

PART FOUR
HISTORICAL DEVELOPMENT
Site History

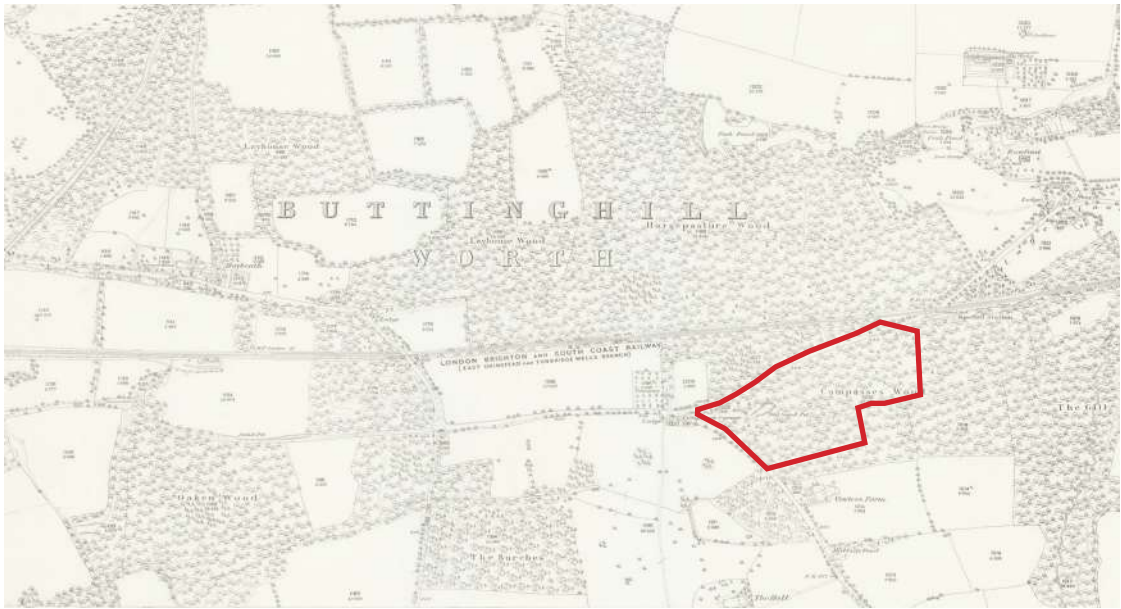


Historical Development

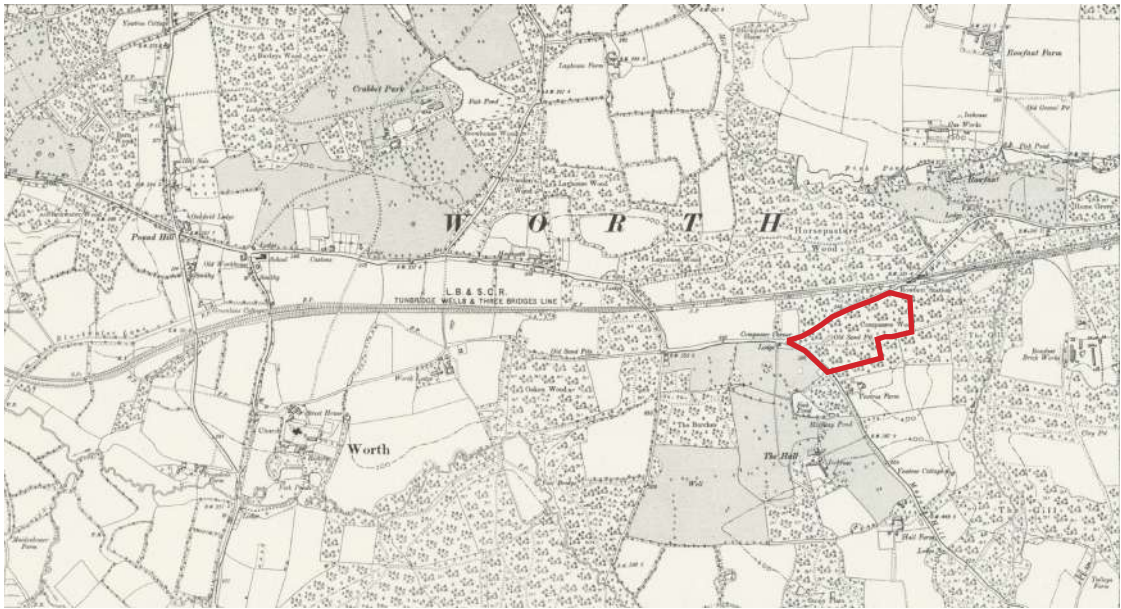
Site History
Tythe & Ordinance Survey Maps - Not to Scale

CALDYNE PARK

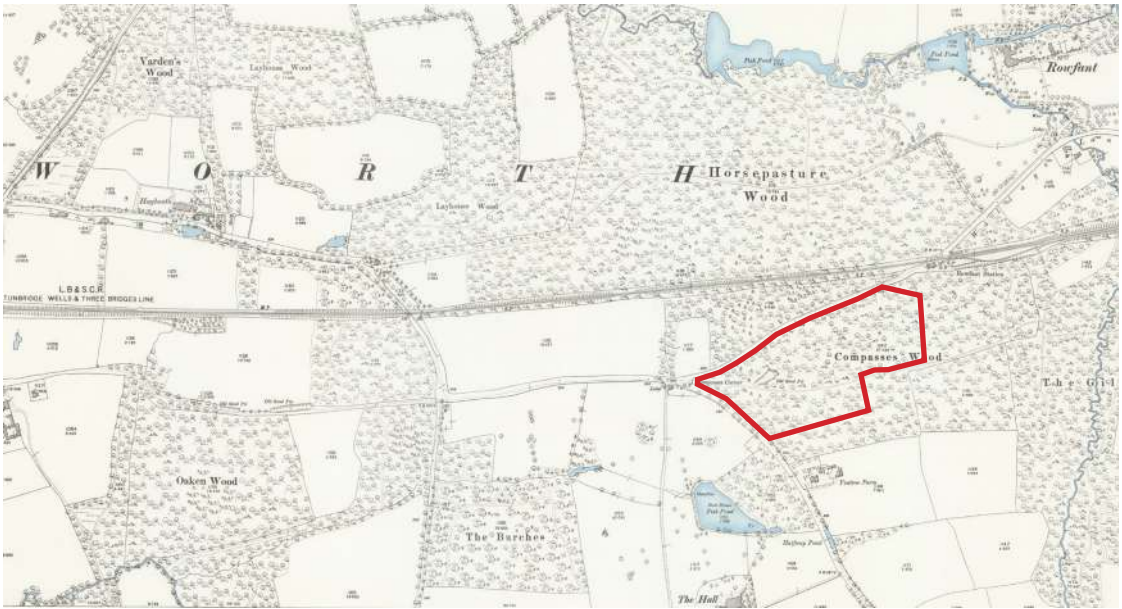
Land at Caldyne Park,
Turners Hill Rd,
West Sussex
RH10 4NB



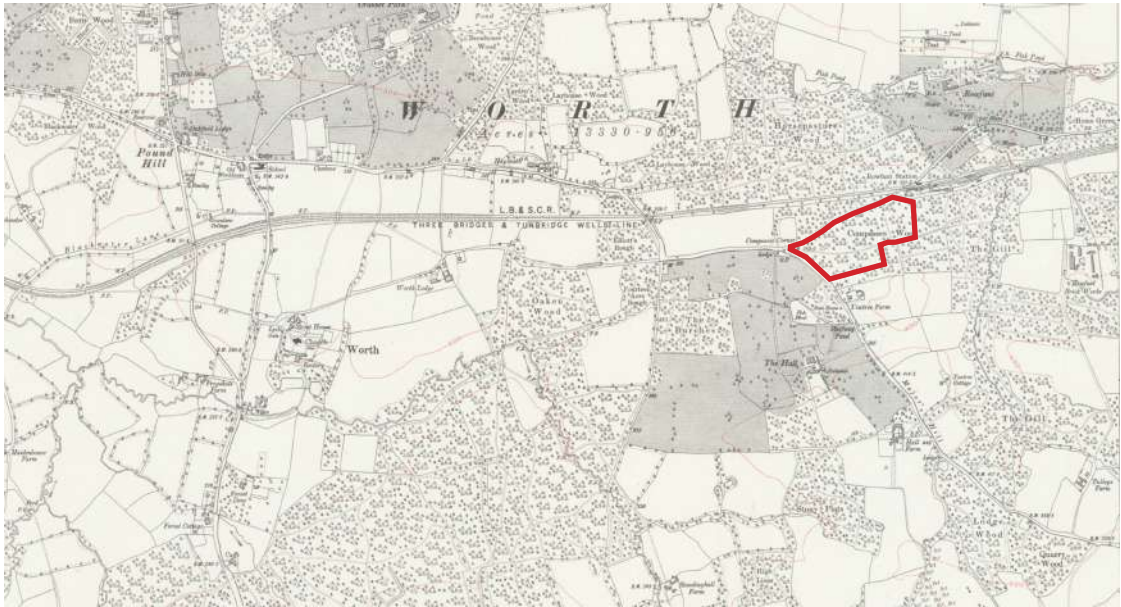
1874 Ordnance Survey



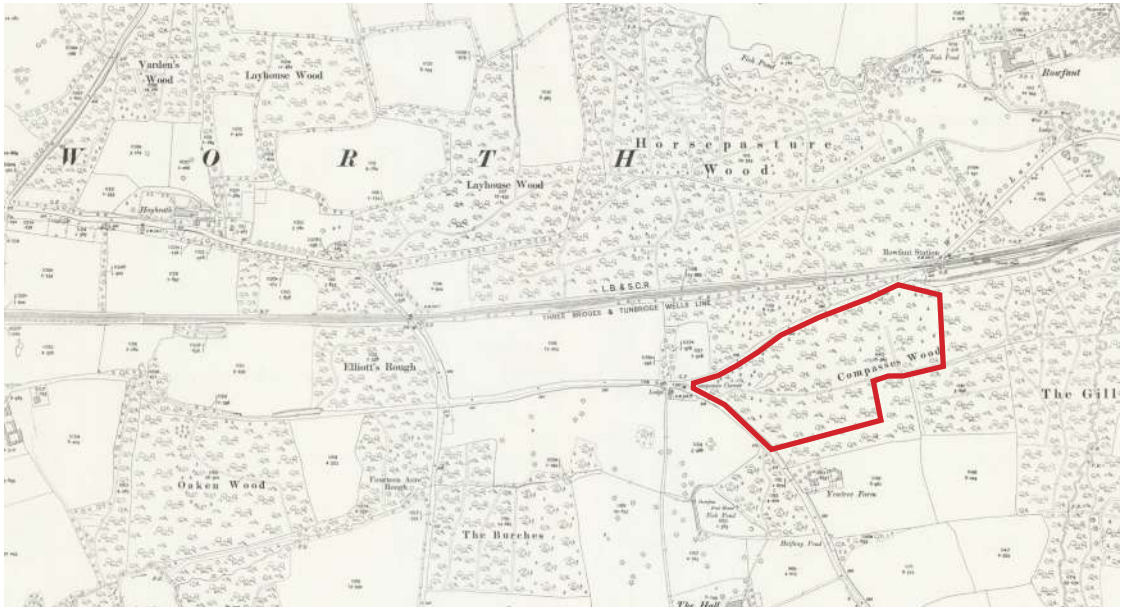
1895 Ordnance Survey



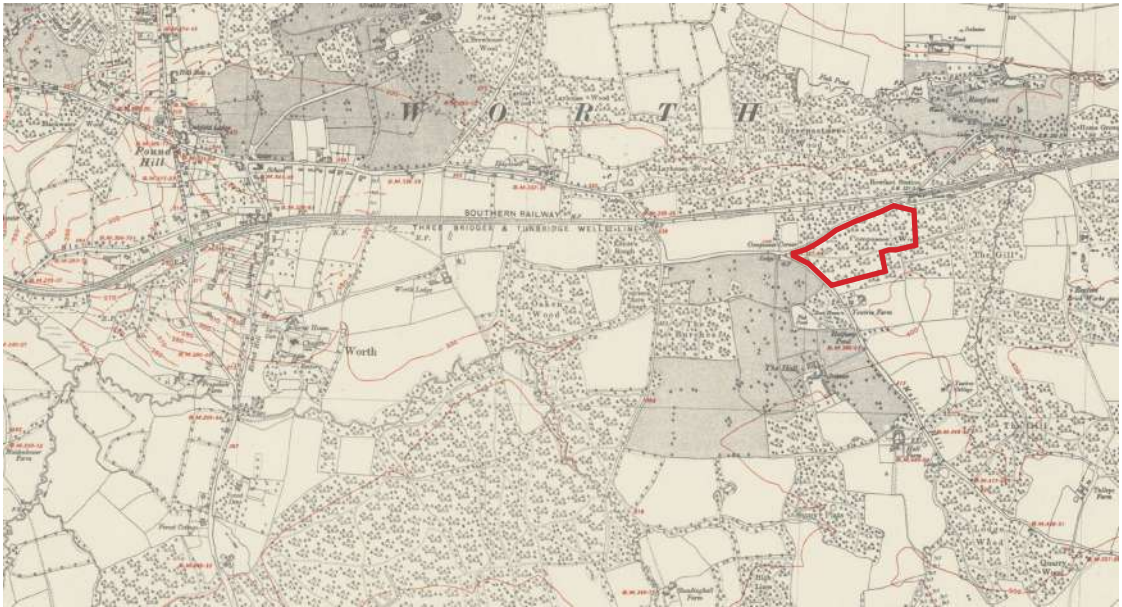
1895 Ordnance Survey



1909 Ordnance Survey



1909 Ordnance Survey



1946 Ordnance Survey

HISTORIC MILITARY USE

The 25 acres of land at Rowfant were originally acquired by the Air Ministry at the beginning of the second world war. Croydon airport was closed to civil aviation. Gatwick airport was requisitioned by the RAF in 1939, but the fuel stores there were considered extremely vulnerable.

A former employee attached to the Air Ministry recalls that the land at **Rowfant** was developed by the ministry for sinking oil storage tanks underground.

The first buildings on the site were constructed between 1938 and 1939, and more were added in 1943 to 1944. Architecturally of no particular interest, and constructed in brick with slate roofs, they were probably built from a design used on many airfields and military camps during the war.

The depot then became a store for the military generally with the provision for road vehicles as well as the much needed aviation fuel which became even more critical as D'Day approached.

In the Rowfant ledger, now held at RAF museum, Hendon, it confirms that it was “For fuel supplied to the permanent stations and advance landing grounds for the invasion of France, (1939-45)” .

The ledger records that the first delivery was made on January 27, 1940, and by the end of that month, 117,580 gallons of aviation fuel

had been distributed, compared with June 1944 when a total of 1,414,500 gallons of all grades had been sent to over 15 different airfields, including Dunsfold, Biggin Hill, Gatwick, Kenley, Home and Redhill.

Operated by Shell Max BP, the tanks were enormous and provided a total oil capacity of 22,000 tonnage. Railway fed with a pumping station to the rear, the operation included pumping the fuel into the tanks or into bowzers (fuel tankers) for distribution.

FUEL TANKS

The cyclindrical fuel tanks were of 4,000 tons capacity, sunk into the ground and mounded over with 2ft 6in of earth. The rectangular tanks held 250 and 500 tons and had a minimum of 10ft earth cover.

WATER TANKS

In addition, there were two 20,000 gallon water tanks for fire fighting at the Rowfant depot and the nearby pond at Rowfant House was also available for this use.

With the ever-present risk of bombing attacks, it was essential that an air raid shelter be built for the service personnel working there. The huge structure, made from concrete, exists today at the site on the other side of Wallage Lane.

Sold by the Ministry of Defence in 1999 and now owned by builders Caldyne Ltd, the war-time fuel and water storage containers were removed in 1999.

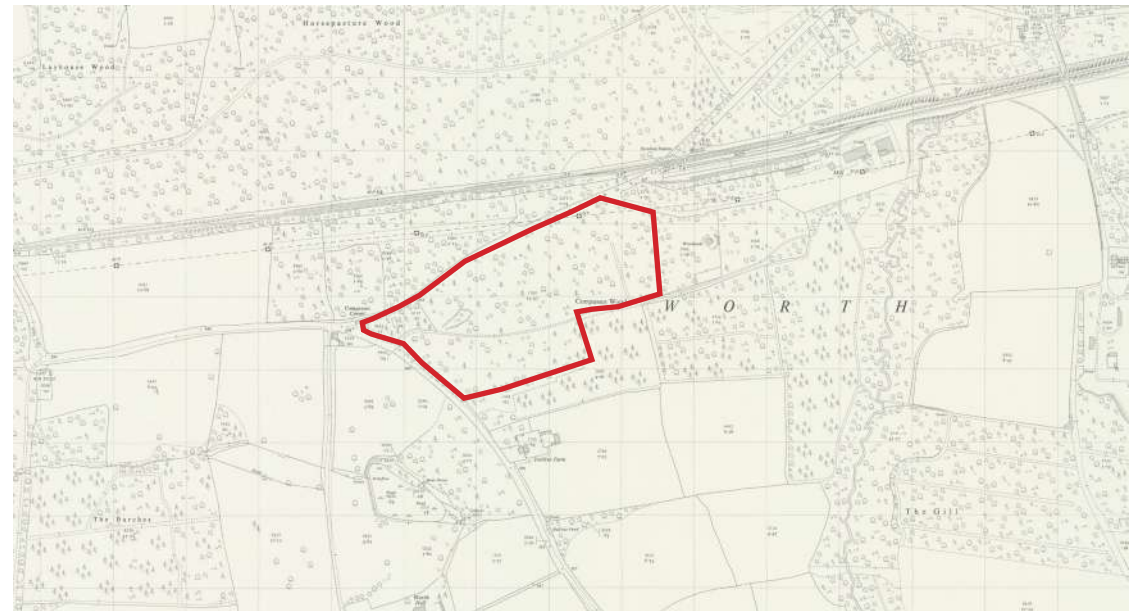


Application Area

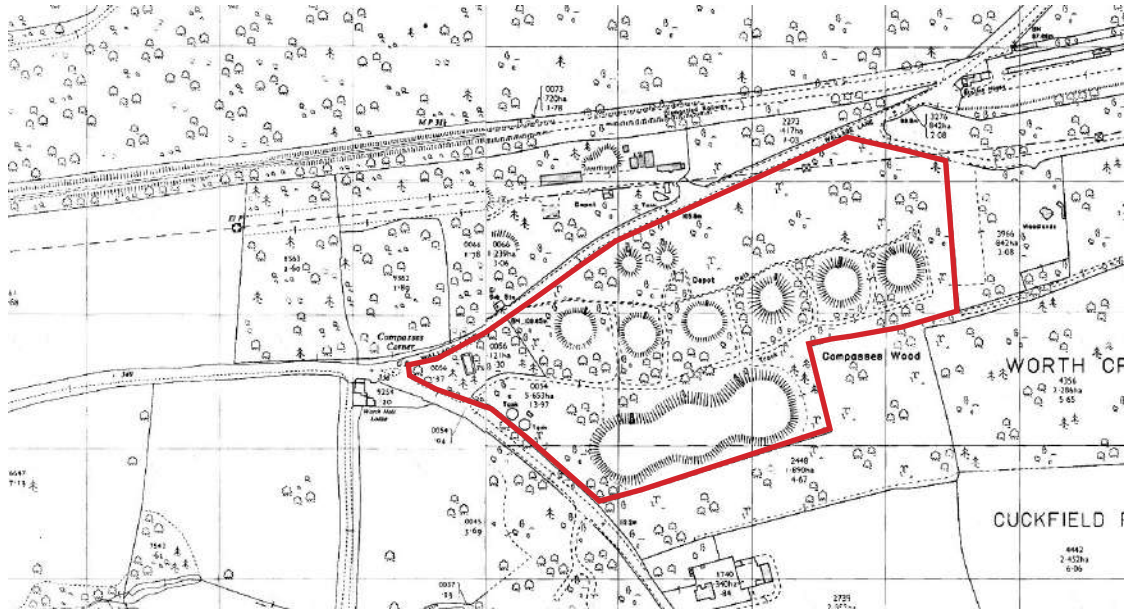


Historical Development

Site History
Ordinance Survey Maps & Google Earth - Not to Scale



1958 Ordnance Survey



1975 Ordnance Survey



Google Earth 2001



Google Earth 2005



Google Earth 2012



Google Earth 2013

TANK REMOVAL

The tanks were removed between 1999 and 2001 which resulted in substantial clearing of the site. The location of the fuel storage tanks is clearly expressed in the 1975 Ordnance Survey Map.

The essential characteristic that defines Ancient woodland is that it is at least over 400 yrs old with the real value being the ancient irreplaceable soil.

As shown in the Google Earth image taken in 2001 the area underwent substantial clearance when the storage tanks were removed. The ministry of defence did not remove the storage containers in a delicate manner. The earth was moved out of the way using bull dozers with little regard for either the sites Biodiversity or ancient status.

This is today evidenced as large mounds of earth in the location of the historic storage containers. The historic nature of the ancient soil has therefore been substantially eroded not once, but twice.

During construction the 4,000 tonne capacity cylindrical fuel tanks were sunk into the ground. Evidently when the storage tanks were constructed in 1939, not only were the trees removed but the significant and irreplaceable ancient soil was removed from the site to sink the tanks into the ground.

And further to this when the tanks were

then removed in 1999 fresh alien soil must have been brought back into the site to fill the voids left by the tanks.

It is therefore apparent that a large proportion of the soil within the site is both contaminated with fuel deposits and/or clearly NOT historic or in any way ancient.

It is argued that it is impossible to justify the designation as ancient woodland and it should be declassified.

Land at Caldine Park,
Turners Hill Rd,
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Application Area

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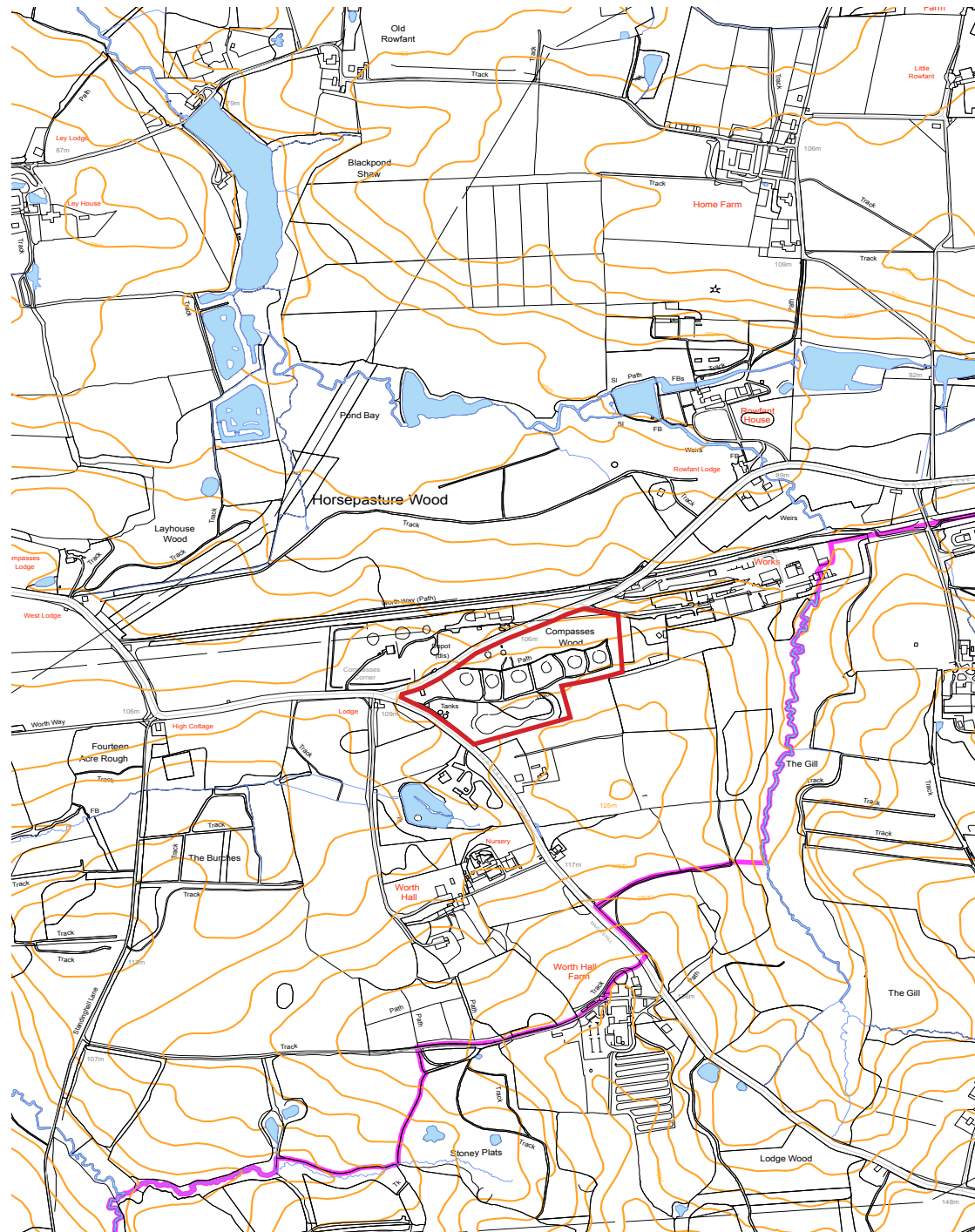


Plumpton Pit Stop,
Ditchling Road,
Plumpton
BN7 3AF

Historical Development

Site History

Tank Demolition Photos - Underground Fuel Tank



2017 Ordinance Survey



Large tank after removal of concrete walls - concrete base remains



Small Tank after removal of concrete walls - base remains



Large Tank with steel removed and concrete being destroyed



Cutting the steel of the Large Tank

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FUEL STORAGE TANKS REMOVAL

The Photographs on this and the following page show the fuel storage tanks being removed. The cylindrical fuel tanks were of 4,000 tons capacity, sunk into the ground and mounded over with 2ft 6in of earth., whilst the water tanks were 20,000 gallon tanks sunk in the ground.



Application Area

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Plumpton Pit Stop,
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Historical Development

Site History
Google Site

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Land at Caldine Park,
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View of Large Tank



Removal of Small tanks



Small Tank after removal of concrete walls - South



View inside large tank showing concrete walls with steel removed



Removal of Entrance to Small tanks



Small Tank after removal of concrete walls - North



PART FIVE
SITE ANALYSIS
Site Elevations - Photo Montage



Site Analysis

Site Elevation
Section EE

CALDYNE PARK

Land at Caldine Park,
Turners Hill Rd,
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Part 01

SITE SECTION EE

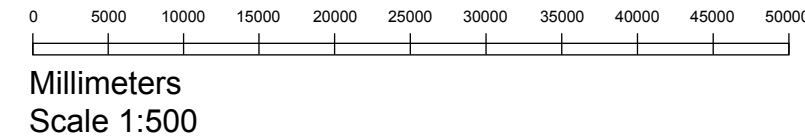
Part 02



Part 01



Part 02

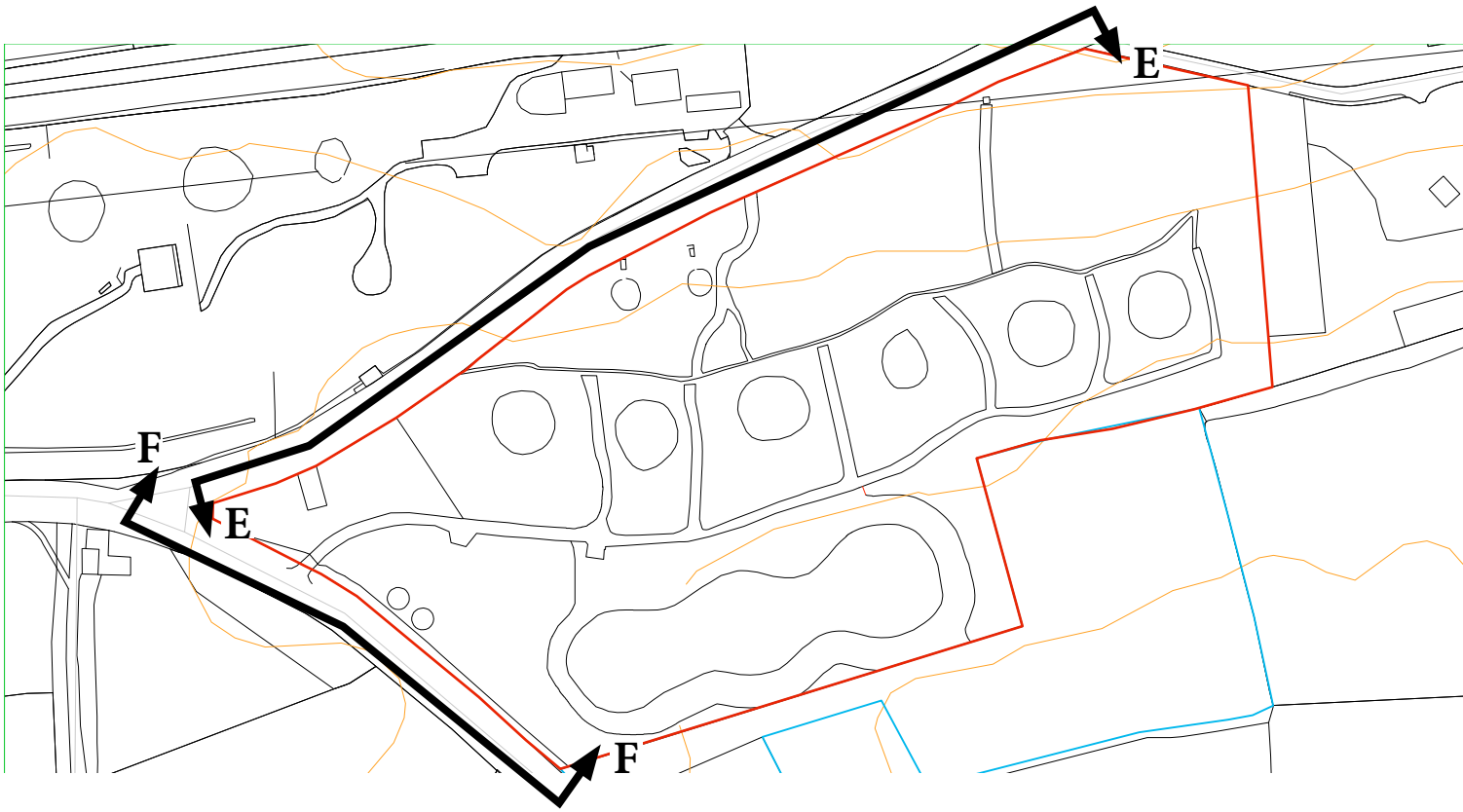


Site Analysis

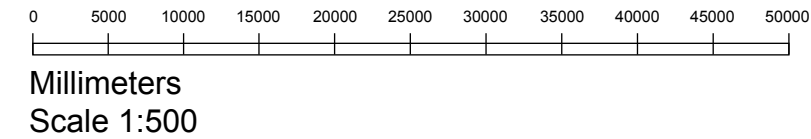
Site Elevation
Section FF

CALDYNE PARK

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SITE SECTION FF



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Plumpton Pit Stop,
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PART SIX
SITE ANALYSIS
Site Elevations

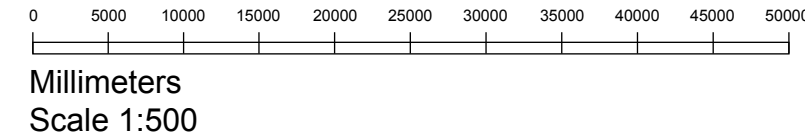
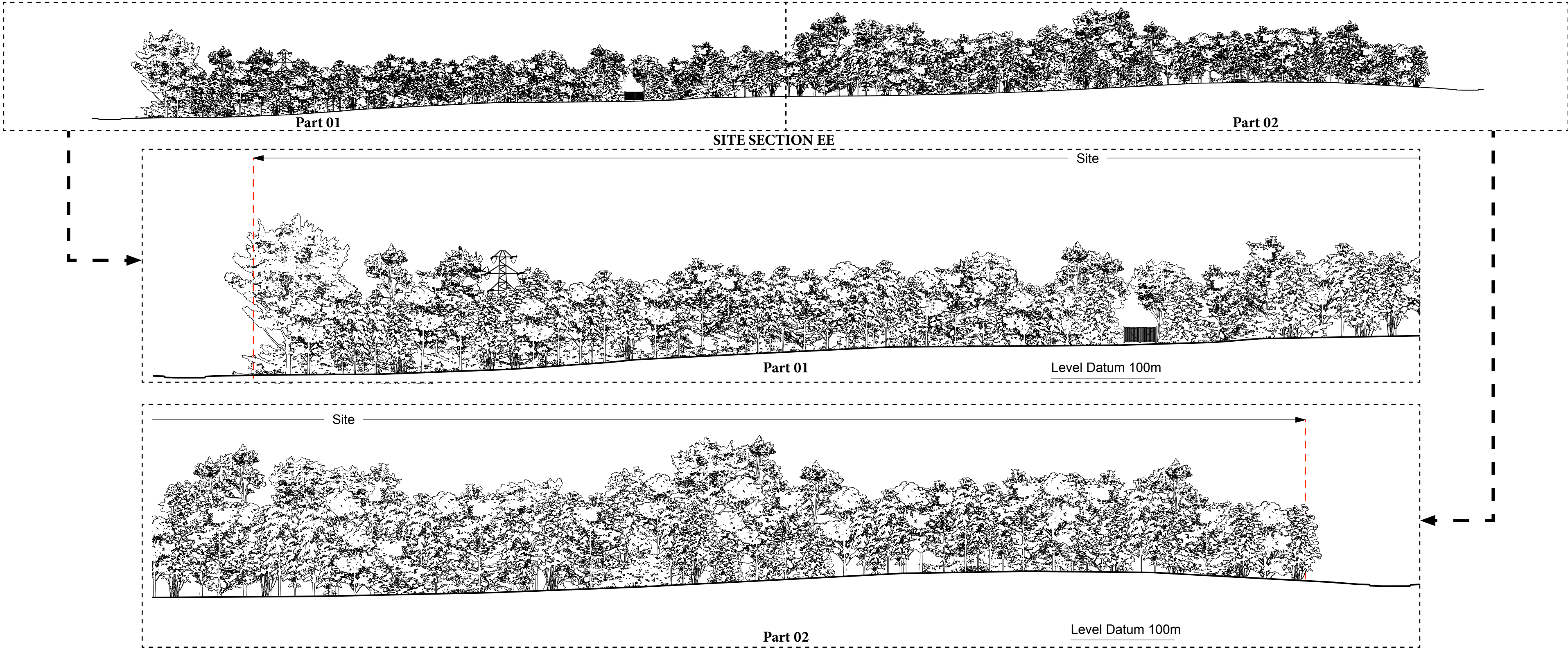


Site Analysis

Site Elevation
Section EE

CALDYNE PARK

Land at Caldyne Park,
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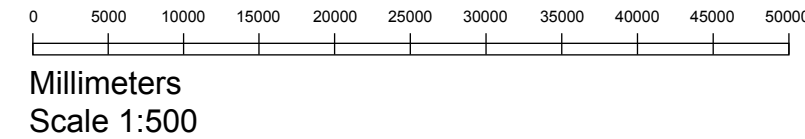
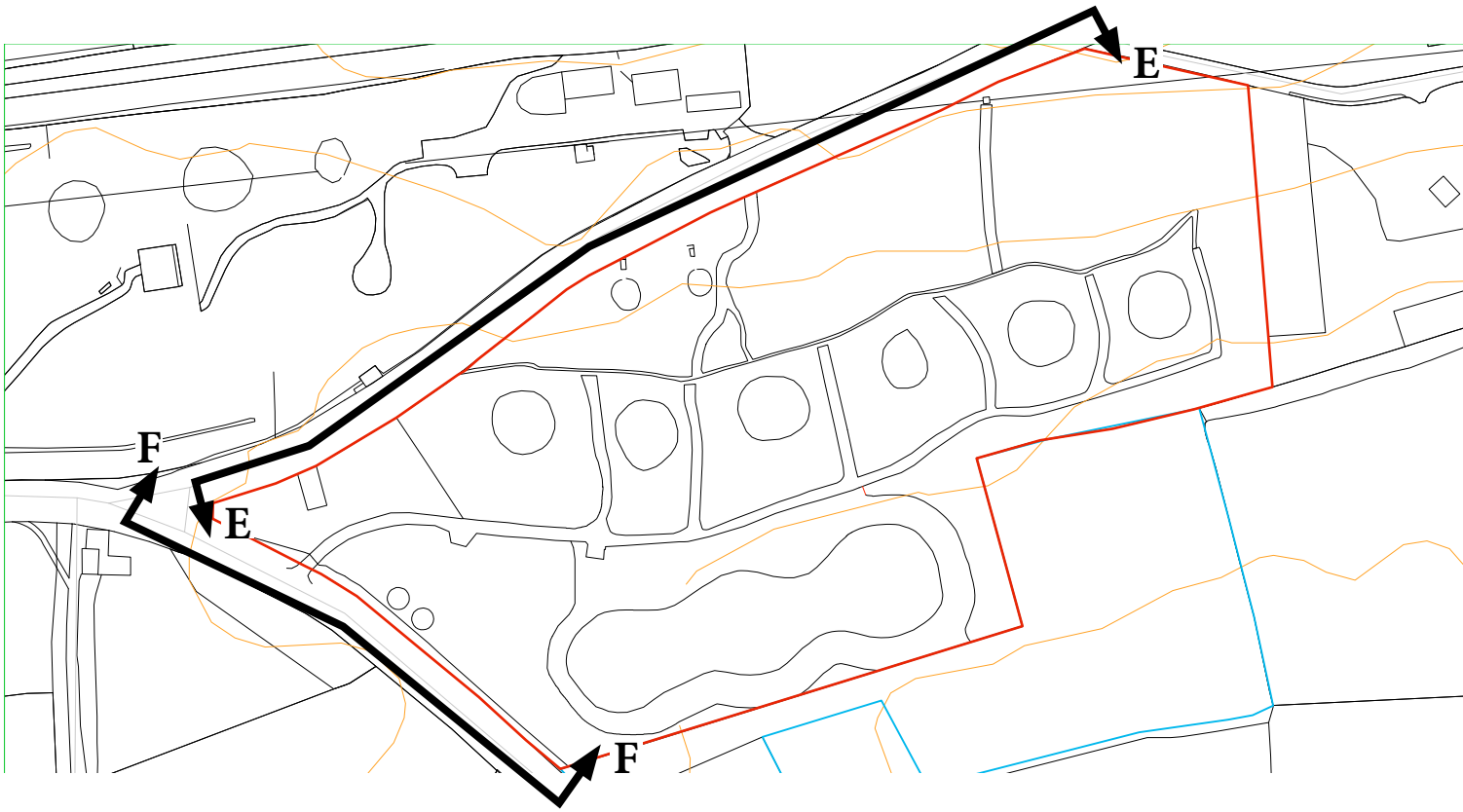


Site Analysis

Site Elevation
Section FF

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Plumpton Pit Stop,
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PART SEVEN

SITE ANALYSIS

Site Sections

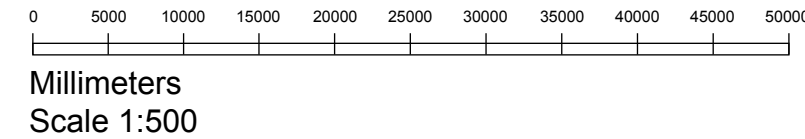
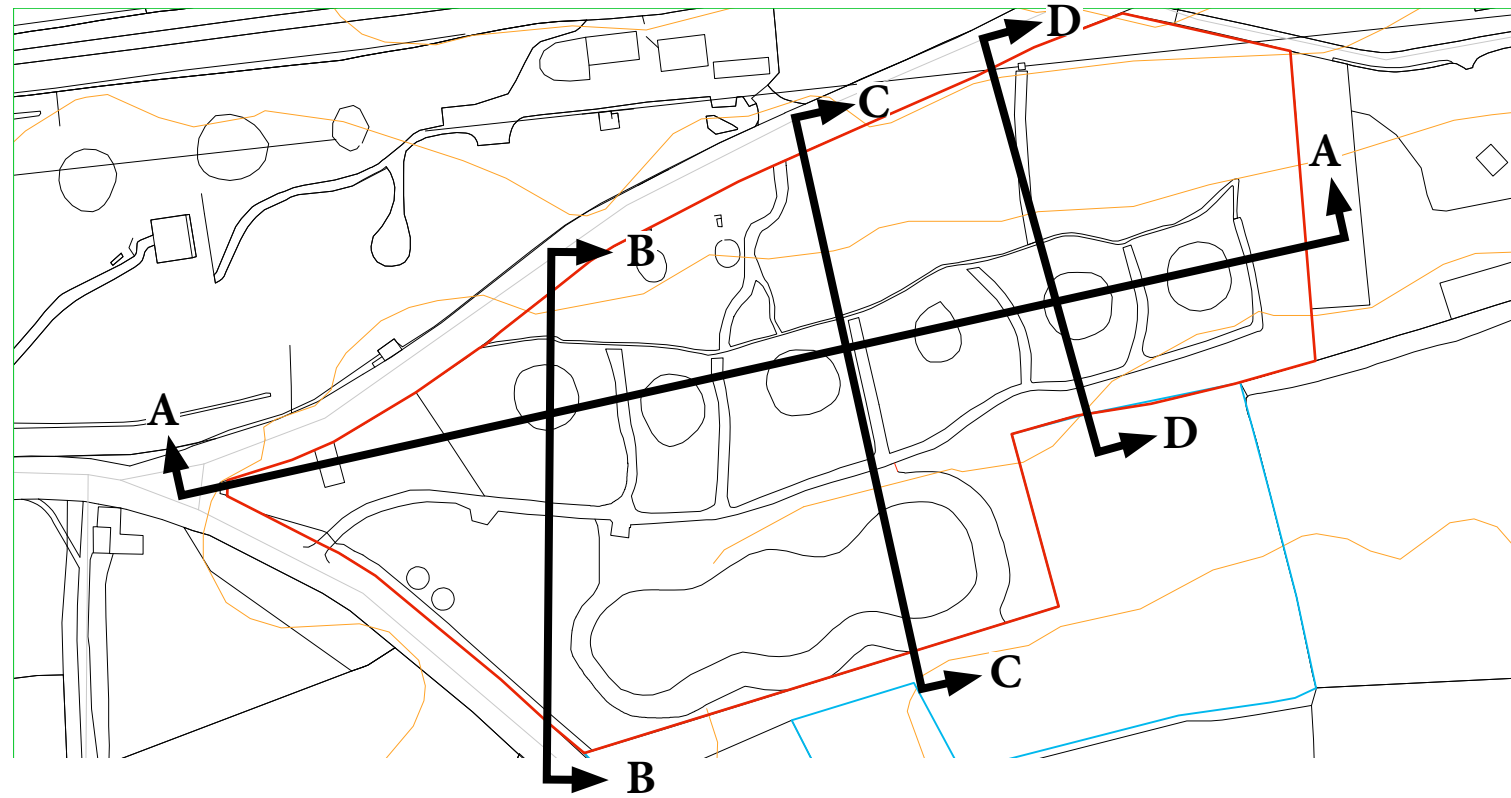
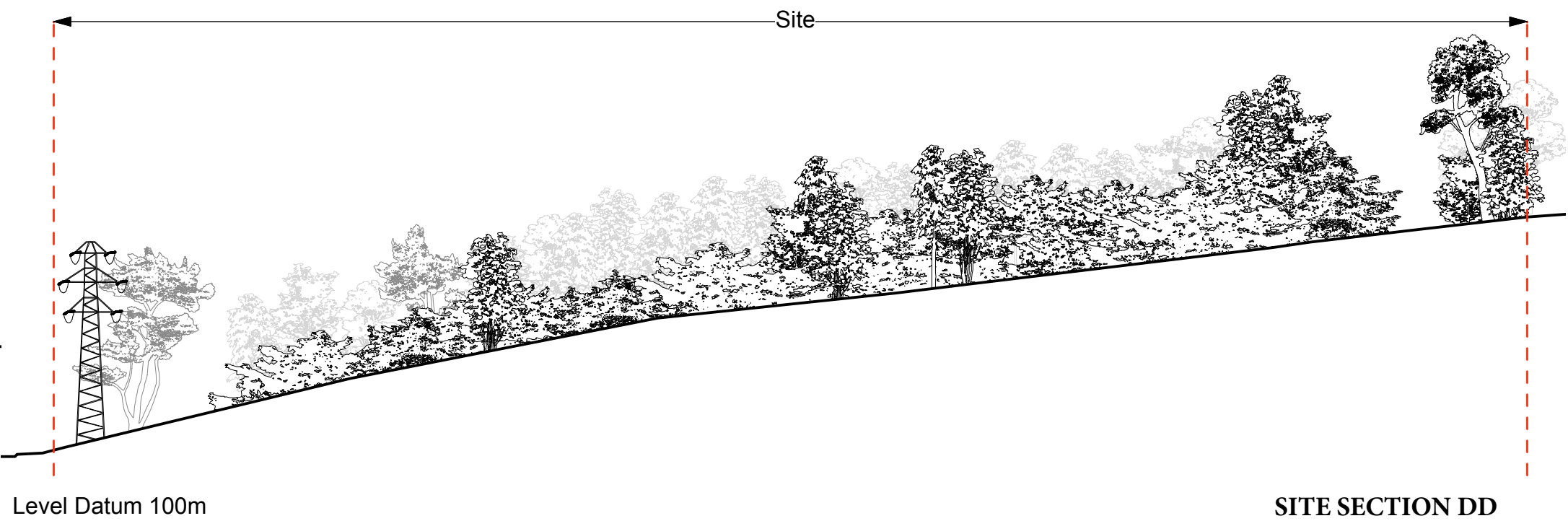
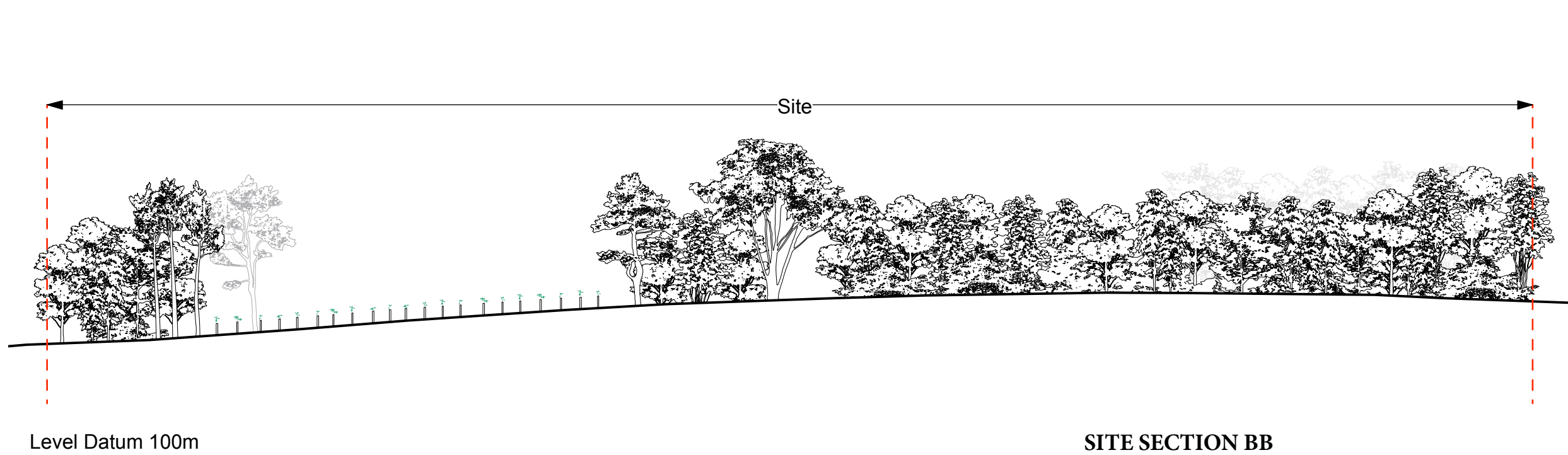


Site Analysis

Site Sections
Section BB, CC and DD

CALDYNE PARK

Land at Caldine Park,
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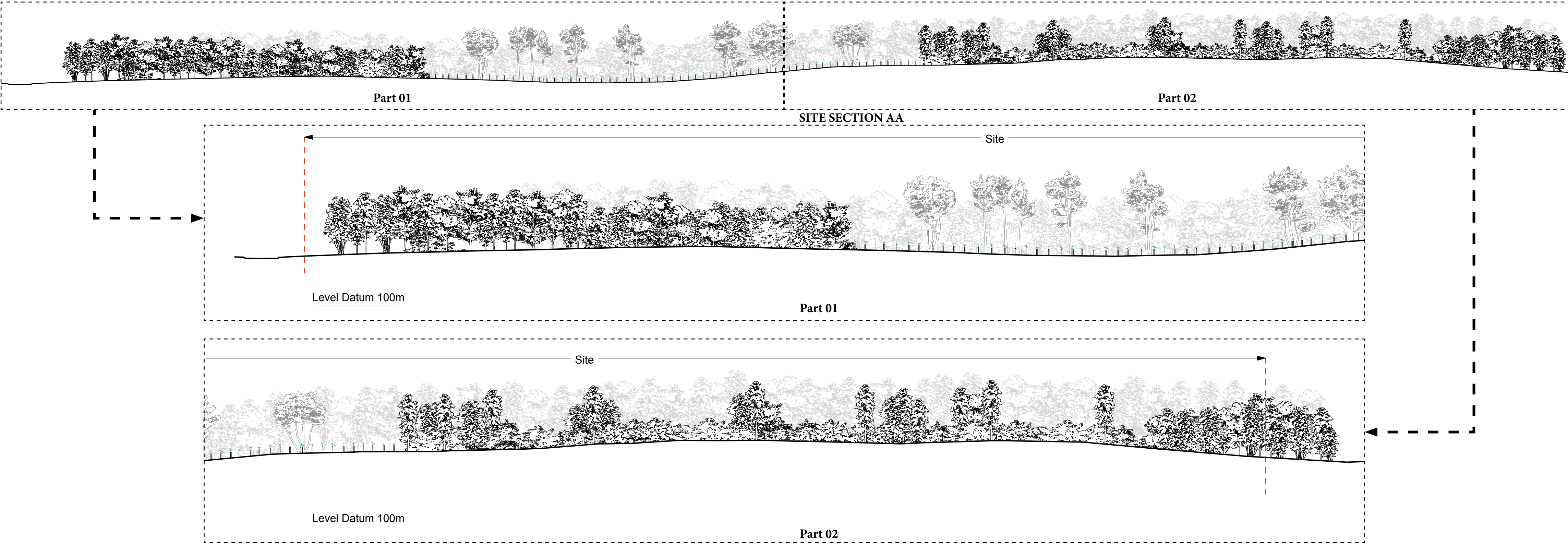


Site Analysis

Site Sections
Section AA

CALDYNE PARK

Land at Caldyne Park,
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0 5000 10000 15000 20000 25000 30000 35000 40000 45000 50000
Millimeters
Scale 1:500



PART EIGHT
SITE ANALYSIS
Site Photos & Considerations



Site Analysis

Site Photos
Site Photograph Key & Ancient Woodland Classification



Is the Ancient Woodland classification accurate

As previously the site was used as a MoD fuel storage depot during the war. It is understood that the site was initially substantially cleared with the first buildings and storage tanks being constructed on the site between 1938 and 1939, with more added in 1943 to 1944, which resulted in substantial clearing of the site to include extensive contamination durign use.

The area underwent further substantial clearance when the storage tanks were removed in 1999. The ministry of defence did not remove the storage containers in a delicate manner. The earth was moved out of the way using bull dozers with little regard for either the sites Biodiversity or ancient status. This is today evidenced as large mounds of earth in the location of the historic storage containers. The historic nature of the ancient soil has therefore been substantially eroded not once, but twice - 1939 and 1999 with extensive contamination occuring between 1939 and decommissioning, which happened sometime after the Wars end.

Rhododendron

Certain plants are unwelcome invaders of our woods. One of the most damaging, and unfortunately most common, is rhododendron (*Rhododendron ponticum*). The thick evergreen foliage smothers native plants, and its roots exude a 'cocktail' of toxic chemicals including cyanide which further poisons the ground. Eventually nothing is left beneath the trees but rhododendron, to the detriment of wildlife.



Non-native rhododendron has invaded the woodland and is growing prolifically in the previous locations of the fuel storgae tanks. It is fast spreading to other areas of the woodland and is extant on the majority of the woodland around the County.

A naturalised, purple-flowered shrub introduced in 1763. Most UK plants derive from Spanish stock. A highly invasive species that suppresses native vegetation and its associated flora and fauna.





Panorama - P01



Panorama - P02



Site Analysis

Site Photos
Panoramic and Path Views

CALDYNE PARK

Land at Caldine Park,
Turners Hill Rd,
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Panorama - P03



Panorama - P04



Path - F1



Path - F2



Path - F3



Path - F4



Path - F5



Path - F6



Path - F7



Path - F8





Tree - T01



Tree - T02



Tree - T03



Tree - T04



Tree - T05



Tree - T06



Tree - T07



Tree - T08



Tree - T09



Tree - T10



Tree - T11



Tree - T12



Tree - T13



Tree - T14



Tree - T15



Tree - T16



Tree - T17



Tree - T18



Tree - T19



Tree - T20

Site Analysis

Site Photos
Relevant Trees

CALDYNE PARK

Land at Caldine Park,
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Tree - T21



Tree - T22



Tree - T23



Tree - T24



Tree - T25



Tree - T26



Tree - T27



Tree - T28



Tree - T29



Tree - T30



Tree - T31



Tree - T32



Tree - T33



Tree - T34



Tree - T35



Tree - T36



Tree - T37



Tree - T38



Tree - T39



Tree - T40



Site Analysis

Site Photos
Relevant Trees and Views

CALDYNE PARK

Land at Caldine Park,
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RH10 4NB



Tree - T41



Tree - T42



Tree - T43



View - V01a



View - V02



View - V04



Tree - T44



Tree - T45



Tree - T46



View - V01b



View - V03



View - V05



Site Analysis

Site Photos
Relevant Views

CALDYNE PARK

Land at Caldine Park,
Turners Hill Rd,
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RH10 4NB



View - V06



View - V08



View - V10



View - V07



View - V09



View - V11



Site Analysis

Site Photos
Relevant Views

CALDYNE PARK

Land at Caldine Park,
Turners Hill Rd,
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RH10 4NB



View - V12



View - V14



View - V16



View - V13



View - V15



View - V17



Site Analysis

Site Photos
Relevant Views

CALDYNE PARK

Land at Caldine Park,
Turners Hill Rd,
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View - V18a



View - V18c



View - V19a



View - V20a



View - V20c



View - V20



View - V18b



View - V18d



View - V19b



View - V20b



View - V20d



View - V21



Site Analysis

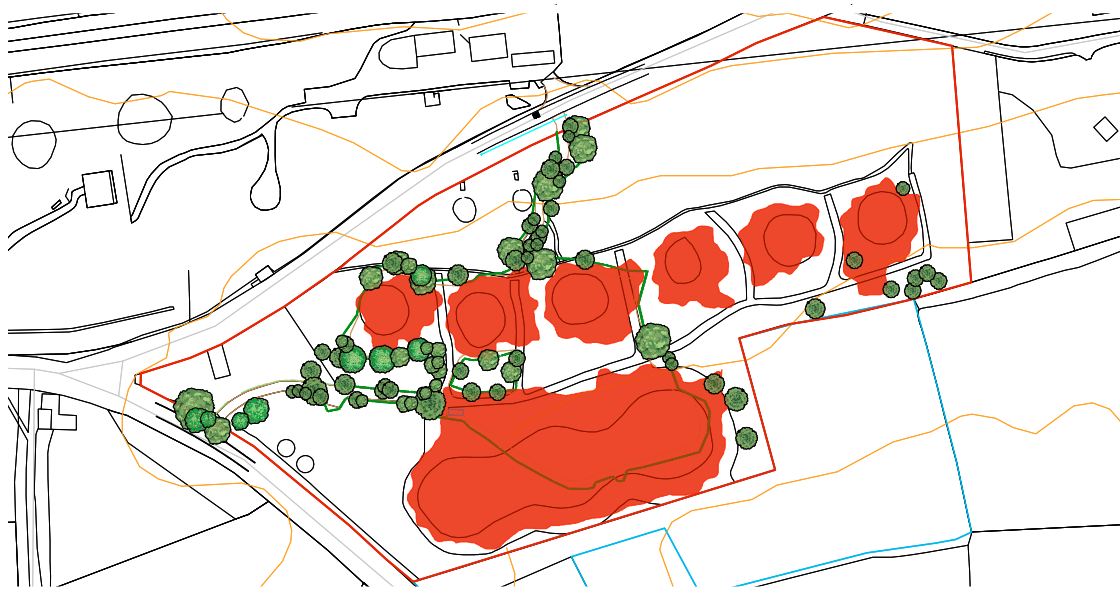
Site Considerations
Ecological Assessment - Ancient Woodland Status

CALDYNE PARK

Land at Caldine Park,
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01 - Google Earth Image 2001 showing historic tank locations



02 - Open Spaces from Image 01 superimposed on OS Map



03 - Conjectured Tree loss 1999 and 1939



04 - Young Silver Birch



05 - Earth Bunds - Historic Tank Removal



06 - Invasive Alien Species- Rhododendron



07 - Historic Pathways



08 - New Sapplings planted 2016



PART NINE
WIDER SITE ANALYSIS
Ancient Woodland Status



Wider Site Analysis

Ancient Woodland Status
Rhododendrons, Sussex and Ancient Woodland



Ancient Woodland and Rhododendrons

Sussex is one of the most wooded parts of lowland Britain with ancient woodland covering approximately 39,000ha (10%) of the county. Bluebell woods associated with coppicing, open wood pasture associated with deer parks and the small Wealden woods in ghyll valleys are a key part of Sussex's distinctive and varied landscape.

The legal protection of animals and plants in the United Kingdom is governed by several different regulations and conventions. Principally, these include:

- The Wildlife & Countryside Act 1981 as amended by the Countryside and Rights of Way Act 2000 and
- The Habitats and Species Directive (92/43/EC) enacted through the Conservation of Habitats and Species Regulations 2010. Development works affecting listed species are subject to a licence granted by an appropriate authority. This authority is currently Natural England.

The previous section highlights that the site at Caldyne Park has been overrun with Rhododendron. The woodland within Sussex is also being equally invaded by rhododendron. We undertook an on site analysis of the surroundign woodland as indicated in the map opposite. In each of the randomly selected areas 01 - 06 it was very easy to locate invasive Rhododendron indicating that the Ancient woodland was being invaded by Rhododendron on a massive scale.

Woodland Wildlife

As set out and explained by The Woodland Wildlife Trust and Natural England The best way to encourage wildlife to a wood is to manage a diverse range of habitats. Adding nest boxes for birds, including raptors such as owls, and for bats and dormice is also encouraged. The choice of tree species that you plant can increase the availability of food and nectar sources. **It also follows that the choice of trees retained and encourage with non-native species being removed is of paramount importance to the longevity of the woodland.**

Natural England - Land Managemen

Natural England advise that the most commonly found invasive, non-native plants include:

- Japanese knotwee
- giant hogweed
- Himalayan balsam
- **Rhododendron ponticum**
- New Zealand pigmyweed (this is banned from sale)

You don't have to remove these plants or control them on your land but you could be prosecuted or given a community protection notice for causing a nuisance if you allow Japanese knotweed to grow on anyone else's property.

How to treat invasive non-native plants

You can get rid of invasive non-native plants by doing any of the following:

- spray plants with chemicals
- burn plants
- bury plants
- dispose of plants off-site

What is an Invasive Alien Species?

The term alien is synonymous with the term non-native. An invasive alien is defined as an alien species whose introduction and/or spread threatens biological diversity. Invasive alien species are referred to by several names, which are often used interchangeably: non-natives, introduced, non-indigenous, exotic, foreign, noxious, aggressive, pest or harmful species.

What's the problem?

With no natural predators and a benign climate, invasive alien species can out-compete our native plant and animal species. For example, some invasive alien plants species can change light levels, decrease dissolved oxygen in water, change soil chemistry and its structure, and increase surface run-off and soil erosion. On a more subtle level, invasive alien species can affect ecosystem processes such as nutrient cycling, pollination and regeneration of soils. Invasive fauna can compete with native species, displace them, consume them, act as parasites or transmit diseases, reduce growth and survival rates, cause the decline or extinction of local populations or even entire species.

The thick evergreen foliage of Rhododendron smothers native plants, and its roots exude a 'cocktail' of toxic chemicals including cyanide

CALDYNE PARK

Land at Caldyne Park,
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AREA 01



AREA 02



Application Area



Wider Site Analysis

Ancient Woodland Status
Rhododendrons, Sussex and Ancient Woodland

AREA 03



AREA 04



which further poisons the ground. Eventually nothing is left beneath the trees but rhododendron, to the detriment of wildlife.

It is therefore logical to conclude that the removal of Non-native species is the most important factor when increasing and encouraging native ancient woodland species to flourish.

OTHER INVASIVE SPECIES

Montbretia - Crocosmia pottsii crocosmiiflora - Flowering Plant

A well-known garden escape with orange flowers from South Africa. Widespread across Sussex. Listed on Schedule 9 of the Wildlife & Countryside Act 1981.

Hybrid bluebell - Hyacinthoides hispanica - Flowering Plant

A species from Spain and Portugal that has been recorded as a garden escape since 1909 and occasionally becomes naturalised. Often confused with its more invasive hybrid with our native bluebell H.

Cherry Laurel - Prunus laurocerasus - Flowering Plant

From eastern Europe and western Asia a now widely planted and often self-sown shrub in many woods in Britain. In some cases it makes up the whole of the lower canopy, effectively shading out any ground flora and preventing the natural regeneration of trees and shrubs. Widespread and increasing in Sussex.

Rhododendron - Rhododendron ponticum - Flowering Plant

A naturalised, purple-flowered shrub introduced in 1763. Most UK plants derive from Spanish stock. A highly invasive species that suppresses native vegetation and its associated flora and fauna.

Yellow Archangel - Lamium galeobdolon subsp. argentatum - Flowering Plant

Often listed just as Lamiastrum galeobdolon montanum. However, the New Atlas of the British Flora and other sources point out that L. g. montanum is the widespread yellow archangel of the British countryside and that the nominate subspecies L. g. ssp. galeobdolon is a rare plant confined as a native to Lincolnshire and Kirkcudbrightshire. Some authorities position the variegated invasive alien yellow archangel as L. g. ssp. montanum,

others as L. g. ssp. argentatum. This latter form is thought to have been introduced in the late 1960s and is spreading rapidly. It is widespread in Sussex and listed on Schedule 9 of the Wildlife & Countryside Act 1981.

Winter Heliotrope - Petasites fragrans - Flowering Plant

A large-leaved, rampant perennial plant from the Far East spreading by means of underground stems by up to 1 metre per year. Very invasive, often forming large wayside colonies to the exclusion of all other species. Sweet scented mauve pink spikes of flower in winter.

AREA 05



AREA 06



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