

December 2025

Land South of Summer Lane, Pagham
Phase 4A Spine Road
Condition 17 of application P/35/24/OUT
Soil Resource Plan

Prepared on behalf of Northgate Properties Ltd

Beechwood Court,
Long Toll, Woodcote,
RG8 0RR



1	INTRODUCTION	1
	Purpose of the Soil Resource Plan.....	2
2	SOIL RESOURCES AND ALC	3
	Topsoil	3
	Subsoil	3
3	LANDSCAPE DESIGN AND SOIL SUITABILITY	4
4	SOIL MANAGEMENT STRATEGY	4
	APPENDIX 1.....	9
	APPENDIX 2.....	11

1 Introduction

1.1 Reading Agricultural Consultants Ltd (RAC) is instructed by Northgate Properties Ltd to develop a Soil Resource Plan (SRP) for the stripping, storing and reuse of soils from the spine road of the permitted Pagham 4 development.

1.2 Planning permission (P/35/24/OUT) was consented at appeal on 29th September 2025 for the following:

“Residential development of up to 120 dwellings including means of access into the site (not internal roads), with all other matters (relating to appearance, landscaping, scale and layout) reserved”

1.3 In total, 32 conditions are attached to the permission, including Condition 17 which states that:

“Development shall not commence on any phase until a Soil Resource Plan has been submitted to and approved in writing by the Local Planning Authority for the development of the phase. This shall set out how the best and most versatile soils on the site are to be protected during construction and then recycled/reused in the new development layout. The soil protection/mitigation measures shall be implemented as per the document and then permanently adhered to throughout the construction and development of the site.”

1.4 The reason given for the condition is to protect the best and most versatile (BMV) soils on the site prior to construction commencing in accordance with Arun Local Plan¹ policy SO DM1 and the National Planning Policy Framework² (NPPF).

1.5 Policy SO DM1 ‘Soils’ states at indent g) that a comprehensive soil resources plan needs to be submitted for developments to demonstrate that care will be taken to preserve the soil resource, such that it can be incorporated into a Productive Green Environment following development.

1.6 Paragraph 187 of the NPPF states that planning policies and decisions should contribute to and enhance the natural and local environment by *amongst other matters) protecting and enhancing soils (in a manner commensurate with their statutory status or identified quality in the development plan); and preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil pollution.

¹ Arun District Council (2018). Adoption Arun Local Plan 2011-2031

² Ministry of Housing, Communities and Local Government (2024). National Planning Policy Framework

Purpose of the Soil Resource Plan

- 1.7 The SRP outlines a suitable strategy and procedures for stripping, storing and reusing soils extracted from the footprint of the spine road, within the wider development. Adherence to the SRP will ensure that the physical soil properties are maintained throughout the construction works, such that upon reinstatement of soil profiles, healthy root growth and successful plant establishment will be promoted.
- 1.8 The preparation of this SRP has relied on:
- detailed soil survey data obtained during surveys undertaken by RAC in 2022;
 - Defra (2009) Construction Code of Practice for the Sustainable Use of Soils on Construction Sites³ which provides details and best practice guidance on the handling, storage and reinstatement of soil resources; and
 - Institute of Quarrying (2021) Good Practice for Handling Soils in Mineral Workings which is an update of the Ministry of Agriculture, Fisheries and Food (MAFF) (2000) Good Practice Guide for Handling Soils. Sheets A to D^{4,5,6,7} provide advice on soil stripping, the formation of soil storage mounds, and soil replacement operations using excavators and dump trucks. Although the guidance is designed specifically for soil stripping, handling, storage and reinstatement for mineral sires, it has wider applicability to soil handling for all types of development, and provides very similar guidance to the earlier MAFF good practice guide.

³ Defra (2009). *Construction Code of Practice for the Sustainable Use of Soils on Construction Sites*.

⁴ IoQ (2021). *Good Practice Guide for Handling Soils in Mineral Workings. Sheet A: Soil Stripping with Excavators and Dump Trucks – Sequential Bed/Strip Practice*.

⁵ IoQ (2021). *Good Practice Guide for Handling Soils in Mineral Workings. Sheet B: Building Soil Storage Mounds with Excavators and Dump Trucks*.

⁶ IoQ (2021). *Good Practice Guide for Handling Soils in Mineral Workings. Sheet C: Excavation of Soil Storage Mounds with Excavators and Dump Trucks*

⁷ IoQ (2021). *Good Practice Guide for Handling Soils in Mineral Workings. Sheet D: Soil Replacement with Excavators and Dump Trucks – Sequential Bed/Strip Practice*

2 Soil resources and ALC

- 2.1 A detailed Agricultural Land Classification (ALC) and soil resources survey was carried out by RAC in 2022 at an observation density of one per hectare across the Phase 4 development area. A soil pit was also excavated during the survey to examine soil physical properties, such as subsoil structure, in more detail. The pit location coincides with the middle of the spine road.
- 2.2 The soil profile data as determined from the excavated pit, and photographs of the soil type, are given in Appendix 1.
- 2.3 The route of the spine road is classified as Subgrade 3a quality, bordering Grade 2 in the very north. The soil profile is limited by both wetness and droughtiness.

Topsoil

- 2.4 The topsoil comprises medium clay loam (bordering on sandy silt loam) of 300mm depth and with a low stone content (1-2% volume). Surrounding observations in the same field have medium clay loam or medium silty clay loam topsoils. These textures are compatible and can be handled as one soil unit. The texture and nutrient status was confirmed by laboratory analysis, the results of which are presented in Appendix 2. The topsoil has a neutral pH, average to low nutrient status and low organic matter content.
- 2.5 The footprint of the spine road is estimated at around 2,650m². The estimated recoverable volume of topsoil is therefore in the region of 795m³.

Subsoil

- 2.6 The upper subsoil in the pit location is clay which is slightly stony and moderately permeable. The stone content increases with depth, and the profile is slowly permeable from around 600mm.
- 2.7 Drawing Number 13226/1401 of the planning application indicates that the maximum depth of excavation required for the spine road carriageway construction will be around 400mm. The estimated recoverable subsoil volume is therefore in the region of 265m³.

3 Landscape design and soil suitability

- 3.1 The soil resource stripped from the spine road working area is suitable for re-use in the wider detailed design of the development.
- 3.2 Medium clay loam topsoil is well suited for use in residential gardens.
- 3.3 The clay subsoil could be utilised in gardens or would also be suited to the landscaping areas, including tree planting.

4 Soil management strategy

- 4.1 The following soil management strategy is based on good practice guidance contained within Defra's Construction Code of Practice for the Sustainable Use of Soils on Construction Sites, Defra's Guidance for the Successful Reclamation of Mineral and Waste Sites, IoQ's Good Practice Guide for Handling Soil and industry experience.

Good practice for handling soils

- 4.2 Inevitably, soil structural quality will be disrupted by handling or trafficking. There are three principal objectives when stripping, handling and storing soils:
 - the avoidance of unnecessary damage to all three soil layers (topsoil, upper subsoil and lower subsoil), especially by compaction and smearing;
 - the maintenance of a reasonable degree of fissuring, and hence aerobic conditions, in stored soils, especially topsoil; and
 - the reasonable replication of the original permeability of the soil profile when the materials are replaced.
- 4.3 All soil material to be re-used, for whatever purpose, will be handled only under appropriate conditions, when in a dry and friable state, which is when they are least susceptible to damage by compaction and smearing, and according to the following rainfall criteria:
 - if there is very light rain or drizzle, handling can proceed for up to four hours unless the soils are already in too moist a state (determined by field tests);
 - if there is normal rain, handling will cease if the rain has not stopped in 15 minutes;
 - if there is heavy rain (as from intense showers, slow-moving depressions) handling will stop immediately;
 - after rainfall has ceased, field tests will be applied to determine when handling may re-start.

4.4 The field tests used to determine the suitability of handling should be applied to soils from at least five locations in each area to be assessed. Records of all tests will be kept.

4.5 The soils should be assessed as follows:

If the soil sample is wet, films of water are visible on the surfaces of grains and aggregates and/or when a soil sample is squeezed in the hand and it readily deforms into a cohesive "ball"	NO HANDLING
Peds (structures) break up/crumble readily when squeezed in the hand rather than forming into a ball	HANDLING OK
If the sample is moist, there is a slight dampness when squeezed between the fingers but it does not significantly change colour (darken) on further wetting	NO HANDLING BY DOZERS BUT MAY BE HANDLED BY TRACKED EXCAVATORS IF CONSISTENCY TEST (See 4.6) IS PASSED
If the sample is dry and brittle it will look dry and change colour (darken) if water is added	HANDLING OK IF CONSISTENCY TEST (See 4.6) IS PASSED

4.6 The consistency of the soil should also be assessed, using the following methodology:

Attempt to mould a soil sample into a ball by hand:

Impossible to mould a soil sample into a ball by hand because the soil is too hard (dry)	HANDLING OK
Impossible to mould a soil sample into a ball by hand because the soil is too loose (dry)	HANDLING OK
Impossible to mould a soil sample into a ball by hand because the soil is too loose (wet)	NO HANDLING
Possible to mould a soil sample into a ball by hand	GO TO 4.7

- 4.7 If a ball can be formed by hand, attempt to roll it into a thread of 3 mm diameter

Impossible to roll the ball into a thread of 3 mm diameter on a flat non-adhesive surface using light pressure from the flat of the hand; the soil crumbles or disintegrates	HANDLING OK
Possible to roll the ball into a thread of 3 mm diameter on a flat non-adhesive surface using light pressure from the flat of the hand	NO HANDLING Soils with a plasticity of greater than 1 x plastic limit (i.e. soils which fail this test) could still be usable as engineering soils. So this test should only be applied to soils that are to be retained e.g. for agricultural or landscape use, not as a general criterion of when excavation may take place.

Soil stripping

- 4.8 The soils within the spine road area can be managed as one unit.
- 4.9 Any standing crop or bulky vegetation will normally be cut and removed before stripping. If under grass, the grass should be cut as short as possible and any arisings should be carted away.
- 4.10 A suitable storage area should be identified prior to works commencing. Haul routes and storage areas will first be stripped of topsoil and subsoil. The principal objective is to avoid trafficking of materials by wheeled vehicles.
- 4.11 Plant of appropriate size for the operation will be used to strip the soils and place them into storage bunds as appropriate, as recommended in the Good Practice Guide for Handling Soils (Sheet A)⁴. Plant will include tracked excavators and dumpers.

Depth of soil stripping

- 4.12 The full thickness of the topsoil horizon should be stripped before any subsoil stripping occurs. Each layer should be stripped to its natural thickness, identified by colour, avoiding incorporation of subsoil material into the removed topsoil.
- 4.13 The topsoil thickness is around 300mm and could be stripped to 300mm without incorporating notable volumes of upper subsoil material.
- 4.14 The upper subsoil clay was observed to 600mm depth. It is not likely that the full depth of upper subsoil will need to be stripped for the spine road. The subsoil can be handled as one unit.

Topsoil stockpiling

- 4.15 Topsoil must be stockpiled when in an appropriate condition as determined by the field tests for moisture and consistency described above in paragraphs 4.5 to 4.7. This will ensure the soil is less prone to damage and compaction and will also facilitate re-spreading where applicable.
- 4.16 Topsoil stockpiles are proposed to have a maximum height of 3m and a gradient of 1 in 3 to allow for maintenance by mowing rather than strimming. Stockpiles should be located away from areas that may be at risk of flooding or ponding.
- 4.17 Appropriate plant, such as tracked excavators and dump trucks, can be used to construct the soil mounds as required as recommended in the Good Practice Guide for Handling Soils (Sheet B)⁵. The dump trucks should travel to the storage area within the haul routes. The trucks should back-tip the transported soil starting at the furthest point from the access. Excavators and dozers can then be used to progressively shape and firm the mounds.
- 4.18 Subsoil stockpiles may be up to 5m in height, with a side gradient of 1 in 3.
- 4.19 Any stockpiles in place for more than 6 months will be grassed down, normally with a low-maintenance mix unless otherwise agreed, and kept in a tidy and weed-free condition.
- 4.20 Locations will be monitored for signs of ponding. If that occurs, temporary drainage measures will be immediately put in place.
- 4.21 The locations and footprints of each stockpile shall be recorded accurately on a plan of not less than 1:2,500 scale.
- 4.22 The approximate volume and nature of each type (topsoil and subsoil) will be recorded.
- 4.23 The provenance of each material will also be recorded to facilitate its correct identification.

Subsoil preparation

- 4.24 Soil placement will occur once the areas to be restored are clear of debris and dry.
- 4.25 To ensure successful establishment of grass and trees, the subsoil must be uncompacted and well aerated in order to avoid waterlogging and the development of anaerobic conditions. If significant rainfall occurs during the replacement operation, work must be suspended and not restarted until the weather forecast is expected to be dry for at least one full day.

Topsoil re-spreading

- 4.26 Topsoil should also be taken out of stockpiles when in a dry and friable condition, and loose-tipped onto the prepared subsoil, to a depth of 300 mm (acknowledging some losses and allowances for settlement).
- 4.27 The topsoil may be tested again for nutrient status and organic matter content prior to replacement and any amendments or additions made as necessary depending on the designated end use.
- 4.28 Tree and grass establishment must be monitored subsequent to planting. At the first signs of failure, the soil profiles will be examined in order to identify any drainage or compaction issues, and a strategy to ameliorate these issues will be developed.

Appendix 1: Soil Pit Data

Wetness / workability limitations are determined according to the methodology given in Appendix 3 of the ALC guidelines, MAFF 1988

Droughtiness calculations are made according to the methodology given in Appendix 4 of the ALC guidelines, MAFF 1988.

Grades are shown for drought, wetness and any other soil or site factors which are relevant. The overall Grade is set by the most limiting factor and shown on the right.

Stone types		
%	TA _v	EA _v
Hard	1	0.5
Lstone	4	3

Climate Data	
MDwheat	122
MDpotato	119
FCD	148

Wetness Class Guidelines	<i>II</i>	<i>III</i>	<i>IV</i>	<i>V</i>
SPL within 80cm, gleying within 40cm	>68cm	40-68cm	<40cm	
SPL within 80cm, gleying at 40-70cm	>51cm	<51cm		
No SPL but gleying within 40cm	coarse subsoil	<i>I</i>	other cases	<i>II</i>

Maximum depth of auger penetration is underlined

Site No.	Depth cm	Texture	CaCO ₃	Colour	Mottle colour	abund-ance	stone% hard	stone% Lstone	Struct-ure	APwheat mm	AP potato mm	Gley	SPL	WC	Wetness grade WE	Final Grade	Limiting Factor(s)
1	T	0	30	mCL	non	10YR4/2	2		-	53	53	n	n	<i>III</i>	3a	3a	WE DR
		30	60	C	non	10YR5/3	Fe	com	5	m/poor	35	41	y	n			
		60	120	C	non	10YR5/3	Fe	com	15	poor	36	11	y	y			
									Total	124	106						
									MB	2	-13						
									Droughtiness grade(DR)	3a	3a						

Spine Road Soil



Pit



Topsoil



Upper subsoil as excavated



Subsoil breaks into small pedes

Appendix 2: Laboratory Analysis Results

Determinand	Pit	Units
Sand 2.0--0.063 mm	22	% w/w
Silt 0.063-0.002 mm	60	% w/w
Clay <0.002 mm	18	% w/w
Organic Matter	1.7	% w/w
Texture	Medium clay loam/ Sandy silt loam	

Determinand	Pit	Units
Soil pH	7.1	
Phosphorus (P)	20.0	mg/l (av)
Potassium (K)	91.9	mg/l (av)
Magnesium (Mg)	80.0	mg/l (av)

Determinand	Pit	Units
Phosphorus (P)	2	ADAS Index
Potassium (K)	1	
Magnesium (Mg)	2	