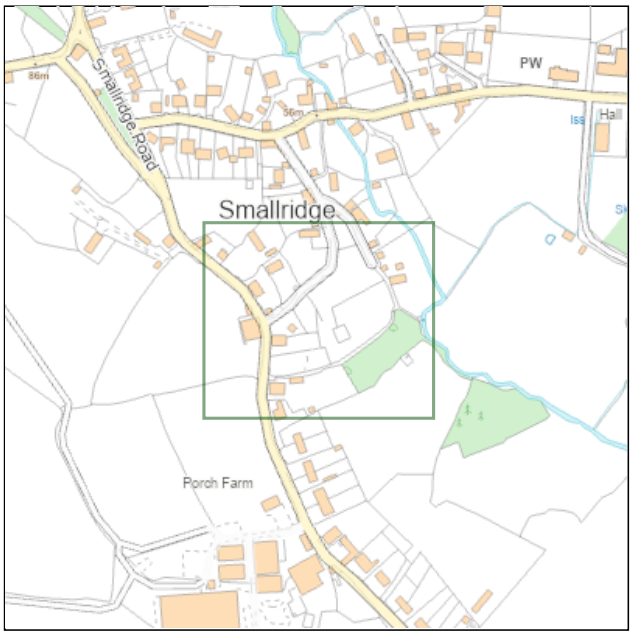
Ward Yarty

Reference 25/2454/OUT

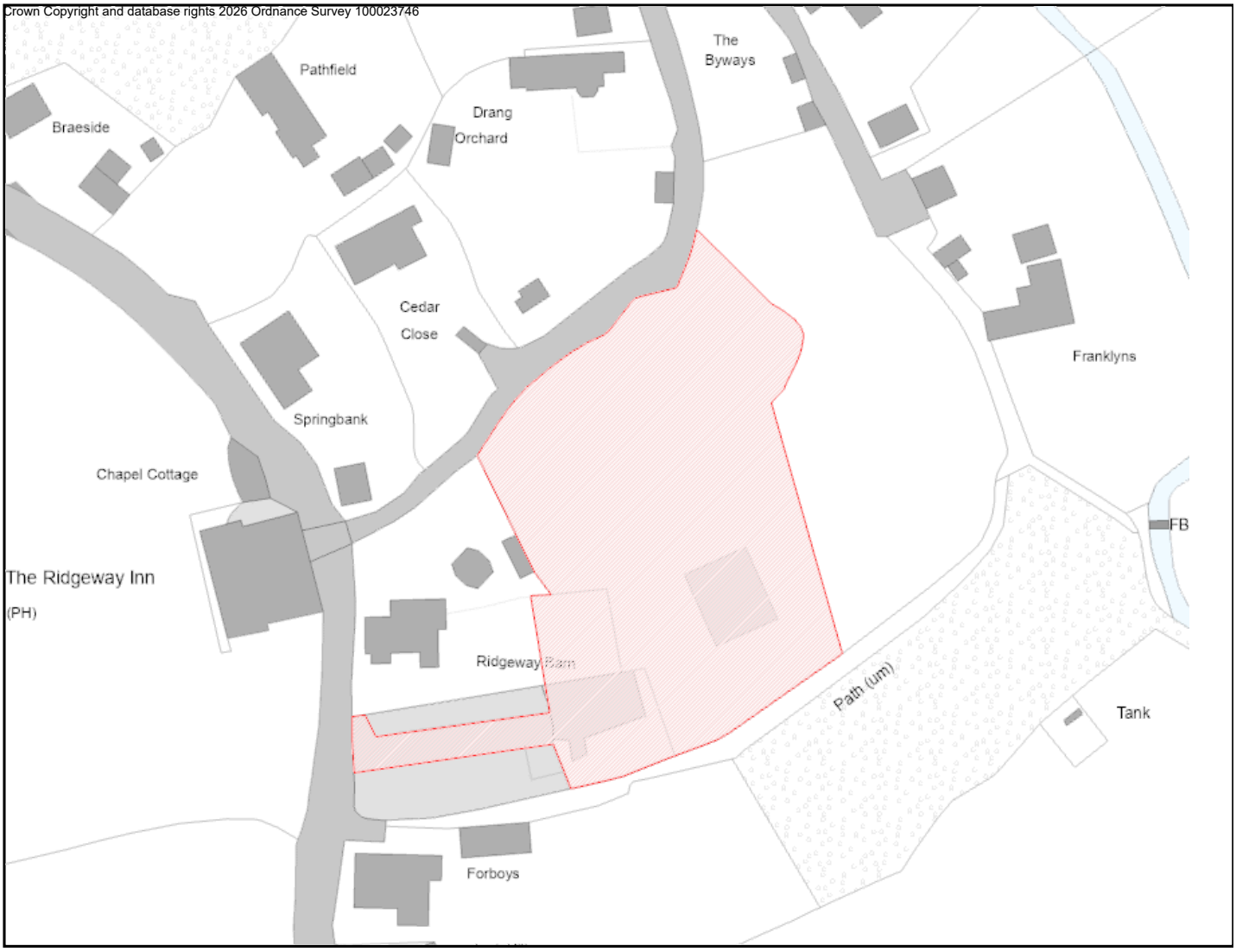
Applicant James Regnard (Concept 360)

Location Land Opposite Ridgeway Inn Smallridge

Proposal Outline planning permission for five dwellings, all matters reserved apart from access



RECOMMENDATION: Adopt the Appropriate Assessment and Approve with conditions and a S106 agreement to secure BNG and nutrient mitigation measures.



		Committee Date: 21.04.2026	
Yarty (All Saints)	**25/2454/OUT**		**Target Date: 30.01.2026**
Applicant:	**James Regnard (Concept 360)**		
Location:	**Land Opposite Ridgeway Inn**		
Proposal:	**Outline planning permission for five dwellings, all matters reserved apart from access**		

RECOMMENDATION: **Adopt the Appropriate Assessment and Approve with conditions and a S106 agreement to secure BNG and nutrient mitigation measures.**

EXECUTIVE SUMMARY

This application seeks outline permission for five dwellings with access for determination. It is before the Planning Committee because the proposal represents a departure from the Local Plan and the Ward Member has objected.

The main issue concerns the location of the site outside any Built-up Area Boundary, meaning the scheme conflicts with Strategies 1, 2 and 7, which direct new housing toward sustainable settlements. Smallridge has limited facilities and no public transport provision, and therefore cannot meet the plan's expectations for accessibility. These factors weigh against the development.

However, as set out in the report, the site is not entirely without locational merit. Several key village services, including the primary school, church, village hall and public house, are within walking or cycling distance, and many day-to-day trips to Axminster are relatively short. In a rural context, where the NPPF recognises that opportunities for sustainable travel are more limited, this provides some mitigation to the accessibility concerns.

Given the Council's housing land supply position (around 3.5 years), the tilted balance in paragraph 11(d) of the NPPF applies. The proposal has therefore been assessed against the Framework as a whole. The report concludes that, although policy conflict and accessibility limitations carry weight, the site can accommodate development without unacceptable impacts on landscape, heritage, ecology, trees, drainage, amenity or highway safety, subject to appropriate mitigation. The contribution to housing supply and other benefits are considered to outweigh the identified harms.

Accordingly, the recommendation is that outline planning permission should be granted.

CONSULTATIONS

Local Consultations

DCC Axminster Division – Cllr Paul Hayward
Whilst this application is not in my EDDC ward (being a Yarty ward application), I wish to comment in my capacity as the Devon County Councillor for Axminster division which includes All Saints parish. For the purpose of transparency, I was also the Clerk of the Parish Council when this application last came before the Council for consideration and comment.

The notion that routine day-to-day car access to the site is possible via Pub Lane is simply ridiculous, without adding in the need for refuse deliveries, emergency vehicles, delivery vehicles, larger HGV type traffic and suchlike.

The access from Smallridge is similarly poor. The estate traffic would discharge onto Smallridge Road via an uphill slope through a private car park, meeting two-way traffic on a narrow almost single track rural lane, whilst having to accelerate to counter the uphill slope, whilst also edging into traffic for which visibility would be almost impossible given the residential property (and hedges) to the left of the exit point (Forboys) and the fencing and telegraph pole to the right.

There are multiple other reasons that the development of this site is not practicable or sensible and this is why the Parish Council and local residents have campaigned against the site build-out for over a decade; however, on the grounds of highway safety (both to existing villagers and potential new residents) I believe (as the current elected DCC member with local responsibility for roads and highways) that this application should be refused.

Yarty - Cllr Duncan Mackinder
10/01/2026
I agree with the many detailed objections raised by local residents and the All Saints Parish Council and therefore recommend this application be REFUSED.

I believe the most important reasons to refuse this application are the it fails to meet the requirements of the following strategies and policies from the East Devon Local Plan, namely

- Strategy 7 'Development in the Countryside' (Smallridge is an 'unsustainable' village with no BAUB so requiring application to conform to requirements of Strategy 7)
- Policy TC7 "Adequacy of Local Road Network and Site Access', access to plots 2, 3 & 4 is via Pub Lane is very narrow with poor surface and only entrance to Pub Lane via the junction with School Lane is severely constricted. Access for emergency vehicles such as fire engines is unlikely to be possible. Access to plots 1 & 5 is via the existing Ridgeway Inn car park which reduces usable parking which is turn will force patrons of the Ridgeway

Inn to attempt to find parking elsewhere on roads which are single track with no suitable parking places.

The location lies within the Axe SAC and thus the application must demonstrate nutrient neutrality. The proposed treatment plant can only assure such neutrality if properly maintained by all future owners of the properties something which will be hard to enforce.

13/02/2026
Could the planning officer ask County Highways clarify the comment they made on 11 Feb 2026 as it reads as through the entire site access will be via the public house carpark. The document labelled INDICATIVE SITE shows clearly there are two totally separate site access points. Access to Plot 1 and Plot 5 will be via the public house carpark, whereas access to Plots 2, 3 and 4 will be via Pub Lane. The document labelled TRANSPORT STATEMENT describes access points in para 1.1.3 I) and ii) (end of page 1 and top of page 2). The last sentence of 1.1.3 i) states 'There is not envisaged to be any vehicular linkages between the two sites internally,' and is repeated again in 3.2.1 and 3.2.2 on page 7 in which para 3.2.2 states 'There is not proposed to be any vehicular linkages between the two parts of the site due to the level difference, and also to ensure that there is no unnecessary traffic passing through the site.'. It is therefore critical that highways assess the suitability for vehicles, cyclists and pedestrians comprising 3/5 of the traffic volume expected for the whole development to occur via Pub Lane and out past The Old Post Office. Note the end of Pub Lane by the Ridgeway Inn is too steep and narrow for vehicles and thus only usable by pedestrians as a site visit will confirm.

Parish/Town Council
The Parish Council does not support this application for the following reasons:-

During the Public Forum at our Ordinary Meeting on 6th January 2026, a number of concerns were raised by residents, particularly those who live in the area surrounding the proposed development. These include:-

- Inaccuracies on the plans in relation to adjoining properties boundaries.
- Inaccuracies in relation to Land Registry.
- Pub Lane at the top and at the bottom are not viable access routes.
- Construction vehicle access to the site and construction noise.
- Sewage and water treatment issues.
- Design and non-affordability.
- Impact on the village in relation to extra traffic.
- Impact on the area in relation to water leaks, already a major problem in that area and would be exacerbated by heavy machinery.
- Environment impact on natural water courses during construction.
- Access for waste removal and emergency vehicles is not viable.
- Natural England ban on all new builds until 2030 in relation to nitrates in the Axe River.
- More considered information is required with regard to this application.

Other Representations
20 Representations raise the following principal concerns:

- Highway safety and access: Pub Lane is described as too narrow, poorly surfaced and unsafe for refuse trucks, emergency vehicles, construction traffic or additional daily vehicle movements; visibility at the Smallridge Road access is also considered inadequate. Increased traffic is said to endanger pedestrians due to the absence of footways.
- Flooding and drainage: Objectors cite existing springs, surface-water problems and poorly maintained watercourses, with fears that additional hard surfacing and foul drainage infrastructure could increase flood risk to neighbouring properties and the nearby stream/River Axe.
- Environmental and ecological impacts: Concerns include alleged premature site clearance, presence of protected species (slow worms, bats, buzzards), invasive species (Japanese knotweed and Himalayan balsam), and risks to wildlife habitats and adjacent watercourses.
- Landscape, character and design: The dwellings are considered too large, urban in appearance, and out of keeping with the small-scale, linear village pattern; concerns also raised about loss of tranquillity and visual intrusion.
- Heritage: Several objectors argue that the development would harm the setting, privacy and outlook of the adjacent Grade II listed Franklyns.
- Amenity: Fears of overlooking, overbearing massing, loss of privacy, construction noise and disruption, and impacts on neighbouring holiday accommodation.
- Loss of affordable housing: Many note that earlier permissions for the site included affordable dwellings, and express disappointment that the current proposal does not.
- Accuracy of submitted plans and process concerns: Some objectors dispute boundary accuracy, access rights, or land registry details, and raise issues regarding inconsistent consultation dates and missing documents.

Technical Consultations

County Highway Authority
11/02/2026
I have visited the site and reviewed the planning application documents.

A similar planning application has been approved on the site previously, 13/0923/OUT, although not enacted, the trip generation will be similar.

Furthermore, the site has the former use of the public house car park, which would have also produced a similar trip generation, therefore in reflection of guidance policy, the National Planning Policy Framework (NPPF) would not present a highway severity reason for refusal.

TRICS® data also reinforces this point, with a trip generation estimation of 44 return trips in a 12-hour period, equating to less than 4 trips in an hour.

The existing access is to be utilised. Our recorded collision data, a running 5-year period, currently January 2020 - December 2025, shows no collisions within this vicinity, therefore I am satisfied that a Highway safety issue also is not present.

I do recommend that secure cycle storage per dwelling is provided to help encourage sustainable travel, especially to the local school, parish hall and church and help mitigate vehicle trip generation.

I also recommend that a Construction and Environment Management Plan (CEMP) is produced in order to minimise the effects of construction upon the local highway network.

11/03/2026
I am the Highway Development Management officer who attended the site and can confirm I viewed both proposed access points, I did reference the historic application (13/0923/OUT) for the same number of dwellings, which highlights two separate points of access and was aware that there are two separate points of vehicular access in question for this application.

The difference between the two applications is that for this latest application 3 dwellings would be served off Pub Lane and 2 from the existing pub car park (the previous application was the reverse).

I have given consideration to what the access off Pub Lane is also already accommodating and have confirmed that refuse vehicles are already serving residential dwellings along this road and have stated that an additional dwelling and the associated daily vehicular movements using the Pub Lane access/junction would not give sufficient reason to object to the proposed development. According to our records, there are no recent recorded accidents associated with the accesses in question, which also supports my decision not to recommend refusal.

<u>EDDC Trees</u>
The application is for outline application with all matters reserved apart from access. The application includes indicative site plans and is supported by a tree survey by Jack Pine Tree LTD which includes a TCP and AIA. The information indicates that the proposal will not have a significant impact on any important trees, which in the main appear to be located on neighbouring land with only minor crown overhang of the site. Small low value trees will require removal and some of the hedges are recommended to be pruned to facilitate the proposal. Tree loss can be mitigated with suitable replacement planting.

Therefore in principle I do not object to the proposal. Detailed matters can be dealt with at reserved matters.

<u>Conservation</u>
The Conservation Officer advises that the site forms part of an open area contributing to the wider setting of two nearby Grade II listed buildings — Franklyn's to the east and All Saints Church to the west. The openness of the land allows longer views between these assets and contributes to their significance.

Under the statutory duty in Section 16(2) of the Planning (Listed Buildings and Conservation Areas) Act 1990 and relevant NPPF guidance, great weight must be given to the conservation of designated heritage assets. The Officer concludes that the proposed development, due to its location, scale and suburban character, would

erode the existing open setting and result in a low level of less than substantial harm to the significance of Franklyn's, with no clear heritage benefits.

This harm must therefore be weighed against the scheme's public benefits in the overall planning balance. The Conservation Officer objects on heritage grounds.

Devon County Archaeologist
Historic mapping shows a former dwelling ("House and Orchard") on the site, recorded in 1838 and likely with earlier origins, demolished in the early 20th century. Groundworks for the development therefore have potential to expose or destroy archaeological deposits relating to this former dwelling or earlier activity.

To safeguard the archaeological resource, the Historic Environment Team advises that a Written Scheme of Investigation (WSI) should be submitted, setting out a programme of archaeological work. If this is not provided before determination, any permission should include a pre-commencement condition requiring approval and implementation of a WSI.

They also recommend a further pre-occupation condition to secure completion of post-excavation analysis, reporting, publication and archive deposition.

The envisaged work would comprise archaeological supervision of topsoil stripping and ground reduction, with investigation and recording of any deposits encountered. A full report and archive deposition would then be required. The Team is available to advise the applicant further if needed.

Blackdown Hill National Landscapes
Having viewed the detail of this proposal online and in view of the location, setting and previous similar permission on this site, we do not wish to comment on this occasion, and look to the planning authority to apply national planning policy and its own development plan policies to the consideration of this proposal.

PLANNING HISTORY

Reference	Description	Decision	Date
13/0923/OUT	Outline consent for construction of 5 no dwellings (including 3 no affordable units) and associated access (details of access and layout to be considered)	Approval with conditions	07.11.2013

16/2317/RES	Application for reserved matters pursuant to outline consent 13/0923/OUT, details of appearance, landscaping and scale to be considered; 5 no. dwellings including 3 no. affordable dwellings	Approval with conditions	12.04.2017

POLICIES

Adopted East Devon Local Plan 2013-2031 Policies
Strategy 1 (Spatial Strategy for Development in East Devon) Adopted
Strategy 2 (Scale and Distribution of Residential Development) Adopted
Strategy 3 (Sustainable Development) Adopted
Strategy 5B (Sustainable Transport) Adopted
Strategy 7 (Development in the Countryside) Adopted
Strategy 46 (Landscape Conservation and Enhancement and AONBs) Adopted
Strategy 47 (Nature Conservation and Geology) Adopted
Strategy 48 (Local Distinctiveness in the Built Environment) Adopted
D1 (Design and Local Distinctiveness) Adopted
D3 (Trees and Development Sites) Adopted
EN5 (Wildlife Habitats and Features) Adopted
EN7 (Proposals Affecting Sites which may potentially be of Archaeological Importance) Adopted
EN9 (Development Affecting a Designated Heritage Asset) Adopted
EN14 (Control of Pollution) Adopted
EN22 (Surface Run-Off Implications of New Development) Adopted
TC2 (Accessibility of New Development) Adopted
TC7 (Adequacy of Road Network and Site Access) Adopted
TC9 (Parking Provision in New Development) Adopted

Draft East Devon Local Plan 2020-2042 Policies
Strategic Policy SP01 (Spatial strategy) Draft
Strategic Policy SP03 (Housing requirement by Designated Neighbourhood Area) Draft
Strategic Policy SP06 (Development beyond Settlement Boundaries) Draft
Strategic Policy CC02 (Moving toward Net-zero carbon development) Draft
Strategic Policy AR01 (Flooding) Draft
Strategic Policy AR02 (Water efficiency) Draft
Policy HN04 (Accessible and adaptable Housing) Draft
Strategic Policy DS01 (Design and local distinctiveness) Draft
Policy DS02 (Housing density and efficient use of land) Draft
Strategic Policy TR01 (Prioritising walking, wheeling, cycling, and public transport) Draft
Policy TR04 (Parking standards) Draft
Policy TR06 (Digital connectivity) Draft
Strategic Policy OL01 (Landscape features) Draft
Strategic Policy OL02 (National Landscapes (Areas of Outstanding Natural Beauty)) Draft

Policy OL09 (Control of pollution) Draft
Strategic Policy PB01 (Protection of internationally and nationally important wildlife sites) Draft
Strategic Policy PB04 (Habitats Regulations Assessment) Draft
Strategic Policy PB05 (Biodiversity Net Gain) Draft
Policy PB07 (Ecological enhancement and biodiversity in the built environment) Draft
Policy PB08 (Tree, hedges and woodland on development sites) Draft
Policy PB09 (Monitoring requirements for new planting scheme) Draft
Policy OS02 (Sport, recreation and open space provision in association with development) Draft
Policy HE02 (Listed buildings) Draft
Policy HE04 (Archaeology and Scheduled Monuments) Draft

Government Planning Documents
National Planning Policy Framework 2024 (as amended)
National Planning Practice Guidance

Other Guidance
All Saints Parish Plan and Village Design Statement (July 2005)

Site Location and Description

The site extends to approximately 0.36 hectares and comprises a mix of previously developed land, including remnants of former structures, with lower areas historically in agricultural use. It is served by two existing access points: one from Smallridge Road through the Ridgeway Restaurant car park, and another from Pub Lane to the north. The land slopes steeply from west to east and is enclosed on three sides by surrounding development within the village.

The site lies outside, but on the edge of, the Blackdown Hills National Landscape and falls within Flood Zone 1. It is also within the catchment of the River Axe Special Area of Conservation. Nearby designated heritage assets include the Grade II listed Methodist Chapel on Smallridge Road and Franklyn's to the east. The site is not within a conservation area, and there are no tree preservation orders within the boundary.

ANALYSIS

Proposed Development

The application seeks outline permission for five dwellings, with access for consideration at this stage and all other matters reserved. The scheme would utilise two existing access points: one from Smallridge Road via the Ridgeway Restaurant car park, and a second from Pub Lane. Indicative plans show five detached, two-storey houses with associated parking and garden areas. The layout suggests removal of low-quality trees within the centre of the site, while boundary trees and hedgerows would be retained.

Background

Earlier outline and reserved matters permissions for five dwellings on this site have now lapsed. However, they remain a material consideration, demonstrating that the site has previously been judged capable of accommodating five dwellings and that the two proposed access points are acceptable in principle. Unlike the earlier approval, the current proposal comprises entirely market housing.

Main Issues

1. Principle
2. Accessibility
3. Character and Landscape
4. Heritage
5. Highways and Parking
6. Amenity
7. Nutrient Neutrality

Principle

Smallridge does not have a Built-up Area Boundary, meaning the site is classed as countryside for the purposes of Strategy 7 of the Local Plan. Consequently, open-market housing in this location conflicts with Strategies 1, 2 and 7. The Council's most recent housing land supply position, however, shows only around 3.5 years of supply. This activates paragraph 11(d) of the NPPF, which states that the most important policies for determining the application are to be treated as out of date and that the "tilted balance" is engaged.

Paragraph 11(d) requires decision-makers to consider whether the proposal should be approved when assessed against the policies of the Framework taken as a whole, with particular regard to policies seeking to direct development to sustainable locations, to make effective use of land, to secure well-designed places and to provide affordable homes, individually or in combination.

The NPPF also identifies specific circumstances in which the tilted balance does not apply, including where policies protecting designated heritage assets or habitats sites provide a clear reason for refusal. Whether such circumstances arise in this case, particularly in respect of nearby listed buildings and the River Axe SAC, is addressed later in the report. In accordance with paragraph 12 of the NPPF, the statutory starting point remains the development plan, and the proposal clearly conflicts with Strategies 1, 2 and 7. The principle of development must therefore be considered in the context of this policy conflict, alongside the operation of paragraph 11(d) and all other relevant material considerations.

Accessibility

Smallridge contains several local facilities, including a primary school, church, village hall and a restaurant/public house, all within walking or cycling distance of the site via existing village lanes. Although the lanes do not benefit from street lighting or continuous footways, they are short, lightly trafficked and provide informal refuge points. In a rural context, this means that local amenities remain reasonably accessible by non-car modes, consistent with Strategy 5B, which seeks to promote

sustainable travel opportunities, including walking and cycling, wherever these can realistically be achieved.

Wider services in Axminster, such as the secondary school, GP surgery, railway station and supermarkets, lie approximately 0.9 to 2.2 miles from the site. Many daily journeys are therefore likely to be relatively short. While private car use will remain the main mode of travel, the NPPF acknowledges that the scope for sustainable transport solutions in rural areas is inherently more limited than in urban settings and that development should nonetheless exploit the opportunities available. Paragraph 83 of the NPPF also recognises that rural housing can support the vitality of local communities and help sustain services in neighbouring settlements.

Policy TC2 (Accessibility of New Development) requires proposals to be accessible by pedestrians, cyclists and public transport, and to minimise the need to travel by car. In this case, the presence of several day-to-day services within walking and cycling distance means that the development can achieve a degree of compliance with TC2, and the provision of secure cycle storage (as recommended by the Local Highway Authority) will further assist in encouraging sustainable travel choices.

However, Smallridge is not identified as a sustainable settlement in the emerging Local Plan because it does not contain the number or range of facilities required for a Built-up Area Boundary. The village is also not served by public transport. These factors mean that the settlement cannot be regarded as highly accessible in policy terms and that reliance on the private car will remain significant.

Overall, therefore, while the proposal benefits from walkable access to key village amenities and relatively short car journeys to Axminster, the absence of public transport and the village's position outside the settlement hierarchy weigh against the scheme to some degree. Notwithstanding this, the proposal still performs reasonably well against Strategy 5B and Policy TC2 insofar as can be expected in a rural location, particularly given the low level of trip generation associated with five dwellings and the opportunities for local walking and cycling trips.

Character and Landscape

The site lies outside any Built-up Area Boundary and therefore falls within the open countryside for the purposes of Strategy 7 (Development in the Countryside). Strategy 7 permits development only where it is explicitly supported by a Local or Neighbourhood Plan policy and where it would not harm the distinctive landscape, amenity or environmental qualities of the area, including landform, settlement pattern, traditional field boundaries and important public views. Although this application is for outline consent, with layout, scale, appearance and landscaping reserved, the site's landscape context and sensitivity remain key considerations.

The land forms part of the wider setting of the Blackdown Hills National Landscape and is experienced in close association with it. Public rights of way run along three sides of the site, allowing filtered views through existing hedgerows. There are also views from Pub Lane, and longer-range but tree-filtered views from the vicinity of All Saints Church, where the site is seen in the context of existing built form. These

visual connections require careful design to avoid adverse disruption of views or visual intrusions contrary to Strategy 7.

Strategy 46 (Landscape Conservation and Enhancement and AONBs) requires development to conserve and enhance the natural and historic landscape character of East Devon, including areas affecting the National Landscapes, and to avoid undermining landscape quality. Great weight must be given to conserving the natural beauty of the National Landscape. In this case, the site's relative containment within a shallow valley, together with the ability to retain and reinforce existing hedgerows, provides a basis on which visual effects can be moderated. Subject to design considerations at reserved matters stage, development would not undermine the landscape qualities valued within the National Landscape setting.

The All Saints Parish Plan and Village Design Statement (VDS) further emphasises the importance of traditional landscape features - hedgerows, small fields, rural lanes - and seeks to maintain the loose-knit, informal settlement pattern, avoiding suburbanising layouts. It also highlights the need for modest building scales, traditional vernacular materials, varied building lines and the retention of key boundary features. These principles echo Strategy 48 (Local Distinctiveness in the Built Environment), which places strong emphasis on respecting local forms, materials and design traditions, and using Village Design Statements as guidance in shaping development.

In addition, Policy D1 (Design and Local Distinctiveness) requires proposals to respect the key characteristics and special qualities of their surroundings, ensure scale and massing relate well to context, protect important topographical and landscape features, and secure high quality, locally distinctive design. It also requires development to avoid adverse effects on landscape character, trees, settlement form, views and residential amenity.

Having regard to the relevant policies and guidance, the introduction of built form on the site would inevitably alter its immediate character. However, the indicative plans show that a sensitively designed scheme reflecting the informal settlement pattern, the site's subtle topography and the area's rural vernacular could assimilate into the landscape without causing unacceptable harm. At reserved matters stage, detailed control over building height, massing, materials and landscaping would enable a scheme that conserves local character, reinforces hedgerow boundaries and protects key views, in accordance with Strategies 7, 46 and 48 and Policy D1, and consistent with the landscape and design expectations of the Local Plan and Village Design Statement.

Heritage

The nearest listed buildings are Franklyns (Grade II), located immediately east of the site, and the Methodist Chapel (Grade II) on Smallridge Road. The proposal has the potential to affect the setting of Franklyns in particular. Section 66(1) of the Planning (Listed Buildings and Conservation Areas) Act 1990 requires the Council to have special regard to the desirability of preserving the setting and significance of listed buildings.

Franklyns derives the majority of its significance from its vernacular architectural form and historic fabric. Its rural setting contributes positively to its character, reinforcing the traditional, dispersed settlement pattern and providing an appreciation of its historic origins. The application site currently forms part of this wider rural context and allows some degree of intervisibility between Franklyns and the rising land to the east, including the area around All Saints Church.

The Conservation Officer considers that the introduction of five dwellings, even at outline stage, would result in a low level of less than substantial harm to the setting of Franklyns. This arises from the change to the existing undeveloped character of the site and the perceived encroachment of built form into an area that contributes to the asset's rural surroundings. While this conclusion is noted, the principal significance of Franklyns lies in its built form and vernacular character rather than in long or commanding views, and the contribution of the site to its wider setting, while appreciable, is not fundamental to understanding the building's historic or architectural interest.

Under NPPF paragraphs 212–215, great weight must be given to the conservation of designated heritage assets, and any harm, whether substantial or less than substantial, must be clearly and convincingly justified. Where harm is less than substantial, paragraph 215 requires that it be weighed against the public benefits of the proposal.

Policy EN9 (Development Affecting a Designated Heritage Asset) similarly requires that substantial harm or total loss of significance should only be permitted in exceptional circumstances, and that any less than substantial harm must be weighed against the public benefits of the proposal, including securing its optimum viable use.

The proposal would deliver public benefits, notably in contributing to the district's housing supply. As layout, scale, appearance and landscaping are reserved matters, the detailed design would be subject to further scrutiny, allowing opportunities to secure a sensitive form of development that respects the listed building's setting. Measures such as reinforcing hedgerows, controlling building heights, and using locally appropriate materials would help moderate visual impacts and maintain the rural character of the surroundings.

Taking these matters together, and applying the policy tests in NPPF paragraph 215 and Policy EN9, the low level of less than substantial harm identified is judged to be outweighed by the public benefits of the proposal. Subject to careful design at reserved matters stage, the development is considered acceptable in heritage terms.

Highways and Parking

The application is supported by a Transport Statement (TS) which provides an assessment of the anticipated traffic generation and the suitability of the two proposed access points. Trip-rate modelling using the TRICS database indicates that the development would generate approximately four two-way movements in each peak hour and around 44 two-way movements over a 12-hour day, representing a *de minimis* level of impact on the local and wider highway network. This scale of traffic generation is comparable to the previously approved scheme (13/0923/OUT).

Access to Plots 1 and 5 would utilise the existing access through the Ridgeway Inn car park onto Smallridge Road. Access to Plots 2, 3 and 4 would be taken from Pub Lane, a narrow rural lane already serving a number of existing dwellings. The Transport Statement confirms that there is no proposed internal vehicular linkage between the two parts of the site, reflecting level differences and minimising unnecessary traffic movements within the development.

The Local Highway Authority (LHA) has visited the site and reviewed the submitted information. It notes the historic approval on the site for the same number of dwellings and concludes that trip generation would be similar. The LHA's collision data (2020–2025) identifies no recorded accidents in the vicinity of either access, and the authority is satisfied that neither access arrangement would give rise to an unacceptable highway safety risk. While acknowledging the constraints of Pub Lane, the LHA observes that it already accommodates refuse and delivery vehicles serving existing properties. It concludes that the additional movements associated with three further dwellings would not be sufficient to justify refusal on highway grounds. The LHA therefore raises no objection, subject to conditions including the provision of secure cycle storage and the submission of a Construction Management Plan.

Policy TC7 (Adequacy of Road Network and Site Access) requires that development should not result in detriment to the safe and satisfactory operation of the highway network and that any necessary off-site improvements can be secured. In this case, the LHA's professional advice confirms that the development would not give rise to severe residual impacts, nor would it compromise highway safety. No off-site improvement works are deemed necessary. The proposal therefore complies with the requirements of TC7.

Policy TC9 (Parking Provision in New Development) requires at least two parking spaces for dwellings with two or more bedrooms and the provision of secure cycle storage. The indicative layout demonstrates that each dwelling can be served by an appropriate level of on-plot parking in accordance with TC9, with full details to be secured at reserved matters stage. The LHA's recommended condition for cycle storage will ensure adequate provision for sustainable travel.

The Ward Member and Parish Council raise concerns regarding the suitability of Pub Lane as an access for three of the proposed dwellings, including its width, surface condition, use for emergency vehicles, and the potential for increased traffic through the constrained junction with School Lane. They also reference parking pressures associated with the Ridgeway Inn. These concerns are noted and reflect long-standing local issues. However, the LHA has specifically considered both access points, viewed the local network on site, and confirmed that the modest trip generation would not materially worsen conditions or significantly increase risks. While access to Plots 1 and 5 would be taken through the Ridgeway Inn's existing car park, the current application does not remove or reconfigure any of the pub's existing parking spaces, nor would it result in any further reduction compared with the situation that has evolved over the past decade as areas of land have become private parking. As such, the proposal would have no impact on the amount of parking available to the Ridgeway Inn.

On the basis of the Transport Statement and the formal advice of the Local Highway Authority, it is concluded that the proposal would not result in an unacceptable impact on highway safety or give rise to a severe residual cumulative impact, consistent with paragraph 116 of the NPPF. Subject to appropriate conditions, the development complies with Local Plan policies TC7 and TC9.

Amenity

Given the outline nature of the application, with layout, scale and appearance reserved for later consideration, the key issue at this stage is whether a scheme could be designed that would protect the amenity of both neighbouring residents and future occupiers. The site adjoins Ridgeway Barn to the west, with other dwellings positioned at greater distances. The indicative layout demonstrates that meaningful separation from Ridgeway Barn and other existing properties can be achieved, and that any concerns relating to overlooking, loss of light, or overbearing impact can be addressed through detailed design at the reserved matters stage. It is also material that a comparable scheme was approved in 2016 (ref. 16/2317/RES), confirming that five dwellings can be accommodated on the site in a manner that preserves neighbour amenity.

Concerns have been raised regarding potential overlooking, window numbers, balconies and the perceived scale of the dwellings when viewed from Franklyns. These matters relate to appearance, layout and detailed design, all of which are reserved for future consideration. The outline application does not fix the final built form, and full assessment of massing, window placement, privacy relationships and visual impact on the listed building's setting will take place at the reserved matters stage, where the Council will retain full design control.

In relation to future occupiers, the indicative plans show that each dwelling would benefit from a private garden and that adequate spacing between units can be achieved to ensure a good standard of outlook, privacy and natural light. Detailed internal layouts will be assessed at reserved matters stage, at which point the Nationally Described Space Standard will be applied to ensure that all dwellings provide acceptable levels of internal space, storage, and functional living arrangements. Policy D1 (Design and Local Distinctiveness) requires development to safeguard the amenity of both existing and future residents, and to ensure that buildings are designed and arranged to avoid harm arising from issues such as loss of privacy, overshadowing or poor living conditions. On the basis of the above, and given the flexibility available at reserved matters stage, it is considered that a scheme can be delivered which would comply with Policy D1 and would provide an acceptable standard of amenity for all residents.

Nutrient Neutrality

The application site lies within the hydrological catchment of the River Axe Special Area of Conservation (SAC), a designated European site that is in an unfavourable condition due to elevated phosphorus levels. In line with the Conservation of Habitats and Species Regulations 2017 (as amended), the Council, as Competent Authority, is required to undertake a Habitats Regulations Assessment (HRA) to

determine whether the proposal, either alone or in combination with other plans or projects, would adversely affect the integrity of the River Axe SAC.

The Council has undertaken a Stage 1 Screening and subsequently a Stage 2 Appropriate Assessment, which identifies that the proposed development, in its unmitigated form, would give rise to a phosphorus surplus and therefore has the potential to result in a Likely Significant Effect. In accordance with relevant guidance, including the Council's published nutrient neutrality advice for the River Axe, the applicant has submitted a Nutrient Neutrality Assessment and Mitigation Strategy (NNAMS).

The NNAMS demonstrates that nutrient neutrality can be achieved through a combination of:

- installation of an August AT Oval Package Treatment Plant fitted with a PhosClear phosphorus-removal filter, reducing treated effluent to approximately 0.0438 mg/l TP,
- a multi-stage SuDS treatment train, including rainwater harvesting, permeable paving, SPEL filtration, vegetated interception zones and gravel traps, delivering substantial phosphorus removal in surface water, and
- long-term maintenance and operational requirements secured by a legal agreement.

In considering foul drainage, Policy EN19 (Adequacy of Foul Sewers and Sewage Treatment Systems) is relevant. The policy requires that new development is not permitted unless a suitable foul sewage treatment system of adequate capacity and design is available, or will be provided in time to serve the development. It also requires that private treatment systems are only accepted where ground conditions and plot size are adequate to accommodate them. In this case, the proposed package treatment plant, its associated phosphorus-removal unit, and the secured maintenance regime provide a foul drainage solution of sufficient capacity and technical robustness to satisfy the requirements of EN19.

With regard to surface water, Policy EN22 (Surface Run-Off Implications of New Development) requires that run-off implications are fully considered, that appropriate remedial and maintenance measures are secured for the lifetime of the development, and that where off-site measures are necessary, the developer is able to secure them. The proposed SuDS strategy, including attenuation, permeable surfacing and filtration, ensures that surface water discharge will not exceed greenfield rates and that ongoing maintenance can be secured, thereby complying with EN22.

The Appropriate Assessment concludes that, with these measures secured, the development would result in an overall net betterment of phosphorus loading (-0.08 kg TP/year) and therefore no adverse effect on the integrity of the River Axe SAC would occur.

Natural England has been consulted on the Appropriate Assessment as required under Regulation 63. Natural England confirms that it has reviewed the assessment, concurs with its conclusions, and advises that the Council may be satisfied that

adverse effects on site integrity can be ruled out, provided that all mitigation measures are fully secured in any planning permission granted.

These measures will therefore be secured by appropriately worded planning conditions, requiring the installation, operation and long-term maintenance of the foul water treatment system and full SuDS treatment train prior to first occupation, in accordance with CIRIA C753/C808 guidance and the manufacturer's specifications. The development must be implemented exactly as assessed to ensure nutrient neutrality is maintained for the lifetime of the scheme.

Representations refer to existing springs, boggy ground conditions and localised flooding affecting properties downslope. However, the surface water management proposed, when detailed at reserved matters stage and secured through conditions, will ensure that runoff does not exceed greenfield rates and that no worsening of existing drainage conditions occurs, in line with Policy EN22.

Having regard to the submitted NNAMS, the completed Appropriate Assessment, Natural England's agreement, and the requirements of Policies EN19 and EN22, together with the Council's nutrient neutrality guidance for the River Axe catchment, it is concluded that the proposal will not adversely affect the integrity of the River Axe SAC and therefore satisfies the requirements of the Habitats Regulations and relevant national and local policy.

Other Matters

Biodiversity Net Gain - A statutory Biodiversity Net Gain (BNG) Assessment has been submitted using the Statutory Biodiversity Metric (July 2025), covering both the development site and adjacent land within the applicant's ownership. Baseline habitats consist mainly of bramble scrub, sparsely vegetated ground and a small individual tree, alongside several species-rich hedgerows, all of which have been surveyed and assessed in accordance with UKHab methodology. No irreplaceable habitats are present and all hedgerows, including those of very high distinctiveness, will be retained outside residential curtilage.

To address unavoidable habitat loss, the BNG Strategy proposes a combination of on-site creation, including 0.0377ha of Other Neutral Grassland and four new native trees, and off-site enhancement within adjoining land, including 0.1ha of grassland enhanced to good condition, 0.147ha of mixed scrub creation, and 0.05km of new species-rich hedgerow. These works will be secured and managed for at least 30 years through an appropriate management plan.

The combined on-site and off-site measures deliver a net gain of +17.63% Area Units and +16.16% Hedgerow Units, exceeding the 10% statutory requirement and meeting all trading rules. Additional species-specific enhancements (bat and bird boxes, bee bricks, log piles and hedgehog access) are also proposed, though outside the metric.

Subject to conditions securing delivery and long-term management of the BNG measures, the proposal is acceptable in BNG terms.

Ecology - A suite of ecological reports has been submitted, including a Preliminary Ecological Appraisal, reptile survey, bat activity surveys and a Biodiversity Net Gain (BNG) assessment, all of which provide a proportionate level of information for a site of this scale. The site consists mainly of unmanaged bramble scrub and ruderal vegetation, with a series of species-rich hedgerows forming the principal ecological features. All boundary hedgerows are to be retained, maintaining ecological connectivity in accordance with Strategy 47 and Policy EN5. The reptile survey identified a small, spatially confined low-level population of slow-worms, for which avoidance-led, supervised clearance methods are sufficient. Bat activity surveys recorded only light foraging and commuting by common pipistrelle, soprano pipistrelle, noctule and brown long-eared bat, with no roosting features identified on site and no anticipated loss of key commuting habitat given hedgerow retention and a commitment to sensitive lighting. The PEA confirms that nesting birds, hedgehog and common amphibians may use the site and that standard seasonal safeguards and precautionary working practices will adequately address these risks; it also identifies Japanese knotweed and Himalayan balsam, both of which require standard invasive species management protocols.

One objector raised concerns about a supposed “biodiversity deadlock,” claiming that the presence of both slow-worms and Japanese knotweed in the northern part of the site would make lawful mitigation impossible. The applicant has provided a detailed rebuttal demonstrating that no such conflict exists. Non-intrusive herbicide-based knotweed treatment methods, such as stem injection, do not involve ground disturbance and therefore do not risk spreading the plant, while reptile mitigation for a low-density population does not rely on strimming or mechanical clearance and can instead follow an avoidance-based approach under ecological supervision. These measures can be implemented concurrently within a Construction Environmental Management Plan and an Invasive Species Management Plan, both of which are routinely used on sites with overlapping biosecurity and ecological considerations. There is therefore no technical basis for concluding that mitigation is unachievable or that the presence of knotweed prevents lawful reptile safeguards from being implemented.

The proposal incorporates biodiversity enhancements such as bat boxes, bird boxes, bee bricks, hedgehog connectivity measures and insect features. Overall, subject to conditions securing species safeguards, invasive species control, hedgerow protection and sensitive lighting, the development is considered to comply with Strategy 47 and Policy EN5, and no outstanding ecological issues remain.

Trees - An Arboricultural Impact Assessment (AIA) has been submitted which identifies that the site contains mainly low-category boundary trees and hedgerow specimens, with two higher-value A1 trees (T19 and T20) located within neighbouring land, including a protected oak (TPO 97/0014/TPO). The AIA confirms that the development will require the removal of several low-value trees (G13, T16, T17 and T34), with minor pruning to hedgerows and adjacent trees needed to facilitate access and ensure construction clearance. These works are limited in scope and will not affect any important or protected trees.

The Tree Protection Plan sets out appropriate measures to safeguard retained trees and an Arboricultural Method Statement will be secured to address detailed grading, service routing and protection measures as required.

The Council's Tree Officer notes that the proposal will not have a significant impact on any important trees, that the majority of affected vegetation is low-value, and that any losses can be mitigated through replacement planting. They raise no objection in principle, with detailed matters appropriately deferred to the reserved matters stage. Overall, the development is consistent with Policy D3, as it retains higher-value trees, avoids impacts on protected trees, provides for suitable tree protection before, during and after construction, and allows for replacement planting to ensure no net loss of tree quality.

Construction impacts - Concerns relating to construction-phase impacts - including vibration affecting nearby older buildings, safeguarding of culverts and underground utilities, temporary construction vehicle routing, management of heavy plant within constrained lanes, and controls to prevent mud and debris being deposited on the highway - are noted. These matters fall within the scope of the Construction Traffic and Environmental Management Plan (CTEMP), which will be required by condition. The CTEMP will ensure that detailed construction logistics and vehicle controls are agreed with the Local Planning Authority prior to commencement.

Planning Balance and Conclusion

The proposal conflicts with Strategies 1, 2 and 7 of the Local Plan, as the site lies in the countryside outside any Built-up Area Boundary. This weighs against the development and remains an important consideration. However, the Council can currently demonstrate only around 3.5 years of deliverable housing land supply, meaning that the "tilted balance" in paragraph 11(d) of the NPPF is engaged and the most important policies for determining the application are to be treated as out of date. In these circumstances, planning permission should be granted unless the adverse impacts of doing so would significantly and demonstrably outweigh the benefits when assessed against the NPPF as a whole, or unless specific Framework policies indicate refusal.

An earlier outline permission on the site included three affordable dwellings, but that scheme has lapsed. The current application is not presented as a rural exception site and therefore does not qualify for an affordable housing-led approach. Instead, the proposal stands to be considered on its merits within the context of the Council's substantial housing land supply shortfall. The delivery of five additional market dwellings therefore carries meaningful weight.

While the countryside location and limited public transport availability count against the scheme, the site is not wholly without locational merit. Several day-to-day facilities within Smallridge, including the primary school, church, village hall and public house, are accessible on foot or by cycle, and many journeys to Axminster are relatively short. The NPPF recognises that opportunities for sustainable travel are inherently more limited in rural areas, and that rural housing can play an important role in supporting local services and community vitality.

Balanced against the identified harms are a number of benefits. The proposal would contribute to housing supply, generate economic activity during construction, support local services, and provide long-term economic uplift through household expenditure. Environmental benefits include measurable Biodiversity Net Gain, ecological enhancement measures and a comprehensive nutrient-neutrality strategy which secures a small net betterment in phosphorus loading to the River Axe SAC. Subject to the recommended conditions, no unacceptable impacts have been identified in relation to landscape character, the setting of the Blackdown Hills National Landscape, highway safety, residential amenity or the water environment. The low level of less-than-substantial heritage harm identified to the setting of Franklyns is judged to be outweighed by the public benefits of housing delivery.

Taking all matters into account, and applying the tilted balance, the policy conflict and limited accessibility do not significantly and demonstrably outweigh the cumulative benefits of the development when assessed against the NPPF as a whole. The proposal therefore satisfies the tests of sustainable development set out in the Framework, and the presumption in favour of sustainable development indicates that planning permission should be granted.

RECOMMENDATION

ADOPT the Appropriate Assessment

and

APPROVE subject to a S106 agreement to secure BNG and nutrient mitigation measures and the following conditions:

1. Details of the appearance, landscaping, layout, and scale ("the reserved matters") shall be submitted to and approved in writing by the local planning authority before any development takes place and the development shall be carried out as approved.
   (Reason - The application is in outline with one or more matters reserved.)

2. Application for approval of the reserved matters shall be made to the local planning authority not later than three years from the date of this permission.
   (Reason - To comply with section 92 of the Town and Country Planning Act 1990 as amended.)

3. The development hereby permitted shall take place not later than two years from the date of approval of the last of the reserved matters to be approved.
   (Reason - To comply with section 92 of the Town and Country Planning Act 1990 as amended.)

4. No dwelling shall be occupied until the approved vehicular access serving that dwelling has been constructed and made available for use in accordance with approved drawing No. ST03A. The western access from Smallridge Road shall serve no more than two dwellings, and the northern access from Pub Lane shall serve no more than three dwellings. No internal vehicular connection shall be provided between the two accesses within the site. For the avoidance of doubt,

all other aspects of the site layout shown on the submitted plans are considered indicative only.
(Reason - In the interests of highway safety in accordance with Policy TC7 - Adequacy of Road Network and Site Access of the Adopted East Devon Local Plan 2013-2031.)

5. No development shall commence until a Construction Management Plan (CMP) has been submitted to and approved in writing by the Local Planning Authority. The CMP shall include the following information:
a) A timetable of the works;
b) Daily hours of construction;
c) Details of any proposed road closures;
d) Hours during which delivery and construction traffic will travel to and from the site, with all such vehicular movements restricted to 08:00-18:00 Monday to Friday and 09:00-13:00 Saturdays, with no movements on Sundays or Bank/Public Holidays unless previously agreed in writing by the Local Planning Authority;
e) The number, size and frequency of vehicles visiting the site in connection with the development;
f) The location of the construction compound and areas for the storage of all building materials, products, parts, crates, packing materials and waste;
g) Details of on-site loading/unloading areas for construction traffic, together with confirmation that no construction or delivery vehicles will park on the public highway for loading or unloading unless otherwise agreed in writing by the Local Planning Authority;
h) Hours during which no construction traffic will be present at the site;
i) Details of the means of enclosure and security of the site during the construction period;
j) Proposals to promote car-sharing amongst construction staff to minimise off-site parking;
k) Details of wheel-cleaning/washing facilities and related obligations;
l) The proposed routeing of all construction traffic exceeding 7.5 tonnes;
m) Details of the amount and location of construction worker parking;
n) Photographic evidence of the condition of the adjacent public highway prior to commencement of any work.
The development shall be carried out strictly in accordance with the approved CMP for the duration of the construction period.
(Reason - A pre-commencement condition is required to ensure that adequate facilities are available for construction and other traffic attracted to the site in accordance with Policy TC7 - Adequacy of Road Network and Site Access of the Adopted East Devon Local Plan 2013-2031.)

6. No development shall commence until a Habitat Management and Monitoring Plan (HMMP), prepared in accordance with the approved Biodiversity Gain Plan, has been submitted to and approved in writing by the Local Planning Authority. The HMMP shall include:
a) a non-technical summary;
b) details of the roles and responsibilities of the persons or organisations responsible for delivering the HMMP;

c) details of the planned habitat creation and enhancement works required to achieve the approved biodiversity net gain;
d) management measures for the ongoing maintenance of the created and/or enhanced habitats for a period of 30 years from the completion of development; and
e) the monitoring methodology and frequency for all created or enhanced habitats.

The Local Planning Authority shall be notified in writing when:
a) the approved HMMP has been implemented; and
b) all habitat creation and enhancement works identified within the HMMP have been completed.

No occupation shall take place until:
a) all habitat creation and enhancement works set out in the approved HMMP have been completed; and
b) a completion report—evidencing the approved habitat creation and enhancement works—has been submitted to and approved in writing by the Local Planning Authority.

The created and/or enhanced habitats shall be managed and maintained thereafter in full accordance with the approved HMMP for a period of 30 years from the completion of development.

Monitoring reports shall be submitted to the Local Planning Authority in writing in accordance with the monitoring methodology and frequency set out in the approved HMMP.

(Reason - To ensure the development delivers the required measurable biodiversity net gain in accordance with Schedule 7A of the Town and Country Planning Act 1990.)

7. Before any development commences details of final finished floor levels and finished ground levels in relation to a fixed datum shall be submitted to and approved in writing by the Local Planning Authority. Development shall be carried out in accordance with the approved details.
(Reason - A pre-commencement condition is required to ensure that adequate details of levels are available and considered at an early stage in the interest of the character and appearance of the locality in accordance with Policy D1 - Design and Local Distinctiveness of the Adopted East Devon Local Plan 2013-2031.)

8. No development shall take place until the developer has secured the implementation of a programme of archaeological work in accordance with a written scheme of investigation (WSI) which has been submitted to and approved in writing by the Local Planning Authority. The development shall be carried out at all times in accordance with the approved scheme as agreed in writing by the Local Planning Authority.
(Reason - To ensure, in accordance with Policy EN6 - Nationally and Locally Important Archaeological Sites of the Adopted East Devon Local Plan 2013-

2031 and paragraph 218 of the National Planning Policy Framework (2024), that an appropriate record is made of archaeological evidence that may be affected by the development. This pre-commencement condition is required to ensure that the archaeological works are agreed and implemented prior to any disturbance of archaeological deposits by the commencement of preparatory and/or construction works.)

9. (a) Prior to the commencement of any works on site (including demolition and site clearance or tree works), a scheme for the protection of the retained trees, hedges and shrubs shall be produced in accordance with the principles embodied in BS5837 :2012, which provides for the retention and protection of trees, shrubs and hedges growing on or adjacent to the site, [including trees which are the subject of a Tree Preservation Order currently in force], shall be submitted to and approved in writing by the Local Planning Authority. No development or other operations shall take place except in complete accordance with the approved protection scheme.

   (b) No operations shall be undertaken on site in connection with the development hereby approved (including any tree felling, tree pruning, demolition works, soil moving, temporary access construction and / or widening or any operations involving the use of motorised vehicles or construction machinery) until the protection works required by the approved protection scheme are in place.

   (c) No excavations for services, storage of materials or machinery, parking of vehicles, deposit or excavation of soil or rubble, lighting of fires or disposal of liquids shall take place within any area designated as being fenced off or otherwise protected in the approved protection scheme.

   (d) Protective fencing shall be retained intact for the full duration of the development hereby approved and shall not be removed or repositioned without the prior written approval of the Local Planning Authority.

   (Reason - A pre-commencement condition is required to ensure retention and protection of trees on the site during and after construction. The condition is required in the interests of amenity and to preserve and enhance the character and appearance of the area in accordance with Policies D1 - Design and Local Distinctiveness and D3 - Trees and Development Sites of the Adopted East Devon Local Plan 2013-2031.)

10. No development shall commence until a detailed Foul Water Drainage Strategy has been submitted to and approved in writing by the Local Planning Authority. The strategy shall be fully compliant with, and shall demonstrate performance equal to or exceeding, the measures and mitigation set out in the Nutrient Neutrality Assessment and Mitigation Strategy (Enviren, 09/02/2026) and the Drainage Strategy and Water Quality Assessment (Enviren, 09/02/2026).

    The submitted details shall include:
    Arrangements for foul water collection, conveyance and discharge;

Evidence that foul drainage design will not exceed the nutrient loading levels assessed within the approved Nutrient Neutrality Assessment;
Measures to prevent any deterioration in receiving watercourses or groundwater quality; and
A management, monitoring and maintenance plan for the lifetime of the development.

The development shall thereafter be carried out, implemented, and maintained in full accordance with the approved foul water drainage strategy.
(Reason - To ensure adequate foul drainage, safeguard water quality and secure nutrient neutrality in accordance with Policy EN19 - Adequacy of Foul Sewers and Adequacy of Sewage Treatment Systems of the Adopted East Devon Local Plan 2013-2031.)

11. No development shall commence until a detailed Surface Water Drainage Strategy, incorporating Sustainable Drainage Systems (SuDS), has been submitted to and approved in writing by the Local Planning Authority. The strategy shall be fully compliant with, and shall demonstrate performance equal to or exceeding, the design principles and standards contained in the Nutrient Neutrality Assessment and Mitigation Strategy (Enviren, 09/02/2026) and the Drainage Strategy and Water Quality Assessment (Enviren, 09/02/2026).

    The strategy shall include:
    A detailed SuDS design incorporating porous paving, rainwater harvesting, attenuation, flow control and water-quality filtration;
    Evidence that surface water discharge rates will be restricted to greenfield run-off rates for all storm events up to and including the 1 in 100 year event plus climate-change allowance;
    Water-quality protection measures to avoid deterioration of receiving watercourses or groundwater; and
    A long-term management and maintenance plan for all SuDS components.

    The development shall thereafter be carried out, implemented, and maintained in full accordance with the approved surface water drainage strategy.
    (Reason - To ensure sustainable surface water management, protect water quality and mitigate flood risk in accordance with Policy EN22 - Surface Run-Off Implications of New Development of the Adopted East Devon Local Plan 2013-2031.)

12. Reserved Matters applications shall be accompanied by an Ecological Update Report. The Report shall:

    Review the validity of the Preliminary Ecological Appraisal (BN Ecology, 2025), the Reptile Survey Report (ROAVR Group, 19/09/2025), and the Bat Survey Report (ROAVR Group, 19/09/2025);
    Confirm whether site conditions or species presence/use have changed; and
    Provide updated ecological surveys and revised mitigation, compensation and enhancement measures where any original survey is more than 24 months old or otherwise no longer reliable.

The development shall be carried out in full accordance with the avoidance, mitigation, compensation and enhancement measures set out in the most up-to-date ecological documents specified within the Ecological Update Report.
(Reason - To ensure ecological information is current at reserved matters stage and in the interests of wildlife conservation and enhancement, in accordance with the Policy EN5 - Wildlife Habitats and Features of the Adopted East Devon Local Plan 2013-2031.)

13. No development above foundation level shall take place until details of secure, covered cycle and scooter storage facilities for each dwelling have been submitted to and approved in writing by the Local Planning Authority. The approved storage serving each individual dwelling shall be fully installed prior to the occupation of that dwelling and shall thereafter be retained for its intended purpose.
(Reason - To promote sustainable travel in accordance with Policy TC9 - Parking Provision in New Development of the Adopted East Devon Local Plan 2013-2031.)

14. The Biodiversity Gain Plan shall be prepared in accordance with the Biodiversity Net Gain report dated October 2025 and prepared by BN Ecology Ltd.
(Reason - To ensure that the development delivers the required measurable Biodiversity Net Gain in accordance with the submitted Biodiversity Net Gain report and the requirements of the Environment Act 2021.)

15. The landscaping details to be submitted as part of the landscaping reserved matter required under Condition 1 of this outline planning permission shall include the following:

    Soft Landscaping Details
    o Detailed soft landscaping layouts for all public areas, including any soft landscaping within private plots that front the public realm.
    o A planting specification including plant species, planting sizes, densities, planting matrices (where relevant), numbers of each species, and implementation notes.
    o Sections (minimum of two) demonstrating how the proposed landscape integrates with existing site levels and the surrounding context, where significant level changes are proposed.

    Hard Landscaping Details
    o Detailed layouts of all hard landscape elements, including paths and any areas of hard surfacing on plot frontages.
    o A material specification for all hard landscape works.
    o Details of all proposed walls, fences and other hard or soft boundary treatments.
    o Construction details for tree pits and/or Devon bank features.

    Levels
    o Proposed site levels across all landscape areas and interfaces with existing ground levels.

Implementation and Maintenance
o A schedule for the implementation of the landscaping scheme.
o A management and maintenance schedule for a minimum of five years following completion.

The approved landscaping scheme shall be implemented in the first planting season following completion of the groundworks and the building construction works, or prior to first occupation of the development (whichever is the earlier), unless otherwise agreed in writing by the Local Planning Authority. The scheme shall thereafter be maintained in accordance with the approved management schedule. Any trees or plants that die, are removed or become seriously damaged or diseased within the five-year maintenance period shall be replaced in the next planting season with specimens of the same size and species unless otherwise agreed in writing by the Local Planning Authority.
(Reason - In the interests of amenity and to preserve and enhance the character and appearance of the area, in accordance with Strategy 46 - Landscape Conservation and Enhancement and AONBs and Policy D2 - Landscape Requirements of the East Devon Local Plan 2013-2031.)

16. No dwelling hereby permitted shall be occupied until the post investigation assessment has been completed in accordance with the approved Written Scheme of Investigation. The provision made for analysis, publication and dissemination of results, and archive deposition, shall be confirmed in writing to, and approved by, the Local Planning Authority.
(Reason - To comply with Policy EN6 - Nationally and Locally Important Archaeological Sites of the Adopted East Devon Local Plan 2013-2031 and Paragraph 218 of the National Planning Policy Framework (2024), which requires the developer to record and advance understanding of the significance of heritage assets, and to ensure that the information gathered becomes publicly accessible.)

NOTE FOR APPLICANT

Informative:
In accordance with the requirements of Article 35 of the Town and Country Planning (Development Management Procedure) (England) Order 2015 in determining this application, East Devon District Council has worked positively with the applicant to ensure that all relevant planning concerns have been appropriately resolved.

Biodiversity Net Gain Informative:
Paragraph 13 of Schedule 7A to the Town and Country Planning Act 1990 means that this planning permission is deemed to have been granted subject to "the biodiversity gain condition" (BG condition).

The Local Planning Authority cannot add this condition directly to this notice as the condition has already been applied by law. This informative is to explain how the biodiversity condition applies to your development.

The BG conditions states that **development may not begin unless**:

(a) a Biodiversity Gain Plan (BG plan) has been submitted to the planning authority, and
(b) the planning authority has approved the BG plan.

In this case the planning authority you must submit the BG Plan to is East Devon District Council.
There are some exemptions and transitional arrangements which mean that the biodiversity gain condition does not always apply. These are listed below.

Based on the information available this permission is considered to be one which will require the approval of a biodiversity gain plan before development is begun because none of the statutory exemptions or transitional arrangements listed below are considered to apply.

Statutory exemptions and transitional arrangements in respect of the biodiversity gain condition.

1. The application for planning permission was made before 12 February 2024.

2. The planning permission relates to development to which section 73A of the Town and Country Planning Act 1990 applies (planning permission for development already carried out).

3. The planning permission was granted on an application made under section 73 of the Town and Country Planning Act 1990 and

(i) the original planning permission to which the section 73 planning permission relates was granted before 12 February 2024; or

(ii) the application for the original planning permission* to which the section 73 planning permission relates was made before 12 February 2024.

4. The permission which has been granted is for development which is exempt being:

4.1 Development which is not 'major development' (within the meaning of article 2(1) of the Town and Country Planning (Development Management Procedure) (England) Order 2015) where:

i) the application for planning permission was made before 2 April 2024;

ii) planning permission is granted which has effect before 2 April 2024; or

iii) planning permission is granted on an application made under section 73 of the Town and Country Planning Act 1990 where the original permission to which the section 73 permission relates* was exempt by virtue of (i) or (ii).

4.2 Development below the de minimis threshold, meaning development which:

i) does not impact an onsite priority habitat (a habitat specified in a list published under section 41 of the Natural Environment and Rural Communities Act 2006); and

ii) impacts less than 25 square metres of onsite habitat that has biodiversity value greater than zero and less than 5 metres in length of onsite linear habitat (as defined in the statutory metric).

4.3 Development which is subject of a householder application within the meaning of article 2(1) of the Town and Country Planning (Development Management Procedure) (England) Order 2015. A "householder application" means an application for planning permission for development for an existing dwellinghouse, or development within the curtilage of such a dwellinghouse for any purpose incidental to the enjoyment of the dwellinghouse which is not an application for change of use or an application to change the number of dwellings in a building.

4.4 Development of a biodiversity gain site, meaning development which is undertaken solely or mainly for the purpose of fulfilling, in whole or in part, the Biodiversity Gain Planning condition which applies in relation to another development, (no account is to be taken of any facility for the public to access or to use the site for educational or recreational purposes, if that access or use is permitted without the payment of a fee).

4.5 Self and Custom Build Development, meaning development which:

i) consists of no more than 9 dwellings;

ii) is carried out on a site which has an area no larger than 0.5 hectares; and

iii) consists exclusively of dwellings which are self-build or custom housebuilding (as defined in section 1(A1) of the Self-build and Custom Housebuilding Act 2015).

Irreplaceable habitat

If the onsite habitat includes irreplaceable habitat (within the meaning of the Biodiversity Gain Requirements (Irreplaceable Habitat) Regulations 2024) there are additional requirements for the content and approval of Biodiversity Gain Plans.

The Biodiversity Gain Plan must include, in addition to information about steps taken or to be taken to minimise any adverse effect of the development on the habitat, information on arrangements for compensation for any impact the development has on the biodiversity of the irreplaceable habitat.

The planning authority can only approve a Biodiversity Gain Plan if satisfied that the adverse effect of the development on the biodiversity of the irreplaceable habitat is minimised and appropriate arrangements have been made for the purpose of compensating for any impact which do not include the use of biodiversity credits.

Where there are losses or deterioration to irreplaceable habitats a bespoke compensation package needs to be agreed with the planning authority, in addition to the Biodiversity Gain Plan.

For information on how to prepare and submit a Biodiversity Gain Plan please use the following link: Submit a biodiversity gain plan - GOV.UK (www.gov.uk)

Plans relating to this application:

ST03A : indicative site	Other Plans	05.12.25
ST04 A	Location Plan	01.12.25

List of Background Papers
Application file, consultations and policy documents referred to in the report.

Statement on Human Rights and Equality Issues

Human Rights Act:
The development has been assessed against the provisions of the Human Rights Act 1998, and in particular Article 1 of the First Protocol and Article 8 of the Act itself. This Act gives further effect to the rights included in the European Convention on Human Rights. In arriving at this recommendation, due regard has been given to the applicant's reasonable development rights and expectations which have been balanced and weighed against the wider community interests, as expressed through third party interests / the Development Plan and Central Government Guidance.

Equality Act:
In arriving at this recommendation, due regard has been given to the provisions of the Equality Act 2010, particularly the Public Sector Equality Duty and Section 149. The Equality Act 2010 requires public bodies to have due regard to the need to eliminate discrimination, advance equality of opportunity and foster good relations between different people when carrying out their activities. Protected characteristics are age, disability, gender reassignment, pregnancy and maternity, race/ethnicity, religion or belief (or lack of), sex and sexual orientation.

The Conservation of Habitats and Species Regulations 2017 – Regulation 63 – Habitats Regulations Assessment	East Devon District Council

Stage 1: Habitats Regulations Assessment - Screening of likely significant effect on a European site	
Part A: The proposal	
1. Type of permission/ activity	Outline planning permission for five dwellings, all matters reserved apart from access
2. Application reference no	25/2454/OUT
3. Site address	Land opposite Ridgeway Inn, Smallridge, Axminster
4. Brief description of proposal	Outline planning permission for five dwellings, all matters reserved apart from access

Part B: The European site(s)	
5. European site name(s), and 6. Qualifying Features	**River Axe Special Area of Conservation (SAC).** The Qualifying Features for the River Axe SAC are: • H3260 Water courses of plain to montane levels with *R. fluitantis* • S1095 Sea lamprey, *Petromyzon marinus* • S1096 Brook lamprey, *Lampetra planeri* • S1163 Bullhead, *Cottus gobio* The Conservation objectives of the River Axe SAC are: Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring; • The extent and distribution of qualifying natural habitats and habitats of qualifying species • The structure and function (including typical species) of qualifying natural habitats • The structure and function of the habitats of qualifying species • The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely • The populations of qualifying species, and, • The distribution of qualifying species within the site. The Conservation Objectives for the River Axe SAC state that 'the natural nutrient regime of the river should be protected, with any anthropogenic enrichment above natural/background concentrations should be limited to levels at which adverse effects on characteristic biodiversity are unlikely'.

7. Ecological survey results for the application site	Ecological surveys confirm that the site comprises mainly dense bramble scrub and unmanaged vegetation with species-rich boundary hedgerows. A low but breeding population of slow-worm was recorded in localised areas of the site during targeted reptile surveys (multiple age classes detected). Bat activity surveys recorded light foraging and commuting use by several species (Common and Soprano Pipistrelle, Brown Long-eared, and Noctule), with no roosts identified and only negligible roost potential in the small on-site structure. The PEA found no evidence of badger, dormouse, otter, water vole or great crested newt, with only occasional use by common amphibians and hedgehog considered possible. Habitat for nesting birds is present within hedgerows and scrub, and invasive species (Himalayan balsam and Japanese knotweed) were recorded on site. Sources: Preliminary Ecological Appraisal, BN Ecology Ltd, 2025 Nocturnal Emergence Bat Surveys, Roavr Group, 19/09/2025 Reptile Survey Report, Roavr Group, 19/09/2025

Part C: Screening assessment for likely significant effect	
8. Is this application necessary to the management of the site for nature conservation?	No. The proposal is not required for the conservation management of the River Axe SAC.
9. The identified ways in which the Qualifying Features of the European site could be affected by the proposal	**Degradation or changes to water quality resulting from increased nutrients entering watercourses which are hydrologically linked to the SAC** The occurrence of excessive nutrients in the waterbody can impact on the competitive interactions between high plant species and between higher plant species and algae, which can result in a dominance in attached forms of algae, and a loss of characteristic plant species. Changes in plant growth and community composition can have implications for the wider food web, and the species present. Increased nutrients and the occurrence of eutrophication can also impact on the dissolved oxygen levels in the waterbody, also impacting on biota within the river. Recent water quality measurements for the River Axe within the SAC show phosphorus concentrations to be exceeding the targets for all units. Any nutrients entering the catchment upstream of the locations which are exceeding their nutrient targets, will make their way downstream and have the potential to further add to the current exceedance. Hence the catchment map for the River Axe includes the entire catchment upstream. The key sources of phosphorous, commonly assessed in the form of phosphates, derive from diffuse water pollution (such as agricultural leaching) and point discharges (such as from sewage effluent) within the catchment.

10. Assessment of risks without avoidance or reduction measures	Without mitigation, the proposed development would: • Generate phosphorus through foul water discharges from five dwellings. NNAMS identifies 0.32 kg TP/yr from foul water. • Decrease phosphorus export through land use change from shrub/commercial land to residential with SUDS (net change -0.1 kg TP/yr). • Lead to a total annual phosphorus load to mitigate of 0.27 kg TP/yr, including a 20% buffer. Without mitigation, a Likely Significant Effect (LSE) on the River Axe SAC cannot be ruled out.
11. Conclusion of Screening stage (Is the proposal likely to have a significant effect 'alone' or 'in combination' on a European site?)	**Degradation or changes to water quality:** The application site is located within the hydrological catchment of the River Axe SAC. The submitted Nutrient Neutrality Assessment demonstrates that the unmitigated development would produce a phosphorus surplus to mitigate of 0.27kgTP/yr. East Devon District Council concludes that, in the absence of mitigation measures, a Significant Effect on the River Axe SAC either 'alone' or 'in-combination' with other plans and projects cannot be ruled out. An **Appropriate Assessment** of the proposal **will therefore be necessary**.

Stage 2: Habitats Regulations Assessment – Appropriate Assessment

Part D: Appropriate Assessment

NB: In undertaking the appropriate assessment, the LPA must ascertain whether the project would adversely affect the integrity of the European site. The Precautionary Principle applies, so to be certain, the authority should be convinced that no reasonable scientific doubt remains as to the absence of such effects.

The Appropriate Assessment considers the impacts on the integrity of the international site, either alone or in combination with other plans and projects, with regard to the site's structure and function and its conservation objectives. Where there are adverse impacts, an assessment of potential mitigation is carried out to determine if there is an overall adverse effect on the integrity of the site. If these mitigation options cannot avoid adverse effects, then development consent can only be given if stages 3 and 4 are followed.

Based on the assessment, the proposed development would give rise to a phosphate surplus of 0.27 kg TP/year and therefore additional mitigation is required to achieve phosphate neutrality.

Mitigation

the development includes the following embedded mitigation measures:

1. Foul Water Mitigation

- Installation of an August AT Oval Package Treatment Plant with a PhosClear filter, achieving effluent TP of 0.0438 mg/l, resulting in a Wastewater TP load of 0.02 kg TP/yr.

2. Surface Water Mitigation (SuDS)

The scheme uses a multi-stage SuDS treatment train including:

- Rainwater harvesting (100% roof runoff capture)
- Permeable paving with 39–55% TP removal efficiency
- SPEL filter (76% TP removal)
- Vegetated interception zones & gravel traps providing 100% removal for treated areas.

Existing land use results in an annual phosphorus export of 0.14 kg TP/yr. This would increase to 0.78 kg TP/yr as a result of land use change. However, the SuDS measures collectively would remove approximately 0.74 kg TP/yr, ensuring a final annual phosphorus export of 0.04 kg TP/yr, resulting in a net nutrient betterment of -0.1 kg TP/yr from land use/SuDS. Factoring in the wastewater TP load, there would be an overall betterment of -0.08 kg TP/yr after mitigation.

3. Mitigation Security

The SuDS, PTP and PhosClear systems will be secured via planning condition requiring:

- Installation before first occupation
- Long-term maintenance per manufacturer and CIRIA C753/C808 standards

Summary

The Nutrient Neutrality Assessment demonstrates that the proposed development **would not have an adverse effect** on the integrity of the River Axe SAC **if the mitigation measures are secured**.

Part E: Conclusion of Appropriate Assessment - The Integrity Test	

18. List of avoidance/ mitigation/ compensation measures and safeguards to be covered by condition or planning obligations (Unilateral Undertaking or S106)	To be conditioned or secured via obligations:
	• Installation of August AT Oval PTP and PhosClear Filter (certified phosphorus removal).
	• Full SuDS treatment train including:
	  ○ Rainwater harvesting units
	  ○ Permeable paving
	  ○ SPEL phosphorus filter
	  ○ Vegetated interception and gravel traps
	• Long-term maintenance of all SuDS and wastewater infrastructure per CIRIA C753/C808 and manufacturer O&M manuals.
	• Requirement that no occupation occurs until the foul system and SuDS infrastructure are installed and operational.

19. Conclusion of integrity test.	With the above mitigation secured, **the proposal will *not* have an adverse effect on the integrity of the River Axe SAC.**
20. Completed by: Date:	Andrew Digby Senior Planning Officer 17/02/2026
21. Natural England consultation response	

Nutrient Neutrality Assessment and Mitigation Strategy (NNAMS)

Ridgeway, Smallridge

Reference: 2500196-ENV-S1-SW-TR-E-0001

Date: 09/02/2026

Enviren

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Executive Summary

This report has been compiled for the support of the development of five dwellings at Ridgeway in Devon (Grid reference: ST 30290 00933). The proposals are for five dwellings along with associated infrastructure.

This report demonstrates that the development will achieve Nutrient Neutrality through the introduction of an August AT Oval package treatment plants (PTPs), followed by a PhosClear filter, in conjunction with Sustainable Drainage Systems (SuDS).

Contents

1. Introduction

1.1. This report has been compiled for the support of the development of five dwellings at Ridgeway in Devon (Grid reference: ST 30290 00933). The proposals are for five dwellings along with associated infrastructure. This report demonstrates that through the introduction August AT Oval package treatment plants (PTPs), followed by a PhosClear filter, in conjunction with Sustainable Drainage Systems (SuDS), the development will achieve Nutrient Neutrality. The site is approximately 0.370 Hectares when considering the areas outlined in the site plan.

1.2. The existing site currently consists of commercial/industrial urban land and shrub. The construction of the new dwellings would result in an increase in phosphorus discharging into the surrounding water network due to foul water and surface water from the proposed dwellings; however, through suitable mitigation proposals the development will achieve nutrient neutrality (see **Appendix 1**).

Table 1.1 – Site Specific Information

Category	Site Specific Information
Site Name	Ridgeway, Smallridge
Site Location	Smallridge, Devon
Grid reference	ST 30290 00933
Local Authority	East Devon District Council
Overall Site Area	0.370 Hectares
Nutrient(s) Considered	Phosphorus
Catchment (Surface Water)	River Axe
Catchment (Foul Water)	River Axe
Receiving Wastewater Treatment Works (WwTW)	Onsite Treatment Train
Existing land use	Commercial/Industrial urban land and Shrub

2. Local Context to Nutrient Neutrality

2.1. Following the ruling on the "Dutch N" (Case C-293/17 and C-294/17)[1] in November 2018 through the Court of Justice of the European Union (CJEU), as well as several other lower profile cases in Ireland, Natural England wrote a letter[2] to a number of local authorities and councils in March 2022 identifying unacceptable phosphorus levels within the waterways of the River Axe SAC and requesting greater scrutiny of planning applications going forward which would increase nutrient loads into the water system[3], resulting in the Protected Area (SAC, SPA or Ramsar Site) reaching a point where the ability to return the site to favourable conditions would be compromised or necessarily limit the conservation objectives of the area. Mitigation measures are to be put in place that would result in "Nutrient Neutrality".

2.2. As identified the site benefits from a pathway into the River Axe, which is hydraulically connected to the River Axe SAC, this area is protected as a European Site under the Habitat Regulations 2017, as well as comprising a SSSI (Sites of Special Scientific Interest) in the lower reaches of the Axe valley. This protection is ratified by UK planning law under paragraph 176 of the NPPF. The SAC forms part of the UK's national site map with SACs constituting protected habitats and species that are considered of European interest. This is shared as a Designated Feature underpinning multiple SSSIs.

[1] C-293/17 - Coöperatie Mobilisation for the Environment and Vereniging Leefmilieu(Link-to-source)

[2] Natural England Letter to LPA Chief Executives – Advice for development proposals with the potential to affect water quality resulting in adverse nutrient impacts on habitats sites.

[3] Reg. 63 of the Habitats Regulations 2017.

3. Background Information

Site Location

3.1. The site is located on the southeastern side of Smallridge along Smallridge Road. Approximately 0.230 kilometres from the centre and approximately 2.600 kilometres north of Axminster. The exact location can be found in **Figure 3.1**:

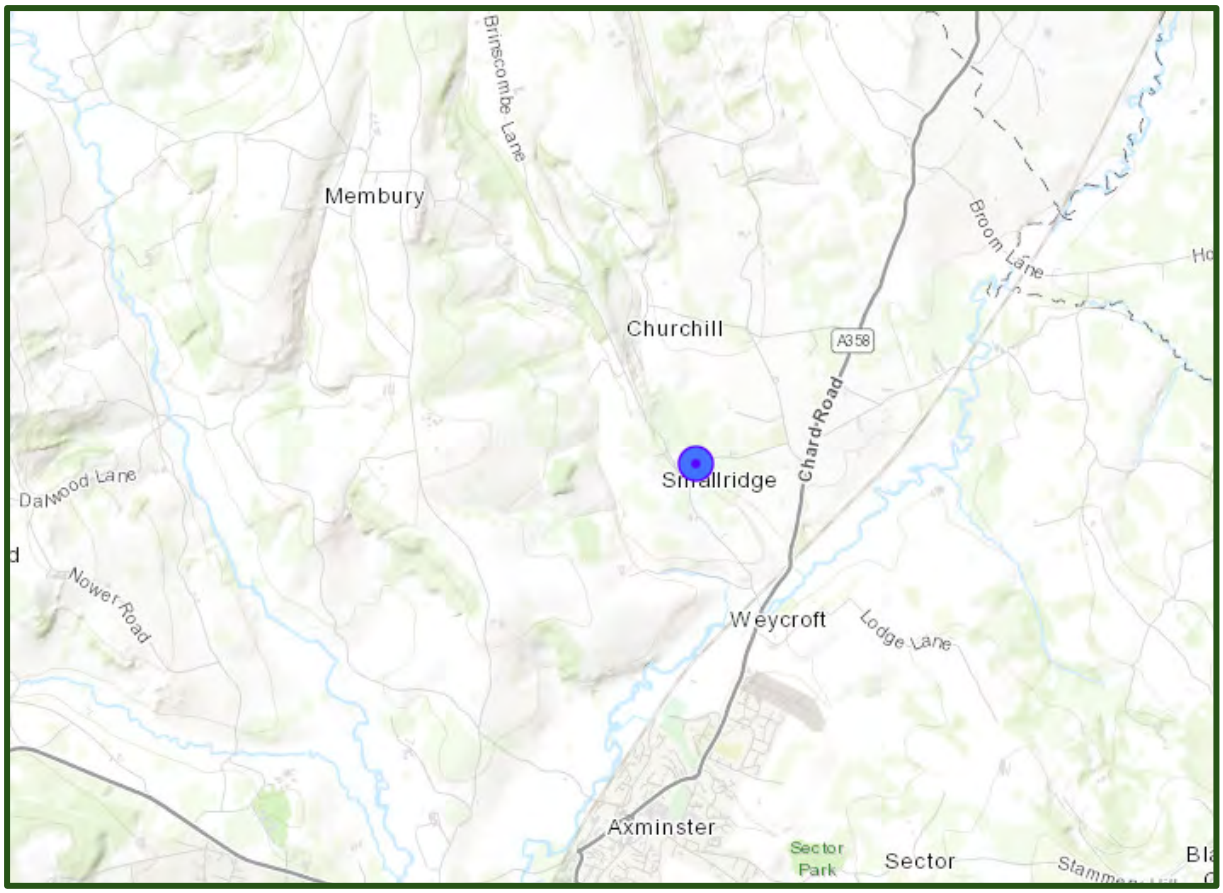


Figure 3.1 – Site Location

Outline Site Hydrology

3.2. Interrogation of local topographical information around the development parcel identifies that runoff from the site flows east towards the neighbouring unnamed watercourse to the east which flows south discharging into the River Axe, which continues south eventually discharging into the sea (**Figure 3.2**).

3.3. Statutory Undertaker mapping (**Appendix 2**) also indicates that there are no surface or foul water sewers located within close proximity of the site.

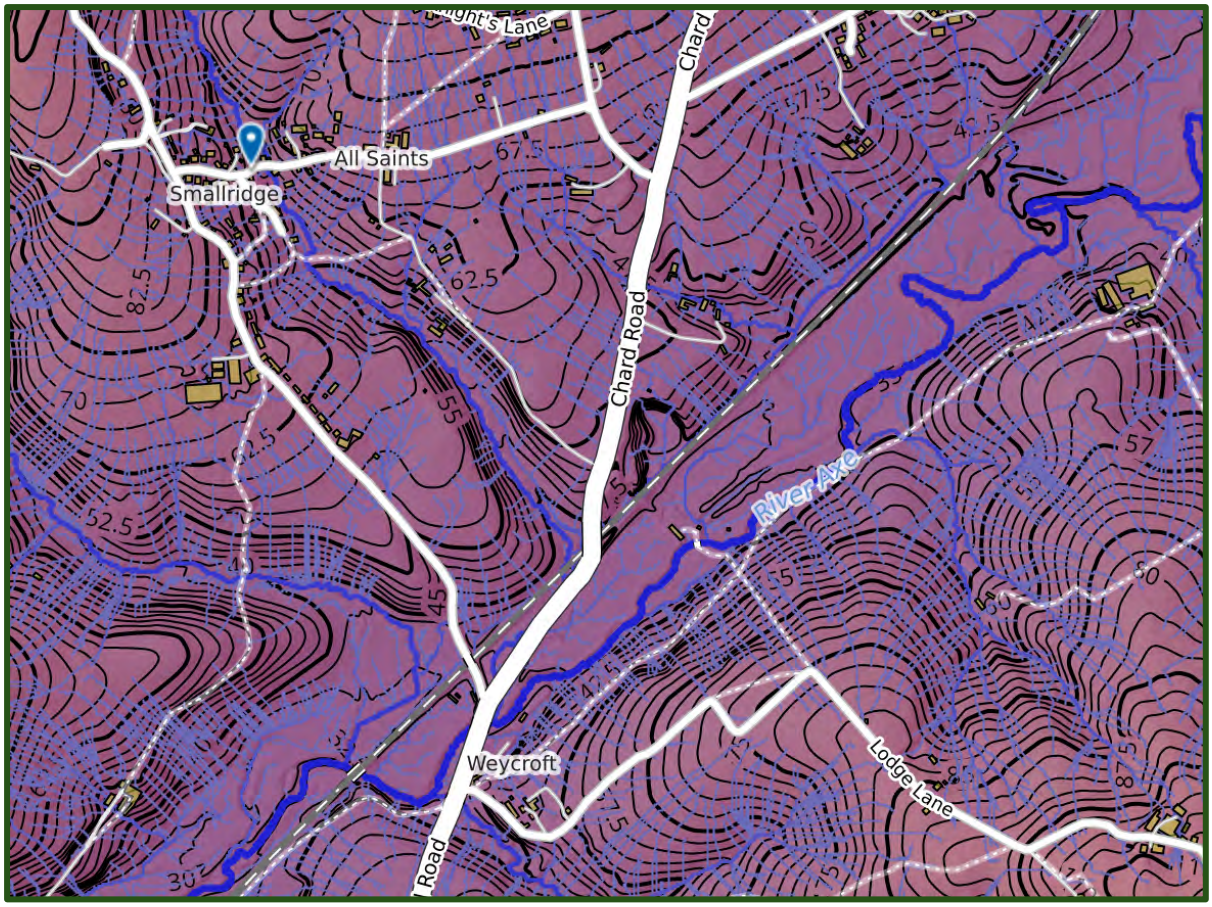


Figure 3.2 – SCALGO Topographic Data – Site Hydrology

3.4. The development sits within the hydrological catchment of the River Axe SAC as indicated in **Figure 3.3**.

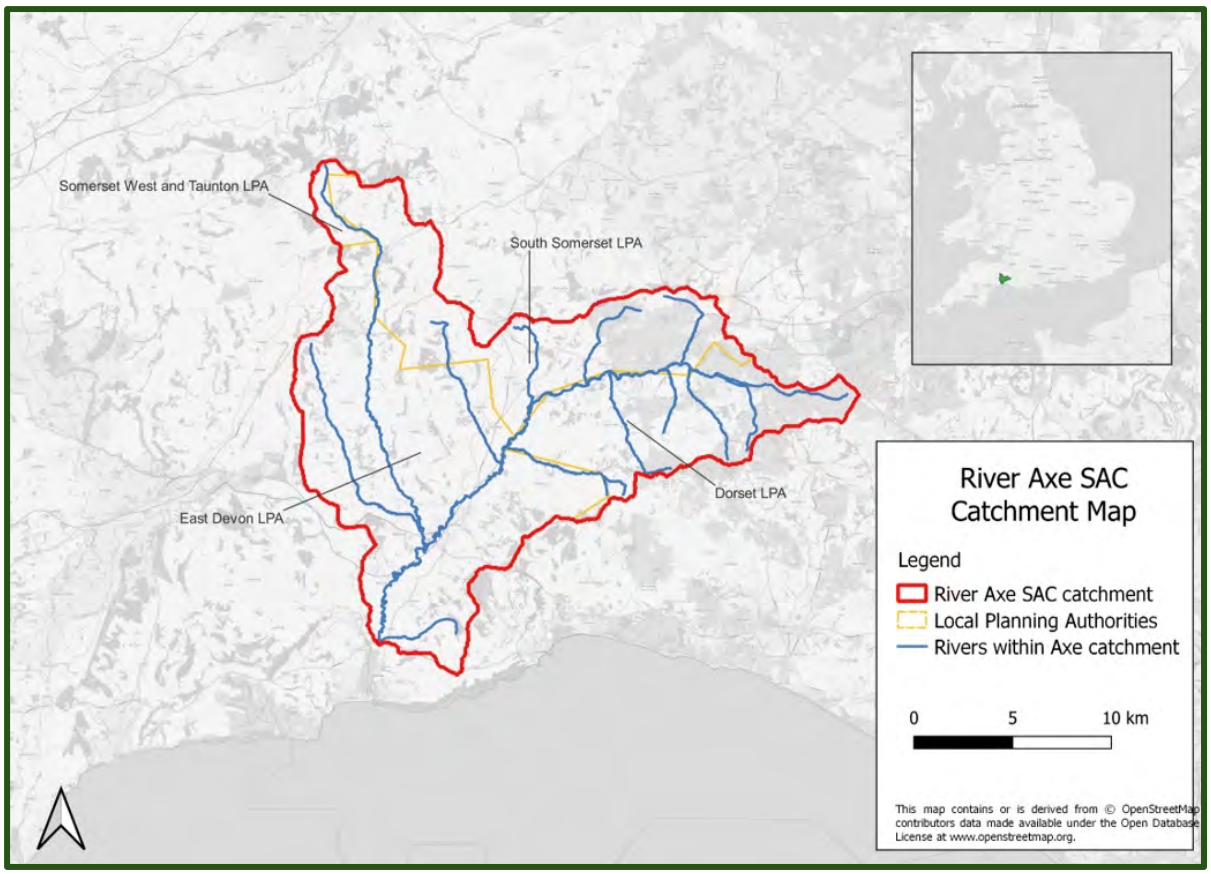


Figure 3.3 – Hydrological Catchment Plan

Existing Site Description

3.5. The area to be developed currently constitutes commercial/industrial urban land and shrub of approximately 0.370 hectares in size when considering the areas in the site plan (see **Appendix 3**). The site parcel is bordered to the east by an unnamed watercourse, to the south by further greenspace and to the north and west by dwellings.

Figure 3.4 – Aerial Reconnaissance Photography

4. Development Proposals

4.1. The development is to consist of five dwellings with associated infrastructure (see **Appendix 3**).

Foul Water Drainage

4.2. The intention of the applicant is to install an August AT Oval Package Treatment Plant (PTP), followed by a PhosClear Filter, serving the proposed dwellings (see **Appendix 4** and **Appendix 5**). Following discussion with Tricel, the PhosClear Filter is suitable and can be constructed for developments with a population equivalent (PE) of up to 300 (**Appendix 13**).

4.3. The TP load of treated effluent discharging from the August AT Oval PTP is 0.6mg/l, the PhosClear Filter has a TP removal efficiency of 92.7%.

4.4. The treatment efficiency is therefore 0.6×(1-0.927) = **0.0438mg/l.**

4.5. A servicing contract will be entered into with a responsible contractor to ensure the system can be appropriately maintained.

Surface Water Drainage

4.6. The discharge of surface water from the site shall be to the adjacent watercourse and it has conservatively been assumed that tactical discharge of surface water to ground from roofs and hardstanding will not be possible. The proposed surface water shall be treated by a series of specifically designed Sustainable Drainage System (SuDS) components which shall maximise phosphorus removal and achieve nutrient neutrality.

4.7. Runoff from roofs shall be discharged into rainwater harvesting systems. The rainwater harvesting systems will be designed to capture and store 100% of roof runoff as per CIRIA 808. The runoff from paved areas and the remaining site will be treated through porous paving, followed by a SPEL filter (see **Appendix 6**) before being discharged to the adjacent watercourse.

4.8. Interception shall take place on areas of vegetation, including vegetated gardens and other neutral grassland, as shown in **Appendix 11**. Interception is defined as the capturing of the initial rainfall to prevent runoff and pollution. In this instance, interception shall takes place through infiltration for sub 1-1 year storms. Interception is specifically outlined in CIRIA C808 in the examples (see Part 3.4.1). Interception calculations can be found in **Appendix 12**. Gravel traps will be placed on the eastern boundary and low points of the site to capture and infiltrate any overland flows that are not captured by the vegetated areas.

4.9. Maintenance requirements of the SuDS features can be found in **Appendix 7** with measures based on the associated schedules contained in CIRIA C753 and CIRIA 808. SuDS considerations outlined in CIRIA C808 are reviewed in **Appendix 8**. The design life for the SuDS measures are 100 years and will all remain in perpetuity.

4.10. A servicing contract will be entered into with a responsible contractor to ensure the system can be appropriately maintained.

Table 4.1 – Phosphorus Removal Efficiency of Various SuDS Components (as per CIRIA C808)															
SuDS Component	**Swale**	**Detention basin**	**Retention basin**	**Pond**	**Floating wetland**	**Bioretention zone**	**Tree pit**	**Filter strip**	**Filter drain**	**Willow bed**	**Permeable pavement**	**Vortex grit separator**	**Oil water separator**	**Stormwater filter**	**Granular media**	**Rainwater capture**
Particulate Phosphorus Removal (%)	28	28	28	39	39	44	44	22	22	55	39	28	28	44	44	55
Dissolved Phosphorus Removal (%)	0*	5	23	23	TBC	0*	0*	0*	0*	45	0*	0*	0*	41		45
Total Phosphorus Removal [average] (%)	28	33	51	62	≥39	44	44	22	22	100	39	28	28	≤85	≤85	100

**Can be increased providing specific, referenced media is used.*

4.11. The phosphorus removal efficiencies of the onsite treatment trains are outlined in **Table 4.1**. As per CIRIA C808, the particulate phosphorus removal of the SuDS components is already pre-weighted to accommodate the proportion of Total Phosphorus (TP) that is in solid form (55%) and Phosphorus that is in soluble form (45%).

4.12. The SPEL filter has a Total phosphorus removal efficiency of 76%. This has been factored into Particulate Phosphorus (55%) and Dissolved Phosphorus (45%).

Treatment Train	Table 4.2 – Total Phosphorus Removal Percentage of Treatment Train												
	Phosphorus Removal Efficiency of SuDS Component (Average between Dissolved and Particulate Phosphorus)												
	Interception		Rainwater Harvesting		Permeable Paving		SPEL Filter		Gravel Traps		Cumulative Removal**		Calculated Phosphorus Removal Efficiency
	PP	DP	PP	DP	PP	DP	PP	DP	PP	DP	PP	DP	
Treatment Train A: Rainwater Harvesting	N/A	N/A	55	45	N/A	N/A	N/A	N/A	N/A	N/A	55	45	**100**
Treatment Train B: Permeable Paving + SPEL Filter	41	34	N/A	N/A	39	0	21	34.2	N/A	N/A	48.25	37.76	**86.01**
Treatment Train C – Interception of Vegetated Areas and gravel traps to stop overland flow	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	55	45	55	45	**100**
100% Removal Considered			50% Removal Considered						Not Applicable				

4.13. The methodology for calculating the values in the proposed treatment trains can be found in **Appendix 9** and is based on influent concentrations and effluent concentrations from the preceding component.

5. Development Nutrient Calculator Calculations

5.1. The direct output of the Natural England Budget Calculator can be found in **Appendix 1**. This section shall outline the observations made on the site and shall discuss the results generated by the Natural England Budget Calculator. The figures for the inputs utilised in this section can be found in the **Figures** section to the rear of the report.

Table 5.1 – Development Nutrient Budget Calculations

Stage 1 – Foul Water Arisings from dwellings		
Number of dwellings	5	
Average occupancy rate	2.40	
Water usage	120	
Wastewater treatment works	Package Treatment Plant User Defined	
Wastewater treatment works TP permit (mg/litre)	0.0438	
Annual wastewater TP load	+0.02 kg/year	
Stage 2 – Existing Land Use		
Catchment	River Axe	
Soil drainage type	Impeded Drainage	
Annual average rainfall (mm)	1000.1-1100	
Within Nitrate Vulnerable Zone	No	
Former Land Use	**Land Use**	**Area (hectares)**
	Shrub	0.29
	Commercial/Industrial Urban Land	0.08
Annual nutrient export (kg TP)	-0.14 kg/year	
Stage 3 – Proposed Land Use		
Proposed Land Use	**Land Use**	**Area (hectares)**
	Residential Urban	0.37
SuDS removal amount	**Treatment Train A - 100% (0.06Ha)**	
	Treatment Train B - 76.56% (0.13Ha)	
	Treatment Train C - 100%% (0.18Ha)	
Annual nutrient export (kg TP)	0.04 kg/year	
Stage 4 – Final Nutrient Budget		
The total annual nutrient load generated	-0.08 kg/year	

6. Alternative Mitigation

6.1. The client has stated that there is an openness to achieve Neutrality through alternative means, without the inclusion of such a highly efficient Foul Water Treatment Train.

6.2. An alternative method would be to install an August AT OVAL without the PhosClear secondary treatment. The budget for this scenario is found within **Table 6.1.**

6.3. To achieve neutrality, the client will seek the replacement of a septic tank or the acquisition of credits from a third-party marketplace (should one become available). The value of mitigation required will be -0.27 kg/year.

Table 6.1 – Development Nutrient Budget Calculations

Stage 1 – Foul Water Arisings from dwellings		
Number of dwellings	5	
Average occupancy rate	2.40	
Water usage	120	
Wastewater treatment works	Package Treatment Plant User Defined	
Wastewater treatment works TP permit (mg/litre)	0.6	
Annual wastewater TP load	+0.32 kg/year	
Stage 2 – Existing Land Use		
Catchment	River Axe	
Soil drainage type	Impeded Drainage	
Annual average rainfall (mm)	1000.1-1100	
Within Nitrate Vulnerable Zone	No	
Former Land Use	**Land Use**	**Area (hectares)**
	Shrub	0.29
	Commercial/Industrial Urban Land	0.08
Annual nutrient export (kg TP)	-0.14 kg/year	
Stage 3 – Proposed Land Use		
Proposed Land Use	**Land Use**	**Area (hectares)**
	Residential Urban	0.37
SuDS removal amount	**Treatment Train A - 100% (0.06Ha)**	
	Treatment Train B - 76.56% (0.13Ha)	
	Treatment Train C - 100%% (0.18Ha)	
Annual nutrient export (kg TP)	0.04 kg/year	
Stage 4 – Final Nutrient Budget		
The total annual nutrient load generated	0.27 kg/year	

7.Conclusion

7.1. As can be seen in this report, the phosphorus arisings associated with the development have been extensively considered. The applicant will introduce SuDS onsite to significantly reduce phosphorus arisings. Additionally, the applicant will an on-site August AT Oval package treatment plant (PTP), followed by a PhosClear filter, which shall make a connection to the adjacent watercourse. The applicant shall achieve Nutrient Neutrality through the proposals and therefore phosphorus arisings should not prevent planning permission being granted.

Figures

For convenience – press "Alt + Left Arrow" to return to the section of the report

Alt + <

Figure 1 – Soil Type

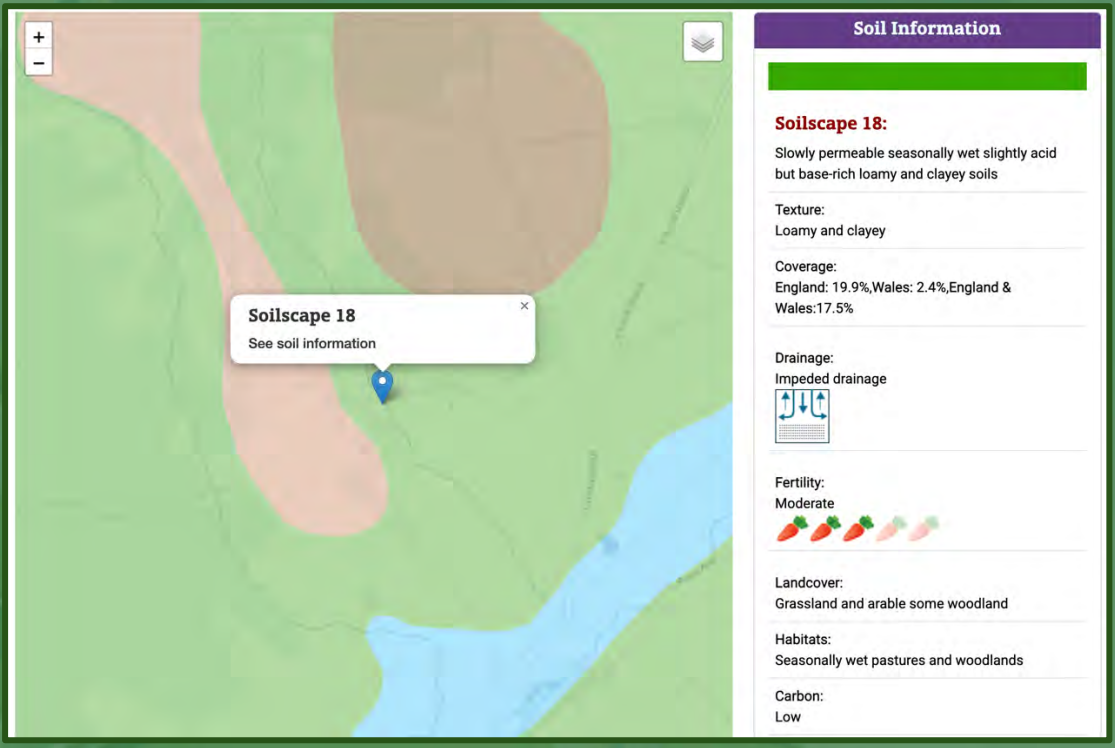
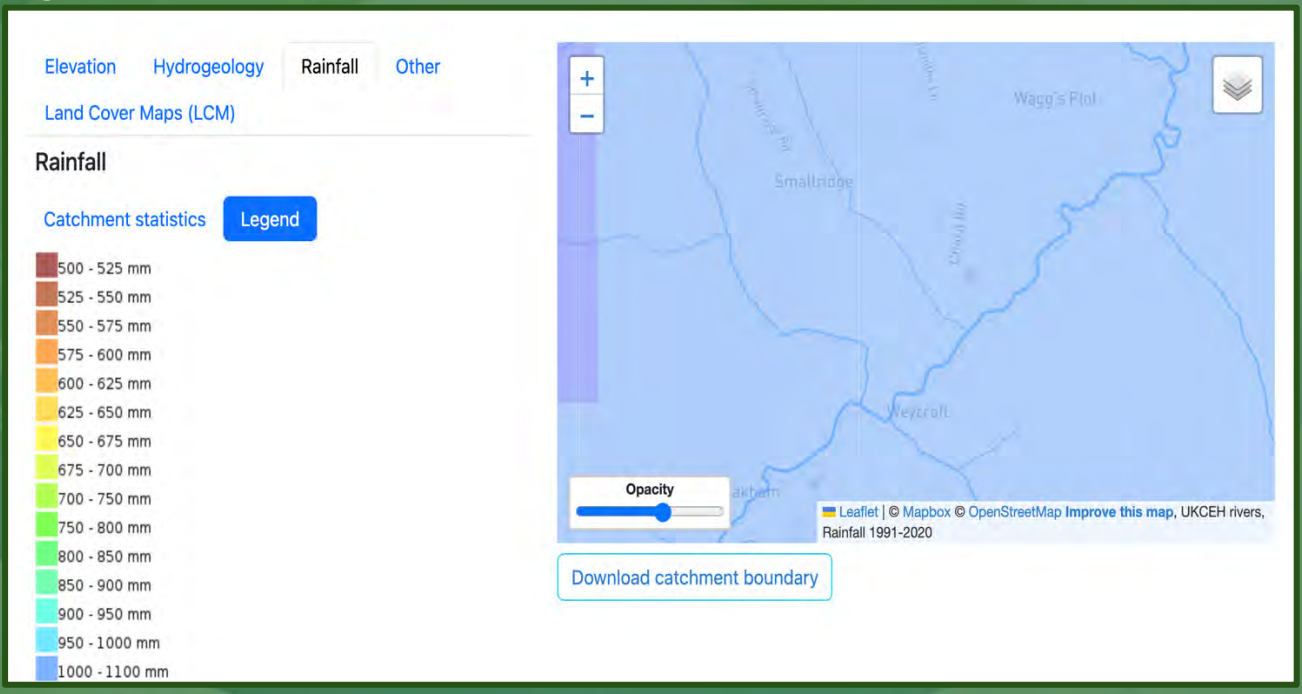


Figure 2 – Annual Rainfall



Appendix 1 – Development Nutrient Budget Calculations

For convenience – press "Alt + Left Arrow" to return to the section of the report

1.1 Development Nutrient Budget Calculations with PhosClear Filter

Nutrients from wastewater

This sheet contains 2 tables. The tables are separated by a heading, which describes the following table.
Note: You will need to fill in cells B5 to B9 in the first table 'Water infrastructure information'. Cells B10 is automatically calculated and will state '0.00' unless the user inputs have been entered. Cells A11 to A12 and B11 to B12 are automatically generated and will state 'Not applicable' depending on the inputs to cells B5 and B9. You may need to fill in cell C10 depending on the information you entered in cell B9. Cells C5 to C9 and cells C11 to C12 are intentionally blank cells.
You do not need to fill in any cells in the second table 'Final calculation of nutrient load from wastewater'. Cells B16 to B18 are automatically calculated and will state '0.00' unless the user inputs have been entered to the first table 'Water infrastructure information'. Cells A19 to A22, cells B20 and B22 are automatically generated and will state 'Not applicable' depending on the user inputs to the first table 'Water infrastructure information'. Cell B15, cell B19 and cell B21 are intentionally blank cells.
How to fill in the table 'Water infrastructure information'
Cell B5: Enter the date of first occupancy.
Cell B6: Enter the average occupancy rate of the development. The default rate is 2.4, this should not be edited without sufficient evidence.
Cell B7: Enter the water usage. This value should be kept at 120 unless other efficiency measures are used.
Cell B8: Enter the total number of dwellings or units that will be within the development site as of the project completion date.
Cell B9: Choose the receiving wastewater treatment works (WwTW) from the dropdown list.
If you select 'Package Treatment Plant user defined' or 'Septic Tank user defined', you must enter their certified value of total phosphorus (TP) in cell C10. Otherwise the default values will be used in the calculation of the nutrient load associated with wastewater.
Nutrient permits may be changing for the WwTW you select, from 01/01/2025, or 01/04/2030. If the date of first occupancy is in-between changing permit dates, multiple permit limits may be automatically generated in cells B10 to B12. If applicable, up to 3 values for the nutrient loading associated with wastewater will be presented in cell B18, B20 or B22.

Water infrastructure information

Description of required information	Data entry column - user inputs required	Additional data entry column - user inputs may be required
Date of first occupancy (dd/mm/yyyy):		
Average occupancy rate (people/dwelling or people/unit):	2.40	
Water usage (litres/person/day):	120	
Development proposal (dwellings/units):	5	
Wastewater treatment works:	Package Treatment Plant user defined	
Current wastewater treatment works P permit (mg TP/litre):	**Enter value in cell C10**	0.042
Not applicable	**Not applicable**	
Not applicable	**Not applicable**	

Final calculation of nutrient load from wastewater

Description of values generated	Values generated
Wastewater nutrient loading	
Additional population (people):	**12.00**
Wastewater by development (litres/day):	**1440.00**
Annual wastewater TP load (kg TP/yr):	**0.02**
Not applicable	
Not applicable	**Not applicable**
Not applicable	
Not applicable	**Not applicable**

Nutrients from current land use

This sheet contains 2 tables. The tables are separated by a heading, which describes the following table.
Note: You will need to fill in cells B5 to B8 in the first table 'Current land use information'. You will need to fill in cells A11 to A27, and B11 to B27 in the second table 'Current land uses'. Cells B28, C11 to C28 are automatically calculated and will state '0.00' unless the user inputs have been entered. Cells D11 to D27 are automatically generated and will state 'Not applicable' depending on automatically generated data in cells C11 to C27. Row 28 is a Total Row. The Total Row states 'Totals:' in cell A28 and automatically calculates the total sum of cells B11 to B27 in cell B28 and C11 to C27 in cell C28. Cell D28 is intentionally blank.
How to fill in the table 'Current land use information'
Cell B5: Choose the operational catchment the site is located within from the dropdown list.
Cell B6: Choose the soil drainage type associated with the predominant soil type within the development site from the dropdown list.
Cell B7: Choose the annual average rainfall the development will receive from the dropdown list. If the rainfall volume is not on the list, select the nearest value.
Cell B8: Choose whether the development is in a nitrate vulnerable zone (NVZ) from the dropdown list.
How to fill in the table 'Current land uses'
Cell A11-A27: Choose the existing (pre-development) land use type(s) from the dropdown list.
Cells B11-B27: Enter the area in hectares of each land use type.
The nutrient load from current land uses is shown in cells C11-C27 for total phosphorus (TP).
The total nutrient load from current land uses is shown in cell C28 for TP.

Current land use information

Description of required information	Data entry column - user inputs required
Operational catchment:	Lim and Axe
Soil drainage type:	Impeded drainage
Annual average rainfall (mm):	1,000.1 - 1,100
Within nitrate vulnerable zone (NVZ):	No

Current land uses

Existing land use type(s) - user inputs required	Area (ha) - user inputs required	Annual phosphorus export (kg TP/yr)	Notes on data
Commercial/industrial urban land	0.09	**0.13**	Not applicable
Shrub	0.28	**0.01**	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
Totals:	**0.37**	**0.14**	

Nutrients from future land use

This sheet contains one table.

Note: You will need to fill in cells A5 to A21 and B5 to B21. Cells B22 and C5 to C22 are automatically generated calculations and will state '0.00' unless the user inputs have been entered. Row 22 is a Total Row. The Total Row states 'Totals:' in cell A22 and automatically calculates the total sum of cells B5 to B21 in cell B22 and C5 to C21 in cell C22.

How to fill in the table 'Future land uses'

Cells A5-A21: Choose the future (post-development) land use type(s) of landcover present on the new site from the dropdown list
Cells B5-B21: Enter the area in hectares of each land use type.

The nutrient load from future land uses is shown in cells C5 to C21 for total phosphorus (TP).

The total nutrient load from future land uses is shown in cell C22 for TP.

Future land uses

New land use type(s) - user inputs required	Area (ha) - user inputs required	Annual phosphorus export (kg TP/yr)
Residential urban land	0.37	**0.78**
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
Totals:	**0.37**	**0.78**

Nutrients from future land use after sustainable urban drainage system (SuDS) treatment

This sheet contains one table.
Note: You will need to fill in cells A5 to A29, cells B5 to B29, cells C5 to C29, cells E5 to E29 and cells F5 to F29 if you are including SuDS to remove nutrients from the surface runoff. Cells B30, D5 to D30 and cells G5 to G30 are automatically calculated and will state '0.00' unless the user inputs have been entered. Cells H5 to H29 are automatically generated and will state 'Not applicable' unless the total area of the landcover entered is larger than the total area of the landcover entered into the worksheet 'Nutrients_from_future_land_use'. Row 30 is a Total Row. The Total Row states 'Totals:' in cell A30 and automatically calculates the total sum of cells B5 to B29 in cell B30, cells D5 to D29 in cell D30 and cells G5 to G29 in cell G30. Cell C30, cell E30, cell F30 and cell H30 are intentionally blank.
How to fill in the table 'SuDS information'
Cells A5 to A29: Choose the future (post-development) land use type(s) of landcover present on the new site within the SuDS catchment area from the dropdown list. Only landcovers entered into the worksheet titled 'Nutrients_from_future_land_use' can be entered.
Cells B5 to B29: Enter the area in hectares of each new land use type within the SuDS catchment area.
Cells C5 to C29: Enter the percentage of the flow entering the SuDS feature. If all flow is being diverted to the SuDS feature then this value should be set to 100%.
The annual total phosphorus (TP) loads associated with the landcovers in the SuDS catchment area are automatically calculated in cells D5 to D29.
Cells E5 to E29: Enter the name of the SuDS features used to intercept surface flows can be entered in. Any text can be entered into these cells.
Cells F5 to F29: Enter the nutrient removal rates associated with the SuDS features for TP.
Values for column F must be identified by the user and must be specific to the SuDS features being implemented.
The annual TP load removed by the SuDS features are automatically calculated in cells G5 to G29. These values are subtracted from the nutrient budget.
You do not need to fill in column H 'Notes on data'. It will state "Not applicable" unless the total area of each landcover within the SuDS catchment area exceeds the area of the landcovers entered into the worksheet titled 'Nutrients_from_future_land_use'.
The total nutrient load removed through the SuDS features is shown in cell G30 for TP.

SuDS information

New land use type(s) within SuDS catchment area - user inputs required	SuDS catchment area (ha) - user inputs required	Percentage of flow entering the SuDS (%) - user inputs required	Annual phosphorus inputs to SuDS feature(s) (kg T/yr)	Name of SuDS feature(s) - user inputs required	TP removal rate for features - user specified (%) - user inputs required	Annual phosphorus load removed by SuDS (kg TP/yr)	Notes on data
Residential urban land	0.06	100.00	**0.13**	Rainwater Harvesting	100.00	**0.13**	Not applicable
Residential urban land	0.13	100.00	**0.27**	Permeable Paving + SPEL	86.00	**0.23**	Not applicable
Residential urban land	0.18	100.00	**0.38**	Interception and infiltration to ground	100.00	**0.38**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
Totals:	**0.37**		**0.78**			**0.74**	

Final nutrient budgets

This worksheet contains one table. This table is automatically populated using the outputs from the previous worksheets.

Note: You do not need to fill in any cells in the table.
Cells B5 to B8 and cells B10 are automatically calculated and will state '0.00' unless the user inputs have been entered to all of the required worksheets.
Cells A11 to A14, cell B12 and cell B14 are automatically generated and will state 'Not applicable' depending on the user inputs to the worksheet 'Nutrients_from_wastewater'.
Cell B9, B11 and B13 are intentionally blank.

This table presents calculations that underpin the final annual nutrient budget for the development site. Up to 3 values for the nutrient budget may be presented in cells B10, B12 and B24 for total phosphorus (TP).

Total nutrient budget calculations

Description of values generated	**Values generated**
Wastewater TP load (kg TP/year):	**0.02**
Net land use TP change (kg TP/year):	**-0.10**
TP budget:	**-0.08**
TP budget + 20% buffer:	**-0.08**
Annual nutrient budget	
The total annual phosphorus load to mitigate is (kg TP/yr):	**0.00**
Not applicable	
Not applicable	**Not applicable**
Not applicable	
Not applicable	**Not applicable**

1.2 Development Nutrient Budget Calculations without PhosClear Filter

Nutrients from wastewater

This sheet contains 2 tables. The tables are separated by a heading, which describes the following table.
Note: You will need to fill in cells B5 to B9 in the first table 'Water infrastructure information'. Cells B10 is automatically calculated and will state '0.00' unless the user inputs have been entered. Cells A11 to A12 and B11 to B12 are automatically generated and will state 'Not applicable' depending on the inputs to cells B5 and B9. You may need to fill in cell C10 depending on the information you entered in cell B9. Cells C5 to C9 and cells C11 to C12 are intentionally blank cells.
You do not need to fill in any cells in the second table 'Final calculation of nutrient load from wastewater'. Cells B16 to B18 are automatically calculated and will state '0.00' unless the user inputs have been entered to the first table 'Water infrastructure information'. Cells A19 to A22, cells B20 and B22 are automatically generated and will state 'Not applicable' depending on the user inputs to the first table 'Water infrastructure information'. Cell B15, cell B19 and cell B21 are intentionally blank cells.
How to fill in the table 'Water infrastructure information'
Cell B5: Enter the date of first occupancy.
Cell B6: Enter the average occupancy rate of the development. The default rate is 2.4, this should not be edited without sufficient evidence.
Cell B7: Enter the water usage. This value should be kept at 120 unless other efficiency measures are used.
Cell B8: Enter the total number of dwellings or units that will be within the development site as of the project completion date.
Cell B9: Choose the receiving wastewater treatment works (WwTW) from the dropdown list.
If you select 'Package Treatment Plant user defined' or 'Septic Tank user defined', you must enter their certified value of total phosphorus (TP) in cell C10. Otherwise the default values will be used in the calculation of the nutrient load associated with wastewater.
Nutrient permits may be changing for the WwTW you select, from 01/01/2025, or 01/04/2030. If the date of first occupancy is in-between changing permit dates, multiple permit limits may be automatically generated in cells B10 to B12. If applicable, up to 3 values for the nutrient loading associated with wastewater will be presented in cell B18, B20 or B22.

Water infrastructure information

Description of required information	Data entry column - user inputs required	Additional data entry column - user inputs may be required
Date of first occupancy (dd/mm/yyyy):		
Average occupancy rate (people/dwelling or people/unit):	2.40	
Water usage (litres/person/day):	120	
Development proposal (dwellings/units):	5	
Wastewater treatment works:	Package Treatment Plant user defined	
Current wastewater treatment works P permit (mg TP/litre):	**Enter value in cell C10**	0.6
Not applicable	**Not applicable**	
Not applicable	**Not applicable**	

Final calculation of nutrient load from wastewater

Description of values generated	Values generated
Wastewater nutrient loading	
Additional population (people):	**12.00**
Wastewater by development (litres/day):	**1440.00**
Annual wastewater TP load (kg TP/yr):	**0.32**
Not applicable	
Not applicable	**Not applicable**
Not applicable	
Not applicable	**Not applicable**

Nutrients from current land use

This sheet contains 2 tables. The tables are separated by a heading, which describes the following table.
Note: You will need to fill in cells B5 to B8 in the first table 'Current land use information'. You will need to fill in cells A11 to A27, and B11 to B27 in the second table 'Current land uses'. Cells B28, C11 to C28 are automatically calculated and will state '0.00' unless the user inputs have been entered. Cells D11 to D27 are automatically generated and will state 'Not applicable' depending on automatically generated data in cells C11 to C27. Row 28 is a Total Row. The Total Row states 'Totals:' in cell A28 and automatically calculates the total sum of cells B11 to B27 in cell B28 and C11 to C27 in cell C28. Cell D28 is intentionally blank.
How to fill in the table 'Current land use information'
Cell B5: Choose the operational catchment the site is located within from the dropdown list.
Cell B6: Choose the soil drainage type associated with the predominant soil type within the development site from the dropdown list.
Cell B7: Choose the annual average rainfall the development will receive from the dropdown list. If the rainfall volume is not on the list, select the nearest value.
Cell B8: Choose whether the development is in a nitrate vulnerable zone (NVZ) from the dropdown list.
How to fill in the table 'Current land uses'
Cell A11-A27: Choose the existing (pre-development) land use type(s) from the dropdown list.
Cells B11-B27: Enter the area in hectares of each land use type.
The nutrient load from current land uses is shown in cells C11-C27 for total phosphorus (TP).
The total nutrient load from current land uses is shown in cell C28 for TP.

Current land use information

Description of required information	Data entry column - user inputs required
Operational catchment:	Lim and Axe
Soil drainage type:	Impeded drainage
Annual average rainfall (mm):	1,000.1 - 1,100
Within nitrate vulnerable zone (NVZ):	No

Current land uses

Existing land use type(s) - user inputs required	Area (ha) - user inputs required	Annual phosphorus export (kg TP/yr)	Notes on data
Commercial/industrial urban land	0.08	**0.13**	Not applicable
Shrub	0.29	**0.01**	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
Totals:	**0.37**	**0.14**	

Nutrients from future land use

This sheet contains one table.

Note: You will need to fill in cells A5 to A21 and B5 to B21. Cells B22 and C5 to C22 are automatically generated calculations and will state '0.00' unless the user inputs have been entered. Row 22 is a Total Row. The Total Row states 'Totals:' in cell A22 and automatically calculates the total sum of cells B5 to B21 in cell B22 and C5 to C21 in cell C22.

How to fill in the table 'Future land uses'

Cells A5-A21: Choose the future (post-development) land use type(s) of landcover present on the new site from the dropdown list
Cells B5-B21: Enter the area in hectares of each land use type.

The nutrient load from future land uses is shown in cells C5 to C21 for total phosphorus (TP).

The total nutrient load from future land uses is shown in cell C22 for TP.

Future land uses

New land use type(s) - user inputs required	Area (ha) - user inputs required	Annual phosphorus export (kg TP/yr)
Residential urban land	0.37	**0.78**
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
Totals:	**0.37**	**0.78**

Nutrients from future land use after sustainable urban drainage system (SuDS) treatment

This sheet contains one table.
Note: You will need to fill in cells A5 to A29, cells B5 to B29, cells C5 to C29, cells E5 to E29 and cells F5 to F29 if you are including SuDS to remove nutrients from the surface runoff. Cells B30, D5 to D30 and cells G5 to G30 are automatically calculated and will state '0.00' unless the user inputs have been entered. Cells H5 to H29 are automatically generated and will state 'Not applicable' unless the total area of the landcover entered is larger than the total area of the landcover entered into the worksheet 'Nutrients_from_future_land_use'. Row 30 is a Total Row. The Total Row states 'Totals:' in cell A30 and automatically calculates the total sum of cells B5 to B29 in cell B30, cells D5 to D29 in cell D30 and cells G5 to G29 in cell G30. Cell C30, cell E30, cell F30 and cell H30 are intentionally blank.
How to fill in the table 'SuDS information'
Cells A5 to A29: Choose the future (post-development) land use type(s) of landcover present on the new site within the SuDS catchment area from the dropdown list. Only landcovers entered into the worksheet titled 'Nutrients_from_future_land_use' can be entered.
Cells B5 to B29: Enter the area in hectares of each new land use type within the SuDS catchment area.
Cells C5 to C29: Enter the percentage of the flow entering the SuDS feature. If all flow is being diverted to the SuDS feature then this value should be set to 100%.
The annual total phosphorus (TP) loads associated with the landcovers in the SuDS catchment area are automatically calculated in cells D5 to D29.
Cells E5 to E29: Enter the name of the SuDS features used to intercept surface flows can be entered in. Any text can be entered into these cells.
Cells F5 to F29: Enter the nutrient removal rates associated with the SuDS features for TP.
Values for column F must be identified by the user and must be specific to the SuDS features being implemented.
The annual TP load removed by the SuDS features are automatically calculated in cells G5 to G29. These values are subtracted from the nutrient budget.
You do not need to fill in column H 'Notes on data'. It will state "Not applicable" unless the total area of each landcover within the SuDS catchment area exceeds the area of the landcovers entered into the worksheet titled 'Nutrients_from_future_land_use'.
The total nutrient load removed through the SuDS features is shown in cell G30 for TP.

SuDS information

New land use type(s) within SuDS catchment area - user inputs required	SuDS catchment area (ha) - user inputs required	Percentage of flow entering the SuDS (%) - user inputs required	Annual phosphorus inputs to SuDS feature(s) (kg T/yr)	Name of SuDS feature(s) - user inputs required	TP removal rate for features - user specified (%) - user inputs required	Annual phosphorus load removed by SuDS (kg TP/yr)	Notes on data
Residential urban land	0.06	100.00	**0.13**	Rainwater Harvesting	100.00	**0.13**	Not applicable
Residential urban land	0.13	100.00	**0.27**	Permeable Paving + SPEL + Rain Gardens	86.00	**0.23**	Not applicable
Residential urban land	0.18	100.00	**0.38**	Interception and infiltration to ground	100.00	**0.38**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
Totals:	**0.37**		**0.78**			**0.74**	

Final nutrient budgets

This worksheet contains one table. This table is automatically populated using the outputs from the previous worksheets.

Note: You do not need to fill in any cells in the table.
Cells B5 to B8 and cells B10 are automatically calculated and will state '0.00' unless the user inputs have been entered to all of the required worksheets.
Cells A11 to A14, cell B12 and cell B14 are automatically generated and will state 'Not applicable' depending on the user inputs to the worksheet 'Nutrients_from_wastewater'.
Cell B9, B11 and B13 are intentionally blank.

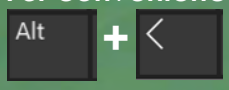
This table presents calculations that underpin the final annual nutrient budget for the development site. Up to 3 values for the nutrient budget may be presented in cells B10, B12 and B24 for total phosphorus (TP).

Total nutrient budget calculations

Description of values generated	**Values generated**
Wastewater TP load (kg TP/year):	**0.32**
Net land use TP change (kg TP/year):	**-0.10**
TP budget:	**0.22**
TP budget + 20% buffer:	**0.27**
Annual nutrient budget	
The total annual phosphorus load to mitigate is (kg TP/yr):	**0.27**
Not applicable	
Not applicable	**Not applicable**
Not applicable	
Not applicable	**Not applicable**

Appendix 2 – Statutory Undertaker mapping

For convenience – press "Alt + Left Arrow" to return to the section of the report



ENVIREN LTD
,

UNDERGROUND ASSET INFORMATION

PUBLIC DRAINAGE & WATER

Location:	RIDGEWAY INN, SMALLRIDGE, AXMINSTER EX13 7JJ
Report Reference:	GIS/TRW/RID/12082025/3
Your Reference:	ENVIREN - RIDGEWAY, SMALLRIDGE -
Date:	12 August 2025
For the Attention of:	LEONARDO COSTA

Further to your request for information dated 05 August 2025, the Company's apparatus for the above site is shown herewith. South West Water Limited has made all reasonable efforts to ensure the accuracy of this information, but provides it subject to the following conditions:

• Service pipes and drainage connections may not be shown.

• No liability whatsoever is accepted for any inaccuracies or omissions in the information.

• If no reference is made in the information to any interest or right of the Company on any land, this is not to be taken as conclusive evidence that no such interest or right exists.

These reservations are in addition to any statutory regulations which apply.

Source for Searches - A South West Water Service contactus@sourceforsearches.co.uk 0845 330 3401

ASSETS NOT SHOWN? THEY MAY BE PRIVATE HOMEOWNERS RESPONSABILITY

USEFUL CONTACTS:

LEAKS / PIPE COLLAPSE	0344 346 2020
NEW CONNECTIONS	0800 083 1821
SOUTH WEST WATER	0344 346 2020

South West Water

The information indicated on this plan is provided only as a guide and no assurance as to its accuracy is given or implied. The Company accepts no liability whatsoever for any error or omission in the information. It should be noted that not all mains, service pipes and other apparatus of the Company in the area of the plan are shown.

WATER

RIDGEWAY INN, SMALLRIDGE, AXMINSTER EX13 7JJ

Water Pipe Details

Distribution	
Trunk	
Communication	
Untreated	
Private	
Abandoned	

Common Materials

Cast Iron	CI	High Density Polyethylene	HDPE
Spun Iron	SI		
Ductile Iron	DI	Medium Density Polyethylene	MDPE
Steel	ST		
Asbestos Cement	AC	High Pressure Polyethylene	HPPE
Plastic	UPVC		

Water Features

Washout	Hatchbox	Customer Meter	C
Hydrant	Pump	Mains Meter	M
Washout Hydrant	Sluice Valve Open (AC)	Relief Valve	
Air Valve (Single)	Sluice Valve Closed	Pressure Reducing Valve	
Air Valve (Double)	Sluice Valve (CC)	Pressure Sustaining Valve	
Stop Tap	Stop Tap	Non Return Valve / Reflux	
		Relief Valve	

South West Water

The information indicated on this plan is provided only as a guide and no assurance as to its accuracy is given or implied. The Company accepts no liability whatsoever for any error or omission in the information. It should be noted that not all mains, service pipes and other apparatus of the Company in the area of the plan are shown.

DRAINAGE

RIDGEWAY INN, SMALLRIDGE, AXMINSTER EX13 7JJ

South West Water has no record of drainage in this area

Sewer Pipe Details

- Public - Foul
- Public - Surface
- Public - Combined
- Public - Treated
- Pumping Main /EL
- Elevated
- Unverified
- Abandoned
- Highway

Common Shapes

Circular	C	Barrel	B	U Shaped	US
Rectangular	R	Trapezodial	T	Horseshoe	H
Unknown	U	Egg Shape	E	Oval	OV

Common Materials

Vitrified Clay	VC	Alkathene	AK	Medium Density Polyvinylchloride	MDPE
Pre Cast Concrete	PCO	Asbestos Cement	AC	Unplasticised Polyvinylchloride	UPVC
Concrete	CO	Polyvinylchloride	PVC	Unknown	U

Sewerage Structures

Manhole Foul		Manhole Surface	
Manhole Combined		Manhole Private	
Soakaway	SK	Catchpit	CP
Washout	WO	Hatchbox	HB
Buried	BU	Unable to Locate	UL

REQUIREMENTS AND DEVELOPMENT/TREE PLANTING GUIDAN

In accordance with the provisions of Clause 26 of South West Water's Code of Practice, you are advised that in order to maintain adequate future access to the pipeline and to avoid interference with it, it is necessary to ensure that the following guidelines are observed:

1. Buildings And Permanent Structures

Clear working strip:

A clear working strip along the pipe is required between buildings and permanent structures and this must be:-

Pipes up to 150mm diameter	**6.0 metres**
Pipes 151-600mm diameter	**7.0 metres**
Pipes 601mm diameter and over	**9.0 metres**

If a building or permanent structure is planned within these limits please contact our Development Planning team as Build Over consent may be required. Development Planning developerservices@southwestwater.co.uk.

Proximity of buildings:

No buildings or permanent structures should be placed within 3 metres of pipes below 300mm in diameter or within 3.5 metres of pipes of 300mm or over in diameter (distances measured from the centre of the pipe), and in addition, buildings and permanent structures must be constructed so as to ensure that no additional loads are transmitted to the pipe.
(N.B: Pipe sizes refer to the internal diameter / bore of the pipe).

2. Trees And Shrubs

Roots can damage pipelines over time and extensive root systems will limit access to the pipeline in breach of the Company's right to access for repair or replacement. As a rule of thumb, the root spread of a tree is approximately the same as its eventual canopy spread. To help you avoid damage or interference to the pipeline, the Company suggests the following guidelines:

· No large or forest trees should be planted with 7 metres of the pipeline (examples include Oak, Ash, Beech, Douglas Fir, Sitka Spruce etc.)

· Medium to small sized trees should always be planted in such a way as to ensure that the eventual root spread reaches no closer than 1 metre of the pipeline, in practice, if trees are planted a distance of 5 metres away from the pipeline, this should be sufficient.

· Bushes and shrubs should never be planted closer than 2 metres from the pipeline.

· Closer than 2 metres either side of the pipeline may be planted with hedge plants and ground cover only.

· The measurement s and distances set out are for guidance only and there will always be exception, for example: Poplars and Willows, which have a particularly invasive root sys tem. If you are unsure of any individual case, then specialist advice should always be sought prior to planting.

· The guidelines set out above are based on the Company's standard access requirements for its apparatus. If, for engineering reasons, the distances set out need to be varied at particular locations, you will be advised of this before compensation for works is finalised. If you need to know the precise underground location of a new water main / sewer after its installation, please contact any of the Company's local offices, and Company staff will be pleased to mark out the position of the pipeline within your land.

· If the Company finds any infringement of its legal rights of access, or any damage being caused to the pipeline, the Company reserves the right to take appropriate action to ensure that there is no interference with its statutory apparatus.

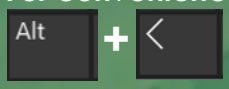
Requirements to be met by persons carrying out works near to water mains and sewers:

1. The precise position of water mains and sewers must be ascertained by hand digging trial holes after first contacting South West Water, who will give such information as is available regarding the general location of the mains and sewer in the area. No liability is accepted for the accuracy of any information given as to the position or existence of water mains and sewers . In particular, service pipes and drainage connection are not generally shown on mains records, but their presence should be anticipated and precautions taken to avoid damage.
2. Notices of intent must be given to South West Water before any works are carried out in the vicinity, except in cases of emergency when our Operations Centre should be contacted as soon as possible.
3. Unless prior written approval has been obtained, mechanical excavation may not be permitted around, or within, 3 meters of the water main or sewer. Excavation may be necessary by hand.
4. Concrete haunches or surrounds to sewer s must not be disturbed without prior written consent from South West Water.
5. Before backfilling, the mains and sewer s will be inspected and any flaws or damage to the pipe or wrapping, if found, will be repaired by South West Water . All such flaws or damage must be immediately reported to the Company as soon as they are discovered. The carrying out of such repair s by South West Water shall not affect the question of liability, should any damage found to have resulted from the acts of those undertaking the works, their contractors, servants or agents.
6. Approved backfill will be used immediately around or over the ma ins and sewer s to a minimum cover of 300mm and the remainder of the backfill shall be to the appropriate Highways Authority Specification for the Reinstatement of Openings in Highways.
7. Both the existing main or sewer and the new works shall be suitably supported to prevent future settlement and any subsequent damage to equipment.
8. Ground adjacent to concrete thrust blocks supporting the main(s) and sewer(s) must not be disturbed.
9. Adequate support must be given to all water mains and sewers where these are likely to be undermined, and to all trenches in the vicinity of these, during the process of the works.
10. No apparatus shall be laid on or over any land within 300mm measured horizontally from any part of a water main or sewer or other apparatus belonging to the Company. Provided always that this cause shall not prevent any pipe, cable or conducting medium being laid at an angle of between 45 and 90 degrees across the line of the Company's apparatus, with a vertical clearance in excess of 300mm. In exceptional circumstances this clause may be varied or deleted with the prior written consent from South West Water.
11. South West Water must be consulted before any work representing an increased risk to the integrity of the mains or sewers (e.g., piling, using explosives, thrust boring, pipe bursting etc.) is carried out.
12. Facilities for inspecting all work carried out shall be given to South West Water with adequate notice

IN THE EVENT OF A LEAK OR PIPE COLLAPSE PLEASE CONTACT SOUTH WEST WATER IMMEDIATELY ON 0344 346 2020 (24 HOURS)

Appendix 3 – Proposed Site Plan

For convenience – press "Alt + Left Arrow" to return to the section of the report



Pub Lane

Smallridge Road

Ridgeway Inn

Ridgeway Barn

SECTION ONE

SECTION TWO

SECTION THREE

PLOT 1
GF + 48.50

PLOT 2
GF + 47.00

PLOT 3
GF + 44.00
GF + 42.65

PLOT 4
GF + 45.50
LGF + 44.15

PLOT 5
GF + 45.850
LGF + 44.50

EV CHARGER

SCALE BAR 0 1 2 3 4 5 METRES

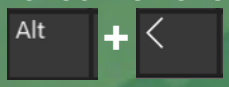
N

LAND OPPOSITE TO RIDGEWAY, SMALLRIDGE NR. AXMINSTER PROPOSED GROUND FLOOR SITE PLAN SCALE 1:100 @ AO DRAWING ST02A

NICHOLAS MORLEY ARCHITECTS LTD
Suite 10 Corum 2 Corum Office Park Crown Way Warmley Bristol BS30 8FJ
Email: njm@njmarchitecture.co.uk www:nicholasmorleyarchitects.co.uk

Appendix 4 – August AT Oval Package Treatment Plant Performance Certificate

For convenience – press "Alt + Left Arrow" to return to the section of the report



Prüfinstitut für Abwassertechnik GmbH

PERFORMANCE RESULTS

"August ir Ko" UAB
Juodasis kelias 104A, 11307 Vilnius, Lithuania

EN 12566-3
Small wastewater treatment systems for up to 50 PT

Small wastewater treatment system AT
Suspended growth activated sludge process in continuous-flow in a polypropylene tank

Test report – No PIA2014-215B38

Nominal organic daily load	0.35	kg BOD_5/d	
Nominal hydraulic daily load	0.90	m^3/d	
Material	Polypropylene		
		Efficiency	Effluent
Treatment efficiency (nominal sequences)	COD	94.4 %	45.0 mg/l
	BOD_5	98.2 %	7.0 mg/l
	SS	97.2 %	12.0 mg/l
	NH_4-N*	99.5 %	0.2 mg/l
	N_{tot}*	93.2 %	5.6 mg/l
	P_{tot}	93.3 %	0.6 mg/l
Electrical consumption	1.0	kWh/d	

**determined for temperatures ≥ 12°C in the bioreactor*

Performance tested by:

PIA – Prüfinstitut für Abwassertechnik GmbH
(PIA GmbH)
Hergenrather Weg 30
52074 Aachen, Germany

This document replaces neither the declaration of performance nor the CE marking.

Notified Body No. 1739

Certified according to ISO 9001:2008

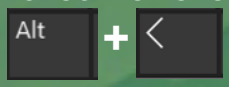
DAkkS Deutsche Akkreditierungsstelle D-PL-17712-01-00

Prüfinstitut für Abwassertechnik GmbH
geprüft - tested - testé

Elmar Lancé September 2014

Appendix 5 – PhosClear filter Performance Certificate

For convenience – press "Alt + Left Arrow" to return to the section of the report



Prüfinstitut für Abwassertechnik GmbH

Prüfeinrichtung des Prüf- und Entwicklungsinstituts für Abwassertechnik an der RWTH Aachen

Prüfinstitut für Abwassertechnik GmbH

Report on the treatment efficiency test according to EN 12566-7 of the small tertiary wastewater treatment plant

Fosforfilter Polonite®

Bioptech AB

Test report – No PIA2015-T7-265S13.02

Aachen, November 2015, revised December 2015

Dipl.-Ing. Elmar Lancé

PIA GmbH
Prüfinstitut für Abwassertechnik
Hergenrather Weg
52074 Aachen

Table 1: Treatment efficiencies under nominal loading conditions (100%)

Efficiency [%]	Mean*	Minimum	Maximum	Standard deviation
COD	25.4	0	53.1	15.9
BOD_5	68.0	0	90.0	24.8
P_{tot}	92.7	71.3	99.1	8.5
SS	12.9	0	50.0	17.2

Table 2: Treated effluent characteristics under nominal loading conditions (100%)

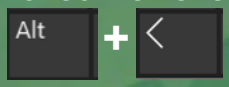
Effluent		Mean	Minimum	Maximum	Standard deviation
COD	[mg/l]	31	< 15	55	11
BOD_5	[mg/l]	2	< 3	6	1
P_{tot}	[mg/l]	0.7	0.1	2.4	0.7
SS	[mg/l]	17	6	48	11
Settleable solids	[ml/l]	0.1	< 0.1	0.2	0.1

Table 3: Bacterial results from 8 weeks consecutive sampling

Test schedule	Test sequence		1	5
	Loading		100 %	100 %
	Date		21.05.2015	16.07.2015
Air Temperature min/max		[°C]	5 / 14	17 / 24
Influent:				
Total Coliforms		[1/100ml]	98.000	8.600
E.coli		[1/100ml]	1.000	3.100
Enterococci		[1/100ml]	1.800	311
Effluent:				
Total Coliforms		[1/100ml]	1.000	< 1
E.coli		[1/100ml]	< 1	< 1
Enterococci		[1/100ml]	320	116

Appendix 6 – SPEL Filter Performance Certificate

For convenience – press "Alt + Left Arrow" to return to the section of the report



Certification of Confidence

Based on an academic review of available SPELFilter design and performance literature, this document hereby confers confidence in the performance values reported below [1]. Laboratory SPELFilter performance testing was carried out at field scale by both the *Water Research Laboratory* of the *University of New South Wales* and *Drapper Environmental Consultants*. Applied test methodologies were based on established test protocols, expertise and published studies relevant to the assessment of proprietary runoff water treatment devices. With respect to the capture of sediments and metals, test methodologies broadly fell within the specifications of the *CIRIA SuDS Manual 2015* and thereby, the *British Water Code of Practice for the Assessment of Manufactured Treatment Devices Designed to Treat Surface Water Runoff*. Further to the requirements of the code, capture efficiencies relative to total nitrogen and total phosphorus were also determined. Where differences of approach were apparent, these were not considered to undermine the overall practical reliability of the performance values reported.

Surface Runoff Water Treatment Device:	**SPELFilter**	
Connectable Area:	**Full height [850 mm]**	**400 m² per filter**
	Half height [550 mm]	**200 m² per filter**
Treatment Flow Rate:	**Full height**	**3 L/s per filter**
	Half height	**1.5 L/s per filter**
Max. Installation Flow Rate:	**As above; multiplication of the number of filters needed to treat the required flow.**	

Capture Efficiencies

Total Suspended Sediment:	**91%**
Total Phosphorous:	**76%**
Total Nitrogen:	**58%**
Dissolved Metals:	**63%***
Total Metals (dissolved and sediments):	**84%****

Note: This document does not replace the academic review report [1].

Review Conducted by:

16/07/2021

Dr David Ward PhD, MSc(Res), BEng(Hon), AMIChemE

Senior Lecturer in Energy Systems & Sustainability, Faculty of Science & Engineering, University of Chester, UK.

* Average based on reported efficiencies for copper, zinc and lead [1]. Efficiencies were determined relative to inlet concentrations that were even lower than those specified by the British Water Code of Practice.
** Assumes total metals fraction to be 75% sediments and 25% dissolved and hence, efficiency is determined by weighted summation [2].

1] Ward D (2021), SPELFilter Design & Performance Review: Requirements for Application within the United Kingdom, Faculty of Science and Engineering, University of Chester, UK.
2] British Water How To Guide; Applying the CIRIA SuDS manual Simple Index Approach to Proprietary/Manufactured Stormwater Treatment Devices, Section 4.3 (British Water 2019, under review).

Appendix 7 – Maintenance Requirements

For convenience – press "Alt + Left Arrow" to return to the section of the report

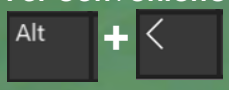


Table A7.1 – SuDS Maintenance Requirements – Permeable Paving		
CIRIA C753 Maintenance Requirement		
Maintenance schedule	**Required action**	**Typical Frequency**
Regular Maintenance	Annually	Brushing and vacuuming (standard cosmetic sweep over whole surface)
Occasional Maintenance	As necessary	Stabilise and mow contributing and adjacent areas
	As necessary	Removal of weeds
Remedial Actions	As necessary	Remediate any landscaping which, through vegetation maintenance or soil slip, has been raised to within 50 mm of the level of the paving
	As necessary	Remedial work to any depressions, rutting and cracked or broken blocks considered detrimental to the structural performance or a hazard to users, and replace lost jointing material
	Every 10-15 years	Rehabilitation of surface and upper substructure by remedial sweeping
CIRIA C808 Maintenance Requirement		
It is unlikely that the permeable paving will be lifted to replace the subsurface layers. The only maintenance activity that is required is sweeping the surface when needed.		

Table A7.2 – SuDS Maintenance Requirements – Rainwater Harvesting System		
CIRIA C753 Maintenance Requirement		
Maintenance schedule	**Typical Frequency**	**Required action**
Regular Maintenance	Annually (and following poor performance)	Inspection of the tank for debris and sediment buildup, inlets/outlets/withdrawal devices, overflow areas, pumps, filters
	Annually (and following poor performance)	Cleaning of tank, inlets, outlets, gutters, withdrawal devices and roof drain filters of silts and other debris
Remedial Actions	Three monthly (or as required)	Cleaning and/or replacement of any filters
Monitoring	As required	Repair of overflow erosion damage or damage to tank
		Pump repairs

Appendix 8 – Phosclear Filter Maintenance Requirements

For convenience – press "Alt + Left Arrow

TRICEL
GENERATIONS OF INNOVATION

Tricel PhosClear

Installation and Service Manual

Phosphorus Removal in Packaged Wastewater Treatment

Tricel PhosClear 6-8PE and 10-12PE

Ensuring Compliance and Peace of Mind

Representation of a Tricel Novo sewage treatment plant followed by a Tricel PhosClear unit.

1544954/0-PhosClear-July 2025

Table of contents

This manual concerns procedures and guidelines for installation, commissioning, operation, trouble shooting and maintenance of the Tricel PhosClear post treatment. Instructions for pre-treatment and other equipment included in the specific project are found in separate manuals.

Picture 1 – Representation of a Tricel Novo sewage treatment plant followed by a Tricel PhosClear unit.

1 Introduction

The PhosClear system is designed to treat ordinary household wastewater. Only treated domestic wastewater is permitted to enter the wastewater treatment plant unless specifically approved by Tricel.

1.1 Maximum load

The Tricel PhosClear systems allow for fluctuations in both concentrations and volume of the incoming water. However, if the average daily load exceeds the capacity of the designed system, a larger system must be installed.

1.2 Operation cost

System operation settings and power consumptions can be seen in the project specific commissioning, operation and maintenance manual.

2 Precautions when working with wastewater

Protecting Workers from Infection

Along with “good” micro-organisms that break down sewage, wastewater contains disease-causing bacteria, viruses, fungi and parasites. When workers can’t avoid contact with sewage, management should provide the following protective equipment and services:

- Elbow-length rubber gloves
- Protective clothing
- Goggles
- Disposable mask to be worn in dusty sludge areas or areas with heavy aerosols
- Commercial high temperature washing machines for work clothing

Workers should also take the following precautions:

- Wash gloves before removing them.
- Wash hands before smoking and eating.
- Keep protective clothing and equipment out of eating areas.
- Keep work clothes and street clothes in separate lockers.
- Shower and change into street clothes before going home.
- Consider all cuts or abrasions to be infected. Flush them with large amounts of clean, running water and soap, and bandage them with a sterile dressing.
- Workers should have a tetanus booster every 10 years and workers, who have never been vaccinated for polio, should consult a physician about getting a vaccination.
- Workers should receive the hepatitis A vaccination. Workers working in sewers that may contain fresh blood or come into regular contact with used syringes or body parts should receive the hepatitis B vaccination.
- Trucks that carry materials contaminated with sewage should be washed frequently.
- Records should be kept of workers’ major and minor illnesses and complaints of irritation and discomfort.

Seek medical attention when you have diarrhea or are ill. Since doctors are often unaware of the connections between occupation and disease, be sure to inform your personal physician of job exposure to sewage.

3 System

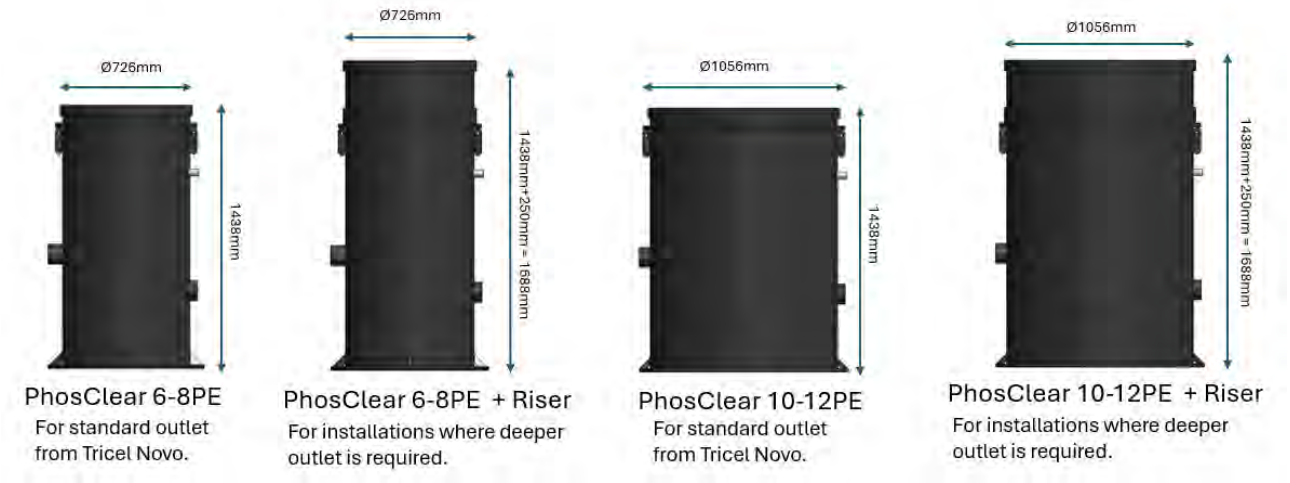
3.1 Configurations

PhosClear for single households comes in two different standard versions, PhosClear 6-8PE and PhosClear 10-12PE. In addition to the two sizes, there's also possible to include a riser, to increase the inlet depth by 250mm.

The riser can be installed on site in case a deeper inlet is required.

Customized sizes can be offered upon request.

For sizes, capacities etc. see separate PhosClear brochure.



Picture 2 – Possible combinations of PhosClear w. and wo. riser

3.2 Process

1. The treated water from the Tricel Novo system enters the PhosClear treatment unit with gravitation through the inlet.

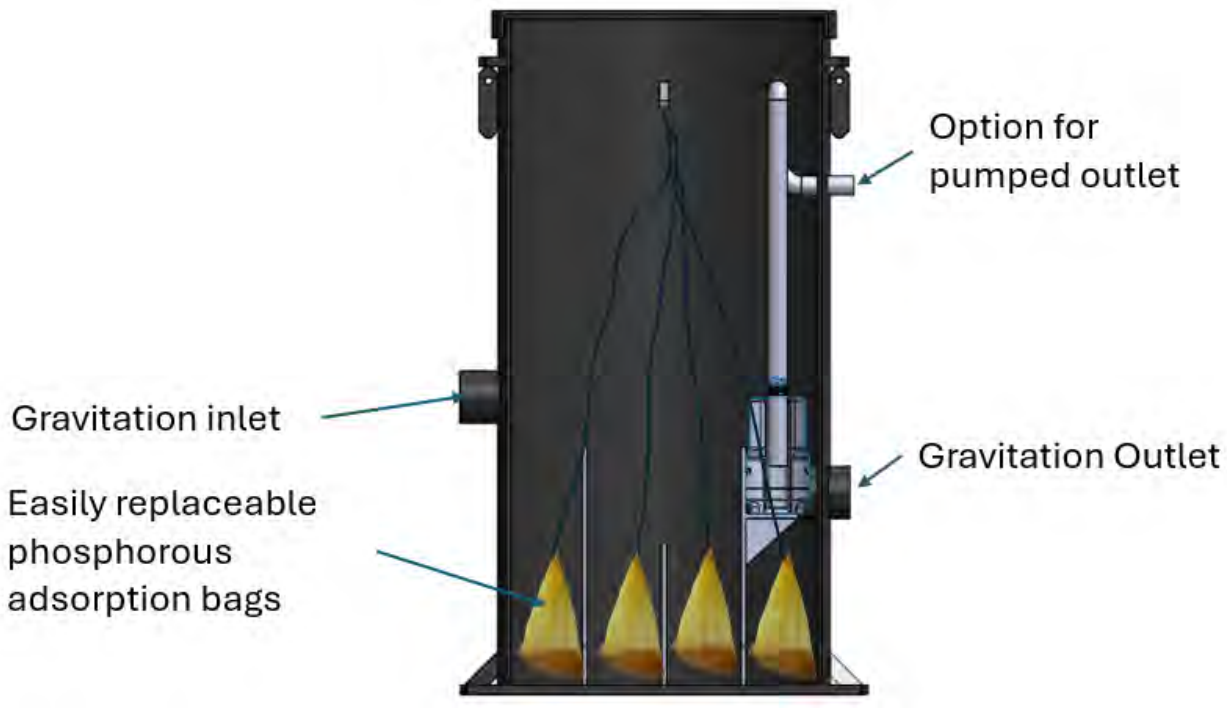
2. In PhosClear 6-8PE 4x 6,25kg bags with Polonite are placed in each of the four treatment chambers, and the water passes through the chamber alternately from top to bottom, and bottom to top.
   In PhosClear 10-12PE 6x 6,25kg bags with Polonite are placed in each of the four treatment chambers.

3. For a house with a nominal load, with PhosClear 6-8 PE, each year the eight bags in the first two chambers are removed, and the bags in the other chambers are moved two chambers forward.

   With PhosClear 10-12 PE, each year the 12 bags in the first two chambers are removed, and the bags in the other chambers are moved two chambers forward.

4. The bags remove phosphorous through adsorption, and will also disinfect the treated water removing remaining E.coli bacteria.

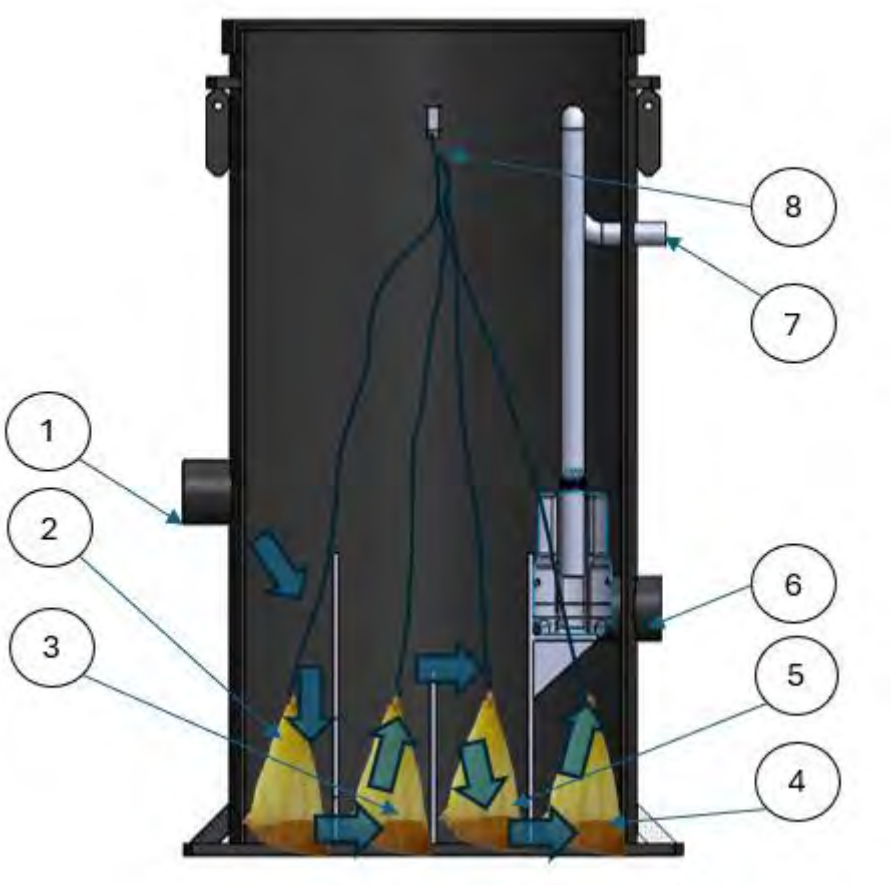
5. In the final chamber the treated water gravitates out of the system to the recipient. If it's required to lift the water out of the system, an optional outlet pump can be installed.



Picture 3 – How does a PhosClear unit work (the process)?

3.3 Features

Item #	Function
1	Inlet
2	Treatment chamber 1
3	Treatment chamber 2
4	Treatment chamber 3
5	Treatment chamber 4
6	Gravitation outlet
7	Pumped outlet
8	Hook for polonite bag cords



Picture 4 – How does a PhosClear unit work (the features)?

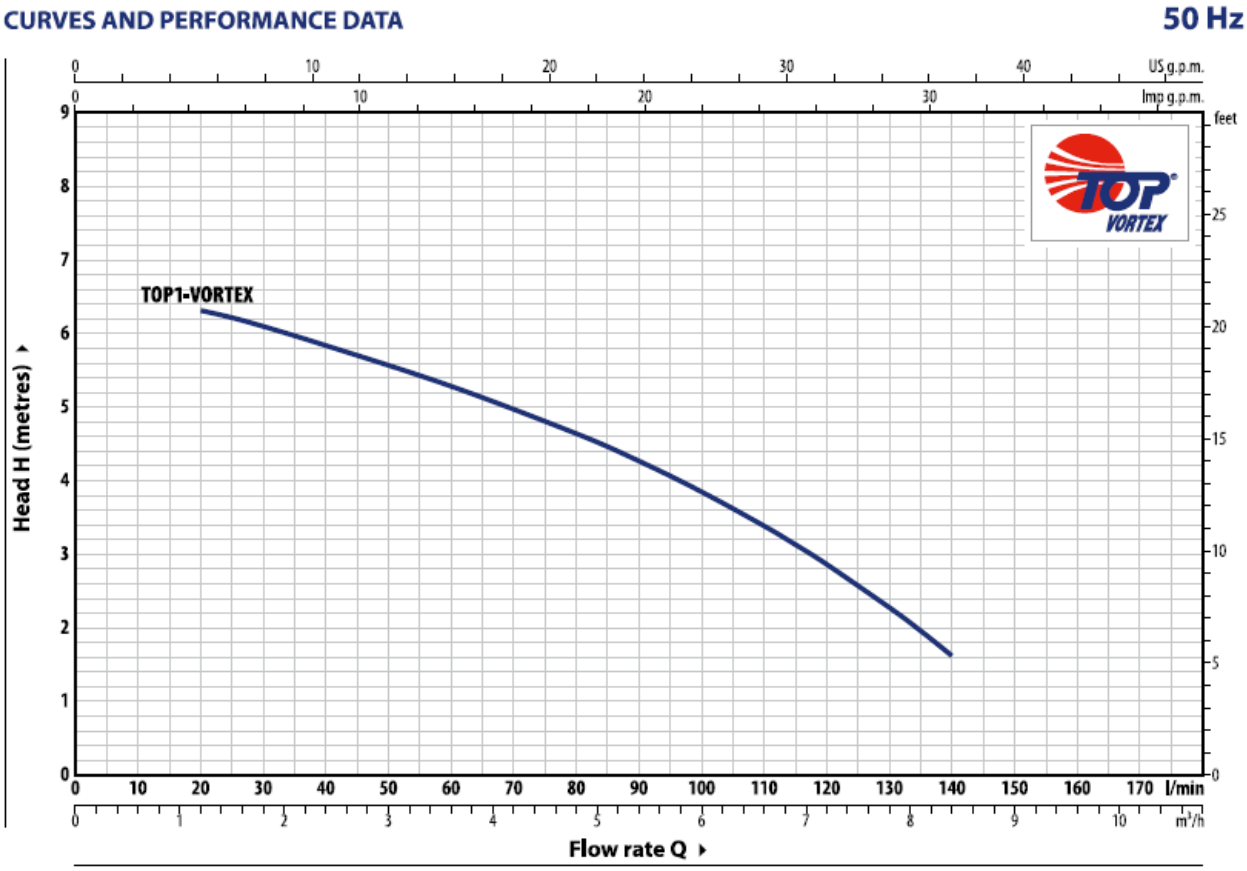
3.4 Pumped Outlet

A pumped outlet option available for all population.

A non-return valve installed on the pumped outlet will prevent backflow into the plant.

Outlined below is the standard pump specification. Other pump options are available to customer specifications if required; please contact your Tricel supplier.

3.4.1 Standard pump specification:



Picture 5: Pump specification

For greater pump distance requirements, contact Tricel.

4 Installation

4.1 Foundation

Civil works can be completed prior to the arrival of the PhosClear system, which will make the installation faster when the equipment is delivered.

The foundation must be leveled. Local norms and standards apply when determining design loads, material strength and dimensions of concrete and reinforcement.

The leveled load bearing surface with a maximum level variation of +/- 0,5 cm high per 1 meter across. Surface must consist of either (i) stable compressed gravel, (ii) concrete slab built on stable soil, or (iii) a checker plate capable of handling the load.

4.1.1 Concrete specifications

Semi-dry concrete 25n grade with a ratio of 4.5/1 parts aggregate to cement.

Important: 

• Standard concrete mixes should not get used where sulphates or similarly aggressive chemicals are present in the groundwater.

• Lift height (rate of rise): Determine the lift height (m), or rate of rise (m/h) for the specific concrete type used, to ensure that a design pressure (P max) of 15kN/m2 on the tank does not get exceeded.

• Vibration: The tank design assumes minimal compaction of the surrounding concrete. Where necessary, this may be extended to include internal light vibration. Never use deep revibration which will substantially increase the pressure on the tank, possibly causing failure.

• Impact of concrete on discharge: Under no circumstances should concrete be discharged directly onto the tank.

4.2 Unloading the PhosClear unit

The system will normally be shipped to site on a standard trailer. It is important that precaution is taken during unloading to avoid impact and damage on the tanks and equipment. Tank dimensions are found on the PhosClear brochure.

Tricel do not accept liability for any damage caused during the offloading procedure.

4.2.1 Recommended handling tools (not included)

It is important that precautions are taken during unloading to avoid impact and damage on the equipment.

The system comes with pre-installed lifting straps, installed in the lifting eyes on the side of the tank. This makes it easy to handle the units when installing the equipment, see Picture 6 – Eyes for lifting straps. The low weight of the unit makes it easy to handle with a forklift or a small excavator.

Picture 6 – Eyes for lifting straps

Notice: Do not lift the PhosClear units with water inside.

4.3 Control of packing list

Always check that the components and parts received are in accordance with your order and packing list. Also ensure that the goods are without visible damages or faults.

All pipe dimensions in this manual are external diameter.

4.4 Inspection of vital components

Treatment Plant: Tricel PhosClear

Check all tanks and filters are not damaged in any way.

All equipment is installed internally in the PhosClear unit, so only connections are in- and outlet and main power to the control box.

Polonite bags

Check that Polonite bags are undamaged and correctly installed in the bottom of the four treatment chambers.

Outlet pump System (if included)

If the system is delivered with an integrated pump system, check components for pump system are in accordance with the check list in this manual.

Float Switch System (for outlet pump system if included)

The float switch system is installed directly on the outlet pump and will operate on a water level of ±5cm.

Other parts

Check that all remaining parts are undamaged and according to parts list.

4.5 Installation of PhosClear

The system must be installed according to guidelines described in this manual or the project specific layout drawings approved by Tricel.

4.5.1 Placing the units

The unit is placed on a flat and leveled load bearing surface with a maximum level variation of +/- 0,5 cm high per 1 meter across. Surface must consist of either (i) stable compressed gravel, (ii) cast concrete slab built on stable soil, or (iii) a checker plate capable of handling the load, see Picture 7 - Backfill example

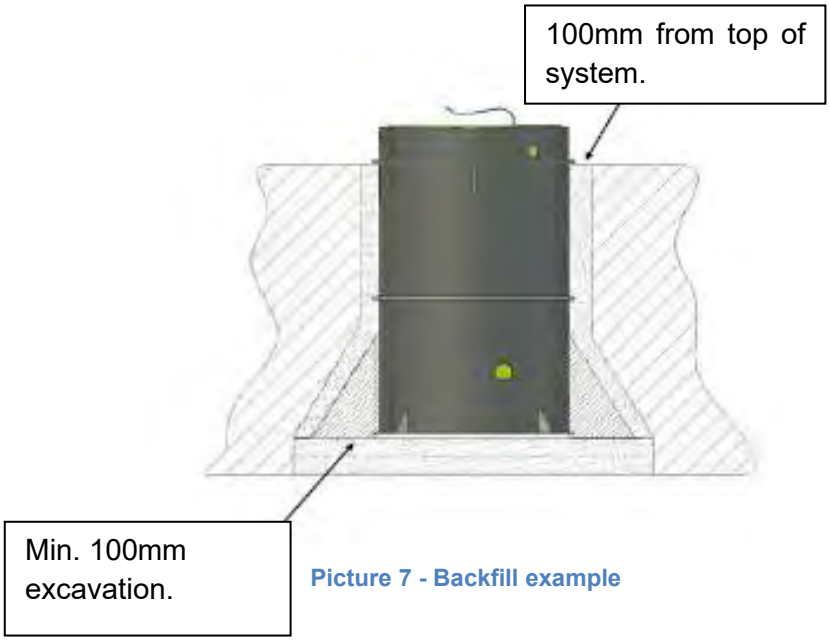
If the groundwater table is high, i.e. covers more than 300mm from the bottom of the plant, it's important that the ground around the unit is drained and sufficient groundwater lowering is done.

Before backfilling with gravel around the plant, the tank must be filled with water. The gravel that is backfilled with should be compacted by watering every 20 cm.

The filling around the pipes and PhosClear unit is done with gravel suitable for installing pipes in-ground. The rest of the backfill is done with suitable soil or friction material without stones.

The PhosClear unit is a very strong and rigid tank, but it's not recommended to use heavy compaction methods e.g. vibrators.

Note! The PhosClear must as standard not be installed above ground. Should this be a requirement, please contact Tricel.



Picture 7 - Backfill example

4.6 Gravel specification

Primary backfill specification

• Primary backfill material should be free-flowing granular material.

• Compaction should be by lightweight rollers or vibratory plate. Compact gravel evenly to ensure proper support for the tank. Ensure the vibrating machine does not come in contact with the shell of the tank.

• Tanks must get installed with primary backfill only within the region immediately

surrounding the tanks. This primary backfill must extend a minimum of 250mm outward from the tank, and directly beneath it.

• Backfill material shall not be frozen or contain lumps of frozen material at any time during installation.

• Use of other than specified backfill and bedding materials will void the tank warranty.

The following materials have approval as primary backfill:

Rounded pea gravel

• Minimum particle size 3mm, maximum 18mm, compacted to a relative density of >70%.

• Gravel shall be clean and free flowing, free from large rocks, dirt, sand, roots, organic materials or debris.

• Upon screening analysis, the backfill material shall have no more than 5% by weight passing 2.36mmsieve.

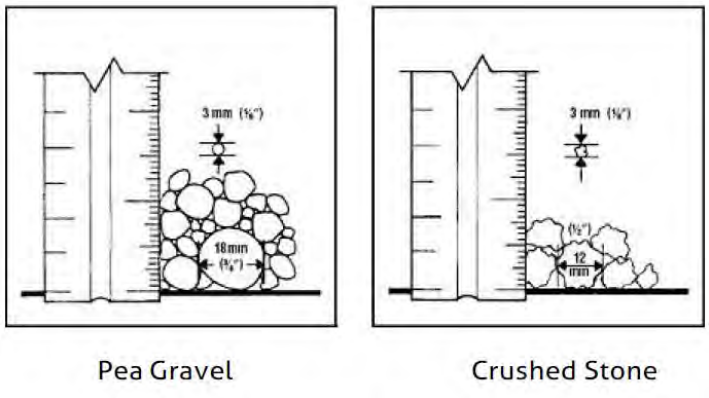
Or

Crushed or processed stone

• Minimum particle size 3mm, maximum 12mm, compacted to a relative density of >40%

• Dry Gravel density must be at least 1500 kg/m3. The material should be washed or screened to remove fine particles.

• Upon screening analysis, the backfill material shall have no more than 5% by weight passing 2.36mm sieve.



Picture 8 - Gravel specifications

4.7 Concrete specification

Semi-dry concrete 25n grade with a ratio of 4.5/1 parts aggregate to cement.

Important

• Standard concrete mixes should not get used where sulphates or similarly aggressive chemicals are present in the groundwater.

• Lift height (rate of rise): Determine the lift height (m), or rate of rise (m/h) for the specific concrete type used, to ensure that a design pressure (P max) of 15kN/m2 on the tank does not get exceeded.

• Vibration: The tank design assumes minimal compaction of the surrounding concrete.

Where necessary, this may be extended to include internal light vibration. Never use deep revibration which will substantially increase the pressure on the tank, possibly causing failure.

• Impact of concrete on discharge: Under no circumstances should concrete be discharged directly onto the tank.

4.8 Topsoil requirements

Clean native topsoil shall not contain rocks larger than 36mm on largest dimension.

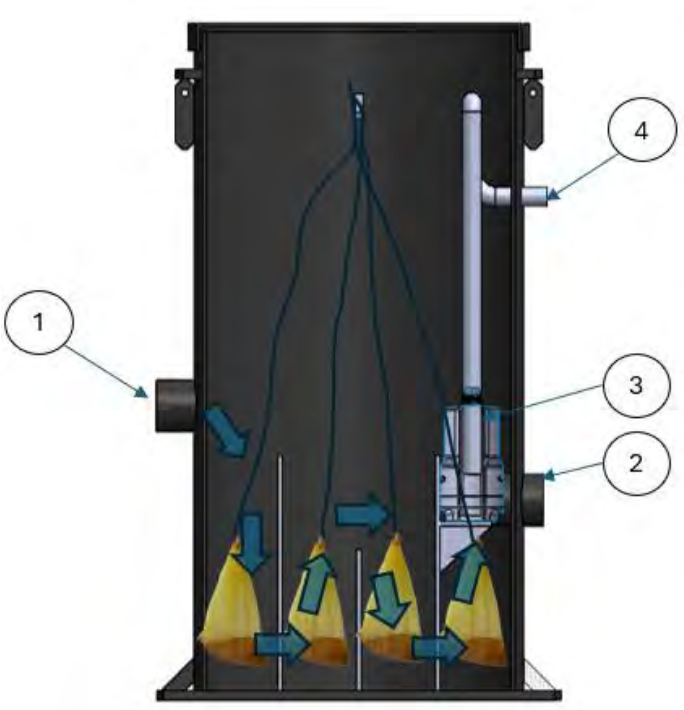
Note: The use of geotextile barrier fabrics surrounding the primary backfill material is considered good installation practice. This fabric must be chosen to allow the flow of water in and out of the excavation but to prevent the movement of fine soil particles into the primary backfill material.

4.9 Connections

The PhosClear system comes as a complete plug and play unit, and therefore as standard only has two connections, inlet and outlet, and for the optional pump versions also an electrical power supply.

- Inlet pipe from Tricel Novo or other treatment plants: Ø110 PVC.
- Outlet pipe for treated water: Ø110PVC for gravitation, Ø40mm for pumped outlet.
- Power cable (only for versions wit included outlet pumps) – For dimensions see electrical specifications.

Ensure that the in- and outlet pipes are fixed, and that the water flows freely to and from the system.



Picture 9 - Flow through a PhosClear unit

Item #	Connection
1	Inlet – Ø160 PVC
2	Outlet for gravitation outlet – Ø160 PVC
3	Power cable – See electrical specification
4	Outlet for pumped outlet – Ø40mm

Picture 10 - Item list (describing the flow through a PhosClear unit)

4.10 Electrical specifications

If there's a pumped outlet installed, the system must be powered directly from HMI with a single phase 230V connection. The cable size must be 3 x 1,5mm² and the maximum load will be 5A.

4.11 Control scheme - installation

ID (SECTION)	TASK	REFERENCE DOCUMENTS	ACCEPTANCE CRITERIA
4	Follow instructions in section 3.1 prior to installing the equipment	Project specific layout drawings	Civil works is made according to project specific layout and no cracks or similar deviations are observed
4.3	Follow instructions in section 4.3 after equipment has arrived to customer	Project specific parts list and packing list	Supplied equipment is according to Specific parts list and packing list
4.4	Follow instructions in section 4.4 after equipment has arrived to customer	Project specific parts list and packing list	No damages or errors are observed on the supplied equipment
4.5	Follow instructions in section 4.5 when installing the system	Project specific detail drawings	the system is installed according to detail drawings and this manual

5 Commissioning

When commissioning the PhosClear system must be filled with water.

After commissioning the system, the following is observed (normal operation):

It is found that the water gravitates unobstructed from the inlet, under and over the divider plates to the outlet.

If an outlet pump is installed the activation of the pump is controlled by lifting the integrated float switch.

After the system has been commissioned, it must be ensured that the system is securely locked and sealed, see Picture 11 - Example of a sealed PhosClear unit.

Picture 11 - Example of a sealed PhosClear unit

6 Operations and Maintenance

6.1 Water Samples

To ensure that the plant performs according to specification, it is important to measure the water quality at the outlet.

To take samples that are as accurate as possible, make sure the sample bottles are clean and the sample is obtained in the last settling zone 10 cm below the surface. Water samples must be stored cold until they are analyzed, preferably in a freezer or alternatively in a refrigerator. Analysis must be done in a certified laboratory. Samples must be obtained as the first part of the maintenance procedure prior to functionality control.

The oxygen level shall be > 70 % in all chambers and is expected to increase through the system. The pH shall be > 6.5 and <8.5 in all chambers and is expected to fall only a little through the plant.

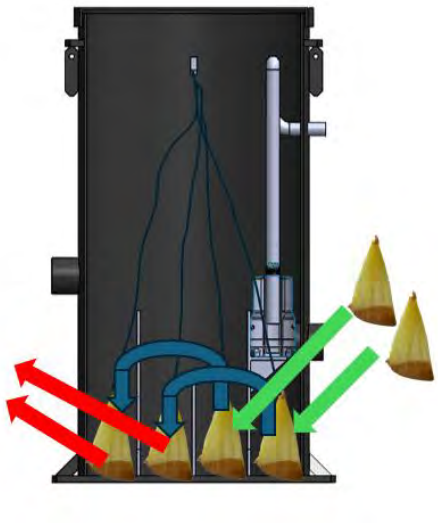
6.2 Confirmation of Connections

Confirm that connections are assembled according to the description in section 4.9 Connections.

6.3 Polonite bags

At annual service the condition of the Polonite bags is controlled. At normal load, for a PhosClear 6-8 PE, a total of eight bags in the first two chambers must be removed, and bags in the third and fourth chambers are moved two chambers forward, see below.

At normal load, for a PhosClear 10-12 PE, a total of twelve bags in the first two chambers must be removed, and bags in the third and fourth chambers are moved two chambers forward, see below.



Picture 12 - Replacement of Polonite bags

6.4 Outlet pumps

Prior to performing any maintenance on the pump, un-plug the pump to ensure that it is not accidentally powered during maintenance.

Assess the pump at each ordinary service. Confirm that the piping is safely fastened to the wall of the pump well.

Pull up the pump and confirm the following:

- Pump is intact and undamaged.
- Impeller is intact.

If the pump or impeller appears damaged or worn, the pump should be replaced. Confirm that all wires are intact and are not affected by weathering. If there is any doubt replace the wires.

6.5 Recommended Spare Parts List for PhosClear – 6-8PE

Component*	Expected Component replacement frequency
Polonite bags	8 x 6,25kg bags - 1 years (only from first two chamber)
Inlet pump and float switches	7 years

*For specific brand and model; see project specific parts list

6.6 Recommended Spare Parts List for PhosClear – 10-12PE

Component*	Expected Component replacement frequency
Polonite bags	12 x 6,25kg bags - 1 years (only from first two chamber)
Inlet pump and float switches	7 years

*For specific brand and model; see project specific parts list

6.7 Operation Without Wastewater for up to 6 Months

If limited or no wastewater is flowing to the PhosClear system for days or weeks at a time, Tricel recommends continually operating the system as normal.

For any questions not clarified in this instruction please contact Tricel directly.

Tricel Environment UK, Tricel Weston, Winterstoke Road, Weston-super-Mare, BS24 9AN, United Kingdom
Tel: 44 (0) 1934 422 311 I Email: customerservice@tricelwater.co.uk I www.tricel.co.uk

Appendix 9 – SuDS Considerations

For convenience – press "Alt + Left Arrow" to return to the section of the report

Alt + <

Step 1 Calculate quantity in the runoff each year	• 0.78 kg/year
Step 2 Calculate quantity of runoff that can be infiltrated to ground using SuDS	• 0.09 kg/year.
Step 3 Calculate the quantity of remaining phosphorus that can be removed using SuDS.	• 0.65 kg/year
Step 4 In heavy rain, some runoff may bypass all SuDS without treatment. Calculate this volume and quanity of phosphorus it contains	• Surface water network shall be designed to attenuate all storms up to and including the 1-100 year event + climate change allowance.
Step 5 Calculate the quanitty of phsophorus to be mitigated offsite	• 0.04 kg/year to be overcome through onsite measures.

Table A9.1 – SuDS Considerations	
Consideration	**Site Relevance**
Previous land use	The existing superficial soils shall be replaced with hardstanding and repurposed topsoil.
The influent to the system or device must contain phosphorus in adequate levels to achieve the anticipated treatment. If the TP level in the influent is too low, then the anticipated level of treatment may not be met.	The influent to the system will have adequate levels of phosphorus.
Treatment flow rate or volume to be treated by the nutrient removal devices	To be covered within Civil Engineers Drainage Design.
TP removal by infiltration to the ground	N/A – Infiltration not possible
The SuDS management train should be designed to manage both particulate phosphorus and dissolved phosphorus. The design should demonstrate which of the devices capture particulate P, DP, or both and the quantity of TP captured.	The SuDS management train has been designed to manage particulate and dissolved phosphorus.
The nature of treatment media and growth media in devices will have significant consequences for the level of phosphorus removal that the device can achieve.	Treatment media will be selected to specifically capture phosphorus.
DP is bioavailable and represents a significant concern for receiving water quality.	Components have been selected to reduce both DP and PP.
Maintenance requirements of new, innovative treatment devices cannot always be defined so regular inspection and monitoring may be needed until adequate data and experience is gathered.	SuDS measures deployed on-site are well studied, however they will need to be monitored and regularly inspected to ensure performance.
Routine maintenance of SuDS devices to remove sequestered forms of phosphorus before they become bioavailable again is a critical factor in effective phosphorus removal (Clary et al, 2020)	SuDS will be maintained in accordance with CIRIA C753 and CIRIA C808.
If maintenance requires removal of vegetation, it must be removed from site and has the potential to be used as commercial or municipal compost feed.	SuDS will be maintained in accordance with CIRIA C753 and CIRIA C808.
Runoff from surrounding land	Drainage from surrounding land will not enter SuDS treatment train.
Capture or by-pass large rainfall events for sedimentation devices.	Civil Engineering Drainage Plan will include exceedance paths for large storm events, in order to not 'flush' and resuspend particulate phosphorus.

Sustainability of materials.	The treatment media is quarried stone and selected treatment media, which would have otherwise been/could have been installed if the development were not affected by nutrient neutrality.
Effectiveness of 2nd and 3rd devices needs to be considered carefully.	SuDS treatment trains have been factored accordingly.
Despite this process being for the reduction of phosphorus pollution, the SuDS management train should still satisfy the requirement of CIRIA C753 and deliver all four ' Pillars of SuDS'	The proposed SuDS are designed to enhance water quality and reduce flood risks by minimising surface water runoff.
Sediment capture upstream of ponds, basins and wetlands.	There will be sediment capture devices prior to the SuDS features to capture sediment.

Appendix 10 – SuDS Removal Calculations

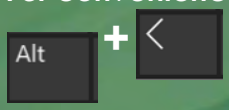
For convenience – press "Alt + Left Arrow" to return to the section of the report

Treatment train B		
PP		
Initial PP	PP removal	Final PP removal
55.00%	41.00%	41.00%
14.00%	39.00%	5.46%
8.54%	21.00%	1.79%
6.75%	0.00%	0.00%
6.75%	0.00%	0.00%
	Total	48.25%

Treatment train B		
DP		
Initial DP	DP removal	Final DP removal
45.00%	34.00%	34.00%
11.00%	34.20%	3.76%
7.24%	0.00%	0.00%
7.24%	0.00%	0.00%
7.24%	0.00%	0.00%
	Total	37.76%

Appendix 11 – Vegetated Areas Mapping

For convenience – press "Alt + Left Arrow" to return to the section of the report



LAND OPPOSITE TO RIDGEWAY, SMALLRIDGE NR. AXMINSTER PROPOSED GROUND FLOOR SITE PLAN SCALE 1:100 @ AO DRAWING ST02A

Smallridge Road

PN2

H5

PN6

T2

T2

T2

T2

PN1

PN5

PN4

H4

Pub Lane

H1

H2

PN3

SECTION ONE

SECTION TWO

SECTION

SCALE BAR 0 1 2 3 4 5 METRES

N

Legend

- Redline
- Blueline
- u1b5 – Developed Land; Sealed Surface (Buildings)
- u1b – Developed Land; Sealed Surface (Sealed Surfaces)
- 828 – Vegetated Garden
- g3c – Other Neutral Grassland
- 32 – Individual Rural Tree's
- h2a5 11 200 - Species-rich Native Hedgerow with Trees, Associated with a Bank or Ditch
- h2a5 11 200 - Species-rich Native Hedgerow with Trees, Associated with a Bank or Ditch
- h2b - Non-native and Ornamental

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Appendix 12 – Interception Calculations

For convenience – press "Alt + Left Arrow" to return to the section of the report

Enviren

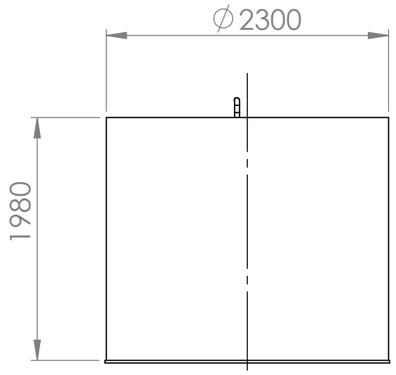
Interception Calculator

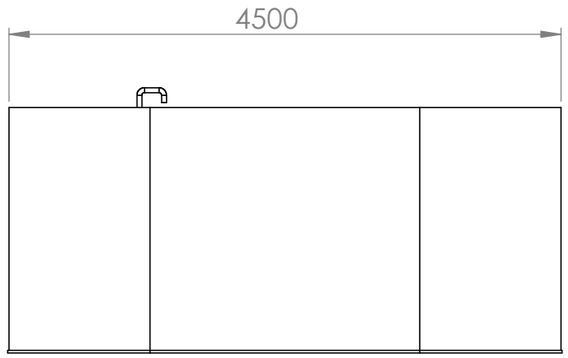
Return Period	Occurences over development design life	Maximum design return period	Z2 factors	Runoff volume (m3) per hectare per event*	Runoff volume litres per hectare per event	Event Phosphorus (mg) per hectare @ 0.41mg/l	Event Phosphorus per hectare (kg)	Phosphorus load per hectare over design life (kg)
<5mm	7800.00	100	N/A	8.850	8850.00000	3628.50000	0.00363	28.30230
1 (>5mm)	7800.00	100	N/A	34.400	34400.00000	14104.00000	0.01410	110.01120
1	100.00	100	0.64	114.441	114440.69903	46920.68660	0.04692	4.69207
2	50.00	100	0.81	144.839	144839.00971	59383.99398	0.05938	2.96920
3	33.33	100	0.90	160.932	160932.23301	65982.21553	0.06598	2.19941
4	25.00	100	0.97	173.449	173449.18447	71114.16563	0.07111	1.77785
5	20.00	100	1.03	184.178	184178.00000	75512.98000	0.07551	1.51026
6	16.67	100	1.07	191.688	191688.17087	78592.15006	0.07859	1.30987
7	14.29	100	1.11	199.198	199198.34175	81671.32012	0.08167	1.16673
8	12.50	100	1.16	206.709	206708.51262	84750.49017	0.08475	1.05938
9	11.11	100	1.20	214.219	214218.68350	87829.66023	0.08783	0.97589
10	10.00	100	1.24	221.729	221728.85437	90908.83029	0.09091	0.90909
11	9.09	100	1.26	225.484	225483.93981	92448.41532	0.09245	0.84044
12	8.33	100	1.28	229.239	229239.02524	93988.00035	0.09399	0.78323
13	7.69	100	1.30	232.994	232994.11068	95527.58538	0.09553	0.73483
14	7.14	100	1.32	236.749	236749.19612	97067.17041	0.09707	0.69334
15	6.67	100	1.35	240.504	240504.28155	98606.75544	0.09861	0.65738
16	6.25	100	1.37	244.259	244259.36699	100146.34047	0.10015	0.62591
17	5.88	100	1.39	248.014	248014.45243	101685.92550	0.10169	0.59815
18	5.56	100	1.41	251.770	251769.53786	103225.51052	0.10323	0.57348
19	5.26	100	1.43	255.525	255524.62330	104765.09555	0.10477	0.55140
20	5.00	100	1.45	259.280	259279.70874	106304.68058	0.10630	0.53152
21	4.76	100	1.47	263.035	263034.79417	107844.26561	0.10784	0.51354
22	4.55	100	1.49	266.790	266789.87961	109383.85064	0.10938	0.49720
23	4.35	100	1.51	270.545	270544.96505	110923.43567	0.11092	0.48228
24	4.17	100	1.53	274.300	274300.05049	112463.02070	0.11246	0.46860
25	4.00	100	1.56	278.055	278055.13592	114002.60573	0.11400	0.45601
26	3.85	100	1.58	281.810	281810.22136	115542.19076	0.11554	0.44439
27	3.70	100	1.60	285.565	285565.30680	117081.77579	0.11708	0.43364
28	3.57	100	1.62	289.320	289320.39223	118621.36082	0.11862	0.42365
29	3.45	100	1.64	293.075	293075.47767	120160.94584	0.12016	0.41435
30	3.33	100	1.66	296.831	296830.56311	121700.53087	0.12170	0.40567
31	3.23	100	1.67	297.762	297762.40859	122082.58752	0.12208	0.39381
32	3.13	100	1.67	298.694	298694.25407	122464.64417	0.12246	0.38270
33	3.03	100	1.68	299.626	299626.09955	122846.70081	0.12285	0.37226
34	2.94	100	1.68	300.558	300557.94503	123228.75746	0.12323	0.36244
35	2.86	100	1.69	301.490	301489.79051	123610.81411	0.12361	0.35317
36	2.78	100	1.69	302.422	302421.63599	123992.87076	0.12399	0.34442
37	2.70	100	1.70	303.353	303353.48147	124374.92740	0.12437	0.33615
38	2.63	100	1.70	304.285	304285.32695	124756.98405	0.12476	0.32831
39	2.56	100	1.71	305.217	305217.17243	125139.04070	0.12514	0.32087
40	2.50	100	1.71	306.149	306149.01791	125521.09734	0.12552	0.31380
41	2.44	100	1.72	307.081	307080.86339	125903.15399	0.12590	0.30708
42	2.38	100	1.72	308.013	308012.70887	126285.21064	0.12629	0.30068
43	2.33	100	1.73	308.945	308944.55436	126667.26729	0.12667	0.29458
44	2.27	100	1.73	309.876	309876.39984	127049.32393	0.12705	0.28875
45	2.22	100	1.74	310.808	310808.24532	127431.38058	0.12743	0.28318
46	2.17	100	1.74	311.740	311740.09080	127813.43723	0.12781	0.27786
47	2.13	100	1.75	312.672	312671.93628	128195.49387	0.12820	0.27276
48	2.08	100	1.75	313.604	313603.78176	128577.55052	0.12858	0.26787
49	2.04	100	1.76	314.536	314535.62724	128959.60717	0.12896	0.26318
50	2.00	100	1.73	309.348	309347.51456	126832.48097	0.12683	0.25366
51	1.96	100	1.74	310.279	310279.36004	127214.53762	0.12721	0.24944
52	1.92	100	1.74	311.211	311211.20552	127596.59427	0.12760	0.24538
53	1.89	100	1.75	312.143	312143.05101	127978.65091	0.12798	0.24147
54	1.85	100	1.75	313.075	313074.89649	128360.70756	0.12836	0.23771
55	1.82	100	1.76	314.007	314006.74197	128742.76421	0.12874	0.23408
56	1.79	100	1.76	314.939	314938.58745	129124.82085	0.12912	0.23058
57	1.75	100	1.77	315.870	315870.43293	129506.87750	0.12951	0.22721
58	1.72	100	1.77	316.802	316802.27841	129888.93415	0.12989	0.22395
59	1.69	100	1.78	317.734	317734.12389	130270.99079	0.13027	0.22080
60	1.67	100	1.78	318.666	318665.96937	130653.04744	0.13065	0.21776
61	1.64	100	1.79	319.598	319597.81485	131035.10409	0.13104	0.21481
62	1.61	100	1.79	320.530	320529.66033	131417.16074	0.13142	0.21196
63	1.59	100	1.80	321.462	321461.50581	131799.21738	0.13180	0.20921
64	1.56	100	1.80	322.393	322393.35129	132181.27403	0.13218	0.20653
65	1.54	100	1.81	323.325	323325.19677	132563.33068	0.13256	0.20394
66	1.52	100	1.81	324.257	324257.04225	132945.38732	0.13295	0.20143
67	1.49	100	1.82	325.189	325188.88773	133327.44397	0.13333	0.19900
68	1.47	100	1.82	326.121	326120.73321	133709.50062	0.13371	0.19663
69	1.45	100	1.83	327.053	327052.57870	134091.55727	0.13409	0.19434
70	1.43	100	1.83	327.984	327984.42418	134473.61391	0.13447	0.19211
71	1.41	100	1.84	328.916	328916.26966	134855.67056	0.13486	0.18994
72	1.39	100	1.84	329.848	329848.11514	135237.72721	0.13524	0.18783
73	1.37	100	1.85	330.780	330779.96062	135619.78385	0.13562	0.18578
74	1.35	100	1.86	331.712	331711.80610	136001.84050	0.13600	0.18379
75	1.33	100	1.86	332.644	332643.65158	136383.89715	0.13638	0.18185
76	1.32	100	1.87	333.575	333575.49706	136765.95379	0.13677	0.17996
77	1.30	100	1.87	334.507	334507.34254	137148.01044	0.13715	0.17811
78	1.28	100	1.88	335.439	335439.18802	137530.06709	0.13753	0.17632
79	1.27	100	1.88	336.371	336371.03350	137912.12374	0.13791	0.17457
80	1.25	100	1.89	337.303	337302.87898	138294.18038	0.13829	0.17287
81	1.23	100	1.89	338.235	338234.72446	138676.23703	0.13868	0.17121
82	1.22	100	1.90	339.167	339166.56994	139058.29368	0.13906	0.16958
83	1.20	100	1.90	340.098	340098.41542	139440.35032	0.13944	0.16800
84	1.19	100	1.91	341.030	341030.26091	139822.40697	0.13982	0.16646
85	1.18	100	1.91	341.962	341962.10639	140204.46362	0.14020	0.16495
86	1.16	100	1.92	342.894	342893.95187	140586.52027	0.14059	0.16347
87	1.15	100	1.92	343.826	343825.79735	140968.57691	0.14097	0.16203
88	1.14	100	1.93	344.758	344757.64283	141350.63356	0.14135	0.16063
89	1.12	100	1.93	345.689	345689.48831	141732.69021	0.14173	0.15925
90	1.11	100	1.94	346.621	346621.33379	142114.74685	0.14211	0.15791
91	1.10	100	1.94	347.553	347553.17927	142496.80350	0.14250	0.15659
92	1.09	100	1.95	348.485	348485.02475	142878.86015	0.14288	0.15530
93	1.08	100	1.95	349.417	349416.87023	143260.91679	0.14326	0.15404
94	1.06	100	1.96	350.349	350348.71571	143642.97344	0.14364	0.15281
95	1.05	100	1.96	351.281	351280.56119	144025.03009	0.14403	0.15161
96	1.04	100	1.97	352.212	352212.40667	144407.08674	0.14441	0.15042
97	1.03	100	1.97	353.144	353144.25215	144789.14338	0.14479	0.14927
98	1.02	100	1.98	354.076	354076.09763	145171.20003	0.14517	0.14813
99	1.01	100	1.99	355.008	355007.94312	145553.25668	0.14555	0.14702
100	1.00	100	2.03	362.992	362991.59223	148826.55282	0.14883	0.14883
*RUNVOL Calc per Hectare					29866486.09	12245259.3	12.2452593	183.657

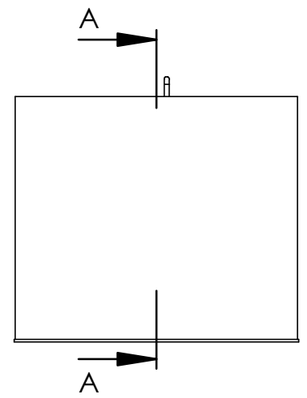
based on:		load generated per hectare per year (no SuDS)	1.837
M5-60mm	20	Percentage reduction - no SuDS (Exc. <5mm)	15.41%
U Value	41	Percentage reduction - no SuDS (Exc. 1 year)	75.31%

Appendix 13 – Tricel Phosclear PE

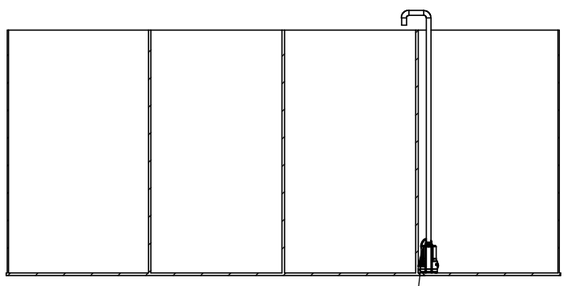
For convenience – press "Alt + Left Arrow" to return to the section of the report



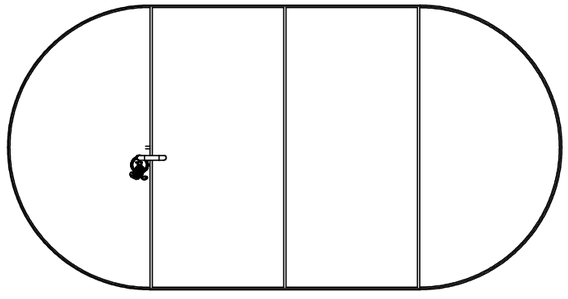


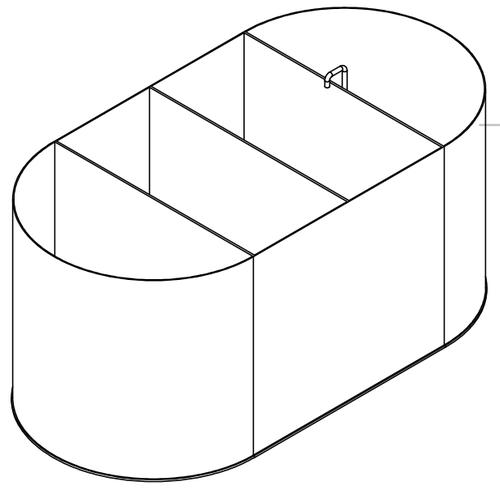


SECTION A-A



Pumped for pumped inlet



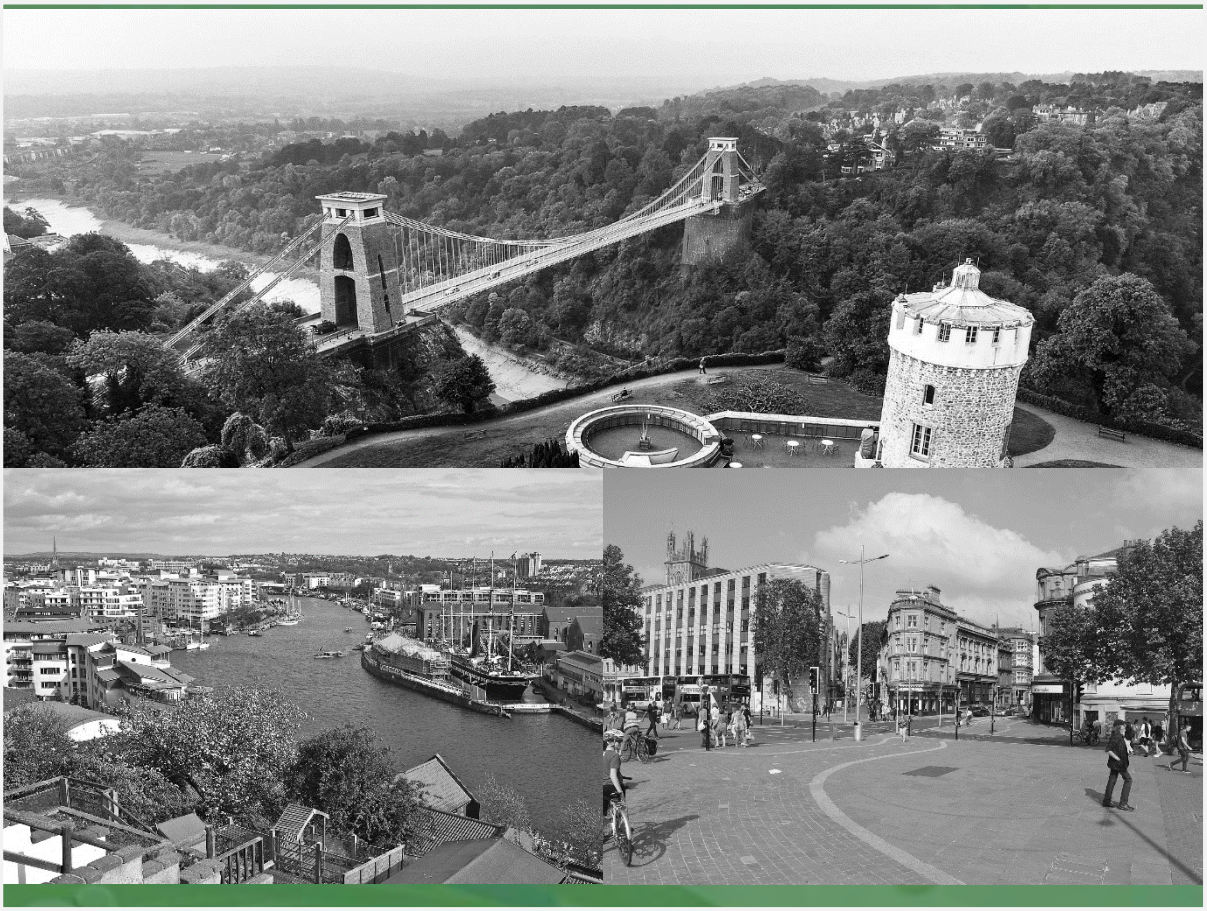


1. Weight with bags: 3.000kg
   Weight with bags and water: 10.000kg

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETERS SURFACE FINISH: TOLERANCES: LINEAR: ANGULAR:		FINISH:				DEBURR AND BREAK SHARP EDGES	DO NOT SCALE DRAWING REVISION 0.0
	NAME	SIGNATURE	DATE				TITLE: PhosClear 150-300PE
DRAWN	HB		20-08-2025				
CHK'D	HB		20-08-2025				
APPV'D	PS		20-08-2025				
MFG							
Q.A				MATERIAL: PP			DWG NO. PhosClear 150-300PE - OL drawing A3
				WEIGHT:			SCALE:1:50 SHEET 1 OF 1

ISO 19650 Filing Notation

Project	
0XXX	Project Number
Originator	
ENV	Enviren
Functional Breakdown	
S1	Planning submission
S2	Technical submission
S3	Construction Information
S4	As built details
Spatial Breakdown	
SW	Southwest
EE	East of England
SE	South East
WM	West Midlands
EM	East Midlands
YO	Yorkshire
NW	North West
NE	North East
LO	London
OT	Other
Form	
DR	Drawing
GR	Diagram
TR	Textual Report
Discipline (relevant)	
C	Civil Engineering
E	Environmental Engineering
G	Ground Engineering
O	Other Discipline
T	Town and Country Planning and Building Control
W	Water Engineering
Z	Multiple Discipline
Number	
000X	Report number



Enviren