
4.0 Design Proposals

4.1 Design Parameters

MASTERPLAN ELEMENTS- PARAMETERS PLAN

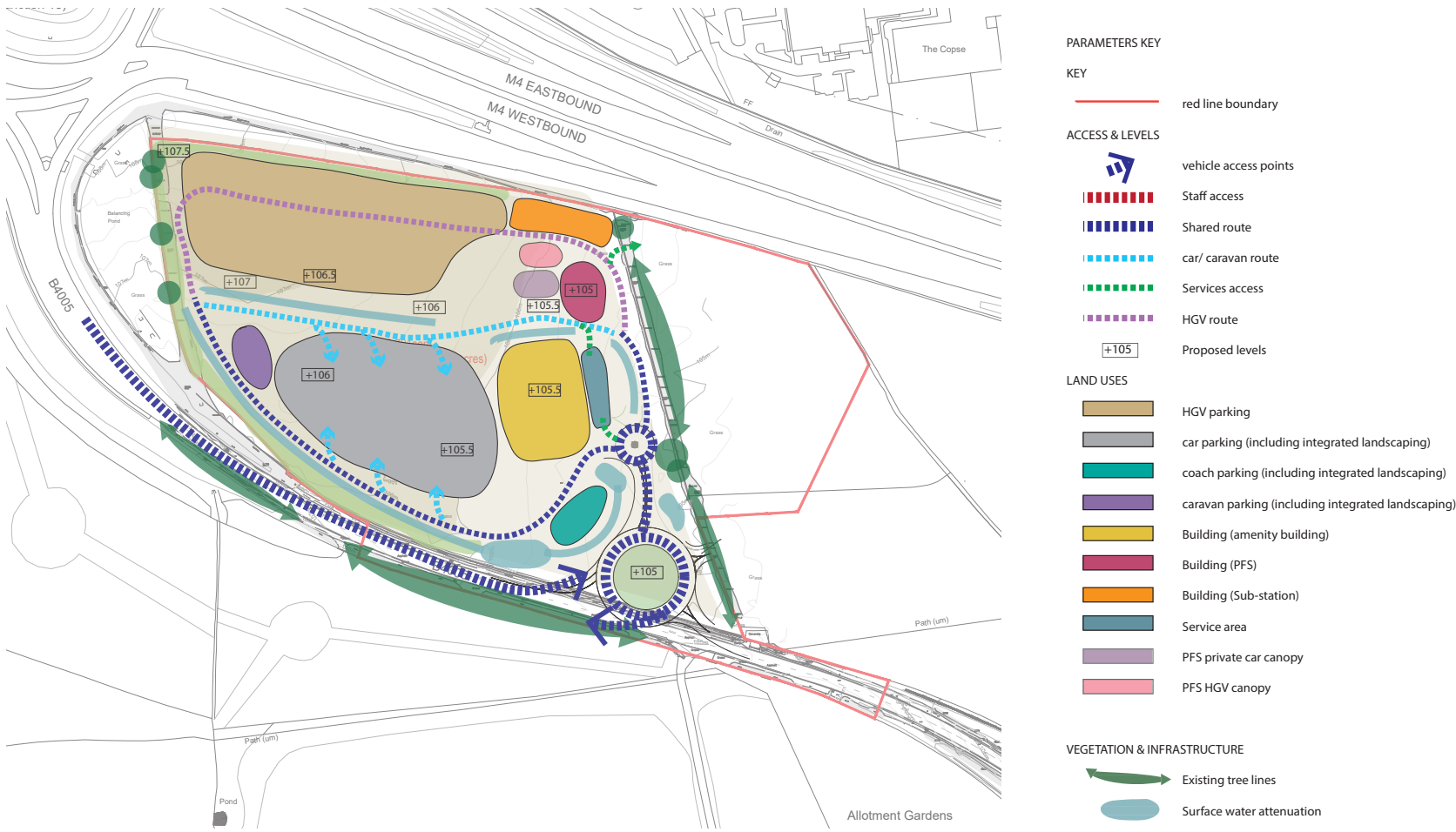
This section provides an explanation of the design principles and concepts applied to the Proposed Development and how they have been embodied in the Application Parameters.

The Application Parameters are designed to provide the framework within which the vision and core principles for the Proposed Development can be delivered.

The Parameters Plan illustrates indicative routes and development zones that will be progressed further during design development. It shows the key parameters of the Development Plan: the location of development sites; indicative building heights, and the major framework of structural landscape, including key routes around the development.

These form the basis for the illustrative masterplan that supports this application and which is discussed in greater detail later in this section.

The proposed site levels are indicative at the present and rounded off to the nearest metre.



DEVELOPMENT ZONE	FOOTPRINT (m2)		BUILDING AREA - GEA (m2)		COVERED AREA AROUND BUILDING (m2)		MAX HEIGHT (m)		MAX HEIGHT AOD (m)	
	upper parameter	lower parameter	upper parameter	lower parameter	upper parameter	lower parameter	upper parameter	lower parameter	upper parameter	lower parameter
Main Amenity Building	3000	2200	3500	3000	1200	900	12	9	121.5	116.5
FFS Forecourt (Canopy) (included as part of overall Amenity canopy)	n/a	n/a	n/a	n/a	450	300	8	6	113.5	111.5
HGV FFS Forecourt (Canopy)	n/a	n/a	n/a	n/a	250	125	8	6	113.5	111.5
Sub-Station	200	600	200	600	n/a	n/a	4	3	110	109
PFS	400	200	400	200	50	30	8	5	113.5	110.5

Parameters schedule

EXISTING CONDITION



The site is flat with only minimal changes in gradient with the highest point being to the north west corner. The Junction 16 slip road to the M4, however, raises the land off the site locally at in this location. Partly bordering existing hedgerows and a number of mature trees flank both the western and eastern boundaries. There is sparse vegetation coverage to the borders at the southern site edge adjacent to the B4005, but a young tree plantation across the B4005 provides a green backdrop when viewed from the site.

ENABLING WORKS



Due to the flat nature of the site minimal site re-modelling is proposed. Planted bunding on the southern edge of the site will provide natural visual shielding and noise protection along the edge of the B4005 roadway. Existing landscaped strips to the edges of the site on the remaining site boundaries are supplemented with additional planting and acoustic fencing to the edge of the M4 slip way to help shroud the development and protect local views. New planting, appropriate to the local landscape, will continue within the site to reinforce the screening potential of the existing vegetation.

SuDS STRATEGY



It is acknowledged that the scheme will introduce a substantial amount of new impermeable area onto the site and a Sustainable Drainage System (SuDS) will be required in order to manage surface water runoff, providing treatment and attenuation to ensure that flows leaving the site are restricted to no greater than the pre-development rates. SuDS features will be incorporated into the landscape design to ensure that multifunctional benefits are provided, including to amenity and biodiversity. The existing topography will be utilised where possible and attenuation is provided in the form of permeable paving, porous sub-base, attenuation tanks and basins to manage flows into existing watercourse outfalls.

BUILDING ZONES



The main Amenity Building and parking areas are contained centrally between the M4 and B4005, with the Fuel Filling facilities located north of the Amenity Building towards the M4 motorway edge. This lessens their overall impact on the development, while maintaining necessary visual presence to the motorway. The Amenity Building is also located to the east of the site adjacent to the main entrance ensuring ease of way-finding for visitors to the site.

VEHICLE ACCESS



The HGV & coach traffic are separated from other traffic in the site at the earliest opportunity. Major traffic is kept to the periphery of the site and fed into the car parks in a controlled manner, with pedestrian access also carefully controlled along safe tree lined designated routes. The site is accessed from the B4005 which links with both directions of the M4 via the Spittleborough Roundabout (M4 Junction). Internal routes are controlled by both a new roundabout to the B4005 and an internal roundabout which help to manage the traffic flow of traffic arriving and leaving the site.

PARKING ZONES



The parking is split into manageable and easily navigable zones, separating HGV, coach, car, motorbike and caravan parking. HGV parking is carefully located to have a minimal impact on local views being located along the edge of the M4 slip way and is separated from the remaining parking by a landscaped strip. Coach parking is located close to the Amenity Building and infrastructural landscaping and planting help shield the parking from long distance views, while maintaining visual connections from within the site itself.

4.2 Illustrative Masterplan



The illustrative masterplan provides an overview of the proposals encompassed within this application.

The masterplan can be seen as a manifestation of the design objectives developed through a detailed appraisal of the site, context, user needs and lessons learned from historical applications.

The approach of the masterplan is to embed the building within the natural setting, moving away from the 'sea of car-park' associated with the traditional MRA.

Ensuring the building sits within the surrounding topography and by utilising a living roof allows the proposal to retain the open character of the local landscape whilst also protecting views of the building from the nearby local landmarks.

Parking areas are connected by a series of tree lined pathways and landscaped bands, ensuring that visitor are able to make their way towards the Amenity Building in a safe and relaxing manner.

The masterplan encompasses the following elements:

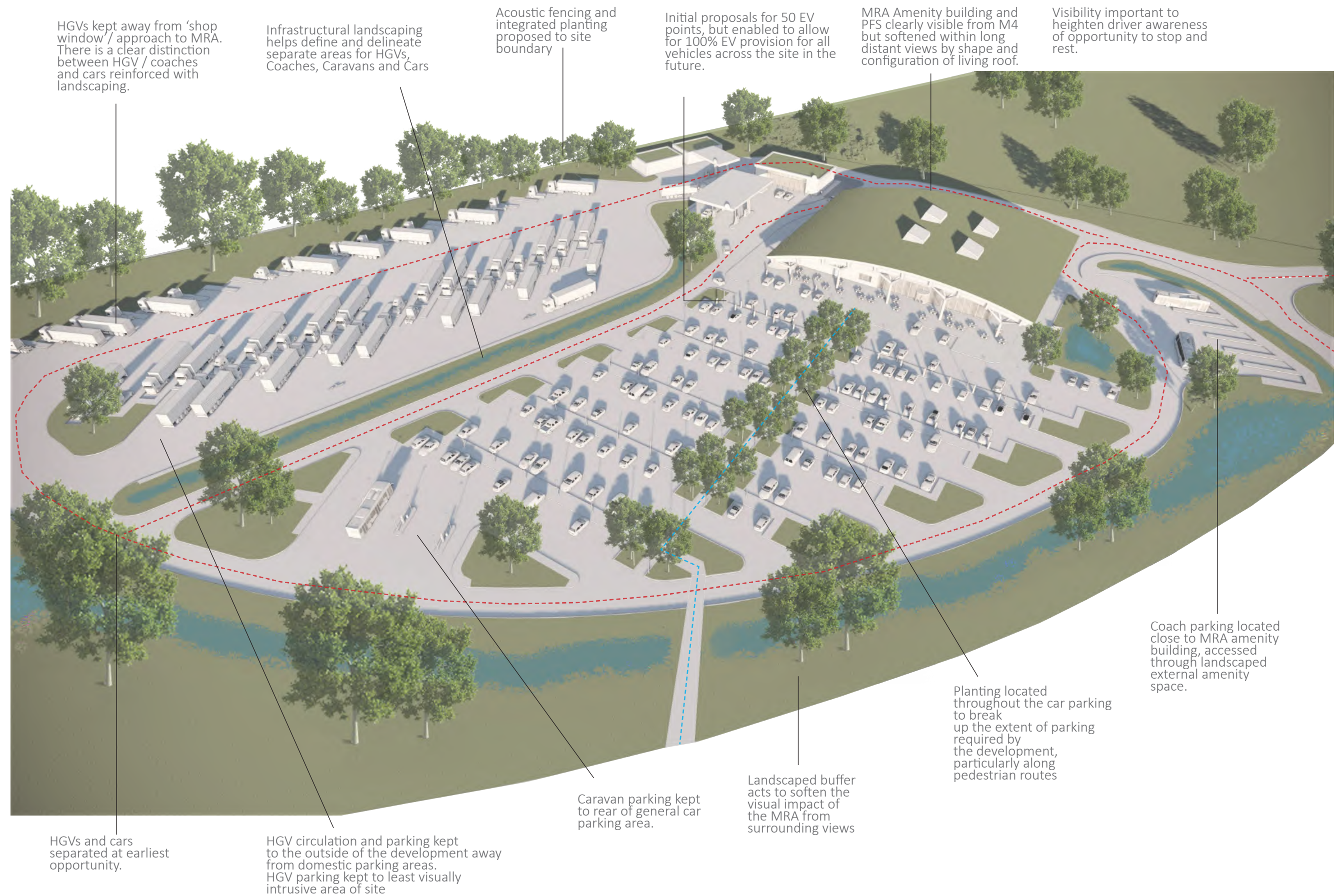
- **Amenity Building** comprising of essential shops, units for food and beverage provision, varied seating areas, 24hour driver's lounge, toilet facilities, external terrace, children's play area, staff welfare facilities, kitchen and storage facilities;
- **Fuel Filling Station (FFS) for cars/LGVs**, which is located adjacent to the Amenity Building;
- **HGV/coach Fuel Filling Station (FFS)**
- **Parking provision** for cars, caravans, motorcycles, coaches and HGVs, incorporating disabled parking provision.
- **External landscaped amenity space**
- **Sustainable Drainage System (SuDS)** forming part of the landscape design
- **Outdoor children's play area**
- **Civil works**



SECTION A-A



SECTION B-B



5.0 Landscape Design



1.1 LANDSCAPE AND VISUAL

The proposed Motorway Services site is located on agricultural land bordered to the north by the M4, to the south by the B4005 and to the west by Junction 16 of the M4. A mainline railway is situated within 200m to the east, meaning that the site is within a modest land area bordered by major transport infrastructure.

A significant plantation woodland lies to the southern side of the B4005, directly opposite the site boundary, which continues with further green infrastructure to the east and west through road and rail side buffer planting and trees.

The site is adjacent to part of the Great Western Community Forest initiative (Wiltshire County Council), which supports proposals for increased tree planting / cover.

KEY

 Site location boundary

 Existing Trees and Green Infrastructure

 Biodiversity Enhancements

 Enhanced Landscape Buffer

 Proposed Building Locations Area

 Proposed Site Access Location

 Public Right of Way

 Filtered Views into Site

 Direct Views into Site

 Wetland area

 Listed Building

 Tracks or Access Roads





Selected Viewpoint: Looking east towards the site from the M4 Junction 16. Typical view for vehicles using the junction having exited the M4.



Selected Viewpoint: Looking west from the B4005 towards the hedgerow that forms the eastern boundary of the site.

1.2 LANDSCAPE STRATEGY

The Landscape Strategy for this Outline Planning Application is made up of 4 key principles that refer to the 'Forces for Change' agenda within the Wiltshire Landscape Character Assessment as well as supplementary guidance including the Great Western Community forest initiative.

The key landscape principles are as follows:

1. Retain existing field patterns with existing hedgerows and trees
2. Create an enhanced landscape buffer that provides visual mitigation as well as habitat creation and nature recovery networks
3. Provide ecology focused planting typologies including rain gardens, swales, native scrub and green roofs
4. Achieve Biodiversity Net Gain with enhancements to the adjacent agricultural field, whilst maintaining all existing field patterns and boundaries



ILLUSTRATIVE LANDSCAPE MASTERPLAN



This masterplan is for illustrative purposes only and is subject to design development in subsequent design stages

5.3 ECOLOGY, BIODIVERSITY AND SUDS

INTRODUCTION

Ecology has been a prominent consideration during the design process for this scheme. Wildlife is the focus of the landscape vision, looking to create space for nature and connect existing features to a wider green infrastructure, forming the character and sense of place for the proposals.

As an existing urban fringe, agricultural site, ecology is predominantly associated with existing hedgerows and mature trees in peripheral areas with shrubs and ground cover adjacent. The proposals seek to retain these trees where possible, and look to enhance the ground level habitat, creating wild-flower meadows, planting native trees, shrubs, grasses, and pollinator rich species, all adding to the biodiversity value of the proposals and reflecting the wildlife focused character and re-wilding principle.

The proposals also make use of roof space for habitat creation and biodiversity value. The roofs of the majority of buildings are proposed to be green or brown roofs (not accessible to the public), which will be designed in accordance with ecologist recommendations. Also provided in accordance with the ecology report are a number of bird and bat boxes to existing trees and/or integrated into the buildings. Hibernacula are proposed to the peripheral areas of native scrub, in the form of natural log or brash piles. Sustainable Drainage Systems and their ecological benefit are detailed on the following pages.



BAT BOX



NATIVE MIXED HEDGEROW



WILD-FLOWER MEADOW



HIBERNACULA



NATIVE MIXED SCRUB



BIRD BOX



WETLAND MEADOW



NATIVE TREE MIX



Indicative Section showing pedestrian route, tree planting and vehicular access. **For illustrative purposes only - to be developed at next design stage.**



Indicative Section showing buffer planting and integrated SuDS. **For illustrative purposes only - to be developed at next design stage.**



SUSTAINABLE DRAINAGE AND BIODIVERSITY

There are a number of SuDS integrated in the landscape to slow flow rates and increase filtering, both at ground level and on the building roof spaces. At ground level, these include rain gardens as part of the public space and parking, permeable paving, and tree pit attenuation. The scheme includes green and brown intensive roofs with a broad range of ecology focused planting and associated sub-bases to assist in slowing flow rates and filtering runoff, whilst providing maximum biodiversity benefit. Swales and attenuation basins also form part of the drainage strategy, with planting typologies to suit, including wetland meadow mixes and native shrubs accustomed to wetland conditions.



GREEN ROOF

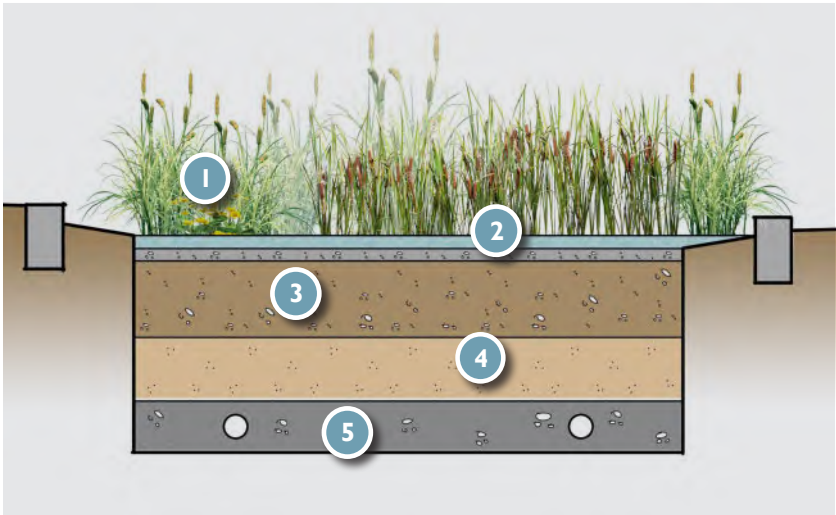


RAIN GARDENS



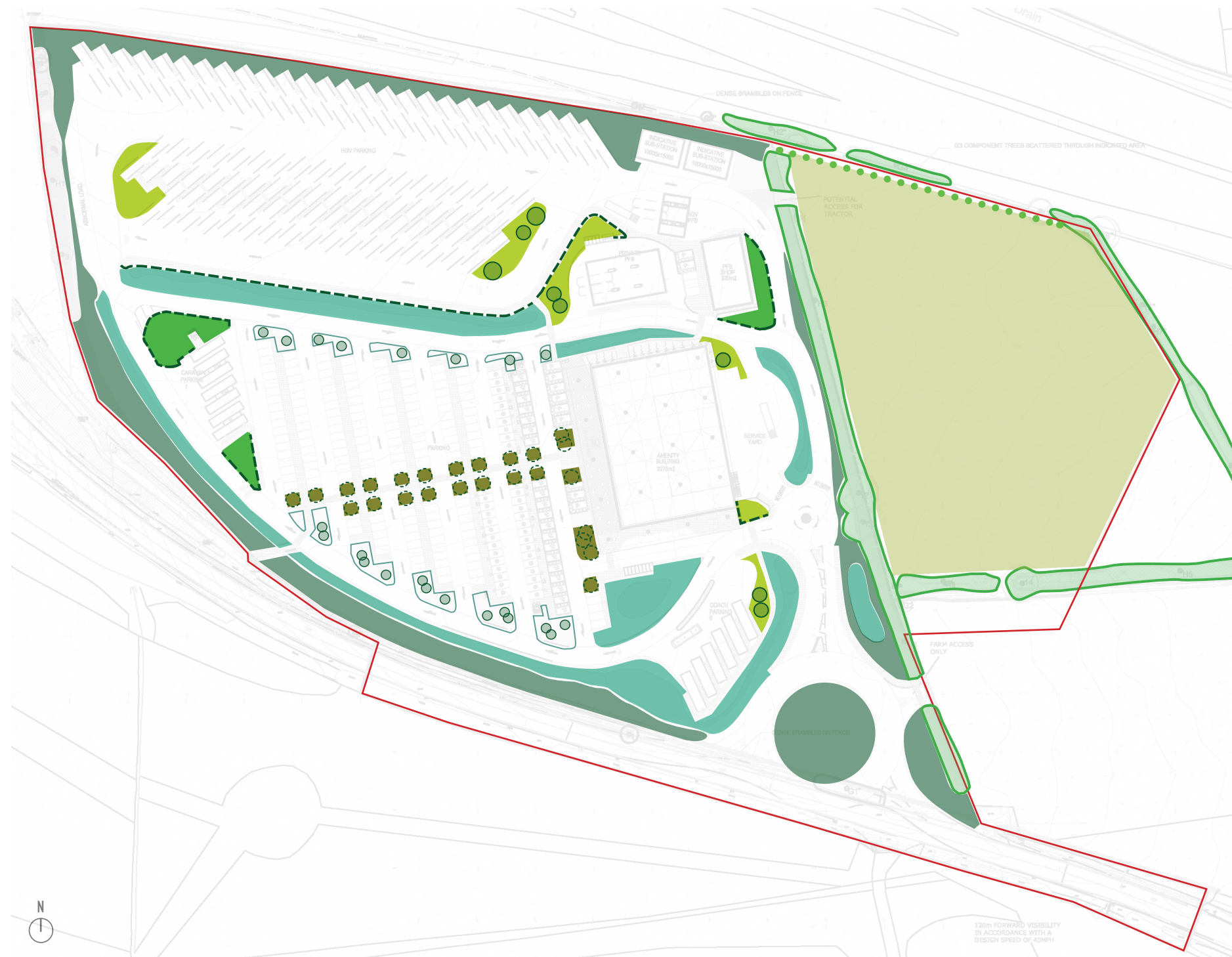
SWALE WITH WETLAND MEADOW PLANTING

- 1 Planting to rain garden
- 2 200-300mm free board
- 3 300mm deep imported topsoil
- 4 250mm deep washed sand
- 5 200mm deep sub-base drainage layer



Typical rain garden section

PLANTING PROPOSALS



Legend

-  Existing trees / hedgerows retained
-  Mixed scrub native planting
-  Species rich wild-flower meadow
-  Species rich wetland meadow
-  Native scrub
-  Ornamental shrub
-  Rain Garden
-  Native species-rich hedgerow
-  Native mixed species maintained hedgerow
-  Native trees
-  Native shrubs
-  Ornamental trees
-  Biodiversity enhancement area

5.4 PLANTING PALETTE

Planting Palettes are indicative only and will be subject to further refinement during the detailed design process and Reserved Matters submission, if the Outline Application is approved.

FEATURE TREES	
Liquidambar styraciflua	Sweetgum
Pinus sylvestris	Scots Pine
Quercus palustris	Pin Oak
Quercus robur	English Oak



Liquidambar styraciflua



Pinus sylvestris



Quercus palustris



Quercus robur

BUFFER TREES	
Betula nigra	River Birch
Betula pubescens	Downy Birch
Betula utilis jacquemontii	Himalayan Birch
Malus toringo 'Scarlett'	Japanese Crab Apple
Sorbus aria	White Beam
Sorbus aria Lutescens	Whitebeam
Sorbus torminalis	Wild Service Tree



Betula pubescens



Sorbus aria

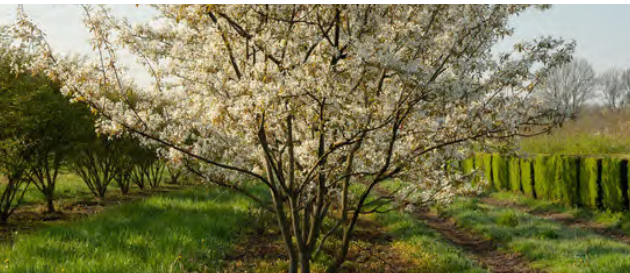


Betula nigra



Betula utilis jacquemontii

STREET TREES	
Acer campestre	Field Maple
Acer platanoides 'Emerald Queen'	Norway Maple
Liriodendron tulipifera	Tulip Tree
Platanus x hispanica	London Plane
Prunus avium 'Plena'	Wild Cherry
Tilia platyphyllos 'Princes Street'	Broad Leaved Lime
Ulmus 'New Horizon'	Elm 'New Horizon'



NATIVE SHRUB

Cornus sanguinea	Common Dogwood
Euonymus europaeus	European Spindle
Ilex aquifolium	English Holly
Rosa canina	Dog Rose
Rosa rubiginosa	Sweet Briar Rose
Viburnum opulus	Guelder Rose



Rosa canina



Cornus sanguinea



Viburnum opulus

ORNAMENTAL SHRUB

Aronia melanocarpa 'Hugin'	Black Chokeberry Hugin
Daphne laureola subs. Philippi	Spurge Laurel
Hamamelis virginiana	American Witch-hazel
Hydrangea quercifolia 'Sikes Dwarf'	Oak-leaved ydrangea 'Sike's Dwarf'
Sarcococca confusa	Sweet Box
Viburnum nudum 'Pink Beauty'	Withe Rod 'Pink Beauty'



Sarcococca confusa



Aronia melanocarpa 'Hugin'



Hamamelis virginiana

PERENNIALS / GRASSES / FERNS

Carex oshimensis 'Everdi'	Japanese Sedge 'Everdi'
Dryopteris wallaichiana	Alpine Wood Fern
Epimedium perralchicum	barrenwort 'Fröhnleiten'
Euphorbia amygdaloides var. robbiae	Spurge
Iris foetidissima var. citrina	Yellow Stinking Iris
Luzula sylvatica	Great Wood-rush
Pachysandra terminalis	Japanese Pachysandra
Polystichum acrostichoides	Christmas Fern
Tellima grandiflora	Fringe Cups



Epimedium perralchicum



Luzula sylvatica



Tellima grandiflora

HEDGES

Fagus sylvatica	Common Beech
Ilex crenata	Japanese Holly



RAIN GARDEN PLANTING

Aquilegia vulgaris	Common Columbine
Aster azureus	Sky Blue Aster
Caltha palustris	Marsh Marigold
Dryopteris affinis 'Cristata'	Scaly Male Fern
Echinacea purpurea	Purple Coneflower
Iris pseudacorus	Yellow Iris
Lychnis flos-cuculi	Ragged Robin
Panicum virgatum	Switch Grass
Persicaria bistorta	Common Bistort
Verbena bonariensis	Purple Top



ROOF PLANTING

Biodiversity roof planting	Emorsgate ER1 or similar (turf roof mix)
Wild-flower roof planting	Germinal seed mix WFG2 (flowering meadow)
Shade tolerant wild-flower planting	Germinal seed mix WFG8 (hedgerows & shade)

5.5 PAVING PALETTE

The surface materials for the Swindon Services development will be selected to respond to the range of materials, qualities and colours found in the proposed architecture and surrounding environment.

Material choice is based on the function and use of the space, its durability and visual appearance, with the overall aim to provide a hard landscape of quality, longevity and low maintenance.

The palette of surface materials is proposed to define a legible hierarchy of surfaces from the main public realm and parking areas through to more informal seating areas and towards a more relaxed palette within the communal spaces. Subtle variations in the materials will help to differentiate pedestrian and vehicular routes.

Images shown are indicative only and subject to change during detailed design.



Tegula concrete block paving



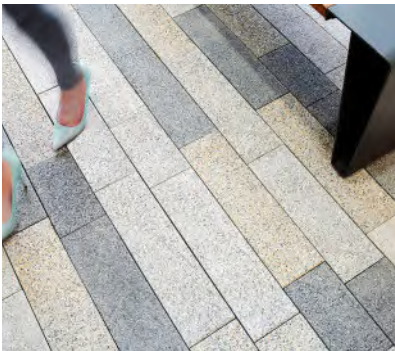
Tegula permeable concrete block paving



Concrete block / flag paving



Permeable concrete block / flag paving



Feature concrete flag paving with natural stone aggregate



Feature paving - composite decking



Self binding gravel pathways



Resin-bound gravel feature paving



Concrete steps with natural aggregate



Materials used for priority and cross over routes

5.6 EXTERNAL FURNITURE PALETTE

A proposed palette of contemporary and elegant furniture has been selected to complement the proposed architecture and surrounding development. The palette will create a clean and modern aesthetic with the aim to minimise clutter and withstand heavy usage.

Images shown are indicative only and subject to change during detailed design.



Concrete aggregate kerb in primary locations



Timber bench seating



Cycle parking



Timber faced steel litter bins



Cube seating and vehicle deterrent



Timber pedestrian bollard

