



REVISED

Didcot Garden Town HIF 1 Scheme

Environmental Statement

Volume III

Appendix 10.4: Noise Modelling

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1. Noise Modelling

1.1 Data Used

- OS Mastermap: provided by AECOM GIS Team 17/01/2020.
- OS Address Base Plus: provided by AECOM GIS 06/07/2020.
- OS Building Height Attribute (BHA) dataset: provided by AECOM GIS Team 17/01/2020.
- Existing areas of soft and hard ground: based on OS Mastermap Topographic layer 17/01/2020. Areas of less than 10 m² or 1 m width removed.
- Existing topographic data in the vicinity of the scheme: data provided by AECOM Highways Team as 3D Digital Terrain model (DTM) triangles 11/10/2020, 11/11/2020 and 02/12/2020.
- Existing topographic data in the wider area: Defra Lidar data downloaded 13/01/2021 combined with small area (remote from the scheme) missing from the Defra dataset by OCC 13/01/2020.
- 3D Scheme design: data provided by AECOM Highways Team as 3d DTM triangles 19/02/2021, 5/03/2021 and 16/03/2021.
- 2D Scheme design used to digitize scheme roads: data provided by AECOM Highways Team as CAD files 18/02/2021 and 19/02/2021.
- Road surfacing existing: HAPMS database of locations of thin surfacing on the A34 provided by Highways England 14/11/2019 and OCC 7/11/2020 and 12/11/2020.
- Road surfacing proposed: locations of proposed thin surfacing on scheme agreed with OCC 18/5/2021.
- Round 3 Noise Important Areas: downloaded from data.gov.uk website 8/7/2019.
- Operational traffic data provided by Systra 10/09/2020 and 28/09/2020. **Update to access road south/east of the Premier Inn provided by OCC 2/2/22.**
- Construction Information provided by Grahams:
 - Plant/Activity Spreadsheets and location plans 21/04/2021, 04/05/2021 and 17/05/2021.
 - Haul road movements 25/05/2021.
 - construction traffic data provided 26/05/2021, distribution onto local roads provided by AECOM Traffic Team 18/06/2021.

1.2 Modelling Assumptions

- Ground absorption: 1.0 for soft ground (vegetated), 0.0 for hard ground including water and road surfaces.
- Building heights for residential buildings generally standardized to 4.0 m: 1 storey 6.5 m: 2 storey, 9.0 m: 3 storey etc. based on initial information from OS Mastermap BHA. Non-residential buildings used height direct from OS Mastermap. Some adjustments required to estimate missing heights or obvious inaccuracies.
- Road surfacing corrections:

- Standard Hot Rolled Asphalt (HRA), Dense Bitumen Macadam, Close Graded Macadam and Surface Dressing:
 - speed <75 km/hr: -1.0 dB,
 - speed ≥75 km/hr: -0.5 dB;
- Thin surfacing/Stone Mastic Asphalt (SMA) (low noise surfacing) in assessment reported in ES chapter 10:
 - speed <75 km/hr: -1.0 dB,
 - speed ≥75 km/hr: -3.5 dB;
- Sensitivity Test of adopting Thin Surfacing on selected sections of the Scheme as reported in Appendix 10.6 used methodology set out in the 2018 IOA paper 'Road Surface Corrections for Use with CRTN. Maximum assumed benefit -3.5 dB.
- 10 m x 10 m grid used to produce noise change contour plots at height of 4.0 m above ground.

