Whitcher Wildlife Ltd.
Ecological Consultants.

CLAYTON FIELDS, EDGERTON.

OS REF: SE 133-177.

ECOLOGICAL DESIGN STRATEGY - BATS.

Ref No:- **181232.**

Date:- **25th January 2019.**

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1. INTRODUCTION.

1.1. Planning permission has been passed for the development of the Clayton Fields site in Edgerton, Huddersfield.

1.2. Condition 14 of the planning permission states:

'No development shall take place until a comprehensive written mitigation strategy detailing how the development shall be completed without harm to any bat species, shall be submitted to and approved in writing by the local planning authority. Development shall be carried out in accordance with the approved method statement.'

1.3. Whitcher Wildlife Ltd have been commissioned to prepare an Ecological Design Strategy – Bats to discharge condition 14 of the planning permission.

1.4. Appendix I includes the development plan for the site.

1.5. Additional plans showing the landscaping plan, lighting plan and lux levels for the site are included in Appendix II of this report.

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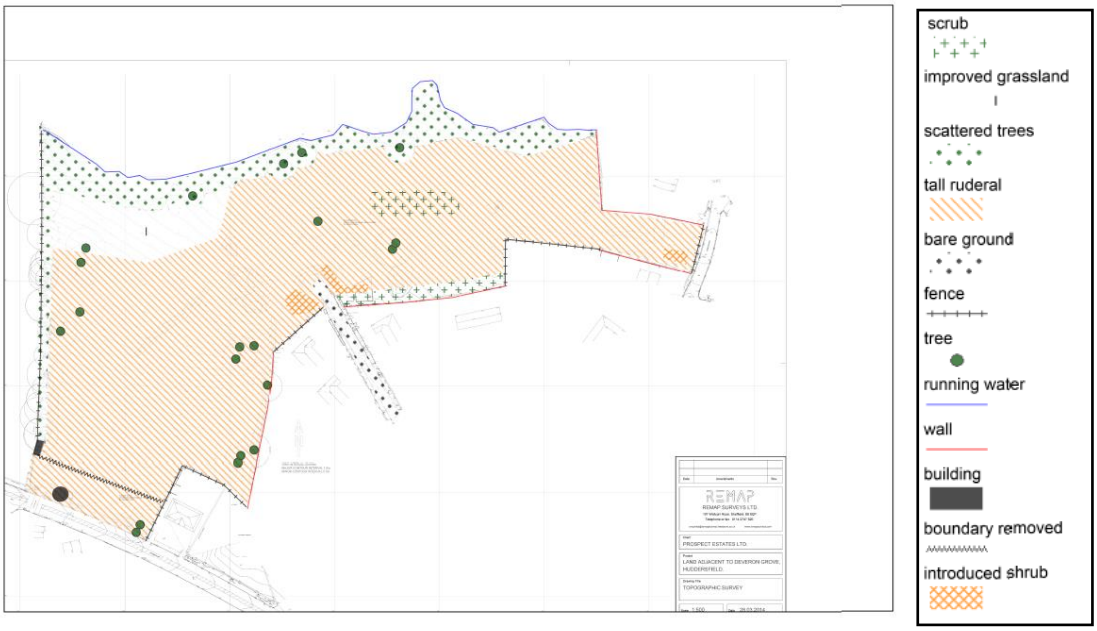
2. SUMMARY OF FINDINGS.

2.1. The surveyed area was an area of land off Edgerton Road in Huddersfield that showed signs of regular use for dog walking. The Extended Phase 1 Habitat survey carried out during 2016 identified the area to comprise a large area of open grassland and scattered trees with a strip of woodland and Clayton Dike to the north. Abundant ruderal species and shrubs were identified in some areas of the site.



2.2. Two UK BAP habitats were identified within the surveyed area, those being Clayton Dike and parts of the grassland.

2.3. Several habitats suitable to support roosting bats were identified within the surveyed area. The habitats included two small buildings and several trees. No bat field signs were identified around the buildings or trees during the surveys. The site was also assessed to provide a suitable habitat for foraging and commuting bats, predominantly due to the trees and dike along the site boundaries.

2.4. The vegetation on the site was assessed as providing a suitable nesting habitat for various species of bird during the nesting season, although no nests were identified during the site surveys.

2.5. Japanese Knotweed, Rhododendron, Montbretia and Cotoneaster, invasive non-native plant species listed on Schedule 9 of the Wildlife and Countryside were also identified growing on the site.

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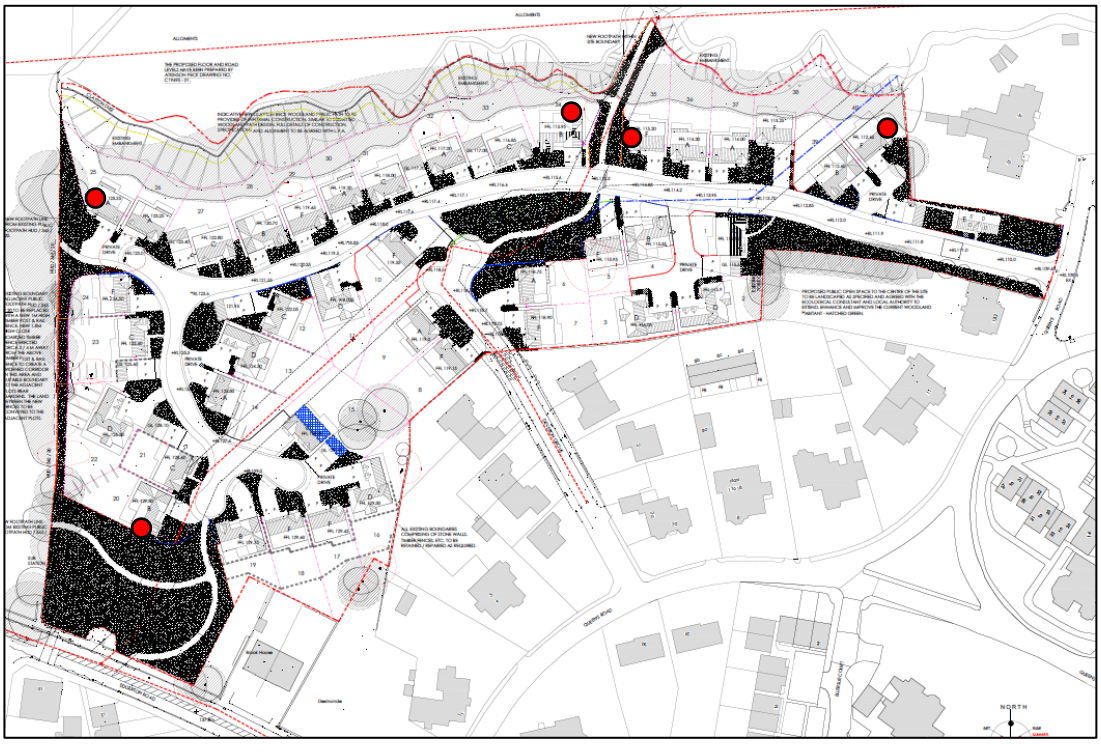
3. MITIGATION, ENHANCEMENT AND MAINTENANCE.

3.1. The site has been cleared ready for development and therefore no additional clearance of potential roosting habitats, most notably trees, will be carried out.

3.2. During the construction phase of the development all compound areas and generators will be located away from potential roost features, those being the trees on and around the surveyed area and the buildings in the surrounding area.

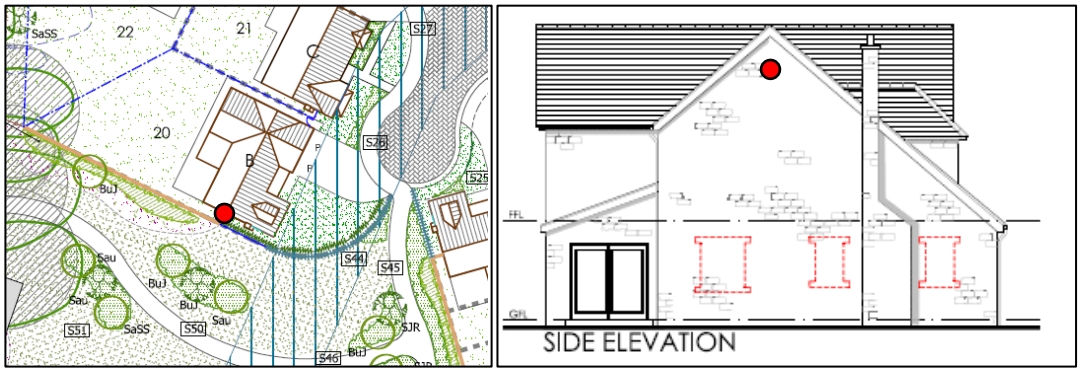
3.3. Lighting during the construction phase will be minimised to ensure there is no impact on any roosting bats present in the buildings and trees surrounding the site. The lighting will maintain dark corridors across the site and around the site boundaries, particularly along the woodland edge adjacent to Clayton Dike. Lighting will also be restricted around the existing semi mature and mature trees present within the development site.

3.4. During the development bat bricks of a suitable incorporated designs, similar to the one shown below, will be installed in the buildings in five locations around the site. The approximate location of the bat bricks is shown on the plan below.

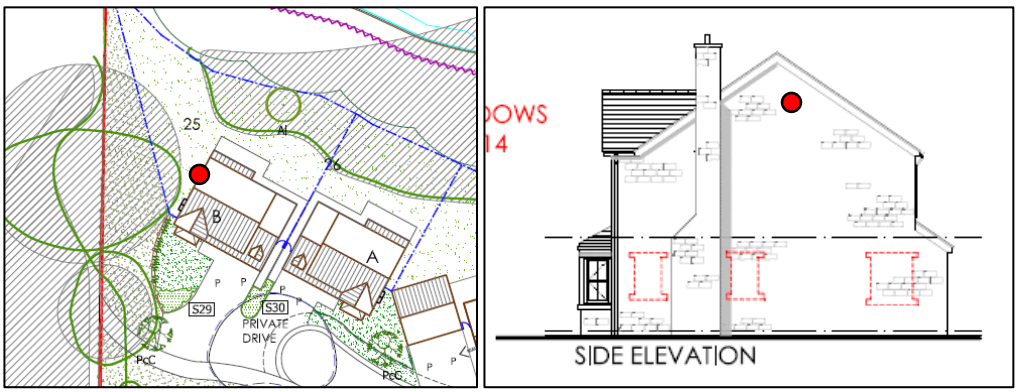


3.5. The plans below show the bat brick locations in more detail. The bat bricks will be mounted high in the walls of the building in locations that do not lie above windows or doors.

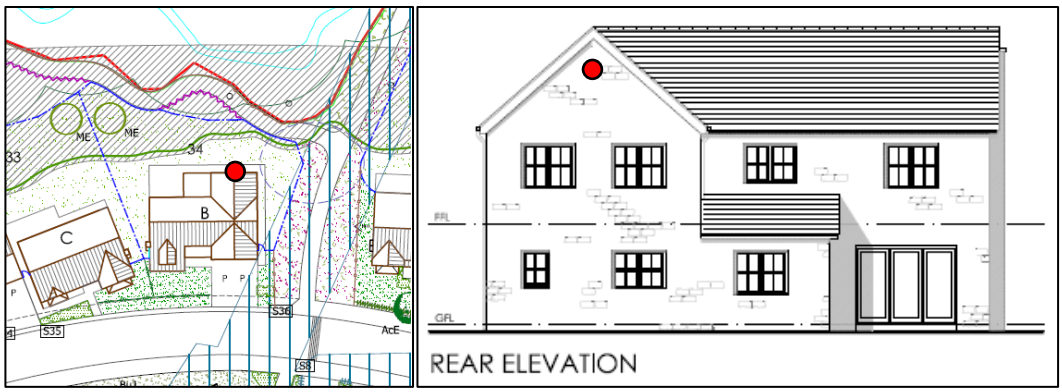
3.5.1. Plot 20: A bat brick will be mounted in the southern gable end of Plot 20.



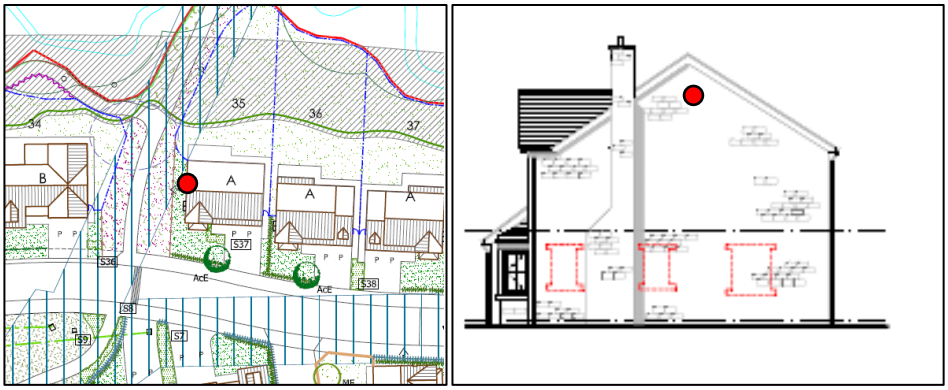
3.5.2. Plot 25: A bat brick will be mounted in the northwest gable end of Plot 25.



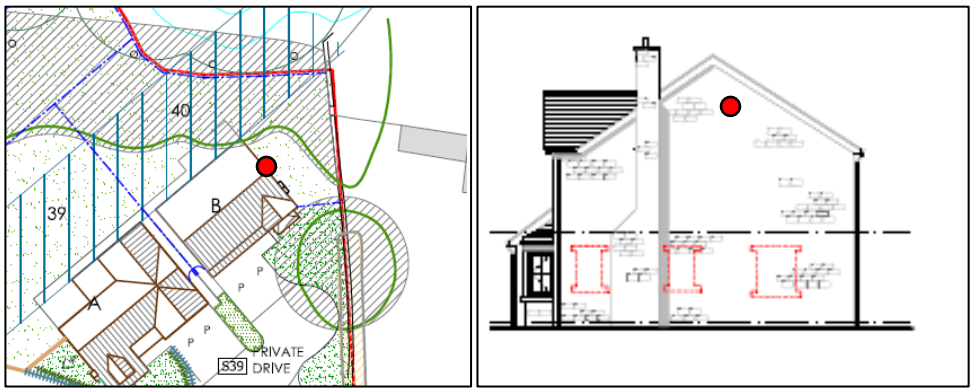
3.5.3. Plot 34: A bat brick will be mounted in the northern gable end of Plot 34.



3.5.4. Plot 35: A bat brick will be mounted in the western gable end of Plot 35.



3.5.5. Plot 40: A bat brick will be mounted in the northeast gable end of Plot 40.



3.6. The only permanent lighting erected during the development will be a series of Orangetek LED lighting poles erected along the public highways within the development. The location of the lighting poles will ensure that dark corridors are maintained along the tree lines to the north and west of the surveyed area ensuring no impact on roost, foraging or commuting bats in these areas.

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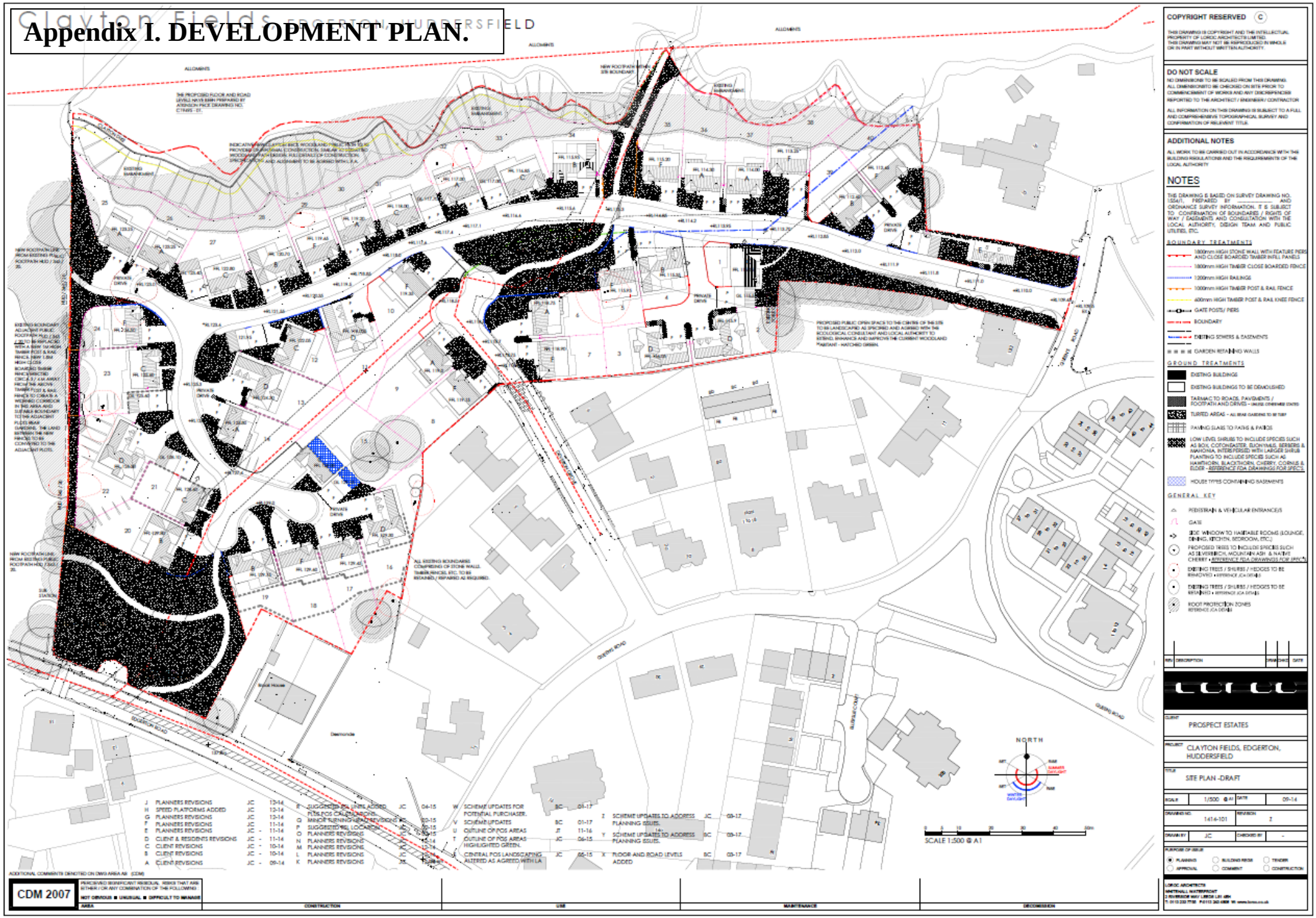
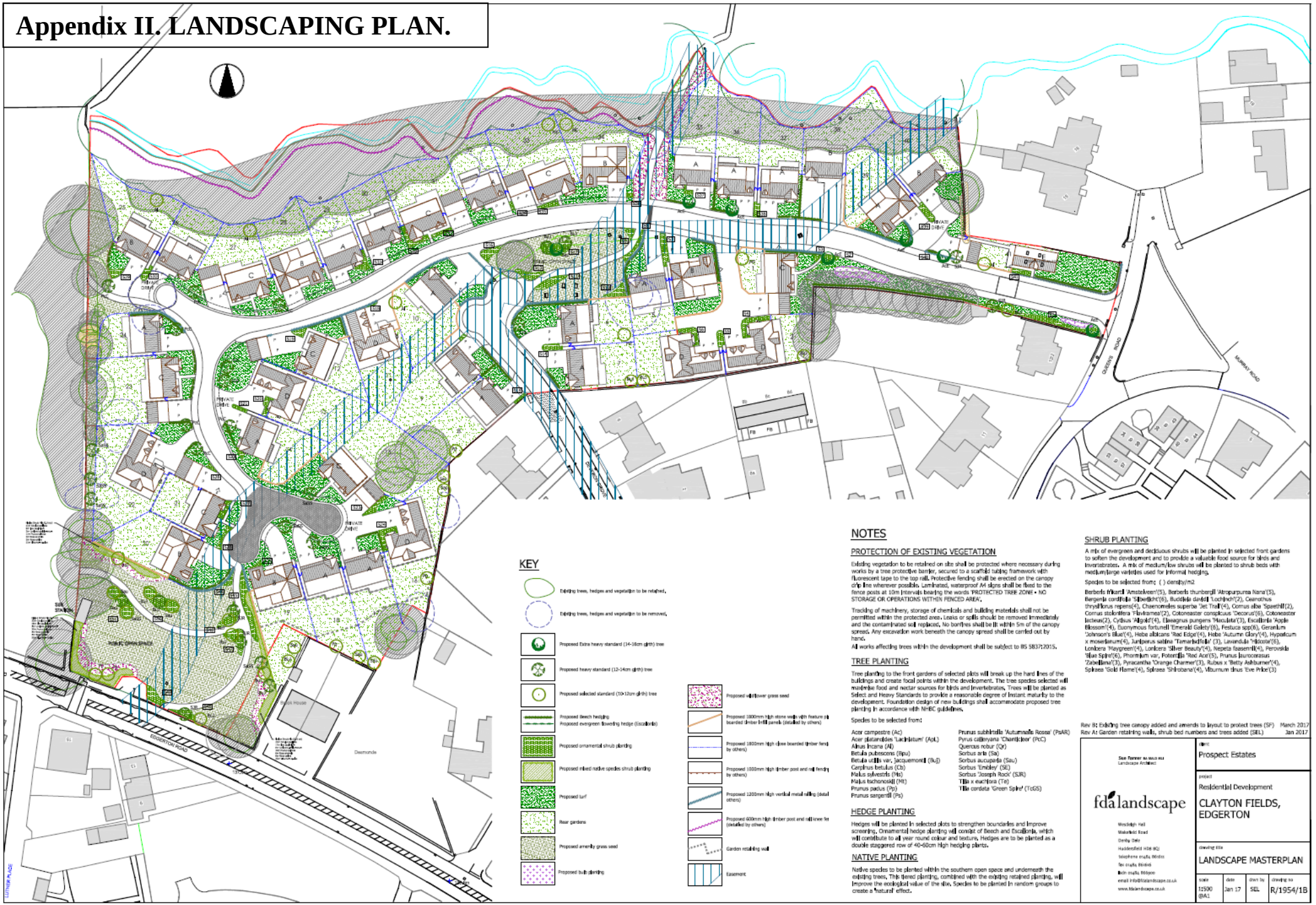
Prepared by:	
Steven Whitcher, MCIEEM.	Date: 25th January 2019.

Checked by:	
Jenny Whitcher Roebuck MCIEEM.	Date: 25th January 2019.

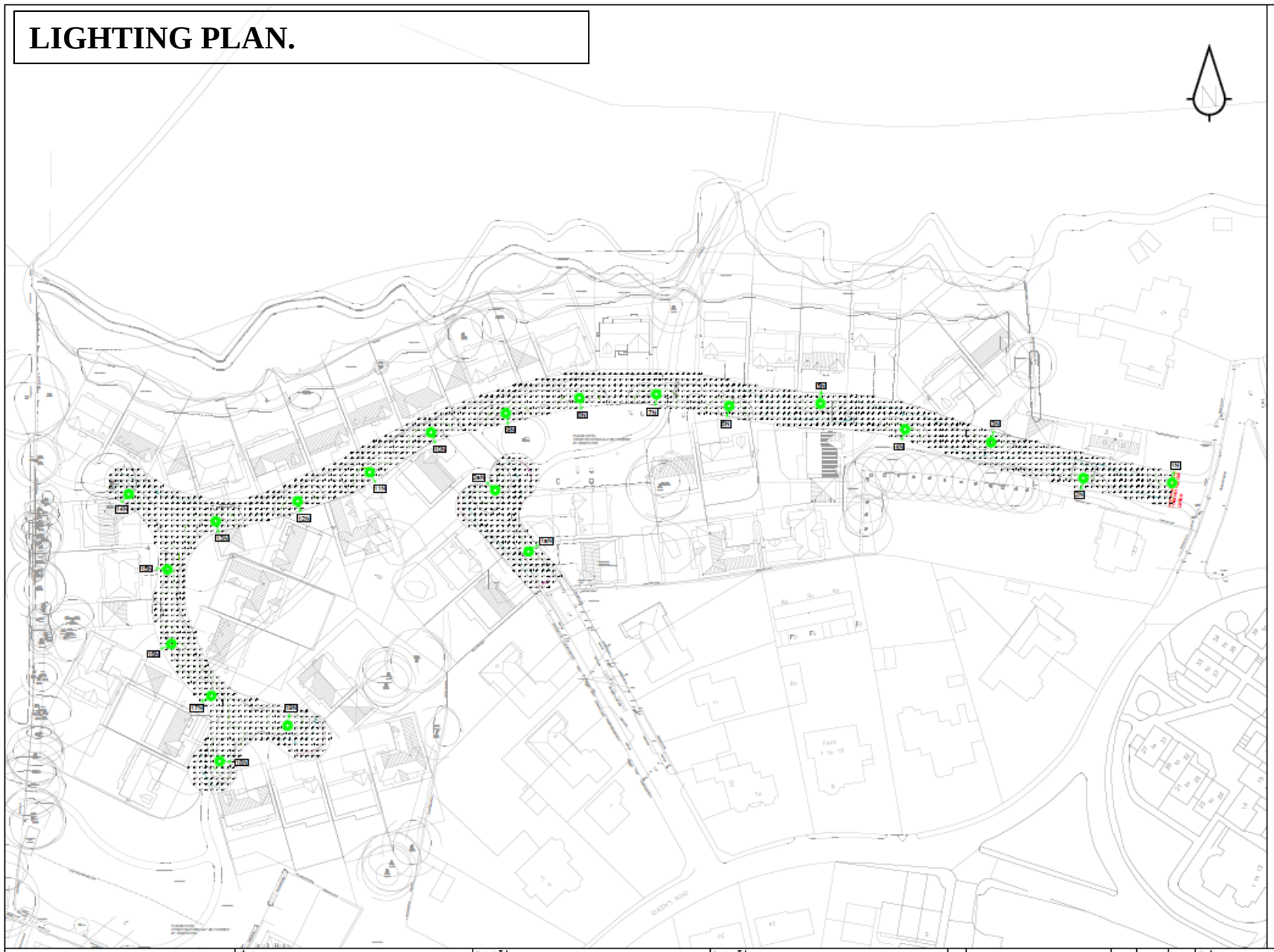
Appendix I. DEVELOPMENT PLAN.



Appendix II. LANDSCAPING PLAN.



LIGHTING PLAN.



- Sanderson Associates (Consulting Engineers) Ltd ("the consultant") has not checked or verified, and shall have no liability whatsoever for any inaccuracies which may be attributable to any data, reports, base plan(s) and drawings provided by the client, or purchased by the consultant on the client's behalf, that may have been utilised within this drawing.
- The consultant shall not be liable for the use by any person of any document for any purpose other than that for which the same were provided by the consultant.
- No liability whatsoever is accepted by the consultant for any error or omissions.
- The consultant accepts no liability for any vehicle specification errors within the vehicle track software used and / or the vehicle libraries.
- The locations of utilities apparatus, if shown, is reproduced from plans supplied to the consultant, although care has been taken when digitising this information. These locations are approximate only and no guarantee can be given for their accuracy. It is the client's or its appointed agent/contractors responsibility to verify the exact locations on site by hand dug trial holes or other appropriate means prior to mechanical excavation.
- Service connections are not shown but their presence should be anticipated.
- Reference to any third party equipment shown on this drawing was only relevant at the time the drawing was prepared.
- It is the client's responsibility to ensure that any equipment ordered meets the design.

Lighting Levels & Results

Overall Grid Results - Horizontal Illuminance (lux)
Eav= 5.66 Emin= 2.22
Emax= 10.06
Emin/Emax= 0.22
Emin/Eav= 0.40
Maintenance Factor = 0.79
Luminaire Data Luminaire A - A18C2T5PG12X0XX Lamp CREE XPG3 CRI70_4000K

Street Lighting Key

Proposed 6m tubular steel column with Spigot mounted Orangelec TERRALED I8 LED 4000K Lantern (A18C2T5PG12X0XX - Lamp CREE XPG3 CRI70_4000K). Mounted on 0.5m outreach, 5 degree uplift bracket arm.

Street Lighting Notes:

1. Clayton Fields has been designed to CEN Code Class P4 - BS5489-2013
2. All new lighting columns to be supplied by new unmetered service (direct connection to the local DNO electricity main).
3. All electrical installation work to be carried out in accordance with the requirements of HSA, NICEIC and BS 7671 (IEE Wiring Regulations). Electrical Installation Certificates to be forwarded to Kirklees Council's Street Lighting Department.
4. Continued use of any existing private cable network affected by the programmed works shall be subject to the results of a condition survey carried out at the construction phase. Failure to comply with the requirements of BS7671 will call for the cable to be replaced.
5. Hazard warning - Information pertaining to local underground gas and electricity services must be sought prior to commencement of works and excavation. The service owner may need to be consulted.
6. No trees to be planted in close proximity to proposed lighting columns.
7. The lighting information shown on this drawing shall be installed to the requirements of Kirklees Council. Any deviation from these standards must be agreed with their Street Lighting Engineer.
8. Lighting columns and/or illuminated sign columns shall be installed so that the door openings are aligned as per Kirklees Council standard details.
9. Where there is a single service only into any illuminated asset the arrangement for the termination of electrical services shall comply with Kirklees Council's standard details.
10. Column foundations shall be installed as per the requirements of Kirklees Council's standard details.
11. Numbering of electrical assets shall be in accordance with Kirklees Council standard details. Final numbering sequence to be agreed with Kirklees Council Street Lighting Engineer.
12. All columns are to be sited at the rear of the footway
13. This installation shall comply with the requirements of BS7671:2008 including subsequent amendments.
14. Illuminated signs and bollard positions are indicative and are to provide reference to the relevant electrical connection required only.

LIGHTING COLUMN REFERENCES / INFORMATION:

ELECTRICAL SERVICE CONNECTIONS

N - New single phase DNO LV electrical service
R - Disconnection of existing DNO LV electrical service
T - Transfer of existing DNO LV electrical service between new and redundant lighting column
P - Private cable network

RESIDUAL HAZARDS - STREET LIGHTING

THE DESIGNERS WOULD LIKE TO DRAW ATTENTION TO KEY RESIDUAL CONSTRUCTION HEALTH & SAFETY HAZARDS THAT MAY BE ELIMINATED FROM THE WORKS BY THE DESIGN PROCESS. THESE HAZARDS ARE IDENTIFIED BELOW, ON THE DRAWING.

MEANS OF RISK - APPROPRIATE METHODS OF WORKING TO BE USED TO REDUCTION OF RISK TO OPERATIVES APPROPRIATE TRAFFIC MANAGEMENT PLANT & PLANT TO ENSURE SAFE ACCESS TO AN OPERATIVE AT ALL TIMES. IF ACCESS AT TO BE REMOVED TO ALLOW FOR A SUITABLE ALTERNATIVE & TO BE PROVIDED

ANY REMAINING UNDERTAKING CONSTRUCTION RISKS ASSOCIATED WITH THE DETAILS SHOWN ON THIS DRAWING SHOULD BE FULLY ADDRESS BY THE PRINCIPLE CONTRACTOR AND SHOULD BE MADE AWARE AND HAVE SIGHT OF THE FOLLOWING DOCUMENTS:

- THE DEVELOPMENT CONSTRUCTION PHASE HEALTH & SAFETY PLAN
- THE CONTRACTORS CONSTRUCTION METHOD STATEMENTS
- ANY RELEVANT RISK PERMIT TO WORK ASSOCIATED WITH ANY ACTIVITY

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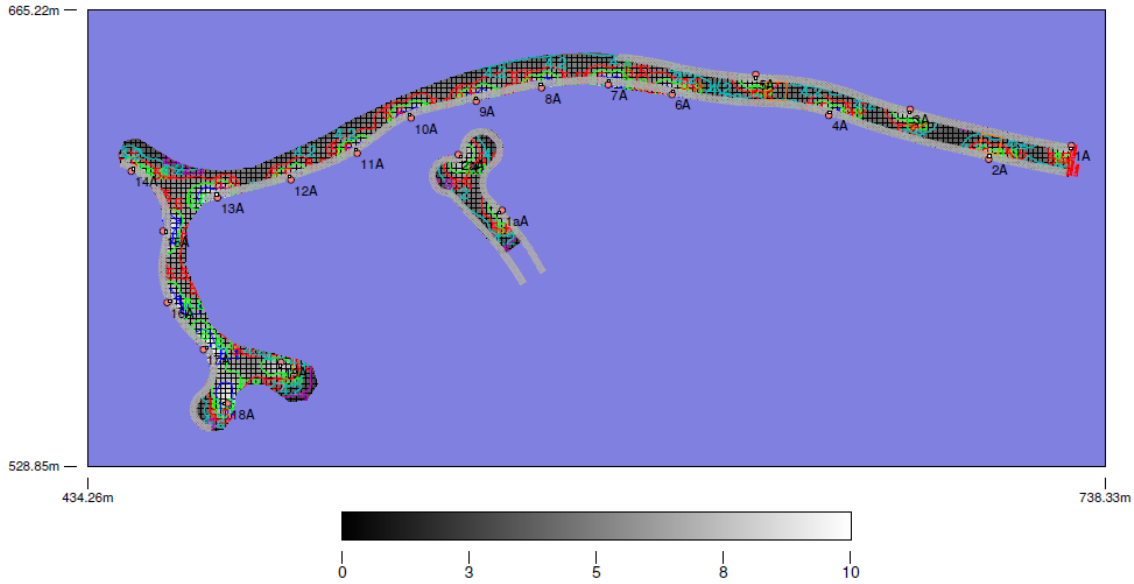
Client	Prospect Estates
Project Title	Residential Development Clayton Fields, Huddersfield
Drawing Title	Street Lighting Internal layout
Scale	1:500
Drawn By	NJB
Drawing Size	A1
Checked By	PJM
Date	24.01.19
Approved By	PJM
Drawing Number	10827-1300-101
Rev	-

PRELIMINARY DRAWING

Horizontal Illuminance (lux)

Grid 1



Results

Eav	5.60
Emin	2.22
Emax	10.08
Emin/Emax	0.22
Emin/Eav	0.40