

WAKEHURST DECARBONISATION PROJECT

HERITAGE, DESIGN & ACCESS STATEMENT

Rev C – November 2024



SITE DETAILS

Address: Wakehurst Place, Ardingly, Haywards Heath, Sussex,
Postcode: RH17 6TN

ACCOMPANYING DRAWINGS

Size	Scale	Drawing Nr.	Drawing Title	Rev
			00 EXISTING DRAWINGS	
A3	1:2500	2280-01/00/01	Location Plan	B
A3	1:750	2280-01/00/02	Site Plan	B
A3	1:200	2280-01/00/03	Stables Ground Floor Plan as existing	-
A3	1:200	2280-01/00/04	Stables First Floor Plan as existing	-
A3	1:50	2280-01/00/05	Oil Tanks North & South Elevations as existing	-
A3	1:50	2280-01/00/06	Oil Tanks East & West Elevations as existing	-
			01 PROPOSED DRAWINGS	
A3	1:100	2280-01/01/01	ASHP Compound Ground Floor Plan as proposed	-
A3	1:50	2280-01/01/02	Oil Tanks North & South Elevations as proposed	-
A3	1:50	2280-01/01/03	Oil Tanks East & West Elevations as proposed	-
			02 DEMOLITION DRAWINGS	
A3	1:100	2280-01/02/01	Oil Tank Demolition Plan as proposed	-
A3	1:50	2280-01/02/02	Oil Tanks Demolitions North & South Elevations as proposed	-
A3	1:50	2280-01/02/03	Oil Tanks Demolitions East & West Elevations as proposed	-
			MEP DETAIL DRAWINGS	
A3	NTS	AA303S	ASHP Package Isometric Detail	-
A4	NTS	REP-1015656-03-MW-20240910	Noise Impact Assessment Report	-
A4	NTS	R32 Wakehurst Kew Gardens	E-Series Proposal	-

INTRODUCTION

The following Design and Access Statement has been prepared by Martin Ashley Architects on behalf of RBG Kew, to accompany the Full Planning Permission Application to Mid Sussex District Council for the proposed Wakehurst Decarbonisation Project.

A BRIEF HISTORY OF WAKEHURST

The site itself is a location with medieval roots, the land on which the Mansion and Stables were built was purchased in 1205 by William de Wakehurst, who bought 40 acres of the surrounding countryside. Centuries later, in 1590, Edward Culpeper commissioned the Mansion which was located on the site of an older house. It was originally a quadrangular building of local sandstone and may have been designed by John Thorpe, architect of several houses in the south of England at that time. The south side must have been pulled down before 1697, as it is not shown on an estate plan of that date. The Stables, a Grade II* listed U-shaped block with a courtyard to the east side, must have been added between then and 1727 as they are shown on the later map¹, but not on the former. Sir William Burrell (a great—nephew of Timothy Burrell, a Steward of the Manor) mentions Wakehurst in his notes on Sussex houses now in the British Museum, and his manuscripts include a drawing of the house by Grimm, made in 1780. It was considerably reduced in size in the nineteenth century, but retains its character as a typical Elizabethan Manor House.



A map of Sussex from 1610, showing Wakehurst and 'Ardingleigh'. ©RBG Kew

¹ P110, The Parish Registers of Ardingly, Sussex, 1558-1812. Edited by Gerald W.E. Loder

The Mansion and Stables were later purchased by Gerald Loder in 1903. Gerald (who later became Lord Wakehurst) was a passionate plantsman and helped sponsor many collecting expeditions at the turn of the century, particularly to eastern Asia, the world's richest source of temperate flora. He was particularly interested in Southern Hemisphere plants and built up an outstanding collection from South America, Australia and New Zealand. Sir Henry and Lady Eve Price bought the property after Lord Wakehurst's death in 1936. Sir Henry was passionate about plants and under his care the estate matured and became widely admired. In 1963, the Price family bequeathed Wakehurst and a large endowment to the National Trust. The house and the land were leased to the Royal Botanic Gardens, Kew in 1965 and now form part of their Living Collections.

In 1989, the original Stable Block, located to the north of the mansion at Wakehurst Place, was converted into a restaurant, with the ground floor of the north wing becoming the main seating area. In 2005, Walters & Cohen Architects extended the Stables with a modern infill within the 'U' shaped courtyard and improved the existing servery arrangements to the rear of the building.



A model of the Stables from 2005, showing the café infill project. ©Walters & Cohen Architects

The oil tank compound, located next to the Stables, with which most this proposal is concerned, is of modern construction in 1974. It does not form part of the original Stables Block and is not included in the Grade II* listing or even referenced in the Archaeology Data Service's extensive description of the Stables, both of which are appended to this document for reference. The boiler room is part of the Stables block, but no work to any historic fabric is proposed here.

SITE CONTEXT AND LOCATION

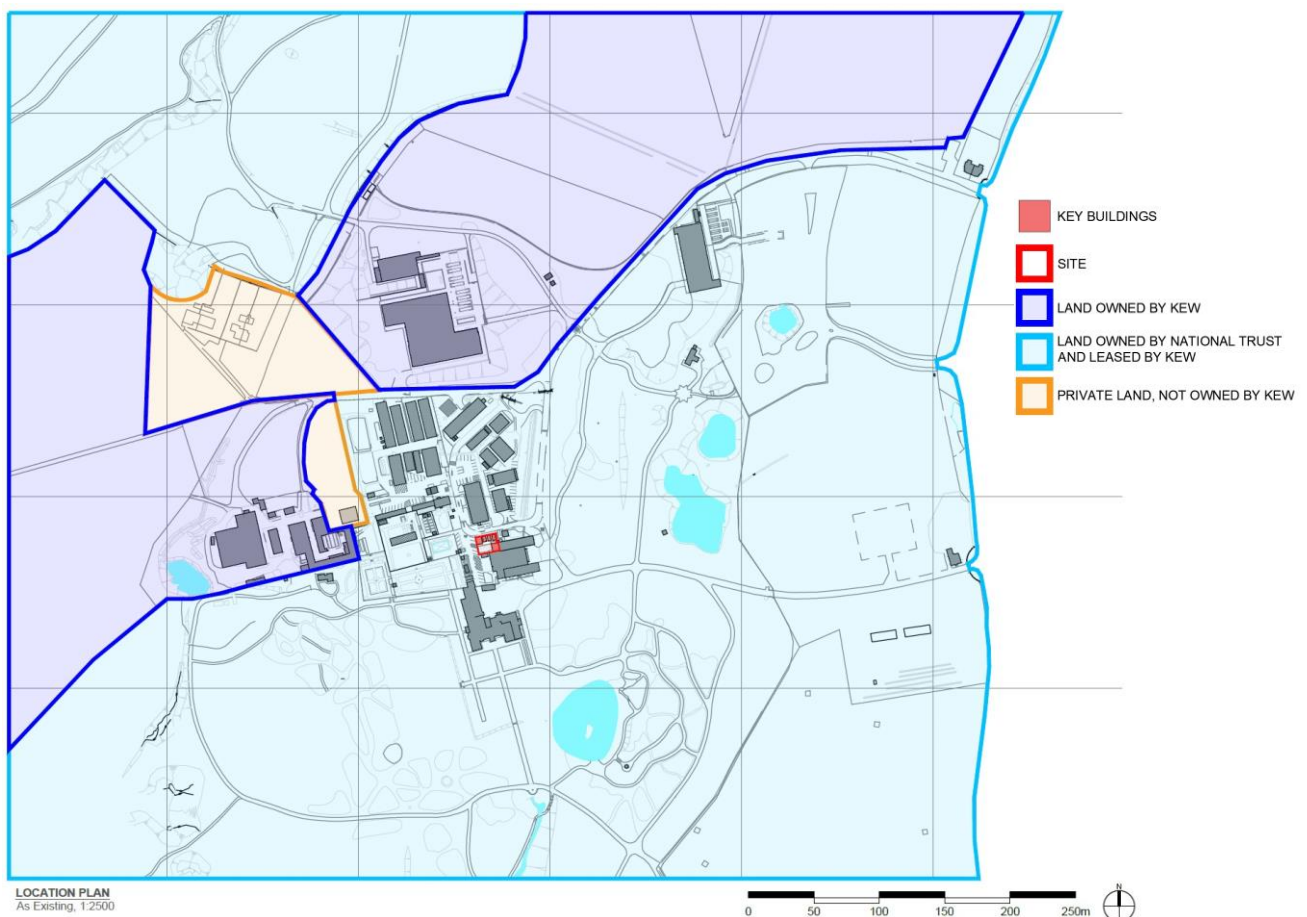
SITE CONTEXT

Royal Botanic Gardens Kew was founded in 1759 and operates across two sites: Kew Gardens in London (the original site), and Wakehurst Place in Sussex: home to RBG Kew's Millennium Seed Bank. In 1965, RBG Kew sought a new home for a definitive temperate plant collection and Wakehurst's climate, soils, topography, and air quality made it the chosen site, leading to a 99-year lease with its owner, the National Trust.

Wakehurst is now a large-scale botanic garden and estate with a focus on naturalistic, phyto-geographic planting zones composed of wild-collected plants. Wakehurst's natural assets coupled with the creation of Kew's Millennium Seed Bank (MSB) built in 2000, enable this site to deliver a powerful and tangible contribution to UK and global plant conservation. Kew as an organisation continues to make sustained and globally significant contributions to botanical science.

SITE LOCATION

Wakehurst is located in the Ardingly Parish, just to the north of the village of Ardingly, in Mid-Sussex. Wakehurst lies on the west side of the Selsfield Road (B2028), 1.5km north of Ardingly village, 3.5km south of Turners Hill and is characterised by its open rural environment interspersed with wooded areas and arable fields. The land within the Wakehurst purview is circa 40ha, which is comprised of some 12ha of parkland, 9ha of ornamental gardens and 20ha of mixed native and ornamental woodland. The site itself is a service building compound located just to the northwest of the Stables Block containing; oil tanks, generator building, yard, and boiler room.

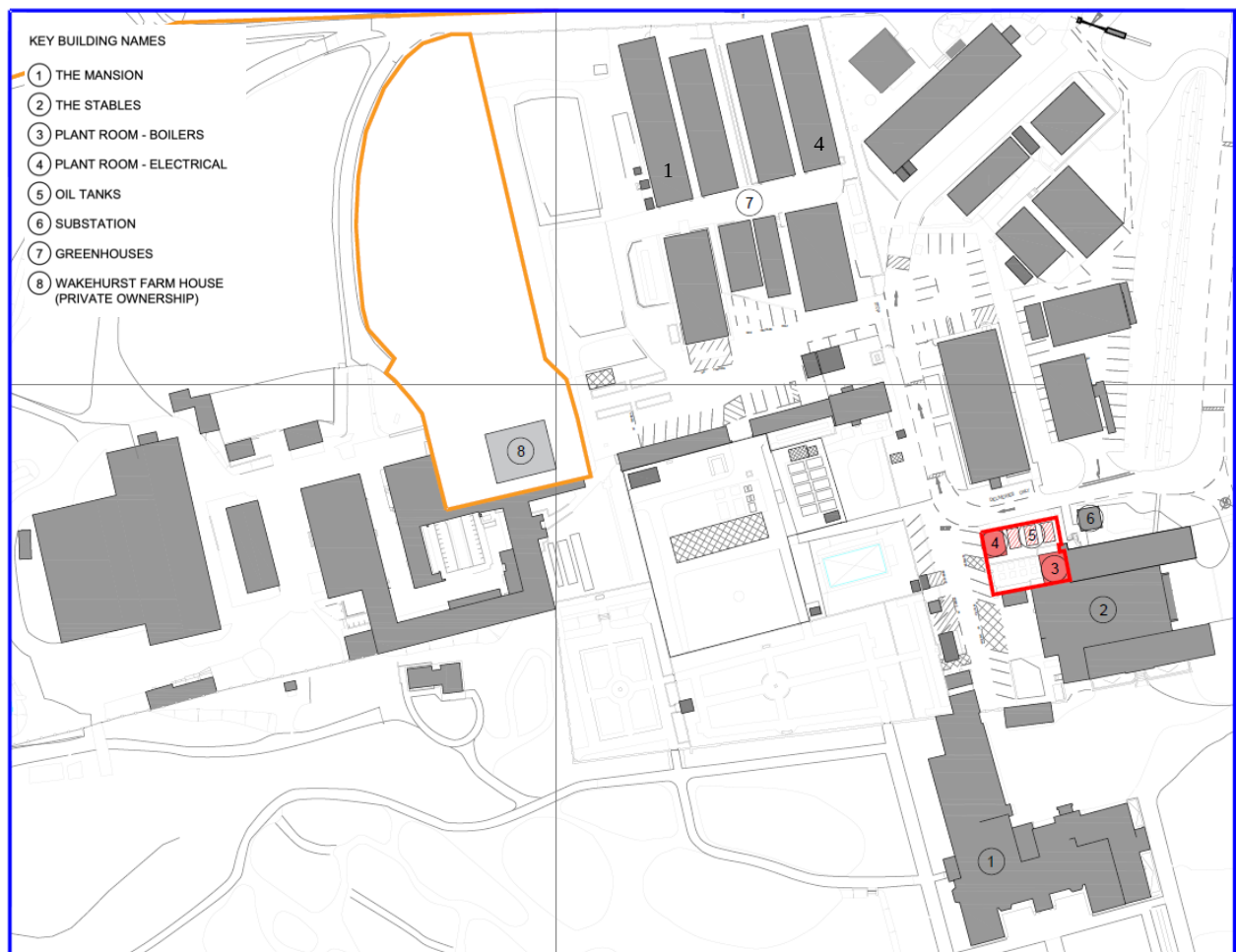


PROJECT SUMMARY

PROJECT PROPOSAL

The proposed decarbonisation project at Wakehurst looks to replace the existing oil tank fired boilers with a new Air Source Heat Pump (ASHP) and Water Source Heat Pump (WSHP) system. The current boiler system provides heating and hot water to the following buildings:

- The Mansion
- The Stables Restaurant (Ground Floor)
- The Stables Accommodation (First Floor North Wing)
- The Stable Offices (First Floor South Wing)
- Glasshouses 1 and 4



There are two large oil-fired boilers located within the boiler plant room and three external oil tanks to supply them (see photos below). These will all be carefully removed, and the space used to house the new AHSP plant. In the interim, whilst the work to install and connect the new ASHPs is carried out, a temporary boiler and temporary oil tank will be located in the car park outside the Yard to maintain heating to the Stables restaurant and flats above. Once the new ASHP system is connected, these will be removed.



Photos showing location of three external oil tanks and two internal oil-fired boilers on concrete plinths.

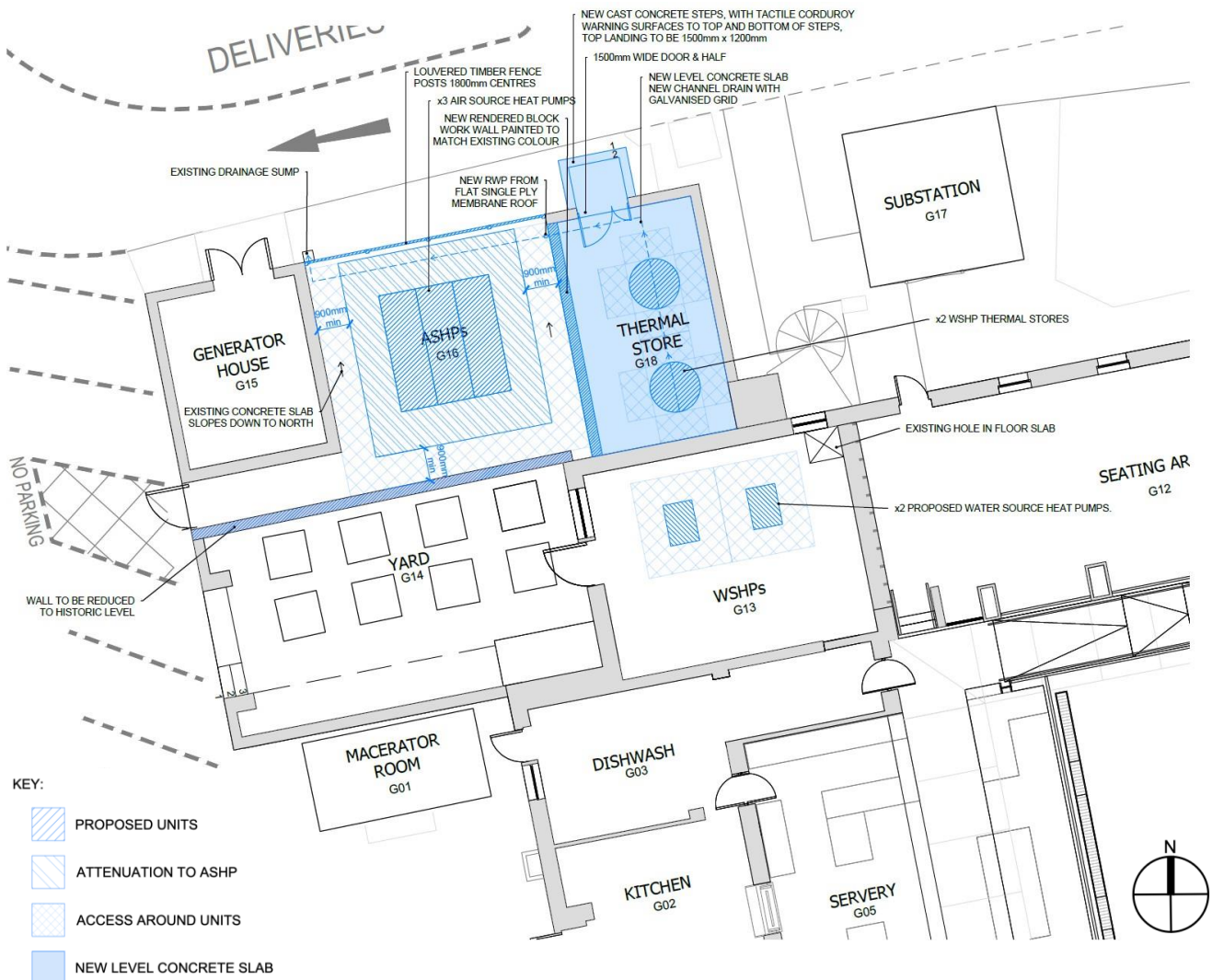
ASHP DESIGN & LOCATION

Once the existing oil tanks, pipework and modern internal walls have been removed, a new level concrete flooring slab will be created at the northeastern end of the compound. A new lightweight timber frame wall, clad in hanging tiles, will be created with the existing walls to enclose and form a new Thermal Store, that is large enough to house 2no. water thermal store units. The thermal stores will generate enough heat that the space shouldn't be insulated and will instead be made weathertight with a new single ply membrane flat roof structure that is supported from the existing walls. A new opening for an access door will be made in the existing northern wall.

Three new ASHP units will be installed centrally in the remaining courtyard area, with their required attenuation surround that will muffle the noise that the units produce. To ensure adequate airflow reaches the ASHPs it is proposed that a section of the existing modern wall to the north is demolished and a louvred timber fence system erected. This will screen the ASHP from the road but also allow ventilation to pass through. On the southern side of the ASHP, a wall-built c.1938 with tooled stonework had previously been increased in height to match the other enclosure walls, likely at the time the compound was constructed in 1974. To allow maximum air flow to the ASHP, it is proposed that this wall be reduced to its former historic height of approx. 1.1m. The historic blockwork will be retained, with only the modern blockwork above being carefully removed.

Inside the existing boiler room, two new Water Source Heat Pumps will be installed directly onto the concrete plinths that the two old boilers used to sit upon. This will minimise any changes that need to be made to this room.

A new drainage channel will be formed in the Thermal store, that will connect to the existing channel in the courtyard and discharge into the existing drainage sump to the northwest corner.



HEATING

The proposed ASHP will generate heating for the Mansion using the existing emitters (radiators) and will not require additional pipework or replacement radiators and should operate as effectively as the current system as it will only be required to generate enough heat for fabric protection. For events at the Mansion (expected to be ground floor areas only) when the temperature may need to be increased above fabric protection levels, either temporary or semi-permanent electrical heating will be deployed/activated for the period of the event.

The ASHP will provide full heating to the ground floor Stables Restaurant and kitchens, as well as the accommodation and the offices on the floor above.

Glasshouses 1 and 4 are coming to the end of their lifecycle and will ultimately be replaced by new Glasshouses at the 'New Wakehurst Conservation and Research Nursery' site. This heating load on the new ASHP will only be necessary until their decommissioning.

HOT WATER

The oil-fired boilers currently provide Hot Water to the following buildings:

1. The Mansion
2. The Stables Restaurant (Ground Floor)
3. The Stables Accommodation (First Floor North Wing)
4. The Stable Offices (First Floor South Wing)

The proposed ASHP will provide hot water to the Stables Restaurant via a new electrically driven hot water system. The Stables Accommodation and Offices have suitable electrical systems already in place and will only need to be adapted to run alongside the ASHP. Production of hot water in the Mansion House has been omitted from the scope of this project due to a lack of certainty over where electric water heaters will be needed in the repurposed Mansion.

POWER

To supply the ASHP, UK Power Network (UKPN) are upgrading their existing on-site substation. The upgraded substation will be located within the existing fenced enclosure, this does not require alteration as the new switch panel will replace the existing switch panel in the same location.

ACCESS

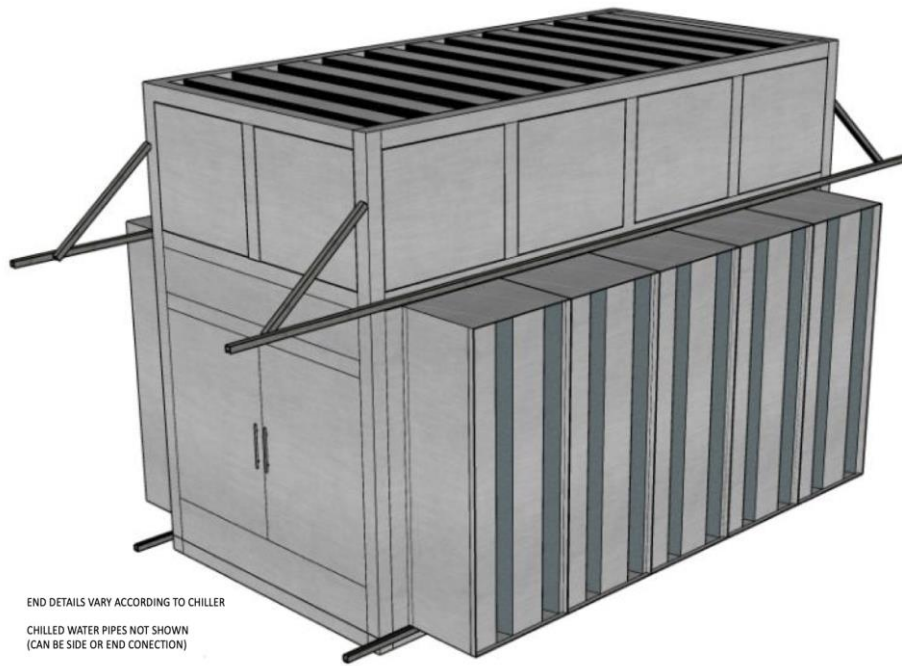
Access to the ASHP compound will remain as existing, through the gate on the western façade. Access to the Thermal Store will be through a new set of doors to the north. Access to the WSHP in the boiler room remains as existing.

MATERIALS

Having sought guidance from Caroline Ikin of The National Trust, the new thermal storeroom wall is proposed to be a simple rendered wall, painted in a natural stone colour, as an honest approach to modern intervention.

It is proposed that the existing copings to the low 1938 stone wall will be replaced in stone when the modern blockwork above is removed, as this will then match other historic walls around the site. It may be possible to salvage the proposed stone for the copings from elsewhere on Wakehurst site, the nearby Mansion House stone copings are of Sussex Sandstone and it is proposed to match this if salvaged stone cannot be found.

The proposed ASHP attenuation system is to be from Allaway Acoustics. The attenuator will be coloured a dark grey, in a stainless-steel material. The ASHP dimensions per unit are 3418mm (L) x 1080mm (W) x 2400mm (H). The attenuator that surrounds the ASHP, see image below, is 5720mm (L) x 5200mm (W) x 3600mm (H). The attenuator sits upon a 'Big Foot' support system that raises the unit a further 500mm above the floor height, to allow air to flow under the unit, resulting in a height of 4100mm plus the slope of the compound.

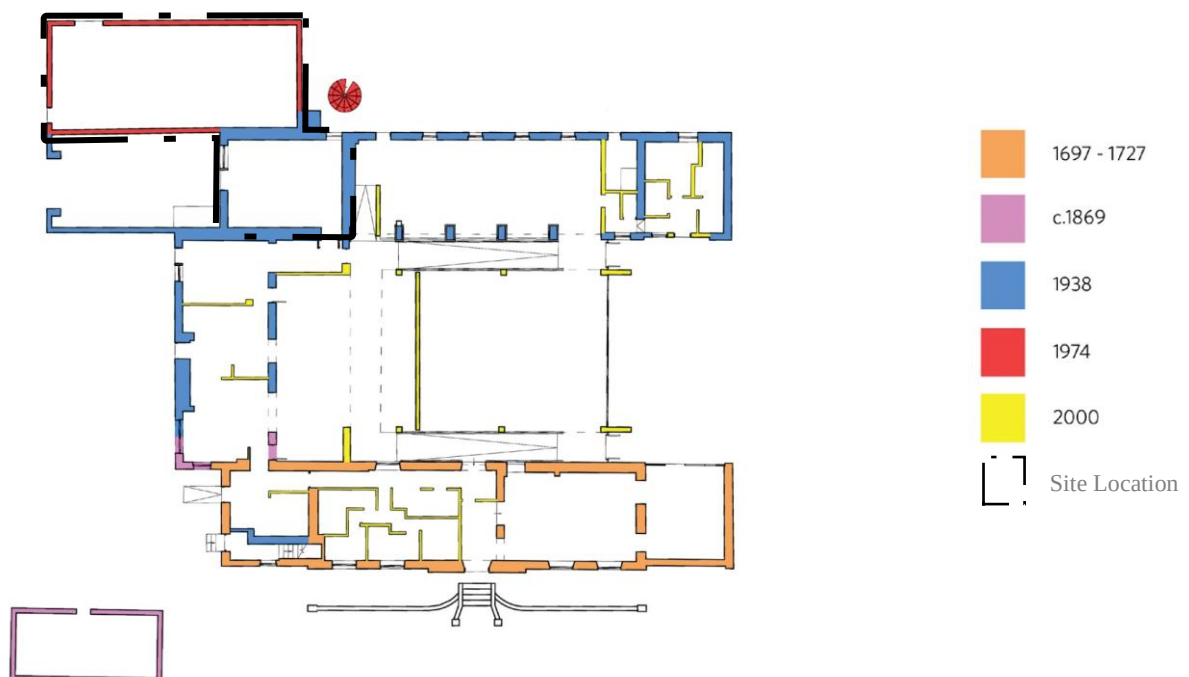


Isometric graphic of the proposed ASHP attenuation system. ©Allaway Acoustics

IMPACT OF THE PROPOSAL ON THE STABLES

STABLES CONSTRUCTION PHASING AND ASSESSMENT OF SIGNIFICANCE

Whilst the proposed ASHP works will cause minimal harm to the historic southern Stables structure, the early 20th century architectural elements to the north are still significant and the intervention will need to be approached with care for the nearby building. The following phasing and significance plans are extracts from Wakehurst's *Conservation Management Plan 2024: Part 1 The Mansion and Core of the Estate* written by Richard Griffiths Architects.



Ground floor plan of the Stables Block showing construction phasing ©Richard Griffiths Architects

The Stables were originally a single block facing south. The southern block is a symmetrical building, with a two storey central section of five bays and a single storey projection at each end. The central bay has a pediment at roof level, with a clock in its centre and it is surmounted by a cupola. The building is built of local sandstone. The south façade is carefully composed with wide window openings which have slightly arched heads and an expressed keystone. The entrance door opening has a semicircular fanlight. Presumably, the openings to the horse stalls were on the north side, but changes made to the building in the 1930s, described below, have removed all evidence of the original north façade.

The building is shown on the 1727 estate plan, according to Loder (Loder, 1907, p111) the Stables do not appear on an earlier estate map of 1697 (now lost). The south front of the building is shown in Grimm's 1780 drawing, looking much as it does now. The identity of the architect of the Stables is not known.

Various changes to the Stable layout occurred over the years, but the most significant occurred in 1938, when Sir Henry Price repaired and extended the Stables. The historic southern facade was taken down and rebuilt as the foundations were inadequate and the wall was leaning outwards. Radical repairs were also made to the roof carpentry and the Cupola was entirely replaced. In addition to this work to the existing fabric, a new west and north wing were constructed, creating a 'U' shaped building facing the courtyard. The new additions were built of stone and continued the broad idiom of the original building. However, the details are simplified and the difference between historic and 1930s can be clearly seen.

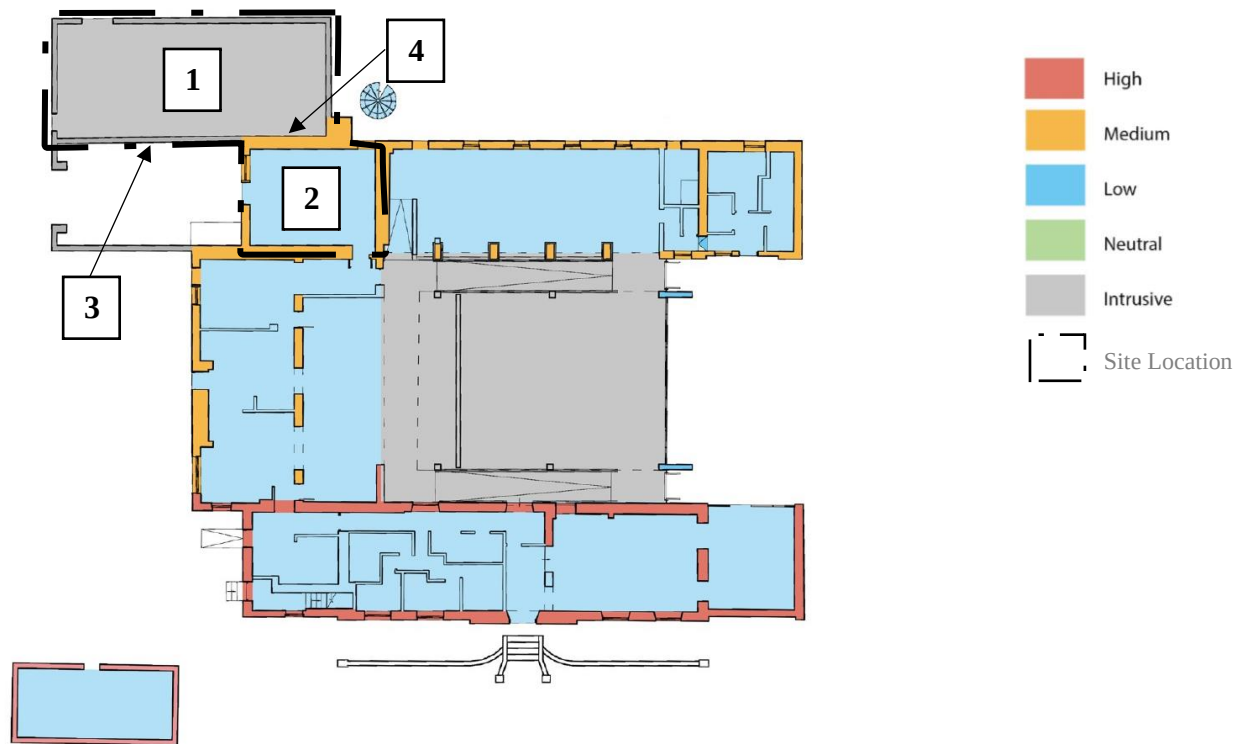
The 1938 reconstruction of the stables provided various kinds of service accommodation:

- A basement boiler house with an associated machine room at ground floor level. The boiler house provided heating and hot water for the Mansion.
- A new laundry, drying room and finishing room.
- Continuing provision for the Stables in the original south wing of the building.
- Garages, in two separate spaces; 5 bays for guest parking and a double bay for Sir Henry Price's cars.
- Accommodation for staff on the first floor in the North range, this was comprised of five bedsitting rooms for visiting chauffeurs, with a common room and a bathroom. In the south range the design drawings show a small staff flat.

Further modifications were made to the building in 1974 to provide facilities required by Kew:

- An external extension for oil tanks and generators.
- An external spiral escape stair from the first floor of the North Range.
- The former machine room was converted into a new boiler room, making the original boiler room redundant.
- The laundry and stables were converted into service accommodation connected with a café extension into the courtyard.
- Minor modifications were made to the first-floor rooms to modernize them for continuing use as accommodation for Wakehurst staff.

In 2005, the café extension was replaced and enlarged and all the ground floor rooms were reconfigured as service space, servery and café.



Ground floor plan of the Stables Block showing assessment of significance ©Richard Griffiths Architects

It should be noted that because the interiors of both ground and first floor have been entirely stripped out and changed, they retain only low historical significance. However, the external envelope of the building, including walls and roof, is of high significance for two reasons. Firstly, the original 18th century stable range survives intact, although much rebuilt by Sir Henry Price, within the extended open courtyard. It is an attractive example of this important building type, designed in a restrained early-Georgian expression. Secondly, it is also the only significant evidence of 18th century work at Wakehurst and is important for that reason.

PHYSICAL IMPACT ON HISTORIC FABRIC

1. Most of the proposed works will take place in the modern compound dated to 1974 next to the Stables Block. This area is not part of the listed Stables structure and works here will have no physical impact on any heritage fabric.
2. The works to the boiler room inside the Stable Block will be restrained to the removal and reinstatement of modern plant; the boilers and WSHPs respectively. No historic fabric will be disturbed in this room, with the modern pipework and concrete plinths being reused.
3. The reduction of the south compound wall to its former 1938 height. The historic blockwork is to be retained, with the modern blockwork above being carefully removed. With the proposed reintroduction of stone copings, this intervention is considered to be of benefit to the historic fabric of the 1938 wall.
4. Connection of new thermal store wall and flat roof to the Stables. To weatherproof the new flat roof the membrane will need to be chased into the Stable block northern wall. To mitigate the damage, the new chase will follow the existing mortar joint line in the stonework and will not cut through the faces of the stones.

Overall, the proposals will have a less than substantial physical impact on the Stables historic fabric.

VISUAL IMPACT ON HISTORIC FABRIC

The proposed location of the ASHP is the only place a unit of the required size can be discretely located close enough to the existing boiler room. A remote location would require an excessive amount of new pipework, making the ASHP less efficient in the process.

The new plant equipment has been carefully designed and specified to fit within the enclosure of the 1970s plantroom to minimize the visual impact on the Stables and its setting.

The height of the new ASHP unit's attenuation system will be approximately 4.1m tall, plus ground slope. The existing compound buildings sit at approx. 3.3m, so there will be about 1.2m of ASHP that rises above the existing building height and new timber screen. The height of the ASHP comes from the attenuation that wraps around it, to muffle the plant noise. 4.1m tall is the minimum size that the ASHP can be with the amount of noise reduction required to be acceptable against the background site noise levels for the occasional occupants of the Stables flats. The height of the ASHP will have some limited visual impact on the western end of the north façade of the Stables Block, when viewed diagonally on.



As can be seen in the diagram above, the ASHP will not block any important views of the Stables north or west façades when viewed from the front or side, as the proposed location is set back far enough from the Stables building to mitigate this.

In terms of the effect of the new ASHP on the compound itself; the current views of the compound show a plantroom back of house area without much design merit. As the Archaeology Data Service describes it “*At the west end of the north wing is the generator house. This is a rather ugly flat roofed structure covered in render in the lower part of its walls and hung with concrete tiles on the upper parts of the walls. Pipe work associated with the boilers abounds.*” The compound serves a purely functional purpose to support Wakehurst’s infrastructure.

The proposed changes to this compound are in line with the need to sustainably modernise Wakehurst’s infrastructure. The proposed materials have been chosen to complement the nearby palette of fabrics; timber, a sustainably sourced natural product in abundance at Wakehurst and the rendered wall, to match the existing compound. The ASHP has been designed to be screened as much as possible within design constraints for maintaining sufficient airflow and the need for a noise

attenuation system. It is considered that the environmental sustainability benefits to Wakehurst outweigh any harm caused by the visual impact of the ASHP.

The application site is tucked away behind the building, and so the proposals will not be visible from the most prominent and significant part of the Stables (i.e. the south front). The proposal would be most notable in close up views from the north and west, however this area is located away from the significant views on the visitor route. The access road is used by staff, for deliveries and servicing and contains food stores, bins, plant and car parking. Therefore, the proposals will have limited impact in terms of experiential significance.

ENVIRONMENTAL SUSTAINABILITY

ENERGY AND SUSTAINABILITY BENEFITS

The Wakehurst site is not on the mains gas grid, therefore buildings and glasshouses are heated by oil or LPG. There are two substations providing electrical capacity to Wakehurst – the Stables block substation provides electricity for the majority of the site, and the Millennium Seed Bank is serviced by its own separate substation. The Stables block boiler house currently comprises two large oil-fired boilers and three external oil tanks to supply them – this provides 85% of the site's oil consumption.

RBGK's Sustainability Strategy sets out a commitment to become Climate Positive by 2030, with a priority of replacing older boiler stock for low carbon heating replacements. As part of this strategy, RBGK are seeking to incorporate the use of sustainable or low impact energy sources to run facilities, including air source heat pumps and photovoltaic power.

Sustainable development is central to the aims of the Government and as such is embedded within planning legislation, policy documents and TANs. Chapter 14 of the National Planning Policy Framework (2023) requires Local Planning Authorities to support the move to a low carbon future and Policies DP39 (Sustainable Design and Construction) and DP40 (Renewable Energy Schemes) of the Mid Sussex Local Plan require all new development proposals to have regard to maximizing opportunities for energy efficiency, efficient use of water and natural drainage.

ASHPs are a more sustainable alternative to an oil-based heating system, and will help to reduce Wakehurst's carbon footprint, as they are rated for zero-carbon emissions. ASHPs use electricity more efficiently than other heating systems, typically using only about a quarter of the energy needed for a traditional gas boiler. ASHPs normally need little maintenance and can last between 10-25 years making them a good choice for installation at Wakehurst.

SITE PHOTOS - COMPOUND



View of the northern wall of the compound.



View of the southern and western walls of the compound. Note the historic lower half of the Yard wall.

SITE PHOTOS - STABLES



CONCLUSION

The proposed works include the replacement of the existing oil tank fired boilers with a new Air Source Heat Pump system and associated works in the existing compound to the rear of the Stable block at Wakehurst. The proposals will contribute to RBGK's Sustainability Strategy which sets out a commitment to become Climate Positive by 2030, with a priority of replacing older boiler stock for low carbon heating replacements.

The proposals are of a scale that is appropriate to the character and function of the surroundings. Due to the sensitive location and the existing screening that is offered by buildings and trees, the proposals will not have a significant impact on the nearby listed buildings or the surrounding environment. The accompanying Noise Impact Assessment confirms that there will be no amenity impacts on surrounding occupiers, provided the proposals conform to noise limits.

Overall, there will be no significant impact on the landscape character of the AONB and countryside as a result of the proposed works, nor on the setting of the Grade II* registered park and garden or any other surrounding heritage assets. The proposals are discreetly located in an existing back of house area, and it is considered that removal of the existing boilers and oil tanks will ensure the area is kept free from clutter.

APPENDICES

LIST ENTRIES FOR THE STABLES

Official List Entry

Heritage Category: Listed Building

Grade: II*

List Entry Number: 1354792

Date first listed: 28-Oct-1957

List Entry Name: STABLES TO THE NORTHEAST OF WAKEHURST PLACE

Statutory Address 1: STABLES TO THE NORTHEAST OF WAKEHURST PLACE, TURNERS HILL ROAD

To the north-east of the Mansion house and facing south into the carriage court is the two-storey, ashlar stable block (listed grade II*), with an octagonal bell turret and cupola.

C18. Two storeys. Five windows. Ashlar. Stringcourse, cornice and parapet. Long and short quoins. The centre window-bay projects with similar quoins and a pediment over in the parapet. Horsham slab roof. Octagonal bell-turret with cupola. Large round-headed doorway.

Archaeology Data Service

The Stable Block, Wakehurst Place

General Description

A U-shaped stable block consisting of a rectangular main (southern) wing with a fine late baroque façade dating to the end of the 17th century flanked by two single story side wings. The property has been extended twice. Firstly to the north-west during the 19th century and later to the north with mid-20th century wing that complements the original structure.

External Description

The South Wing

The main façade faces south and consists of a symmetrical frontage of local sandstone capped with a hipped roof of Horsham slabs with clay ridge tiles (Photo: WP1 X,7). The stonework is well dressed and evenly coursed ashlar with rusticated blocks at the quoins and a simple chamfered plinth (Photo: WP1 5). The elevation is articulated by a simple square sectioned string course between the ground and first floors and capped by a heavy projecting architrave at eaves level consisting of double cyma recta mouldings. A parapet finished by a small cornice featuring a single cyma recta moulding conceals the lower part of the roof (Photo: WP1 17). The centre of the elevation is set slightly forward and features a triangular pediment with a modern slate clock face and rusticated quoining (Photo: WP1 8). The pediment is finished with a slightly simpler moulding than is seen on the architrave (Photo: WP1 16). The main door is centrally placed under a semicircular arch decorated only by a simple beaded moulding and an oversized keystone (Photos: WP1 2-3). The imposts are continuous and the plinth is cut back around bottom of the door (Photo: WP1 4). The door itself is of oak and consists of sixteen recessed panels topped by a semicircular fanlight with segmental arms. Directly above the door is a window (Photo: WP1 15). This is housed under a segmental arch, again with a protruding keystone but is otherwise devoid of any surround. The windowsill rests directly on the masonry walling and protected by a strip of lead flashing. The other windows on this elevation are symmetrically positioned, with four windows, two to each floor, on each side of the front door

and follow an identical pattern. The window frames themselves are early 20th century casements made up of four lights, of which the top lights are divided into four panes and the bottom lights into six panes by narrow wooden glazing bars. A cupola is centrally placed on the ridge of the roof (Photo: WP1 19) and contains the bell associated with the clock below. The cupola itself is an octagonal timber structure capped with a lead covered ogee dome supported by a plain entablature with a simple moulded cornice. This is supported by eight timber columns of the Tuscan order resting on a lead-covered plinth. The present cupola dates from the renovation work of 1938 and is significantly different from the original structure (Picture S1). A weather vane in the shape of a pheasant sits on top of the cupola. To the east and west are two single storied side wings set slightly back from the main wing (Photo: WP1 12). These again are stone and although the masonry is not of such a high quality as in the main block but they share the same rusticated quoining and chamfered plinths (Photo: WP1 9). These wings are separated from the main façade by clear straight joints (Photo: WP1 6) and further straight joint exists in each side wing between the bulk of the walling and the quoining at the corners (Photo: WP1 9). The roofs are hipped at their outer ends and again of Horsham slabs though there is no parapet and the wall plate and rafter ends are visible from the exterior (Photo: WP1 10). The guttering is made up of square sectioned iron troughs, a feature repeated elsewhere on the building and probably dating to the 1938 renovation. The western side wing also features a twelve-paned sash window, with horns on the upper sash, set under a flat stone arch with a protruding keystone (Photo: WP1 14). The stonework surrounding the window is has similarities with the window surrounds on the main elevation in that there is no separate surround or sill but is of a far inferior quality. In front of the main elevation is a set of finely made stone steps flanked by low masonry walls of stonework of equivalent quality to that of the main façade that flare outwards towards short square stone pier and is capped by flat stone slabs with a beaded moulding. A similar wall, of crudely cut stones without mortar runs along the front of the elevation, forming the revetment wall for a flower bed and terminating in pair of low stone piers similar to those at the head of the steps. The northern elevation of this wing faces what is now a courtyard and although in a similar style is a lot simpler than the main façade (Photo: WP1 34). The plinth and string course are identical but there is no parapet, architrave and cornice. Instead the eaves overhang and are drained by square-sectioned iron guttering. At the west end is a small stone chimney capped with a prominent cyma recta moulding (Photo: WP2 8). There are seven windows on the first floor, all of which are of the timber framed opening casement type with six panes per light and look to date from the 1930s restoration. The central window consists of three lights and the six flanking windows, which are symmetrically arranged and evenly spaced, are made up of two lights (Photo: WP2 0). These window openings are probably original and are similar in style to those on the main façade, with a no surround or sill apart from a piece of lead flashing. Unlike the main façade the windows are square headed, with flat arches and projecting keystones. The ground floor features a central door with no surround or lintel and a steel girder supports the walling above (Photo: WP2 2). The surrounding plinth has been chamfered away in a manner that makes the door look to be a later insertion. To the west of this door are two windows (Photo: WP1 3). These follow the pattern of those on the upper floors but are slightly larger and of four lights, the upper ones containing two panes and the lower ones six, again the presence of flat arches with enlarged keystones indicates that these are probably original features. A small semicircular section of the string course above has been cut away, probably to allow a down pipe (subsequently removed) to pass through. The entire eastern end of the ground floor, including these windows have been enclosed in a modern steel and glass veranda that stretches around the western and northern sides of the courtyard. The walling of the eastern extension has been recently rebuilt on this side but it appears that there may have once been a straight joint between this and the main wing (Photo: WP2 1). The walling on this elevation is recessed and contains a modern planked door and modern twin and three light windows (Photo: WP1 35). The east elevation is narrow and far plainer (Photo: WP1 25). The eastern extension consists of an m-shaped hipped

roof and a blank stone wall. This has rusticated quoining on the south side (Photo: WP1 24) and simple quoins on the north side (Photo: WP1 23), neither of which course in well with the surrounding wall. This extension masks the ground floor of the east elevation of the main block and the only first floor feature is a narrow window set into the valley of the m-shaped extension roof. The window is similar in style to those of the north elevation, being of the eight paned casement type housed under a flat arch with a protruding keystone. The eaves of the hipped roof overhang and there is no parapet or cornice on this side, neither is there any indication that the plinth or a string course ever ran round this side of the building. The position of the central window and the lack of a plinth and string course leads me to conclude that these side wings are contemporary with the main structure. The west elevation (Photo: WP2 14) forms a mirror image of the east, the only difference being that two modern planked doors accessed by a concrete step and ramp have been inserted into the ground floor and that a 19th century west wing has been added to the north.

The West Wing

The west elevation of this wing is set between the north and south wings and consists of a single storied stone building with a lean-to roof and a large central gabled dormer (Photo: WP2 11). The dormer forms the centre of a near symmetrical façade and features a solid square chimney with a simple moulding running around the top (Photo: WP2 17), a central twin light casement window divided into twelve panes and a centrally placed modern door with ventilation slats. To the north of this is a second planked door immediately adjacent to a twelve paned twin light casement window (Photo: WP2 13). To the south is a similarly proportioned four light casement. The east elevation faces the courtyard and dates entirely from the restaurant conversion of 1989. The central gable projects forwards and is pieced by a central 16 pane twin light casement window and a ventilation slit placed high up in the gable (Photo: WP2 5). To either side of this gable is a stone wall, supporting the lean-to roof of the western elevation. This was presumably once solid and formed the end wall of the courtyard but is now an open area supported by modern steel RSJs and surrounded by a modern steel and glass veranda. To the north west of this wing is a low stone wall surrounding a rectangular raised stone platform (Photo: WP2 16). Below this is the fuel bunkers for the central heating boilers and the floor has been pierced some time after construction by steel hatches with concrete surrounds, allowing coal to be pored directly into the bunkers. This structure is of hand dressed stone and appears to predate the 1938 restoration. Early OS maps appear to show that this area was originally a building, which appears to be plausible as the surrounding walling is thick enough to have borne the weight of a single storied building.

The North Wing

This wing forms a mirror image of the earlier south wing and was erected in 1938. The stonework is in a similar style, though the jointing finer as the stone has been machine cut, and the string course and plinth take identical forms. The roof is again of Horsham slabs and hipped though without a cornice and parapet. The cupola has also been copied. The main elevation is to the north (Photo: WP1 26). The single storied side wings of south front has also been mimicked (Photo: WP1 28) though the two elements are coursed into each other and the western wing is hidden behind a modern boiler room. This features a monumental chimney tacked onto the north-western corner of the building with a double band of cyma reversa mouldings and a heavy square stone cap with no chimney pots (Photo: WP1 30). Doors and windows are simple and similar in style to those of the original wing, with lead covered sills and no surround. The lintels however are very different and are made out of single blocks of stone. The window frames are of a similar pattern to those now found in the south wing. Those on the upper floor are twin light opening casements made up of twelve panes (Photo: WP1 31) and those on the ground floor are small four paned examples (Photo:

WP1 29). There are two doors on the ground floor, both of the modern planked type (Photo: WP1 27). The south elevation is built in a similar style (Photo: WP2 6). The first floor is lit by a row of three casement windows identical to those of the northern elevation. The lower floor once formed a garage and coach house and is open fronted and divided into four bays by three substantial stone piers sitting on chamfered plinths that supporting the first floor (Photo: WP2 27). A modern steel and glass veranda now surrounds this area. To the east is the single storied side wing. Again this is coursed into the main block and features a recess identical to that found in the eastern extension of the southern wing into which there a planked door and casement window have been placed. The east elevation is again a copy of the southern wing, including the m-shaped roof and central window (Photo: WP1 22). Like the rest of this block there is no elaborate quoining at the corners. A low wall links this wing of the building to the southern wing (Photo: WP1 21). This is considerably earlier than the north wing itself and is first documented on the 1874 edition of the 25" OS map . Two stone gateposts flank a central entrance, the northern one of which looks to have been recently rebuilt. The southern one contains the remains of iron pintles upon which a gate was hung (Photo: WP2 7). This gate survived until at least 1971 at which time it was described as consisting of two leaves with a moulded panel in-fill and applied capping . The western elevation is a mirror image of the eastern elevation, the only difference being a single door giving access to the boiler room (Photo: WP2 15).

Internal Description

There is little left of the original internal layout of the building and there are no traces of the original stabling. The principal area of interest is the roof. This of the traditionally carpentered butt-purlin type with trusses featuring substantial tie beams and collars (Photo: WP2 18). Queen posts on the southern side that appear to be modern insertions provide additional support. Originally the roof structure would have relied solely on the collars. The joinery is excellent throughout and though the structure is now covered in felt it is possible to see the outline of the double staggered-purlins. The roof space is divided transversely into two rooms by a wall of crudely coursed stock brick that looks to be original (Photo: WP2 20). To the east of this wall is the clock mechanism. This is a huge iron framed anchor escapement type clock that drives a single bell that strikes the hours in the cupola and a face on the south front (Photo: WP2 21). It is probably 19th century in date, though the design of the cupola suggests that a clock of some form was part of the original design. The mechanism is placed at the centre of a square timber frame created using traditional joining techniques that supports the eight timber posts of the base of the cupola. This frame is probably original to the building but the posts supporting the cupola, which are secured using screws, date from the 1938 restoration. During this restoration much work was carried out on the roof. The Architect, William Llewellyn-Amos recalls that the all plates were found to be rotten at this time and had to be replaced along this the lower parts of many of the common rafters . The steel strengthening plates bolted to the tie beams were probably inserted during this restoration (Photo: WP2 19). The south wing was described in the sale catalogue of 1869 as consisting of "two distinct compartments, having three loose-boxes and stalls, calculated to hold nine horses, two double coach houses, harness and saddle room, man's room, and spacious provender lofts over" . Little seems to have changed by 1878 when another catalogue described the stables as having five stalls and a loose box with a loft over and two coach houses with accommodation of twelve vehicles . This arrangement is difficult to relate to the building now seem as there is no obvious opening in the southern wing large enough to accommodate the entrance for a coach house. It is likely that the side wings were originally coach houses and were entered through large doors in northern elevation. Such doors are known to have existed in the eastern side wing, which is described as a garage in a survey of 1971 with an entrance protected by a steel roller shutter on the northern side. This wall has now been rebuilt in stone but a shallow recess in the masonry that may correspond to the position of the shutter has been recreated in the new stonework. However, the side wings cannot have been able to accommodate the twelve

vehicles described in 1878. It is likely that the west wing or the demolished north western wing formed a larger coach house, built during the middle of the 19th century. The fittings described in these 19th century catalogues have disappeared. Even the internal walls have been altered and the only one remaining in its original position is to the east of the main door (Photo: WP2 18). This area is now divided into overflow seating for the restaurant and the restaurant kitchens (Photo: WP2 28). The only features of note remaining are a wainscoted flue on the southern side (Photo: WP2 29) and the southern door (Photo: WP2 30). Earlier in the 20th century part of the ground floor served as a playroom. This conversion was proposed in a letter of 1911 and is listed in an inventory of 1937. By the 1971 survey this area was used as a store and a toilet. The upper floor as now been divided into offices reached by a corridor running along the south side. The only features of note are a 20th century corner fireplace at the western end (Photo: WP2 25), the wainscoted flue in the corridor (Photo: WP2 24) and the doors, which are twin panelled mid-20th century examples (Photo: WP2 23). The cupboard doors are of a similar design, though slightly narrower and with distinctive brass latches (Photo: WP2 22). This type of door and latch is found on other buildings in the estate, for instance the South Lodge and in Downshire and Yew Tree Cottages. These partition walls and doors were inserted in 1948 when this part of the property was converted into two flats. The arrangement as built is described in a survey of 1971 which states that this area contained of two flats, each with a bathroom at the extreme east and west ends, a kitchen, a bedroom and a sitting room. The northern wing remains pretty much as built with a single large flat on the First floor consisting of a Lounge, kitchen, two bathrooms and four bedrooms. The original fireplace in lounge and the original radiators are still in evidence (Photos: WP2 32-33). The southern bathroom, the fire escape and the main stairs are inserted during alterations dating back to 1976. The ground floor is now a restaurant and originally was a garage with a machine room at the western end. It remained in its original form until at least the 1971 survey and was open fronted to the south with roller shutters fitted between the piers to protect the cars from the weather. The plain reinforced concrete ceiling is still visible (Photo: WP2 26). The west wing is now a servery for the restaurant. This is referred to as a laundry in the 1971 survey and was fitted out with washing machines and drying ovens. No features of interest remain.

Associated Buildings

At the west end of the north wing is the generator house (building 1020). This is a rather ugly flat roofed structure covered in render in the lower part of its walls and hung with concrete tiles on the upper parts of the walls. Pipe work associated with the boilers abounds (Photo: WP1 32).

Landscape Impact

High, as the structure is centrally placed in the Estate and adjacent to the mansion.

Historical Analysis

The first part of the stables to be constructed was the southern wing. The exact date of construction is not known but must have taken place between 1697 and 1727. Estate maps were drawn up in both these years but the stable block only appears on the later example. It seems likely that the single storied side wings are contemporary with the construction of main façade as despite the differences in style and stone work the design of the main block seems to allow for these features. The quoining on side wings matches that of the main façade, the plinth and string courses are cut back to allow for these wings and the east and west windows fit perfectly into the valley of the m-shaped roofs. They are certainly present in an engraving of 1780 and appear to be present on a crude drawing of the stables on the map of 1727. Lady Eva Price, in a pamphlet describing the house, attributes the stable block to Wren. This is not inconceivable, as the then owner of the house, Dennis Lyddell, who bought the property in 1694, was Secretary to the Admiralty at this time. As such he would

have had contact with Wren, who as surveyor general of the King's works was engaged in building Greenwich Naval Hospital at the time . Though Wren undertook few private commissions he was involved with the minor alterations at Longleat, Arbury, Tring, Thoresby and Winslow halls as well as the building of Marlborough House, London around this date . However this idea is unlikely and Lady Eva provides no sources of reasoning to support up this assertion. Although the frontage has features in common with Wren buildings such as his City churches, for instance the rusticated quoining and the simple string course, these are common features of the time rather than hallmarks of Wren's work. Furthermore, although it is a fine building it has none of the originality and ingenuity associated with his work. Most of Wren's works are well documented, either by drawings or bills, of which neither survives in this case. Similarly there is no reference to any buildings at Wakehurst in *Paternalia*, an edited collection of biographical material published by his grandson, Christopher in 1750 . Though there is no clue as to identity of the architect what does seem to be clear is that the architect of south front and the designer of rest of the south wing are different people. The south front is a well thought out and balanced piece of architecture, whereas the rest of the building, though solidly constructed, is no more sophisticated than the average barn. It is also clear that the original builder did not properly survey the site. In the rebuilding of the frontage in 1938 the foundations were found to stop eighteen inches short of bedrock, an oversight that resulted in severe subsidence . The most likely conclusion is that the Stable Block was constructed by an unknown local builder who tacked an elevation supplied by an architect or culled from a pattern book to dignify the building. The stables remained as built for some time and do not seem to have been altered by the time the tithe map of Ardingly was drawn up in 1841 . The "Peyton Plan", an undated drawing of the grounds shows a large courtyard to the south, which linked the building to the east wing of the mansion. This courtyard is shown in a drawing of 1780 . By the time of the first edition of the OS map in 1874 the western wing and a wall creating an enclosed courtyard had been built. The stables appear much smaller on the 1869 catalogue and there is no mention of an enclosing wall so it may be that this wing was constructed in the first years of Lady Downshire's occupation of the house, between 1869 and 1874. It also possible that the area to the north-west of the stable that is now a fuel bunker was a single storey building at this point. Further changes took place in 1909, when the present front door was fitted and 1911 when the windows were replaced and a playroom created on the ground floor . The most dramatic changes occurred in 1938 when the Sir Henry Price restored the southern wing and added the northern wing. Due to the subsidence problem the building was in danger of collapse and so the entire façade was taken down stone by stone and re-erected on new foundations. Parts of the roof, specifically the wall plates and the lower parts of some of the rafters were replaced . The cupola was also replaced. A photograph of 1907 and an engraving of 1780 show a very different structure supported by only four columns that are taller and without any classical detailing. The ogee dome is of a more pointed form and capped by a tall mast and flag . Llewellyn-Amos insists that the pheasant standing on top of the cupola is original but it does not appear on either the 1907 photograph (S1) or in the 1780 engraving of the building . Further minor changes have taken place during the second half of the 20th century. The Hayloft in the upper floor of the south wing was converted into two flats in 1948 and the internal arrangement that is seen today must date from this period. A fire escape, new internal stair and bathroom were added to the south flat in 1976 . The last major change to this structure took place in 1989 when the flats in the south wing were converted into a staff rest room and the ground floor into a restaurant . The main seating area is situated in the former garage to the south, the serving the west wing and the kitchen and overflow seating in the south wing. A steel and glass veranda links the three areas. The staff restroom has since been converted into offices.

Status: Listed Building

Grade: II