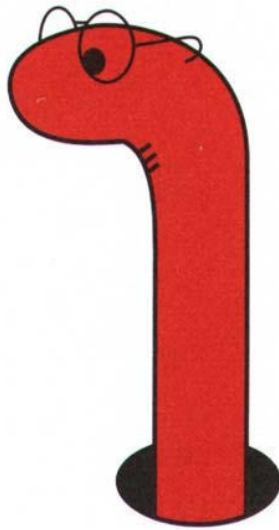


Electronic Report



WORMS EYE

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Our Ref: Ansleigh Avenue / M8 5SU / 2020
Date: 8 July 2021

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9 ANSLEIGH AVENUE, CRUMPSALL, M8 5SU
PRELIMINARY RISK ASSESSMENT (DESK STUDY) – Updated 8/7/21

INTRODUCTION

A residential development is proposed. The objective is to carry out a Preliminary Risk Assessment (PRA) to consider contamination, landfill gas and geotechnical issues. This is an updated version of our previous report.

SITE DESCRIPTION

9 Ansleigh Avenue is located to the northeast of Ansleigh Avenue in Crumpsall and at OS Grid Reference 384150, 402480. The site is an irregular shaped garden, about 50 x 20 metres, to the west of the existing house. The site, inspected on 18/06/2020 by Miss E Lord (Geotechnician), comprises an overgrown plot with a brick garage and fly tipping at the southwest, pile of bricks and stone slabs on the west and a pile of stone slabs on the east. Several plastic drums and one rusty metal drum are present throughout site. Vehicles are parked on-site.

This is a residential area with houses on all sides. The area slopes down to the northeast. To the northeast is a timber yard, about 2.5 metres below the site, with the buildings lining the northeast site boundary.

2021 UPDATE

By June 2021 the site had been cleared, and hardcore had been laid on the south of the site, in the area of the proposed house and drive. The remainder of the site was topsoil surfaced.

We have reviewed the previous PRA data sources and it is considered that there has been no significant changes in the surrounding area, and the data sources are still applicable.

TREES

There are many trees throughout site up to 20m.

This is not an accurate arboricultural survey.

PROPOSED DEVELOPMENT

It is proposed to build a detached house with a garden and driveway. The existing garage will remain.

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NOT INCLUDED IN THE REPORT

- Arboricultural Survey.
- Asbestos Survey
- Invasive Plant Survey (Japanese Knotweed etc.).
- Mining Risk Assessment.
- River/Tidal Flood Risk Assessment.
- Surface Water Flooding.
- Underground Services Survey.

General comments may be made with regards to the above where they are applicable to this risk assessment. These general comments do not constitute a detailed risk assessment.

DATA SOURCES

The following data sources have been viewed in compiling this report.

- BGS, Geology Map, 1:50000 scale, Solid and Drift Edition
- BGS, on-shore boreholes scans
- Landmark Envirocheck Report, 15.06.2020
- Ordnance Survey, Historical Maps, 1:10000 and 1:2500 scale
- Walkover Survey, 18.06.2020

This report is referred to as a Preliminary Risk Assessment (PRA), alternative names for such reports are 'Phase I' Report (Phase II being the intrusive work involving boreholes etc.) or a Desk Study.

ENVIRONMENTAL DATA

A Landmark Envirocheck report and geological maps have been reviewed, the following is a summary of the combined data. The Envirocheck report indicated none of the following within 250 metres:

- Contaminated land register entries
- Discharge consents
- Pollution incidents
- Water abstraction points (none within 500m)
- Source protection zones (none within 500m)
- Areas of flooding from rivers
- Landfill sites
- Hazardous substances sites
- Fuel stations

Geology of Site

The geological map indicates that the underlying solid rocks are sandstone of the Chester Formation.

Surface drift is shown as glacial till (boulder clay) with glacial sand and gravel, just to the northwest, both unknown thickness.

Natural subsidence hazards are shown as very low to no hazard.

Radon

The site is in a lower probability radon area as less than 1% of homes in the area are above the radon action level. Radon protection measures are not required.

Flooding

Information from the EA flood maps suggests areas where rivers would flood. There are two zones:

- 'normal' flooding, based on a 1 in 100 chance of it happening in any year (1:200 if flooding is from the sea). This is normally closer to the river.
- 'extreme' flooding, further away from the river and having a 1 in 1000 chance.

Flooding can occur for many reasons other than those dealt with by the EA maps. These include:

- burst pipes, blocked drains, sewers and culverts
- inadequate drainage
- cloudbursts/flash flooding overwhelming normally satisfactory drainage systems

Statements in this report such as 'clear of flooding/flood plain' and 'flooding – no further action' are references to the EA river and sea flood maps and are no guarantee that flooding will not occur.

Groundwater Flooding

The site is shown to be in an area with a limited potential for groundwater flooding to occur.

Flooding from Rivers

The site is shown to be clear of flooding from rivers.

Surface Water Flooding

The site is shown to be clear of surface water flooding.

Surface Water (Hydrology)

The nearest surface water receptor, down the hydraulic gradient, is the River Irk 460m northeast.

The area slopes down to the northeast and the flow of surface water is expected to be in this direction.

Groundwater (Hydrogeology)

The solid rocks under the site are indicated as a Principal aquifer.

Superficial (drift) deposits are classed as a Secondary Undifferentiated aquifer.

Groundwater flow is expected to follow the topography, down to the northeast.

Filled Ground

Within 250 metres of the site there are the following suspected filled features:

- 26m east
- 56m northwest
- 125m north
- 211m southwest
- 211m southeast
- 213m east

Nearby Industry

There is 1 LAPPC listing within 250m, as follows:

- 133m southwest – PG6/46 Dry cleaning in 2007 – Permitted *

There are 4 trade directory entries listed within 250m, as follows:

- 14m north – Builder's merchants – Active
- 135m southwest – Dry cleaners – Inactive (2 listings) *
- 194m southeast – Electrical goods sales, manufacturers and wholesalers – Inactive *

* not relevant due to distance/severity/significance

Sensitive Land Uses

Nitrate Vulnerable Zones on northwest of site. *

* not relevant due to distance/severity/significance

NEARBY BOREHOLES/PREVIOUS REPORTS/OUTCROPS

The following information, and enclosed borehole logs, contain British Geological Survey materials © NERC (2020). The BGS hold records for a borehole 71m southwest, this shows:

Soil	0 – 0.3
Clay	0.3 – 0.46
Wet Sand	0.46 – 1.6
Marl	1.6 – 2.74
Wet Sand	2.74 – 8.84
Clay/sand bands	8.84 – 11.61+

TRIALHOLE – ON SITE

A trial hole has been carried out by the land owner. This shows a limited amount of topsoil overlying sand.

SITE HISTORY

Date	On Site	Off Site
1848 (1:10,560)	Undeveloped field.	Mostly undeveloped. Sand pit 20m east. Stream 60m northwest, enter culvert 65m north.
1894 (1:10,560)	Little or no change.	Houses 65m southeast, 45m south. Small buildings immediately north, possible builders yard. Stream culverted 60m north. Railway 40m southwest, runs NW to SE in a cutting. Sidings 80m northwest.
1931 (1:2,500)	House on east of site.	Sidings 35m west, with cutting 15m west. Housing immediately east. Builders yard immediately northeast, with adjacent buildings.
1951–53 (1:1,250)	House extend to west.	Surrounding area largely developed for housing.
1978–79 (1:10,000)	Little or no change.	No relevant change.
1992 (1:1,250)	Little or no change.	Sidings to west/northwest removed, cutting suspected filled. Housing estate immediately west/northwest. Timber yard immediately northeast remains.
2003 (1:10,000)	Little or no change.	No relevant change.
2020 (1:10,000)	House on east of site demolished.	No relevant change.

DISCUSSION

Contamination

In 2020 the site was a garden and garage to an existing house, with vehicles parked on site. There was previously a house on the east of the site, built circa 1940s/50s and demolished in recent years. Demolition of this may have introduced contaminants to the ground, especially asbestos, sulphate, lead and PAHs. These are not expected at high levels, but may exceed stringent residential thresholds. Similarly the parked vehicles are a potential source of TPHs and PAHs above stringent residential thresholds, from leaks, but these would not be expected at high levels.

By June 2021 the site had been cleared and hardcore laid in the area of the proposed house and drive. This does not change the potential for contaminants to be present in the garden area.

There is a timber yard, previously a builders yard, to the north/northeast. The current yard is about 2.5 metres below the level of the site and contaminants would not migrate up to the site. However, it is not known if the building adjoining the site previously had asbestos containing materials, eg. Water pipes/gutters etc. The historical maps also suggest the north of the site was likely at the same level as, possibly even part of, the original builders yard, therefore contaminants migrating to the site cannot be ruled out at this stage.

Although there was a dry cleaners to the southwest. This is over 130m away and is not considered to pose a risk at this distance, and there are no pollution incidents on or close to the site.

The proposed development will be a house with gardens. Potential pollutant linkages are:

- Direct contact with and ingestion of soil.
- From homegrown vegetables and soil attached to vegetables.
- Inhalation and ingestion of dust.
- Sulphate attack on buried concrete.

A low to moderate risk to householders is anticipated.

Controlled Waters

There is an underlying principal aquifer beneath sand, there are no nearby water abstraction point or source protection zones.

The River Irk is 460m northeast.

Although the gardens will allow rainwater to pass through the surface soils, and migrate towards the aquifer/brook. The underlying sand will not impede the flow of water, however, contamination is not expected at high levels and it is anticipated there will be only a low risk to controlled water.

Landfill Gas/Ground Gas

There are no landfill sites within 250 metres.

There are several filled features within 250 metres of the site including a former sand pit and railway cutting within 30m of the site. These are potential sources of ground gases which could migrate to and present a risk to the development.

Bearing in mind the size of the filled areas, and underlying sand which is unlikely to significantly impede the passage of gases, it is considered that there is likely to be a low risk to the development.

Radon

Radon protection measures are not required.

Flooding from Rivers

The Environment Agency maps show that this site is clear of flooding from rivers.

Groundwater and Surface Water Flooding

The site is shown to be clear of areas of surface water flooding.

The site is shown to be in an area with limited potential for groundwater flooding to occur.

Foundations

Although the geology map suggests the site is underlain by clay, trial holes show sand to be present.

This can provide variable conditions for new foundations and a range of options from a reinforced concrete raft, to a piled foundation may need to be considered.

If clay is found elsewhere, and foundations are to be on clay, its shrinkage potential needs to be determined, to ensure foundations are below the potential effects of tree root shrinkage.

INDUSTRY PROFILE

The site has had no industrial use. Demolition rubble, may have been left from a former house and the original builders yard is a possible source of contaminants on the north of the site.

Industry	Possible Contaminants
Potential Contaminants	Metals: copper, zinc, chromium, nickel, lead, cadmium, arsenic, Inorganic compounds: cyanide, sulphates Phenols Mineral oils, fuel oils (TPHs) Asbestos General hydrocarbons (PAHs)

CONCEPTUAL MODEL

A conceptual model based on the source-pathway-receptor concept is included with this desk study to show the potential pollutant linkages with this site.

Source	Receptors	Pathway	Potential/Likely Pollutant Linkage
Asbestos	Construction workers	Inhalation	Possible
	End-users	Inhalation	Possible
	Off-site	Migration off-site	Unlikely
Inorganic contaminants	Construction workers	Short-term direct contact, inhalation of dust, ingestion	Possible
	Householders	Direct contact, ingestion, from home grown vegetables, ingestion and inhalation of dust	Yes
	Groundwater	Leaching towards	No
	River/stream	Leaching towards	No
Sulphate	Building fabric	Concrete directly in contact with soil	Yes
Hydrocarbons	Construction workers	Short-term direct contact, inhalation of dust, ingestion	Possible
	Householders	Direct contact, ingestion, from home grown vegetables, ingestion and inhalation of dust	Yes
	Service pipes	Seeping into drinking water pipes	Unlikely
	Groundwater	Migrating towards	No
	River/stream	Migrating/leaching towards	No
Hydrocarbon vapours	Construction workers	Short-term inhalation	No
	Householders	Inhalation of vapours indoors and outdoors	No
Landfill gas	End-users - in buildings	Seeping into buildings, explosion, asphyxiation	Yes
Radon	End-users - in buildings	Seeping into buildings	No

CONCLUSION

Contamination

Taking into account the past use of the site it is thought that contaminants may be present on the site, exceeding stringent residential thresholds in places.

An intrusive investigation is required, consisting of boreholes/ trial holes and tests to confirm the presence/absence and extent of contamination on the site.

The former builders yard to the north/northeast, former house at the east and vehicles are specific point sources for contamination and the investigation will need to target these, proposed garden (most sensitive part of the development), proposed house and provide all round coverage.

Controlled Waters

A low controlled water is considered possible and no further action is considered necessary at this stage. This may need to be reviewed following the soil tests.

Landfill Gas/Ground Gas

There are nearby potentially filled areas where gases may be generated.

Bearing in mind the proposals is for a single house it is considered that the anticipated gas risk can be adequately dealt with by installing precautionary gas protection measures, in-lieu of testing. The following are considered to be appropriate measures for the anticipated level of risk.

- Ventilation of confined spaces within building
- A well-constructed ground slab/suspended floor with sub-floor venting.
- A low-permeability gas membrane (see membranes below).
- Minimum penetration of ground slab by services.
- Also gas precautions should continue across the cavity.

The following membrane (or equivalent) is suggested:

- Visqueen Gas Barrier (blue with foil layer)

Each membrane should be used with the appropriate matching cavity tray (or cavity membrane), DPC and service duct 'top hat'. Joints to be lapped and sealed.

Radon

Radon protection measures are not required.

Flooding

The EA maps indicate that the area is clear of flooding from rivers.

The maps indicate that the area is clear of surface water flooding.

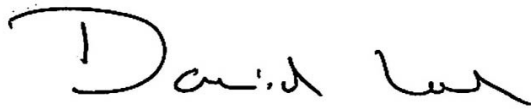
For greater confidence a detailed flood risk assessment should be obtained.

Foundations

A series of boreholes are required in the area of the proposed building to allow the most suitable foundations to be designed.

Plasticity tests are required to confirm the shrinkage potential of clay, if clay is present.

Yours faithfully
on behalf of Worms Eye Ltd

A handwritten signature in black ink, appearing to read 'David Lord'. The signature is written in a cursive, flowing style with a large initial 'D'.

David Lord
BSc (Hons)
FGS, MEnvSc, AEMA

9 ANSLEIGH AVENUE, CRUMPSALL, M8 5SU

LIST OF APPENDICES – PRELIMINARY RISK ASSESSMENT (Desk Study)

Existing Site Plan

Photographs of Site

Proposed Site Plan

Landmark Summary Map

Landmark Envirocheck Report

Historical Maps

Conceptual Model

ABBREVIATIONS

<u>Chemical</u>	BAP	Benzo(a)pyrene
	BTEX	Benzene, toluene, ethylbenzene, xylene
	DAHA	Dibenzo(ah)anthracene
	MTBE	Methyl tertiaryt-butyl ether (additive to petrol)
	EPH	Extractable Petroleum Hydrocarbons (formerly Diesel Range Organics – DRO)
	NFD	No fibres detected (asbestos test)
	PAH	Polycyclic aromatic hydrocarbons
	PCB	Polychlorinated biphenyls
	PID	Photo ionisation detector
	PRO/GRO	Petrol range organics/gasoline range organics
	SVOC	Semi-volatile organic compounds
	TCE	Trichloroethylene
	TPH	Total petroleum hydrocarbons
	VOC	Volatile organic compounds
<u>Other</u>	AGS	Association of Geotechnical Specialists
	BGS	British Geological Survey
	BRE	Building Research Establishment
	CBR	California Bearing Ratio
	CIEH	Chartered Institute of Environmental Health
	CIRIA	Construction Industry Research and Information Association
	CLEA	Contaminated Land Exposure Assessment (Environment Agency)
	CLR 8	Contaminated Land Research Report 8 (Environment Agency)
	DWQ	Drinking water quality
	EA	Environment Agency
	EQS	Environmental quality standards
	ICRCL	Inter-departmental Commission for the Reclamation of Contaminated Land
	LQM	Land Quality Management Ltd (Land and Environmental Consultancy)
	NHBC	National House Builders Council
	SGV	Soil Guideline Values
	SPT	Standard penetration test
	TPHWG	TPH Working Group

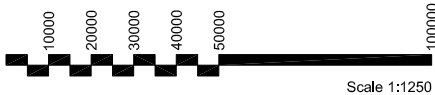
1. This report should be considered in relation to the objectives agreed between Worms Eye and the Client, outlined in the introduction.
2. For the work, reliance has been placed on publicly available data, obtained from the sources identified in the report. The information is not exhaustive and further information may be available from other sources. When using the information it has been assumed it is correct, and no attempt has been made to verify the information.
3. This report has been produced in accordance with current UK policy and guidelines, for land and groundwater contamination, enforced by the Local Authority and the Environment Agency.
4. During the site walkover, reasonable effort was made to obtain an overview of the site. However, no attempt was made to enter areas that are unsafe, a risk to health and safety, locked, barricaded, overgrown, or areas not made accessible.
5. Access, the presence of services and activities on the site, limited locations where sampling could be carried out and the techniques that could be used.
6. Assessments are based on available information at the time of writing and are ultimately for the decision of the regulatory authorities.
7. The conclusions and recommendations provide an overview and guidance only and should not be specifically relied upon without considering the context of the report in full.
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9. New information, revised practices, or changes in legislation, may necessitate the re-interpretation of the report, in whole or in part.

FOR PLANNING PURPOSES ONLY. SUBJECT TO SITE SURVEY AND ALL NECESSARY CONSENTS. ALL DIMENSIONS TO BE CHECKED BY USER AND ANY DISCREPANCIES, ERRORS OR OMISSIONS TO BE REPORTED TO THE ARCHITECT BEFORE THE WORK COMMENCES. THIS DRAWING IS TO BE READ WITH ALL OTHER RELEVANT MATERIALS

Revision	Notes	Date	Drawn
A			
B			



Location plan



**FA
+D**

FUZED A+D Ltd, 74A Water Street, Radcliffe, Manchester M26 4DF • Tel/Fax: 0161 724 8006 • E: fuzed@talktalk.net

Project	Proposed Extension to 9 Anseigh Avenue, Crumpsall				
Client	Mr O Galych				
Content	Location Plan				

Scale	Drawn	Checked	Date	Contract No.	Dwg No.	Rev
1:1250 @ A3	PD	-	Dec '09	1022	1.04	-

A3 Size

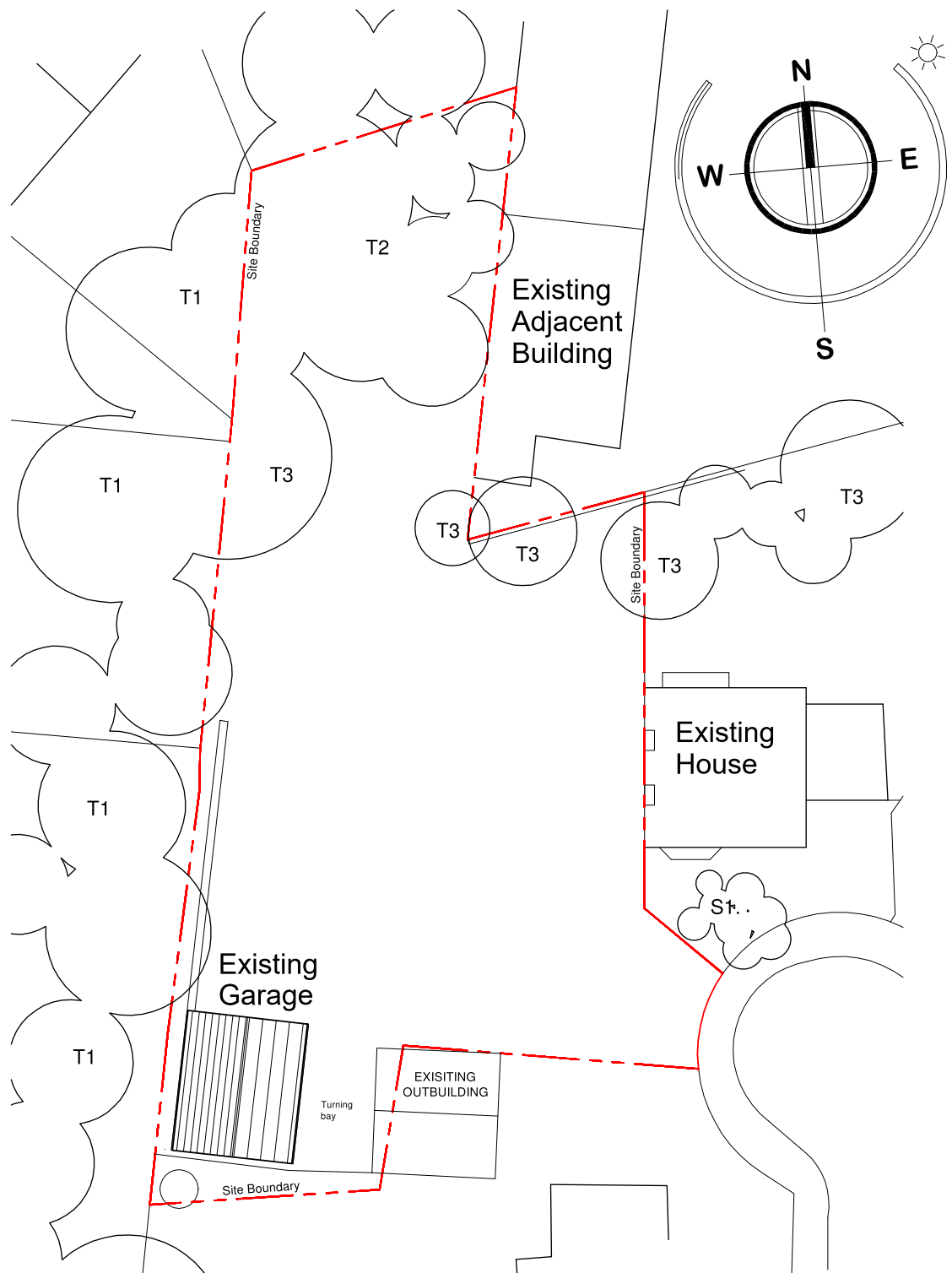
Scale 1:200

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Revision Notes

Date Drawn

A
B



Landscape Key

Trees

- T1: Off site trees down embankment
- T2: Self seeded native trees
- T3: Ornamental trees

Shrubs

- S1: Ornamental shrubs

Existing Site Plan

FuZED ARCHITECTURE +

Fuzed A+D Ltd, 74A Water Street, Radcliffe, Manchester, M26 4DF
Tel: 0161 724 8006 Email: fuzedarchitects@gmail.com

DESIGN

Scale Bar 1:200

Project:	Detached dwelling @ No. 9 Ansleigh Avenue, Crumpsall
Client:	Mr O Senechko
Content:	Planning Submission Proposed Site Plan

Contract No.	1022
Dwg No.	0.01
Revision	-
Date	May '20

9 Ansleigh Avenue, Crumpsall, M8 5SU



Looking West



Looking South

9 Ansleigh Avenue, Crumpsall, M8 5SU



Looking Southwest



Looking North

9 Ansleigh Avenue, Crumpsall, M8 5SU



Looking South

9 Ansleigh Avenue, Crumpsall, M8 5SU
General Site Photographs

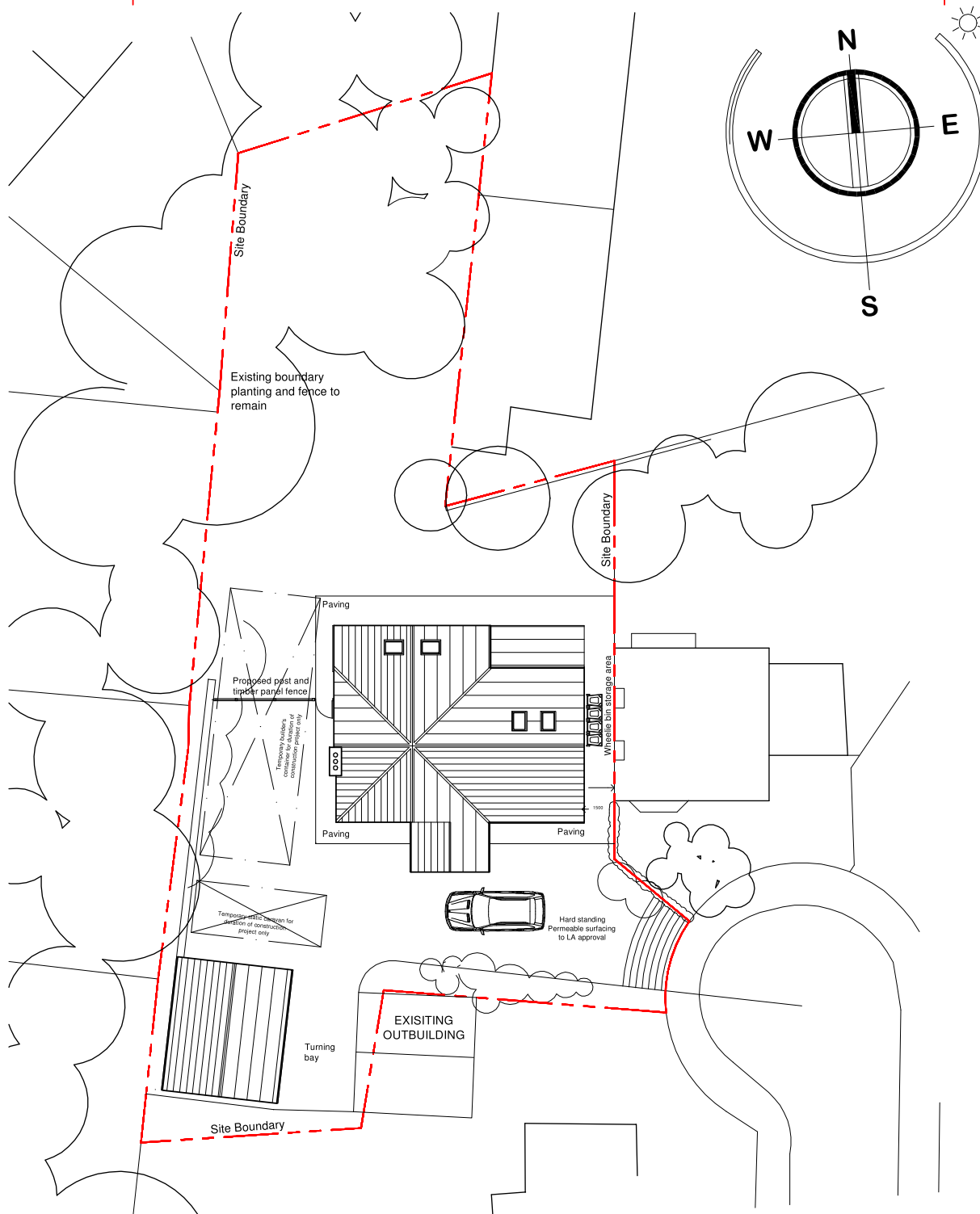


A3 Size

Scale 1:200

FOR PLANNING PURPOSED ONLY. USE FIGURED DIMENSIONS ONLY. SUBJECT TO SITE SURVEY AND ALL NECESSARY CONSENTS. ALL DIMENSIONS TO BE CHECKED BY USER AND ANY DISCREPANCIES, ERRORS OR OMISSIONS TO BE REPORTED TO THE ARCHITECT BEFORE THE WORK COMMENCES. THIS DRAWING IS TO BE READ WITH ALL OTHER RELEVANT MATERIALS

Revision	Notes	Date	Drawn
A	Dwelling repositioned and garage position adjusted	May '20	
B	Static caravan and container positions altered	May '20	
C	Static caravan and container positions altered	May '20	
D	Static caravan and container positions altered	May '20	



Proposed Site Plan

FuZED ARCHITECTURE +

Fuzed A+D Ltd, 74A Water Street, Radcliffe, Manchester, M26 4DF
Tel: 0161 724 8006 Email: fuzedarchitects@gmail.com

DESIGN

Scale Bar 1:200

Project:	Detached dwelling @ No. 9 Ansleigh Avenue, Crumpsall
Client:	Mr O Senechko
Content:	Planning Submission Proposed Site Plan

Contract No.	1022
Dwg No.	5.04
Revision	D
Date	May '20

