



**DUST & EMISSION MANAGEMENT PLAN  
(DEMP)**

**LEEN VALLEY GOLF CLUB**

**WIGWAM LANE, HUCKNALL  
NOTTINGHAM NG15 7TA**

**193082/DEMP**

**VERSION NUMBER 1**

**APRIL 2020**

## Issue and Revision Record

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## **1. Introduction**

### **1.1 Purpose**

The purpose of this Dust and Emissions Management Plan is to support the application for a Waste Recovery Permit and, should planning permission and a permit be obtained, provide procedural guidance during the construction phase of the redevelopment.

Dust and emissions management forms part of Contour Golf Ltd's suite of management plans, methodologies and risk assessments. Plans, methodologies and risk assessments are reviewed at the planning stages of every project and updated in response to best practice updates. This particular Plan will be reviewed every 6 months, in response to a complaint and following changes to best practice.

A copy of the Dust and Emissions Management Plan will be kept in the site office for personnel to access at all times and it is also available electronically. Personnel will be inducted to site and given a copy of this Plan to read before starting work on site. Any personnel new to site during works will be inducted and given a copy of this Plan to read before starting work on site.

It is expected that this Plan will be referred to in the event of any complaints relating to dust and appropriate action will be taken immediately. Details of any complaint and actions taken will be recorded on site and kept on record.

### **1.2 Project details**

Leen Valley Golf Club is located is at National Grid Reference SK 54383 49131 and sits on the eastern side of Wigwam Lane in Hucknall, approximately 9 km north-west of Nottingham. The wind typically comes from the west/south-west direction in the Hucknall area.

The Club was established in 1994 and comprises an 18 hole golf course and a 4.5 hectare driving range facility. Contour Golf Ltd will undertake development on behalf of Leen Valley Golf Club to enhance the facilities it offers and sustain its valued role as a public amenity. The overall aim is to upgrade the practice range with target greens and remedy the inefficient gradient across its width, remodel the 16th, 17th and 18th holes, form an attenuation basin to protect from flooding and improve drainage, install a water storage lagoon, create an Adventure Golf Course, construct a toboggan run and carry out associated landscaping works. The works area covers approximately 6 hectares and will require the importation of a net volume of 119,721 cubic metres of suitable material, while no material is proposed to be transported from the site.

Leen Valley Golf Club is not located in an Air Quality Management Area. This proposal is subject to Planning Permission which is in the process of being obtained from Nottinghamshire County Council and a Waste Recovery Permit which is in the process of being obtained from the Environment Agency.

The area to be improved lies to the south-west of the operational golf course, south-east of the existing car park and club house area. This 6 hectare area is generally bowl shaped and the existing driving range is well protected by high mounds. Stripping of topsoil will occur on site at the beginning of the project. This topsoil material will be stored on site, compacted and smoothed to a height of no more than 5 metres above existing ground level. Inert material will be transported to site by heavy goods vehicles (eight wheel tipper lorries) during day time hours only. Vehicles will travel along the hard core haul road to and it is estimated that approximately 15,063 vehicles will carry 8 cubic metres per load to site over a 12 month period. This equates to an average of 63 heavy vehicle trips per day during peak times. There will be a 10 miles per hour speed limit along the haul road and on site, this will be reduced to 5 miles per hour in windy and dusty conditions. There will be no treatment or crushing of material on site. There will be minimal sorting of material on site – sorting will be manual rather than by screening plant. Any large pieces of material such as whole bricks will be removed to ensure the finished golf course has the necessary smooth finish. Imported material will be stored in designated areas on site as close to the areas needing material and moved in place by plant aiming to be as efficient as possible and not double-handling material. Works will stop during extremely dry, windy and dusty weather or when winds are extremely strong from the prevailing west/south-west (extreme weather is wind above 25 mph and dry weather > 35°C for more than 3

days consecutively). Topsoil material will be replaced once inert material has been put in place. The new surface will be shaped then ultimately vegetated.

Dust has the potential to be emitted from the stripping of topsoil, the wheels of plant and vehicles operating on site, stockpiles of topsoil, heavy goods vehicles as they deliver fill material, stockpiles of inert material, during the placement of material and prior to the establishment of vegetation. Particles may be tracked from site on to the southern part of Wigwam Lane and emissions from vehicles, heavy goods vehicles, plant and machinery are expected, however these activities are not expected to have more than a minimal impact on air quality.

In order to manage and mitigate any dust nuisance, material will be stockpiled no higher than 5 metres in a compacted manner as close as possible to the areas needing material. Stockpiles will be smoothed and sealed so that a 'crust' forms and helps to eliminate dust particles being dispersed in the wind. Vehicles will have their wheels washed at the site entrance and exit. Plant and vehicles on site will stop work in extremely dry and windy conditions to prevent dust nuisance, while the haul road will be watered to eliminate dust emissions from site. Installing a watering system has been considered but is not cost effective due to the short timeframe. Installing weather monitors at the site boundary has been considered but again is not cost effective due to the short timeframe involved in enhancing the golf facilities.

Bordering Leen Valley Golf club to the south/south-west of the site, on the other side of Wigwam Lane, there are a number of industrial or commercial premises operating, including a concrete supplier, recycling depot, motorbike parts shop, paint shop, printers, gym and skip hire. To the west/north-west of the site there is an allotment and open space area with a school and residential area along Oakenhall Avenue. North of the site is a residential area and open space playing fields with sports centre. North to north-east is generally rural and to the south there is open space with a school, residential and commercial area.

Vehicles will use a designated construction access point to enter and leave the site off Wigwam Lane to the south-east of the existing entrance. Most of the works will take place in this south-western section. Site surfaces are comprised of hard core material, bare soil, grass and landscaped areas. Plant, equipment and vehicles on site will include bulldozers, excavators, tipper lorries, tractors and dumpers.

### 1.3 Sensitive receptors

The receptors within 1000 metres of Leen Valley Golf Club which may be impacted by dust and other emissions such as Nitrogen Dioxide from mobile plant and vehicles have been list in Table 1.1.

Of the receptors listed, many have been identified as sensitive and these are shown in Table 1.2 and Figure 1.1. These properties and activities are considered sensitive because they may involve children, the elderly and those with vulnerable health. Figure 1.2 shows yearly wind averages from the Nottingham/Watnall weather station.

There are other dust, particulate and emissions sources within 1000 metres of Leen Valley Golf Club, such as demolition contractors, MOT centres, recycling centres, car dealers, concrete suppliers, supermarkets, timber merchants, petrol stations, aggregate suppliers and car parking areas. These industries and activities, listed in Table 1.3, combine to contribute to the air quality in the Hucknall area.

**Table 1.1 Receptors within 1000 metres**

<b>Boundary/ Direction</b>	<b>Property/Activity</b>	<b>Approximate distance to Site boundary (m)</b>
North-west	Allotments open space & leisure	Shares boundary
North	Hucknall Sports Y.C.F.C. open space & leisure	Shares boundary
North	Houses on Valerian Grove	Shares boundary
North	Houses on Sabina Road	Shares boundary
North	Houses on Antonia Drive	Shares boundary
North	Houses on Pompeia Close	Shares boundary
East	Houses on Moor Road	Shares boundary
West	Houses on Porchester Close	21
South-west	Bonsers building restorations	23
South-west	Lincoln Green Brewing Company	25
South-west	Robin Hood Travel	25
South-west	Kinetic Conveyor & Roller Systems	30
South-west	Hanson Ready-Mixed Concrete supplier	34
South	Ultimate Gym & Fitness	39
South-west	NG15 Prestige used car dealer	40
South-west	Central Waste (UK) Ltd	40
South-west	PCP Motor & Race Engineers	42
South-west	Fat Skeleton vehicle parts	43
South-west	CMS Central Motor Service	44
South-west	My Apparel clothing manufacturing	46
North	Houses on Paetina Grove	53
North	Houses on Paulina Avenue	74
South-west	Diamond Flooring	77
South-west	D & G Filters	78
West	Houses on Wigwam Lane	78
West	Houses on Wigwam Grove	80
South-west	KS Performance	80
West	Houses on Oakenhall Avenue	83
South-west	Sweeneys Paint and Body	83
South-west	J.A.C. Exhausts	91
South-west	PC Station	92
South-west	Kirkby Skip Hire	100
South-west	Goughs Service & Repair vehicle repair	104
South-west	Tyre Maintenance	105
South-west	Hucknall Tyres and Services	109
West	Houses on Violet Lane	115
East	Willscars vehicle sales	115
South-west	Total Aggregates Ltd, suppliers of aggregates,	117

	sand & gravel, bulk earthworks	
South-west	Total Reclaims Demolition	117
North-west	Houses on Edmond Grove	123
North-west	Houses on Hugessen Avenue	123
North-west	Houses on Marciana Grove	125
South-west	Allspeed Engineering vehicle parts	126
South-west	Energas Ltd / Engweld Nottingham welding supplies	126
North	Houses on Lucilla Close	130
South-west	Willstech Ltd engineering	130
South-west	Universal Print Finishers commercial printers	138
South-west	Miric Engineering	139
South-west	Carl Wright vehicle, plant & skip hire	140
South-west	Universal Print Finishers commercial printer	145
South-west	Georgia Environmental waste management	151
North-west	Houses on Kenbrook Road	159
South-west	Midland/Nottingham Building Plastics builders' merchant	166
West	Argos department store with parking	180
South-west	Windsor Materials Handling plant sales	196
East	The Duck Ponds open space & leisure	197
North-west	Houses on Wenlock Drive	200
North-west	Houses on Mandeville Close	206
West	Houses on Brickyard Drive	207
East	Liquid Valeting	210
East	Gary's Coaches Ltd vehicle hire	210
North	Houses on Emperor's Way	212
South-west	Covertherm insulation contractor	214
West	Hucknall Railway Station	225
North	Houses on Latin Grove	229
North-west	Old Wigwam Playing Fields open space & leisure	237
North-west	Beardall Fields Primary School	240
West	Houses on Pagett Close	245
South-west	Hucknall Recycling	252
West	Tesco Extra supermarket with parking	255
North-west	Houses on Olympia Way	258
South	Bestwood Country Park Mills Lake open space & leisure	271
West	Houses on Voce Gardens	282
North	Houses on Roman Crescent	284
West	Houses on Ashgate Road	289
North	Houses on Rykniel Road	296
West	Hucknall Station parking	296
North-west	Houses on Senator Close	304
North	Houses on Red Kite Close	305
North-west	Houses on Tiberius Gardens	305
South-west	Wood Lane Timber Merchants Ltd	317
North	Houses on Copeland Road	319
North-west	Houses on Leabrook Gardens	320
West	Houses on Robin Bailey way	322
North-west	Houses on Leadale Gardens	332
West	Houses on Coupe Gardens	335
West	Houses on Griffiths Way	338
North-west	Houses on Papplewick Lane	347
South-west	Houses on Lakeland Avenue	350
South-west	Houses on Covert Close	354
South-west	Houses on The Copse	354
North	Houses on Justinian Close	363
North-west	SOS Tyres & Autocare	369

West	Houses on Lingford Street	370
North-west	Houses on Station Terrace	375
North-west	Papplewick Lane Garage KC Cars	376
West	Tesco Petrol Station	390
West	Hucknall Van Hire	396
South-west	Houses on Bodill Gardens	400
West	Houses on Dukes Court	400
North-west	The Orchard Care Home Ltd	400
South	Allotments open space & leisure	405
West	Iceland supermarket with parking	406
West	Houses on Green Close	412
North-west	Nottingham Printing Ltd commercial printer	417
South-west	Houses on Clumber Street	422
West	Houses on Bolsover Street	423
North-west	Wedding Car HQ	424
South-west	Houses on Bestwood Road	425
South-west	Houses on Story Gardens	425
North-west	Houses on Linby Avenue	429
North	Houses on Minerva Grove	430
West	Houses on Goodall Crescent	434
West	Houses on Sherwood Street	436
West	Houses on Linby Road	447
North	Houses on Cenurion Close	448
South-west	Houses on Butlers Close	451
West	Lindleys Autocentres MOT	453
North-west	Croft Autocentre vehicle repair	455
South	Houses on Bestwood Gardens	456
West	Ezyfit Car Sales	460
North-west	Houses on Buckingham Avenue	465
West	Aldi supermarket with parking	466
South-west	Houses on Rufford Close	475
South-west	M-Tech Engineering	476
South-west	Houses on Hankin Street	478
North	Houses on Falcon Way	486
North-west	Houses on Linby Grove	486
North-west	Houses on Rowan Court	487
West	Manns Pharmacy	493
West	Oakenhall Medical Practice Myers & Partners	497
South-west	Houses on Forge Mill Grove	503
West	Houses on Woodstock Street	505
South-west	Houses on Broomhill Park View	507
East	Unknown	516
South-west	Houses on Portland Road	518
South-west	Houses on Arden Close	521
West	Hucknall Sixth Form Centre College	526
North-west	Houses on Leen Close	527
West	Houses on Torkard Way	527
West	Houses on Duke Street	531
West	High Street retail shops and restaurants	543
West	John's Test vehicle sales	534
North	Houses on Hobben Crescent	538
North-west	Houses on Sandringham Place	538
North-west	Houses on Balmoral Grove	541
North-west	Houses on Perlethorpe Drive	543
North	Houses on Peregrine Way	545
West	BUPA Dental Care Hucknall	546
North	Houses on Papplewick Grange	546
East	Houses on Goosedale Lane	561
North-west	Houses on Lynmoor Court	564



West	Sherwood & Hucknall Plumbing & Heating Supplies	573
North-west	Houses on Buckingham Avenue	582
West	Houses on Woollaton Street	582
West	Houses on Vine Terrace	584
West	Houses on Henry Street	594
South-west	Houses on Jenny Burton Way	596
South-west	Houses on Leen Valley Way	602
South-west	Houses on St John's Crescent	607
North	Houses on Osprey Grove	611
North-west	Hucknall Leisure Centre	614
North	Houses on Papplewick Farm Close	616
North-west	Houses on Kersall Gardens	618
West	Houses on Beardall Street	633
South-west	Nottingham Brain Injury Rehabilitation and Neurological Care Centre	637
West	Houses on Oakfield Road	640
North-west	Houses on Budby Rise	642
South-west	Houses on Winifred Street	646
West	Houses on Park Drive	653
South-west	Houses on Ellis Avenue	666
North-west	Houses on Rosslyn Drive	673
North-east	Notts & Arnold Amateur Cricket Club	673
South-west	Houses on Croft Avenue	675
North-west	Houses on Vaughan Avenue	688
North-west	Houses on Hayden Lane	692
North-west	Houses on Albert Street	693
West	Shortwood House assisted living residence	695
South-east	Hawthorne Primary & Nursery School	696
South-west	Houses on Morven Avenue	696
North-west	Leen Mills Primary School	704
South-west	Hucknall Day Nursery	710
South-west	Houses on Poppy Mews	711
South-west	Leen Valley Care Home	721
South-west	Houses on Woodford Road	728
West	Houses on Bamkin Close	731
West	P & S Healthcare Ltd manufacturing	732
North-west	Houses on Blathewick Close	734
South-west	Houses on Park View	739
North-west	Houses on Bishop Way	740
South-west	Houses on Snowdrop Close	743
North-west	Houses on The Connery	746
West	Houses on Hanson Crescent	753
North-west	Houses on Co-Operative Road	762
North-west	Houses on Titchfield Street	764
West	Houses on Brookside	766
South-west	Houses on Burberry Avenue	766
North-west	Houses on Leen Drive	770
South-west	Houses on Nottingham Road	775
North	Houses on Christine Close	787
North-west	Houses on Walk Mill Lane	790
North-west	Houses on Devitt Drive	790
South-east	Hawthorne Nursing Home	794
West	Houses on Derbyshire Lane	801
South-west	Houses on Broomhill Road	803
South-west	Houses on Orchid Croft	805
North	Houses on Bass Close	806
South-west	Houses on Rose Flower Grove	806
North-west	Houses on Minster Close	808
West	Piggins Croft car park	810

South-west	Houses on Orchard Street	813
South-west	Houses on Mapleleaf Way	823
South-west	Broomhill Cemetery	823
West	Houses on Truman Drive	824
South-west	Houses on Primrose Gardens	827
North-west	Houses on Cheyne Walk	833
South-west	Butlers Hill Infant School	836
North-west	Houses on Baker Street	841
North-west	Houses on Frances Grove	847
West	Houses on Marion Avenue	852
North	Houses on Askew Road	854
North	Houses on Chadburn Road	855
South-west	Houses on Foxglove Close	860
South-west	Houses on Byron Street	862
North-west	Houses on Ogle Street	872
North-west	Houses on Alexander Close	876
North-west	Houses on Ethel Avenue	881
South-west	Whyburn Court retirement living	883
South-west	Houses on Crab Apple Grove	885
South-west	Titchfield Park open space & leisure	890
North-west	Houses on Dawn Close	892
North-west	Houses on Carlingford Road	879
South-west	Ashfield South Children's Centre	892
South-west	Rocking Horse Day Nursery	898
West	The OM Surgery	898
South-west	Houses on Jackson Road	908
South-west	Houses on Osborn Close	914
North	Houses on Cranswick Close	920
South-west	Houses on Albert Close	921
South-west	Houses on Holly Leaf Road	923
South-west	Houses on Crown Street	929
South-west	Houses on Shelton Avenue	930
South-west	Houses on Victoria Way	931
North-west	Houses on Susan Close	936
South-west	Houses on Storth Avenue	937
North-west	Leen Mills Preschool Playgroup	943
North-west	Houses on The Drift	957
South-east	Bestwood Village Cricket Club open space & leisure	956
West	Wyburn Medical Practice	958
North-west	Houses on Magdalene Way	959
North-west	Houses on Piper Close	972
North-west	Holy Cross Primary Catholic Voluntary Academy school	975
South-east	Eden Lodge assisted living residence	978
North-west	Houses on Delia Avenue	989

**Table 1.2 Distances to sensitive receptors within 1000 metres**

<b>Boundary/ Direction</b>	<b>Property/Activity</b>	<b>Approximate distance to Site boundary (m)</b>
North-west	Allotments open space & leisure	Shares boundary
North	Hucknall Sports Y.C.F.C. open space & leisure	Shares boundary
North	Houses on Valerian Grove	Shares boundary
North	Houses on Sabina Road	Shares boundary
North	Houses on Antonia Drive	Shares boundary
North	Houses on Pompeia Close	Shares boundary
East	Houses on Moor Road	Shares boundary

West	Houses on Porchester Close	21
North	Houses on Paetina Grove	53
North	Houses on Paulina Avenue	74
West	Houses on Wigwam Lane	78
West	Houses on Wigwam Grove	80
West	Houses on Oakenhall Avenue	83
West	Houses on Violet Lane	115
North-west	Houses on Edmond Grove	123
North-west	Houses on Hugessen Avenue	123
North-west	Houses on Marciana Grove	125
North	Houses on Lucilla Close	130
North-west	Houses on Kenbrook Road	159
East	The Duck Ponds open space & leisure	197
North-west	Houses on Wenlock Drive	200
North-west	Houses on Mandeville Close	206
West	Houses on Brickyard Drive	207
North	Houses on Emperor's Way	212
North	Houses on Latin Grove	229
North-west	Old Wigwam Playing Fields open space & leisure	237
North-west	Beardall Fields Primary School	240
West	Houses on Pagett Close	245
North-west	Houses on Olympia Way	258
South	Bestwood Country Park Mills Lake open space & leisure	271
West	Houses on Voce Gardens	282
North	Houses on Roman Crescent	284
West	Houses on Ashgate Road	289
North	Houses on Rykniel Road	296
North-west	Houses on Senator Close	304
North	Houses on Red Kite Close	305
North-west	Houses on Tiberius Gardens	305
North	Houses on Copeland Road	319
North-west	Houses on Leabrook Gardens	320
West	Houses on Robin Bailey way	322
North-west	Houses on Leadale Gardens	332
West	Houses on Coupe Gardens	335
West	Houses on Griffiths Way	338
North-west	Houses on Papplewick Lane	347
South-west	Houses on Lakeland Avenue	350
South-west	Houses on Covert Close	354
South-west	Houses on The Copse	354
North	Houses on Justinian Close	363
West	Houses on Lingford Street	370
North-west	Houses on Station Terrace	375
South-west	Houses on Bodill Gardens	400
West	Houses on Dukes Court	400
North-west	The Orchard Care Home Ltd	400
South	Allotments open space & leisure	405
West	Houses on Green Close	412
South-west	Houses on Clumber Street	422
West	Houses on Bolsover Street	423
South-west	Houses on Bestwood Road	425
South-west	Houses on Story Gardens	425
North-west	Houses on Linby Avenue	429
North	Houses on Minerva Grove	430
West	Houses on Goodall Crescent	434
West	Houses on Sherwood Street	436
West	Houses on Linby Road	447
North	Houses on Cenurion Close	448

South-west	Houses on Butlers Close	451
South	Houses on Bestwood Gardens	456
North-west	Houses on Buckingham Avenue	465
South-west	Houses on Rufford Close	475
South-west	Houses on Hankin Street	478
North	Houses on Falcon Way	486
North-west	Houses on Linby Grove	486
North-west	Houses on Rowan Court	487
West	Manns Pharmacy	493
West	Oakenhall Medical Practice Myers & Partners	497
South-west	Houses on Forge Mill Grove	503
West	Houses on Woodstock Street	505
South-west	Houses on Broomhill Park View	507
South-west	Houses on Portland Road	518
South-west	Houses on Arden Close	521
West	Hucknall Sixth Form Centre College	526
North-west	Houses on Leen Close	527
West	Houses on Torkard Way	527
West	Houses on Duke Street	531
North	Houses on Hobben Crescent	538
North-west	Houses on Sandringham Place	538
North-west	Houses on Balmoral Grove	541
North-west	Houses on Perlethorpe Drive	543
North	Houses on Peregrine Way	545
West	BUPA Dental Care Hucknall	546
North	Houses on Papplewick Grange	546
East	Houses on Goosedale Lane	561
North-west	Houses on Lynmoor Court	564
North-west	Houses on Buckingham Avenue	582
West	Houses on Woollaton Street	582
West	Houses on Vine Terrace	584
West	Houses on Henry Street	594
South-west	Houses on Jenny Burton Way	596
South-west	Houses on Leen Valley Way	602
South-west	Houses on St John's Crescent	607
North	Houses on Osprey Grove	611
North	Houses on Papplewick Farm Close	616
North-west	Houses on Kersall Gardens	618
West	Houses on Beardall Street	633
South-west	Nottingham Brain Injury Rehabilitation and Neurological Care Centre	637
West	Houses on Oakfield Road	640
North-west	Houses on Budby Rise	642
South-west	Houses on Winifred Street	646
West	Houses on Park Drive	653
South-west	Houses on Ellis Avenue	666
North-west	Houses on Rosslyn Drive	673
North-east	Notts & Arnold Amateur Cricket Club	673
South-west	Houses on Croft Avenue	675
North-west	Houses on Vaughan Avenue	688
North-west	Houses on Hayden Lane	692
North-west	Houses on Albert Street	693
West	Shortwood House assisted living residence	695
South-east	Hawthorne Primary & Nursery School	696
South-west	Houses on Morven Avenue	696
North-west	Leen Mills Primary School	704
South-west	Hucknall Day Nursery	710
South-west	Houses on Poppy Mews	711
South-west	Leen Valley Care Home	721

South-west	Houses on Woodford Road	728
West	Houses on Bamkin Close	731
North-west	Houses on Blathewick Close	734
South-west	Houses on Park View	739
North-west	Houses on Bishop Way	740
South-west	Houses on Snowdrop Close	743
North-west	Houses on The Connery	746
West	Houses on Hanson Crescent	753
North-west	Houses on Co-Operative Road	762
North-west	Houses on Titchfield Street	764
West	Houses on Brookside	766
South-west	Houses on Burberry Avenue	766
North-west	Houses on Leen Drive	770
South-west	Houses on Nottingham Road	775
North	Houses on Christine Close	787
North-west	Houses on Walk Mill Lane	790
North-west	Houses on Devitt Drive	790
South-east	Hawthorne Nursing Home	794
West	Houses on Derbyshire Lane	801
South-west	Houses on Broomhill Road	803
South-west	Houses on Orchid Croft	805
North	Houses on Bass Close	806
South-west	Houses on Rose Flower Grove	806
North-west	Houses on Minster Close	808
South-west	Houses on Orchard Street	813
South-west	Houses on Mapleleaf Way	823
West	Houses on Truman Drive	824
South-west	Houses on Primrose Gardens	827
North-west	Houses on Cheyne Walk	833
South-west	Butlers Hill Infant School	836
North-west	Houses on Baker Street	841
North-west	Houses on Frances Grove	847
West	Houses on Marion Avenue	852
North	Houses on Askew Road	854
North	Houses on Chadburn Road	855
South-west	Houses on Foxglove Close	860
South-west	Houses on Byron Street	862
North-west	Houses on Ogle Street	872
North-west	Houses on Alexander Close	876
North-west	Houses on Ethel Avenue	881
South-west	Whyburn Court retirement living	883
South-west	Houses on Crab Apple Grove	885
South-west	Titchfield Park open space & leisure	890
North-west	Houses on Dawn Close	892
North-west	Houses on Carlingford Road	879
South-west	Ashfield South Children's Centre	892
South-west	Rocking Horse Day Nursery	898
West	The OM Surgery	898
South-west	Houses on Jackson Road	908
South-west	Houses on Osborn Close	914
North	Houses on Cranswick Close	920
South-west	Houses on Albert Close	921
South-west	Houses on Holly Leaf Road	923
South-west	Houses on Crown Street	929
South-west	Houses on Shelton Avenue	930
South-west	Houses on Victoria Way	931
North-west	Houses on Susan Close	936
South-west	Houses on Storth Avenue	937
North-west	Leen Mills Preschool Playgroup	943

North-west	Houses on The Drift	957
South-east	Bestwood Village Cricket Club open space & leisure	956
West	Wyburn Medical Practice	958
North-west	Houses on Magdalene Way	959
North-west	Houses on Piper Close	972
North-west	Holy Cross Primary Catholic Voluntary Academy school	975
South-east	Eden Lodge assisted living residence	978
North-west	Houses on Delia Avenue	989



Figure 1.1 Sensitive receptors

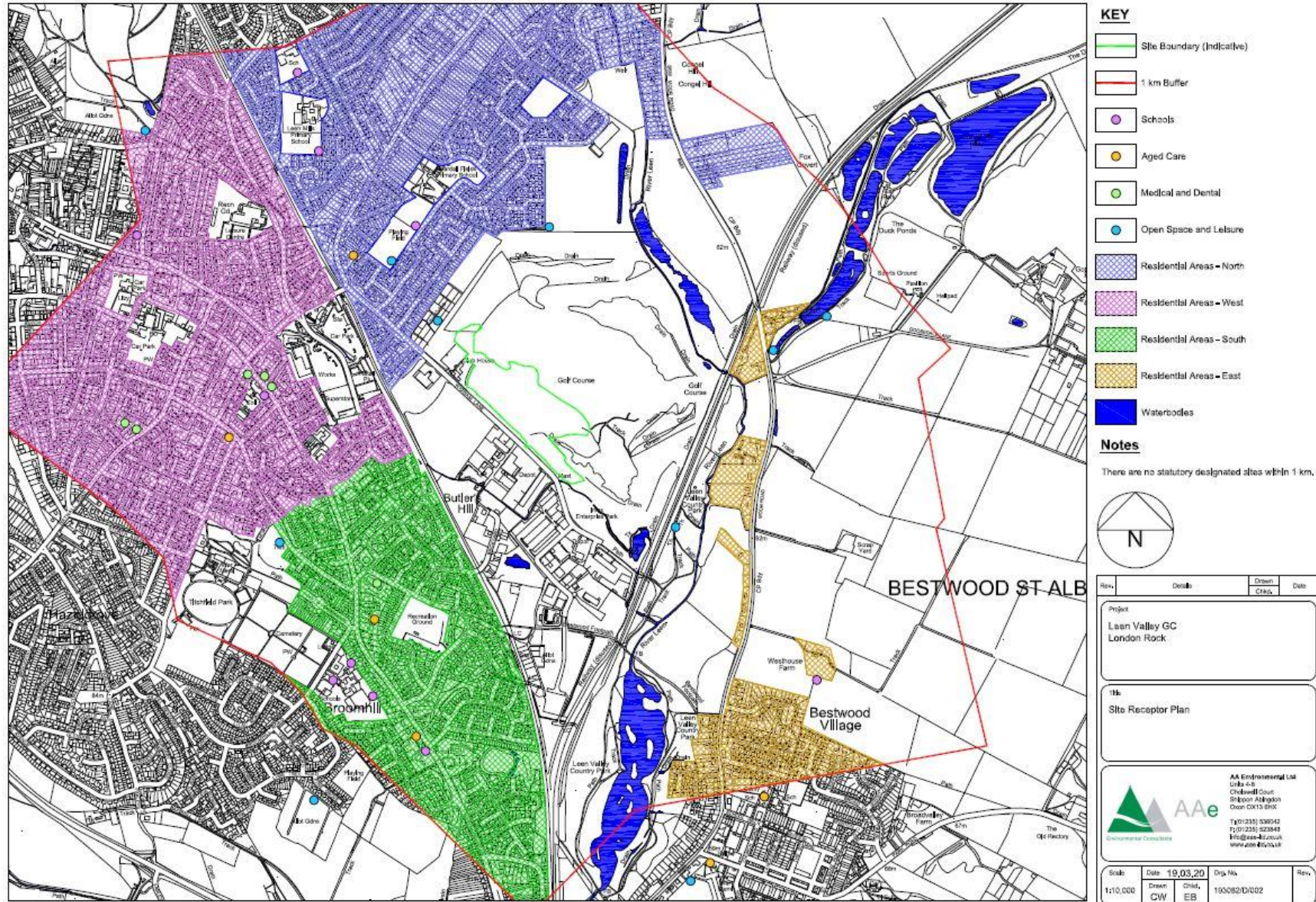
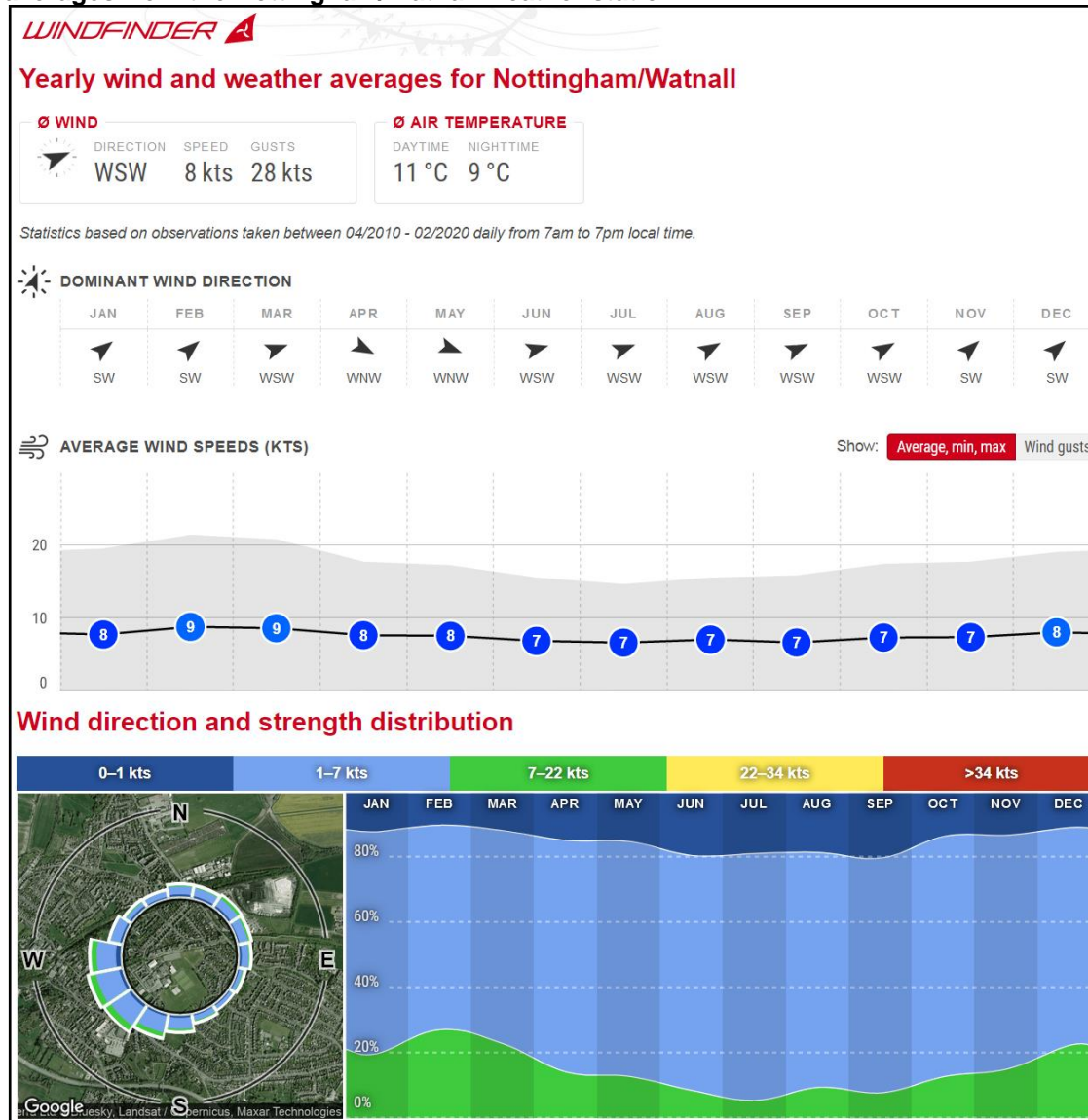




Figure 1.2 Yearly wind averages from the Nottingham/Watnall weather station





**Table 1.3 Sources of emissions within 1000 metres**

<b>Company</b>	<b>Address</b>	<b>Type of Business</b>	<b>Distance from Site boundary (m)</b>
Bonsers	Wigwam Lane	Building Restoration	23
Lincoln Green Brewing Company	Wigwam Lane	Brewery	25
Robin Hood Travel	Wigwam Lane	Vehicle hire	25
Kinetic Conveyor & Roller Systems	Wigwam Lane	Manufacturing	30
Hanson Ready-Mixed Concrete	Wigwam Lane	Concrete supplier	34
NG15 Prestige	Wigwam Lane	Vehicle sales	40
Central Waste (UK) Ltd	Wigwam Lane	Garbage collection	40
PCP Motor & Race Engineers	Wigwam Lane	Vehicle repairs	42
Fat Skeleton	Wigwam Lane	Motorbike parts	43
CMS Central Motor Service	Wigwam Lane	Servicing, repairs & MOT's for cars, vans & motorhomes	44
My Apparel	Wigwam Lane	Work clothes shop	46
Diamond Flooring	Wigwam Lane	Flooring contractor	77
D & G Filters	Wigwam Lane	Industrial equipment supplies	78
KS Performance	Wigwam Lane	Unknown	80
Sweeneys Paint and Body	Wigwam Lane	Vehicle repairs	83
J.A.C. Exhausts	Wigwam Lane	Vehicle parts	91
PC Station	Wigwam Lane	Computer repairs	92
Kirkby Skip Hire	Wigwam Lane	Skip hire	100
Goughs Service & Repair	Wigwam Lane	Vehicle Repair	104
Tyre Maintenance	Wigwam Lane	Vehicle parts	105
Hucknall Tyres and Services	Wigwam Lane	Vehicle parts	109
Willscars	Moor Road	Vehicle sales	115
Total Aggregates Ltd	Wigwam Lane	Aggregates, sand & gravel supplies, bulk earthworks	117
Total Reclaims Demolition	Wigwam Lane	Demolition contractor	117
Allspeed Engineering	Wigwam Lane	Parts dealer	126
Energas Ltd / Engweld Nottingham	Wigwam Lane	Welding supplier	126
Willstech Ltd	Wigwam Lane	Precision engineering	130
Universal Print Finishers	Wigwam Lane	Commercial printers	138
Miric Engineering	Wigwam Lane	Engineering	139
Carl Wright	Wigwam Lane	Vehicle, plant & skip hire	140
Universal Print Finishers	Wigwam Lane	Commercial printer	145
Georgia Environmental	Wigwam Lane	Waste management	151
Midland / Nottingham Building Plastics	Wigwam Lane	Builders' merchant	166
Argos	Ashgate Road	Department store with parking	180
Windsor Materials Handling	Wigwam Lane	Plant sales	196

Liquid Valeting	Moor Road	Vehicle maintenance	210
Gary's Coaches Ltd	Moor Road	Vehicle hire	210
Covertherm	Wigwam Lane	Insulation contractor	214
Tesco Extra	Ashgate Road	Supermarket with parking	255
Hucknall Station	South of Station Road	Railway line	225
Hucknall Recycling	Wigwam Lane	Recycling centre	252
Hucknall Station	Station Terrace	Parking	296
Wood Lane Timber Merchants Ltd	Wigwam Lane	Timber merchant	317
SOS Tyres & Autocare	Papplewick Lane	Vehicle repair	369
Papplewick Lane Garage KC Cars	Papplewick Lane	Vehicle sales	376
Tesco Petrol Station	Ashgate Road	Petrol station	390
Hucknall Van Hire	Portland Road	Vehicle hire	396
Iceland	Ashgate Road	Supermarket with parking	406
Nottingham Printing Ltd	Papplewick Lane	Commercial printer	417
Wedding Car HQ	Papplewick Lane	Vehicle hire	424
Lindleys Autocentres	Portland Road	MOT centre	453
Croft Autocentre	Papplewick Lane	Vehicle repair	455
Ezyfit Car Sales	Portland Road	Vehicle sales	460
Aldi	Ashgate Road	Supermarket with parking	466
M-Tech Engineering	Wigwam Lane	Engineering	476
Unknown	Moor Road	Container storage	516
John's Test	Portland Road	Vehicle sales	534
Sherwood & Hucknall Plumbing & Heating Supplies	Portland Road	Bathroom supply shop	573
P & S Healthcare Ltd	King Edward Street	Manufacturing	732
Piggins Croft car park	Yorke Street	Parking	810

## **2. Operations at Leen Valley Golf Club**

### **2.1 Waste deliveries**

Suitable inert waste materials will be sourced from the local area and delivered to site by heavy goods vehicles (8 wheel tipper lorries) using the road network. The routing of HGVs has been considered to minimise the impact on residential areas and other receptors. During construction, access to and from the site will be via a designated access point off Wigwam Lane, south-east of the existing entrance. The proposed HGV route to the site is from Nottingham Road, Portland Road and Station Road.

The material will not be in containers due to the expected short distance travelled but the material carried by each vehicle will be sheeted. Material is only exposed when it is being loaded for transport away from the site and then once the material arrives on site to be tipped, but it must first pass through the inspection gate. At the gate, the date, time, vehicle registration, name of haulier and origin of material is captured. These records are kept by Contour Golf Ltd.

When drivers are inducted to site they are informed of site speed limits (ordinarily no more than 10 miles per hour but this limit is halved during extremely dry, windy and dusty conditions), tipping heights and the wheel wash near to the exit to prevent tracking of material out on to the road. Drivers are directed to the tipping area by site personnel who supervise the movements of vehicles and delivery of material. Vehicles that are generating dust will be directed to the manual wheel wash before exiting the site on to the road network and the haul road will be dampened to reduce dispersion of material.

### **2.2 Overview of waste processing, dust and emission controls**

The overall aim is to ensure that operations do not give rise to a dust, emissions or particulates issue on site or beyond the boundary of the site. Controls such as a haul road and speed limits will be put in place to ensure dust and emissions generation is minimalised.

During normal working hours, heavy goods vehicles will travel along the preferred route with material sheeted before entering the site at the designated construction access point. Speed limits will apply along the haul road where HGVs will travel before tipping material under the supervision of site personnel. Low drop heights and slow drop speeds will be encouraged through site induction and supervision to reduce the likelihood of airborne particles being dispersed in the wind. Wheel wash facilities will be available to all HGVs near to the exit to ensure that vehicles can have wheels free from excessive mud or debris before departing the site.

There will be no treatment or crushing of fill material on site. There will be minimal sorting of waste on site; sorting will be manual rather than by screening plant. Any large pieces of material such as whole bricks will be removed to ensure the finished golf course has the necessary smooth finish.

Imported material will be stored in designated areas on site, not behind or within walled areas, as close to the areas needing material and moved in place by plant aiming to be as efficient as possible and not double-handling material. Topsoil material will be replaced once inert material has been put in place. The new surface will be shaped then ultimately vegetated.

Works will stop during extremely dry, windy and dusty weather or when winds are extremely strong from the prevailing west/south-west.

**Table 2.1 Typical waste types brought to Site**

<b>European Waste Code</b>	<b>Product Description</b>	<b>Average tonnage per week</b>
17 01 01	Concrete	700
17 01 02	Bricks	700
17 01 03	Tiles and Ceramics	700
17 01 07	Mixtures of the concrete, bricks, tiles and ceramics	700
17 05 04 20 02 02	Soil and stones	700
01 01 02	Wastes from mineral non-metalliferous excavation	133
01 04 08	Waste gravel and crushed rocks	700
01 04 09	Waste sand and clays	700
19 02 06	Solids from physical treatment (limited to soil washing silts only)	133
19 12 09	Minerals from waste facilities	133
19 12 12	Other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	133
19 13 02	Solids from soil remediation (limited to soil washing silts only)	133
<b>Total</b>		<b>5,565</b>

Figure 2.1 Site layout plan



## 2.3 Mobile plant and equipment

Nitrogen Dioxide gas is a by-product of internal combustion engines and the site uses several items of plant with internal combustion engines. The following table lists the type, make and emission ratings for the mobile plant and equipment used on site:

Description	Make	Model	Emission Rating
Excavator	CAT	313F	4
Dumper	Thwaites	6 tonne	3
Bulldozer	CAT	D6K	3
Bulldozer	CAT	D6N	3
Tractor	John Deere	5075	4

Contour Golf Ltd owns these items of plant; they are all new with the lowest possible emissions rating. Plant is regularly maintained and replaced after only a few years. Diesel and AdBlue are used on site to run the plant and Contour has a policy of switching off engines when stationary to reduce emissions.

## 3. Dust and particulate management

### 3.1 Responsibility for DEMP implementation

The Site Manager is responsible for the implementation of the Dust Management Plan and for ensuring that the mitigation strategies are implemented at the Site. Where the Site Manager is unavailable to oversee the implementation of dust suppression measures, a suitably experienced Site Operative is allocated responsibility.

The Dust Management Plan will be reviewed in response to a complaint or when a change in operations is deemed to have a potential effect on increasing dust emissions. The review process will amend any mitigation measures that have been identified as areas for improvement in reducing dust emissions on Site.

All staff members will have the necessary training to deliver dust suppression measures detailed within this Dust Management Plan.

### 3.2 Sources and control of fugitive dust/particulate emissions

Potential sources of dust and particulates from operations at Leen Valley Golf Club are listed below:

- Vehicles entering and leaving site with mud on wheels, tracking dust to/from site
- Vehicles and plant travelling along haul road kicking up dust
- Stripping topsoil causing loose particles to blow in wind
- Bare surfaces susceptible to being blown across site in dry, windy periods
- Stockpiles of material susceptible to being blown across the site in dry, windy periods
- Road vehicles tipping waste with loose particles being blown by wind
- Excavator moving waste causing loose particles to blow in wind
- Dumpers placing waste to form new surfaces causing loose particles to blow in wind
- Bulldozer forming and shaping new surfaces causing loose particles to blow in wind
- Newly formed surfaces susceptible to being blown across site in dry, windy periods
- Tractor sowing seed kicking up dust in dry, windy periods
- Particulate emissions from exhausts of vehicles, plant and machinery on site

All efforts will be made to avoid double-handling of material and reduce the number of movements on site. Material will be placed as close as possible to where it is needed to form new surfaces.

**Table 3.1 Source-Pathway-Receptor routes**

Source	Pathway	Receptor	Type of impact	Where relationship can be interrupted
Mud	Atmospheric dispersion by tracking dust on wheels of plant and vehicles and from mud dropping off wheels of plant and vehicles when dry	Open Space & Leisure, Residential Area – North	Visual soiling and consequent resuspension as airborne particulates	Remove mud at wheel wash before vehicles leave site, Vehicles enter and exit site using designated access point to avoid tracking material near public areas, Hard core haul road helps residual mud to drop off before vehicles reach wheel wash, Haul road controls and restricts vehicle movements, Apply speed limits to limit disruption of material and reduce limit to 5mph in extremely windy conditions, Roads can be swept if mud has been tracked off site.
Debris	Atmospheric dispersion by falling off lorries, plant and equipment	Open Space & Leisure, Residential Area – North	Visual soiling and consequent resuspension as airborne particulates	Vehicles enter and exit site using designated access point to avoid tracking material near public areas, Lorry loads covered by sheeting, Lorries leaving site replace sheeting, Remove mud at wheel wash before vehicles leave site, Hard core haul road helps residual mud to drop off before vehicles reach wheel wash, Haul road controls and restricts vehicle movements, Apply speed limits to limit disruption of material and reduce the limit to 5mph in extremely windy conditions, Roads can be swept if mud has been tracked off site.
Topsoil	Atmospheric dispersion when stripping, stockpiling and replacing topsoil by excavator, dumper and bulldozer in dry and windy conditions	Schools, Aged Care, Medical & Dental, Open Space & Leisure, Residential Area – North, Residential Area – South, Residential Area – East, Residential Area – West	Visual soiling and consequent resuspension as airborne particulates	Check weather forecast when planning work, Consider weather conditions before carrying out work, Slowly place material at low drop height to minimise disturbance of material, Keep stockpile heights below a maximum of 5 metres, Seal and smooth piles so that a shell or crust forms and material is less likely to be dispersed by wind, Stop works in extremely dry, windy conditions.
Exposed surfaces	Atmospheric dispersion by	Schools, Aged Care,	Visual soiling and consequent resuspension	Check weather forecast when planning work, Consider weather conditions before carrying out work,

	vehicles and plant travelling across exposed surfaces in dry, windy conditions	Medical & Dental, Open Space & Leisure, Residential Area – North, Residential Area – South, Residential Area – East, Residential Area – West	as airborne particulates	Use wheel wash to remove mud from vehicles, Haul roads to control and restrict vehicle movements, Apply speed limits to limit disruption of material and reduce the limit to 5mph in very windy conditions, Apply water to dampen haul road and reduce material being blown by the wind as dust particles, Stop works in extremely dry, windy conditions.
Road vehicles tipping waste	Atmospheric dispersion by tracking dust on wheels, material dropping off wheels and underside, material being blown from loads and during tipped	Schools, Aged Care, Medical & Dental, Open Space & Leisure, Residential Area – North, Residential Area – South, Residential Area – East, Residential Area – West	Visual soiling and consequent resuspension as airborne particulates	Sheeting applied to lorries to reduce material being blown by the wind, Vehicles enter and exit site at designated access point to avoid tracking material near public areas, Haul roads to control and restrict movement, Roads can be swept if mud has been tracked off site, Hard core haul road helps residual mud to drop off before vehicles reach wheel wash, Vehicles using wheel wash to remove mud from wheels and underside before leaving site, Apply speed limits to limit disruption of material and reduce the limit to 5mph in very windy conditions, Tipping area supervised at all times, Slow tipping and low drop height to minimise disturbance of material, Designated tipping area to concentrate material being tipped, Keep stockpile heights below a maximum of 5 metres, Apply water to dampen haul road and reduce material being blown by the wind as dust particles, Stop works in extremely dry, windy conditions.
Excavator moving waste	Atmospheric dispersion by tracking dust on wheels, material dropping off wheels and underside and material being blown		Visual soiling and consequent resuspension as airborne particulates	Check weather forecast when planning work, Consider weather conditions before carrying out work, Keep stockpile heights below a maximum of 5 metres, Apply water to dampen haul road and reduce material being blown by the wind as dust particles, Slowly placing material at a low drop height to minimise disturbance of material,



	when collecting, moving and replacing material			Apply speed limits to limit disruption of material and reduce the limit to 5mph in very windy conditions, Regularly remove particles from wheels and underside, Avoid double-handling of material by moving it once to where it will be placed to form new surfaces, Stop works in extremely dry, windy conditions.
Dumper placing waste to form new surfaces	Atmospheric dispersion by tracking dust on wheels, material dropping off wheels and underside and material being blown when collecting, moving and replacing material	Schools, Aged Care, Medical & Dental, Open Space & Leisure, Residential Area – North, Residential Area – South, Residential Area – East, Residential Area – West	Visual soiling and consequent resuspension as airborne particulates	Check weather forecast when planning work, Consider weather conditions before carrying out work, Keep stockpile heights below a maximum of 5 metres, Apply water to dampen haul road and reduce material being blown by the wind as dust particles, Apply speed limits to limit disruption of material and reduce the limit to 5mph in very windy conditions, Slowly placing material at low drop height to minimise disturbance of material, Regularly remove particles from wheels and underside, Avoid double-handling of material by moving it once to where it will be placed to form new surfaces, Stop works in extremely dry, windy conditions.
Bulldozer forming and shaping new surfaces	Atmospheric dispersion by tracking dust on wheels, material dropping off wheels and underside and material being blown when collecting, moving and replacing material	Schools, Aged Care, Medical & Dental, Open Space & Leisure, Residential Area – North, Residential Area – South, Residential Area – East, Residential Area – West	Visual soiling and consequent resuspension as airborne particulates	Check weather forecast when planning work, Consider weather conditions before carrying out work, Apply water to dampen haul road and reduce material being blown by the wind as dust particles, Apply speed limits to limit disruption of material and reduce the limit to 5mph in very windy conditions, Regularly remove particles from wheels and underside, Stop works in extremely dry, windy conditions.
Tractors sowing seed	Atmospheric dispersion by tracking dust on wheels, material dropping off wheels and underside and material being blown	Schools, Aged Care, Medical & Dental, Open Space & Leisure, Residential Area – North,	Visual soiling and consequent resuspension as airborne particulates	Check weather forecast when planning work, Consider weather conditions before carrying out work, Apply water to dampen haul road to reduce material being blown by the wind as dust particles, Apply speed limits to limit disruption of material and reduce the limit to 5mph in very windy conditions, Regularly remove particles from wheels and underside,

	when seeding towards the end of the project timeline	Residential Area – South, Residential Area – East, Residential Area – West		Stop works in extremely dry, windy conditions.
Vehicle exhaust emissions	Atmospheric dispersion	Schools, Aged Care, Medical & Dental, Open Space & Leisure, Residential Area – North, Residential Area – South, Residential Area – East, Residential Area – West	Airborne particulates	Vehicles enter and exit site at designated access point to avoid emissions in public areas, Vehicles travelling on haul roads to control movement and restrict travel areas, Avoiding unnecessary travel, Switching off when stationary.
Non road going machinery exhaust emissions	Atmospheric dispersion	Schools, Aged Care, Medical & Dental, Open Space & Leisure, Residential Area – North, Residential Area – South, Residential Area – East, Residential Area – West	Airborne particulates	Avoiding unnecessary use and travel, Procurement policy of purchasing new efficient machinery, Switching off when stationary.

**Table 3.2 Measures that will be used on site to control dust/particulates (PM10) and other emissions**

Abatement Measure	Description / Effect	Overall consideration and implementation	Trigger for implementation
<b>Preventative Measures</b>			
Designated construction vehicle access and haul road route	Having designated access points and travel routes helps to locate particulate emitting activities at a greater distance and downwind from receptors to ultimately reduce receptor exposure	This measure has been discussed at the design stage taking in to consideration the existing site layout and will be one of the early measures to be implemented for the duration of the project	This measure will be in place all the time the site is operational Dust may still be generated by vehicles and emissions will likely still come from the exhausts of vehicles, this measure aims to remove particulate emitting activities from receptors
Site speed limit, switch off policy, minimisation of vehicle movements on site, new efficient machinery policy	Reducing vehicle and plant movements should reduce emissions from vehicles. Procurement policy to only purchase new, clean-burn plant. Enforcement of a speed limit may reduce re-suspension of particulates by vehicle wheels. Switching off vehicles and plant when stationary should reduce emissions from vehicles. Speed limit will be reduced to 5mph during extreme windy condition to prevent unnecessary dust dispersal	Easy to implement as part of good practice. Identified in site management system Implemented on site through induction, site meetings, briefings, signs and trained, experienced personnel	This measure will be in place all the time the site is operational Dust may still be generated by vehicles and emissions will likely still come from the exhausts of vehicles, this measure aims to reduce dust and emissions
Minimising drop heights, slow pace of tipping and placing materials	Minimising the height at which waste is handled should reduce the distance over which debris, dust and particulates could be blown and dispersed by winds Slowing tipping and placing materials should prevent dust, debris and particulates clouds when the material is laid	Easy to implement as part of good practice. Identified in site management system. Implemented on site through induction, site meetings, briefings, supervision of tipping and trained, experienced personnel	This measure will be in place all the time the site is operational Dust may still be generated by vehicles and emissions will likely still come from the exhausts of vehicles, this measure aims to reduce dust and emissions
Good house-	Having a consistent, regular	Easy to implement and requires minimal	This measure will be in place all the time the

Abatement Measure	Description / Effect	Overall consideration and implementation	Trigger for implementation
keeping	housekeeping regime that is supported by management, will ensure site is regularly checked and issues remedied to prevent and remove dust and particulate build up	equipment Encourages a sense of pride and satisfaction amongst the staff which promotes vigilance and a positive culture Trained and experienced personnel will visually check site entrance and boundaries daily	site is operational Dust may still be generated by vehicles and emissions will likely still come from the exhausts of vehicles, this measure aims to reduce dust and emissions
Sheeting of vehicles	Prevents the escape of debris, dust and particulates from vehicles as they travel to and from the site	Easy to implement as part of good practice. Identified in site management system. Implemented on site through induction, supervision of vehicles tipping and trained, experienced personnel	This measure will be in place all the time the site is operational Dust may still be generated by vehicles and emissions will likely still come from the exhausts of vehicles, this measure aims to reduce dust and emissions
Hosing vehicles and plant when required to remove build up	Can remove dirt, dust and particulates from the lower parts of vehicles and plant	Where the wheel wash is in use, does not achieve the desired outcome or is not appropriate for washing down vehicles or plant Identified in site management system. Implemented on site through induction, supervision of vehicles tipping and trained, experienced personnel	This measure will be in place all the time the site is operational Hosing will not be done during any drought periods or when instructed by Severn Water
Wheel wash	Vehicles drive slowly through a high pressure wash so that dirt can be removed from wheels and underside before departing site	Proven results where wheel wash is well designed and vehicles drive through slowly on entry and exit Identified in site management system. Implemented on site through induction, supervision of vehicles tipping and trained, experienced personnel	This measure will be in place all the time the site is operational The wheel wash will not be used during any drought periods or when instructed by Severn Water
Minimisation of material storage heights and volumes	Minimising the height at which material is handled should reduce the distance over which debris, dust and particulates could be dispersed by winds. Reducing storage volumes	Personnel need to efficiently move and replace materials to avoid large piles of materials Stockpile heights will not exceed 5 metres	This measure will be in place all the time the site is operational

Abatement Measure	Description / Effect	Overall consideration and implementation	Trigger for implementation
	should reduce the surface area over which particulates can be mobilised		
Reduction in or cessation of operations during extreme winds from the prevailing west/south-west direction	Reducing or stopping activity on site, including no tipping, moving or shaping material and reduced operational hours during extremely windy weather and in very dusty conditions. Less vehicle and plant movements should result in reduced emissions and re-suspension of dust and particulates. Mobilisation of dust and particulates is likely to be greater during periods of strong winds and hence ceasing operation at these times may reduce peak pollution events.	Effective in terms of dust and particulate reduction but not a long-term solution Less than ideal for work schedule but may be the only option when other steps fail Experience and trained personnel identify when to reduce or stop activity	This measure will always be available throughout the project but will be employed a last resort Adverse weather conditions and unresolvable complaints are examples of when this measure would be used
<b>Remedial Measures</b>			
Road sweeping	Sweeping is effective in managing larger debris, dust and particulates but can also cause the mobilisation of smaller particles  Road sweeping vehicles damp down dust and particulates whilst brushing and collecting dust and particulates from the road surface, particularly at the kerbside  This may generate dust and particulate movement that may become a Health and Safety issue if the filters and spray bars on the sweepers are not maintained	Easy to apply but less effective than other measures Road sweeping equipment would be hired and operated by trained personnel	This measure will be used if and when required, for example if personnel notice debris at the site entrance or exit and if a complaint is made Employing this measure is subject to the availability of road sweepers Road sweepers can leave smaller particulates behind and can create a dust cloud as they operate
Water suppression	Water bowser can quickly dampen large areas and will primarily focus on	Water intensive and more likely to minimise dust and particulates on the ground that is at	The water bowser will be on site at all times Water will be applied in advance of windy

Abatement Measure	Description / Effect	Overall consideration and implementation	Trigger for implementation
with bowser	the haul road	<p>risk of being re-suspended rather than already airborne dust and particulates</p> <p>Very effective at dampening down haul roads and large surface areas</p> <p>Hose attachments increase versatility and will ensure it can reach 5 m maximum height of stockpile.</p> <p>Maintenance and operation is covered in management procedures</p>	<p>weather, when it has been hot and dry and will be reapplied regularly to prevent and avoid dust whipping around and travelling off site</p> <p>The water bowser will not be used during drought periods or when instructed by Severn Water</p>

### 3.3 Other considerations

#### Water availability

The golf course irrigation system uses mains water supply and this will not be used for redevelopment works. An offsite hydrant will be used for site water supplies. Severn Trent will be authorising and providing Contour Golf Ltd with training and providing a large, bright green standpipe and meter attached to the standpipe so that nearby water hydrants can be used to fill up the water bowser and wheel wash, and a road sweeper if required.

**Table 3.3 Water consumption assessment**

Activity/Area	Consumption (m <sup>3</sup> /month)	Notes
Welfare facilities	0	Bottled water will be provided for personnel on site No food preparation facilities will be provided Portable loo will be provided for personnel on site
Hosing – cleaning wheels and undersides of plant, hosing small areas known to be causing dust nuisance	270 - cleaning 1 excavator, 2 bulldozers, 1 dumper and 1 tractor three times a day using 100 litres of water equates to 30m <sup>3</sup> /month. 2 hours of hosing with ¾ inch hose using .1m <sup>3</sup> /minute equates to 12m <sup>3</sup> /day or 240 m <sup>3</sup> /month (20 working days)	Necessary during muddy, dry or dusty weather conditions which are expected for a maximum of 3 months over the course of this 12 month project
Wheel wash – unpowered drive through bath that recirculates water to clean wheels of vehicles	55 – 13,750 litres to be fully operational, water is recirculated and changed weekly if required. 55,000 litres needed per 4 weeks equates to 55m <sup>3</sup> /month	Required during muddy, dry or dusty weather conditions which are expected for a maximum of 3 months over the course of this 12 month project
Water bowser – for haul road, any particularly dry parts of tipping area and if site entrance/exit requires dampening to reduce dust dispersion	108 – 1125 litre tank consumes approximately 15 litres per minute. Continuous use for 6 hours each day = 5.4 m <sup>3</sup> /day or 108 m <sup>3</sup> /month over 20 working days	Required during very muddy, dry or dusty weather conditions which are expected for a maximum of 3 months over the course of this 12 month project
<b>Total</b>	<b>433</b>	

As water from hosing, washing wheels and the water bowser will likely soak in to the ground and/or evaporate in to the atmosphere, no additional drainage system is required to manage run-off. The off site sources are sufficient to deal with the consumption per month.

#### In the event of a drought

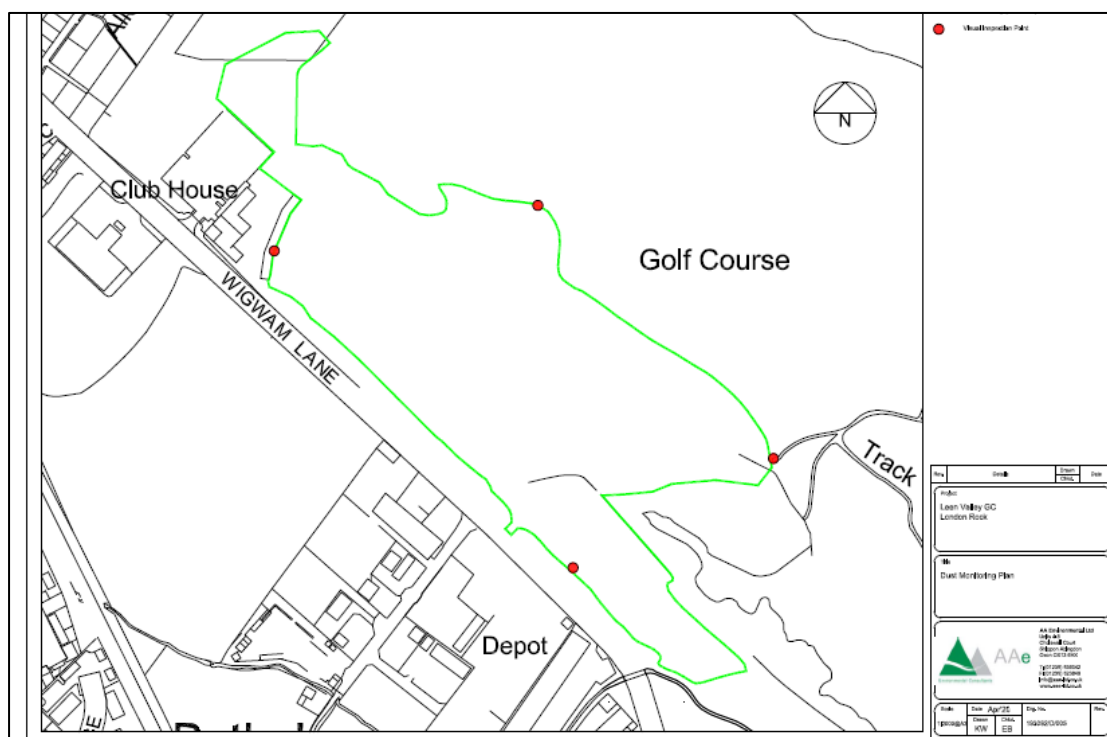
When water availability is low due to drought, we are still required to abate fugitive emissions and not cause pollution. In order to ensure we can still operate and complete projects without causing pollution, contingency measures such as reducing vehicle and machinery movements and machinery travelling, refocusing work from moving material to drainage and irrigation work, reducing speed limits, re-cutting or moving the haul road, locating the tipping area closer to site entrance to reduce haulage route can be employed if necessary. This ensures we are not using water unnecessarily and are not causing a dust or emission nuisance.

### 3.4 Enclosure of waste processing & storage areas

An enclosed waste management facility will not be in place on this site because of the short length of time involved in redevelopment works, the cost of installing such a feature, not being in an Air Quality Management Area or a London Borough and because we believe the dust and particulate control measures proposed to be employed on site will be adequate.

### 3.5 Visual dust monitoring

Dust emissions for the Site will be assessed by visual observation. Assessments will be recorded daily on the Daily Inspection Checklists in the EMS. It is the responsibility of every member of staff to continually visually monitor the emission of dust from the Site. Monitoring of dust will be carried out by visual assessment. Visual dust monitoring will take place anywhere within the proposed permit boundary and in the immediate vicinity of the Site. Locations are shown below:



It is the responsibility of all staff members to visually check for dust emissions leaving the site during the working day. Emergency contact numbers are available to local businesses/residences on the Site Notice Board, should dust be causing a nuisance. It is not considered that there would be significant emissions of dust outside of operational hours.

If a site operative observes excessive dust emissions (i.e. dust emissions leaving the site boundary or an emission with the potential to leave the site boundary), the site will operative initiate dust mitigation measures such as dampening down stockpiles with water or they will report to the site manager for instruction of the most suitable remedial action.

If excessive dust emissions are leaving the Site boundary then the Site Manager will establish what is causing the excessive dust emission to be generated and take remedial action. The results of the investigation and what action was taken will be recorded and retained. The Site Manager may take the decision to cease operations.

Contour Golf Limited will ensure that resuming operations will not cause further issues with dust by continuing to visually monitor activities on the Site. Should the issue re-occur when operations continue, then mitigation measures will be implemented again, including potentially ceasing operations should dust emissions continue.



The prevailing weather conditions at the Site will be considered and recorded at the start of each working day so that the day's work may be planned as appropriate regarding potential dust emissions. Wind direction and weather will be determined by visual observation of the conditions. The conditions will be recorded on the Daily Inspection Checklists. Information on the Daily Inspection Checklists will contain an overall description of the weather conditions including, but not limited to, wind strength (e.g. windy, not windy), wind directions (e.g. towards east/north-eastern boundary) and rain. There will be no dust monitoring equipment located on the Site. Only visual monitoring of dust emissions will take place. Visual monitoring will take place whenever the Site is operational and from anywhere within the Site boundary.

Personnel will visually assess if material has been tracking out on to the layby. If there is a build-up of debris, this will be hosed or swept so as not to give rise to a dust nuisance. Should dust be seen leaving the boundary of the site, work will stop and efforts will be made to find the source of the dust and suppress it using the water bowser or hose. Before material is placed or moved, personnel will consider the weather conditions and take action to ensure these activities will not give rise to the generation of dust causing a nuisance beyond the boundary of the site.

Any manual sorting of material on site by plant will be supervised and personnel will consider the weather conditions to ensure this activity is not giving rise to the generation of dust causing a nuisance beyond the boundary of the site. Works will stop in extremely dry, windy conditions should dust be an issue.

A daily log of visual dust monitoring will be kept. Personnel will inform the Site Supervisor if any dust has been seen escaping the site or debris has been seen at the site access. In the event of continued or repeat issues with dust, setting up a monitoring system in certain areas will be considered.

#### **4. Particulate matter monitoring**

Use of a particulate monitoring system is not anticipated due to the short timescale involved in the redevelopment, the cost of such a system and the expected appropriateness of daily visual monitoring and onsite controls and measures.

In the event of continued issues with dust, setting up a monitoring system in certain areas will be considered.

##### **4.1 Monitoring Location**

In the event of continued or repeat issues with dust and the need to set up a monitoring system, the location of the monitor will likely be on east/north-east boundary as the wind direction is most commonly from the west/south-west, however a monitor could be placed on the boundary nearest to the location of any dust issues. The inlet of the monitor would be at a height of 2 m above ground and the wind speed and wind direction instruments would be located so they are not shielded by buildings and other obstructions. Possible locations of a wind monitoring instrument are shown in Figure 4.1.

Figure 4.1 Possible locations of a wind monitor



## **4.2 Operation of PM Monitoring Equipment and recording of data**

Monitoring equipment, if necessary, will likely be hired and set up in consultation with the Local Authority and Environment Agency. The site supervisor will be responsible for setting up, operating, reading and recording the data. Dust management controls and measures will be reviewed and updated if necessary, both practically on site and in the Dust & Emissions Management Plan. Data will be provided to the Local Authority and Environment Agency.

## **5. Actions when alarm is triggered**

If the “action level” alarm sounds on any monitoring equipment required the following will occur:

1. Site supervisor assesses activities and nature of material handling and deliveries immediately prior to alarm being activated, to work out what has caused activation.
2. If source cannot be ascertained with 100% confidence, the supervisor suspends likely dust/particulate generating activity, such as tipping.
3. If source is under control, the supervisor takes appropriate action to ensure alarm is not re-activated. Actions may include:
  - (a) Investigating source of dust/particulates to prevent re-occurrence.
  - (b) Suspending operations which are not being conducted using best-practice controls as set out in Table 3.1.
  - (c) Additional use of dust abatement measures.
  - (d) Logging findings and recording all actions taken.

If an effective abatement technique cannot be identified and implemented, and observed PM<sub>10</sub> levels remain above the action level for 6 consecutive, 5-minute mean readings (i.e. 25 minutes) concurrent with recorded wind directions suggesting that the source of particulate could be from the site activities, then operations should be suspended until measured PM concentrations drop below the action level of 75 µg/m<sup>3</sup> for 6 consecutive, 5-minute mean readings.

In all cases, “lessons learnt” from the supervisor’s investigations are discussed with all staff, implemented on site and included in the management plan to prevent a re-occurrence of the alarm.

## **6. Reporting and complaints response**

Any complaints received by Leen Valley Golf Club or by Contour Golf Ltd in relation to dust will be responded to within 2 working days. Details such as the date, time, nature of complaint and complainant will be captured. Our goal is to take action as quickly as possible and senior members of staff will be informed. Where possible the complainant will be contacted and informed of action taken. Details of the action taken will be kept on record.

### **6.1 Engagement with community**

Leen Valley Golf Club and Contour Golf Ltd will aim to actively participate in any community meetings we may be invited to and will be happy to engage with the community.

Contact details will be provided on site signage throughout the project. The site signage will include contact details for Contour Golf Limited that ensures that members of the community can contact the company should they be concerned by dust emissions or wish to make a complaint. This also applies to any events that may happen when the Site is unmanned/not operational.

### **6.2 Reporting of complaints**

Details such as the date, time, nature of complaint and complainant contact details will be captured by Contour Golf Ltd, kept on a spreadsheet and senior members of staff will be informed.

Should a complaint regarding dust be received by the Site, the complaint will be recorded on the Complaints Form in the EMS and investigated in accordance with the Complaints Procedure within the EMS implemented on the Site. The Complaints Form records who made the complaint, what the complaint was about and what has been done to resolve the issue and make sure this does not happen again.

The Site Manager must identify what caused the excessive dust emission to be generated. This generation may have been caused by failure of site machinery or dust procedures. If the excessive dust emission has been caused by a procedure not being carried out properly, then staff will receive repeat EMS training on the dust procedures and site management.

In all cases, and where information is available, all complaints will be acknowledged and investigated. Any complaints received by the Environment Agency relating to dust emissions from the site are dealt with as soon as is reasonably possible upon notification.

### **6.3 Management responsibilities**

Site staff are responsible for dust management issues and detecting/reporting dust emissions. All members of staff are given training on the EMS for the Site, which includes a Dust Procedure. All staff on the Site are trained on the Dust Procedure which includes details regarding mitigation measures and monitoring/recording visual inspections.

On receipt of a complaint the Site Manager investigates and establishes the cause. The most effective corrective or preventative action must then be determined to prevent future emissions occurring. Where additional time is required in order to implement the appropriate corrective or preventative action the complainant will be contacted with details on the actions to be implemented and the estimated timescales for completion. The maximum response time for investigating the cause of the complaint and contacting a complainant will be two working days.

Should numerous complaints be received at the Site regarding the same issue, the cause of the complaint(s) will be investigated in accordance with the Accidents, Incidents & Complaints Procedure within the EMS. Operations on the Site will temporarily cease should dust emissions be seen leaving the boundary following the implementation of other mitigation measures or when instruction from the Environment Agency to cease operations has been received.

## **7 Summary**

This Dust & Emissions Management Plan aims to ensure that our activities on site are managed in such a way that results in the least amount of dust, debris and emissions as is practicably possible. The measures and controls outlined within this document will be reviewed every 6 months, in response to a complaint and following changes to best practice.

## APPENDICES

### Appendix A Dust complaint form

Customer Details	
Customer Name -	
Address -	
Postcode -	
Tel -	
Email -	
Date -	
Complaint Ref -	
Complaint Details -	
Investigation Details	
Investigation carried out by -	
Position -	
Date & time investigation carried out -	
Weather conditions -	
Wind direction and speed -	
Investigation findings -	
Feedback given to Environment Agency and/or local authority -	
Date feedback given -	
Feedback given to public -	
Date feedback given -	
Review and Improve	
Improvements needed to prevent a reoccurrence -	
Proposed date for completion of improvements -	
Actual date for completion -	
If different insert reason for delay -	
Does dust management plan need updating -	
Date dust management plan was updated -	
Closure	
Site manager review date	
Site manager signature to confirm no further action required	