

APPENDIX D – SOIL VOLUME DETAILS

Restoration

The updated Concept Restoration Scheme is illustrated on Planning Application Drawing No. 15A.

In-Situ Soils and Other Materials for Restoration

A summary of the progressive stripping, direct placement, temporary storage, and final placement for restoration material is provided below.

In situ-Soils to be stripped prior to the commencement of each phase (based on 1.2m soil profile)

Phase	Area m ²	Topsoil (0.33m)	Subsoil (0.37m)	Overburden (0.50m)	Sub Total
Initial Works	38,200	12,600	14,100	19,100	45,800
Phase 1	47,800	15,800	17,700	23,900	57,400
Phase 2	30,700	10,200	11,400	15,400	37,000
Phase 3	45,500	15,000	16,800	22,700	54,500
Phase 4	52,000	17,200	19,200	26,000	62,400
Phase 5	43,900	14,500	16,200	22,000	52,700
SUBTOTALS	25.8 ha	85,300	95,400	129,100	309,800

In situ-Soils which are located within the Site, but which will not be disturbed (based on 1.2m soil profile)

Location	Area Ha	Topsoil (0.33m)	Subsoil (0.37m)	Overburden (0.50m)	Sub Total
Tracks and Hard Standings (which will not be disturbed)	1.1	None	None	None	None
Soils beneath Woodland (which will not be disturbed)	1.1	3,600	4,100	5,500	13,200
Other Current Agricultural land within the Site (which will not be disturbed)	17.9	59,000	62,200	89,500	214,700

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be disturbed)					
SUBTOTAL	20.1	62,600	77,300	95,000	227,900
TOTAL Soil Resource within the Site	45.9	147,900	165,700	224,100	537,700

Restoration Materials Balance

The volume of restoration material required to produce the restoration levels and landform illustrated on Planning Application Drawing No. 15A (Concept Restoration) is 1,095,000m³.

The materials required to achieve the restoration scheme being obtained from:

- On site soils and overburden (1.2m profile) 309,800m³
- Silt waste materials generated from on-site materials 185,200m³
- Imported inert material 600,000m³
- TOTAL 1,095,000m³

In respect of the soil component, the Phasing Drawings (planning Application Drawings Numbers 8 – 13) describe and illustrate the progressive stripping, movement and placement of materials.

The phasing drawings also show the phased construction of the soil storage bunds, which are summarised below. Soil bunds will be constructed to a maximum outer batter slope of 1:3 and inner batter slope of 1:2. Topsoil bunds will be no higher than 3 metres in height, subsoil bunds no higher than 5 metres in height and overburden bunds no higher than 6 metres. A total of 20 soil bunds area numbered and labelled on the accompanying plans (Planning Application Drawing Numbers 8-13).

Soil storage bunds associated with the development proposals include:

Bund 1	(3m high) – 3,300m ³ - formed using Topsoil from the Initial Works area. Bund 1 is located to the south of the proposed plant site and north of South Lodge. The bund would remain in place throughout the duration of the development (c.10 to 11 years) when the soils will be used to restore Phase 5 / Final Restoration.
Bund 2	(3m high) – 1,900m ³ - formed using Topsoil from the Initial Works area. Bund 2 is located to the south east of the plant site and north of Broom Cottage. The bund

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	would remain in place throughout the duration of the development (c.10 years) when the soils would be used to restore Phase 5 / Final Restoration.
Bund 3	(4 - 5m high) – 14,100m ³ - formed using Subsoil, and 10,900m ³ (6m high) - formed of Overburden from the Initial Works area. Bund 3 is located immediately to the west of the plant site. The bund would remain in place throughout the duration of the development (c.10 to 11 years) when the soils will be used to restore Phase 5 / Final Restoration.
Bund 4	(3m high) – 2,300m ³ - formed using Topsoil from the Initial Works area. Bund 4 is located to the north east of the plant site. The bund would remain in place throughout the duration of the development (c.10 to 11 years) when the soils will be used to restore Phase 5 / Final Restoration.
Bund 5	(6m high) – 8,200m ³ - formed of Overburden from the Initial Works area. Bund 5 is located within the north of the plant site. The bund will be in place throughout the duration of the development (~10 – 11 years) when the Overburden will be used to restore Phase 5 / Final Restoration.
Bund 6	(0.3m high) – 5,100m ³ - to be spread on Phase 4 to then restore Phase 5 / Final Restoration.
Bund 7	(6m high) – 17,700m ³ - formed of Subsoil from Phase 1 soil strip. Bund 7 is located to the west of the Bungalow. The bund will only be on place during Phase 1 mineral extraction and restoration period (c.1.5years) when 16,900m ³ of soil would be used to restore the Phase 1 Area and 800m ³ to restore Phase 2.
Bund 8	(5m high) – 23,900m ³ - formed of Overburden from Phase 1 soil strip. Bund 8 is located along the central western boundary of the site. The bund will be in place in full for the duration of Phase 1 and part in place for phase 2 and 3 as the extraction area progresses southwards (c.1.5 to 3.5 years) when the soils would be used to restore land in Phases 1 and 3.
Bund 9	(3m high) – 3,100m ³ - formed of Topsoil from Phase 1 soil strip. Bund 9 is located to the south and east of the Western Area's as dug mineral stockpile/ field hopper. The bund will be in place during the mineral extraction period of Phases 1,2 and 3 (3 years) when soils would be used to restore the Phase 3 Area.
Bund 10	(3m high) – 600m ³ - formed of Topsoil from Phase 1 soil strip. Bund 10 is located to the east of the Western Area's as dug mineral stockpile/ filed hopper. The bund will be in place during the mineral extraction period of Phases 1,2 and 3 (3 years) when soils would be used to restore the Phase 3 Area

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Bund 11	(3m high) – 12,100m ³ - formed of Topsoil from the progressive Phase 1 soil strip. Bund 11 is located within the north of the Phase 1 void, post extraction. The bund will be in place during the mid and latter stages of Phase 1 extraction (~0.75 years) when the Topsoil will be used to restore Phase 1.
Bund 12	(3m high) – 7,200m ³ - formed of Topsoil from Phase 2 soils strip. Bund 12 is located along the northern boundary of Phase 2. The bund will be in place during the mineral extraction and restoration period of Phase 2 (c.1 to 2 years) when soils would be used to restore Phase 2 Area.
Bund 13	(4m high) – 5,600m ³ - formed of subsoil from Phase 3 soils strip. Bund 13 is located north of the as dug mineral stockpile/field hopper. The bund will be in place during mineral extraction and restoration period of Phase 3 (c.1.5 years) when soils would be used to restore the Phase 3 Area.
Bund 14	(4m high) – 2,700m ³ - formed of Subsoil from Phase 3 soils strip. Bund 14 is located north of the unoccupied south Lodge (west) property. The bund will be in place during the mineral extraction and restoration period of Phase 3 (c.1.5 years) when soils would be used to restore the Phase 3 Area.
Bund 15	(3m high) – 2,400m ³ - formed of Topsoil from Phase 3 soils strip. Bund 15 is located along the southern boundary of Phase 3. The bund will be place during the mineral extraction and restoration period of Phase 3 (c.1.5 -2 years) when soils would be used to restore the Phase 3 Area.
Bund 16	(4m high) – 8,500m ³ - formed of Subsoil from Phase 3. Bund 16 is located along the western boundary of Phase 3. The bund would remain in place during the mineral extraction and restoration period of Phase 3 (~ 1.5 – 2 years) when soils will be used to restore.
Bund 17	(3m high) – 17,200m ³ - formed of Topsoil from Phase 4. Bund 17 is located along the north and eastern boundaries of Phase 4. The bund would remain in place until the end of Phase 5 Phase 5 / Final Restoration (~ 6.5 years).
Bund 18	(4 - 5m high) – 19,200m ³ - formed of Subsoil from Phase 4. Bund 18 is located along the eastern boundary of Phase 4. The bund would remain in place throughout the extraction period for Phases 4 and 5 (c.6 years) where upon the soils will be used to restore Phase 5.
Bund 19	(4m high) – 3,000m ³ - formed of Overburden from Phase 4 soil strip. Bund 19 is located along the south eastern boundary of Phase 4. The bund will be in place for approximately 6 years.

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Bund 20	(6m high) – 7,000m ³ - formed of progressively stripped Overburden from Phase 4 soil strip. Bund 20 is located within the north western area of Phase 4. The bund will be in place for 3 to 4 years when it will be used to restore Phase 5 / Final Restoration.
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All other soils materials are to be stripped phase by phase, and directly placed for restoration.

This provides for the balance of soil stripping and placement to achieve final restoration profiles and volumes.

Phased soils and overburden within each Phase at the end of the development:

Phase	Area m ²	Topsoil (0.33m)	Subsoil (0.37m)	Overburden (0.50m)	Sub Total
Initial Works	38,200	12,600	14,100	19,100	45,800
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SUBTOTALS	25.8 ha	85,300	95,400	129,100	309,800

The tracks, hard standing area, existing woodland and land not required for mineral extraction is to remain in-situ, undisturbed by the proposals.