



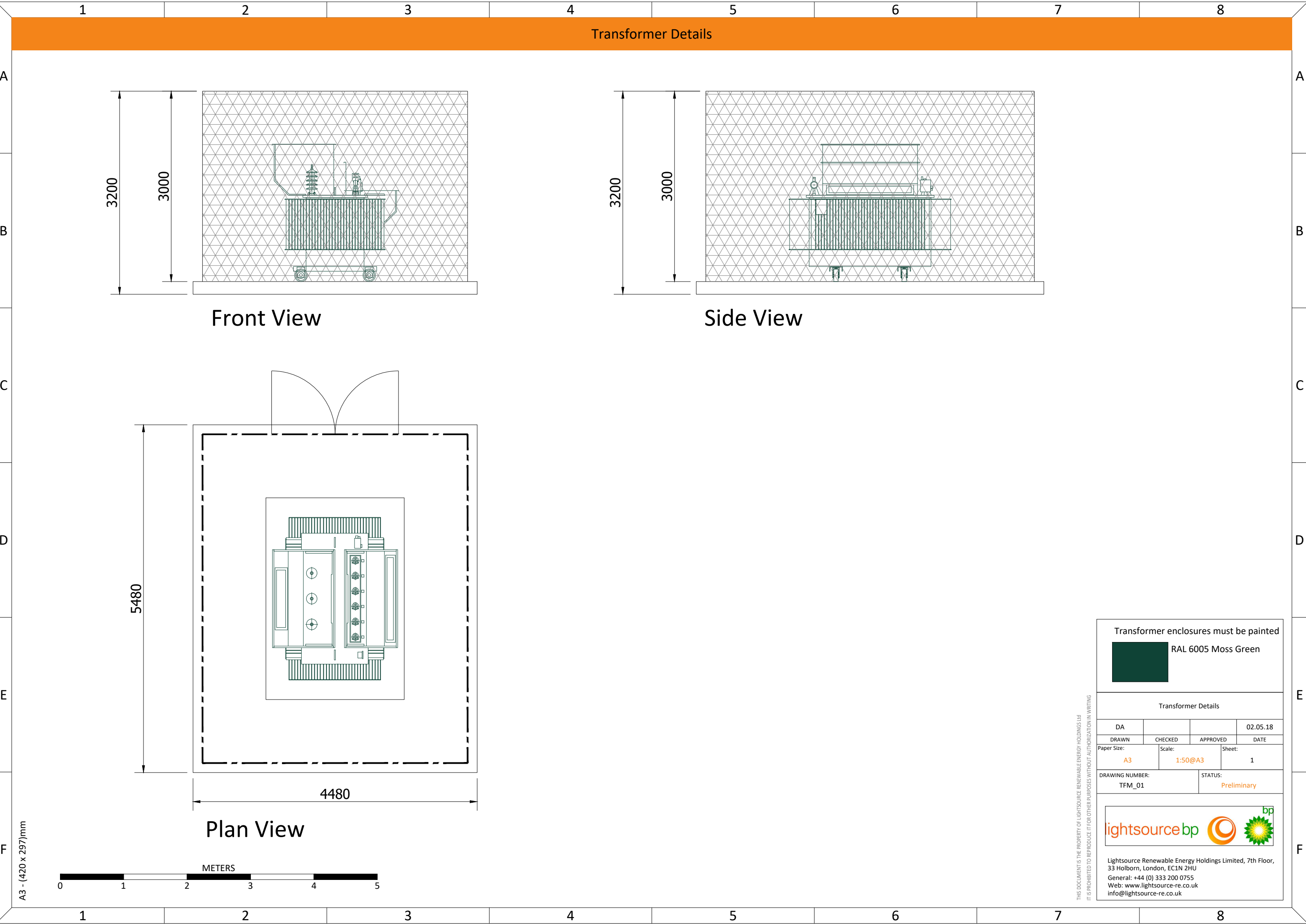
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Road Cross Section			
DA			02.05.18
DRAWN	CHECKED	APPROVED	DATE
Paper Size: A3		Scale: 1:20@A3	Sheet: 1
DRAWING NUMBER: RCS_01		STATUS: Preliminary	

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Front View

Side View

Plan View

Transformer enclosures must be painted



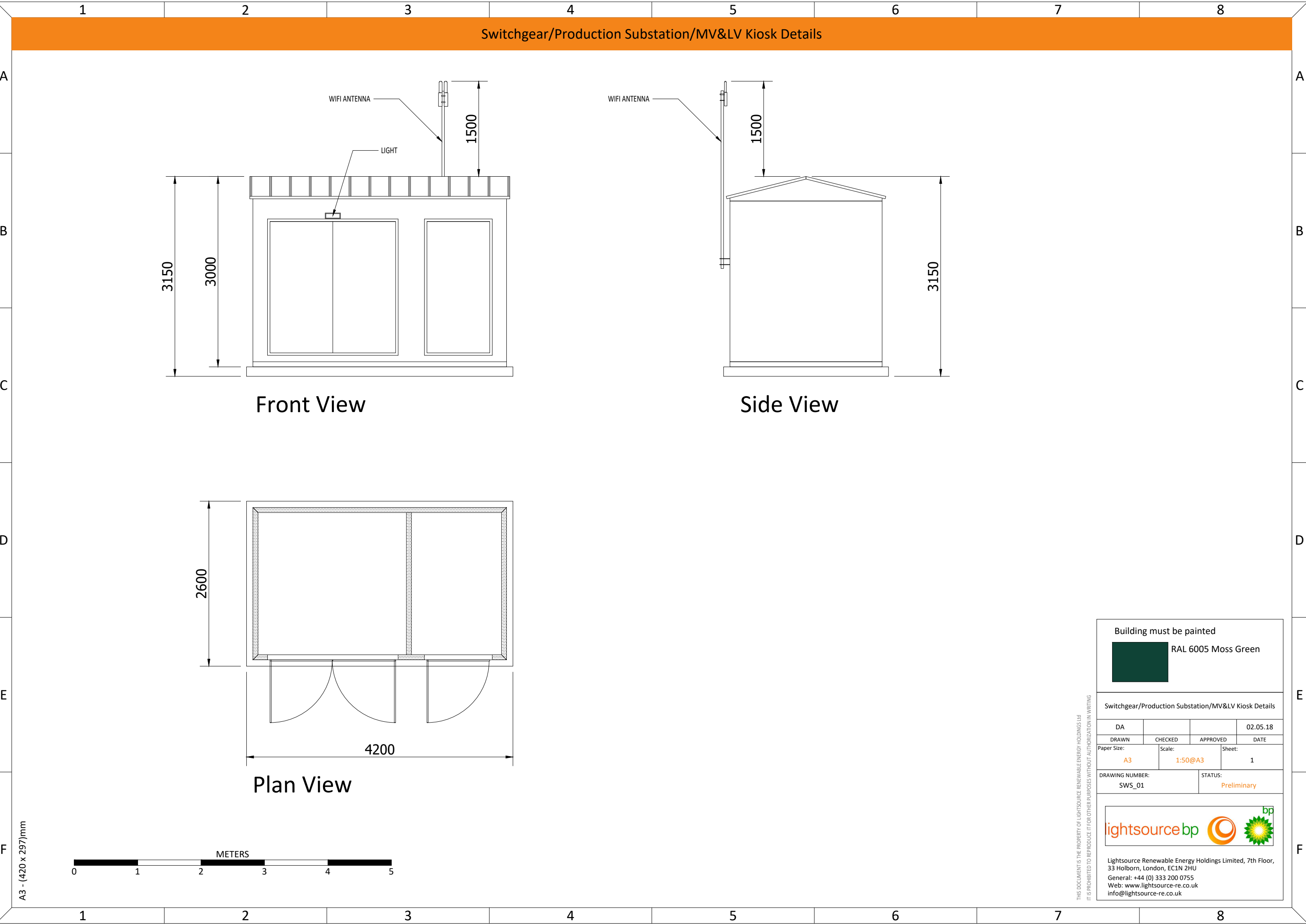
RAL 6005 Moss Green

Transformer Details			
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DRAWING NUMBER: TFM_01		STATUS: Preliminary	



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Building must be painted

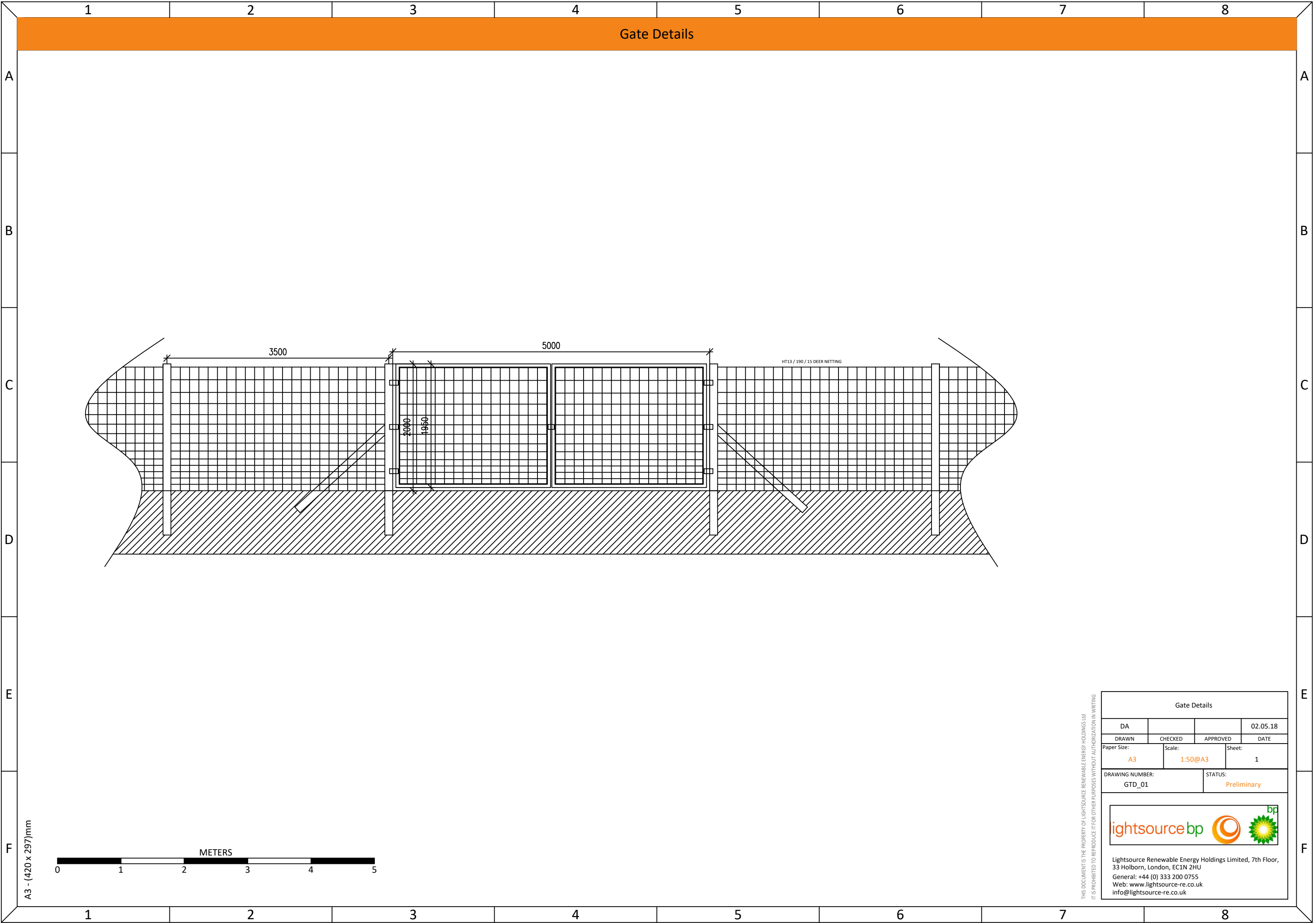
RAL 6005 Moss Green

Switchgear/Production Substation/MV&LV Kiosk Details			
DA			02.05.18
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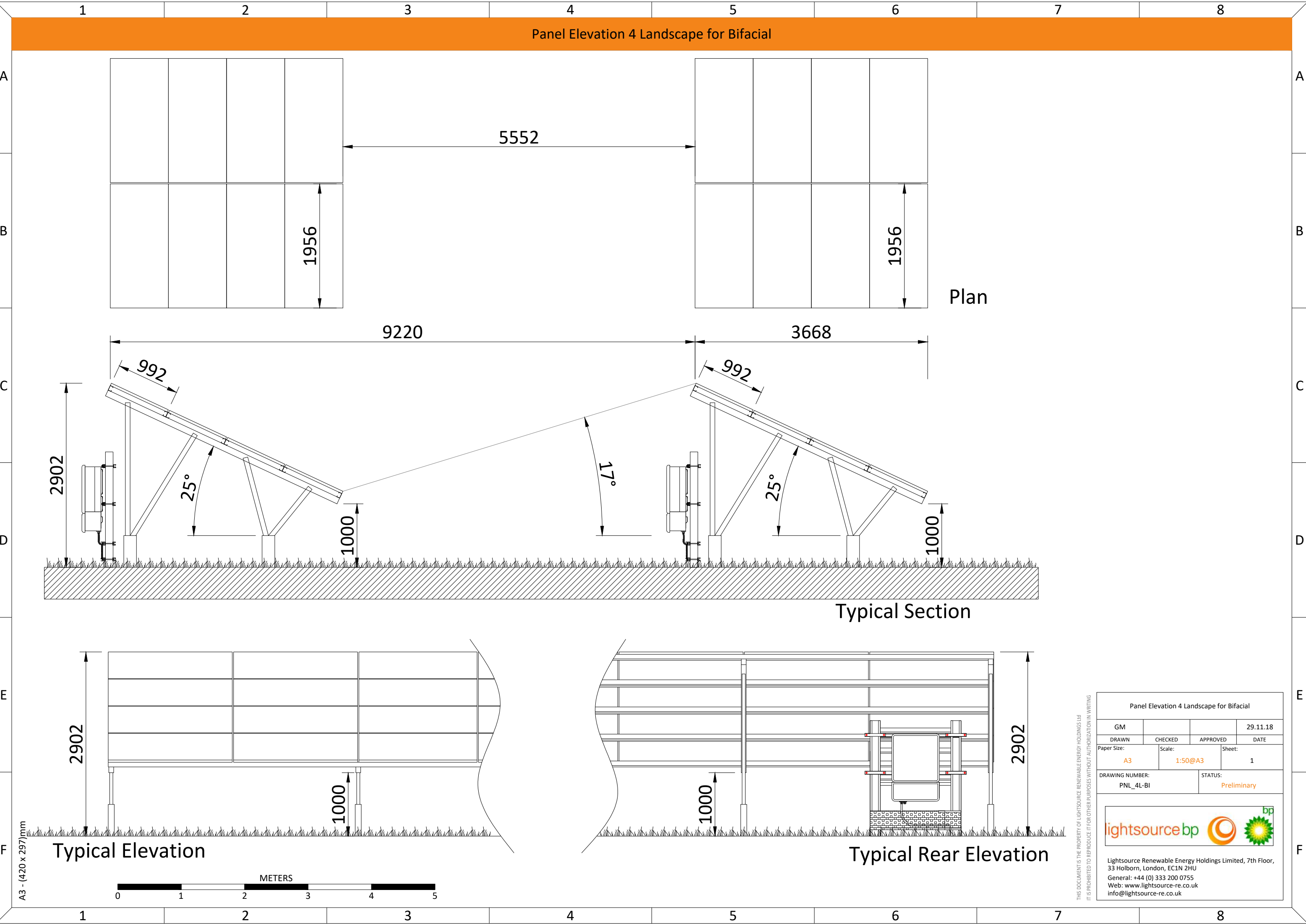


Gate Details

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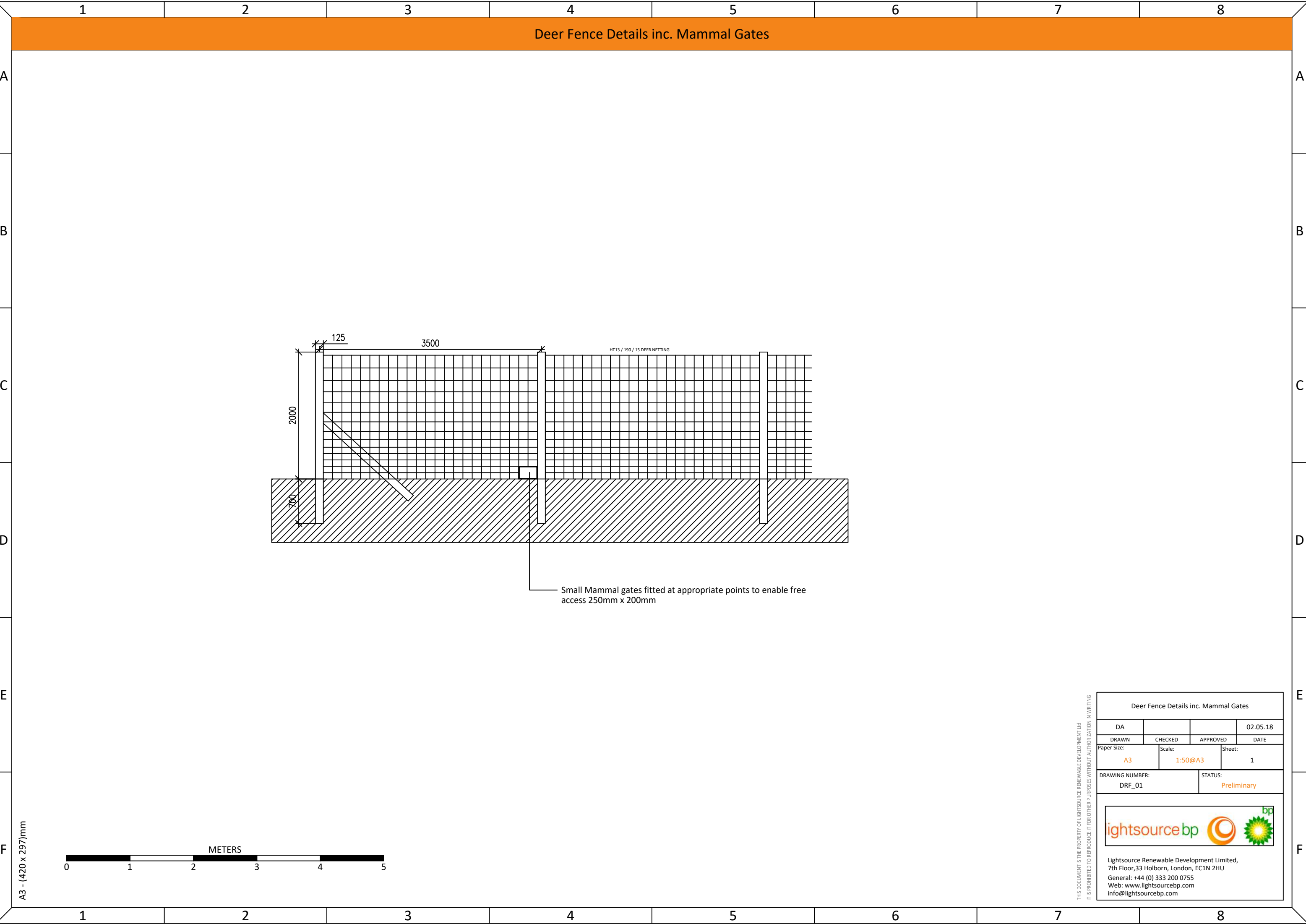


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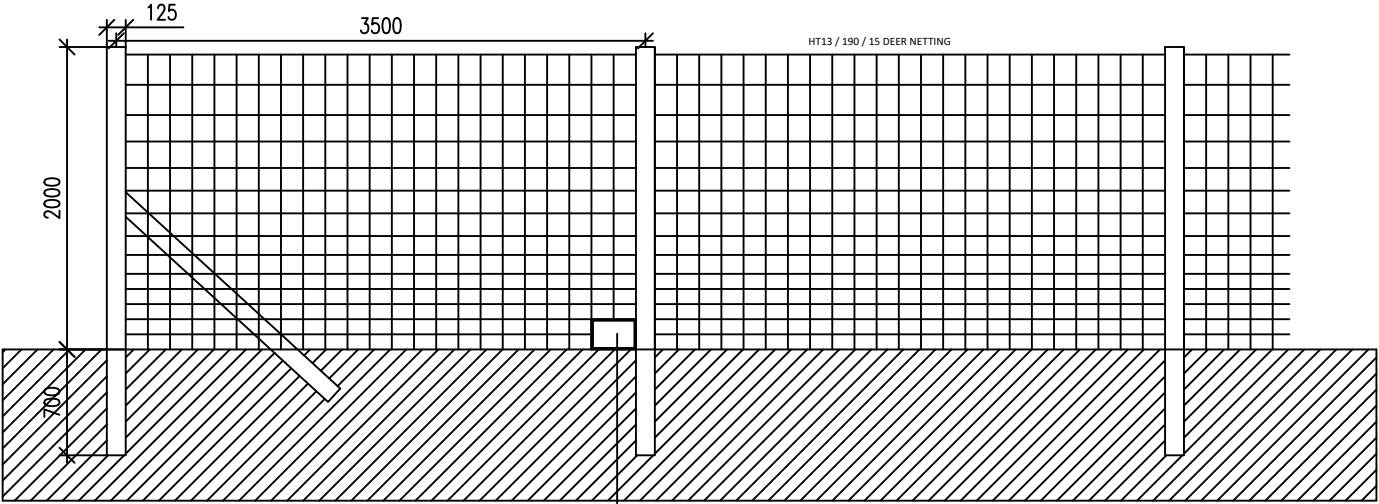
Panel Elevation 4 Landscape for Bifacial			
GM			29.11.18
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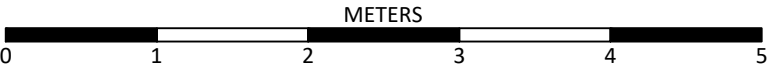
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Deer Fence Details inc. Mammal Gates





Small Mammal gates fitted at appropriate points to enable free access 250mm x 200mm

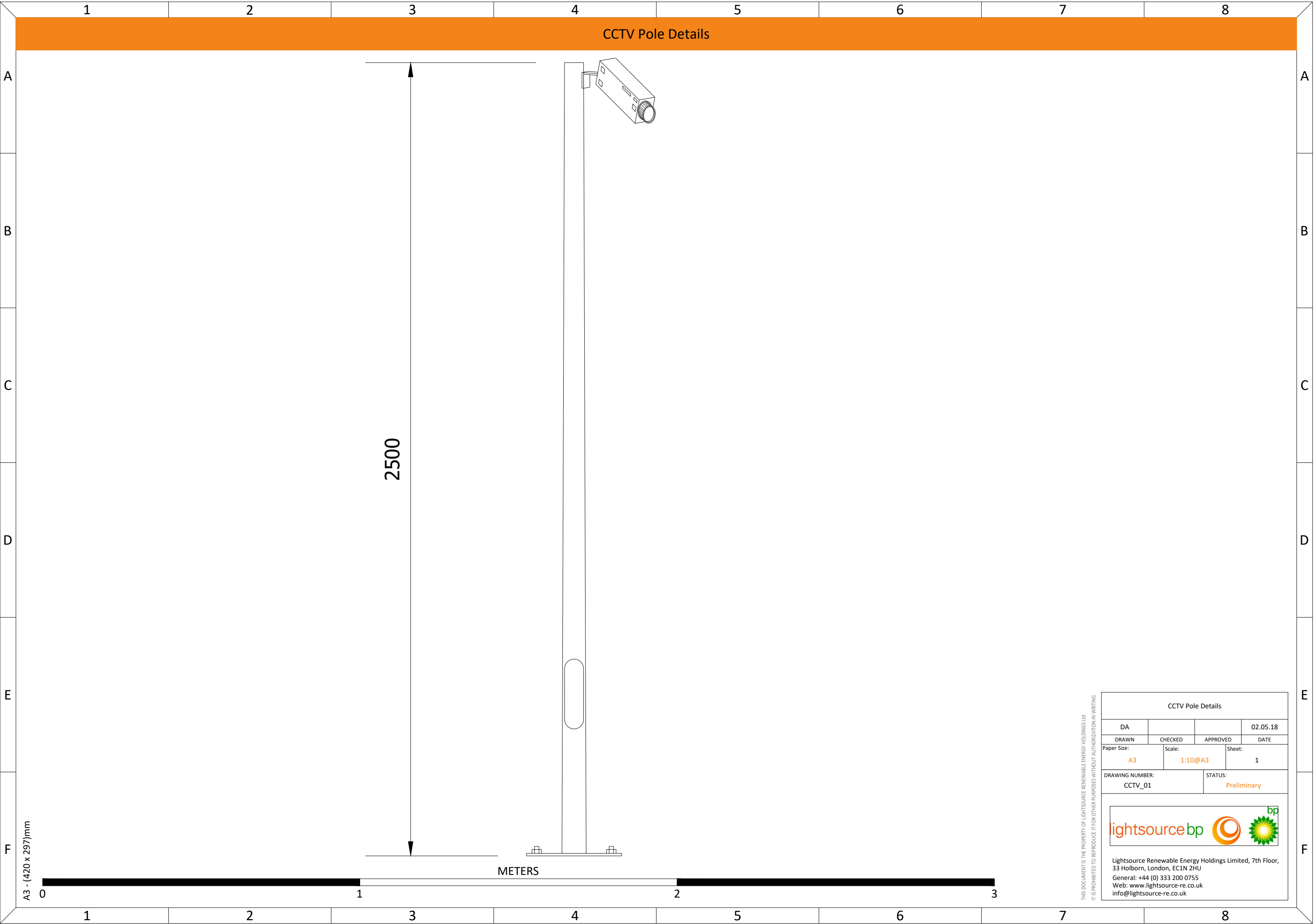


Deer Fence Details inc. Mammal Gates			
DA			02.05.18
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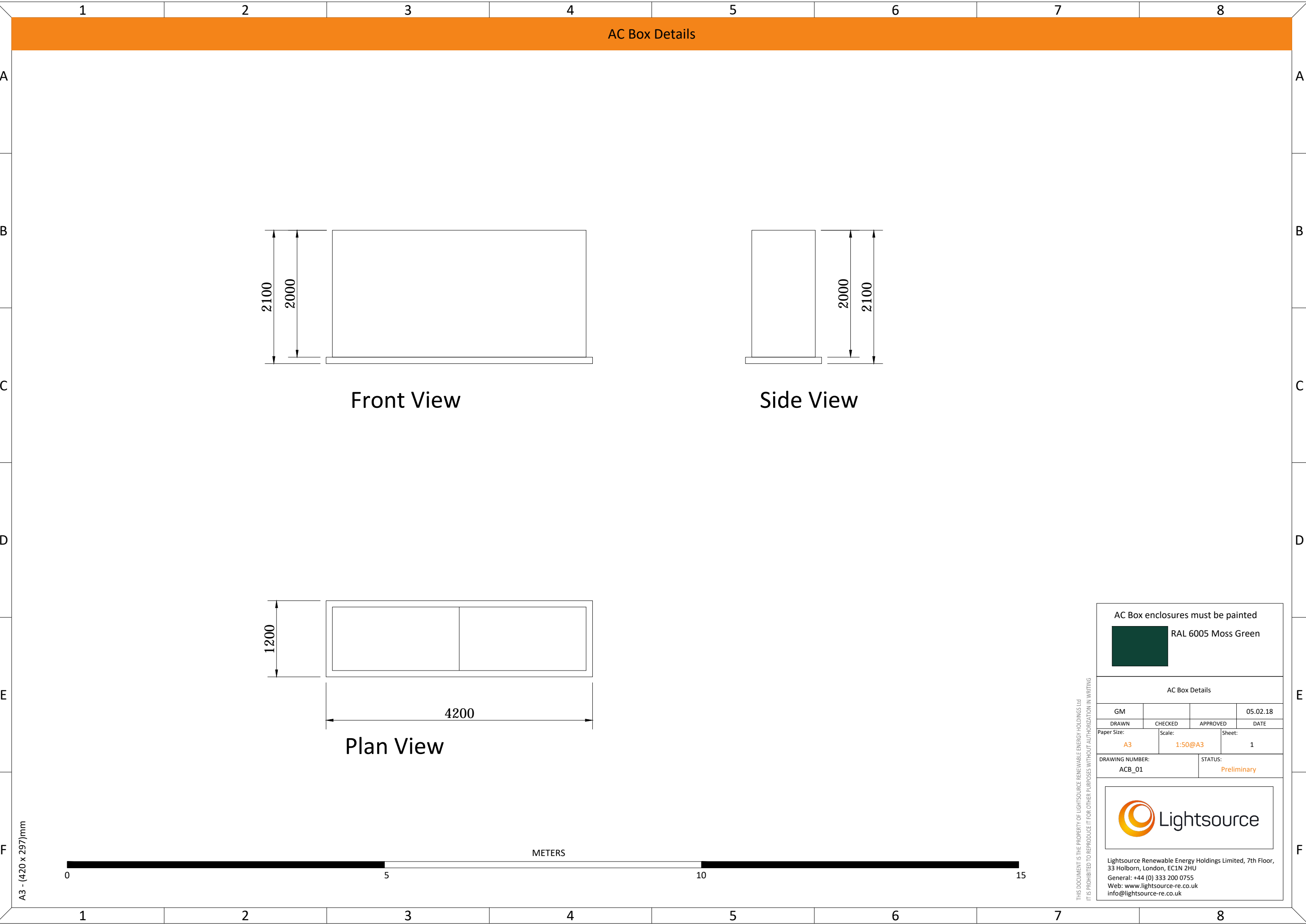
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CCTV Pole Details			
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AC Box Details

Front View

Side View

Plan View

AC Box enclosures must be painted



RAL 6005 Moss Green

AC Box Details			
GM	CHECKED	APPROVED	05.02.18
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PLANTING SPECIFICATION

These implementation and maintenance guidelines are for planning purposes only to indicate the level of workmanship to be specified and do not constitute a detailed specification.

1. GENERAL

- 1.1. All landscape operatives will be appropriately trained, certified and qualified to undertake the tasks required. When required, the relevant certificates will be made available for inspection. All work is to be carried out in accordance with the relevant British Standards, Codes of Practice and Legislation.
- 1.2. All plants shall conform to BS 3936 and be in accordance with the National Plant Specification. Supplying nurseries shall be registered under the HTA Nursery Certification Scheme. All plants shall be packed and transported in accordance with the Code of Practice for Plant Handling as produced by CPSE.
- 1.3. Planting shall not be carried out when the ground is waterlogged, frost bound or during periods of cold drying winds. All bareroot planting stock will be kept covered until actually planted in order to minimise water-loss and prevent the roots from drying out. Tree handling, storage and planting shall be in accordance with BS 8545 Chapters 9 to 10 and Annexes E to F.
- 1.4. The landscape contractor shall maintain all areas of new planting for a period of 12 months following practical completion. All stock deemed to be dead, dying or diseased within the defects period shall be replaced by the contractor at his own cost.
- 1.5. A minimum intervention approach will be used in terms of weed control. In areas of transplant tree/shrub or ornamental shrub planting this is to be achieved by using mulch mats and hand-weeding. Weed killer and other chemicals will be used as little as possible on site. Spot removal of weeds will be carried out by hand removal as necessary.

2. TREE PLANTING

Ground Preparation and Tree Pit Excavation

- 2.1. Where necessary remove existing weeds by hand. Chemical removal using a glyphosate based herbicide will be avoided unless large areas need clearing – following which allow a suitable period to elapse, as recommended by the manufacturer, for the herbicide to take effect.
- 2.2. Tree pits of at least 75mm diameter greater than the root system and no deeper than the rootball / container depth are to be excavated and the sides well scarified to prevent smearing. All extraneous matter such as plastic, wood, metal and stones greater than 50mm in any dimension shall be removed from site.
- 2.3. During excavation of the pit, the soil dug should be placed to one side separating topsoil and subsoil as far as is practical.
- Tree Planting**
- 2.4. Trees shall be planted as per the planting arrangement as set out on the planting plan and plant schedule.
- 2.5. The typical rooting depth for trees is 900mm. The first 300mm shall be made up of topsoil; it shall be ensured that a suitable subsoil provides the remainder of the minimum rooting depth.
- 2.6. The root system of the tree should be wetted prior to planting. The tree should be planted at the correct depth taking into account the position of the root flare and the finished level - the rootball or root stem transition should be level with the existing host soil or surface. The base of the rootball should typically sit on subsoil, for larger rootballs the subsoil will sit around the lower portion of the rootball.
- 2.7. Tree pits should be backfilled with the excavated topsoil, if the original topsoil is not available or deemed unsuitable, a multi-purpose topsoil should be used. Any subsoil excavated should be discarded and the subsoil depth (beyond 300mm deep) backfilled with a high sand content subsoil. Backfill should be added gradually, in layers of 150mm to 230mm depth, ensuring the tree is held upright. At each stage the fill should be firmed in to eliminate all air pockets under and around the root system, but with care being taken not to excessively compact the soil. The final layer should not be consolidated.
- 2.8. General-purpose slow release fertiliser (at the rate of 75g/m²) and Tree Planting and Mulching Compost at the rate of (20litres/m²) are to be incorporated into the top 150mm of topsoil during final cultivations.
- 2.9. Selected standard trees will be protected from rabbit and deer damage by fitting appropriate tree guards.
- 2.10. All extra heavy standard size trees are to be double staked with 75mm dia stakes. Stakes should be driven at least 300mm into undisturbed ground before planting the tree, taking care to avoid underground services and cables etc. and should typically be one third the height of the tree stem above ground.
- 2.11. Staked trees shall be secured to stakes with suitable proprietary rubber tree ties and spacers.
- 2.12. Immediately after planting, but before applying the below bark mulch, all trees should be saturated to field capacity.
- 2.13. Ornamental composted bark mulch will be spread to a depth of 75mm across a 0.8m dia circle around individual trees, ensuring that the root flare and base of the stem, along with any ground cover plants, are not buried.

3. HEDGEROW AND HEDGEROW REINFORCEMENT PLANTING

Ground Preparation

- 3.1. Where necessary existing weeds will be treated with a glyphosate-based herbicide and a suitable period allowed to elapse, as recommended by the manufacturer, for the herbicide to take effect.
- 3.2. All extraneous matter such as plastic, wood, metal and stones greater than 50mm diameter will be removed from site to a registered waste disposal facility.

Planting

- 3.3. The planting arrangement shall be as set out in the plant schedule on the relevant planting plan.
- 3.4. Bare-root hedge plants shall be notch planted in a double staggered row at the rate of 5 plants per linear metre (using L-shaped notches) using spades of a design suitable for this purpose. The notches must be vertical and deep enough for the roots to hang freely, with the transplant being planted so that the root collar is exactly level with the ground surface. The notch must then be closed and the soil will be well firmed round the roots in line with the guidelines as set out in BS 4428 (1989).
- 3.5. Container-grown hedge plants will be planted into a pit dug 1.5x the diameter of the root mass, with the bottom and sides of the planting pit broken up to aid root expansion. The plants will be planted so that the root collar is exactly level with the ground surface.
- 3.6. All bare-root hedge planting stock will be protected from rabbit damage using approved proprietary 600mm clear plastic spiral guards, supported with 0.9m 12/14lb canes as advised by the manufacturer.

- 3.7. All container-grown shrubs will be protected from rabbit damage using approved proprietary 600mm plastic shrub shelters, supported with 0.9m x 32 mm x 32mm softwood stakes as advised by the manufacturer.

Maintenance during first growing season

- 3.8. All dead, dying or diseased hedge plants will be replaced with plants of similar size and species. If the failure of the plant is due to disease and the disease is considered likely to re-occur then an alternative species may be used as replacement if agreed with the LPA.
- 3.9. The planting area will be kept weed free throughout the maintenance period using approved herbicides in April, June and August
4. GENERAL MAINTENANCE
- 4.1. The Landscape contractor shall maintain all areas of new planting for a period of 12 months following practical completion. All stock deemed to be dead, dying or diseased within the defects period shall be replaced by the contractor at his own cost. The site is to be visited monthly throughout the year to undertake the Following operations:
- Weed clearance: All planting areas to be kept weed free by hand weeding or herbicide treatment.
 - Litter clearance: All litter is to be removed from planting beds.
 - Watering: All planted areas are to be watered for the first two years from May to September following any dry periods of 7 days.

Trees and Shrubs

- 4.2. All trees are to be watered weekly from May to the end of September unless unnecessary due to heavy rain; to receive 20 gallons of water. All shrubs are to be watered for the first two years from May to September following any dry periods of 7 days. All tree ties and stakes are to be checked and adjusted if too loose, too tight or if chaffing is occurring. Any broken stakes are to be replaced. Any damaged shoots/branches are to be pruned back to healthy wood. Plants are to be pruned in accordance with good horticultural practice to maintain healthy, well-shaped specimens. Native shrubs - Using approved herbicides a 1m diameter circle centred on each planting station shall be kept weed free throughout the maintenance period. Stakes may be removed from Year 2 if plant is fully established and if shelter or suppressing further growth.

PROPOSED NORTHERN TREE BELT - 5 m wide

[678.00m²; 2.00m centres]

- 26no. Acer campestre [SStd]
26no. Alnus glutinosa [SStd]
26no. Quercus robur [SStd]
17no. Acer campestre (F)
17no. Alnus glutinosa (F)
17no. Crataegus monogyna (T)
9no. Corylus avellana (T)
9no. Ilex aquifolium
17no. Quercus robur (W)
9no. Salix caprea (T)

Inset 1

Existing hedgerow retained and reinforced with infill planting where appropriate
[273.00m length - Assumed 20% infill requirement]
33no. Acer campestre
131no. Crataegus monogyna
16no. Cornus sanguinea
16no. Corylus avellana
66no. Fagus sylvatica
66no. Prunus spinosa

Inset 1

- 3no. Acer campestre
2no. Quercus robur
3no. Alnus glutinosa
3no. Acer campestre
3no. Alnus glutinosa

- 3no. Quercus robur
3no. Acer campestre

PLANTING SCHEDULE

Native Tree Planting

Quantity	Species	Form	Girth	Height cm	Clear Stem	Root Condition
9	Acer campestre	Extra Heavy Standard	18-20	450-500	200cm min.	100-200L
6	Alnus glutinosa	Extra Heavy Standard	18-20	425-600	200cm min.	100-200L
5	Quercus robur	Extra Heavy Standard	18-20	450-500	200cm min.	100-200L

Northern Tree Belt

To be planted at 2m centres in drifts. Species to be planted in an evenly spaced but irregular pattern (i.e. no grids or lines) in single species groups with approximately 3-7 plants per group.

Species	Form	Age + Times Transplanted	Height cm	Root Condition
Acer campestre (15%)	SStd	10-12	300-350	45Lt
Alnus glutinosa (15%)	SStd	10-12	300-350	45Lt
Quercus robur (15%)	SStd	10-12	300-350	45Lt
Acer campestre (10%)	Feathered	2x	150-175	B
Alnus glutinosa (10%)	Feathered	2x	150-175	B
Crataegus monogyna (10%)	Transplant	1+1	40-60	B
Corylus avellana (5%)	Transplant	1+1	40-60	B
Ilex aquifolium (5%)	Leader with laterals	-	40-60	2L
Quercus robur (10%)	Whip	1+1	100-125	B
Salix caprea (5%)	Transplant	1+1	40-60	B

Proposed Hedgerow and Hedgerow Reinforcement Planting

To be planted at 6 per linear metre in a double staggered row, rows will be 40cm apart.

Species	Common Name	Percentage in Mix %	Height/Spread cm	Form	Age / Times Transplanted	Root Condition
Acer campestre	Field Maple	10%	40-80	Transplant	1+1	B
Crataegus monogyna	Common Hawthorn	40%	40-80	Transplant	1+1	B
Cornus sanguinea	Dogwood	5%	40-80	Transplant	1+1	B
Corylus avellana	Hazel	5%	40-80	Transplant	1+1	B
Fagus sylvatica	Common Beech	20%	40-80	Transplant	1+1	B
Prunus spinosa	Blackthorn	20%	40-80	Transplant	1+1	B

KEY

- Site Boundary

Site Access

Security Fence

Solar Module Table

Transformer

Switchgear Substation

AC Box
- Access Road

Access Gates

Existing Woodland

Existing Hedgerow

Proposed 5m Tree Belt

Proposed Hedgerow

Existing hedgerow retained and reinforced with infill planting where appropriate
- Species Rich Neutral Grassland

Detailed Landscape Proposals
Bryn Henllys Extension

Client: Lightsource BP

DRWG No: **P18-2622_21** Sheet No: _ REV: _

Drawn by : JN

Approved by: NHA

Date: 16/08/2019



Scale: 1:1500 @ A1
(For Inset 1) 1:500



Bryn Henllys Extension_Site Location Plan



KEY:
Red Line - Planning Application
Boundary
Green Line - Access

Bryn Henllys Extension_Site Location Plan			
GM			09.08.19
DRAWN	CHECKED	APPROVED	DATE
PROJECT NAME & ADDRESS: Location: Waunlwud Farm, Ystradowen, Swansea Postcode: SA9 2XX			
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DRAWING NUMBER: BRYN_SLP_01		STATUS: Preliminary	
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