Appendix 8C
Peak District (East) Visual Impact Provision: LiDAR Data Assessment

1.1 LiDAR data for the proposed project was processed in GIS to create a digital terrain model which was examined and compared against high resolution digital aerial photography to identify and transcribe any potential features of archaeological significance within the footprint of, or in proximity to, the proposed project. This has resulted in the identification of 29 surface features, each given a unique three digit identifier prefixed 'L'. The features are described in Table 8C.1 below and illustrated in Drawings 8C.1 to 8C.9.

1.2 Seven discrete areas of ridge and furrow ploughing were identified, concentrated towards the eastern end of the proposed project. In all cases the ridge and furrow survived as shallow upstanding earthworks only, oriented in the direction of the valley slope, and clearly correlating with the later enclosed field boundaries (see below). Notably, areas L021 and L022 span the Trans-Pennine Trail and have been bistected following the construction of the Manchester, Sheffield and Ashton-under Lyne Railway in the 19th century. The Thurlstone Enclosure Map records this as fields 948 and 949, known as 'Old Carlecotes'.

1.3 The largest surviving area of ridge and furrow was located on the eastern flank of Castle Hill, south of Carlecotes (L019). Although the earthworks did not extend to the west of the hill, two pronounced lynchets (L023 and L024) indicate that the ploughing did extend the full width of the hill, with a third lynchet having served to define a later field boundary (L014).

1.4 Thirteen relict field boundaries have been identified, seven of which pre-date the available historic mapping for the study area (earliest viewed map published in 1813). Although not all fields contained ridge and furrow, the elongated and parallel form of the fields is clearly indicative of later enclosure of open strip fields. In turn the field names extracted from the 1813 enclosure map provide an indication that the open fields had been cleared of woodland, with 'Royd', 'Take', 'Intake' and 'Hag' names.

1.5 On the southern flank of Castle Hill five oval features have been recorded (L025-L029). These range in size from 6-10m diameter. Their origin and date is uncertain. They may relate to animal feeding troughs, and their presence within a zone of later medieval or early post medieval ridge and furrow ploughing would suggest a later date of formation. However since these are located on favourable higher ground above an escarpment which drops to the floodplain of the River Don, an earlier prehistoric date could be postulated.

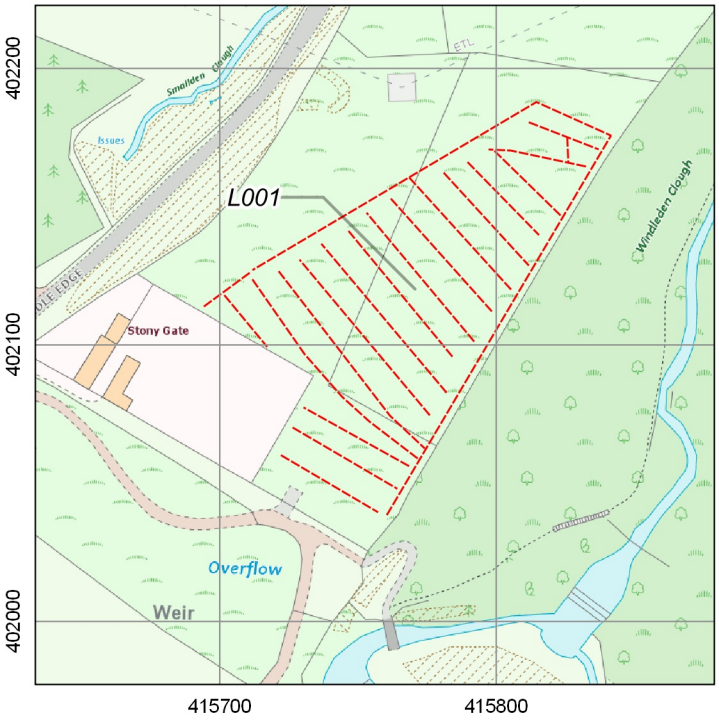
1.6 Finally two earthwork features have been recorded which correlate with known landscape features recorded elsewhere. These comprise the linear low banks recorded adjacent to Stony Gate (L001) and the extensive Woodhead Tunnel spoil tips on the north bank of the River Don (L006).

1.7 All of the LiDAR features recorded have been entered into the assessment Gazetteer and are included in the baseline section of the environmental report.

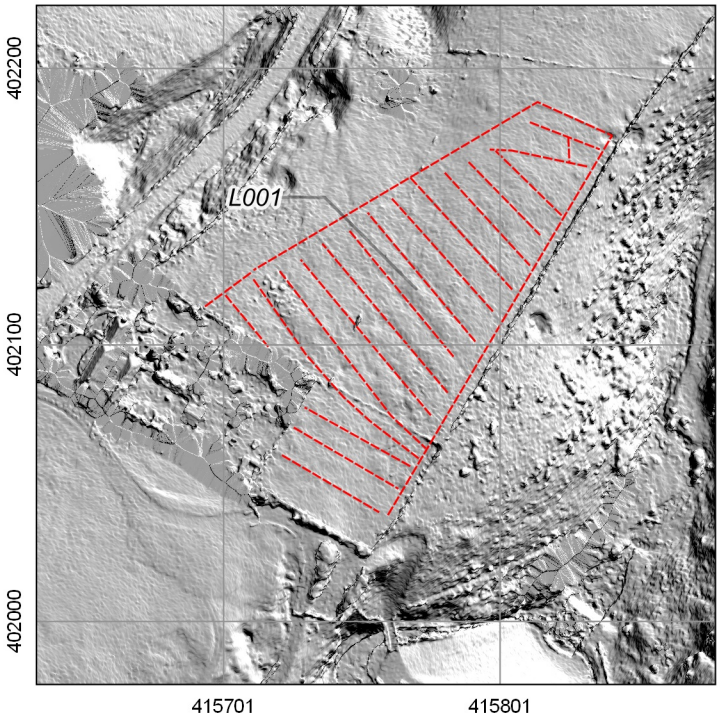
Table 8C.1: Summary of transcribed LiDAR features

LiDAR ID	Equivalent RSK ID	Name	Description	Period	Easting	Northing
L001	RSK 024	Stony Gate Earthworks	Rectilinear network of low earthworks above Windleden Clough and Smallden Clough. Stone-built with numerous smaller earthworks.	Unknown	415739	402148
L002	RSK 043	Relict Field Boundary	north west to south east aligned possible relict field boundary. Not marked on historic maps	Post Medieval	416184	402558
L003	RSK 044	Relict Field Boundary	north west to south east aligned possible relict field boundary. Not marked on historic maps	Post Medieval	416196	402595
L004	RSK 045	Relict Field Boundary	north east to south west aligned possible relict field boundary. Not marked on historic maps	Post Medieval	416313	402668
L005	RSK 046	Relict Field Boundary	north west to south east aligned possible relict field boundary. Not marked on historic maps	Post Medieval	416546	402628
L006	RSK 020	Spoil Tips	Extensive spreads of spoil derived from excavation of Woodhead Tunnel	19th Century	416685	402548
L007	RSK 047	Relict Field Boundary	north east to south west aligned relict field boundary. Boundary is marked on historic maps	Post Medieval	416955	402865
L008	RSK 048	Relict Field Boundary	north to south aligned relict field boundary, marked on historic maps	Post Medieval	417097	402693
L009	RSK 049	Relict Field Boundary	north east to south west aligned relict field boundary. Boundary is marked on historic maps	Post Medieval	417389	402936
L010	RSK 050	Relict Field Boundary	north west to south east aligned possible relict field boundary. Not marked on historic maps	Post Medieval	417419	402874
L011	RSK 051	Relict Field Boundary	east to west aligned possible relict field boundary. Not marked on historic maps	Post Medieval	417477	402789
L012	RSK 052	Relict Field Boundary	north to south aligned possible relict field boundary. Not marked on historic maps	Post Medieval	417588	402761
L013	RSK 053	Relict Field Boundary	north to south aligned relict field boundary, marked on historic maps	Post Medieval	417741	402815
L014	RSK 054	Relict Field Boundary	north to south aligned relict field boundary, marked on historic maps	Post Medieval	417854	402857
L015	RSK 055	Relict Field Boundary	north to south aligned relict field boundary, marked on historic maps	Post Medieval	418082	402985
L016	RSK 056	Ridge and Furrow	north to south aligned ridge and furrow	Post Medieval	417403	402763

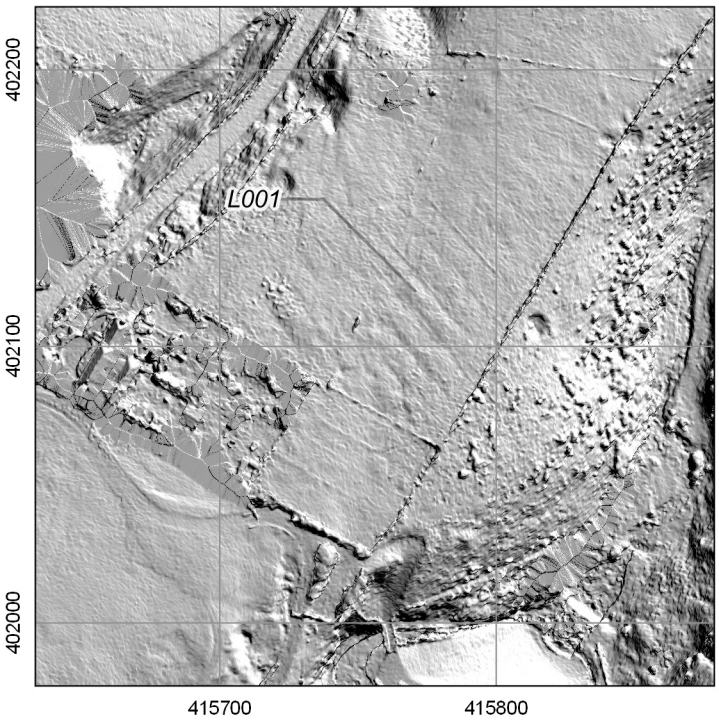
LiDAR ID	Equivalent RSK ID	Name	Description	Period	Easting	Northing
L017	RSK 057	Ridge and Furrow	north to south aligned ridge and furrow- wide spacing suggest this is possibly a series of former enclosed strip fields, but too poorly defined to establish this, and not marked on historic maps	Post Medieval	417489	402747
L018	RSK 058	Ridge and Furrow	north west to south east aligned ridge and furrow	Post Medieval	417543	402895
L019	RSK 059	Ridge and Furrow	north west to south east aligned ridge and furrow, east of Castle Hill	Post Medieval	417989	402897
L020	RSK 060	Ridge and Furrow	north west to south east aligned ridge and furrow	Post Medieval	418110	402986
L021, L022	RSK 061	Ridge and Furrow	Sinuous ridge and furrow east of Wogden Foot, spanning (and bisected by) the Trans-Pennine Trail	Post Medieval	418460	402664
L023	RSK 062	Lynchet	Lynchet on western flank of Castle Hill parallel with ridge and furrow to east and relict field boundary to west	Post Medieval	417861	402892
L024	RSK 063	Lynchet	Lynchet on western flank of Castle Hill parallel with ridge and furrow to east and relict field boundary to west	Post Medieval	417881	402875
L025	RSK 064	Oval feature	One of a series of 5 oval features on the southern slope of Castle Hill. Uncertain origin. 6m diameter.	Unknown	417903	402833
L026	RSK 065	Oval feature	One of a series of 5 oval features on the southern slope of Castle Hill. Uncertain origin. 10m diameter.	Unknown	417947	402815
L027	RSK 066	Oval feature	One of a series of 5 oval features on the southern slope of Castle Hill. Uncertain origin. 7m diameter.	Unknown	417981	402845
L028	RSK 067	Oval feature	One of a series of 5 oval features on the southern slope of Castle Hill. Uncertain origin. 6m diameter.	Unknown	417977	402908
L029	RSK 068	Oval feature	One of a series of 5 oval features on the southern slope of Castle Hill. Uncertain origin. 6m diameter.	Unknown	418024	402884



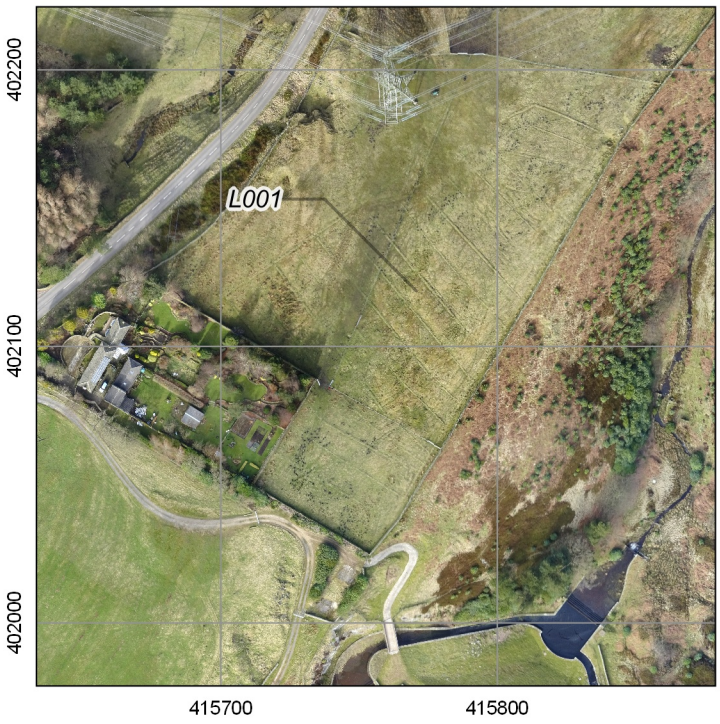
a) OS Base Map



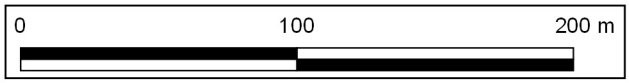
b) LiDAR terrain model with transcribed anomaly



c) LiDAR terrain model



d) Aerial imagery





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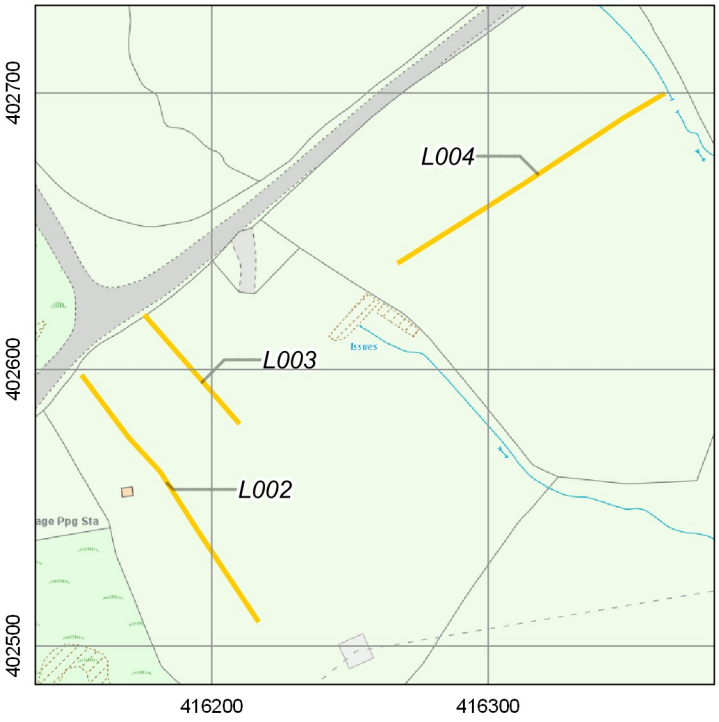
Legend

----- Low Bank

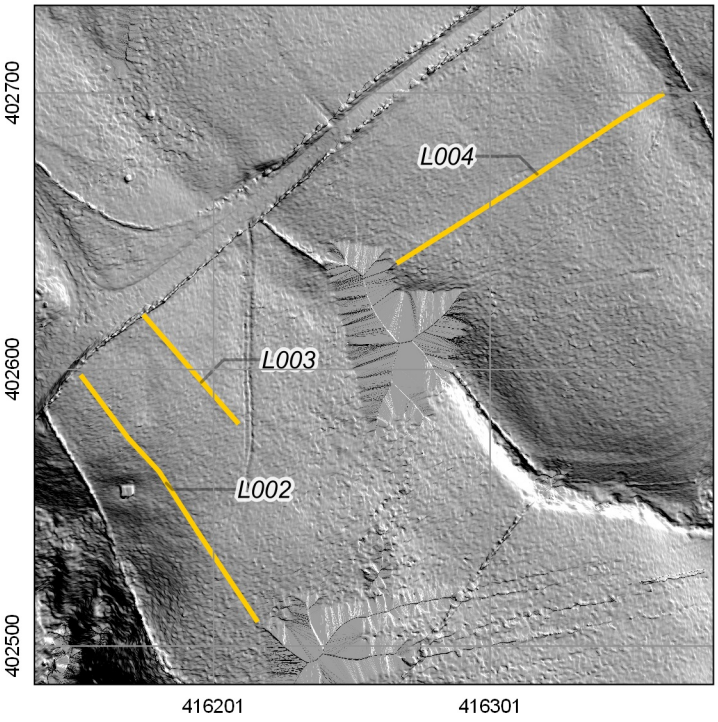
Visual Impact Provision
Peak District (East)

Title:
Drawing 8C.1: LiDAR Feature L001

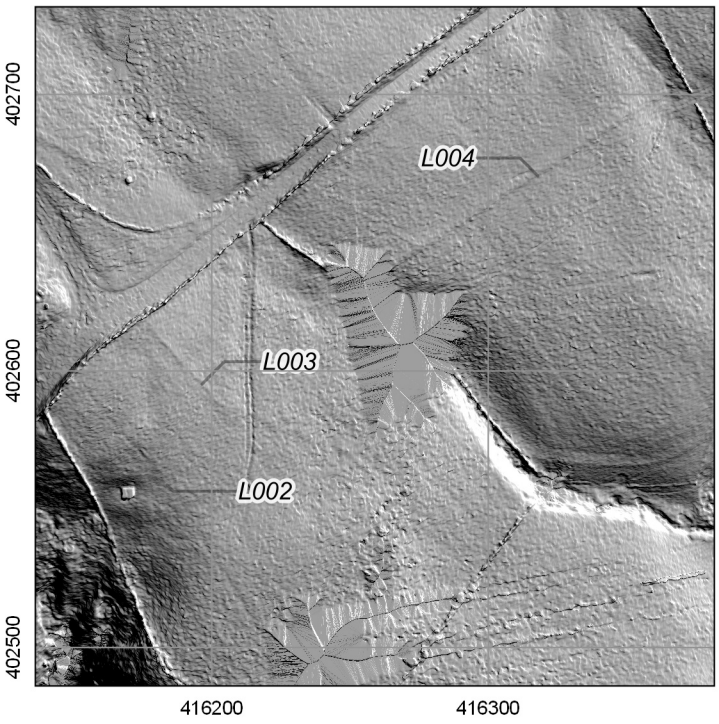
RSK



a) OS Base Map



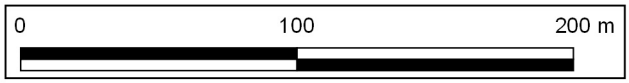
b) LiDAR terrain model with transcribed anomaly



c) LiDAR terrain model



d) Aerial imagery





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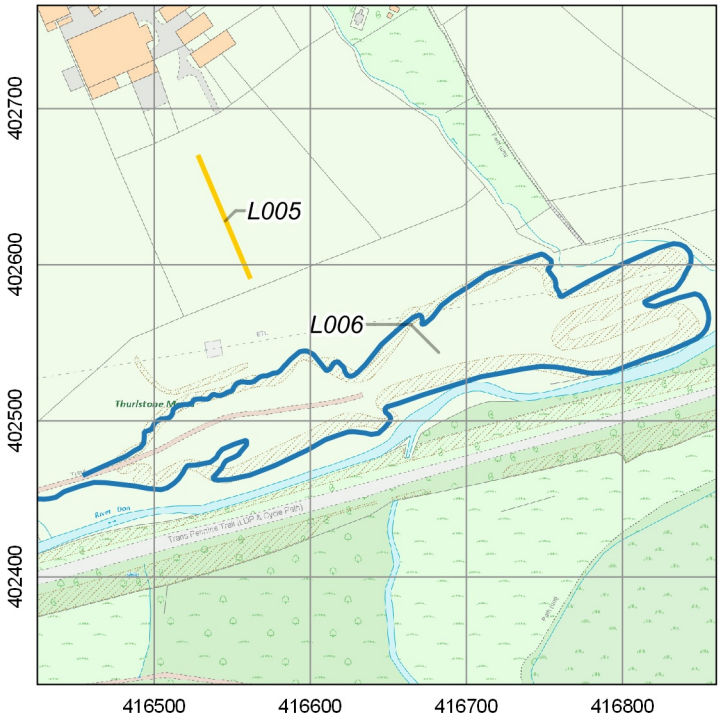
Legend

Relict Field Boundary

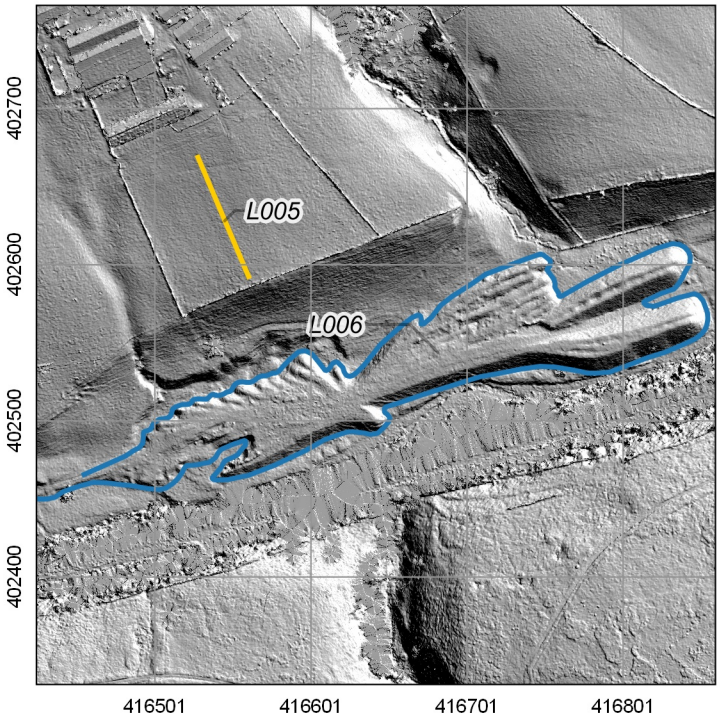
Visual Impact Provision
Peak District (East)

Title:
Drawing 8C.2: LiDAR Features L002-L004

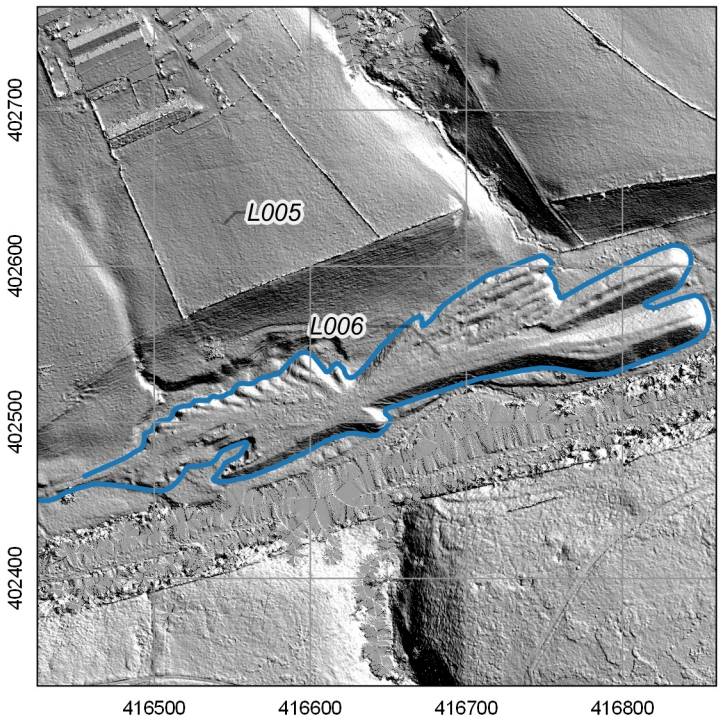
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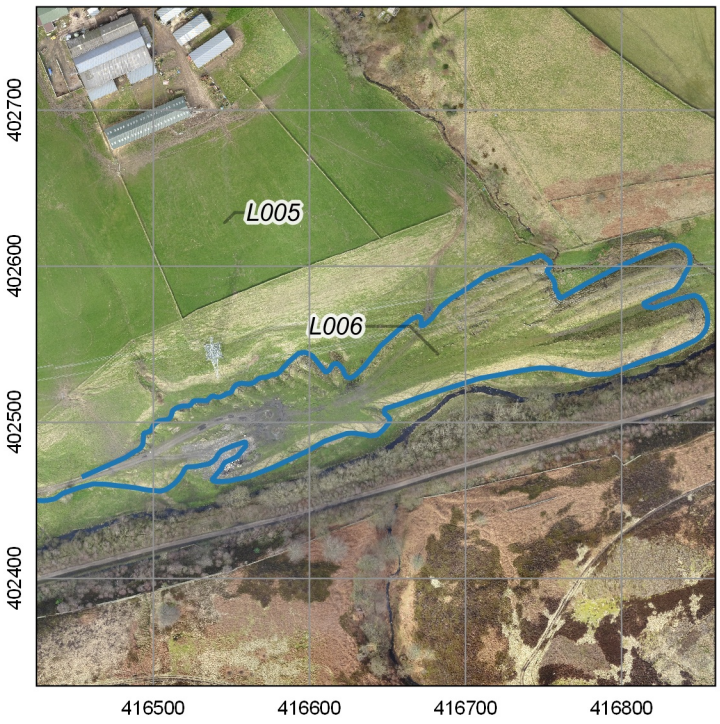
a) OS Base Map



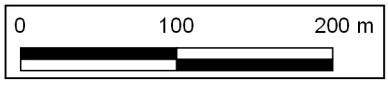
b) LiDAR terrain model with transcribed anomaly



c) LiDAR terrain model



d) Aerial imagery





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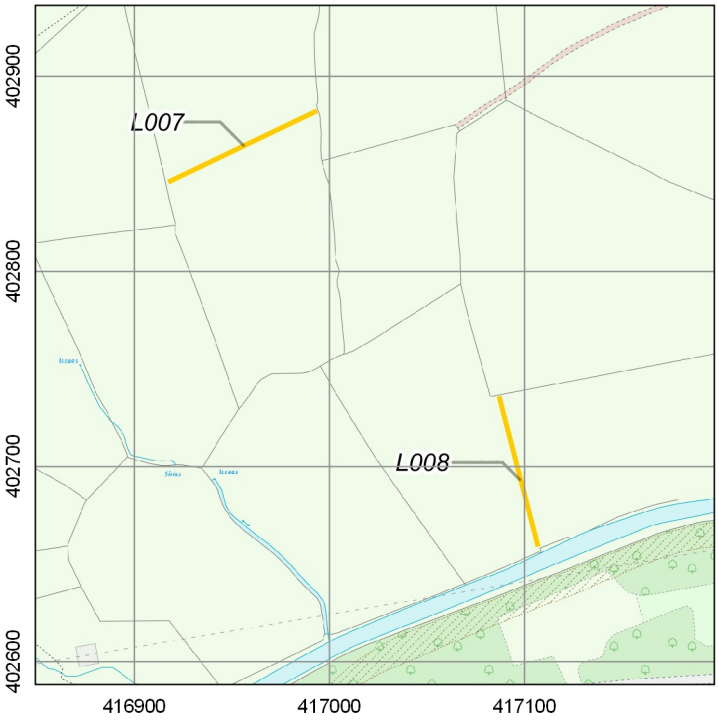
Legend

- Relict Field Boundary
- Earthworks- Upstanding

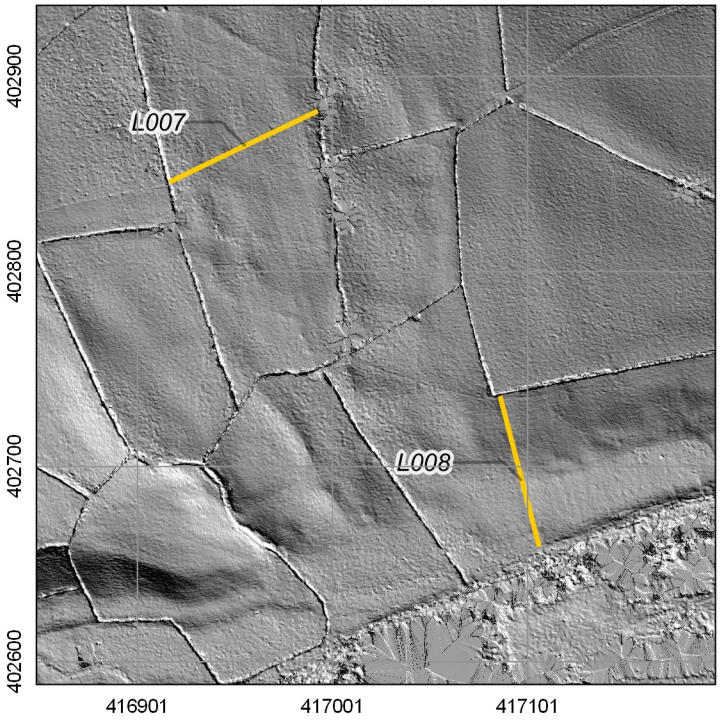
Visual Impact Provision
Peak District (East)

Title:
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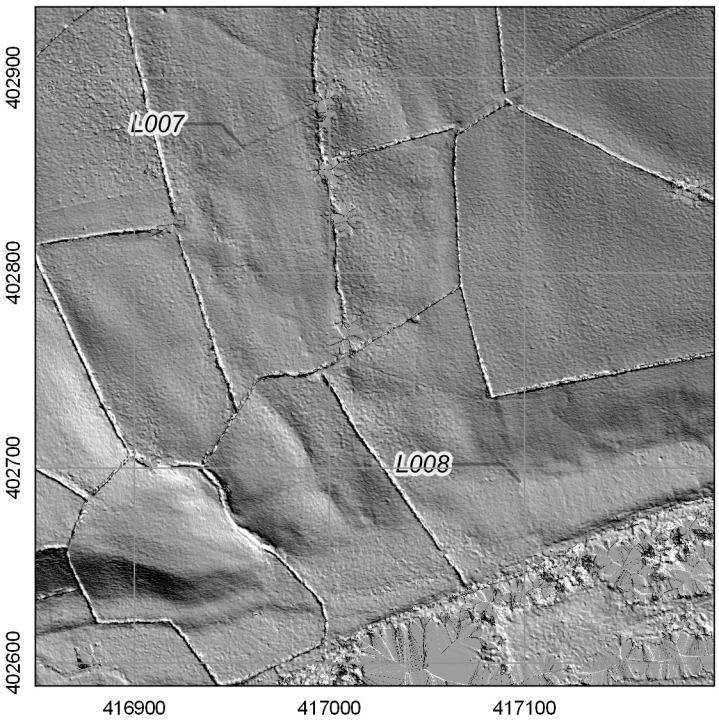
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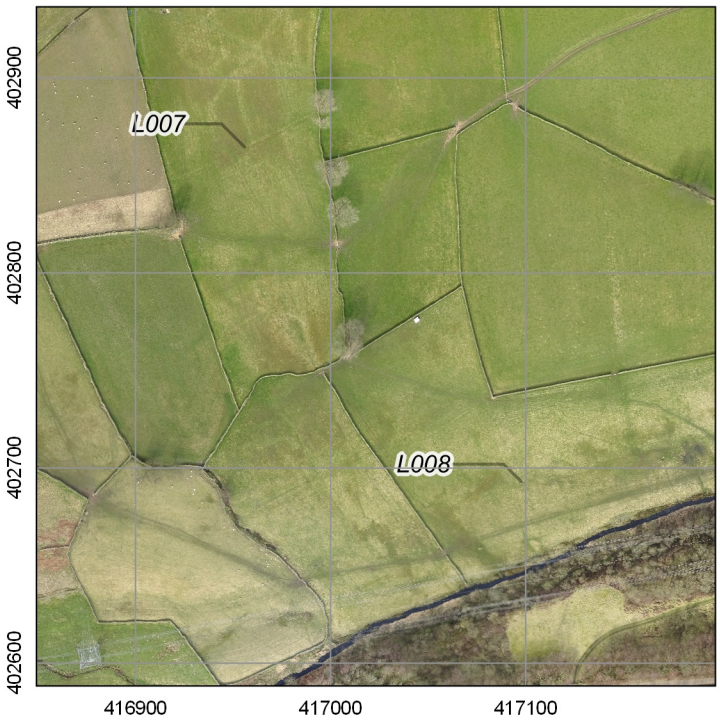
a) OS Base Map



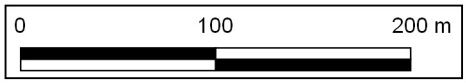
b) LiDAR terrain model with transcribed anomaly



c) LiDAR terrain model



d) Aerial imagery





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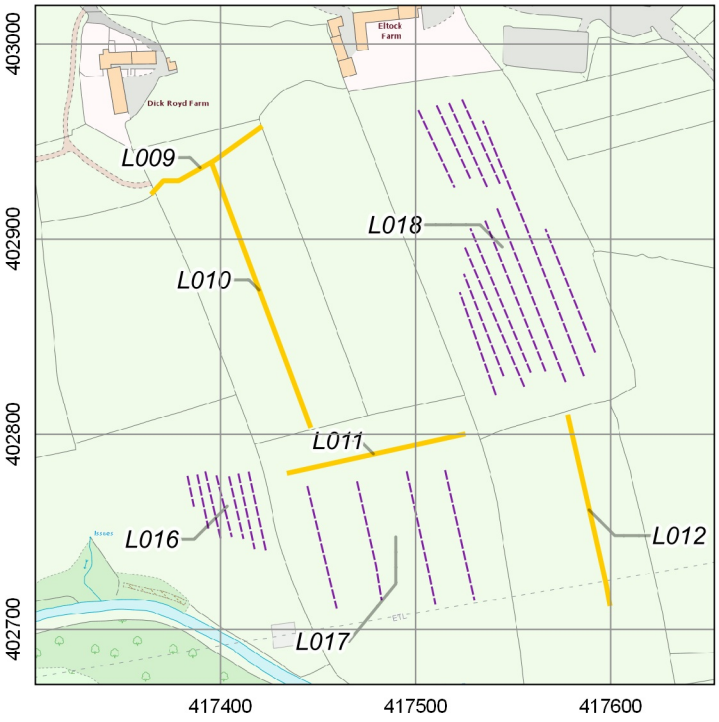
Legend

Relict Field Boundary

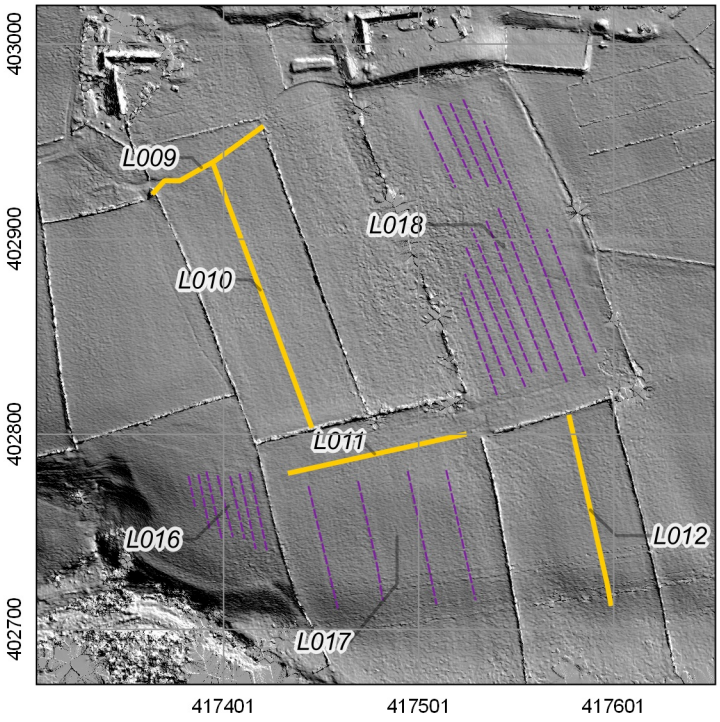
Visual Impact Provision
Peak District (East)

Title:
Drawing 8C.4: LiDAR Features L007-L008

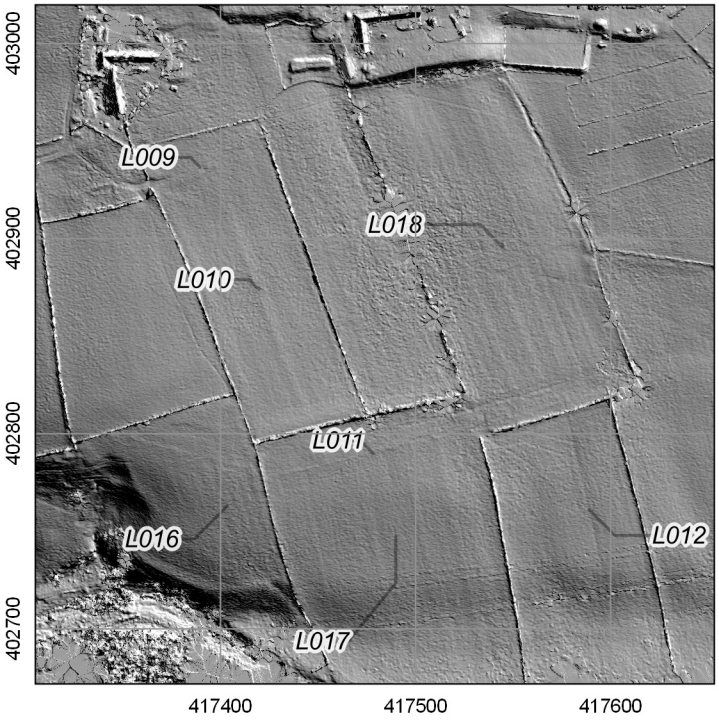
RSK



a) OS Base Map



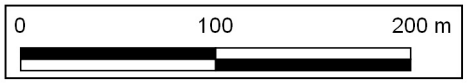
b) LiDAR terrain model with transcribed anomaly



c) LiDAR terrain model



d) Aerial imagery





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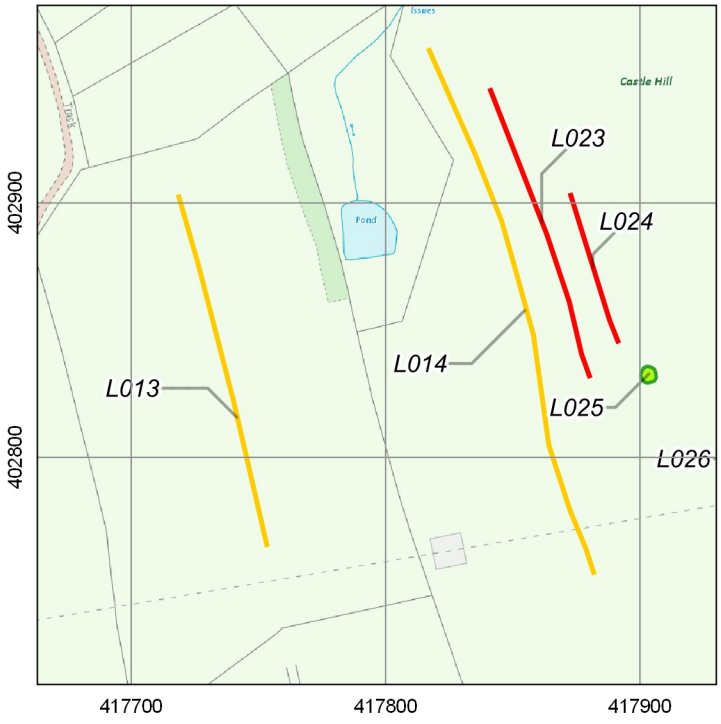
Legend

- Relict Field Boundary
- Ridge and Furrow

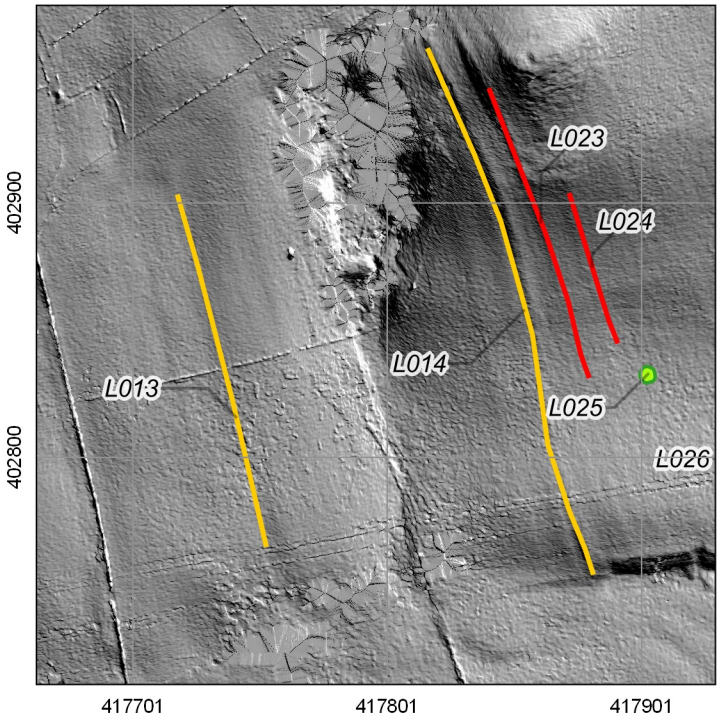
Visual Impact Provision
Peak District (East)

Title:
Drawing 8C.5: LiDAR Features L009-L012 and L016-L018

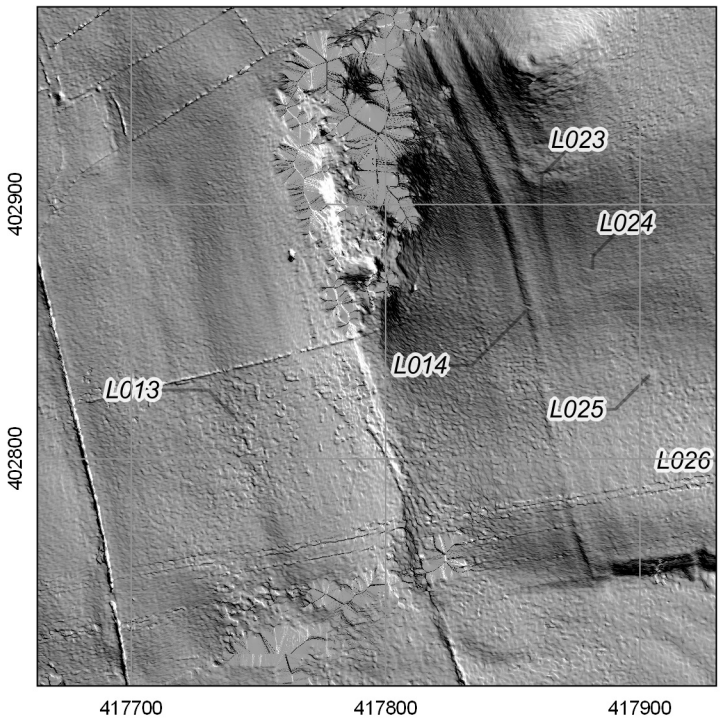
RSK



a) OS Base Map



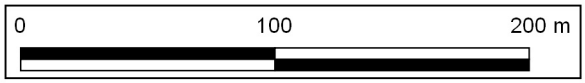
b) LiDAR terrain model with transcribed anomaly



c) LiDAR terrain model



d) Aerial imagery





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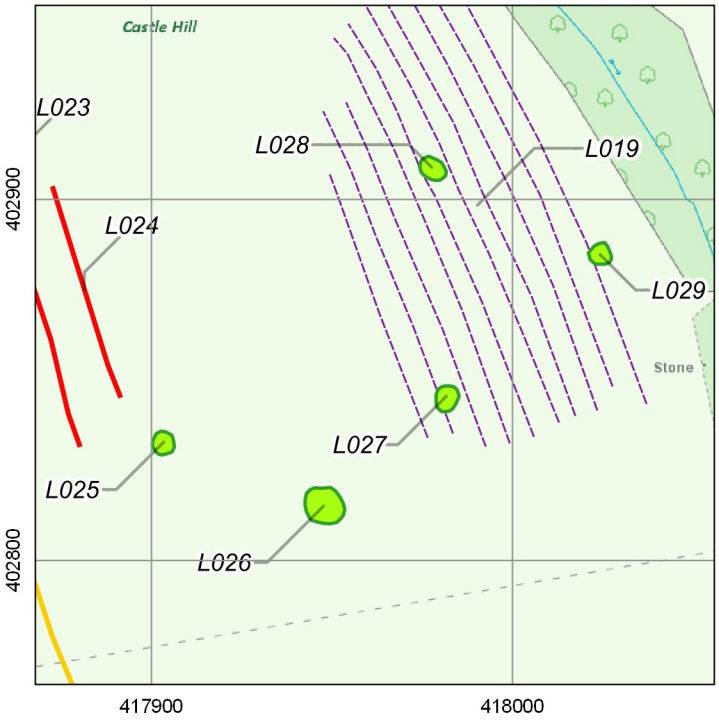
Legend

- Relict Field Boundary
- Lynchet
- Polygonal Feature

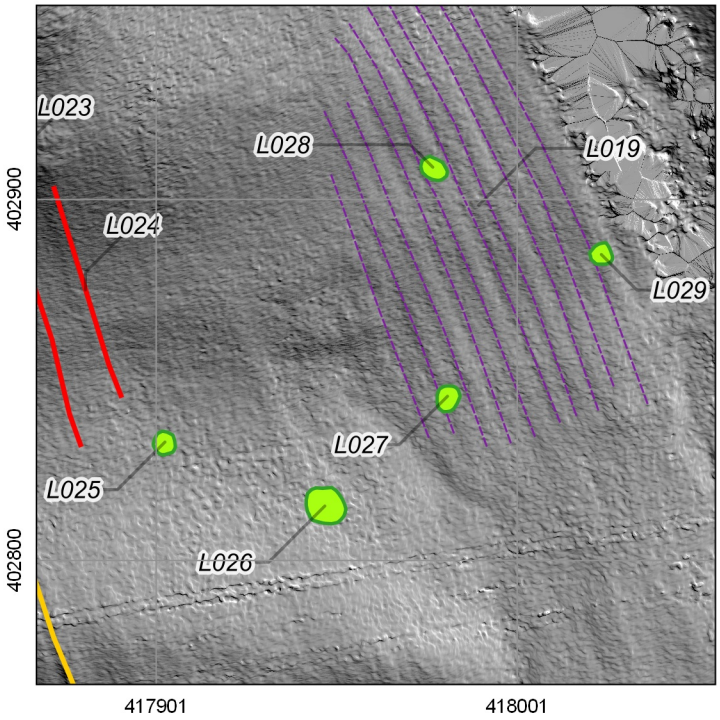
Visual Impact Provision
Peak District (East)

Title:
Drawing 8C.6: LiDAR Features L013-L014 and L023-L025

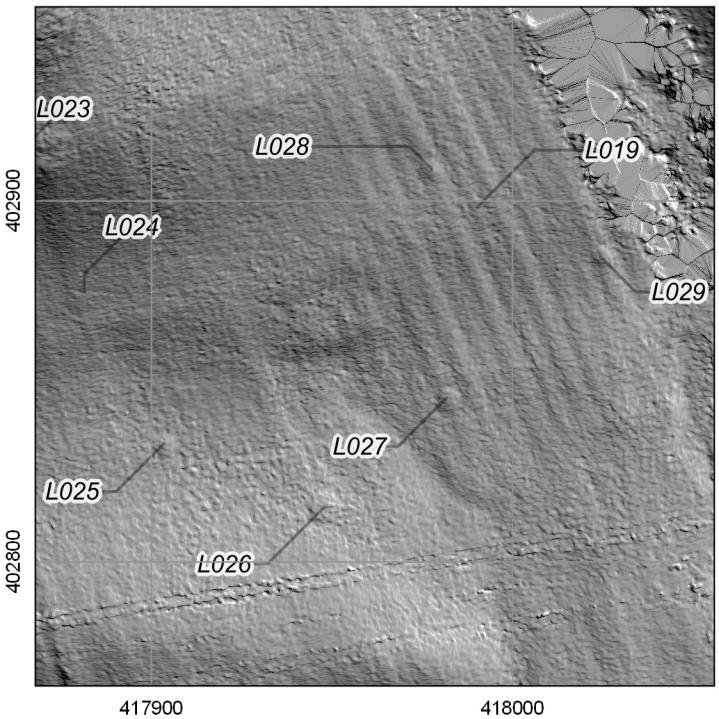
RSK



a) OS Base Map



b) LiDAR terrain model with transcribed anomaly



c) LiDAR terrain model



d) Aerial imagery





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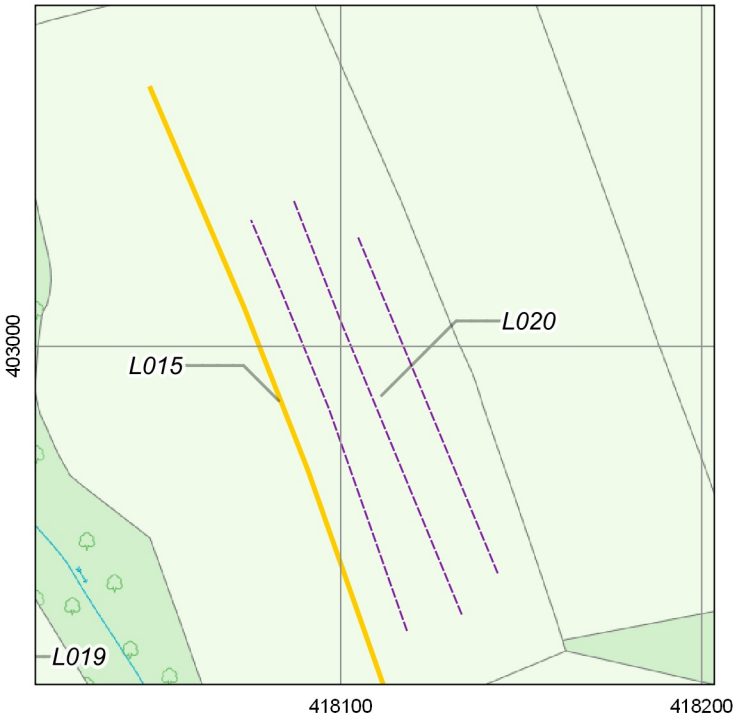
Legend

- Relict Field Boundary
- Lynchet
- Polygonal Feature

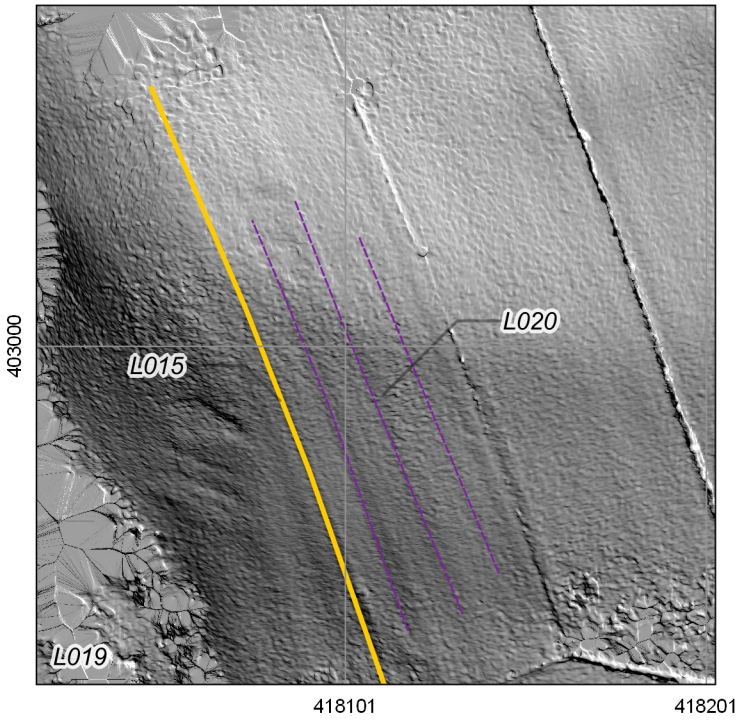
Visual Impact Provision
Peak District (East)

Title:
Drawing 8C.7: LiDAR Features L019 and L025-L029

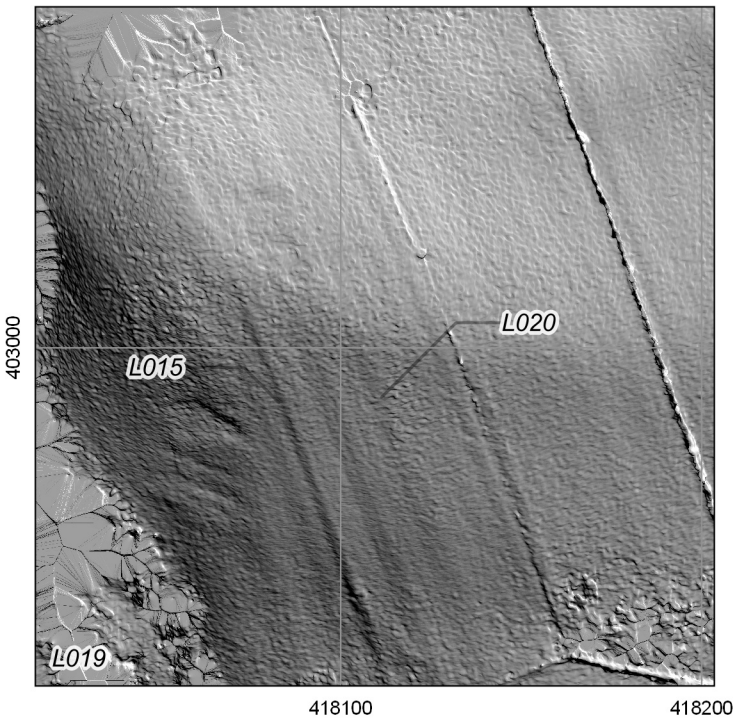
RSK



a) OS Base Map



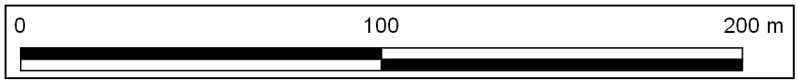
b) LiDAR terrain model with transcribed anomaly



c) LiDAR terrain model



d) Aerial imagery





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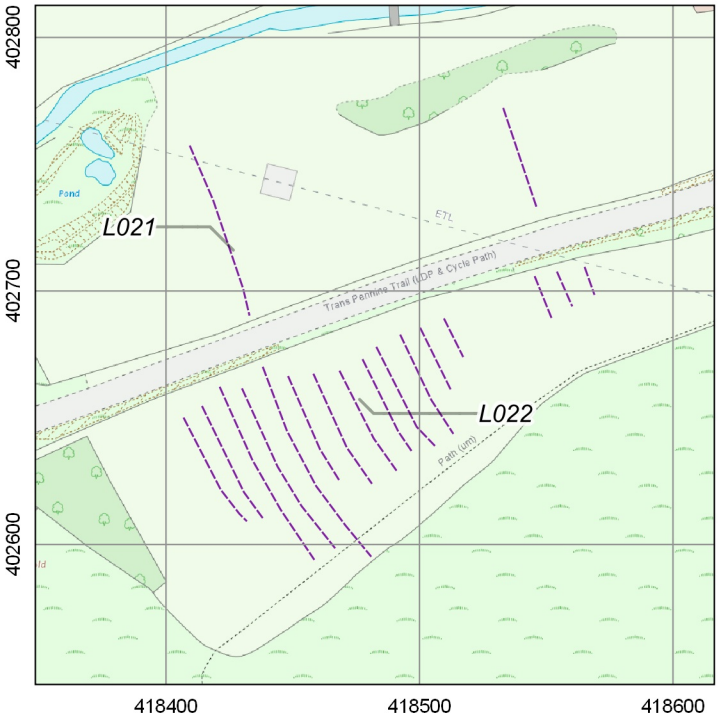
Legend

- Relict Field Boundary
- Ridge and Furrow

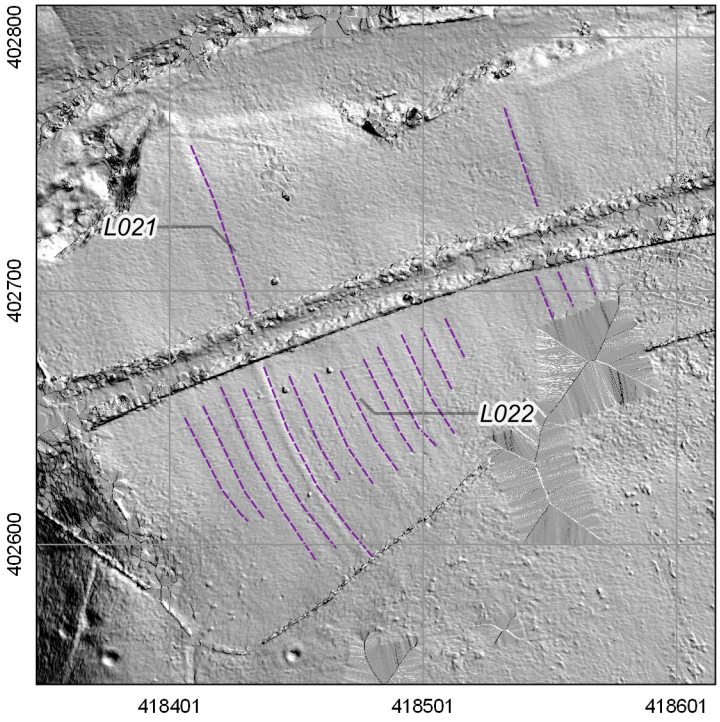
Visual Impact Provision
Peak District (East)

Title:
Drawing 8C.8: LiDAR Features L015 and L020

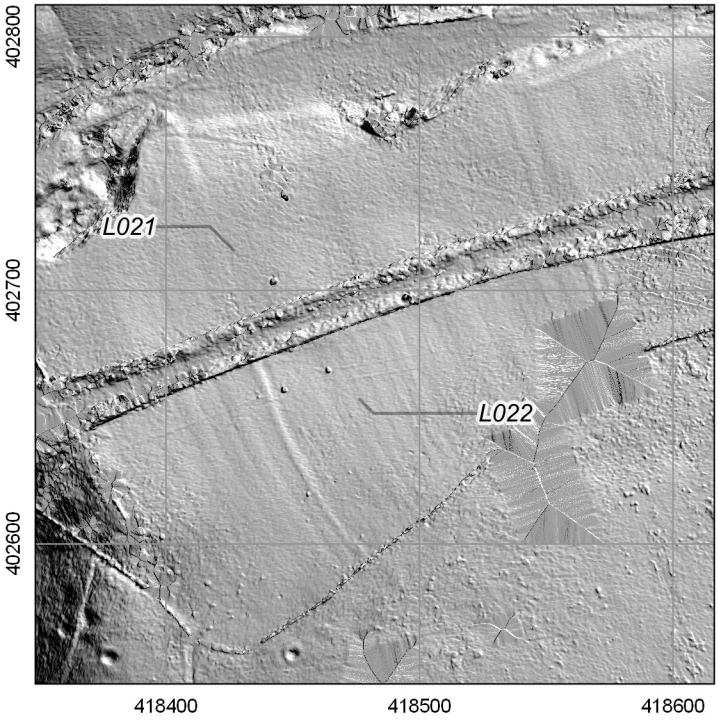
RSK



a) OS Base Map



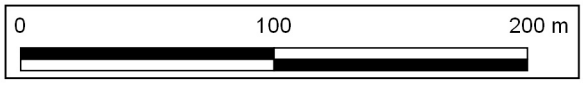
b) LiDAR terrain model with transcribed anomaly



c) LiDAR terrain model



d) Aerial imagery





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Legend

----- Ridge and Furrow

Visual Impact Provision
Peak District (East)

Title:
Drawing 8C.9: LiDAR Features L021 and L022

RSK