance of the Contractor's CEMP in meeting environmental objectives and targets, mitigating environmental effects and in achieving effective environmental management shall be subject to review (refer to Appendix A) every two months.	Project Manager
Ensure measures detailed in the CEMP are carried out	Site Manager
Produce the CEMP	Environmental Manager
Review the CEMP	Project Manager/Site Manager/Environmental Manager
Carry out Environmental Induction Training on site (as part of the overall site induction)	Site Manager/Environmental Manager
Ensuring that all environmental standards and commitments are adhered to	Environmental Manager
Carrying out site specific environmental training	Environmental Manager/Ecological Clerk of Works
Carrying out monthly site environmental inspections	Environmental Manager
Carrying out weekly site environmental inspections	Environmental Clerk of Works
Carrying out quarterly environmental audits	Environmental Manager
Carrying out Waste Management Duties on site	Environmental Manager
Carrying out regular site environmental checks	Environmental Manager
Ensuring Risk Assessments/Method Statements (RAMS) take into account environmental aspects and risks on site	Site Manager/Environmental Manager
Arboricultural monitoring, supervision of sensitive works and maintaining record of events	Project Arboriculturalist
Review/Provide environmental input RAMS	Environmental Manager
Identify requirements for/inputting into/co-ordinating specific environmental RAMS for the works	Environmental Manager

Producing specific environmental RAMS	Environment Team Specialists
Ensure client instructions are implemented	NEC Project Manager
Carrying out Emergency Procedures	Site Manager
Investigate Environmental Incidents	Environmental Manager
Liaison with the Environment Agency	Environmental Manager/Public Liaison Officer
Liaison with other interested parties/statutory bodies	Environmental Manager/Public Liaison Officer
Arboricultural Monitoring	Project Arboriculturalist
Vegetation clearance ecological monitoring	Ecological Clerk of Works

4. GENERAL PROCEDURES

4.1. SPECIFIC PROPOSALS

4.1.1. Specific proposals for the operation, phasing, timing and sequencing of works shall be developed by the Contractor and the Environmental Manager. These procedures will need to remain flexible and be adapted throughout the works as necessary to accommodate changing needs and circumstances.

4.2. ENVIRONMENTAL ACCIDENTS AND EMERGENCIES

4.2.1. In the event of an accidental release of hazardous materials, information regarding those materials, spill contaminated materials and spill response equipment shall be clearly stated on site. A procedure for a general response to incidents shall be included in the Contractor's Health and Safety Plan, stating the chain of command and standby operatives, and clearly advised to all staff.

4.2.2. A register of all nearby residential properties, downstream abstractors and other sensitive receptors that could be affected by an environmental incident shall be compiled and maintained by the Contractor/PLO.

4.2.3. The local community must be informed about the environmental incident at the time if felt necessary by the Contractor.

4.2.4. If a serious accident occurs, the media and local community shall be issued with a fact sheet about the environmental incident, and the action taken by the Contractor to remedy the situation. This will be undertaken in accordance with the accepted Project's Communication Plan.

4.2.5. Details for the requirements for spill kits are as follows:

- Spill kits are to be held on site at all times;
- Spill kits with instructions will be sited in areas of high risk and in close proximity to material storage areas;
- All staff will be trained in the use of spill kits and the correct disposal of used spill control material;
- Used spill kit equipment will be disposed of a hazardous waste; and
- Spill kits will be maintained and periodically inspected.

4.2.6. Environmental incidents shall be recorded by the Contractor including:

- Nature of spill/leak/incident;
- Time/date;
- Exact location;
- Type of material released;
- Actions taken to prevent contamination;
- Individuals reported to; and
- Lessons learnt.

4.2.7. Lessons learnt shall be fed back to site staff through safety and environment briefings and used the Contractor's Environmental Manager to amend procedures and update the CEMP accordingly.

4.2.8. Emergency procedures shall be tested monthly by the Environmental Manager. Examples of procedures should include:

- The names and 24-hour contact details of all emergency response personnel and emergency services;

- The procedures for reporting and documenting an emergency incident;
- Personnel responsibilities during an emergency incident; and
- The location of on-site information on hazardous materials and spill containment materials.

4.3. EXTERNAL COMMUNICATION

4.3.1. External communication on site would typically include:

- Communication with interested third parties;
- Addressing complaints from members of the public; and
- Communication with the media.

4.3.2. Regulator engagement, as required, will take place with interested third parties including statutory and non-statutory bodies. Where required RAMS would be submitted to third parties for their review/approval.

4.3.3. The PLO will carry out liaison duties with the public and others, will maintain the contact register and will develop the Communication Plan for the Scheme.

4.3.4. Contact details of the PLO will be made publicly available and advertised clearly. The PLO will maintain a register of queries and complaints from the public which will inform the day to day construction activities if necessary. The PLO will inform the Site Manager as and when complaints are received, at which point appropriate responses/mitigation shall be delivered to address the query/complaint. These arrangements will be detailed in the Communication Plan. The Contractor will need to register the site with the Considerate Constructors Scheme and this will be detailed in the Communication Plan, along with any Code of Construction Practice.

4.3.5. The Contractor through the PLO will provide regular updates to the general public on the progress of the works and changes to traffic management layouts. Methods of communication include WSCC internet pages, the distribution of leaflets and other means as agreed with the WSCC's Client Lead. The Contractor will obtain WSCC Client Lead's approval for all information to be published.

4.3.6. Contact details will be provided in the CEMP and updated on a regular basis. These contact details will be displayed on the site notice board. A template for the Contact List is provided in **Appendix D**.

4.4. RISK ASSESSMENTS

4.4.1. All activities undertaken on site shall be subject to a risk assessment. Risk assessments will be undertaken by trained staff following an approved procedure which will:

- Identify the significant environmental and Health & Safety impacts that can be anticipated;
- Assess the risk from the impacts;
- Identify the control measures to be taken and re-calculate the risk;
- Report where an inappropriate level of residual risk is identified so that action can be taken through design changes, re-scheduling of work or alternative methods of working in order to reduce the risk to an acceptable level;
- The results of risk assessments, and their residual risks are only considered acceptable if; the severity of outcome is reduced to the lowest practical level; the number of risk exposures are minimised; all reasonably practical measures have been taken and the residual risk rating is reduced to a minimum; and

- The findings of the risk assessment and in particular the necessary controls will be explained to all operatives before the commencement of the relevant tasks using an instruction format agreed with the Environmental Manager.

4.5. METHOD STATEMENTS

4.5.1. Implementation Method Statements shall be completed by the Contractor and/or subcontractor by trained staff or other appropriate experienced personnel, in consultation with specialists. Their production shall include a review of the environmental/Health & Safety risk and commitments, so that appropriate controls measures are developed and included within the construction process.

4.5.2. Method Statements will be reviewed by the Site Manager and NEC Project Manager and, where necessary, by an appropriate environmental specialist. Where appropriate, method statements will be submitted to the regulator authorities (Environment Agency, Natural England, an Environmental Health Officer and Emergency Planning Officer etc.) as required.

4.5.3. Method Statements must contain as a minimum:

- Location of the activity and access/egress arrangements;
- Work to be undertaken and methods of construction;
- Plant and materials to be used;
- Labour and supervision requirements;
- Health, safety and environmental considerations; and
- Permit or consent requirements.

4.6. ENVIRONMENTAL AND SOCIAL TARGETS

4.6.1. To help achieve and maintain high levels of environmental and social performance for the construction of the Scheme, specific targets have been set and are listed below in order of priority:

- Ensure no pollution incidents occur;
- Ensure no enforcement actions occur;
- Ensure waste is managed as high-up the waste hierarchy as is practicable; and
- Ensure all environmental mitigation is implemented and monitored where appropriate.

4.6.2. The achievement of these targets should be reported in the Environmental Site Monitoring process.

4.7. ENVIRONMENTAL INSTRUCTION, AWARENESS INFORMATION AND TRAINING

4.7.1. The raising of environmental awareness is viewed as a crucial element of the CEMP. All Contractor's site staff must undergo environmental awareness training, initially by way of the pre-start induction process. This would identify the key environmental sensitivities and mitigation, including individual responsibilities for checking and reporting (e.g. presence of suspected archaeology etc.). A project specific training plan that identifies the competency requirements for all personnel allocated with environmental responsibilities must be produced and must be contained within the CEMP. A record of training shall be required to be maintained by the Contractor, with all site personnel undergoing a pre-start induction training course and aspect-specific toolbox talks on the environmental issues related to the works and the CEMP.

4.7.2. Training for all personnel identified in the training plan will be completed before commencement of the associated construction activities (see section 1.1 and **Appendix A**). The Contractor shall ensure that

all personnel engaged in activities that may have an impact on the environment are competent to carry out their duties or, where necessary, arrange for suitable training to be undertaken. It will be the responsibility of the Site Manager to ensure the training record is completed (see **Appendix A**).

4.8. PUBLIC ENGAGEMENT

4.8.1. As outlined earlier, the Contractor's PLO shall be responsible for community engagement during the construction period. The following tasks are likely to be required:

- Establish a framework for managing communications with local residents;
- Letter drops to inform local residents of particular construction activities;
- Review all traffic routes to ensure they are kept clean and clear;
- Establishing a point of contact, such as an email/webpage, for community engagement;
- Record any complaints on the site monitoring sheets (see Table A-4, **Appendix A**) and how they were dealt with; and
- Provide advance notice of work on site and proposed access arrangements.

4.9. CONSENTS, COMMITMENTS AND PERMISSIONS

4.9.1. The Contractor will maintain a schedule of consents or permits, and any associated conditions (see **Appendix C**), within the CEMP and ensure that they are appropriately briefed out to on-site personnel. This schedule will provide a record of consents and permissions from Statutory Bodies, other stakeholders and any commitments made to them.

4.10. LEGAL AND OTHER REQUIREMENTS

4.10.1. A Register of Legal and Other Requirements will be maintained in the CEMP (Table A-2, **Appendix A**). This will not be an exhaustive list but will include information relevant to the Scheme.

4.11. PROJECT ENVIRONMENTAL RISKS

4.11.1. A template for the Register of Environmental Aspects and Impacts has been produced for the Scheme and can be found in **Appendix B**. This would be further developed by the Contractor in the CEMP as the Scheme design and construction methodology develop.

5. RECORD OF ENVIRONMENTAL IMPACTS, MITIGATION AND MONITORING

5.1.1. The Register of Environmental Actions and Commitments (REAC) summarises the committed mitigation measures within the chapters of the Environmental Statement (ES) and associated appendices. Where relevant, cross-references are provided to the 'Requirements' that will secure the commitments in the DCO/planning conditions. The REAC is a live document, normally reviewed and updated every 6 months or before any significant changes, and as such will be updated as the project progresses in collaboration with the continual development and reviews of the CEMP. A REAC has been developed for this Scheme and is shown in **Table 5-2. Appendix B** Table B-1, provides a template for the Environmental Aspects and Impacts Register. It should be reviewed against the known construction works for a specific area/activity to identify the controls required and along with the REAC, subject to periodic review.

5.1.2. The REAC also aims to ensure the Contractor complies with all relevant legislation for the construction phase of the Scheme. The relevant legislation is inclusive of but not limited to the following:

- Clean Air Act 1993 (as amended);
- Clean Neighbourhoods and Environment Act 2005 (as amended);
- Control of Pollution Act 2001;
- Environment Act 1995 (as amended);
- Environmental Protection Act 1990 (as amended);
- Land Drainage Act 1994;
- Planning and Compulsory Purchase Act 2004 (as amended);
- Protection of Badgers Act 1992 (as amended);
- The Conservation of Habitats and Species Regulations 2010 (as amended);
- The Environmental Permitting (England and Wales) Regulations 2010;
- The Hazardous Waste Regulations 2005 (as amended); and
- The Waste (England and Wales) Regulations 2011.

5.2. SITE INSPECTIONS

5.2.1. Monthly/Weekly inspections of the site shall be conducted, by the Environmental Manager and Environmental Clerk of Works respectively, to ensure compliance with the CEMP and to minimise the risk of damage to the environment. All environmental incidents shall be reported to the Environmental Manager.

5.2.2. The Environmental Manager shall carry out monthly inspections and complete an assessment of the work's environmental performance measured against environmental standards, relevant legislation and the CEMP objectives. The Environmental Manager shall produce a monthly report detailing environmental performance and non-compliances.

5.2.3. Document control shall be in accordance with the QMS and copies of all environmental audit reports, consents and licenses shall be maintained by the Environmental Manager. They will be held on site for review at any time.

5.2.4. The Contractor shall be responsible for assigning responsibility, investigating and addressing any non-conformances raised by the inspection within an agreed time frame and ensuring that corrective and preventative actions have been fully closed out.

5.2.5. The Contractor shall be responsible for updating and reviewing the CEMP on a regular basis. This must be recorded in the CEMP review table (see Table A-1 in **Appendix A**).

5.2.6. The CEMP will include details of protocols for submitting Environmental Records to the WSCC Client Lead.

5.2.7. In order to ensure that environmental issues are communicated on site the following environmental training and on-going communication methods will be undertaken. The list, shown in **Table 5-1**, is not exhaustive.

Table 5-1 – Environmental Training and Communication

Meeting/Briefing/Training	Frequency	Attendees
Safety Health Environmental Progress Meetings	Weekly/Monthly	Those identified with safety, health and environmental responsibilities
Induction Training (which will include environmental aspects)	On first visit to site	All persons attending site (site personnel, sub-contractors, clients, visitors)
Risk Assessment and Method Statement briefings	Every job task	All involved in task
Environmental Toolbox Talks (TBT): Environmental TBTs will be carried out appropriate to the construction works being carried out on site at that time	Every job task	All involved in task
Environmental briefings (bulletins, alerts, lessons learnt, results of inspections/audits	As required	As identified for personnel with environmental responsibilities
Job specific training: Institute of Occupational Safety and Health Working with Environmental Responsibilities; Site Waste Management.	As required	As identified for personnel with environmental responsibilities
Project specific information, including the CEMP	As required	Briefed out to all staff and displayed on notice boards

5.2.8. The Contractor shall be required to manage the environmental impacts of all suppliers that provide services in relation to the works.

5.2.9. The environmental stewardship of suppliers working with/for the Contractor shall be managed, monitored and reported through the application of Method Statements.

5.2.10. The Contractor shall co-operate fully with arrangement for auditing suppliers' safety and environmental procedures.

5.2.11. The Contractor's Environmental Manager/Site Manager shall advise the NEC Project Manager on external communication with regulatory bodies, the public, and any other external stakeholders and environmental matters.

5.3. SITE WASTE MANAGEMENT

5.3.1. The Contractor shall prepare a Materials Management Plan (MMP) and Site Waste Management Plan (SWMP) for the Scheme.

5.3.2. The SWMP will set out how different types of waste will be prevented, reduced or reused and recycled in accordance with the waste hierarchy.

5.3.3. The SWMP will include the following:

- Roles and responsibilities
- Types and volumes of waste reused, recycled and landfilled;
- Where the materials and waste have been reused, recycled and landfilled, both on and off site;
- Waste recovery and disposal facilities that will be used and their details of their permits/licences/exemptions, both on and off site;
- Waste recovery and disposal contractors that will be used and details of waste carriers licence;
- Any waste exemptions that are in place in order to enable waste to be reused;
- Waste transfer notes (WTNs) and waste consignment notes to ensure that all waste movements are accompanied by a WTN and that all the requisite information is provided;
- Scheme performance objectives and targets to ensure they are met;
- Forecasting, recording, monitoring and reviewing waste management on site;
- Facilities for segregation of waste;
- Monitoring requirements including:
    - Visual inspection of waste storage areas to ensure they are contained and managed properly;
    - Visual inspection of material recycling areas to ensure they are contained and managed properly;
    - Check workforce recycling bins and replace when required; and
    - Check all waste containers for leaks.

5.3.4. The MMP will be used to monitor the maximum reuse of natural soils and Made Ground. The format of the MMP will be appropriate to the scale of the works and in a format agreed with the Site Manager and Project Manager. The MMP will include:

5.3.1. The MMP forms part of the CL:AIRE code of practice to determine that the materials will not harm human health or pollute the environment and are no longer considered a waste. The MMP will include the following:

- The parties involved;
- Suitability for use criteria;
- Certainty of use;
- Quantity of use;
- Contingency arrangements;
- Tracking and document control; and
- Verification plan.

5.4. ENVIRONMENTAL SITE MONITORING

5.4.1. The Contractor shall be required to undertake on-site environmental monitoring to ensure high standards of environmental performance are maintained on-site, it is recommended these are undertaken weekly. This will be confirmed with the site environmental monitoring sheets, which must be completed and the results reviewed by the Contractor's Environmental Manager and any actions must be completed as a matter of urgency.

5.4.2. The Project Arboriculturalist and Ecological Clerk of Works will undertake a programme of monitoring. This may include phone and email contact with the Site Manager, regular site visits and direct monitoring of sensitive works. The frequency of any monitoring will be determined by the intensity and proximity of works to trees and sensitive areas and will be flexible enough to accommodate changes in the scheduling of tasks as they occur on the site.

5.4.3. The monitoring shall involve the following:

- Dust deposition;
- Visual inspection of existing drains and road gullies to ensure no blockages from construction waste and pollution, as well as inspection of new drains if operational during construction;
- Inspection of plant spill kits and re-fuelling areas;
- Inspection of waste management facilities;
- Inspection of all tree and vegetation protection zones;
- Inspection of ecology fencing and any sensitive receptors; and
- Inspection of access roads and public highways to ensure cleanliness.

5.4.4. In addition, daily inspections of the aspects above shall be assigned to a member of the Contractor's team.

5.4.5. The predicted environmental impacts during construction can be viewed in the Environmental Aspects and Impacts Register (template included in **Appendix B**).

5.4.6. In addition to the above, the Contractor should refer to Highways England's DMRB, CIRIA Environmental Good Practice on Site C741, and Environmental Agency Pollution Prevention Guidance Notes (though no longer current, these continue to provide useful guidance for construction work).

5.5. ECOLOGICAL MANAGEMENT PLAN (APPENDIX F)

5.5.1. An Outline Ecological Management Plan (EMP) is available in **Appendix F**. The EMP intends to:

- Provide an overview of the baseline ecological information for the Scheme and a surrounding area; and
- Provide a mitigation plan to be implemented during construction and operation, based on the recommendations of baseline ecological assessments and the **Chapter 9 Ecology and Nature Conservation** of the associated Environmental Statement (ES) (WSP 2020b).

5.5.2. The EMP will enable compliance with a relevant nature conservation legislation and planning policy and to avoid the killing/injury of notable and protected species.

Table 5-2 – Register of Environmental Actions and Commitments

Environmental Topic	Potential Impacts	Environmental Action/Mitigation	Construction Monitoring
Air Quality	▪ Changes in levels of dust and particulates at existing receptors due to on-site construction activities; and ▪ Changes in ambient NO_2 PM_{10} and $PM_{2.5}$ concentrations at existing receptors from Non-Road Mobile Machinery (NRMM) and construction traffic.	▪ To minimise the risk of adverse impacts during construction from dust, industry best practice measures are to be employed. The measures used will depend on the circumstances but may compromise the following: • Damping down on dry surfaces, in-particular haul roads; • Avoiding/minimising stockpiling of friable materials on-site in open areas; • Locating stockpiles (if necessary) as far away from sensitive receptors as practicable; • Seeding or screening of long-term inactive stockpiles; • On-site speed restrictions to minimise dust entrainment; • Sheeting/covering of lorries carrying potentially dusty materials; • Wheel/chassis cleaning prior to exit onto the public highway; • Requiring all on-site plant to comply with the latest EU emissions standards for non-road mobile machinery; and • Requiring all contractor vehicles to be compliant with a minimum Euro emissions standard, for example Euro VI (6). ▪ Site Management: • Records of dust and air quality complaints to be maintained by the	▪ Monitoring to ensure effective implementation of mitigation measures will be required throughout the construction stage. This will be undertaken by regular visual inspections to record the weather and ground conditions, activities taking place, mitigation measures being applied and any evidence of increased dust deposition and soiling in the area surrounding the works. Daily inspections offsite dust deposition

Environmental Topic	Potential Impacts	Environmental Action/Mitigation	Construction Monitoring
		PLO, including likely causes and mitigation measures to reduce impacts if appropriate; • Keep site perimeter, fences etc. clean; • Visual inspections of offsite dust deposition (daily). This may need to be supplemented by automatic monitoring of PM10 if the risk of impacts increases e.g. during prolonged dry weather; • Any exceptional incidents that cause dust and/or air emissions, either on- or offsite should be recorded, and then the action taken to resolve the situation recorded in the log book. • Consideration must be given to monitoring of dust soiling at nearby residential properties, at locations agreed with the local authority; and • Stabilisation of topsoil material bunds (including use of tackifiers). ▪ Site Planning: • Consideration of weather conditions, dust generating potential of material to be excavated prior to commencement of works; • Plan site layout to maximise distance from plant/stockpiles etc. to sensitive receptors; • Dusty materials should be removed from site as soon as possible; • Where practicable, erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on site; and	

Environmental Topic	Potential Impacts	Environmental Action/Mitigation	Construction Monitoring
		• If work within 20m of residential properties cannot be avoided, erect solid screens at least as high as Stockpiles. ▪ Construction Traffic: • Loads entering and leaving the site with dust generating potential should be covered and wheel washing facilities made available; • No idling of vehicles; • Vehicles to comply with site speed limits (15mph on hard surfaces, 10mph on unconsolidated surfaces); • Water assisted sweeping of local roads to be undertaken if material tracked out of site; • Install hard surfacing as soon as practicable on site and ensure that they are maintained in good condition; • Avoid the use of diesel or petrol-powered generators and use mains electricity or battery powered equipment where practicable; • A Construction Traffic Management Plan (CTMP) incorporating construction logistics should be produced to manage the sustainable delivery of goods and materials; and • A Construction Worker Travel Plan that supports and encourages sustainable travel (public transport, cycling, walking, and car-sharing) ~~should be considered~~ shall be prepared.	

Environmental Topic	Potential Impacts	Environmental Action/Mitigation	Construction Monitoring
		▪ Site Activities: • Exposed soils should be protected from winds until sealed or re-vegetated; • Minimise dust generating activities, particularly near residential receptors / sensitive ecosystems during prolonged dry, dusty weather unless damping / other suppressants are used; • Ensure an adequate water supply to site and use water as dust suppressant where applicable; • Ensure equipment suitable for clearing spills etc. is available at all times; • Use covered skips where practicable. • Ensure any site machinery is well maintained and in full working order; and • Sand and aggregates should be stored away from sensitive receptors and screened / shielded. Similarly, concrete batching should take place away from receptors. ▪ Earthworks: • Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable; • Use Hessian, mulches or tackifiers where it is not possible to re-vegetate or cover with topsoil, as soon as practicable; • Where practicable, only remove the cover in small areas during work and not all at once;	

Environmental Topic	Potential Impacts	Environmental Action/Mitigation	Construction Monitoring
		• Stockpile surface areas should be minimised (subject to health and safety and visual constraints regarding slope gradients and visual intrusion) to reduce area of surfaces exposed to wind pick-up; • Where practicable, windbreak netting/screening should be positioned around material stockpiles and vehicle loading/unloading areas, as well as exposed excavation and material handling operations, to provide a physical barrier between the site and the surroundings; and • During dry or windy weather, material stockpiles and exposed surfaces should be dampened down using a water spray to minimise the potential for wind pick-up. ▪ Construction Specific Measures: • Avoid scabbling (roughening of concrete surfaces) if possible; and • Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place. ▪ Track Out specific measures: • Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out	

Environmental Topic	Potential Impacts	Environmental Action/Mitigation	Construction Monitoring
		of the site. This may require the sweeper being in frequent use; • Avoid dry sweeping of large areas; and • Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport. ▪ Traffic management measures will be required during the construction phase and shall be detailed in the CTMP.	
Noise and Vibration	▪ Noise impacts on residential dwellings from on-site construction activities; and ▪ Vibration impacts on residential dwellings from on-site construction activities.	▪ The use of BPM, specifically to mitigate against noise: • The appropriate selection of plant, construction methods and programming: Only plant conforming with or better than relevant national or international standards, directives or recommendations on noise or vibration emissions will be used. Construction plant will be maintained in good condition with regards to minimising noise output and works exposed to harmful noise and vibration; • Construction plant will be operated and maintained appropriately, having regard to the manufacturer's written recommendations or using other appropriate operation and maintenance programmes which reduce noise and vibration emissions. All vehicles and plant will be switched off when not in use; • Design and use of site hoardings and screens, where necessary, to provide	▪ Periodic monitoring by a suitably competent person throughout the construction phase to ensure that Best Practicable Means (BPM) identified are adhered to at all times.

Environmental Topic	Potential Impacts	Environmental Action/Mitigation	Construction Monitoring
		acoustic screening at the earliest opportunity. Where practicable, gates will not be located opposite buildings containing noise-sensitive receptors (NSRs); • Install noise barrier as soon as practicable; • Choice of routes and programming for the transport of construction materials, spoil and personnel to reduce the risk of increased noise and vibration impacts due to the construction of the junction. To be incorporated into the CTMP; • Vehicle and mechanical plant used for the purpose of the works will be fitted with effective exhaust silencers, be maintained in good working order and operated in such a manner as to minimise noise emissions. Plant items that comply with the relevant EU/UK noise limits applicable to that equipment will be used; • The positioning of construction plant and activities to minimise noise at sensitive locations; • Equipment that breaks concrete by munching or similar, rather than by percussion, will be used as far as is practicable; and • The use of mufflers on pneumatic tools. • Selection of low vibratory equipment and methodologies;	

Environmental Topic	Potential Impacts	Environmental Action/Mitigation	Construction Monitoring
		• Contact details for PLO for local residents to deal with complaints and engaging with local residents; • Any complaints that occur during the works period will be appropriately addressed and recorded in the Site Monitoring Sheet, including details of the actions taken; and • Where community complaints are recorded with respect to site noise, the relevant noise source will be identified and any additional feasible and reasonable measures available will be implemented to either reduce noise emissions or reduce the impact on receptors. • No start-up or shut down of vibratory plant, e.g. rollers or compactors, within 50m of receptors so as to prevent exceedance of the Significant Observed Adverse Effect Level (SOAEL); • Any compressors brought on to site should be silenced or sound reduced models fitted with acoustic enclosures; • Operatives will be trained to employ appropriate techniques aimed at keeping site noise to a minimum; • Use of electrical items of plant instead of diesel plant where practicable; • Deliveries should be programmed to arrive during daytime hours only; • Care should be taken when unloading vehicles to minimise noise;	

Environmental Topic	Potential Impacts	Environmental Action/Mitigation	Construction Monitoring
		• Delivery vehicles should be routed so as to minimise disturbance to local residents; • Delivery vehicles should be prohibited from waiting within or in the vicinity of the site with their engines running; • Lorries shall enter and exit work sites in a forward direction, except where space restriction does not permit this. This will assist in the minimisation of noise from reversing alarms. In that event, movement shall be properly controlled by a responsible person(s) observing the rear of the vehicle. Entry and exit conditions shall be approved with the Highways Authorities prior to their implementation. • All site staff, including sub-contractors, will be made aware of the potential for noise and vibration issues to arise and the use of BPM and the CEMP through site inductions and Toolbox Talks; • Work with the PLO to establish relations with people living, working and studying in the vicinity of the site. Such relations will be developed through keeping people fully informed of progress and by treating complaints fairly and quickly. Warning will be given prior to particularly noisy operations / night work being carried out, and contact details will be provided for site personnel having responsibility for addressing noise complaints.	

Environmental Topic	Potential Impacts	Environmental Action/Mitigation	Construction Monitoring
Water Resources and Flood Risk	▪ Short-term increase in flood risk due to construction activities. ▪ Potential effects on the water quality of surface water and groundwater resources due to construction activities or accidental leaks and spillages. ▪ Potential increase in physical contamination (i.e. sedimentation) of surface water bodies due to ground disturbance. ▪ Fluvial flooding is possible near the access road and pond 3 near Barnham Lane ditch. ▪ Groundwater flooding is possible as excavation is proposed for the drainage ponds and road alignment from CH 15 to CH 100. ▪ Sensitive water receptors that could be impacted by pollution are surface water bodies (Barnham Lane Ditch, Lidsey Rife and School Ditch) and groundwater bodies (Superficial Deposits). The pollution of both surface and groundwater bodies may be exacerbated by accidental spillages. ▪ During periods of heavy rainfall, vehicle movements associated with construction activities resulting in damage to soil structure may generate increased sedimentation within surface run-off.	▪ The use of BPM, operational management and design of the Scheme, including the provision of temporary attenuation features and runoff control. ▪ Secondary mitigation measures during the construction phase will include the following: • Excavation elements to be constructed during the summer months; • Groundwater levels to be monitored during construction; • Pile casing during piling and isolation of the area around the piling from surface water until piling is complete; • Damp proof membranes will be incorporated during construction, to prevent the ingress of shallow groundwater into cuttings and excavations; • Storage of material and construction activities should avoid areas of flood risk; • Temporary bunding and settlement ponds; • Preparation of incident response plans to set out the measures that must be taken in the event of a pollution incident; • On-site availability of oil spill clean-up equipment including absorbent material and inflatable booms for use in the event of an oil spill or leak; • Wherever possible, plant and machinery would be kept away from the drainage system and watercourses;	▪ Groundwater level monitoring during the construction phase if groundwater is encountered. ▪ Installation of systems such as silt traps and swales designed to trap silty water including adequate maintenance and monitoring of these to ensure effectiveness, particularly after adverse weather conditions.

Environmental Topic	Potential Impacts	Environmental Action/Mitigation	Construction Monitoring
		• Use of drip trays under mobile plant; • Construction materials brought to the Site should be free of any contaminated material; • Care should be taken to ensure that wet cement does not come into contact with surface water or near the streams and drainage ditches. Cement should be poured in dry and consideration should be given to use fast drying cement; • If ground contamination is encountered during construction works, work would stop immediately and measures would be taken to prevent disturbance and mobilisation of contaminants, until the contamination has been treated in-situ or removed for off-site treatment; • Working areas shall be clearly defined to ensure the disturbance of soils is minimised, where possible; • Haul routes and accesses shall be clearly defined to minimise risk of accidents; • The cleaning of vehicles wheels prior to leaving Site; • Controlled and covered waste storage areas; • Implementation of a Dust Management Plan (i.e. damping down) with subsequent consideration given to the management of surface water run-off; • Installation of systems such as silt traps and swales designed to trap silty water including adequate maintenance and	

Environmental Topic	Potential Impacts	Environmental Action/Mitigation	Construction Monitoring
		monitoring of these to ensure effectiveness, particularly after adverse weather conditions; • Provision of environmental awareness training for Site workers; • The surface water drainage design would be implemented on a phase by phase basis as part of the design solution to attenuate flow and control runoff from new impermeable surfaces; • The implementation of a temporary drainage strategy to prevent uncontrolled runoff; and • The operational drainage system will need to be protected from sediment or debris, and jetted on completion of the works to remove any accumulation of sediment or debris. ▪ Measures to specifically minimise the short-term increase in flood risk due to construction activities include the following: • Implement a construction-phase drainage strategy to intercept, capture and attenuate surface water runoff and adopt a phased approach to the construction of the operational drainage system to ensure impermeable areas are appropriately drained and attenuated prior to discharge. The construction-phase drainage strategy could include the provision of a bund along the lowest perimeters of the site to prevent uncontrolled runoff towards existing properties. Operational-phase drainage systems must be protected	

Environmental Topic	Potential Impacts	Environmental Action/Mitigation	Construction Monitoring
		from ingress of sediment and debris and cleaned on completion of construction works. • Storage of material and construction plant should be set back from the Barnham Lane Ditch and away from areas that may be at risk of flooding or existing overland flow routes described in the Flood Risk Assessment. • To minimise groundwater seepage into the areas of excavation/cutting, deep excavations should be constructed during the summer months as far as practicable and groundwater levels should ideally be monitored during construction. ▪ Measures to specifically minimise the potential effects on the water quality of water resources due to accidental leaks and spillages include the following: • Surface water run-off from within the Site should be managed to prevent uncontrolled migration of pollutants to waterbodies. This could include temporary bunding and settlement ponds; • Preparation of incident response plans, prior to construction, which should be present on-site throughout construction to inform contractors of required actions in the event of a pollution incident; • Spillages and leaks would be immediately contained in line with the incident response plan;	

Environmental Topic	Potential Impacts	Environmental Action/Mitigation	Construction Monitoring
		• Oil, fuels and other harmful substances should be stored on an impermeable surface with appropriate drainage or containment; ▪ Measures to specifically minimise the potential increase in physical contamination (i.e. sedimentation) of surface waterbodies due to ground disturbance include the following: • Locating stockpiles and materials storage a minimum of 10m from any watercourses or drainage lines.	
Landscape	▪ Construction related features, including an increase in construction traffic on the roads, views of construction activities from nearby residences, a reduction in tranquillity from the noise and an increase in activity of the LCA. ▪ The introduction of construction related features and activities, particularly around the new roundabout at the junction of A29 Fontwell Avenue. ▪ Visual impacts during the construction phase are likely to include the following: • Construction traffic – large vehicles moving along roads and throughout the site; • Removal of vegetation; • Visual intrusion of construction compounds and temporary lighting;	▪ Adequately protect vegetation during construction and maximise vegetation retention; ▪ Planting to be installed and maintained as soon as possible within the construction schedule and the Landscape Maintenance and Monitoring Plan. ▪ The following construction phase mitigation measures have been identified for the Scheme and are those which are standard best practice: • Temporary construction lighting to be minimal in extent and use. The lighting is to be highly directional and seek to minimise light spill and glare into the surrounding landscape. Construction operations to be limited to daylight working hours where possible; • Noise and dust to be kept to a minimum; and	▪ The following monitoring requirements have been identified: • Check planting to ensure it has established and grown as expected; • Check mitigation is implemented as planned (as per drawings in the LVIA); • Ensure construction mitigation is implemented as planned. • The Contractor shall attend quarterly site inspections as indicated in the Landscape Maintenance and Management Plan.

Environmental Topic	Potential Impacts	Environmental Action/Mitigation	Construction Monitoring
	• Presence of bare earth before seeding has established; • Noise from machinery, workmen etc, affecting tranquillity which impacts on the user experience of the view; • View of partially constructed infrastructure elements; • Earth-moving – stripping of topsoil, installation of temporary topsoil stores and permanent embankments to proposed road alignment; and • Installation of road drainage. ▪ During construction, views of construction activities including HGVs would be very noticeable. ▪ During construction, residents of Murrell Gardens will have very noticeable views of construction activities from a close range. ▪ Barnham Road will be affected by construction activities as they will dominate the view and traffic management requirements will alter the experience of the road for users. Disturbance due to construction lighting.	• Construction working area to be as contained and constrained as possible to minimise land take, vegetation loss and reinstatement requirements. • Programme of appropriate monitoring may be agreed with the regulatory authority, so that compliance and effectiveness can be readily monitored and evaluated. ▪ Other mitigation measures include the following: ▪ Construction lighting is to be designed such that, where practicable, all luminaires are installed internal to the site (such as on the inside of hoarding) and are directed towards the working area. ▪ Lighting should be operational only during construction works, except where lighting is required for out-of-hours security or safety reasons. ▪ Lighting should adhere to industry best practice, including guidance from industry bodies (such as the Construction Industry Research and Information Association, CIRIA). CIRIA guidance, for example, notes that lighting on construction sites is typically required for security and safety, while at the same time being required to minimise impact on the surrounding environment in accordance with current best practice. ▪ Lighting to be mindful of temporary impact on sensitive flora and fauna and limit the intensity and duration of lighting to the minimum required.	

Environmental Topic	Potential Impacts	Environmental Action/Mitigation	Construction Monitoring
		• The Landscape Contractor shall hold a BASIS amenity horticultural products certificate in order to be able to provide appropriate advice on the selection and application of herbicides (if required), and shall be competent in identifying plant species, including those proposed as part of seed and planting mixes and all undesirable species; • Any diseases or pests present should be reported to the Council in the first instance and a programme of removal and replacement should be provided by the Contractor; • Weed control shall be in accordance with the Landscape Maintenance and Management Plan; • The Contractor shall liaise through the PLO with adjacent landowners regarding the access arrangements and working hours to carry out hedge maintenance; and • Litter shall be removed on a monthly basis or as necessary on the whole site where heavy littering has occurred. A co-ordinated approach to tackling litter problems should be sought with other management agencies and landowners in order to achieve a litter free zone.	
Archaeology and Heritage	▪ During the construction phase, there could be impacts on prehistoric and roman remains from site preparation, road construction, excavation for	• Archaeological investigation will be required prior to construction, in order to clarify the nature, survival and significance of any archaeological assets that may be affected.	▪ Monitoring in the form of an archaeological watching brief, may be required during ground works.

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	attenuation ponds, services/drainage and possible planting.	• Archaeological investigation may include trial trenching in accordance an approved WSI or preliminary site strip in the form of Strip, Map and Sample during the construction phase. Regardless of the option, a Post-Excavation Assessment Report will be required. • An appropriate mitigation strategy will be required for any significant archaeological assets. Mitigation normally comprises preservation by record: advancing understanding of asset significance through targeted archaeological excavation in advance of development. This might be combined with a watching brief during ground works for remains of lesser significance. In the unlikely event that nationally important remains are present, preservation in situ may be required (i.e. through redesign/ avoidance). Any archaeological work would need to be undertaken in consultation with the WSCC's archaeological advisor, in accordance with an approved archaeological Written Scheme Investigation. ▪ The recording of a 19th century wall on Fontwell Avenue is required prior to demolition works. ▪ Stop work procedures will be implemented in the event of asset discovery.	

Environmental Topic	Potential Impacts	Environmental Action/Mitigation	Construction Monitoring
Transport and Access	▪ Construction traffic adversely impacted local traffic volumes and flows; ▪ During construction, Public Rights of Ways (PRoWs) and footpaths which intersect the Site and those in the surrounding area will either be temporarily closed or have restricted access to users.	▪ A detailed Construction Traffic Management Plan (CTMP) will prepared prior to the start of construction works to manage the impacts of construction traffic. This will include construction traffic volumes, delivery/ construction routes and proposed lane closures (for online construction activities), sustainable travel options and logistics. This will also include a Construction Worker Travel Plan to ~~This will~~ minimise the effects of the construction works on road users. ▪ Temporary re-routing/ diversions of the PRoW will be discussed and agreed with the WSCC Public Rights of Way Officer prior to the start of construction activities and will be set out in the CTMP. All diversions will be publicised locally through the PLO to ensure the local community are aware of what the changes will involve, how long they will be in place for and a map to show the new route. Heras fencing will be used along the boundary of the diverted PRoW during construction to ensure users do not stray onto the construction site.	▪ None required.
Geology and Soils	▪ Lateral migration of aqueous and dissolved contaminants via groundwater flow or preferential pathways could impact surface waters including Lidsey Rife. ▪ Vertical migration of aqueous and dissolved contaminants through made	▪ Prior to the start of construction works, as part of the Ground Investigations (geotechnical), contamination testing will be undertaken to ensure suitable mitigation is in place and if present, contaminated material will be removed and disposed at authorised sites, through the	▪ Watching brief during earthworks; ▪ A monitoring log to ensure measures to mitigate effects relating to geology and soils are in place and are effective should be

Environmental Topic	Potential Impacts	Environmental Action/Mitigation	Construction Monitoring
	ground strata or via preferential pathways could impact groundwater. ▪ Made Ground/ engineering fill associated with Landfill; Tanks – Fleurie Nursery; and Fordingbridge Industrial Site are all considered to have potential to cause contamination. ▪ Ingestion, inhalation and dermal contact with contaminated soil and ground gases; inhalation of windblown dust; and soil vapour inhalation are some of the potential pathways to impact human health.	implementation of a Remediation Strategy.. ▪ To minimise the risk of adverse impacts during construction, industry best practice measures in addition to those noted already, will be employed, such as the following: • Spill kits to contain appropriate material for relevant leaks or spills; • Ensure good driver behaviour and maintenance of vehicles; • Use of appropriate PPE and suitable hygiene; • ~~Ground investigations, including a contamination testing suite, and risk assessment to assess the potential risk to identified receptors from contact with potentially contaminated soil, groundwater and surface water;~~ • A watching brief will be maintained during earthworks activity to ensure that unexpected contaminated materials, if encountered, are managed in an appropriate manner and in accordance with statutory requirements; and • Compliance with the Construction Design and Management Regulations 2015. ▪ If contaminated soil/ groundwater is found or suspected: • Specialist advice must be sought; and • Where ~~risks are~~ contamination is identified, a Contaminated Land	undertaken throughout construction.

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		Management Plan (CLMP) may be required. The CLMP shall detail principles of contaminated land management and describe suitable containment measures and procedures.	
Ecology and Nature Conservation (should be read alongside the Ecological Management Plan in Appendix F)	Offsite Habitats of Principal Importance: ▪ Offsite Habitats of Principal Importance (HPI) could be affected indirectly by dust, airborne pollution and degradation through temporary storage of construction materials during the construction phase. Pollution may occur at chronic levels from day-to-day construction activities, or at acute levels from a pollution event such as a fire or chemical spill. A pollution event could therefore cause loss of habitat.	▪ Fencing will be installed around all construction works to protect the surrounding retained habitats. ▪ Best Practice Measures (BPM) will be employed, including the following: • Measures must be taken to prevent dust and other emissions from construction affecting the retained habitats and land beyond the Scheme; • Chemicals and fuels must be stored in secure containers located away from watercourses or water bodies. Spill kits must be available; • Implementation of a construction-phase drainage strategy to intercept, capture and attenuate surface water runoff; • Excavations must be covered or securely fenced (with no potential access points beneath fencing) when the construction site is closed (e.g. overnight) to prevent entrapment of animals, specifically badgers; • Retained trees and hedgerow must be protected in accordance with British Standard BS5837:2012 Trees in Relation to Construction, including the erection of robust protective fencing encompassing root protection areas;	▪ The monitoring of planted vegetation to ensure it takes successfully. ▪ Daily checks of ground protection measures by an appointed person.

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		• Noise and vibration must be controlled and kept to the minimum necessary, especially with regard to working in close proximity to known active badger setts; • Lighting used for construction must be kept to a minimum and switched-off when not in use; • Lighting should be positioned so as not to spill onto adjacent land or retained vegetation within the Scheme; and • Night works should be avoided where possible to reduce lighting of sensitive habitats and disturbance to species.	
	Onsite Habitats of Principal Importance (Hedgerows): ▪ Three Onsite HPI Hedgerows are to be removed during the construction phase. Retained hedgerow could be affected by dust, airborne pollution and degradation through temporary storage of construction materials during the construction phase and pollution may occur at chronic or acute levels.	▪ All retained hedgerows will be protected in accordance with British Standard BS5837:2012 Trees in Relation to Construction, including the erection of robust protective fencing encompassing root protection areas. ▪ The BPM mentioned above will be employed throughout the construction phase. ▪ Measures to avoid temporary storage of construction materials adjacent to retained hedgerows will be put in place throughout construction.	▪ The monitoring of planted vegetation to ensure it takes successfully. ▪ Daily checks of ground protection measures by an appointed person.
	Onsite Habitats of Principal Importance (Traditional Orchard): ▪ During the construction phase, there will be a loss of traditional orchard HPI.	▪ All retained trees within the orchard will be protected in accordance with British Standard BS5837:2012 Trees in Relation to Construction, including the erection of	▪ The monitoring of planted vegetation to ensure it takes successfully.

Environmental Topic	Potential Impacts	Environmental Action/Mitigation	Construction Monitoring
	Parcels of retained orchard habitat withi the Scheme and immediately outside of the Scheme could be affected indirectly by dust, airborne pollution and degradation through temporary storage of construction materials during the construction phase and pollution may occur at chronic or acute levels.	robust protective fencing encompassing root protection areas. ▪ The BPM mentioned above will be employed throughout the construction phase. ▪ Measures to avoid temporary storage of construction materials adjacent to retained trees will be put in place throughout construction.	▪ A programme of monitoring will need to be undertaken by the project arboriculturalist. This may include phone/email contact, site visits and direct monitoring of sensitive works. ▪ Daily checks of tree protection fences by an appointed person. ▪ Daily checks of ground protection measures by an appointed person.
	Bats (Roosting): ▪ Habitat removal required to facilitate construction will result in the loss of six trees assessed to have moderate or high potential to support roosting bats, including: ▪ T34-35, T37-38 and T40 with moderate potential; and ▪ T39 with high potential. ▪ If bats are present at the time of works, there is a risk of direct loss of individuals through injury/mortality. ▪ Construction works will be in close proximity to Building B5 which supports a transitional roost for soprano pipistrelle and Serotine and noisy construction activities (e.g. pilling, drilling) may deter bats from using the building as a roost. ▪ During the construction phase, habitat degradation over a wider area both in	▪ All retained trees will be protected in accordance with British Standard BS5837:2012 Trees in Relation to Construction, including the erection of robust protective fencing encompassing root protection areas. ▪ The BPM mentioned above will be employed to minimise the effects of noise pollution, dust and air pollution and visual intrusion during construction. ▪ Measures to avoid temporary storage of construction materials adjacent to retained trees will be put in place throughout construction. ▪ Prior to tree removal there will be at least a 12-month time lapse between the most recent surveys (2019) and construction commencing, an updated ground level inspection will be completed to confirm the level of suitability for bat roosts to be present. This is to ensure that mitigation is	▪ The monitoring of alternative roosting opportunities. ▪ Daily checks of tree protection fences by an appointed person.

Environmental Topic	Potential Impacts	Environmental Action/Mitigation	Construction Monitoring
	terms of disturbance to retained trees and habitat fragmentation may adversely impact roosting bats. ▪ There will be limited after dark lighting during the construction phase, however there will be noise and vibration that may affect roosting bat opportunities in retained trees and buildings with potential to support roosting bats.	appropriate and based on information current at the time of works. The following approach will then be taken: • Trees assessed as having low potential to support bat roosts will be soft-felled by suitably qualified arborists, following an at-height inspection of any potential roost features to confirm the absence of roosting bats (and evidence of roosting bats). Contractors with basic bat awareness should be employed and guidance within British Standard BS8596:2015 Surveying for Bats in Trees and Woodland should be adhered to. Where it is not possible to thoroughly asses PRFs, sectional soft felling methods should be used to remove those features. As the trees are not likely to offer hibernation potential to bats, felling works should be undertaken in the winter (November – March, depending on weather conditions) where possible, when bats can reasonably be assumed to be absent. • Trees assessed as having moderate or high potential to support bat roosts will be subject to a climbing inspection to enable a thorough assessment of potential and to search for evidence indicating the presence of roosting bats. • In the event that the presence of a bat roost is highlighted at this stage, the requirement for works affecting the roost would be reconsidered to identify	

Environmental Topic	Potential Impacts	Environmental Action/Mitigation	Construction Monitoring
		whether adverse effects can be avoided. Where possible, in this scenario, proposals would be updated to enable retention and protection of the bat roost. In the event that retention is not possible, a licence would be sought from Natural England to permit works to proceed, the licence application would be subject to a detailed method statement. ▪ ~~If it is not possible to avoid disturbance effects to Building B5 via careful timings of works, then it may be necessary to obtain a licence from Natural England to permit works to proceed. Avoidance of impacts would include timing the works to take place between November – February (weather dependent) when bats are likely absent from the roost.~~ ▪ A precautionary method of works (PMoW) document to be prepared and agreed with WSCC County Ecologist prior to works in proximity to Building B5. To include (but not limited to): • Timing of works to times outside sensitive periods of bats; • Avoidance of construction lighting; • Toolbox talks to onsite contractors; and • Details for use of machinery close to the bat roost. ▪ In the unlikely event that any bats are encountered or PRF's of moderate/ high suitability for supporting roosting bats are identified during the construction phase,	

Environmental Topic	Potential Impacts	Environmental Action/Mitigation	Construction Monitoring
		felling works should cease and further professional ecological advice should be sought. ▪ New roosting opportunities in the form of bat boxes will be installed on retained mature trees in suitable locations, either within the Site itself, or within nearby land under the ownership of WSCC, prior to any trees being felled. The number of bat boxes installed will at least replicate the number of PRFs lost from the six moderate/high suitability trees (12 PRFs in total), with another five additional PRFs provided as an enhancement measure. These boxes will be sited in appropriate locations, at least 4m high and close to foraging and commuting habitat (e.g. hedgerow) under the guidance of an ecologist. ▪ Lighting during the construction phase will be kept to a minimum to avoid light spillage on retained habitat that bats will use for foraging and commuting purposes. ▪ Where lights are used, effective luminaires or other directional light accessories (shields, hoods or cowls) will be employed to ensure that light spillage, particularly onto adjacent retained habitats, particularly retained trees with bat roosting potential.	
	Bats (Foraging and Commuting): ▪ The construction phase will result in the severance of several commuting routes, including the severance of hedgerows	▪ Lighting during the construction phase will be kept to a minimum to avoid light spillage	▪ Daily checks of tree protection fences by an appointed person.

Environmental Topic	Potential Impacts	Environmental Action/Mitigation	Construction Monitoring
	and tree lines. This will result habitat degradation through the loss of areas of foraging and commuting habitat for bats. A reduction in the available foraging resource could ultimately contribute to reduced populations of bats in the local area and negatively affect the conservation status of bats. ▪ Temporary lighting associated with the construction phase which spills onto retained ecological features (e.g. retained hedgerows) or noisy construction activities (e.g. piling, drilling) during any night-time works may also deter bats from using established commuting routes or foraging resources within the Scheme.	on retained habitat that bats will use for foraging and commuting purposes. ▪ Where lights are used, effective luminaires or other directional light accessories (shields, hoods or cowls) will be employed to ensure that light spillage, particularly onto adjacent retained habitats, particularly retained trees with bat roosting potential. ▪ Measures will be taken to conserve and protect retained trees and hedgerow habitat which provides a foraging/commuting resource for bats. This will include the installation of protective fencing in line with BS5837:2012.	
	Badgers: ▪ The Scheme will result in the loss of one main sett, one subsidiary sett and a number of outlier setts. ▪ The site preparation, earthworks and construction phase of the Scheme has the potential to bring about negative effects on badgers though sett loss, habitat loss / fragmentation and potential injury / harm to individuals both within their setts and commuting and foraging across the Site.	▪ As the use of the Site by badgers changes over time, with some setts becoming inactive and new setts being created, a walkover survey will be undertaken prior to commencement of works, and the licence application being submitted. ▪ Following confirmation that badgers are using the artificial sett constructed, it will be necessary to close the setts under a licence from Natural England. A suitable mitigation strategy will need to be in place to obtain the licence and is likely to include the installation of one-way badger gates, kept in place for a minimum of 21 days, monitoring of the sett for signs of badgers entering of leaving the sett and destruction	▪ Monitoring will be required to confirm badgers have relocated to the artificial sett prior to construction. ▪ Checking for new burrows for badgers or other burrowing animals within or adjacent to the Scheme extent. ▪ Daily checks of ground protection measures by an appointed person.

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		of the sett once badgers are excluded to reduce the risk of badgers re-occupying the sett. The area will also be secured against re-entry by badgers by using heavy-gauge chain link fencing. ▪ Badgers use the wider area for foraging and commuting purposes and therefore measures need to be put in place during the construction phase to minimise effects upon badger movement and foraging activity. These measures include the following: • Fencing dangerous areas of the construction site (e.g. deep excavations) or providing a means of egress from shallow excavations; • Storage of plant and materials on areas of potential foraging habitat (e.g. retained grassland) will be avoided; • Noise reduction measures during construction (please refer to the Noise and Vibration section of this table for more information); • There will be no night works unless specifically needed, to avoid disturbance by artificial lighting; and • Where the use of lighting is unavoidable, hoods, cowls or shields will be used to avoid light spill onto setts or badger paths. ▪ For setts that are located outside the Scheme extent, to ensure they are not affected by the works, a 30m buffer around each sett (including the artificial badger	

Environmental Topic	Potential Impacts	Environmental Action/Mitigation	Construction Monitoring
		sett) in which no construction activities can take place will be clearly marked. ▪ If any potential badger setts are identified these should be checked by an ecologist prior to any clearance works to confirm their status.	
	Wintering Birds: ▪ The construction phase of the Scheme will result in the loss of suitable wintering bird habitat suitable for supporting a wintering bird community of up to Local level value, and therefore result in a reduction in the habitat available. ▪ Temporary lighting associated with the construction phase which spills onto retained ecological features (e.g. retained hedgerows) or noisy construction activities (e.g. piling, drilling) may also have a negative effect on wintering birds.	▪ The BPM mentioned above will be employed to minimise the effects of noise pollution, dust and air pollution and visual intrusion during construction. ▪ The current landscaping proposals include for a range of different habitats that will provide a foraging resource for wintering birds. This includes the creation of wet swales, woodland, orchard and scrub habitat. Plant species will include berry-bearing shrubs and trees to provide suitable foraging resource.	▪ Daily checks of tree protection fences by an appointed person.
	Breeding Birds: ▪ The construction phase of the Scheme will result in the loss of suitable habitat for breeding birds, including hedgerow, broadleaved and plantation woodland and scrub. This will result in habitat loss and degradation. A reduction in the available suitable nesting habitat could ultimately contribute to reduced populations of breeding birds in the local area and negatively affect the conservation status of an assemblage	▪ A precautionary method of works (PMoW) shall be prepared detailing timing of works and measures required to reduce disturbance effects. ▪ Suitable bird nesting habitat clearance should be undertaken outside of the bird nesting season (indicatively March to September). Where clearance of habitat is not possible outside of the breeding bird season, all areas to be affected will be checked for evidence of nesting birds by an ecologist. The check will be undertaken	▪ Daily checks of tree protection fences by an appointed person.

Environmental Topic	Potential Impacts	Environmental Action/Mitigation	Construction Monitoring
	of species considered to be of up to District level value. ▪ If construction activity occurs during the primary bird nesting season (March to August inclusive) it is highly likely that active birds' nests would be damaged or destroyed and probable young would be injured or killed during the removal of vegetation. Noisy construction works e.g piling has the potential to cause a disturbance effect on breeding birds, which could result in nest abandonment. ▪ There will also be a loss of habitat suitable for foraging barn owl during the construction phase.	a maximum of 24 hours prior to the vegetation removal taking place. ▪ If any active bird nests are discovered these will be cordoned off with a buffer of at least 5m (this may increase depending on the species, proposed works and location) where no potentially disturbing works will take place. The buffer will remain in place until the young have fledged and the nest vacated. Upon fledging, a second nesting bird check would then be undertaken to ensure the vegetation does not contain any further active nests prior to felling or removal works taking place. ▪ Measures will be taken to conserve and protect retained trees, shrub and hedgerow habitat which provide a nesting resource for birds. This will include the installation of protective fencing in line with BS5837:2012. ▪ The BPM mentioned above will be employed to minimise the effects of noise pollution, dust and air pollution and visual intrusion during construction. ▪ To mitigate for the loss of nesting opportunities across the Scheme, at least six bird boxes will be installed in suitable locations within retained habitat.	
	Reptiles: ▪ The construction phase will result in the removal of suitable habitat and therefore it is possible that there will be direct loss of animals from the population as a result of mortality and/or	▪ Should the removal of any rubble, brash or log piles be required as part of the Scheme then a precautionary methods of work (PMoW) should be employed. This is to ensure compliance with legislation and planning policy regarding small mammals	▪ Daily checks of ground protection measures by an appointed person.

Environmental Topic	Potential Impacts	Environmental Action/Mitigation	Construction Monitoring
	injury during construction works to facilitate construction. ▪ Habitat removal required during the construction phase will reduce the area of habitat available to support the reptile population present and fragment retained areas of suitable habitat; inhibiting population movement.	(including hedgehog), common reptile species and amphibian species listed as NERC priority species. ▪ It is advised that all areas of suitable habitat will be treated as potentially supporting reptiles. In all areas of suitable habitat, mitigation will entail the clearance of vegetation outside of the sensitive hibernation season (indicatively November-February inclusive, but weather dependent). ▪ Where tall herbaceous vegetation is cleared during the active season for reptiles, then it will be undertaken in two stages over at least two consecutive days and include an initial cut down to 150mm, with the second cut reducing vegetation as close as possible down to ground level in order to progressively render habitat unsuitable for reptiles. ▪ Any refugia will be dismantled by hand with all works undertaken under the supervision of a suitably qualified ecologist to minimise the risk of killing or injury to reptiles. Works will be temporarily halted if individual animals are encountered to allow the animal to disperse from the work site. ▪ Logs from felled trees are to be retained for hibernacula within the landscaped areas within the wildflower meadow.	
	Invertebrates: ▪ The construction phase could result in a direct loss of invertebrates, including	▪ Should the removal of any rubble, brash or log piles be required as part of the Scheme then a precautionary methods of work	▪ Daily checks of ground protection measures by an appointed person.

Environmental Topic	Potential Impacts	Environmental Action/Mitigation	Construction Monitoring
	stag beetle as a result of mortality and/or injury during enabling works to facilitate construction. ▪ Habitat removal required during the construction phase will reduce the area of habitat available to support invertebrate species, including stag beetle.	(PMoW) should be employed. This is to ensure compliance with legislation and planning policy regarding small mammals (including hedgehog), common reptile species and amphibian species listed as NERC priority species. ▪ Mitigation will entail the careful clearance of suitable habitat. Where any deadwood habitat is removed, this will be retained and incorporated within the areas of proposed landscaping. ▪ Careful habitat removal will also include a check of the soil around the deadwood / hedgerows to check for stag beetle larvae.	
	Other Species of Principal Importance (SPI): ▪ The construction phase could result in a direct loss of SPI, as a result of mortality and/or injury during enabling works to facilitate construction. ▪ Habitat removal required during the construction phase will reduce the area of habitat available to support invertebrate species.	▪ Should the removal of any rubble, brash or log piles be required as part of the Scheme then a precautionary methods of work (PMoW) should be employed. This is to ensure compliance with legislation and planning policy regarding small mammals (including hedgehog), common reptile species and amphibian species listed as NERC priority species. ▪ Mitigation will entail the careful clearance of suitable habitat. This will include the sensitive clearance of habitat, which will be carried out in a phase approach (as above for reptiles) and avoid the hibernation period. Where this is not possible, careful removal of log / brash piles that may support hedgehogs will be undertaken. ▪ Pre-work checks for roosting features in trees for barn owls should be conducted.	▪ Checking for new burrows for badgers or other burrowing animals within or adjacent to the Scheme extent. ▪ Daily checks of tree protection fences by an appointed person. ▪ Daily checks of ground protection measures by an appointed person.

Environmental Topic	Potential Impacts	Environmental Action/Mitigation	Construction Monitoring
Arboriculture	▪ Potential for soil compaction and root damage resulting in loss of vitality and decline in health. ▪ During the construction phase, 22 individual trees and the whole or partial removal of tree groups and four hedges will take place. Arboricultural features selected for removal are identified on the Tree Protection Plan (TPP). ▪ In addition to the individual trees lost, the total removals equate to approximately 192 linear metres of tree groups, 165 linear metres of hedge and 0.7 hectares of tree cover (groups). ▪ Moderate-quality tree group G85 is covered by TPO/BN/1/20. This means that a number of protected trees will need to be removed in order to facilitate construction. The trees to be removed are those located at the northernmost end of the group and represent only a small percentage of all protected trees. ▪ Features G98 (TPO tree T9), G98 (TPO tree T22), T25, T39 and all other retained trees whose RPA extends across the Planning Application Site Boundary may be impacted the following: • Soil compaction and root damage; • Loss of vitality and decline in health; and	▪ Refer to Tree Protection Plan which shows the location and extent of the following tree protection information: • Tree retention and removals (Root Protection Areas (RPA) shown for all retained trees); and • Tree Protection Fencing. ▪ Tree protection fencing to be specified by the Project Arboriculturalist and erected prior to works starting. Fencing to remain in situ until all construction activities are complete; ▪ There is potential for construction access to occur within the Root Protection Areas (RPAs) of retained trees. Tree protection fencing will to be installed as specified in the Arboricultural Method Statement (AMS) and Tree Protection Plan (TPP) to prevent access to the RPAs. ▪ A Pre-commencement meeting will be held between the Principal Contractor, local authority tree officer and the project arboriculturalist. The purpose of this meeting will be to ensure that all aspects of the tree protection measures are clear and understood and that any future sequencing and supervisory arrangements are agreed; ▪ Identify and agree arboricultural protection methodologies (to include task/location specific Arboricultural Method Statement) with the design team prior to construction; ▪ Provide a schedule of tree removals and pre-construction tree pruning work where necessary;	▪ Frequency of monitoring including site visits and direct monitoring of sensitive works will be determined by the intensity and proximity of works to trees and will be flexible enough to accommodate changes in the scheduling of tasks as they occur on site; and ▪ Daily checks of the tree protection fencing to check it is still in place, functioning. Any damage to be rectified immediately.

Environmental Topic	Potential Impacts	Environmental Action/Mitigation	Construction Monitoring
	• Reduction in quality of tree / potential death of tree. ▪ Subject to the installation of protective fencing, encroachment into the Root Protection Areas (RPA) of trees T9, T22, T25 and T39 will occur.	▪ Compile a programme of site monitoring and supervision; ▪ Hornbeam hedge to be protected during construction; ▪ Project arboriculturalist to maintain a record of all aspects of the arboricultural monitoring undertaken; and ▪ A semi-natural buffer of 15 x stem diameter have been applied in respect of potential veteran trees T2, T20, T23 and T42. These semi-natural buffers can be wholly retained during construction and can be robustly protected through the appropriate use of tree protection fencing.	

Appendix A

CEMP REVIEW TABLE

Table A-1 - CEMP Review Table

Review Tracker					Reviewed By	
Review period	Due Date of Review	Actual Date of Review	Sections Amended	CEMP Issue Number	Project Manager/Site Manager	Environmental Co-ordinator

Table A-2 - Environmental Legal and Other Requirements Register

Legislation/Requirement	Regulator	Application to the Scheme	Control Measures	Responsible Person	Timeframe for Review

Table A-3 - Training Undertaken

Name of Training	Details of Training	Date Undertaken

Table A-4 - Site Monitoring Sheet

Details of Complaint	Date of Complaint	Details of Resolution	Date of Resolution

Appendix B

ENVIRONMENTAL ASPECTS AND IMPACTS REGISTER

Table B-1 - Environmental Aspects and Impacts Register

Environmental Aspect			Impact Mitigation and Management Programme	
Issue	**Sensitive Receptors**	**Potential Impact**	**Mitigation Measures**	**Time Frame**

Appendix C

REGISTER OF CONSENTS, UNDERTAKINGS AND ASSURANCES

Table C-1 - Register of Consents, Undertakings and Assurances

Environmental Topic	Consent/License/Permit Type	Description	Consent Granting Body	Responsibility	Date Required	Programme Risk	Further Comments

Appendix D

EMERGENCY CONTACT DETAILS

Table D-1 - Emergency Contact Details

Name	Company	Person	Contact Number(s)	Contact Address
Contractor				
NEC Project Manager				
Site Manager				
Electricity Supplier				
Employer				
Environment Agency				
Environmental Co-ordinator				
Environmental Manager				
Ecological Clerk of Works				
Fire Service				
Gas Supplier				
Other Utilities				
Project Hotline				
Sewerage Provider				
Specialist Clean-up Contractor				
Telephone/Internet Provider				
Waste/Hazardous Waste Coordinator				
Waste Management Contractor				
Water Company				

Appendix E

GENERAL ARRANGEMENT DRAWINGS

NOTES:
1. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE STATED.
2. EARTHWORKS SIDE SLOPES ARE 1 IN 3 WHERE POSSIBLE. IN AREAS LIMITED BY BY LAND OR ENVIRONMENTAL RESTRICTIONS, STEEPER SLOPES HAVE BEEN GENERATED.

A29 FONTWELL AVENUE

LIGHTING COLUMN POSITION MAY DIFFER TO LIGHTING DRAWING DUE TO BEING ADJACENT TO EXISTING GATE ACCESS

END OF THE SHARED FOOTWAY/ CYCLEWAY AND SIGNAGE FOR CYCLIST TO DISMOUNT

CYCLIST LEAVE THE CARRIAGEWAY TO JOIN THE SHARED FOOTWAY/ CYCLEWAY

PROPOSED CLOSE BOARD FENICNG ON THE RED LINE BOUNDARY

THE EXISTING NORHERN END OF THE ACCESS ROAD, PAVEMENT BROKEN OUT AND AREA LANDSCAPED

THE NORHERN END OF THE ACCESS ROAD HAS BEEN TERMINATED TO GIVE SUFFICIENT SPACE FOR AN ARTICULATED HGV TO DRAW IN, STOP AND REVERSE INTO THE ANIMAL FEEDS CENTRE AS PER THE EXISTING VEHCILE MOVEMENT

UNCONTROLLED PEDESTRIAN CROSSING TO BE LIT

A29 FONTWELL AVENUE ROUNDABOUT

PROPOSED SUB STATION. WITH VEHICLE CROSS OVER ACCESS REFER TO DRAWING NO. A29-CAP-HPN-00-DR-C-0235

PEDESTRIAN LINK TO THE SERVICE ROAD

REFER TO THE KEY FOR THE PLANTING IN SWALE

5m VERGE WITH 4m SWALE

7.3m CARRIAGEWAY

A29 REALIGNMENT

NEW ROAD

FOR CONTINUATION SEE DRAWING A29-CAP-HPN-00-DR-C-0133

MAINTENANCE ACCESS TO BELOW GROUND INFILTRATION TANKS

SOUTHERN ACCESS TO SERVE PROPERTIES

TIE-IN TO THE EXISTING DRIVEWAY TO BE RESURFACED

CYCLIST LEAVE THE CARRIAGEWAY TO CROSS AND JOIN THE SHARED FOOTWAY/ CYCLEWAY

TIE-IN TO THE EXISTING DRIVEWAY TO BE RESURFACED

UNCONTROLLED PEDESTRIAN CROSSING TO BE LIT

PROPOSED CONSTRUCTION COMPOUND B

REFER TO THE KEY FOR THE PLANTING IN SWALE

5m VERGE WITH 4m SWALE

3m SHARED FOOTWAY / CYCLEWAY

FOOTWAY / CYCLEWAY ALIGNED TO SUIT TREE RETENTION LIMITED ENCROACHMENT INTO ROOT PROTECTION ZONE FOR EMBANKMENT

TPO 8 TREE TO BE RETAINED AND PROTECTED BY NO CONSTRUCTION BENEATH CANOPY. ROOT PROTECTION ZONE TO BE CONFIRMED.

MAINTENANCE LAYBY TO BELOW GROUND INFILTRATION TANKS

CYCLIST REJOIN THE CARRIAGEWAY, END OF THE SHARED FOOTWAY/ CYCLEWAY

EXISTING ACCESS TO FOLLY HOUSE

A29 FONTWELL AVENUE

LANDSCAPING KEY:

- REDLINE BOUNDARY
- EXISTING VEGETATION - TO BE RETAINED AS MUCH AS POSSIBLE. EXTENTS OF CLEARANCE IN THESE AREAS IS TO BE AGREED ON SITE WITH OVERSEEING ORGANISATION'S SITE SUPERVISOR
- TEMPORARY USE LAND. TO BE REINSTATED LAND BACK TO EXISTING
- TEMPORARY USE LAND. TO BE LEFT IN A TIDY STATE. NO NEED TO REINSTATE
- WOODLAND EDGE SW1 TOPSOIL 300MM - 450MM
- SCRUB SW2 TOPSOIL 300MM - 450MM
- SPECIMEN TREE SW3
- WILDFLOWER MEADOW GRASS MIX EM3 TOPSOIL 150MM
- WETLAND GRASS MIX EM8 TOPSOIL 150MM
- SUBMERGED AND FLOATING PLANTS FOR PONDS
- MARGINAL PLANTS FOR PONDS TOPSOIL 150MM
- PUBLIC RIGHT OF WAY SELF BINDING PATH GRAVEL
- WILDLIFE CROSSING
- INDICATIVE LIGHTING COLUMN WITH REFERENCE LETTER FOR THE LIGHTING UNIT TYPE (INCLUDING HEIGHT) AS SHOWN IN THE LIGHTING PLANS INCLUDED IN APENDIX 10.2 OF THE REVISED ES

- TXX TREE PRESERVATION ORDER - INDICATIVE LOCATION ONLY
- ROOT PROTECTION AREA - INDICATIVE LOCATION ONLY
- SHARED USE FOOTWAY/ CYCLEWAY BOUND SURFACE COURSE - ASPHALT CONCRETE
- FOOTWAY BOUND SURFACE COURSE - ASPHALT CONCRETE
- CARRIAGEWAY HRA SURFACE COURSE
- TRAFFIC ISLAND BOUND SURFACE COURSE - ASPHALT CONCRETE
- POND ACCESS TRACKS UNBOUND SUB BASE TYPE 1
- GRASSCRETE
- HEDGE
- CONSTRUCTION EXCLUSION ZONE - WHEREBY AVOID VEGETATION STRIP ALL TOGETHER AND CONSTRUCTION WORKS ACCESS IS EXCLUDED
- RESTRICTED WORKING ZONE - WHEREBY EXISTING VEGETATION IS ONLY STRIPPED WHERE ABSOLUTELY NECESSARY. WORKS WITHIN THESE AREAS TO BE SUBJECT TO TASK/ LOCATION SPECIFIC ARBORICULTURAL METHOD STATEMENT. THE AMS FOR EACH TO BE DEVELOPED DURING CONSTRUCTION PLANNING. THE WORK METHODOLOGY IS TO BE AGREED WITH THE ECoW/ ARBORICULTURIST. TREE PROTECTION FENCING REQUIREMENTS TO THESE AREAS TO BE AGREED WITH ARBORICULTURIST AND ECoW on site.

FENCING KEY:

- PROPOSED POST AND THREE RAIL MCHW H15 AND HEDGE.
- 3.0m ACOUSTIC FENCING REFER TO DRG A29-CAP-HPN-00-DR-C-0183 AND 0184 FOR DETAILS. CLIMBING PLANTS ON WEST SIDE.
- GATE REFER TO MCHW H17
  GATE NO.1 WIDTH 4.5M, HEIGHT 1.175M
  GATE NO.2 WIDTH 4.5M, HEIGHT 1.175M
  GATE NO.3 WIDTH 4.5M, HEIGHT 1.175M
- FT1 BADGER MESH FENCING, TO COMPLY TO MCHW H46 MESH TO BE BURIED 300MM DEEP AND RETURNED 300MM AND FIXED TO POST AND THREE RAIL FENCE. THE FENCING TO EXTEND AS SHOWN ON THE PLAN EITHER SIDE OF THE WILDLIFE CROSSING POINT
- PROPOSED POST AND THREE RAIL MCHW H15
- PROPOSED CLOSE BOARD FENCE PANELS TO MATCH EXISTING
- PROPOSED FENCING - HALO SITE CLOSE BOARD FENCE PANELS WITH GREEN MESH SECURITY FENCE TO MATCH EXISTING HALO FENCING.
- EXISTING FENCING - HALO SITE 1.8M CLOSE BOARD FENCE PANELS INC GRAVEL BOARD WITH 2.4M CENTRE OF CONCRETE POSTS
  2.3M GREEN MESH SECURITY FENCE PANELS WITH 3.3M CENTRE OF GREEN METAL POST. SUPPLIER PROCTER - PRO-MESH PANEL FENCING SYSTEMS

SWALE PLANTING PLAN
10NO. SALIX ALBA VAR. VITELLINA 'BRITZENSIS'
ROOT BARRIER EACH SIDE OF FILTER DRAIN
25NO. FILIPENDULA ULMARIA (MEADOW SWEET) AND 25NO. PURPLE LOOSESTRIFE (LYTHRUM SALICARIA) EACH SIDE

10m 0 10m 20m 30m 40m
1:500

Location Key Plan (Not to Scale)

Rev	Drwn	Chkd	Appd	Description	Date
P07	KS	KS	AB	KEY AMENDED AND LABELS ADDED	23.04.21
P06	JD	KS	AB	REDLINE BOUNDARY UPDATED, LANDSCAPING AND FENCING DETAILS ADDED	01.04.21
P05	LR	KS	AB	LABELS AMENDED	21:10:20
P04	LR	KS	AB	HIGHWAY LAYOUT AND REDLINE BOUNDARY UPDATED	16:10:20
P03	PD	KS	AB	KEY UPDATED	03:09:20
P02	LR	KS	AB	LABELS ADDED / AMENDED	28.08.20
P01	PD	DAH	KS	FIRST ISSUE	12.06.20

Purpose of Issue
For Planning S0

Classification
Public

Client
West Sussex County Council
Jackson

Project
A29 Realignment Scheme

Drawing
Site Plan
Sheet 1 of 5

Scale @ A1	Drawn	Checked	Approved
1:500	PD	DAH	KS

Project No. CS099505
Date 12.06.20

Drawing Identifier (Project - Originator - Zone - Level - File Type - Role - Number): A29-CAP-HPN-00-DR-C-0132
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