

Proposed Residential Development, Former Tack Lea Works

Simple Air Quality Assessment

1. Background

- 1.1. Hall & Co. Ltd. (H&C) is to submit a planning application to Rochdale Metropolitan Borough Council (RMBC) for residential development of an area of land at the former Tack Lea Works, Bury and Rochdale Old Road, Heywood. Pre-application advice received from RMBC¹ requested the provision of an Air Quality Assessment (AQA) with any submitted planning application.
- 1.2. H&C instructed Smith Grant LLP (SGP) to undertake the required AQA for submission with the planning application. Following a review of readily available information on the site location and proposed development it was deemed a Simple AQA was appropriate.
- 1.3. SGP previously prepared an AQA² for an earlier outline planning application by Ainsworth Projects Ltd (planning ref: 17/00359/FUL) for development of the former works site to 14 dwellings and associated roadways. Planning permission was granted in 2017 and it is understood this permission remains extant. In preparing this assessment SGP has therefore reviewed the previous AQA, the new development proposals, current available background information on the site setting, and transport information for the proposed development. Transport information has been provided by the project transport consultants, Vetico Consulting, and obtained from the Transport Assessment (TA) prepared by Vetico³.
- 1.4. The assessment has been prepared with reference to the Planning Practice Guidance provided in relation to air quality⁴ under the National Planning Policy Framework (NPPF)⁵ and follows the frameworks described in Institute of Air Quality Management (IAQM) guidance in relation to planning and air quality⁶ and construction dust emissions⁷. The assessment considers the potential aerial emissions associated with the proposals and likely impacts and effects on human health and ecological sites.

2. Site Details and Setting

- 2.1. The development site is located off Bury & Rochdale Old Road, the B6222, lying about 2km to the northeast of Heywood as shown below in Figure 1 and Appendix A.

¹ Rochdale Borough Council, Tack Lea Works, Bury and Rochdale Old Road, Heywood, Proposed residential development, PREAPP/00032/22, 9th June 2022

² Smith Grant LLP, Proposed Residential Development, Tack Lea Works, Heywood, Air Quality Statement, R2288-Client-N20160630, 30.06.16

³ Vetico Consulting, Former Tack Lea Site, Heywood, Transport Statement, VC0440 R1.0, August 2022

⁴ Ministry of Housing, Communities and Local Government, Planning Practice Guidance: Air Quality, issued March 2014, last updated 1st November 2019

⁵ Ministry of Housing, Communities and Local Government, National Planning Policy Framework, issued, March 2012, last updated 20 July 2021

⁶ Institute of Air Quality Management (IAQM), (2017), *Land-use Planning & Development Control: Planning for Air Quality*. v1.2.

⁷ Institute of Air Quality Management (IAQM), (2016), *Guidance on the Assessment of Dust from Demolition and Construction*, v1.1

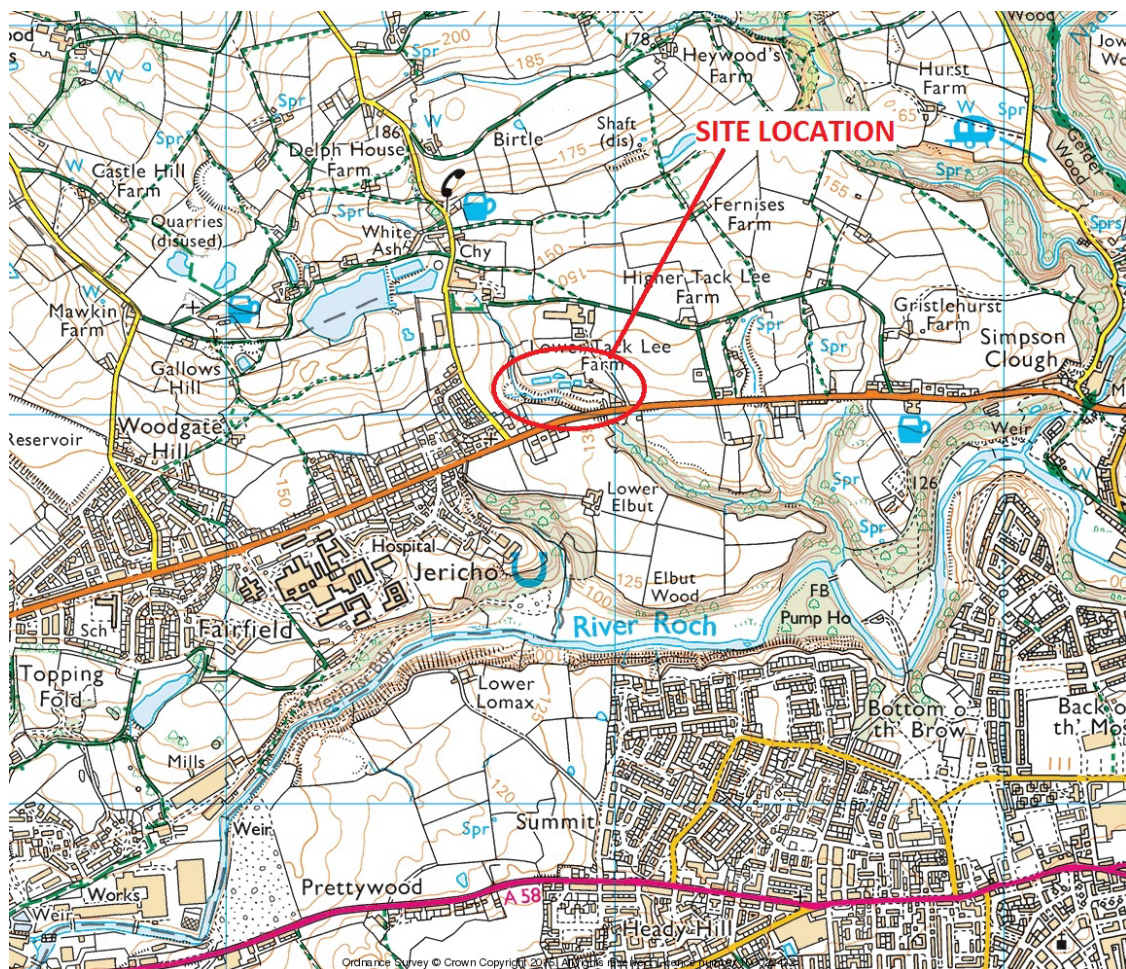
2.2. The site details are:

Table 1: Site Details

Site Location	Former Tack Lea Works, Bury and Rochdale Old Road (B6222), Heywood, BL9 7UA
National Grid Reference	384005, 412035
Local Authority	Rochdale Metropolitan Borough Council (RMBC)
Site Area	1.7ha
Nature of Current Site	Former site of industrial bleach works comprised of industrial buildings and areas of hardstanding; buildings understood to now be demolished

2.3. Trees bound the site to all sides, beyond which lie open fields to the east, north and west and south beyond the B6222. The nearest residential properties are a series of terraced properties to the immediate east of the site access off the B6222.

Figure 1: Site Location



(note: see planning application documentation for
actual application boundary and Appendix A)

- 2.4. No international or national designated nature conservation sites have been identified within 1km of the site.

3. Proposed Development

- 3.1. Proposals are for construction of 27 houses and 6 apartments with associated infrastructure. The proposed layout plan is included as Appendix A; the residential development is to be in the central and eastern areas of the site with woodland and amenity space in the east.

- 3.2. Access / egress would be via the existing single point off the B6222. The proposals include for 64 car parking spaces, with additional cycle parking provision.

4. Local and Background Air Quality Review

- 4.1. The existing local air quality has been assessed through a review of available background data and reports prepared by the Greater Manchester Combined Authority (GMCA). These reports summarise the air quality monitoring carried out by the Local Authorities in the GMCA area, including RMBC, under their Local Air Quality Management (LAQM) regime requirements. The most recent available report is the 2021 Annual Status Report⁸ which details available air quality monitoring data up until the end of 2021. The ASR also includes the results of additional Clean Air Plan (CAP) monitoring that is carried out, although this uses a different set of monitoring and compliance criteria and does not form part of the LAQM results.

Air Quality Management Areas (AQMA)

- 4.2. The GMCA has declared an Air Quality Management Area (AQMA) encompassing parts of major roads across its' area due to exceedances, or potential exceedances, of the long-term UK objective for nitrogen dioxide (NO₂). The current AQMA was defined in 2016 and was declared on a precautionary basis to encompass areas where the annual mean nitrogen dioxide (NO₂) concentrations were predicted to exceed 35 µg/m³, compared to the established UK objective of 40 µg/m³.
- 4.3. The AQMA includes several short sections of the B6222 to the east and west of the site access along with parts of the wider major road network as shown below in Figure 2.

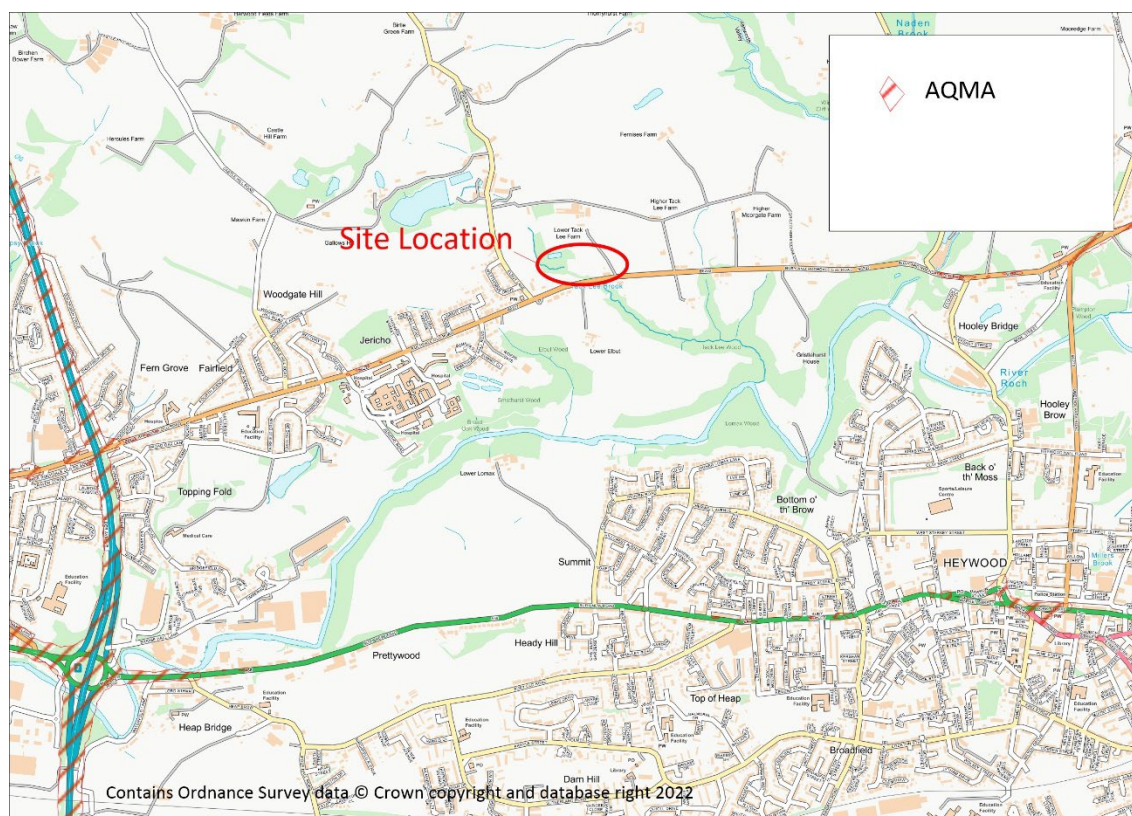
Local Air Quality Monitoring

- 4.4. The GM authorities undertake a range of local air quality monitoring across the area utilising both automatic and non-automatic (diffusion tubes) monitoring facilities. However, no such monitoring has been identified within the vicinity of the site or along the B6222. The nearest monitoring is

⁸ Greater Manchester Combined Authority, 2021 Air Quality Annual Status Report, (ASR), June 2022

carried out within Rochdale to the east and Bury to the west and is not deemed of relevance to this assessment.

Figure 2: Nearby Air Quality Features



Predicted Background Air Quality Data

- 4.5. Defra provides data on predicted background air quality on a 1km by 1km grid basis across the UK. The current predicted data is based on 2018 ambient monitoring and meteorological data⁹. The average annual mean background concentrations of the principal pollutants of interest, NO₂, NO_x, PM₁₀ and PM_{2.5}, for the grid squares in which the assessment site and immediate surroundings are located for 2022 and a future year (2027) are summarised below in Tables 2 and 3.

Table 2: Predicted Background Air Quality Data – Nitrogen Dioxide

Grid Square	Location	Predicted Pollutant Concentrations (µg/m ³)			
		NO ₂		NO _x	
		2022	2027	2022	2027
383500 412500	Site & B6222 at site access point	10.65	9.12	10.06	11.90
384500 412500	B6222 east of site access	10.38	8.88	13.59	11.55

⁹ The projections in the 2018 LAQM background maps are based on assumptions which were current before the Covid-19 outbreak in the UK. In consequence these maps do not reflect short or longer term impacts on emissions in 2020 and beyond resulting from behavioural change during the national or local lockdowns.

Grid Square	Location	Predicted Pollutant Concentrations ($\mu\text{g}/\text{m}^3$)			
		NO ₂		NO _x	
		2022	2027	2022	2027
383500 411500	B6222 west of site access	12.72	10.80	17.09	14.31
AQAL		40		30 (v)	
%AQAL		31.8	27.0	57.0	47.7

1: data downloaded from Defra website on 5th August 2022: data issued by Defra in August 2022

2: AQAL – Air Quality Assessment Level; established long-term UK air quality objective (as annual mean)

v – established for the protection of vegetation

Table 3: Predicted Background Air Quality Data – Particulate Matter

Grid Square	Location	Predicted Pollutant Concentrations ($\mu\text{g}/\text{m}^3$)			
		PM ₁₀		PM _{2.5}	
		2022	2027	2021	2027
383500 412500	Site & B6222 at site access point	10.39	10.08	6.87	6.63
384500 412500	B6222 east of site access	10.12	9.82	6.78	6.54
383500 411500	B6222 west of site access	10.75	10.43	7.24	6.99
AQAL		40		25	
%AQAL		26.9	26.1	29.0	28.0

1: data downloaded from Defra website on 5th August 2022: data issued by Defra in August 2022

2: AQAL – Air Quality Assessment Level; established long-term UK air quality objective (as annual mean)

v – established for the protection of vegetation

4.6. The background pollutant concentrations in the locality are all predicted to be substantially below the relevant long-term objectives. It should be noted that the Defra projections above are based on assumptions which were current before the Covid-19 outbreak in the UK¹⁰. In consequence they do not reflect short or longer term impacts on emissions in 2020 and beyond resulting from behavioural change during the national or local lockdowns.

4.7. No particular activities, other than road traffic, have been identified in the locality that may be expected to impact the local air quality.

4.8. It is noted that the long-term implications of any changes in traffic movements and hence air quality since the onset of the Covid-19 pandemic remain unknown.

¹⁰ COVID-19: Following the outbreak of a global pandemic of the Coronavirus disease 2019 (COVID-19) due to the SAR-CoV-2 virus, the UK Government declared several restrictions on non-essential travel and movement during March 2020. Various restrictions remained in place during 2020 and 2021 with resulting implications on transport movements across the UK.

5. Assessment

5.1. The key issues requiring consideration with regards to the proposed development and air quality are considered to be:

- construction phase: potential for construction activities to result in adverse impacts due to particulate matter (disamenity dust and PM₁₀); and
- operational phase: potential impacts of traffic generated by the development on local air quality and any nearby sensitive receptors;
- operational phase: potential for existing local air quality to impact the proposed new development.

5.2. These aspects are considered in turn below.

Construction Activities

5.3. Earthworks and construction activities may give rise to fugitive dust (particulate matter) emissions which can result in potential adverse amenity, human health and ecological impacts.

5.4. With reference to guidance provided by the Institute of Air Quality Management (IAQM) on construction dust⁷ the dust emission magnitude of the proposals would be *medium*.

5.5. The site is located within a mixed-use setting with the nearest residential receptors located to the immediate southeast near the access off the B6222. Taking into account the sensitivity and distance of receptors to the site, the surrounding area has a *medium sensitivity* to the effects of dust soiling from dust emissions (1-10 properties within 20m of site) and *low sensitivity* with regards to human health effects of PM₁₀ (1-10 properties within 20m of site and background annual mean PM₁₀ concentration of <24 µg/m³).

5.6. There is a resulting ***medium risk*** for dust emissions from the earthworks and construction activities to result in adverse dust soiling effects. There is a ***low risk*** of adverse effects due to dust arising from track-out from vehicles leaving the site and human health risks due to PM₁₀.

5.7. The potential for impacts arising from construction activities can however be readily managed and mitigated through the incorporation of appropriate dust management techniques. The requirement for this can be specified through a planning condition as outlined in the pre-application consultation response. No additional measures above and beyond those that would be incorporated within a standard Dust Management Scheme (DMS) are deemed necessary, other than the inclusion of any aspects relating to earthwork activities and any contaminated ground that may be present arising from the historical site uses. This is consistent with the pre-application advice provided by RBC which states: '*A Dust Management Plan as part of a wider Construction and Environmental Management Plan would be required by condition of any planning permission, unless submitted with the application at the outset.*'

Vehicle Exhaust Emissions

- 5.8. The IAQM guidance on air quality and planning⁶ advises that an Air Quality Assessment (AQA) should be carried out for a planning application where a proposed development will result in a change of LDV flows of more than 500 AADT and HGV flows of more than 100 AADT where distant from an AQMA. If within or close to an AQMA then the indicative criteria for proceeding to an AQA are changes in LDV flows of 100 AADT and HGV flows of 50 AADT.
- 5.9. The proposed development includes for 64 car parking spaces as detailed in the TA. Vetico Consulting has advised SGP that the development is expected to result in 140 2-way weekday movements (70 in / 70 out). The resulting annual average daily movement (AADT) would be expected to be slightly less than the annual average weekday (AAWDT) movements due to typically reduced travel at weekends. These additional movements would only be experienced at the site access / egress point with wider distribution east / west on the B2666.
- 5.10. The nearest stretches of the B266 to the site access / egress point are outside the GMCA AQMA. Development-related vehicle movements here would be well below the screening criteria of 500 LDV AADT for where outside or distant from an AQMA. Given the east / west distribution on the B2666 is also reasonable to assume the development related movements away from the access / egress point would be at, or below, the screening criteria of 100 LDV ADT for where within an AQMA.
- 5.11. Vetico Consulting has also advised that the previous industrial use of the site would generate in the order of 72 2-way weekday movements. Previous permitted use of the site for a 70-bed care home (planning ref: 09/D52014) and housing development (ref: 17/00359/FUL) would have resulted in 127 and 64 2-way weekday movements respectively. As noted above the previous housing development permission remains extant.
- 5.12. The proposed development would therefore result in an additional 76 LDV weekday movements to the existing permitted housing development use. This is below the IAQM screening criteria for both within, or distant from, an AQMA. The proposed development would also result in reduced LDV movements to the previously consented care home use.
- 5.13. It is considered therefore that the additional flows due to the proposed development would not result in significant impacts on nearby receptors or the GCMA AQMA. No further assessment of potential impacts associated with the development related traffic movements is considered necessary.
- 5.14. Further to this the proposals include for the provision of 1 electric vehicle charging point with each dwelling. This will serve to encourage the use of ultra-low emission vehicle (ULEV) use.

Existing Air Quality

- 5.15. As shown above in Figure 2 the GMCA AQMA does not extend to within the vicinity of the site. The site lies distant from the stretches of the B6222 where concentrations of NO₂ have been identified as being potentially above, or close to, the established annual objective and have therefore been declared as forming part of the AQMA.
- 5.16. Further to this it is noted that according to the proposed site layout, the houses of the development will be set back further from the B6222 than the existing properties to the immediate east of the site access.
- 5.17. On this basis the site is considered to be suitable for the proposed development with regards to local air quality and no further assessment is deemed necessary.

6. Conclusions

- 6.1. Proposals are for construction of 27 houses and 6 apartments with associated infrastructure.
- 6.2. Information on the expected operational trip generation of the proposed development has been provided and reviewed. The expected additional vehicle movements and associated vehicle exhaust emissions are not expected to result in significant air quality impacts on residential properties or other sensitive landuses in the area.
- 6.3. Any fugitive dust impacts during the construction phase of the development can be readily minimised through standard management practices and design implementation of a construction dust management plan incorporated within a Dust Management Plan (DMP) within a wider Construction and Environmental Management Plan (CEMP).
- 6.4. It is concluded that there are no reasons on air quality grounds why the development proposals should not be granted planning permission.

Prepared on behalf of Smith Grant LLP by:

Name:

K. Hawkins, Partner

BSc MSc MIAQM MEnvSci CEnv

Signature:



Date:

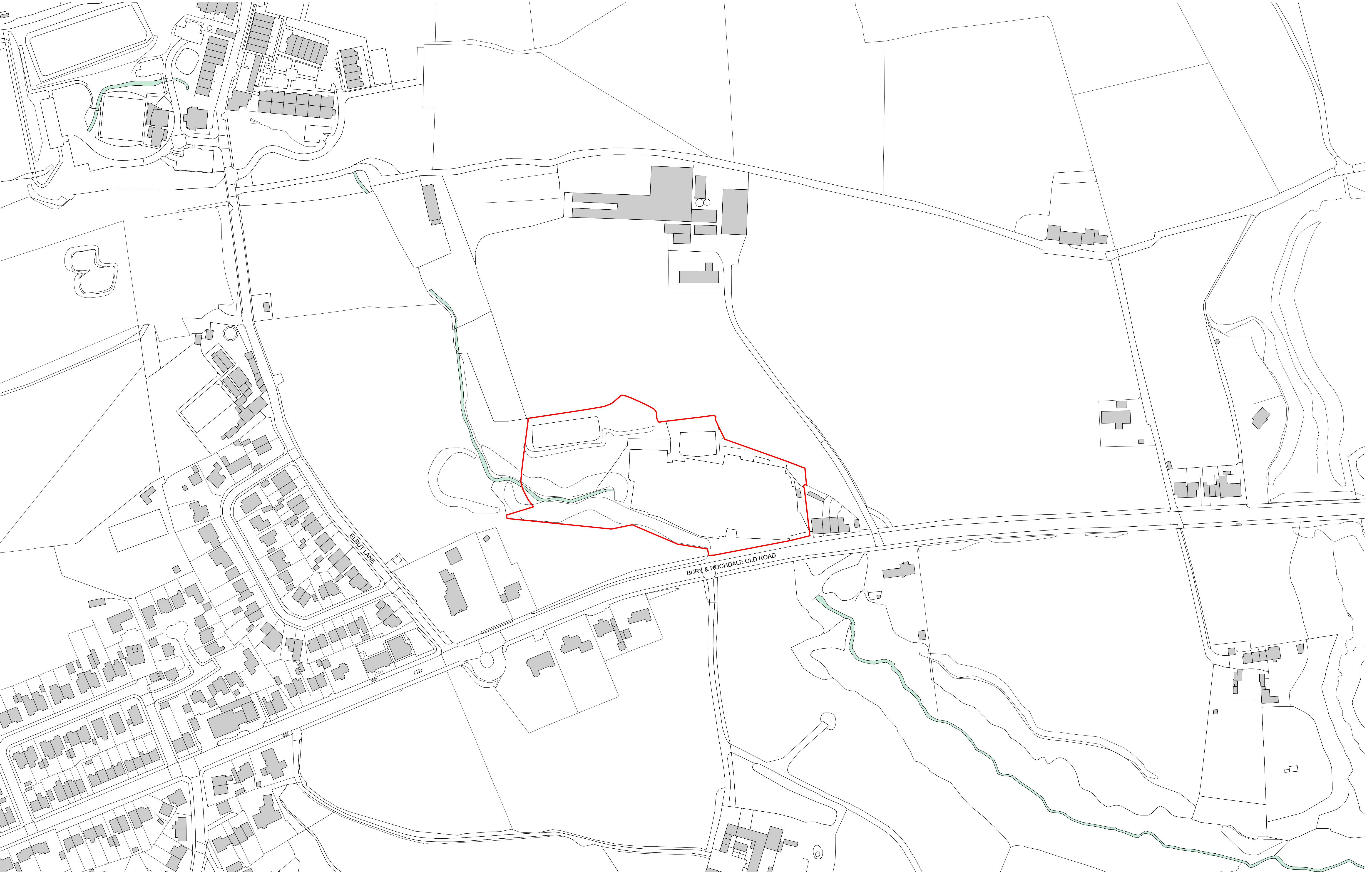
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APPENDIX A:

Site Location

and

Proposed Site Layout Plans



LOCATION PLAN

1:1250 @A1

IMPORTANT NOTES:

REVISION	DATE	DESCRIPTION

CLIENT:

PROJECT: PROPOSED RESIDENTIAL DEVELOPMENT

ADDRESS: TACK LEA WORKS, BURY

DRAWING TITLE: LOCATION PLAN

SCALE: 1:1250 @A1

DRAWING NO: A645_P_001

DATE: FEB 2022

OLLIER SMURTHWAITE ARCHITECTS

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PROPOSED SITE PLAN GROUND

Tack Lea Works, Bury

27no. Houses & 6no.
Apartments with
64no. Parking Spaces

ACCOMMODATION SCHEDULE

Residential		
	7no. 5 BED DETACHED COTTAGES (1,790sqft ave.)	12,530sqft
	6no. 4 BED SEMI-DETACHED MILL HOUSE (1,500sqft ave.)	9,000sqft
	4no. 4 BED COTTAGES (1,180sqft ave.)	4,720sqft
	2no. 4 BED SEMI-DETACHED COTTAGES (1,200sqft ave.)	2,400sqft
	4no. 3 BED COTTAGES (980sqft ave.)	3,920sqft
	4no. 3 BED MILL HOUSE (975sqft ave.)	3,900sqft
	6no. 2 BED APARTMENTS (675sqft ave.)	4,050sqft

NET SALEABLE **40,520sqft**

REVISION	DATE	DESCRIPTION

CLIENT:	
PROJECT: PROPOSED RESIDENTIAL DEVELOPMENT	
ADDRESS: TACK LEA WORKS, BURY	
DRAWING TITLE: PROPOSED SITE PLAN	
SCALE: 1:750@A3	DATE: MAY 2021
DRAWING NO: A645_SK_10K	

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