

DATE	SCALE	DRG. NO.
NOV 2024	1:1250 (A3)	S.STEW / PL / 02

AMENDED PLANS

Roseisle

Site at Charlestown, Roseisle

RED OUTLINE DENOTES
EXTENT OF APPLICATION
BOUNDARY (3337 sqm).
ALL OWNED BY APPLICANT

VISIBILITY SPLAY MAINTENANCE
VISIBILITY SPLAY SHALL BE MAINTAINED
AT ALL TIMES FREE FROM ANY OBSTRUCTION
EXCEEDING 1.0 METRE ABOVE THE LEVEL
OF THE CARRIAGEWAY

Pink hatched area denotes a Visibility splay which is to be set back 2.4m from the edge of the road and is to be set at 200.00m measured in north west direction and 200.00m measured in south east direction. (ENTIRE AREA DENOTED IN PINK IS EITHER UNDER THE CONTROL OF THE APPLICANT OR IS A MORAY COUNCIL ADOPTED ROAD VERGE)

Grey solid area denotes new vehicular access formed onto public road, with a parking layby 8.0m long x 2.5m wide with 30 degrees splayed ends to be provided at the edge of the public road to allow visiting and service vehicles to park clear of the public road. The vehicular access leading off the layby will be constructed to the Moray Council specification and is surfaced with bituminous macadam

Block Plan (scale 1:1250)

Proposed dwelling-house and detached garage at
Site at Charlestown, Roseisle, Moray IV30 5YG
For Mr S.Stewart

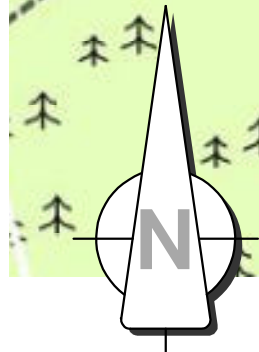
S Reid Design
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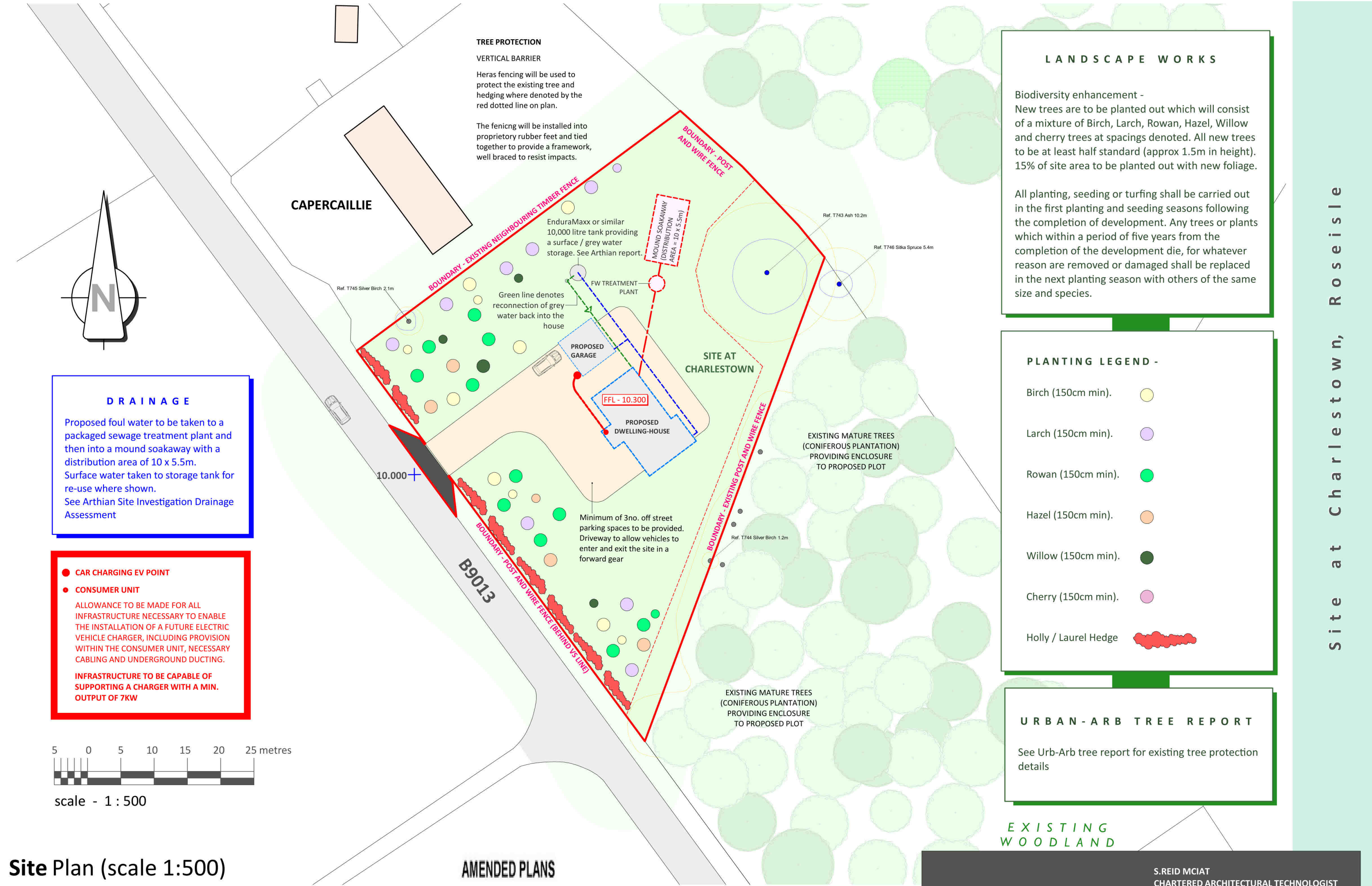
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APPLICATION SITE



DATE	SCALE	DRG. NO.
JAN 2025	1:5000 (A4)	S.STEW / LP



LANDSCAPE WORKS

Biodiversity enhancement -
New trees are to be planted out which will consist of a mixture of Birch, Larch, Rowan, Hazel, Willow and cherry trees at spacings denoted. All new trees to be at least half standard (approx 1.5m in height). 15% of site area to be planted out with new foliage.

All planting, seeding or turfing shall be carried out in the first planting and seeding seasons following the completion of development. Any trees or plants which within a period of five years from the completion of the development die, for whatever reason are removed or damaged shall be replaced in the next planting season with others of the same size and species.

- PLANTING LEGEND -**
- Birch (150cm min).
 - Larch (150cm min).
 - Rowan (150cm min).
 - Hazel (150cm min).
 - Willow (150cm min).
 - Cherry (150cm min).
 - Holly / Laurel Hedge

URBAN - ARB TREE REPORT

See Urb-Arb tree report for existing tree protection details

EXISTING
WOODLAND

Site at Charlestown, Roseisle

Site Plan (scale 1:500)

Proposed dwelling-house and detached garage at
Site at Charlestown, Roseisle, Moray IV30 5YG
For Mr S.Stewart

AMENDED PLANS

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Drainage Assessment

Prepared by: Cameron McCallum

For: Milne S Reid Design Ltd

Site: Charlestown, Roseisle, IV30 5YG

Date: 18/12/2024

Document Ref: 318149

Issue-01

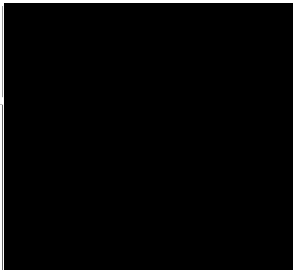
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Quality Assurance

Issue Record

Revision	Description	Date	Author	Reviewer	Approver
1.0	First Draft	18.12.24	CM	GM	GM

Staff Detail

Initials	Name	Position	Signature
CM	Cameron McCallum	Apprentice Civil Engineer	
GM	Gary Mackintosh	Principal Engineer	



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1. Introduction

1.1 Brief

- 1.1.1 Arthian Ltd(ARTHIAN) has been requested by Milne S Reid Design Ltd to undertake an assessment of the surface water and foul water drainage management options for a proposed development to be built at Charlestown, Roseisle, IV30 5YG at or about NGR NJ 13272 67005. The development will consist of a new, 4 bedroom, dwelling. A site plan is provided in Appendix A.
- 1.1.2 The site currently is undeveloped land which is not formally drained and is therefore considered to be permeable.
- 1.1.3 National Planning Framework (NPF4) requires that all development proposals will:
- Not increase the risk of surface water flooding to others, or itself be at risk.
 - Manage all rain and surface water through sustainable urban drainage systems (SuDS), which should form part of and integrate with proposed and existing blue-green infrastructure. All proposals should presume no surface water connection to the combined sewer; and
 - Seek to minimise the area of impermeable surface.
- 1.1.4 In order to ensure the proposed development will not increase flood risk elsewhere, surface and foul water discharge from the site will be controlled.



2. Surface Water Drainage

2.1 Introduction to Surface Water Drainage

- 2.1.1 With regard to surface water treatment and dispersal, Regulation 3.6 of the Building (Scotland) Regulations 2004, as reproduced below, states that:

Every building and hard surface within the curtilage of a building, must be designed and constructed with a surface water drainage system that will:

- (a) ensure the disposal of surface water without threatening the building and the health and safety of the people in and around the building; and*
- (b) have facilities for the separation and removal of silt, grit and pollutants*

Section 3.6.3 of the Technical Handbook provides methods of discharging surface water that, if employed, would meet the requirements of the authorities.

- 2.1.2 With regard to SEPA's requirements, General Binding Rule (GBR) 10, in pursuance of the Water Environment (Controlled Activities) (Scotland) Regulations 2011, states that the provision of a sustainable urban drainage system (SuDS) is required unless the discharge arises from a single house or if the discharge is to be made to coastal waters. GBR10 and the relevant associated rule is outlined below:

GBR10:

- a) Discharge of surface water run-off from a surface water drainage system to the water environment from:
 - i. Up to 60 hectares of land used for residential premises;
 - ii. Land used for non-residential premises or yards, except where the buildings or yards are in an industrial estate;
 - iii. Land used as a motorised vehicle parking area with up to 1,000 parking spaces;
 - iv. Metalled roads other than motorways and A roads;
 - v. Waterbound roads; or
- b) Discharge of water run-off from a construction site to the water environment where the site, including any constructed access tracks does not:
 - i. Exceed 4 hectares;
 - ii. Contain a road or track length in excess of 5 km; or



- iii. Including any area of more than 1 hectare or any length of more than 500 metres on ground with a slope in excess of 25°.

Rules:

- d) the discharge must not contain any water run-off from any built developments, the construction of which is completed on or after 01 April 2007, or from construction sites operated on or after 01 April 2007, unless:
 - i. during construction those developments are drained by a SUD system or equivalent systems equipped to avoid pollution of the water environment;
 - ii. following construction those developments are drained by a SUD system equipped to avoid pollution of the water environment;
 - iii. the run-off is from a development that is a single dwelling and its curtilage; or
 - iv. the discharge is to coastal water.

(Source; SEPA: The Water Environment (Controlled Activities) (Scotland) Regulations 2011 - A Practical Guide) Version 9.3, June 2023).



3. Foul Water Drainage

The Building (Scotland) Regulations 2023: Non Domestic must be adhered to when a construction project is being undertaken. Regulation 3.7 of the Regulations, as reproduced below, states that:

Every wastewater drainage system serving a building must be designed and constructed in such a way as to ensure the removal of wastewater from the building without threatening the health and safety of the people in and around the building, and:

- (a) That facilities for the separation and removal of oil, fat, grease and volatile substances from the system are provided;
- (b) That discharge is to a public sewer or public wastewater treatment plant, where it is reasonably practicable to do so; and
- (c) Where discharge is to a public sewer or public wastewater treatment plant is not reasonably practicable that discharge is to a private wastewater treatment plant or septic tank.

As a public sewer connection was not possible a private septic tank/waste-water treatment plant and traditional soakaway infiltration system option was the preferred route to pursue for the treatment and final dispersal of the sewage that would be generated from the proposed development. Section 3.9.1 of the Technical Handbook requires a preliminary “ground assessment” and this was undertaken by Mabbett. The ground assessment results were favourable to allow for a soakaway on site (see below for details).

(Source; SEPA: The Water Environment (Controlled Activities) (Scotland) Regulations 2011 - A Practical Guide) Version 9.3, June 2023.



4. Foul Water Discharge

Due to the existing ground conditions within the site it is proposed to discharge the foul waters to a filter mound. Secondary treatment will be required by means of a 'packaged sewage treatment plant'.

The final details of the treatment plant are to be confirmed by the chosen supplier.

The Foul drainage system will be required to include early warning alarm systems with telemetry to provide warning to the occupant of the proposed property to protect against any potential failure. The full details of the system are to be provided by the chosen manufacturer/supplier of the plant to be installed.

Following the conclusion from SEPA that a drainage mound would be required, additional testing was carried out in order to establish the percolation available in the upper soil levels in the area of the proposed mound.

The test holes were carried out by mechanical digger on 12th December 2024 and excavated to a depth of 1.2m.

The existing ground conditions comprise of approximately 300 – 400mm of topsoil overlying light orange brown, medium fine sands to a depth of 900mm and light brown silty sands to the depth of the excavation.

The water table was present at 1.2m within both test holes. The natural ground has a bearing capacity of 70kn/m²

4.1 Recommendation

Based on the onsite investigations it can be confirmed that the height of the water table makes a standard stone filled soakaway unfeasible for the purpose of foul water discharge. Therefore, a mound system will be put in place.

4.2 Mound Calculation

Soil Percolation Value – 25/mm

No of Persons (4 bedroom) – 6

Min distribution area ($A = V_p \times PE \times 0.20$) = 30m²

Calculate for three pipe distribution with minimum spacing of 1m in trenches 0.5m wide: 1.5 + 4 = 5.5m width

Distribution pipe work length = $30/3 = 10\text{m}$ (each pipe)

Total Distribution Area = $10\text{m} \times 5.5\text{m} = 55\text{m}^2$



4.3 Filter/base area

Cap depth 300mm

Depth of filter material minimum 700mm

Fill material bellow infiltration pipes to be 300mm

Sideslope Taper = $(0.7 + 0.3 + 0.3) \times 3 = 3.9\text{m}$

Downslope Taper = $(0.7 \times 0.3 \times 0.3) \times 3 = 3.9\text{m}$

Mound Length = $(2 \times 3.9) + 10 = 17.8\text{m}$

Mound Width = $(2 \times 3.9) + 5.5 = 13.3\text{m}$

Base Area = 236.74m^2



5. Surface Water Discharge

5.1 Drainage Hierarchy

5.1.1 The recommended surface water drainage hierarchy (Paragraph 080 of the NPPG: Flood Risk and Coastal Change) is to utilise soakaway systems or infiltration as the preferred option, followed by discharging to an appropriate watercourse. If this is not feasible, the final option is to discharge to an existing public sewer.

Discharge to Soakaway	The first consideration for the disposal of surface water is infiltration (soakaways and permeable surfaces). It had been established that the water table is only 1.2 metres below ground level . It can be concluded that soakaways may not be suitable for the discharge of surface water runoff.
Discharge to Watercourse	The nearest watercourse is located approximately 120m South of the site. Therefore, a connection to the watercourse would not to be feasible. The site is separated from the watercourse by third party, land. Therefore, discharge to the watercourse would require permission from the landowner.
Discharge to Sewer	A surface water sewer doesn't exist in or around the site. Therefore, a connection to a public sewer is not feasible.

5.2 Scottish Water Policy

5.2.1 Scottish Water Surface Water Policy states a 5-step process when assessing and designing solutions for rainwater management.

<u>Preferred Option 1:</u> Rainwater is stored and reused, such as rainwater harvesting and/or water butts	The use of storage and reuse within the site is the best option for this site.
<u>Preferred Option 2:</u>	It had been established that given the height of the water table a soakaway would be unfeasible.



The surface water is drained in to the soil through the use of a soakaway.	
<u>Preferred Option 3:</u> Surface Water is drained to a watercourse (open or piped) canal, loch or existing/existing proposed SuDS.	There are no existing watercourses within the area of the development. The nearest watercourse exists approximately 120m east of the site and is considered unfeasible for discharge due to the distance and third-party ownership.
<u>Preferred Option 4:</u> Surface Water is drained to a surface water sewer	There is no surface water sewer located on or around the site. Therefore, discharge to a public sewer is unfeasible.

5.3 Attenuation Storage

5.3.1 Arthian recommends the surface water from the roof area and hardstanding associated with the proposed dwelling be discharged to a rainwater harvesting tank. The tank should be used to carry out general garden maintenance and for grey water use within the dwelling such as W/C flushing. It is the intention that the stored water is to be fully reused within the site.

5.3.2 The size of rainwater harvesting tank required based on manufacturers recommendations is shown below:

- Cleaning use based on 2.5m³ per person per annum = 12,500 litres
- Garden use is estimated at 150l/m² per annum in the UK. Garden is assumed to be 750m² = 112,500 litres
- A buffer storage of 20 days has been applied

The tank size required is calculated as Demand x Buffer/365
= 6,850 litres

5.3.3 It is prudent to allow for storage up to and including a 1:200year event to ensure sufficient storage is provided for exceedance events. The calculations within Appendix B indicate that 9.956m³ is required therefore it is proposed to install a minimum 10,000litre tank.



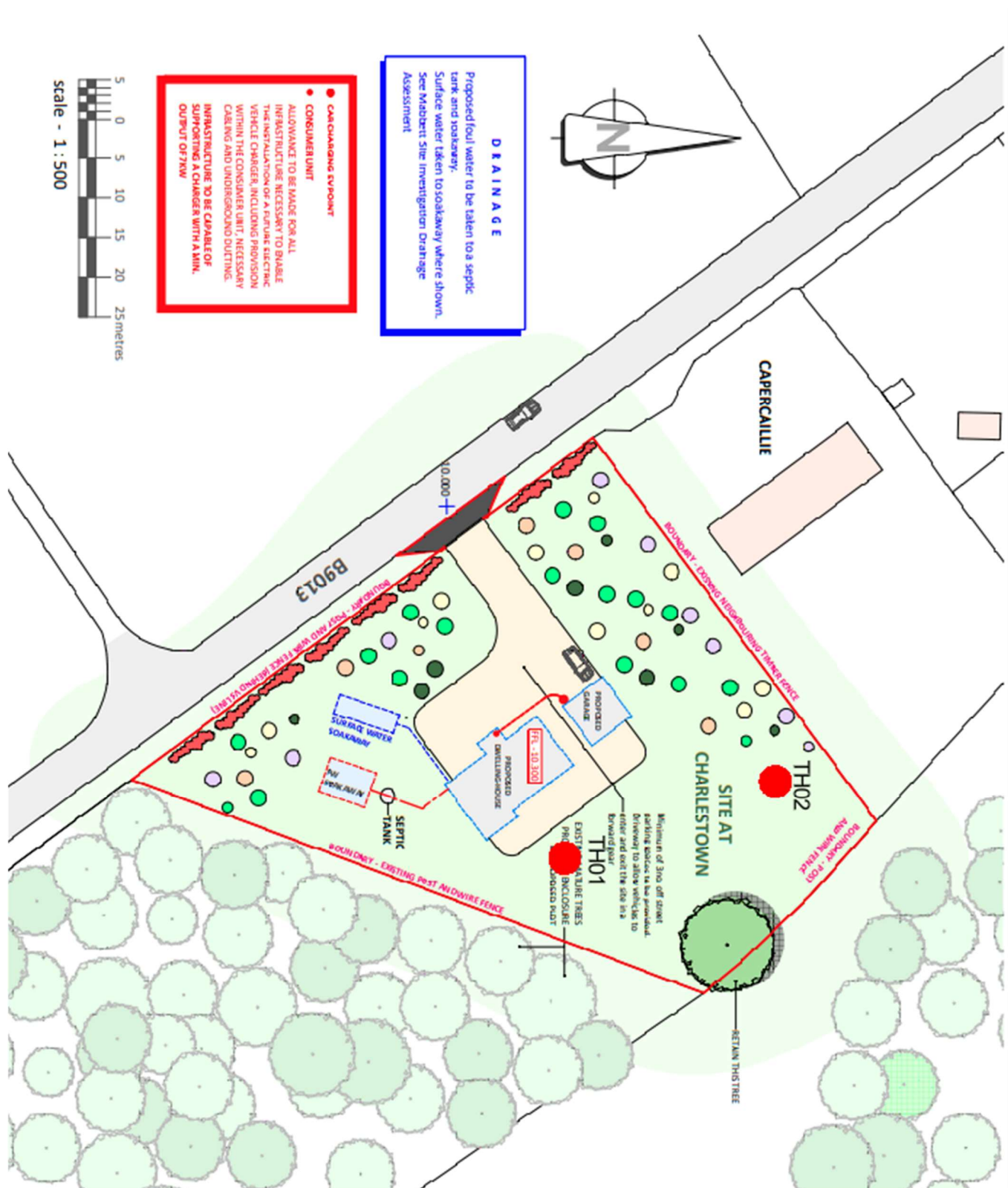
5.4 Proposed Drainage Solution - Recommendation

- 5.4.1 Soakaways are not feasible, therefore it is proposed to install a rainwater harvesting tank to manage flows up to and including a 1:200year event. The system is to feed back to the property for grey water reuse as well as within the garden area and external cleaning.
- 5.4.2 We can confirm therefore that a mound system would have to be installed for the foul water because of the height of the water table.
- 5.4.3 Mound details are provided within Appendix C.



Appendices

Appendix A



Appendix B

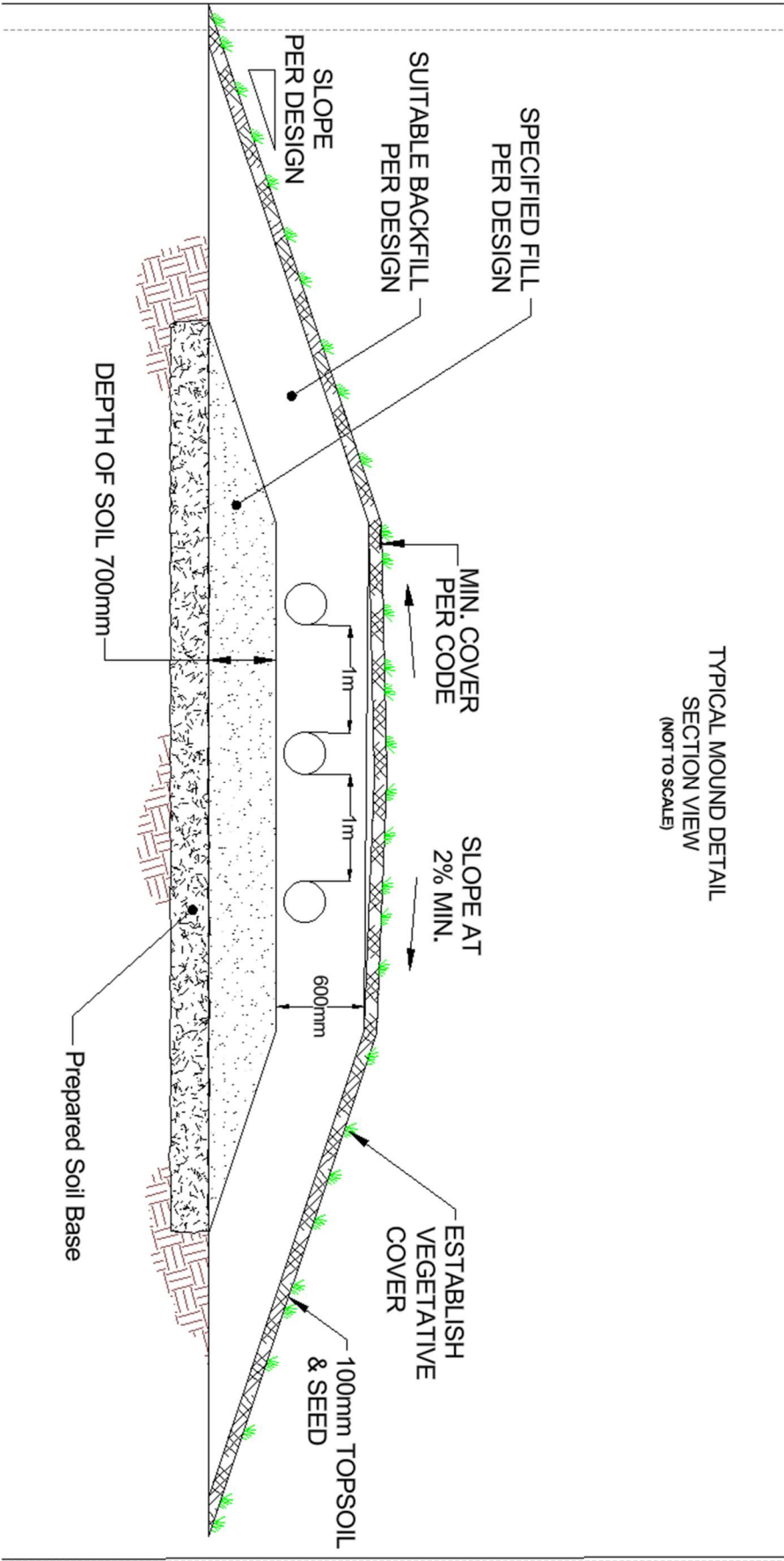


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	Design Settings <table border="0"> <tr> <td>Rainfall Methodology</td> <td>FSR</td> <td>Maximum Time of Concentration (mins)</td> <td>30.00</td> </tr> <tr> <td>Return Period (years)</td> <td>100</td> <td>Maximum Rainfall (mm/hr)</td> <td>50.0</td> </tr> <tr> <td>Additional Flow (%)</td> <td>0</td> <td>Minimum Velocity (m/s)</td> <td>1.00</td> </tr> <tr> <td>FSR Region</td> <td>Scotland and Ireland</td> <td>Connection Type</td> <td>Level Soffits</td> </tr> <tr> <td>M5-60 (mm)</td> <td>14.000</td> <td>Minimum Backdrop Height (m)</td> <td>0.200</td> </tr> <tr> <td>Ratio-R</td> <td>0.300</td> <td>Preferred Cover Depth (m)</td> <td>1.200</td> </tr> <tr> <td>CV</td> <td>0.750</td> <td>Include Intermediate Ground</td> <td>✓</td> </tr> <tr> <td>Time of Entry (mins)</td> <td>5.00</td> <td>Enforce best practice design rules</td> <td>✓</td> </tr> </table>			Rainfall Methodology	FSR	Maximum Time of Concentration (mins)	30.00	Return Period (years)	100	Maximum Rainfall (mm/hr)	50.0	Additional Flow (%)	0	Minimum Velocity (m/s)	1.00	FSR Region	Scotland and Ireland	Connection Type	Level Soffits	M5-60 (mm)	14.000	Minimum Backdrop Height (m)	0.200	Ratio-R	0.300	Preferred Cover Depth (m)	1.200	CV	0.750	Include Intermediate Ground	✓	Time of Entry (mins)	5.00	Enforce best practice design rules
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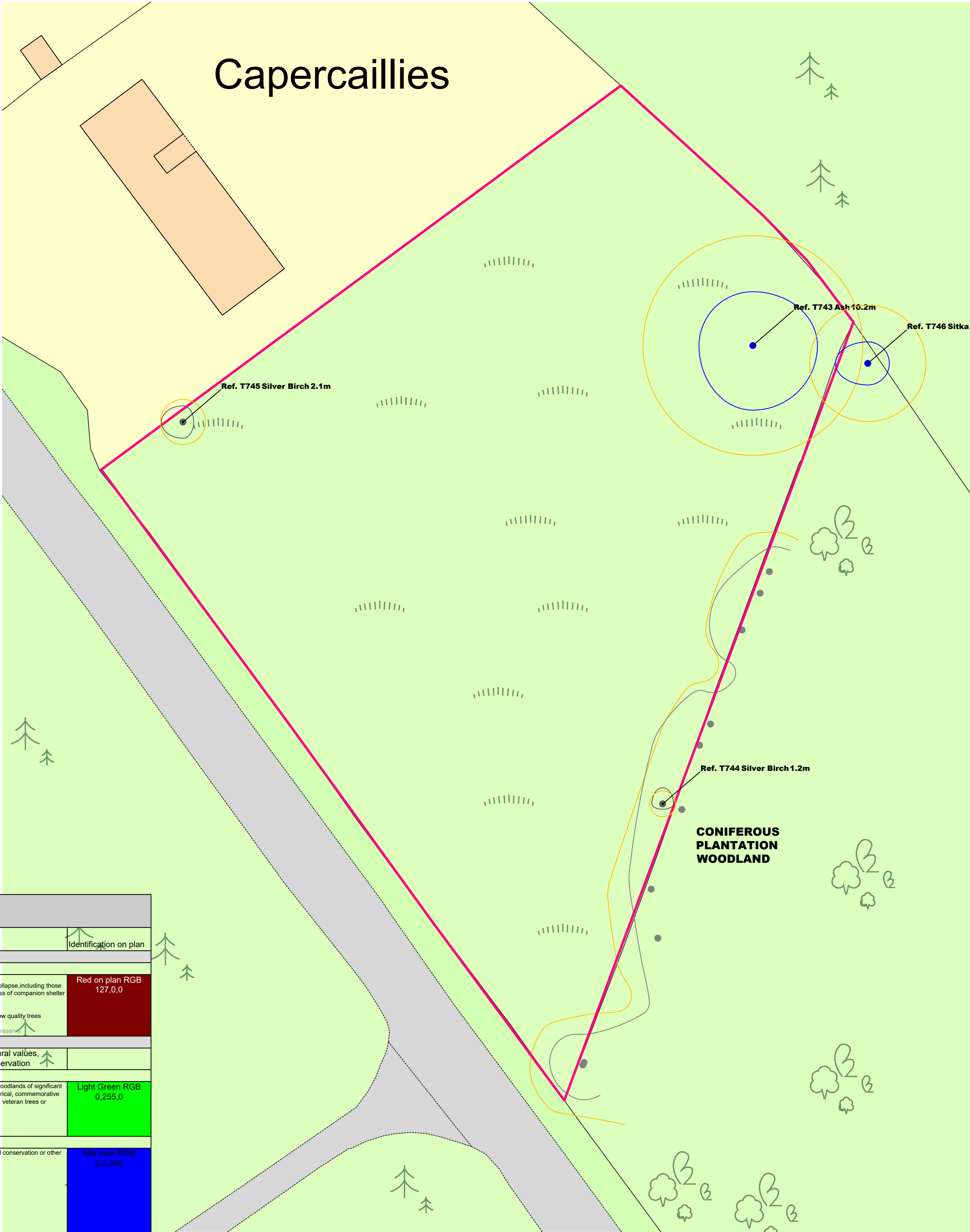


Appendix C

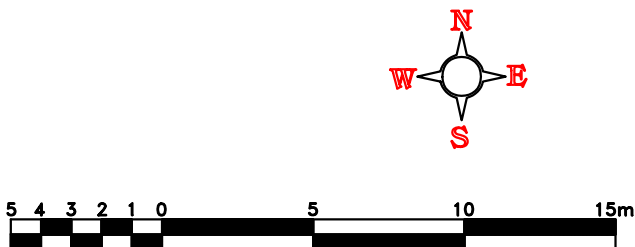




Tree Constraints Plan



BS5837:2012 Cascade chart for tree quality assessment				
Category & Definition	Criteria (including subcategories where appropriate)			Identification on plan
Trees unsuitable for retention				
Category U				
Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years	- Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unstable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) - Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline - Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality (NOTE: Category U trees can have existing or potential conservation value which it might be desirable to preserve)			Red on plan RGB 127,0,0
Trees to be considered for retention				
	1. Mainly arboricultural qualities	2. Mainly landscape qualities	3. Mainly cultural values, including conservation	
Category A				
Trees of high quality with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	Light Green RGB 0,255,0
Category B				
Trees of moderate quality with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value	Mid blue RGB 0,0,255
Category C				
Trees of low quality with an estimated remaining life expectancy of at least 10 years; or young trees with a stem diameter below 150 mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value	Grey RGB 091,091,091



General Notes

KEY

Tree Reference, Common Name and Root Protection Area radius

Ref: T001 Silver Birch 2.3m

Stem

Tree Canopy

Root Protection Area (RPA)

Colours are in accordance with BS5837:2012 quality grading:

Red: Unsuitable for retention
Grey: Low quality
Blue: Moderate quality
Green: High quality

Root Protection Area (RPA): The minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure is treated as a priority (BS5937:2012)

Survey Area Boundary

Woodland edge

Tree survey performed by Callum McCutcheon BSc (Hons) M.Arbor.A on 20.05.2025

Urban-Arb LLP
Arboricultural Consultants

No.	Revision/Issue	Date

Firm Name and Address
Urban-Arb LLP
Dolphin Cottage
11 The Muir
Bogmoor
Spey Bay
Fochabers
Moray IV32 7PN
www.urban-arb.com

Project Name and Address
Site at Roseisle Moray

Project TREE CONSTRAINTS PLAN	Sheet
Date 26.05.2025	001
Scale 1:250@A1	

Tree Protection Plan

CAPERCAILLIE

BOUNDARY - EXISTING NEIGHBOURING TIMBER FENCE

BOUNDARY - POST AND WIRE FENCE

Ref. T745 Silver Birch 2.1m

Ref. T743 Ash 10.2m

Ref. T746 Sitka Spruce 5.4m

PROPOSED GARAGE

FFL - 10.300

PROPOSED DWELLING-HOUSE

Ref. T744 Silver Birch 1.2m

CONIFEROUS PLANTATION WOODLAND

B9013

10.000+

BOUNDARY - POST AND WIRE FENCE (BEHIND V.S. LINE)

EXISTING WOODLAND

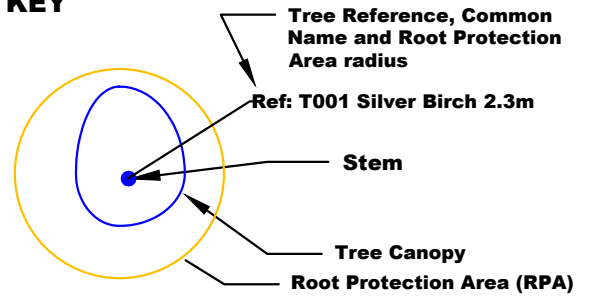


PROTECTIVE FENCING. THIS FENCING MUST BE MAINTAINED IN ACCORDANCE WITH THE APPROVED PLANS AND DRAWINGS FOR THIS DEVELOPMENT.



TREE PROTECTION AREA
KEEP OUT!
(TOWN & COUNTRY PLANNING (SCOTLAND) ACT 1997)
TREES ENCLOSED BY THIS FENCE ARE PROTECTED BY PLANNING CONDITIONS AND ARE THE SUBJECTS OF A TREE PRESERVATION ORDER.
CONTRAVENTION OF A TREE PRESERVATION ORDER MAY LEAD TO CRIMINAL PROSECUTION.
ANY INCURSION INTO THE PROTECTED AREA MUST BE WITH THE WRITTEN PERMISSION OF THE LOCAL PLANNING AUTHORITY.

KEY



Colours are in accordance with BS5837:2012 quality grading:

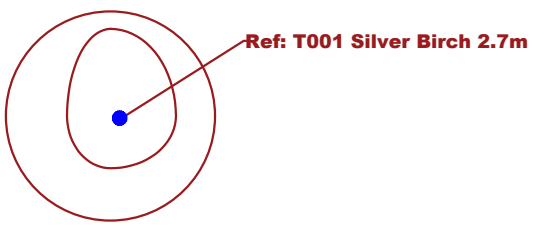
Red: Unsuitable for retention
Grey: Low quality
Blue: Moderate quality
Green: High quality

Root Protection Area (RPA): The minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure is treated as a priority (BS5937:2012)

Survey Area Boundary



TREE TO BE REMOVED



Tree Protection Fencing

Tree survey performed by Callum McCutcheon BSc (Hons) M.Arbor.A on 20.05.2025

Urban-Arb LLP
Arboricultural Consultants

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www.urban-arb.com



Project Name and Address

Site at Roseisle
Moray

Project

TREE PROTECTION PLAN

Date

26.05.2025

Scale

1:250@A1

Sheet

002

Urban-Arb
Arboricultural Consultants

Tree Protection Guidelines

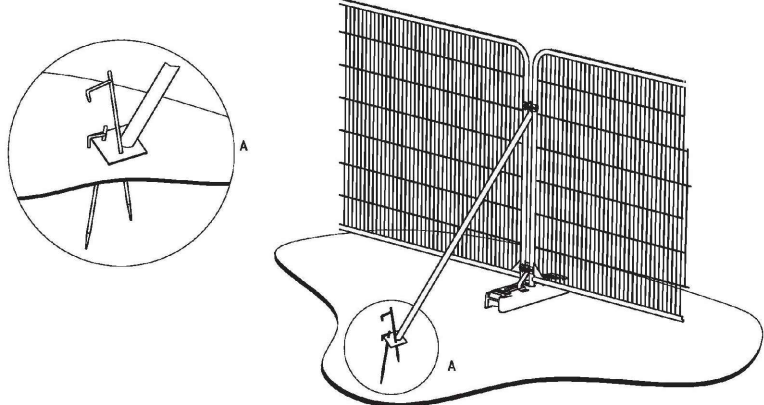
In order to safeguard the trees on this site please observe the following:

- Do not move the tree protection barriers
- Do not enter the protected area
- Report any damage to protection barriers at the site office
- Do not use the area within the protection barriers to store or mix materials
- Do not carry out any excavation works within the protection barriers
- Avoid handling fuels or liquid contaminants within 10 metres of the protected area.

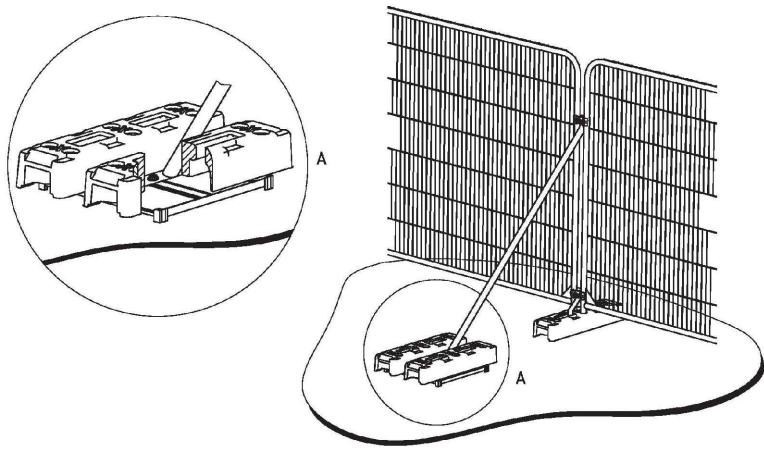
In the event of damage to a retained tree on this site please contact:

Arboriculturist: Callum McCutcheon
Tel: (01468) 821753
Mob: 07766735488

W: www.urban-arb.com Email: callum@urban-arb.com Tel: 01468 821753
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a) Stabilizer strut with base plate secured with ground pins



b) Stabilizer strut mounted on block tray

Tree Protection Fencing Specification