PROFESSIONAL CONSULT

FUTURE ENVIRONMENTS

NOISE IMPACT ASSESSMENT

Proposed Community Hall

2 Seymour Rd, Manchester

QUALITY ASSURANCE & REPORT INFORMATION

Report Version	**R1**	**R2**	**R3**	**R4**
Prepared by	John Goodwin MIOA			
Position	Director			
Reviewed by	Martyn Parker MIOA			
Position	Principal Consultant			
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Professional Consult Limited is registered in England (11635570). Registered Office: 534 Edenfield Road, Rochdale, Lancashire OL12 7QJ

Professional Consult Limited

hello@professionalconsult.co.uk
www.professionalconsult.co.uk



EXECUTIVE SUMMARY

The Site is located north of Manchester City Centre and lies within the jurisdiction of the Crumspall district whilst also bordering the Cheetham Hill district. Immediately to the south west of the Site is an active high street on the Old Bury Road, dense with local businesses, restaurants and services for residents.

The Site is currently used as a car maintenance facility.

The closest residential dwellings to the Site lies above the commercial uses on Bury Old Rd to the south west of the Site.

The soundscape at the closest residential dwellings is comprised of noise from road traffic vehicles using Bury Old Road.

This Assessment has been undertaken to set mechanical and electrical plant noise emission limits which cannot be exceeded at the closest existing residential dwellings to the Development.

Should the plant noise emission limits be adhered to, then the level of noise from the Development will be sufficiently low enough at the closest residential dwellings to accord with the 'No Observed Adverse Effect Level' as detailed in the PPG and as such noise should not be deemed to be a determining factor in the granting of planning permission for this Site.

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1 INTRODUCTION

1.1 Appointment

1.1.1 Professional Consult Limited was instructed by Glide Construction Limited to prepare a Noise Impact Assessment ('the Assessment') in support of a proposed Community Hall ('the Development') at 2 Seymour Rd in Manchester M8 5BG, to be referred to hereafter as 'the Site'.

1.2 Purpose of Assessment

1.2.1 The Development will include for a café and plant room which may have mechanical and electrical plant associated with it and may give rise to adverse noise impacts at the closest residential dwellings.

1.2.2 Accordingly, this Assessment has been completed with due regard to the National Planning Policy Framework and its associated National Planning Policy Guidance in addition to appropriate British Standards and guidance documents relevant to the assessment of noise impacts.

1.2.3 All acronyms used within this report are defined in the Glossary presented in Appendix 2.

1.3 The Development

1.3.1 The Development will comprise of a 3-storey building and will include shared works-space, café, a prayer hall, workshop/classrooms and an outdoor terrace.

1.4 The Site, Locality & Soundscape

1.4.1 The Site is located north of Manchester City Centre and lies within the jurisdiction of the Crumspall district whilst also bordering the Cheetham Hill district. Immediately to the south west of the Site is an active high street on the Old Bury Road, dense with local businesses, restaurants and services for residents.

1.4.2 The Site is currently used as a car maintenance facility.

1.4.3 The closest residential dwellings to the Site lies above the commercial uses on Bury Old Rd to the south west of the Site.

1.4.4 The soundscape at the closest residential dwellings is comprised of noise from road traffic vehicles using Bury Old Road.

1.5 Limitations

1.5.1 The limitations of this report are presented in Appendix 1.

1.6 Confidentiality

1.6.1 Professional Consult has prepared this report solely for the use of the Client. Should any third party wish to use or rely upon the contents of the report, written approval must be sought from Professional Consult; a charge may be levied against such approval.

2 POLICY & GUIDANCE

2.1 National Planning Policy Framework & National Planning Practice Guidance

2.1.1 The Government updated the National Planning Policy Framework (NPPF) on 19th December 2023 and its associated National Planning Practice Guidance (NPPG) on 24th June 2021. Together, the NPPF and NPPG set out what the Government expects of local authorities. The overall aim is to ensure the planning system allows land to be used for new homes and jobs, while protecting valuable natural and historic environments.

2.1.2 The NPPG adds further context to the NPPF and it is intended that the two documents should be read together.

2.1.3 Noise needs to be considered when new developments may create additional noise and when new developments would be sensitive to the prevailing acoustic environment. When preparing local or neighbourhood plans, or taking decisions about new development, there may also be opportunities to consider improvements to the acoustic environment.

2.1.4 Local planning authorities' plan-making and decision making should take account of the acoustic environment and in doing so consider:

- Whether or not a significant adverse effect is occurring or likely to occur;
- Whether or not an adverse effect is occurring or likely to occur; and
- Whether or not a good standard of amenity can be achieved.

2.1.5 In line with the Explanatory Note of the Noise Policy Statement for England, this would include identifying whether the overall effect of the noise exposure (including the impact during the construction phase wherever applicable) is, or would be, above or below the significant observed adverse effect level and the lowest observed adverse effect level for the given situation.

2.1.6 The Observed Effect Levels are as follows:

- Significant observed adverse effect level: This is the level of noise exposure above which significant adverse effects on health and quality of life occur;
- Lowest observed adverse effect level: this is the level of noise exposure above which adverse effects on health and quality of life can be detected; and
- No observed effect level: this is the level of noise exposure below which no effect at all on health or quality of life can be detected.

2.1.7 Table 1 summarises the noise exposure hierarchy, based on the likely average response.

Table 1. Noise Exposure Hierarchy

Perception	Examples of Outcomes	Increasing Effect Level	Action
Not Noticeable	No Effect	No Observed Effect	No specific measures required
Noticeable and not intrusive	Noise can be heard but does not cause any change in behaviour or attitude. Can slightly affect the acoustic character of the area but not such that there is a perceived change in the quality of life.	No Observed Adverse Effect	No specific measures required
Lowest Observed Adverse Effect Level			
Noticeable and intrusive	Noise can be heard and causes small changes in behaviour and/or attitude, e.g. turning up volume of television; speaking more loudly; where there is no alternative ventilation, having to close windows for some of the time because of the noise. Potential for some reported sleep disturbance. Affects the acoustic character of the area such that there is a perceived change in the quality of life.	Observed Adverse Effect	Mitigate and reduce to a minimum
Significant Observed Adverse Effect Level			
Noticeable and disruptive	The noise causes a material change in behaviour and/or attitude, e.g. avoiding certain activities during periods of intrusion; where there is no alternative ventilation, having to keep windows closed most of the time because of the noise. Potential for sleep disturbance resulting in difficulty in getting to sleep, premature awakening and difficulty in getting back to sleep. Quality of life diminished due to change in acoustic character of the area.	Significant Observed Effect	Avoid
Noticeable and very disruptive	Extensive and regular changes in behaviour and/or an inability to mitigate effect of noise leading to psychological stress or physiological effects, e.g. regular sleep deprivation/awakening; loss of appetite, significant, medically definable harm, e.g. auditory and non-auditory	Unacceptable Adverse Effect	Prevent

2.1.8 The subjective nature of noise means that there is not a simple relationship between noise levels and the impact on those affected. This will depend on how various factors combine in any particular situation.

2.1.9 These factors include:

- The source and absolute level of the noise together with the time of day it occurs. Some types and level of noise will cause a greater adverse effect at night than if they occurred during the day - this is because people tend to be more sensitive to noise at night as they are trying to sleep. The adverse effect can also be greater simply because there is less background noise at night;
- For non-continuous sources of noise, the number of noise events, and the frequency and pattern of occurrence of the noise;
- the spectral content of the noise and the general character of the noise. The local topology and topography should also be taken into account along with the existing and, where appropriate, the planned character of the area.

2.1.10 More specific factors to consider when relevant:

- where applicable, the cumulative impacts of more than one source should be taken into account along with the extent to which the source of noise is intermittent and of limited duration;
- Consideration should also be given to whether adverse internal effects can be completely removed by closing windows and, in the case of new residential development, if the proposed mitigation relies on windows being

kept closed most of the time. In both cases a suitable alternative means of ventilation is likely to be necessary. Further information on ventilation can be found in the Building Regulations; and

- If external amenity spaces are an intrinsic part of the overall design, the acoustic environment of those spaces should be considered so that they can be enjoyed as intended.

2.2 BS4142:2014+A1:2019 'Methods for rating and assessing industrial and commercial sound'

2.2.1 This standard describes methods for rating and assessing sound of an industrial or commercial nature which includes:

- Sound from industrial and manufacturing processes;
- Sound from fixed installations which comprise mechanical and electrical plant and equipment;
- Sound from the loading and unloading of goods and materials at industrial and / or commercial premises; and,
- Sound from mobile plant and vehicles that is an intrinsic part of the overall sound emanating from processes or premises, such as that from forklift trucks, or that from train or ship movements on or around an industrial or commercial Site.

2.2.2 The procedure detailed in the standard compares the measured or predicted noise level 'the specific noise level' from any of the above detailed noise sources with the background sound level at a residential dwelling. The measured background sound level at a receptor should be reliable and should not necessarily ascertain a lowest measured background sound level, but rather to quantify what is 'typical.'

2.2.3 The specific noise level also acknowledges the following reference time intervals depending upon whether the noise source operates during daytime or night-time periods:

- Daytime (07:00 - 23:00): 1 hour; and
- Night-time (23:00 - 07:00): 15 minutes.

2.2.4 There are a number of 'penalties' which can be attributed to the specific sound level, either subjectively or objectively, depending upon the 'acoustic features' of the sound level under investigation as follows. These penalties vary in their weighting depending upon the severity of the acoustic feature, as follows (with regards to the subject method):

<u>Tonality</u>

- +2dB: where the tonality is just perceptible;
- +4dB: where the tonality is clearly perceptible; and
- +6dB: where the tonality is highly perceptible.

<u>Impulsivity</u>

- +3dB: where the impulsivity is just perceptible;
- +6dB: where the impulsivity is clearly perceptible; and
- +9dB: where the impulsivity is highly perceptible.

Intermittency

- +3dB: where the intermittency is readily distinctive against the acoustic environment.

2.2.5 Where the assessment is carried out using the objective method, the tonality penalty is either 0dB or 6dB and the impulsivity penalty can range from 0dB up to 9dB in increments of 1dB, depending on the level of impulsivity identified.

2.2.6 In addition to the above acoustic features, there is a penalty for 'other sound characteristics' of +3dB where a sound exhibits characteristics that are neither tonal nor impulsive, though is readily distinctive against the acoustic environment.

2.2.7 BS4142 goes on to state that the rating level is equal to the specific sound level if there are no such features present or expected to be present.

2.2.8 Assessment of the rating level relative to the background noise level can yield the following commentary:

- Typically, the greater this difference (between the rating level and the background sound level), the greater the magnitude of impact;
- A difference of around +10dB or more is likely to be an indication of a significant adverse impact, depending on the context;
- A difference of around +5dB is likely to be an indication of an adverse impact, depending on the context; and
- The lower the rating level is relative to the measured background sound level, the less likely it is that the specific sound source will have an adverse impact. Where the rating level does not exceed the background sound level, this is an indication of the specific sound source having a low impact.

2.2.9 Whilst the amended 2019 Standard does make various references to it not being intended to assess noise impacts at indoor locations, section 1.1 does state 'The methods described in this British Standard use outdoor sound levels to assess the likely effects of sound on people who might be inside or outside a dwelling or premises used for residential purposes upon which sound is incident'. Example 6 in the Standard states 'In addition to the rating/background sound level comparison shown in Table A.6, the primary concern is the potential for disturbance of residents who could be sleeping with open bedroom windows. Other guidance, such as BS 8233, might also be applicable in this instance'.

2.2.10 With the above in mind, and for a clear need to ensure that any potential commercial or industrial noise impacts at the building façade do not give rise to internal noise level which causes sleep disturbance in bedrooms, this Assessment will ensure that the predicted rating level (specific sound level including any character corrections) does not exceed 30dB in bedrooms.

2.3 Local Authority Guidance and Criteria – Manchester City Council's Environmental Health Department

2.3.1 Consultation was provided to Manchester City Council on 11th December 2023, which stated:

> *'We have been appointed by a client to undertake a Noise Impact Assessment in support of a proposed Community Hall at 2 Seymour Street in Manchester M8 5BG.*
>
> *Inspection of the pre-planning information issued indicates that there will be a café and plant room associated with the development which may have the potential to produce adverse noise impacts at the closest residential receptors.*
>
> *Professional Consult will complete the following noise surveys:*

- ***Background Noise:*** *A background sound survey will be completed on Site in the absence of any commercial sound over a full weekday and weekend period.*

Professional Consult will complete the following assessment:

- ***Commercial Noise:*** *An assessment of noise from the plant room / kitchen will be assessed against the criteria presented in BS4142:2014+A1:2019 and the criteria presented by Manchester City Council.*

Where exceedances of any noise criteria are identified, Professional Consult will recommend appropriate and reasonable noise mitigation measures to ensure that the noise level criteria will not be exceeded at the proposed residential dwellings.

If you have any comments, then please do advise at your earliest convenience.'

2.3.2 At the time of issuing this Assessment, no response had been received.

2.4 Manchester City Council – Planning & Noise, Technical Guidance October 2022

2.4.1 Manchester City Council have published their own guidance document which sets out required noise criteria levels for various types of development. With regards to proposed mechanical and electrical plant forming part of a development, the guidance states:

'Noise from fixed plant, equipment or machinery can be very annoying and disruptive to people living nearby particularly where that item involved emits a noise with impulsive or tonal characteristics.

Many of the complaints Environmental Health receive about noise from plant, equipment and machinery specifically concern the character of the noise emitted. Any noise assessment needs to consider not only the overall level of noise emitted, but also its particular characteristics. The noise assessment should be based on BS 4142, and any application for fixed plant, equipment or machinery must demonstrate that:

'Externally mounted ancillary plant, equipment and servicing shall be selected and/or acoustically treated in accordance with a scheme designed so as to achieve a rating level of 5dB (LAeq) below the typical background (LA90) level at the nearest noise sensitive location'.

3 NOISE SURVEY

3.1 Background Sound Survey

3.1.1 Professional Consult has completed noise measurements as follows:

- **Noise Measurement Position 1**: Located in the centre of the Site between 10:30 on Friday 26th January – 10:00 on Monday 29th January 2024 in free-field conditions. Noise sources at the microphone included noise from the operational car garage which is understood to operate generally between 08:00 – 18:00 Monday - Saturday. Noise sources at the microphone outside of these hours comprised of distant road traffic noise on the surrounding road network.

3.1.2 Table 2 details the measured background sound levels when the car garage was not operational. The night-time period adopted has been taken from 23:00 on Saturday 27th January – 07:00 on Sunday 28th January and the daytime period has been taken from 07:00 – 23:00 on Sunday 28th January. The full measured background sound levels are presented in Appendix IV.

Table 2. Summary of Measured Background Sound Levels

Noise Measurement Position	Period	Measured Background Sound Level, $L_{A90,15mins}$ (dB)	
		Range	Typical (Mode Average)
NMP1	Daytime (07:00 – 23:00)	40 – 47	46
	Night-time (23:00 – 07:00)	37 - 48	37

3.2 Noise Survey Equipment

3.2.1 The following equipment was used for the noise survey.

Table 3. Noise Measurement Equipment

Measurement Position	Equipment Description	Manufacturer & Type No	Serial No.	Calibration Due Date
NMP1	Sound Level Meter	01dB Fusion	15440	23 November 2025
	Pre-amplifier	01dB PRE22	2214039	
	Microphone	GRAS 40CD	585117	
	Calibrator	01dB CAL-31	87280	02 July 2024

3.2.2 The sound level meter was field calibrated prior to and following the noise surveys and there was no drift beyond the allowable limit of 1dB.

3.2.3 Table 4 indicates a summary of the measured weather conditions.

Table 4. Range of Measured Wind Speeds

Period	Range of Measured Wind Speeds (m/s)	Rainfall Recorded?
All periods	0 – 1.2	No

4 NOISE IMPACT ASSESSMENT

4.1.1 At the time of issuing this report, no details for any proposed operating hours or details of any mechanical and electrical plant were known and so Table 5 calculates maximum mechanical and electrical plant noise emission limits based on the existing measured background sound levels.

Table 5. Calculation of Plant Noise Emission Limits

Period	Measured Background Sound Level, $L_{A90,t}$ (dB)	Criteria (dB)	Highest Permitted Cumulative Rated Level of Noise at Closest Residential Receptor, $L_{A,r}$ (dB)
Day (07:00 – 23:00)	46	$L_{A,r} = L_{A90,t}$ -5dB	41
Night-time (23:00 – 07:00)	37		32

4.1.2 Table 5 indicates the maximum rated level of noise for each period when mechanical and electrical plant may be able to operate. The rated level of noise is relative to the closest existing and/or proposed residential dwelling. It should be noted that the rated noise levels may contain acoustic character corrections for tonality, impulsivity or intermittency and so the actual (specific) level of noise measurable at the receptor may need to be lower than the above values.

5 CONCLUSION

5.1.1 Professional Consult Limited was instructed by Glide Construction Limited to prepare a Noise Impact Assessment in support of a proposed Community Hall at 2 Seymour Rd in Manchester M8 5BG.

5.1.2 The Development will include for a café and plant room which may have mechanical and electrical plant associated with it and may give rise to adverse noise impacts at the closest residential dwellings.

5.1.3 Accordingly, this Assessment has been completed with due regard to the National Planning Policy Framework and its associated National Planning Policy Guidance in addition to appropriate British Standards and guidance documents relevant to the assessment of noise impacts.

5.1.4 The Development will comprise of a 3-storey building and will include shared works-space, café, a prayer hall, workshop/classrooms and an outdoor terrace.

5.1.5 The Site is located north of Manchester City Centre and lies within the jurisdiction of the Crumspall district whilst also bordering the Cheetham Hill district. Immediately to the south west of the Site is an active high street on the Old Bury Road, dense with local businesses, restaurants and services for residents.

5.1.6 The Site is currently used as a car maintenance facility.

5.1.7 The closest residential dwellings to the Site lies above the commercial uses on Bury Old Rd to the south west of the Site.

5.1.8 The soundscape at the closest residential dwellings is comprised of noise from road traffic vehicles using Bury Old Road.

5.1.9 This Assessment has been undertaken to set mechanical and electrical plant noise emission limits which cannot be exceeded at the closest existing residential dwellings to the Development.

5.1.10 Should the plant noise emission limits be adhered to, then the level of noise from the Development will be sufficiently low enough at the closest residential dwellings to accord with the 'No Observed Adverse Effect Level' as detailed in the PPG and as such noise should not be deemed to be a determining factor in the granting of planning permission for this Site.

APPENDIX 1: LIMITATIONS

This report and its findings should be considered in relation to the terms of reference and objectives agreed between Professional Consult Limited and the Client.

The executive summary, conclusions and recommendations sections of the report 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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APPENDIX 2: GLOSSARY OF ACOUSTIC TERMINOLOGY

Noise is defined as unwanted sound. Human ears are able to respond to sound in the frequency range 20 Hz (deep bass) to 20,000 Hz (high treble) and over the audible range of 0 dB (the threshold of perception) to 140 dB (the threshold of pain). The ear does not respond equally to different frequencies of the same magnitude, but is more responsive to mid-frequencies than to lower or higher frequencies. To quantify noise in a manner that approximates the response of the human ear, a weighting mechanism is used. This reduces the importance of lower and higher frequencies, in a similar manner to the human ear.

Furthermore, the perception of noise may be determined by a number of other factors, which may not necessarily be acoustic. In general, the impact of noise depends upon its level, the margin by which it exceeds the background level, its character and its variation over a given period of time. In some cases, the time of day and other acoustic features such as tonality or impulsiveness may be important, as may the disposition of the affected individual. Any assessment of noise should give due consideration to all of these factors when assessing the significance of a noise source.

The most widely used weighting mechanism that best corresponds to the response of the human ear is the 'A'-weighting scale. This is widely used for environmental noise measurement, and the levels are denoted as dB(A) or L_{Aeq}, L_{A90} etc., according to the parameter being measured.

The decibel scale is logarithmic rather than linear, and hence a 3 dB increase in sound level represents a doubling of the sound energy present. Judgement of sound is subjective, but as a general guide a 10 dB(A) increase can be taken to represent a doubling of loudness, whilst an increase in the order of 3 dB(A) is generally regarded as the minimum difference needed to perceive a change under normal listening conditions.

An indication of the range of sound levels commonly found in the environment is given in the following table.

Table 1: Typical Sound Pressure Levels

Sound Pressure Level (dB)	Location/Example
0	Threshold of hearing
20 - 30	Quiet bedroom at night
30 - 40	Living room during the day
40 - 50	Typical office
50 - 60	Inside a car
60 - 70	Typical high street
70 - 90	Inside factory
100 - 110	Burglar alarm at 1m away
110 - 130	Jet aircraft on take off
140	Threshold of pain

Table 2: Terminology

Descriptor	Explanation
dB (decibel)	The scale on which sound pressure level is expressed. It is defined as 20 times the logarithm of the ratio between the root-mean-square pressure of the sound field and a reference pressure (2x10-5Pa).
dB(A)	A-weighted decibel. This is a measure of the overall level of sound across the audible spectrum with a frequency weighting (i.e. 'A' weighting) to compensate for the varying sensitivity of the human ear to sound at different frequencies.
$L_{Aeq, T}$	L_{Aeq} is defined as the notional steady sound level which, over a stated period of time (T), would contain the same amount of acoustical energy as the A - weighted fluctuating sound measured over that period.
L_{Amax}	L_{Amax} is the maximum A - weighted sound pressure level recorded over the period stated. L_{Amax} is sometimes used in assessing environmental noise where occasional loud noises occur, which may have little effect on the overall Leq noise level but will still affect the noise environment. Unless described otherwise, it is measured using the 'fast' sound level meter response.
L_{10} & L_{90}	If a non-steady noise is to be described it is necessary to know both its level and the degree of fluctuation. The Ln indices are used for this purpose, and the term refers to the level exceeded for n% of the time. Hence L_{10} is the level exceeded for 10% of the time and as such can be regarded as the 'average maximum level'. Similarly, L_{90} is the 'average minimum level' and is often used to describe the background noise. It is common practice to use the L_{10} index to describe traffic noise.
Free-field Level	2A sound field determined at a point away from reflective surfaces other than the ground with no significant contributions due to sound from other reflective surfaces. Generally as measured outside and away from buildings.
Fast	A time weighting used in the root mean square section of a sound level meter with a 125millisecond time constant.
Slow	A time weighting used in the root mean square section of a sound level meter with a 1000millisecond time constant.

APPENDIX 3: SITE LOCATION PLAN

Figure 1



APPENDIX 4: MEASURED BACKGORUND SOUND LEVELS

Period start	Measured Sound Pressure Level (dB)	
	LAeq,T	$L_{A90,T}$
26/01/2024 11:00	54.3	49.4
26/01/2024 11:15	52.8	48.7
26/01/2024 11:30	56.2	49.6
26/01/2024 11:45	51.3	47.2
26/01/2024 12:00	50.8	47.8
26/01/2024 12:15	52.1	47.2
26/01/2024 12:30	57.6	47.9
26/01/2024 12:45	59.1	47.7
26/01/2024 13:00	57	48.3
26/01/2024 13:15	63.8	48.4
26/01/2024 13:30	62.5	48.1
26/01/2024 13:45	66.3	48.3
26/01/2024 14:00	57.7	47.2
26/01/2024 14:15	52.2	47.6
26/01/2024 14:30	50.1	46.8
26/01/2024 14:45	53.7	48.4
26/01/2024 15:00	54	47.1
26/01/2024 15:15	48	45.9
26/01/2024 15:30	54.1	46.8
26/01/2024 15:45	50.2	46.3
26/01/2024 16:00	67.2	47.1
26/01/2024 16:15	59.1	47
26/01/2024 16:30	52.5	46.7
26/01/2024 16:45	61.6	46.1
26/01/2024 17:00	55.6	46.1
26/01/2024 17:15	62.5	47.6
26/01/2024 17:30	67	48.2
26/01/2024 17:45	63.9	48.2
26/01/2024 18:00	64.8	49.2
26/01/2024 18:15	53.4	46.2
26/01/2024 18:30	53.1	46
26/01/2024 18:45	48	45.9
26/01/2024 19:00	47.1	45.6
26/01/2024 19:15	46.9	45.7
26/01/2024 19:30	47.4	45.9
26/01/2024 19:45	49	45.9
26/01/2024 20:00	48	46.1
26/01/2024 20:15	47	45.8
26/01/2024 20:30	48	45.9
26/01/2024 20:45	47.1	45.6
26/01/2024 21:00	46.7	45.1
26/01/2024 21:15	51.4	45.6
26/01/2024 21:30	46.7	44.7

26/01/2024 21:45	47	45.5
26/01/2024 22:00	46.7	45.2
26/01/2024 22:15	46.8	45.2
26/01/2024 22:30	47	45.5
26/01/2024 22:45	47	45.2
26/01/2024 23:00	47.9	45.6
26/01/2024 23:15	47.6	45.5
26/01/2024 23:30	48.8	44.4
26/01/2024 23:45	47	44.4
27/01/2024 00:00	45.5	43.6
27/01/2024 00:15	46.5	43.8
27/01/2024 00:30	45	43
27/01/2024 00:45	44.3	42.9
27/01/2024 01:00	44.1	42.3
27/01/2024 01:15	43.3	41.8
27/01/2024 01:30	43.9	42.1
27/01/2024 01:45	43.5	41.5
27/01/2024 02:00	43.8	41.6
27/01/2024 02:15	43.2	40.4
27/01/2024 02:30	42.7	40.5
27/01/2024 02:45	41.9	39.2
27/01/2024 03:00	41	37.9
27/01/2024 03:15	40.1	36.6
27/01/2024 03:30	40.6	37.5
27/01/2024 03:45	41.1	37.5
27/01/2024 04:00	41.4	37.4
27/01/2024 04:15	41.1	37.3
27/01/2024 04:30	41.7	37.7
27/01/2024 04:45	41.8	37.5
27/01/2024 05:00	41.1	37.4
27/01/2024 05:15	41.6	37.7
27/01/2024 05:30	43.4	39.6
27/01/2024 05:45	43	39.4
27/01/2024 06:00	42.5	39.6
27/01/2024 06:15	43.4	40.3
27/01/2024 06:30	44.1	40.9
27/01/2024 06:45	44.7	41.8
27/01/2024 07:00	45.5	41.7
27/01/2024 07:15	46.1	42.6
27/01/2024 07:30	47.8	43.3
27/01/2024 07:45	46.9	43.7
27/01/2024 08:00	46.8	43.2
27/01/2024 08:15	46.1	42.9
27/01/2024 08:30	46.2	43.9
27/01/2024 08:45	46.7	44.4
27/01/2024 09:00	47.7	45

27/01/2024 09:15	48.8	44.9
27/01/2024 09:30	50.2	46.2
27/01/2024 09:45	53.2	46.9
27/01/2024 10:00	48.6	45.7
27/01/2024 10:15	50.4	47.6
27/01/2024 10:30	54.2	46.3
27/01/2024 10:45	54.2	45.8
27/01/2024 11:00	49.7	45.5
27/01/2024 11:15	47.4	45.1
27/01/2024 11:30	51.7	45.8
27/01/2024 11:45	48.7	45.4
27/01/2024 12:00	49.7	45.8
27/01/2024 12:15	49.3	45.5
27/01/2024 12:30	49.4	45.6
27/01/2024 12:45	49.4	47.3
27/01/2024 13:00	50.9	46.5
27/01/2024 13:15	47	44.5
27/01/2024 13:30	47.5	45.1
27/01/2024 13:45	48.9	46.4
27/01/2024 14:00	50.4	47.2
27/01/2024 14:15	50.8	47.4
27/01/2024 14:30	49.1	46.2
27/01/2024 14:45	48.3	46
27/01/2024 15:00	48.9	45.3
27/01/2024 15:15	51.7	45.7
27/01/2024 15:30	56.9	45.7
27/01/2024 15:45	49.2	45.4
27/01/2024 16:00	60.6	46.7
27/01/2024 16:15	58.4	47.1
27/01/2024 16:30	51.7	47
27/01/2024 16:45	48.8	45.8
27/01/2024 17:00	53.8	46.2
27/01/2024 17:15	48	45.8
27/01/2024 17:30	50.6	46.1
27/01/2024 17:45	49.2	45.9
27/01/2024 18:00	67.3	46.9
27/01/2024 18:15	60.4	46.2
27/01/2024 18:30	60.5	46.7
27/01/2024 18:45	60.5	46.5
27/01/2024 19:00	62.7	46.2
27/01/2024 19:15	68.5	46.7
27/01/2024 19:30	68.5	46.4
27/01/2024 19:45	60	46.3
27/01/2024 20:00	62.5	45.7
27/01/2024 20:15	64.2	47.1
27/01/2024 20:30	59	47.3

27/01/2024 20:45	56.6	46.5
27/01/2024 21:00	49.5	45.9
27/01/2024 21:15	52.5	45.4
27/01/2024 21:30	49.9	45.5
27/01/2024 21:45	55.5	46.7
27/01/2024 22:00	50.7	45.6
27/01/2024 22:15	58.2	48.4
27/01/2024 22:30	60.9	57.4
27/01/2024 22:45	53.7	47.4
27/01/2024 23:00	53.8	47.7
27/01/2024 23:15	48.7	46.5
27/01/2024 23:30	47.4	45.3
27/01/2024 23:45	46.7	44.7
28/01/2024 00:00	46.3	44.3
28/01/2024 00:15	45.9	44
28/01/2024 00:30	45.3	43.4
28/01/2024 00:45	45.2	43.2
28/01/2024 01:00	45.3	43.5
28/01/2024 01:15	45.6	43.2
28/01/2024 01:30	45	43.1
28/01/2024 01:45	45.9	43.1
28/01/2024 02:00	44.9	42.7
28/01/2024 02:15	43.9	41.5
28/01/2024 02:30	43.6	40.6
28/01/2024 02:45	42.9	39.8
28/01/2024 03:00	42.8	38.3
28/01/2024 03:15	41.5	37.5
28/01/2024 03:30	41.9	37.3
28/01/2024 03:45	41.9	36.9
28/01/2024 04:00	41.3	37.4
28/01/2024 04:15	42.1	37.8
28/01/2024 04:30	40.7	36.9
28/01/2024 04:45	40.3	36.5
28/01/2024 05:00	41.5	37.1
28/01/2024 05:15	41.4	37.3
28/01/2024 05:30	41.2	37.1
28/01/2024 05:45	42.7	37.4
28/01/2024 06:00	42.1	37.7
28/01/2024 06:15	42.7	39.6
28/01/2024 06:30	42.2	39.3
28/01/2024 06:45	42.8	39.7
28/01/2024 07:00	43.5	40.1
28/01/2024 07:15	44.1	41
28/01/2024 07:30	43.9	41.2
28/01/2024 07:45	44.4	41.7
28/01/2024 08:00	44.2	41.7

28/01/2024 08:15	44.7	41.7
28/01/2024 08:30	45.1	41.5
28/01/2024 08:45	46.9	44
28/01/2024 09:00	45.9	42.9
28/01/2024 09:15	45.8	43.4
28/01/2024 09:30	46.1	43.6
28/01/2024 09:45	46.5	44.2
28/01/2024 10:00	46	43.6
28/01/2024 10:15	47.1	44.8
28/01/2024 10:30	47.3	45.3
28/01/2024 10:45	47.3	45.3
28/01/2024 11:00	47.4	45
28/01/2024 11:15	46.8	45
28/01/2024 11:30	47.8	45.8
28/01/2024 11:45	47.8	46
28/01/2024 12:00	47.5	45.6
28/01/2024 12:15	48	46
28/01/2024 12:30	47.2	45.2
28/01/2024 12:45	52.8	46
28/01/2024 13:00	47.8	46
28/01/2024 13:15	50.5	45.3
28/01/2024 13:30	46.7	45
28/01/2024 13:45	47.4	45.5
28/01/2024 14:00	47.3	45.6
28/01/2024 14:15	47	45.4
28/01/2024 14:30	47.2	45.6
28/01/2024 14:45	47.7	45.6
28/01/2024 15:00	47.8	46.2
28/01/2024 15:15	48.9	46.9
28/01/2024 15:30	50	47.1
28/01/2024 15:45	48.8	47.2
28/01/2024 16:00	47.7	46.3
28/01/2024 16:15	47.7	46.1
28/01/2024 16:30	48.9	46.4
28/01/2024 16:45	47.8	46.3
28/01/2024 17:00	47.3	45.8
28/01/2024 17:15	46.9	45.7
28/01/2024 17:30	48	46
28/01/2024 17:45	49.1	46.3
28/01/2024 18:00	47.6	46.2
28/01/2024 18:15	47.6	45.9
28/01/2024 18:30	47.9	45.9
28/01/2024 18:45	50.2	45.7
28/01/2024 19:00	46.5	45.3
28/01/2024 19:15	45.9	44.7
28/01/2024 19:30	46.5	45

28/01/2024 19:45	46.5	45
28/01/2024 20:00	47.1	45.5
28/01/2024 20:15	46.5	45
28/01/2024 20:30	46.8	45.6
28/01/2024 20:45	48	44.7
28/01/2024 21:00	46.3	44.8
28/01/2024 21:15	46.7	45.1
28/01/2024 21:30	45.9	44.5
28/01/2024 21:45	47.3	44.9
28/01/2024 22:00	46.2	44.8
28/01/2024 22:15	46.1	44.2
28/01/2024 22:30	45.3	43.7
28/01/2024 22:45	45.7	43.7
28/01/2024 23:00	47.9	43.5
28/01/2024 23:15	44.4	42.6
28/01/2024 23:30	44.5	42.6
28/01/2024 23:45	44	41.9
29/01/2024 00:00	45.4	42
29/01/2024 00:15	43.5	41.4
29/01/2024 00:30	44.4	41.7
29/01/2024 00:45	44.2	42.1
29/01/2024 01:00	42.3	38.8
29/01/2024 01:15	39.8	36.8
29/01/2024 01:30	39.3	36.7
29/01/2024 01:45	38.6	35.3
29/01/2024 02:00	36.4	30.7
29/01/2024 02:15	36.5	30.2
29/01/2024 02:30	34.8	30.6
29/01/2024 02:45	34.3	29
29/01/2024 03:00	34.1	27.6
29/01/2024 03:15	32.8	27.6
29/01/2024 03:30	33.5	27.7
29/01/2024 03:45	33.8	27.7
29/01/2024 04:00	34.6	29.1
29/01/2024 04:15	35.5	28.5
29/01/2024 04:30	37	29.1
29/01/2024 04:45	36.5	29.2
29/01/2024 05:00	38.2	31.3
29/01/2024 05:15	41.5	33.9
29/01/2024 05:30	49.9	40.9
29/01/2024 05:45	48.1	43
29/01/2024 06:00	49	44.4
29/01/2024 06:15	46.7	43.5
29/01/2024 06:30	44.8	41.1
29/01/2024 06:45	44.9	41.6
29/01/2024 07:00	44	41.6

29/01/2024 07:15	45.6	42.2
29/01/2024 07:30	45.5	43.2
29/01/2024 07:45	48.1	45.1
29/01/2024 08:00	46.5	44.3
29/01/2024 08:15	46.8	45.2
29/01/2024 08:30	49.1	46.4
29/01/2024 08:45	50.8	48.1
29/01/2024 09:00	48.4	46.4
29/01/2024 09:15	50.9	47
29/01/2024 09:30	48.4	46
29/01/2024 09:45	51.1	46.2