

East Lancs Paper Mill Radcliffe, Manchester M26 9PG

Reserved Matters Noise Assessment

Planning Condition no. 9

Bury Metropolitan Borough Council Application no. 62969

Report ref.

JW2274/22253/0

Issued to

Morris Homes Ltd

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Version	Remarks	Date
0	Issued to Client	02.09.2022



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1. INTRODUCTION

Morris Homes Ltd are constructing a residential development of 399 dwellings at the former East Lancashire Paper Mill site, off Cross Lane in Radcliffe, Manchester. The Local Planning Authority, Bury Metropolitan Borough Council, granted Outline Planning Permission for the development on 19th December 2018 under Application Number 62969. This includes a Planning Condition requiring a scheme of acoustic insulation measures to be provided at the Reserved Matters stage.

Spectrum Acoustic Consultants have been instructed by Morris Homes to undertake the work involved in addressing this Condition. This report sets out the results of a noise survey carried out at the site and assesses the noise impact of road traffic noise on the proposed development. A scheme of acoustic insulation is provided to ensure a suitable level of amenity can be achieved for prospective residents.

2. SITE DESCRIPTION AND PROPOSALS

An aerial photograph showing the site location is provided in Appendix A. The land was previously part of the East Lancashire Paper Mill and lies between the River Irwell to the south and Cross Lane (A6053) to the north. Road traffic from Cross Lane (A6053) is the main source of noise across the site.

The proposed development includes the demolition of all existing buildings within the site boundary and construction of 399 dwellings, open space, and sports facilities (including new cricket ground and pavilion). The existing housing along Cross Lane (A6053) is remaining and will act as an acoustic screen to most of the proposed new housing. However, some new dwellings are proposed that front onto Cross Lane (A6053) where there are gaps in existing housing, so these will be subject to the highest levels of road traffic noise.

Drawings of the proposed development are provided in Appendix B. This includes detailed drawings of the house types for the dwellings that front onto Cross Lane (A6053).

3. PREVIOUS WORK AND PLANNING CONDITIONS

A Noise Assessment was prepared by WYG¹ to support the Outline Application and determined that road traffic from Cross Lane (A6053) is the dominant noise source effecting the site. The report gave recommendations for noise mitigation measures to demonstrate that the site was suitable for residential development, in outline terms only.

Bury Metropolitan Borough Council granted Outline Planning Permission for the development on 19th December 2018 under Application Number 62969. Condition no. 9 of the Permission states the following:

An acoustic attenuation scheme for all dwellings fronting onto the A6053 shall be submitted at the first reserved matters stage. The scheme shall include details of acoustic glazing and acoustically treated ventilation. The acoustic attenuation scheme hereby approved shall be implemented in full before use of the residential premises first commences.

¹ East Lancashire Paper Mill, Noise Assessment ref. A090070-193, WYG Environment Planning Transport Limited, June 2018



Reason. To protect the amenity of the occupants of the premises once the development hereby approved is occupied pursuant to Policy EN7/2 – Noise Pollution of the Bury Unitary Development Plan.

4. PLANNING POLICY AND GUIDANCE

4.1 NATIONAL PLANNING POLICY FRAMEWORK (NPPF)

The National Planning Policy Framework (NPPF)² sets out the Government's planning policies for England and how these should be applied by establishing a framework within which locally prepared plans for development can be produced.

The NPPF requires (174) that *'planning policies and decisions should contribute to and enhance the natural and local environment by: [...] preventing new and existing development from contribution to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of [...] noise pollution [...].'*

In relation to noise (185) *'Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should:*

'a) mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life³;

'b) identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason'

Planning policies and decisions should also (187) *'ensure that new development can be integrated effectively with existing businesses and community facilities (such as places of worship, pubs, music venues and sports clubs). Existing businesses and facilities should not have unreasonable restrictions placed on them as a result of development permitted after they were established. Where the operation of an existing business or community facility could have a significant adverse effect on new development (including changes of use) in its vicinity, the applicant (or 'agent of change') should be required to provide suitable mitigation before the development has been completed'.*

Throughout the NPPF reference is made to other policies, such as the Noise Policy Statement for England (NPSE), which should also be applied as appropriate.

4.2 NOISE POLICY STATEMENT FOR ENGLAND (NPSE)

The Noise Policy Statement for England (NPSE)⁴ sets out the long-term vision of government noise policy which is to *'Promote good health and a good quality of life through the effective management of noise within the context of Government policy on sustainable development.'*

² National Planning Policy Framework, MHCLG, July 2021

³ See Explanatory Note to the Noise Policy Statement for England, paragraphs 2.23 and 2.24, DEFRA, 15 March 2010.

⁴ Noise Policy Statement for England (NPSE), DEFRA, 15 March 2010

The aims of the NPSE are to (2.23-2.25):

- avoid significant adverse impacts on health and quality of life;
- mitigate and minimise adverse impacts on health and quality of life; and
- where possible, contribute to the improvement of health and quality of life

These aims are developed by reference (2.20-2.21) to the concepts of:

- NOEL (No Observed Effect Level). This is the level below which no effect can be detected.
- LOAEL (Lowest Observed Adverse Effect Level). This is the level above which adverse effects on health and quality of life can be detected.
- SOAEL (Significant Observed Adverse Effect Level). This is the level above which significant adverse effects on health and quality of life occur.

It recognises that there is no universally applicable objective threshold for these concepts. Consequently, the NOEL, LOAEL and SOAEL are likely to be different for different noise sources and receptors and at different times (2.22).

Situations of significant adverse effect (SOAEL) should be avoided (2.23). Where the impact is between LOAEL and SOAEL reasonable steps should be taken to minimise and mitigate adverse effects on health and quality of life, but does not mean that such adverse effects cannot occur (2.24). It is also implied that situations of NOEL would be acceptable in noise terms.

It also states (2.7) *'the NPSE should consider noise alongside other relevant issues and noise should not be considered in isolation.'*

4.3 PLANNING PRACTICE GUIDANCE – NOISE (PPG)

The Planning Practice Guidance on Noise⁵ (PPG-N) refers to the NPPF and provides further guidance on the interpretation of no, lowest and significant observed adverse effect level described in the within NPSE⁶.

The PPG provides a commentary on the noise exposure hierarchy, based on the *'likely average response'*, as set out in the following table.

The PPG recognises a broad range of factors which can influence the relationship between noise level and the impact on those affected. Accordingly, the examples in the table below may not be relevant to a specific development and which should be considered on its merits within the specific context under consideration.

⁵ PPG - Noise, MHCLG, 22 July 2019

⁶ Explanatory Note to the Noise Policy Statement for England, paragraphs 2.19 and 2.20, DEFRA, 15 March 2010



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 (LOAEL)			
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 (SOAEL)			
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 Adverse 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

Table 1: Planning Practice Guidance

4.4 BURY UNITARY DEVELOPMENT PLAN, POLICY EN7/2 – NOISE POLLUTION

Planning Condition 9 refers to the Bury UDP Policy EN7/2⁷, which states:

In seeking to limit noise pollution the Council will not permit:

- *development which could lead to an unacceptable noise nuisance to nearby occupiers and/or amenity users;*
- *development close to a permanent source of noise.*

Justification

Noise is an environmental problem which can cause damage to people's health as well as the amenity of an area. This policy seeks to control the location of development in relation to noise

⁷ Policy EN7/2 – Noise Pollution, Chapter 6 (Environment) of the Bury Unitary Development Plan, adopted 29th August 1997



pollution in order to reduce the impact of this form of pollution. Proposals for noisy developments likely to generate an unacceptable noise nuisance will not be permitted. Similarly, proposals for development close to permanent noise sources, such as motorways will not be permitted where it would lead to unacceptable noise nuisance for the occupiers or users of the proposed development. In certain cases, there may be opportunities to prescribe forms of screening, mounding and landscaping to reduce the impact of noise, which will benefit the quality of life for people living and working close to areas where there is noise generation or a noise pollution problem. For proposals involving recreational pursuits which generate noise or nuisance, see Recreation and Tourism Policy RT3/5. Guidance on noise pollution is provided in PPG24 "Planning and Noise".

4.5 BS8233:2014 GUIDANCE ON SOUND INSULATION AND NOISE REDUCTION FOR BUILDINGS

The NPPF requires that significant adverse impacts do not arise as a result of new development. BS8233 is considered to provide the appropriate methods for assessing the noise impact of new developments.

BS 8233:2014⁸ advises that the main requirements are to provide reasonable resting/sleeping conditions in bedrooms, and good listening conditions in other rooms. It recommends that it is 'desirable' that the internal ambient noise levels do not exceed the following guidelines, although the internal target levels may be relaxed by up to 5 dB and 'reasonable' internal conditions still achieved:

Activity	Location	07:00-23:00	23:00-07:00
Resting	Living room	35 dB $L_{Aeq,16 \text{ hour}}$	-
Dining	Dining room/area	40 dB $L_{Aeq,16 \text{ hour}}$	-
Sleeping (daytime resting)	Bedroom	35 dB $L_{Aeq,16 \text{ hour}}$	30 dB $L_{Aeq,8 \text{ hour}}$

Table 2: Guideline 'desirable' indoor ambient noise levels for dwellings, BS 8233

The standard also notes the following in relation to noise levels in gardens and private amenity spaces:

For traditional external areas that are used for amenity space, such as gardens and patios, it is desirable that the external noise level does not exceed 50 dB $L_{Aeq,T}$, with an upper guideline value of 55 dB $L_{Aeq,T}$, which would be acceptable in noisier environments. However, it is also recognised that these guideline values are not achievable in all circumstances where development might be desirable. In higher noise areas, such as city centres or urban areas adjoining the strategic transport network, a compromise between elevated noise levels and other factors, such as the convenience of living in these locations or making efficient use of land resources to ensure development needs can be met, might be warranted. In such a situation, development should be designed to achieve the lowest practicable levels in these external amenity spaces, but should not be prohibited.

4.6 WHO – GUIDELINES FOR COMMUNITY NOISE

The guideline levels of BS 8233 reflect those set out in the World Health Organisation's Guidelines for Community Noise⁹ (GCN); however, GCN includes the following note in relation to individual maximum noise events during the night:

⁸ BS 8233:2014 Guidance on sound insulation and noise reduction for buildings

⁹ Guidelines for community noise, World Health Organisation, 1999



“For a good sleep, it is believed that indoor sound pressure levels should not exceed approximately 45 dB L_{AFmax} more than 10 to 15 times per night.”

New guidance from WHO titled Environmental Noise Guidelines for the European Region¹⁰ (ENG) was published in 2018. The document takes a very different approach to guidance set out in the previous document (GCN) by identifying separate thresholds for specific sources rather than for community noise as a whole. Consequently, much of the earlier guidance set out in GCN is now absent from ENG. While ENG was intended to supersede GCN, it recognises this absence and states that *‘indoor guideline values and any values not covered by the current guidelines (such as industrial noise and shopping areas) should remain valid.’*

It is recommended that all WHO guidance should be noted but that it should not be relied upon in assessments without reference to other relevant detailed guidance, especially that in British Standards. These may align better with Planning Practice Guidance⁵ in England.

5. SITE NOISE SURVEY

5.1 DETAILS

A noise survey has been conducted at the site comprising short-term attended measurements and long-term unattended monitoring, over 5 days from Wednesday 10th to Monday 15th August 2022. This was representative of typical mid-week and weekend conditions. The measurement locations are shown on the drawings in Appendices A and B, and described in the table below.

ID	Type	Description
U1	Unattended noise logger	Located along Cross Lane (A6053) where new dwellings are proposed fronting on to the road, where there is a gap in existing housing. The microphone was located approx. 25m from edge of the road at 2m height. There were some obstructions between the microphone and the road, therefore attended measurements were carried out closer to the road to determine the necessary correction (see A1 below). Noise monitoring was carried out for 24 hrs (10 th to 11 th August).
U2	Unattended noise logger	Located at the northern corner of the site where Cross Lane meets the junction of Bury Street and Eton Hill Road. The microphone was located on the site boundary at 1.5m height, representative of façade noise levels for the proposed dwellings. Continuous noise monitoring was carried out for 5 days (10 th to 15 th August).
A1	Attended measurements	8m from the edge of Cross Lane, representative of façade noise levels for the proposed dwellings in this location. Attended measurements were made over 1 hr between 09:50 and 10:50 on Monday 15 th August. The purpose of these measurements was to determine the difference between the levels measured at U1 and the façade noise levels for the proposed dwellings in this location.

Table 3: Noise survey locations

¹⁰ *Environmental Noise Guidelines for the European Region, World Health Organisation, 2018*



The unattended noise logger at U1 was used for continuous data capture throughout the survey. This allows the daytime $L_{Aeq,16-hour}$ and night time $L_{Aeq,8-hour}$ metrics to be measured directly. The logger recorded contiguous 5 minute periods, to give a good representation of the night-time maximum noise events (L_{AFmax}). Recorded data included octave band and broad band noise levels, and a full set of statistical parameters L_{A10} , L_{A50} , L_{A90} etc.).

The weather was dry throughout the survey and wind speeds were 3-5 mm/s. Therefore, no data has been excluded due to adverse weather.

5.2 INSTRUMENTATION

The following equipment was used for the survey:

Location	Instrument	Manufacturer and Model	Serial No.
U1	Sound Level Meter	Brüel & Kjær 2250	3027942
	Microphone	Brüel & Kjær 4189	3196081
	Acoustic Calibrator	Brüel & Kjær 4231	2229957
U2	Sound Level Meter	Brüel & Kjær 2250-Light	3006952
	Microphone	Brüel & Kjær 4952	2922623
	Acoustic Calibrator	Brüel & Kjær 4231	3010702
A1	Sound Level Meter	Brüel & Kjær 2260	1772232
	Microphone	Brüel & Kjær 4189	2469838
	Acoustic Calibrator	Brüel & Kjær 4230	1234621

Table 4: Survey instrumentation

The sound level meters used are Class 1 conforming to BS EN 61672-1¹¹ and were field-calibrated before and after the survey with an acoustic calibrator conforming to BS EN 60942¹² and no significant drift was observed. The sound level meters, microphones, and field calibrators are laboratory calibrated biennially to UKAS procedures by a UKAS-accredited laboratory. Copies of the calibration certificates are available upon request.

5.3 RESULTS

The detailed results of the noise survey are provided in Appendix C. These noise levels are typical of road traffic noise; higher in the day, dropping slightly overnight, but with occasional events giving a short term higher level.

The results at U2 have been summarised into the relevant 16-hour daytime (07:00-23:00) and 8-hour night time (23:00-07:00) periods in Table 5 below.

The numerical L_{AFmax} levels for each 8 hour night time period have been sorted by value from highest to lowest. From this, it is possible to read off the 10th highest L_{AFmax} level for each night. This value is then taken as the representative L_{AFmax} for design purposes, in line with the guidance from WHO *Guidelines*

¹¹ BS EN 61672-1:20013 *Electroacoustics. Sound level meters – Part 1: Specifications*

¹² BS EN IEC 60942:2018 *Electroacoustics. Sound calibrators*



for community noise, which states that for a good nights' sleep, the L_{AFmax} level should not exceed 45 dB more than 10 to 15 times. Taking the 10th highest value is therefore conservative.

Start Date	$L_{Aeq,16-hour}$ dB (0700-2300)	$L_{Aeq,8-hour}$ dB (2300-0700)	10 th Highest Night Time L_{AFmax} dB
Wednesday 10 th August 2022	63 ¹³	55	75
Thursday 11 th August 2022	63	55	74
Friday 12 th August 2022	64	56	73
Saturday 13 th August 2022	63	53	71
Sunday 14 th August 2022	61	56	74
Monday 15 th August 2022	63 ¹⁴	-	-
Mean	63	55	73

Table 5: Noise survey results summary, free-field noise levels at location U2

Measured noise levels at location U1 were $L_{Aeq,16hr}$ 55 dB during the day and $L_{Aeq,8hr}$ 49 dB during the night.

The attended measurements at location A1 were L_{Aeq} 63 dB (mean) during the day, which is the same as the $L_{Aeq,16hr}$ level at location U2. This indicates that a correction of +8 dB is applicable to the location U1 noise levels, which would also indicate that night time noise levels are similar at both locations.

Accordingly, it is considered reasonable and appropriate to use the noise levels measured at location U2 as the incident levels for all proposed facades fronting onto the A6053.

6. ASSESSMENT AND MITIGATION

Planning Condition 9 requires “an acoustic attenuation scheme for all dwellings fronting onto the A6053 [...] including details of acoustic glazing and acoustically treated ventilation.”

For assessment purposes, the objective noise levels which would provide a suitable noise environment are those set out in BS 8233 and WHO. A proposed scheme of acoustic attenuation is provided below so that these guidelines can be achieved.

6.1 INTERNAL NOISE LEVELS

BS 8233:2014 in Annex G2 describes a ‘more rigorous calculation method’ for determining internal noise levels, using octave band data (i.e. more rigorous than for single-number estimates). This is calculated from external noise levels, given the size and sound insulation properties of the building façade elements including glazing and ventilation, as well as acoustic properties of the receiving room, such as the volume and reverberation time. Usually, it is the glazing and, depending upon the particular strategy, the ventilation apertures that admit most noise into residences. It is then a matter of providing façade elements with an appropriate acoustic performance to achieve sufficient noise reduction to meet the internal noise target.

¹³ Measurement started at 13:00 so $L_{Aeq,10hr}$ is reported

¹⁴ Measurement stopped at 11:00 so $L_{Aeq,4hr}$ is reported



The analysis uses:

- External octave band noise levels taken from the measurement survey.
- Typical internal reverberation times for bedrooms and living rooms in occupied dwellings as measured by Spectrum in a range of dwellings.
- Room sizes, layouts, external wall and window sizes taken from the drawings in Appendix B.

The general construction of the building envelope used in the analysis is as follows:

- External brick walls with insulated cavity to concrete block lining and plasterboard finish.
- Thermal double-glazed window units having a specification as described below.
- Ventilation to meet the requirements of Part F of the Building Regulations as discussed in the following section.

Sound insulation data for the façade elements have been taken from standard data provided in relevant Standards, by BRE¹⁵ and MHCLG¹⁶, as well as manufacturer's data and the BRE publication *Sound Control for Homes*¹⁷.

Appendix D shows the noise ingress calculations carried out following the method described in Annex G2 of BS8233, for the worst-case dwellings fronting on to the A6053, for living rooms during the day and bedrooms during the night.

The calculations show that the daytime $L_{Aeq,16hr}$ inside living rooms and the night time $L_{Aeq,8hr}$ and L_{AFmax} levels inside bedrooms can meet BS8233 and WHO guidelines, and detail what mitigation is required in terms of glazing and ventilator performance.

For dwellings fronting on to the A6053, the glazing and ventilators shall achieve the minimum standards set out in Table 6. Appendix E shows a marked-up site plan to clarify which facades this applies to.

Location	Glazing		Ventilation	
	Minimum Acoustic Rating	Example Buildup	Minimum Acoustic Rating	Example Product
All facades fronting A6053 (highlighted red in Appendix E)	$R_w + C_{tr}$ 29 dB	8/6-16/4 mm	$D_{n,e,w} + C_{tr}$ 37 dB	Titon SF Xtra V50+C25 acoustic trickle vent

Table 6: Recommended façade attenuation

Example products for glazing build-ups and ventilators are provided for information only. It is the acoustic performance requirement that must be met, which the chosen manufacturer should be able to demonstrate compliance with through valid laboratory test data. It is also important that products are selected using the correct acoustic terms identical to those given here, which is $R_w + C_{tr}$ for glazing and $D_{n,e,w} + C_{tr}$ for trickle vents.

¹⁵ Building Research Establishment, BRE Group

¹⁶ Ministry of Housing, Communities & Local Government, UK

¹⁷ Sound Control for Homes, March 1993, BRE Press, BRE / CIRIA



6.2 VENTILATION

Approved Document F of the Building Regulations (ADF) is the document which describes methods of providing adequate ventilation for people in a building. It focuses on performance-based guidance, suggesting what level of ventilation should be sufficient, rather than how it should be achieved. It recognises that in noisy locations, it may be appropriate to use either sound attenuating background ventilators or mechanical ventilation solutions, depending on the noise level and any planning conditions.

In habitable rooms, there is a requirement for whole dwelling ventilation (low-rate continuous fresh air ventilation), extract ventilation (to remove vapour or smells) and purge ventilation (for the rapid removal of pollutants).

ADF provides 4 methods of achieving this ventilation, namely:

1. Background ventilators and intermittent extract fans
2. Passive stack ventilation
3. Continuous mechanical extract
4. Continuous mechanical supply and extract with heat recovery

Method 1 is proposed for this development.

For all ADF ventilation methods, *Purge ventilation* is typically provided by opening external windows. This ventilation mode is occasional and short term for the rapid dilution of indoor pollutants (e.g. burnt food). It is widely agreed that no specific acoustic criterion applies for purge ventilation conditions as the imperative to eliminate the pollutant overrides other concerns for the short period during which it occurs.

6.2.1 Background ventilators and intermittent extract fans (Method 1)

External air is drawn into habitable rooms of the dwelling through window frame mounted trickle vents; the calculations assume 1 trickle vent in each window. Air is drawn through the dwelling and discharged via a mechanical extract fan located in wet areas (e.g. kitchens and bathrooms). Purge ventilation, when required, is provided by opening windows. The component of external intrusive noise entering habitable rooms through trickle ventilation elements is included in the calculations in Appendix D. The acoustic performance is set to ensure acceptable indoor noise levels are met.

6.3 ACOUSTICS AND OVERHEATING

Whether or not an overheating assessment is necessary, or how any potential overheating would be mitigated at this development is for other specialists to determine. It is important to note that in some cases, overheating is mitigated via open windows while environmental noise ingress is mitigated by keeping windows closed. Seemingly, these approaches can be incompatible. Such cases may need more detailed consideration, drawing on the available guidance in *Acoustics, Ventilation and Overheating Residential Design Guide (AVO)*¹⁸ as well careful consideration of the acoustic requirements set out in the Building Regulations' Approved Document O¹⁹.

¹⁸ *Acoustics, Ventilation and Overheating Residential Design Guide (AVO) V1.1, ANC and IOA, January 2020*

¹⁹ *Approved Document O – Overheating, Requirement O1, Regulation 40B, The Building Regulations 2010*



AVO recommends an initial assessment (called a Level 1 assessment) of the risk of adverse noise effect on residents. If the results of the Level 1 assessment indicate a sufficiently high risk, a Level 2 detailed assessment is recommended, and this would draw on the formal overheating assessment.

At this development, external ambient noise levels at the windows fronting on to the A6053 would be $L_{Aeq,16hr}$ 63 dB during the daytime and $L_{Aeq,8hr}$ 55 dB during the night-time, with typical night time L_{AFmax} levels at night of 73 dB. Based on these external values, an AVO Level 1 site risk assessment indicates a medium-high risk of adverse noise effect if relying on open windows to mitigate overheating. In this situation, AVO advises that a Level 2 assessment is recommended.

A range of factors feed into a Level 2 assessment. Based on the noise levels above, it may not be possible to use open windows as a method of overheating mitigation and other methods may need to be implemented, if overheating is predicted for the rooms fronting on to the A6053.

7. CONCLUSION

Morris Homes Ltd are constructing a residential development of 399 dwellings at the former East Lancashire Paper Mill site, off Cross Lane in Radcliffe, Manchester. The Local Planning Authority, Bury Metropolitan Borough Council, granted Outline Planning Permission for the development, including one Planning Condition on noise. Condition 9 requires “*an acoustic attenuation scheme for all dwellings fronting onto the A6053 [...] including details of acoustic glazing and acoustically treated ventilation*”.

A noise survey has been carried out over 5 days, to establish noise levels at the proposed dwellings which front onto the A6053.

The noise impact has been assessed and detailed calculations undertaken to determine a scheme of mitigation, namely an acoustic specification for glazing and ventilation. The proposed glazing and ventilator performance requirements ensure that the guideline levels of BS 8233 and WHO are met at all times, for dwellings fronting onto the A6053.

With the above measures in place, the noise impact of the existing environment on future residents of the scheme is expected to be acceptable, and the requirements of Condition 9 fulfilled, subject to approval by Bury Metropolitan Borough Council.

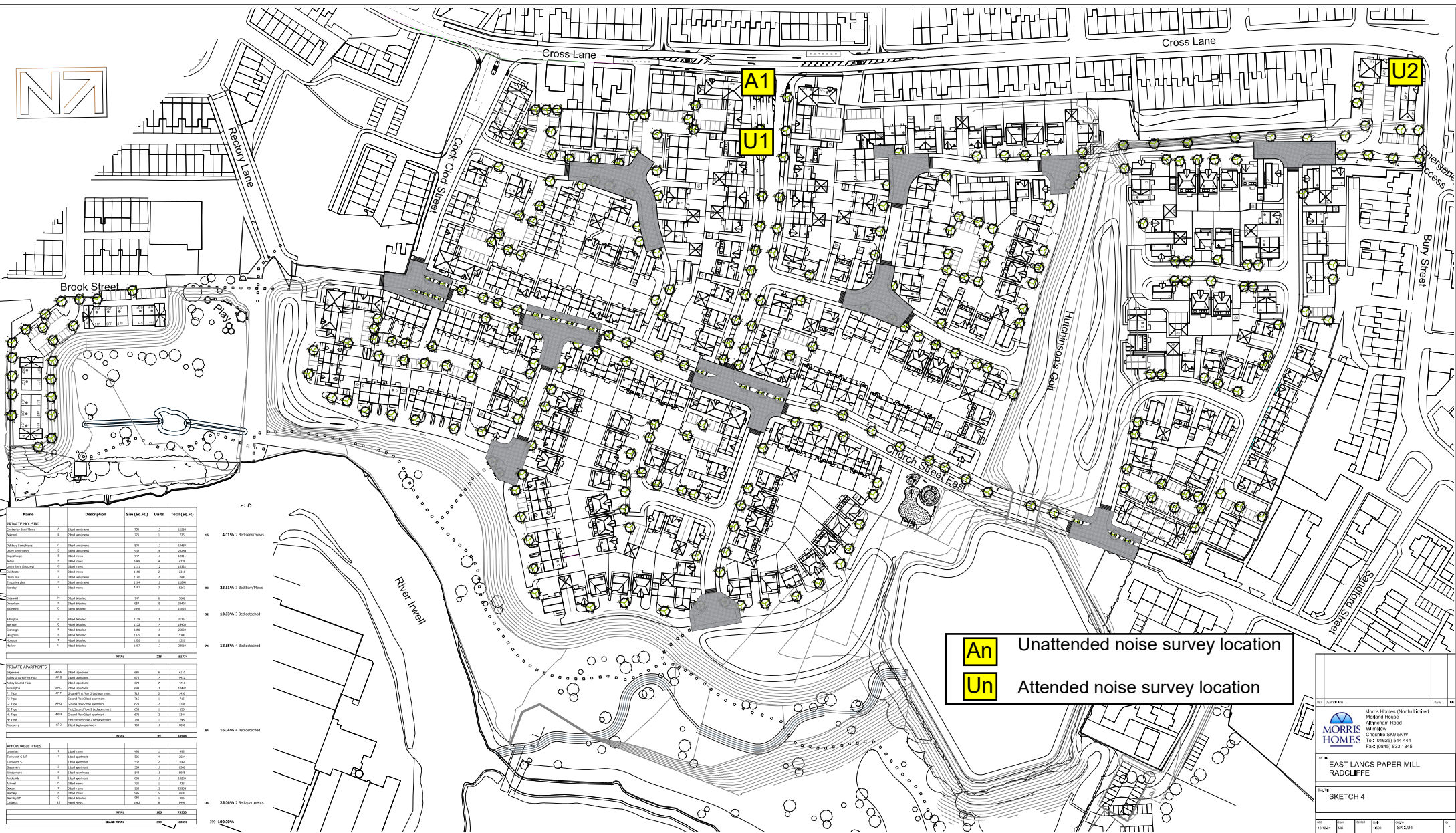
A P P E N D I X A

Aerial photograph of the existing site showing noise survey locations



A P P E N D I X B

Proposed development drawings



PRIVATE ADVERTS						
Week commencing 1st April	APC	1	1st April - 2nd April	1000	5	5000
Week commencing 8th April	APC	1	2nd April - 3rd April	1000	5	5000
Week commencing 15th April	APC	1	3rd April - 4th April	1000	5	5000
Week commencing 22nd April	APC	1	4th April - 5th April	1000	5	5000
Week commencing 29th April	APC	1	5th April - 6th April	1000	5	5000
Week commencing 6th May	APC	1	6th April - 7th April	1000	5	5000
Week commencing 13th May	APC	1	7th April - 8th April	1000	5	5000
Week commencing 20th May	APC	1	8th April - 9th April	1000	5	5000
Week commencing 27th May	APC	1	9th April - 10th April	1000	5	5000
Week commencing 3rd June	APC	1	10th April - 11th April	1000	5	5000
Week commencing 10th June	APC	1	11th April - 12th April	1000	5	5000
Week commencing 17th June	APC	1	12th April - 13th April	1000	5	5000
Week commencing 24th June	APC	1	13th April - 14th April	1000	5	5000
Week commencing 1st July	APC	1	14th April - 15th April	1000	5	5000
TOTAL				1000	50	5000
PROMOTABLE TYPES						
1st April - 15th April	1	1	1st April - 15th April	400	5	400
16th April - 30th April	2	1	16th April - 30th April	200	5	200
1st May - 15th May	3	1	1st May - 15th May	100	5	100
16th May - 31st May	4	1	16th May - 31st May	100	5	100
1st June - 15th June	5	1	1st June - 15th June	100	5	100
16th June - 30th June	6	1	16th June - 30th June	100	5	100
1st July - 15th July	7	1	1st July - 15th July	100	5	100
16th July - 31st July	8	1	16th July - 31st July	100	5	100
1st August - 15th August	9	1	1st August - 15th August	100	5	100
16th August - 31st August	10	1	16th August - 31st August	100	5	100
1st September - 15th September	11	1	1st September - 15th September	100	5	100
16th September - 30th September	12	1	16th September - 30th September	100	5	100
1st October - 15th October	13	1	1st October - 15th October	100	5	100
16th October - 31st October	14	1	16th October - 31st October	100	5	100
1st November - 15th November	15	1	1st November - 15th November	100	5	100
16th November - 30th November	16	1	16th November - 30th November	100	5	100
1st December - 15th December	17	1	1st December - 15th December	100	5	100
16th December - 31st December	18	1	16th December - 31st December	100	5	100
TOTAL				1000	50	5000

[illegible]

An	Unattended noise survey location
Un	Attended noise survey location

NOTE

Background ventilation in accordance with approved document Part L System L3a
PVC-U windows are to be made in accordance with BS 7412.
Glazing to external doors to comply with BS 6362.
All glazing to comply with Approved Document M of Building Regulations.

All habitable first floor rooms to contain windows with an unobstructed operable area that is at least 0.33 m² and at least 450 mm high and 450 mm wide.
Bottom of the operable area should be not more than 1100 mm above the floor.

Switches and sockets are to be located between 450 mm and 1200 mm above finished floor level, not including consumer units and room stats - habitable rooms only.

Dwelling to be constructed in accordance with the DTLR Robust Details Document.

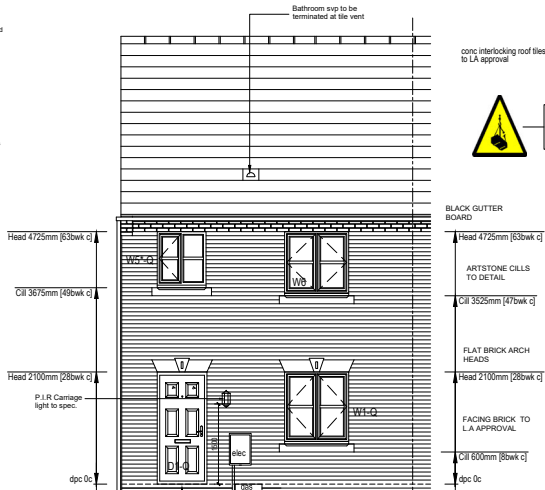
Doors to habitable rooms and rooms containing WC's to have a minimum clear opening of 800 mm when not approached head on & 750 mm when approached head on.

DRY RIDGE AND HIP SYSTEM
NOTE - Dry ridge ventilation equivalent to a 5mm continuous opening in accordance with BS 5250 fixed in accordance with manufacturers details

conc interlocking roof tiles to LA approval



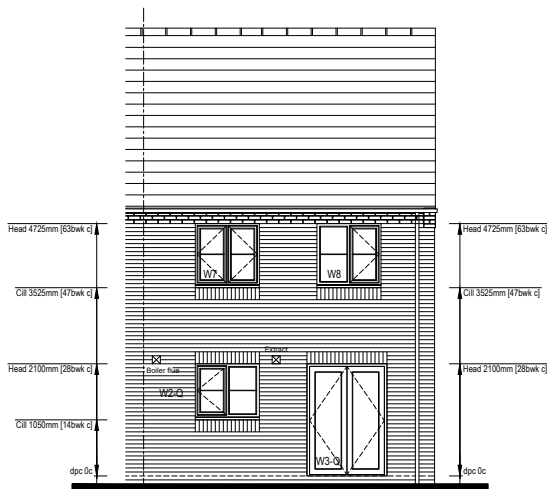
DECORATIVE STONEWORK
HEAVY/awkward object
FORK LIFT TRUCK TO POSITION UNITS ON WORKING PLATFORM. TWO MAN LIFTING TO BE UTILISED FOR PLACEMENT



FRONT ELEVATION

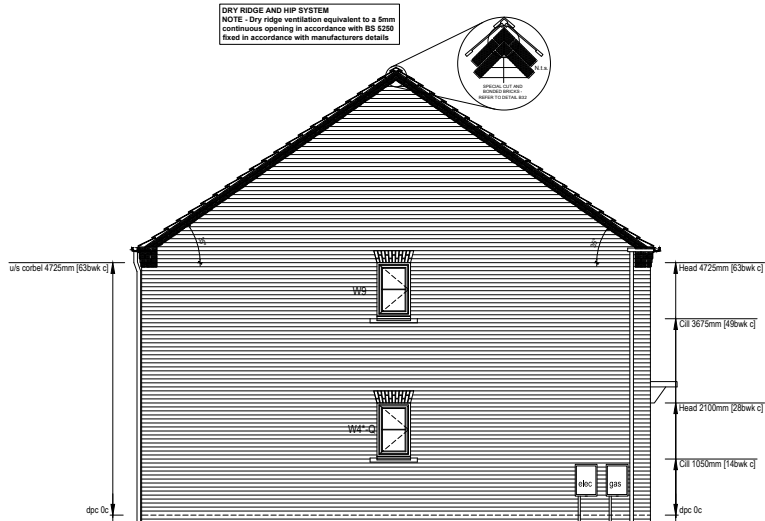
REFER TO A3 DETAIL BOOK FOR LEVEL THRESHOLD & RAMPED ACCESS DETAIL.

FOR DETAILS REFER TO MORRIS HOMES A3 CONSTRUCTIONAL DETAIL BOOK



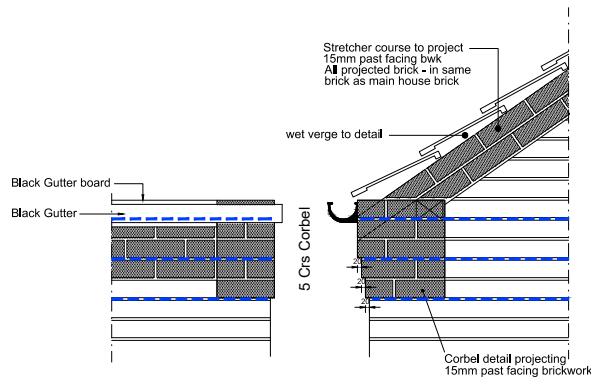
REAR ELEVATION

MATERIALS SPECIFICATION - Refer to Material Dispersion Plan for brick and roof tile				
ROOF TILES: MAIN ROOF CANOPY ROOF GARAGE ROOF MAIN ROOF RIDGE TILES MAIN ROOF HP TILES: LOWER CANOPY ROOF HPs ALL TILE VENTS:	Refer to materials dispersion plan 10 x 8 plain tile & batty hip tile Refer to materials dispersion plan Refer to the specific roof tile specification on Dry R system with mortar jointed ends to match verge. Refer to the specific roof tile specification on Dry R system with hip batt ends in 'NO NOTCH' Batt hip tile on charcoal grey mortar with jointed end and granulated hip tile. CEDEX 'Russett' Concrete or similar approved. The Ventiler utilised for all requirements including hips, eaves, barge and roof ventilation.	BROCKWORK BROCKWORK MORTAR RENDER FLINT/BLOCKS AIR BRICKS DOORS - FRONT UTILITY WINDOW FRAMES FRENCH FOLD DOORS GARAGE DOORS:-	Refer to materials dispersion plan Brockwork up to dpc - same as main house brick Refer to Site material plan in all instances N/A 225x110 allbrick colour to suit main house brick GRP Painted refer to the specific materials plan for colour White GRP or Steel painted white UPVC - Horizontal bar white UPVC not to site spec. N/A	WINDOW CILLS KEYSTONES:- CHIMNEY POT GUTTER HOODS & GUTS GUTTER BOARDS GROUND FLOOR ROOF & CANOPES CHIMNEY POT:- EXTRACTOR FANS EXTERNAL METERS
				Butt Stone cills to front elevation only N/A Redbank Terracotta Canoe pot Black plastic 100 x 25mm Black PVCu Bargeboards, Fascia & soffits White UPVC Redbank Terracotta Canoe pot Black plastic Ext vents Gas, electric and water hoses where applicable painted black



SIDE ELEVATION

Alternative gas & elec positions to be utilised in end terrace format. Refer to setting out plans.



Corbel Detail 35°pitch
(at end gable applications)
REFER TO CORBEL DETAILS

**DENOTES BEKAERT MURFOR
COMPACT E-35 MASONRY
REINFORCEMENT**

Rev	Date	Amendment	Init
B	26.10.21	Electric and gas meters positions updated. Material spec updated.	sk
A	30.06.21	Accredited construction detail notes omitted. Background ventilation note updated. Corbel reinforcement details added. Threshold note amended.	sk



Morris Homes (Group) Limited
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Aldrincham Road Wilmslow
Cheshire SK9 5NW
Tel: (01625) 544 444
Fax: (01645) 633 1945

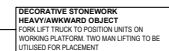
Jcb Title	THE BUXTON (FORMERLY THE R3)
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Dwg Title	PART L 2013Q	963sq.ft
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Elevations
New Kitchen & Elevation Specification

Date	Drawn	Checked	Scale	By no	Rev
FEB 21	SK		1:50	NRS/AFF/3H/963/02/L2013Q	B

DRY RIDGE AND HIP SYSTEM
NOTE - Dry ridge ventilation equivalent to a 5mm continuous opening in accordance with BS 5250 fixed in accordance with manufacturers details



DOOR SCHEDULE					
REF	WIND	HEIGHT	LENGTH	COMMENTS	
D01-Q	838	2100	1150 1500	1300 External	
D02-Q	738	2180	N/A	N/A F0356C3 meters	
D03-Q	1068	1980	N/A	N/A F0356C3 meters	
D04-Q	838	2100	1150 1500	1300 External	
D05-Q	838	2100	7777	1300 F0356C3	
D06-Q	838	2100	7777	1300 F0356C3	
AD01-Q	838	1475	1475	21 20 Door F030	
AD02-Q	1068	1980	N/A	N/A 21 20 Door F030	
AD03-Q	838	1980	N/A	N/A 21 20 Door F030	
AD04-Q	838	1980	N/A	N/A 21 20 Door F030	
K01-Q	838	1980	N/A	N/A 21 20 Door F030	
K02-Q	838	1980	N/A	N/A 21 20 Door F030	
K03-Q	838	1980	N/A	N/A 21 20 Door F030	
K04-Q	838	1980	N/A	N/A 21 20 Door F030	
K05-Q	838	1980	N/A	N/A 21 20 Door F030	
K06-Q	838	1980	N/A	N/A 21 20 Door F030	

*F0356C3 = FIRE DOOR WITH SELF-CLOSER & 180deg. BEAM
**F0356C3 = FIRE DOOR WITH SELF-CLOSER

WINDOW SCHEDULE					
REF	WIND	DEPTH	LENGTH	COMMENTS	
GW01-Q	630	1100	1150 1500	900	
GW02-Q	915	1200	1150 1500	1200	
GW03-Q	915	1200	1150 1500	1200	
GW04-Q	915	1200	1150 1500	1200	
GW05-Q	915	1200	1150 1500	1200	
GW06-Q	915	1200	1150 1500	1200	
GW07-Q	915	1200	1150 1500	1200	
GW08-Q	915	1200	1150 1500	1200	
GW09-Q	915	1200	1150 1500	1200	
GW10-Q	915	1200	1150 1500	1200	
GW11-Q	915	1200	1150 1500	1200	
GW12-Q	915	1200	1150 1500	1200	
GW13-Q	1200	1300	1150 1500	1200	
GW14-Q	1200	1300	1150 1500	1200	
GW15-Q	1200	1300	1150 1500	1200	
GW16-Q	1200	1300	1150 1500	1200	
FW01	630	1200	1150 1500	900	
FW02	915	1200	1150 1500	1200	
FW03	915	1200	1150 1500	1200	
FW04	915	1200	1150 1500	1200	
FW05	915	1200	1150 1500	1200	
FW06	915	1200	1150 1500	1200	
FW07	915	1200	1150 1500	1200	
FW08	915	1200	1150 1500	1200	
FW09	915	1200	1150 1500	1200	
FW10	915	1200	1150 1500	1200	
FW11	915	1200	1150 1500	1200	
FW12	915	1200	1150 1500	900	
FW13	915	1200	1150 1500	1200	
FW14	915	1200	1150 1500	1200	
FW15	915	1200	1150 1500	1200	
FW16	915	1200	1150 1500	1200	
FW17	1200	1300	1150 1500	1200	
SW01	630	875	1150 1500	1200	
SW02	915	875	1150 1500	1200	
SW03	915	875	1150 1500	1200	
SW04	915	875	1150 1500	1200	
SW05	1200	875	1150 1500	1200	
SW06	1200	875	1150 1500	1200	
SW07	1200	875	1150 1500	1200	
SW08	1200	875	1150 1500	1200	
SW09	1140	1100	1150 1500	1200	

K GLASS TO USED TO REVEAL TO INSIDE
W WINDOW AND DOOR TO REVEALS TO INSIDE AND OUTSIDE
Q - Denotes window or door to meet with
HART CODES of the Building Regulations
and comply with PAS 24:2012

ADU MINS tag in
BOTH INSIDE AND OUTSIDE



A	01.02.22	REFER TO DETAILS NOTE UPDATED. THRESHOLD NOTE ADDED. ACCREDITED DETAIL NOTE OMITTED.	RDL
Rev	Date	Amendment	Init



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Job Title

THE ABBEY/KENSINGTON SP
PART L 2013Q

Dr. Title ABBEY GROUND/FIRST FLOOR = 777 sq ft	KENSINGTON SP GROUND/FIRST FLOOR = 668 sq ft
--	--

Front & Side Elevations
New kitchen Specification

Sheet 5

date	drawn	checked	scale	dir.no	rev
SEP 13	RDL		1:50	2APP/ABB-KEN/05/L2013Q	A

**FOR DETAILS REFER TO
MORRIS HOMES A3
CONSTRUCTIONAL DETAIL
BOOK**

DRY RIDGE AND HIP SYSTEM
NOTE - Dry ridge ventilation equivalent to a 5mm continuous opening in accordance with BS 5250 fixed in accordance with manufacturers details



EASY CLEAN HINGES/WINDOWS TO BE UTILISED TO AID MAINTENANCE ON ALL SECOND FLOOR WINDOWS



**DECORATIVE STONWORK
HEAVY/AWKWARD OBJECT**
FORK LIFT TRUCK TO POSITION UNITS ON
WORKING PLATFORM. TWO MAN LIFTING TO BE
UTILISED FOR PLACEMENT

DOOR SCHEDULE					
REF	WIDTH	HEIGHT	LEAF TYPE	LENGTH	COMMENTS
D01-Q	636	2100	1575	N/A	2100 F030
D02	734	1981	N/A	N/A	F0005CS mass
D03	1266	1981	N/A	N/A	F0005CS meters
D04	838	2100	7777	N/A	F0009CS
D05	838	2100	7777	1350	F0009CS
D06	838	2100	7777	1350	F0009CS
AD1-Q	838	1981	1575	N/A	F0005CS Entrance
AD2	1266	1981	N/A	N/A	2 X 2100 Door F030
AD3	838	1981	N/A	N/A	2100 Door F030
AD4	838	1981	N/A	N/A	2100 Door F030
AD5	838	1981	N/A	N/A	2100 Door F030
AD6	838	1981	N/A	N/A	2100 Door F030
AD7	838	1981	1575	1350	F0009CS Entrance
ND1-Q	838	1981	1575	N/A	2100 Door F030
K03	838	1981	N/A	N/A	2100 Door F030
K04	838	1981	N/A	N/A	2100 Door F030
K05	838	1981	N/A	N/A	2100 Door F030
K06	838	1981	N/A	N/A	2100 Door F030

"PASSAGE" FIRE DOOR WITH SELF-CLOSER & SMOKE SEAL "FIDOC" FIRE DOOR WITH SELF-CLOSER						
WINDOW SCHEDULE						
REF	WIDTH	DEPTH	UNIT/LR	LENGTH	COMMENTS	
GW1-G	680	1350	1/150	800		
GW2-G	915	1200	1/150	1200		
GW3-G	915	1200	1/150	1200		
GW4-G	915	1050	1/150	1050		
GW5-G	915	1050	1/150	1050		
GW6-G	915	1050	1/150	1050		
GW7-G	915	1050	1/150	1050		
GW8-G	915	1050	1/150	1050		
GW9-G	915	1050	1/150	1050		
GW10-G	915	1050	1/150	1050		
GW11-G	915	1050	1/150	1050		
GW12-G	1300	1260	1/150	1600		
GW13-G	1300	1260	1/150	1600		
GW14-G	1300	1260	1/150	1600		
GW15-G	1300	1260	1/150	1600		
GW16-G	1200	1050	1/150	1200		12 HALF FIRE RESIST
FW1	1200	1260	1/150	1600		
FW2	1200	1260	1/150	1600		
FW3	915	1200	1/150	1200		
FW4	915	1200	1/150	1200		
FW5	915	1200	1/150	1200		
FW6	915	1050	1/150	1050		
FW7	915	1050	1/150	1050		
FW8	915	1050	1/150	1050		
FW9	915	1050	1/150	1050		
FW10	915	1050	1/150	1050		
FW11	915	1050	1/150	1050		
FW12	680	1200	1/150	800		
FW13	915	1200	1/150	1200		
FW14	915	1050	1/150	1050		
FW15	915	1050	1/150	1050		
FW16	915	1050	1/150	1050		
FW17	1200	1200	1/150	1600		
FW18	1200	1200	1/150	1600		
SW1	1200	825	1/150	1000		External French door
SW2	1200	825	1/150	1000		External French door
SW3	915	1050	1/150	1200		
SW4	915	1050	1/150	1200		
SW5	1200	825	1/150	1000		External French door
SW6	915	1050	1/150	1200		
SW7	915	1050	1/150	1200		
SW8	1140	1180	800 VELLUX ROOFTOP			AOV WITH 10cm

K GLAZES TO USED TO ALL WINDOW AND DOOR REVEALS
 K GLAZES TO USED TO ALL WINDOW AND DOOR REVEALS
 HASTATIC APPLIED BOTH INSIDE AND OUTSIDE

O = Decaters window or door to meet with PART 10 of the Building Regulations and comply with PAS 24:2012

REAR ELEVATION

REFER TO A3 DETAIL BOOK
FOR LEVEL THRESHOLD &
RAMPED ACCESS DETAIL.



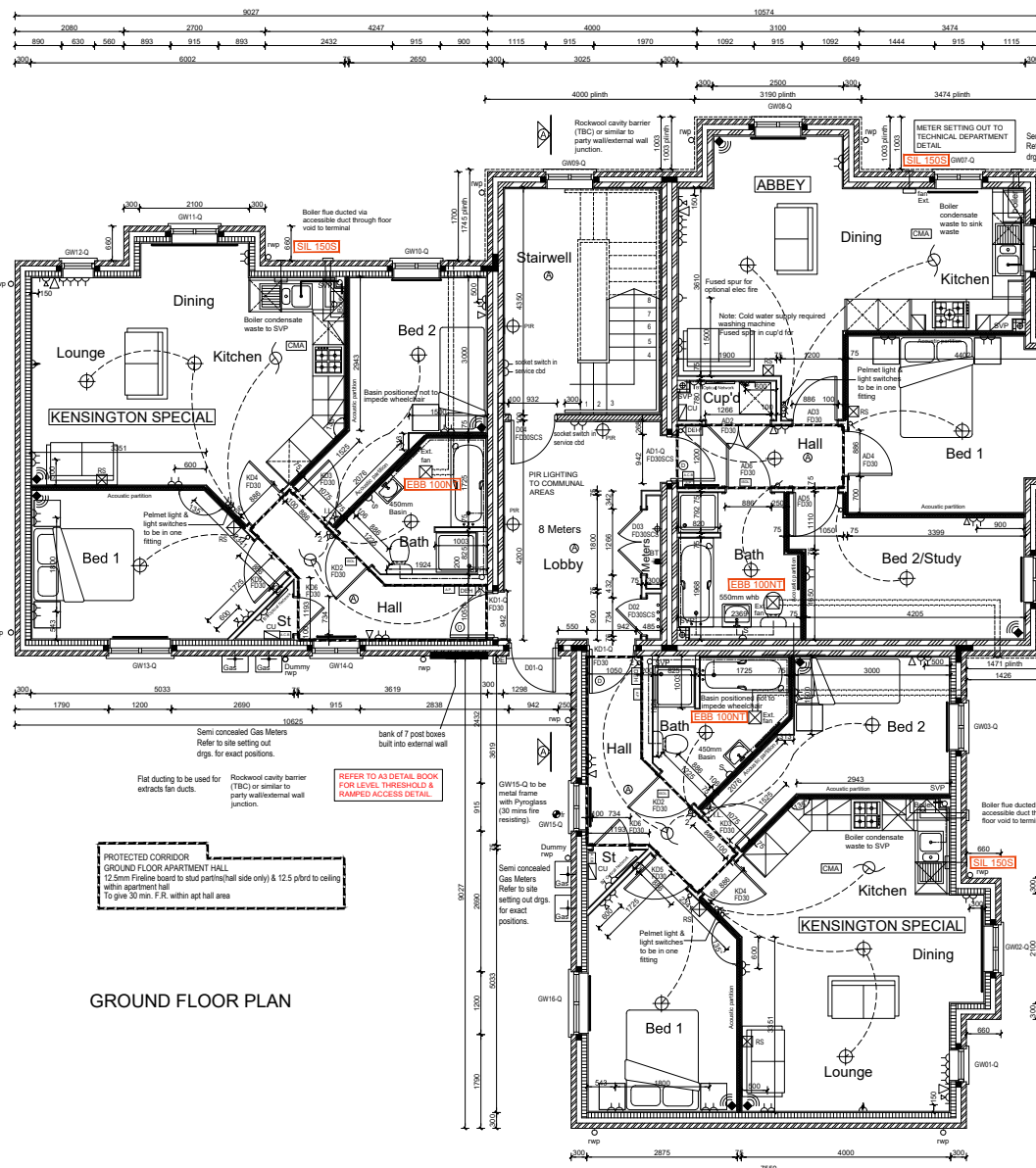
SIDE ELEVATION

Tile vent for Kitchen soil pipe



Job Title THE ABBEY/KENSINGTON SP PART L 2013Q	
Dwg. Title ABBEY GROUND/FIRST FLOOR = 777 sq ft SECOND FLOOR = 738 sq ft	KENSINGTON SP GROUND/FIRST FLOOR = 688 sq ft
Rear & Side Elevations New Kitchen Specification	
Sheet 6	

**FOR DETAILS REFER TO
MORRIS HOMES A3
CONSTRUCTIONAL DETAIL
BOOK**



KEY	
100mm Facing brickwork	
100mm 7N Medium Density block outer leaf to receive render	
100mm 3.5N Solid Lighthouse block 1360/1600mm ² 2.3 storey construction only	
100mm 7N Solid Lighthouse block 1360/1600mm ² Storey 2 and 3 storey construction only	
63 x 63 Timber stud partitions	
63 x 25 Acoustic timber stud partition with 12mm Gyproc Wallboard and skin with 60mm Acoustic Partition Raul resulting to give 40 dB	
63 x 25 Half Hour Fire Resistance Timber stud partition	
100mm 7.3M ² Cellular Solder Male Thermal Conductivity of 0.111 W/mK (2 storey construction only)	
100mm 7.3M ² Cellular High Strength Male Thermal Conductivity of 0.11 W/mK (2.5 and 3 storey construction only)	
Note: - cavity wall filled with 100mm Knud Sopor S40 with 100mm Cellular Sopor or similar block.	

TRACTOR FANS:
Room Floor Fans:
 Switched open fan rated at min. 15/15's switched off rated at a full 6 to a 10 Kitchen.
 Switched open fan rated at min. 15/15's switched off rated at min. 30/30's switched off through floor to wall grille
 East End
 Bathroom
 Switched open fan rated at min. 15/15's switched off through floor to wall grille.
 Provide cooler hood, switch operated fan rated at min. 30/30's switched through floor to wall grille.
 Discharge
 All glazing to external doors and windows to be sealed double
 glazing with 1/2" air gap between panes to be sealed with a double
 glazing to be in accordance with PART 7 OF THE BUILDING
 CODE, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655,

DOOR SCHEDULE						
REF	WIDTH	HEIGHT	GL LENSES	TYPE	KEYSTONE	COMMENTS
D01-L	606	2100	L150 L150	N/A	SLK-60	External
D02	724	1981	N/A	N/A	N/A	FD0503C1 clear
D03	724	1981	N/A	N/A	N/A	FD0503C1 tinted
D04	606	2100	BOX70	N/A	BOX70R	FD0503C1
D05	606	2100	BOX70	N/A	BOX70R	FD0503C1
D06	606	2100	BOX70	N/A	BOX70R	FD0503C1
D07	606	2100	BOX70	N/A	BOX70R	FD0503C1
AD1-L	606	1981	L5100	N/A	CF5K-60	FD0503C1 Entrance
AD2	606	1981	L150 L150	N/A	N/A	N/A
AD3	606	1981	N/A	N/A	N/A	2 x 20 Door F030
AD4	606	1981	N/A	N/A	N/A	29 Door F030
AD5	606	1981	N/A	N/A	N/A	29 Door F030
AD6	606	1981	N/A	N/A	N/A	29 Door F030
AD7	606	1981	N/A	N/A	N/A	29 Door F030
AD1-L	606	1981	L5100	N/A	CF5K-60	FD0503C1 Entrance
AD2	606	1981	L150 L150	N/A	SLK-60	N/A
AD3	606	1981	N/A	N/A	N/A	29 Door F030
AD4	606	1981	N/A	N/A	N/A	29 Door F030
AD5	606	1981	N/A	N/A	N/A	29 Door F030
AD6	606	1981	N/A	N/A	N/A	29 Door F030
AD7	606	1981	N/A	N/A	N/A	29 Door F030

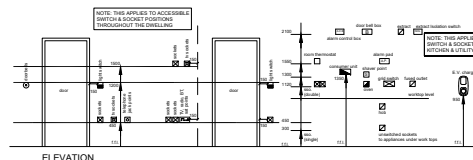
WINDOW SCHEDULE						
REF	WIDTH	DEPTH	GLINT	SIZE	KEYSTONE	COMMENTS
GW01-Q	630	1300	L1340	1200	90K-90	
GW02-Q	915	1200	L5100	1200	CF5K-90	
GW03-Q	915	1300	L5100	1200	CF5K-90	
GW04-Q	915	1000	L5100	1200	CF5K-90	
GW05-Q	915	1200	L5100	1200	CF5K-90	
GW06-Q	915	1000	L5100	1200	CF5K-90	
GW07-Q	915	1200	L15100	1200	SK-90	
GW08-Q	915	1200	L15100	1200	SK-90	
GW09-Q	915	1000	L15100	1200	SK-90	
GW10-Q	915	1300	L5100	1200	CF5K-90	
GW11-Q	915	1300	L5100	1200	CF5K-90	

[illegible]

	KEY TO ELECTRICS
	ONE WAY LIGHT SWITCH
	TWO WAY LIGHT SWITCH
	SOCKET VERTICALLY IN LINE WITH LIGHT SWITCH
	SINGLE SOCKET
	DOUBLE SOCKET
	RADIATOR POSITION
	PIR CONTROLLED BY PIR DETECTOR
	T.V. & TELEPHONE SOCKET
	T.V. POINT
	TELEPHONE SOCKET
	OPTIONAL EXTRA SHAVER POINT POSITION
	SMOKE ALARM
	HEAT DETECTOR
	STANDARD PENDANT LIGHT FITTING TO TAKE ENERGY EFFICIENT LIGHT BULB
	LED DOWNLIGHTER TO GROUP SPECIFICATION
	DOOR ENTRY PANEL
	DOOR ENTRY HANDSET
	CONSUMER UNIT
	ROOM THERMOSTAT
	BT OPTICAL NETWORK & VIRGIN POINT LOCATION
	GRID SWITCH
	ALARM PAD
	ALARM CONTROL BOX
	EXT. FAN ISOLATOR SWITCH
	FUSED SPUR FOR ELECTRIC FIRE
	FUSED SPUR FOR ELECTRIC FIRE WITH MEM MB91 (F3002) 10 BLANK PLATE POSITIONED 50mm BELOW TO INDICATE POSITION OF FIREPROOF GAS OUTLET POINT
	DOUBLE SOCKET & USB'S
	EXTERNAL SOCKET
	EXTERNAL TAP & GULLY
	EV CHARGING POINT. REFER TO SITE SPECIFIC E.V. LAYOUT AND E.V. DETAIL 9B-004

ELECTRICS SUBJECT TO
SITE SPECIFICATION

CMA CARBON MONOXIDE ALARM
Carbon monoxide alarm to be fitted to comply with BS EN 50291:2001 powered by a battery supply designed to operate for the working life of the alarm. Alarm should incorporate a warning device to alert users when the working life of the alarm is due to pass.
Alarm to be fitted at ceiling level at least 300mm from any wall or, if located on a wall, is to be as high up as possible but not within 150mm of the ceiling and between 1-3m horizontally of the appliance.



KENSINGTON SPECIAL GROUND FLOOR					
Radiator Schedule - CLASS A CONDENSING PRESSURISED SYSTEM					
Purmo Compact Radiators EN442 (@D150)					
Room	Temp	Watts A	Catalogue	Len	Hgt
Living/Kitchen	21	2155	C22-4501600	1600	450
Bedroom-1	21	790	C11-4501000	1000	450
Bedroom-2	21	711	C11-450900	900	450
Bathroom	22	611	C11-400600	600	450
Hall	21	553	C11-450700	700	450

ABBEY GROUND FLOOR						
Radiators Schedule - CLASS A CONDENSING PRESSURISED SYSTEM						
Retic Compact Radiators EN442 (@D50)						
Room	Temp	Watts	A Catalogue	Len	Hgt	
Living/Kitchen	21	954	C21-455900	900	450	
Living/Kitchen	21	1060	C21-45501000	1000	450	
Bedroom-1	21	954	C21-455900	900	450	
Bedroom-2/Study	21	843	C21-4550800	800	450	
Bathroom	22	804	C21-6006000	600	600	
Hall	21	611	C11-6006000	600	600	

EXTRACTOR FAN LEGEND

EBB 100NT	DENOTES EBB N RANGE BATHROOM FAN WITH LONG DUCT RUN.
EBB 170NT	DENOTES EBB N RANGE UTILITY FAN WITH LONG DUCT RUN.
SIL 100S	DENOTES SILENT 100S BATHROOM FAN WITH WINDOW.
SIL 100T	DENOTES SILENT 100T BATHROOM FAN WITH NO WINDOW.
SIL 150S	DENOTES SILENT 150S KITCHEN FAN WITH WINDOW.
SIL 150T	DENOTES SILENT 150T KITCHEN FAN WITH NO WINDOW.
SIL 125S	DENOTES SILENT 125S UTILITY FAN WITH WINDOW.
SIL 125T	DENOTES SILENT 125T UTILITY FAN WITH NO WINDOW.

NOTES

1. For details of expansion joints refer to Structural Engineer's details.
2. Vertical fire stop required in soffit at all party wall junctions.
3. For door and window types and sizes refer to individual apartment working drawings.
4. Decayex vertical front delivery & retrieval post boxes to be built into external wall (ref.2040) and white powder coated finish.
5. Communal areas to be fitted with emergency signage & extinguishers in accordance with separate contractors details.



Job Title

THE ABBEY/KENSINGTON SP
PART L 2013Q

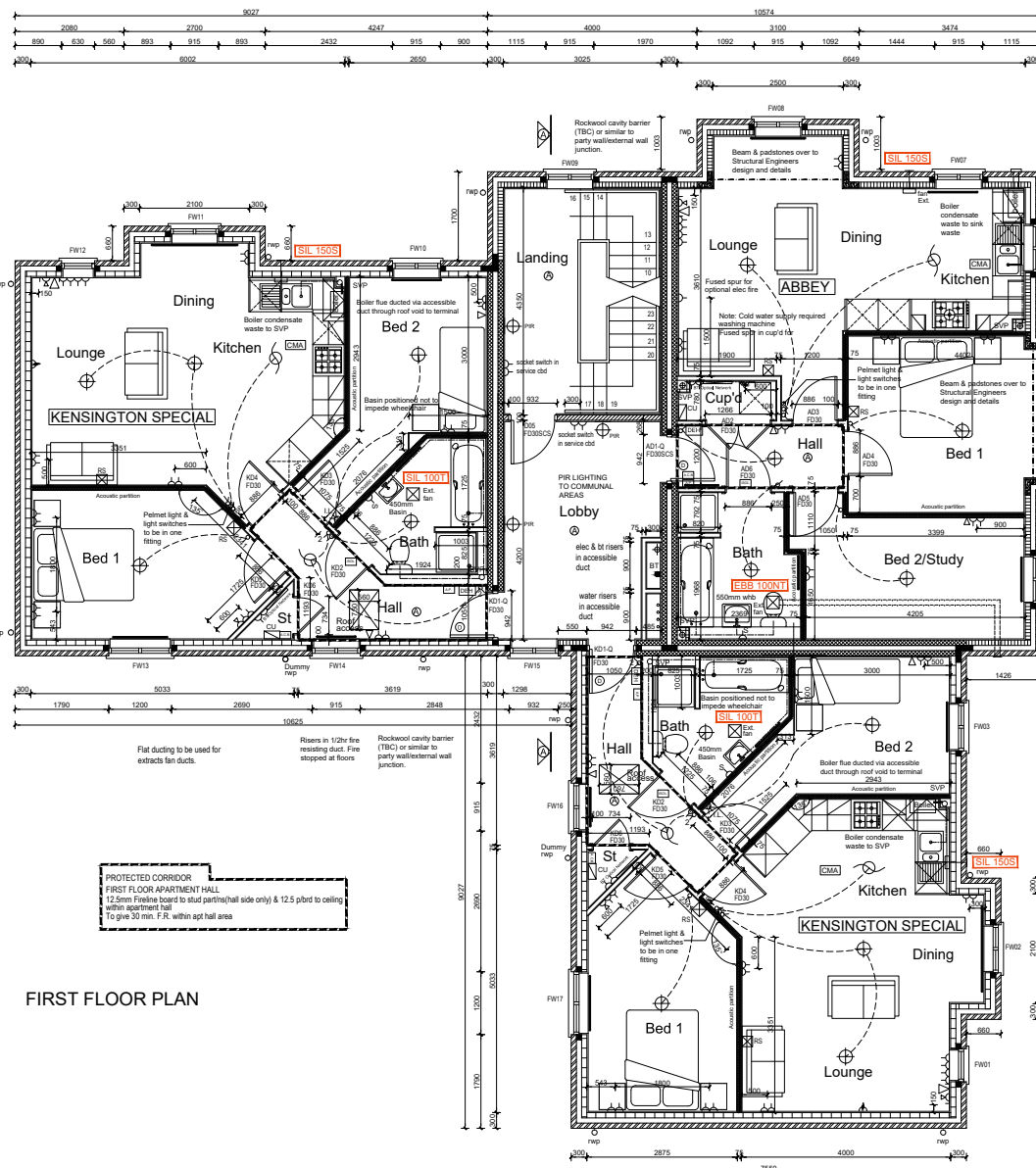
Drg. Title	ABBEY GROUND/FIRST FLOOR = 777 sq ft	KENSINGTON SP GROUND/FIRST FLOOR = 668 sq ft
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Ground Floor Plan
New kitchen Specification

Sheet 2

date	drawn	checked	scale	drwg.no	rev
SEP 13	RDL		1:50	2APP/ABB-KEN/02/L2013Q	D

**FOR DETAILS REFER TO
MORRIS HOMES A3
CONSTRUCTIONAL DETAIL
BOOK**



KEY	
100mm Fasing brickwork	
100mm TN Medium Density block over lead to receive render	
100mm 3.5N Solid Lightweight block - Density 1360 1000g/m ³ (2mm 2 cavity construction only)	
100mm TN Solid Lightweight block Density 1360 1000g/m ³ (Up to 2.5 and 3 cavity construction only)	
15 x 38 Timber stud partitions	
15 x 38 Acoustic Timber stud partition with 12mm Green Woolfill and seal with Kleins Isolator Acoustic Particlar Foil insulation to give 40 dB Rw	
15 x 38 Half hour Fire Resistance Timber stud partition	
100mm 20mm ² Celcon Solar block Min Thermal Conductivity of 0.11 W/mK (2 cavity construction only)	
100mm 7.5mm Celcon High Strength block Min Thermal Conductivity of 0.19 W/mK (2.5 and 3 cavity construction only)	
Note : Cavity wall filled with 100mm Krauf Supcell 40 with 100mm Celcon Solar or similar block.	

DOOR SCHEDULE						
BSF	WIDTH	HEIGHT	GL SCHEDULE	DOOR	KEYSTONE	COMMENTS
D01-Q	84	2100	L155 1300	N/A	SWK	External
D02	724	1181	N/A	N/A	N/A	FOIDISC3 stairs
D03	1269	1181	N/A	N/A	N/A	FOIDISC3 stairs
D04	1269	1181	N/A	N/A	N/A	FOIDISC3 stairs
D05	84	2100	BOX 75	1200	BOX/MS	FOIDISC3 stairs
D06	84	2100	BOX 75	1200	BOX/MS	FOIDISC3 stairs
D07	84	2100	BOX 75	1200	BOX/MS	FOIDISC3 stairs
AD1-Q	84	1570	L155 1300	CPFR-50	SWK	FOIDISC3 entrance
A02	236	1181	L155 1300	SWK	SWK	2 X 20 Door FOID
AD3	84	1181	N/A	N/A	N/A	29 Door FOID
AD4	84	1181	N/A	N/A	N/A	29 Door FOID
AD5	84	1181	N/A	N/A	N/A	29 Door FOID
AD6	84	1181	N/A	N/A	N/A	29 Door FOID
KD1-Q	84	1570	L155 1300	CPFR-50	SWK	FOIDISC3 entrance
KD2	474	1181	N/A	N/A	N/A	SWK
KD3	474	1181	N/A	N/A	N/A	29 Door FOID
KD4	474	1181	N/A	N/A	N/A	29 Door FOID
KD5	474	1181	N/A	N/A	N/A	29 Door FOID
KD6	474	1181	N/A	N/A	N/A	29 Door FOID

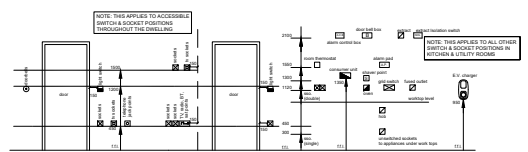
FOIDISC3 FIRE DOOR WITH SELF-CLOSER & SMOKE SEAL

WINDOW SCHEDULE						
REF	DEPTH	WIDTH	IG/LINTEL	SIZE	KEYSTONE	COMMENTS
GW01-Q	630	1300	L14HD 100	800	HDK-80	
GW02-Q	915	1350	L5 100	1200	CFSK-60	
GW03-Q	915	1350	L5 100	1200	CFSK-60	
GW04-Q	915	1050	L5 100	1200	CFSK-60	
GW05-Q	915	1050	L5 100	1200	CFSK-60	
GW06-Q	915	1050	L5 100	1200	CFSK-60	
GW07-Q	915	1050	L 5/6 100	1200	SK-60	
GW08-Q	915	1350	L15 100	1200	SK-60	
GW09-Q	915	1050	L5 100	1200	CFSK-60	
GW10-Q	915	1350	L5 100	1200	CFSK-60	
GW11-Q	915	1350	L5 100	1200	CFSK-60	
GW12-Q	630	1350	L14HD 100	800	HDK-80	
GW13-Q	1200	1350	L5 100	1600	CFSK-60	
GW14-Q	915	1050	L5 100	1200	CFSK-60	
GW15-Q	915	1350	L5 100	1200	CFSK-60	

-  ONE WAY LIGHT SWITCH
-  TWO WAY LIGHT SWITCH
-  SOCKET VERTICALLY IN LINE WITH LIGHT SWITCH
-  SINGLE SOCKET
-  DOUBLE SOCKET
-  RADIATOR POSITION
-  PIR CONTROLLED BY PIR DETECTOR
-  T.V. & TELEPHONE SOCKET
-  T.V. POINT
-  TELEPHONE SOCKET
-  OPTIONAL EXTRA SHAVER POINT POSITION
-  SMOKE ALARM
-  HEAT DETECTOR
-  STANDARD PENDANT LIGHT FITTING TO TAKE ENERGY EFFICIENT LIGHT BULB
-  LED DOWNLIGHTER TO GROUP SPECIFICATION
-  DOOR ENTRY PANEL
-  DOOR ENTRY HANDSET
-  CONSUMER UNIT
-  RST THERMOSTAT
-  BT OPTICAL NETWORK & VIRGIN POINT LOCATION
-  GRID SWITCH
-  ALARM PAD
-  ALARM CONTROL BOX
-  EXT. FAN ISOLATOR SWITCH
-  FUSED SPUR FOR ELECTRIC FIRE
-  FUSED SPUR FOR ELECTRIC FIRE WITH MIM (F350) 10 BLANK PLATE POSITIONED 50mm TO RIGHT OF FUSE AND RADIATE POSITION OF GAS OUTLET POINT
-  DOUBLE SOCKET & USB'S
-  EXTERNAL SOCKET
-  EXTERNAL TAP & GULLY

ELECTRICS SUBJECT TO
SITE SPECIFICATION

CMA CARBON MONOXIDE ALARM
Carbon monoxide alarm to be fitted to comply with BS EN 50291:2001 powered by a battery supply designed to operate for the working life of the alarm. Alarm should incorporate a warning device to alert users when the working life of the alarm is due to pass.
Alarm to be fitted at ceiling level at least 300mm from any wall or, if located on a wall, is to be as high up as possible but not within 150mm of the ceiling and between 1-3m horizontally of the appliance.



KENSINGTON SPECIAL FIRST FLOOR					
Radiator Schedule - CLASS A CONDENSING PRESSURISED SYSTEM					
Purmo Compact Radiators EN442 (G/DI50)					
Room	Temp	Watts A	Catalogue	Len	Hgt
Living/Kitchen	21	2155	C22-4501600	1600	450
Bedroom-1	21	790	C11-4501000	1000	450
Bedroom-2	21	711	C11-450690	900	450
Bathroom	22	611	C11-400600	600	600
Hall	21	553	C11-450700	700	450

Abbey First Floor Radiator Schedule - CLASS A CONDENSING PRESSURISED SYSTEM						
Rettig Compact Radiators EN4442 (@D150)						
Room	Temp	Watts A	Catalogue	Len	Hgt	
Living/Kitchen	21	954	C21-450900	900	450	
Living/Kitchen	21	1060	C21-4501000	1000	450	
Bedroom-1	21	954	C21-450900	900	450	
Bedroom-2/Study	21	843	C21-450800	800	450	
Bathroom	22	804	C21-600600	600	600	
Hall	21	611	C11-600600	600	600	

EXTRACTOR FAN Legend	
EBB 100NT	DENOTES EBB N RANGE BATHROOM FAN WITH LONG DUCT RUN.
EBB 170NT	DENOTES EBB N RANGE UTILITY FAN WITH LONG DUCT RUN.
SIL 100T	DENOTES SILENT 100S BATHROOM FAN WITH WINDOW.
SIL 100T	DENOTES SILENT 100T BATHROOM FAN WITH NO WINDOW.
SIL 150S	DENOTES SILENT 150S KITCHEN FAN WITH WINDOW.
SIL 150T	DENOTES SILENT 150T KITCHEN FAN WITH NO WINDOW.
SIL 125S	DENOTES SILENT 125S UTILITY FAN WITH WINDOW.
SIL 125T	DENOTES SILENT 125T UTILITY FAN WITH NO WINDOW.

- NOTES**
1. For details of expansion joints refer to Structural Engineer's details.
 2. Vertical fire stop required in soffit at all party wall junctions.
 3. For door and window types and sizes refer to internal apartment working drawings.
 4. Decayex vertical front delivery & retrieval post boxes to be built into external wall (ref.2040) and white powder coated finish.
 5. Communal areas to be fitted with emergency signage & extinguishers in accordance with separate contractors details.



MORRIS

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Job Title

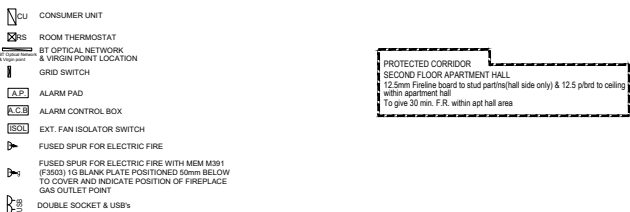
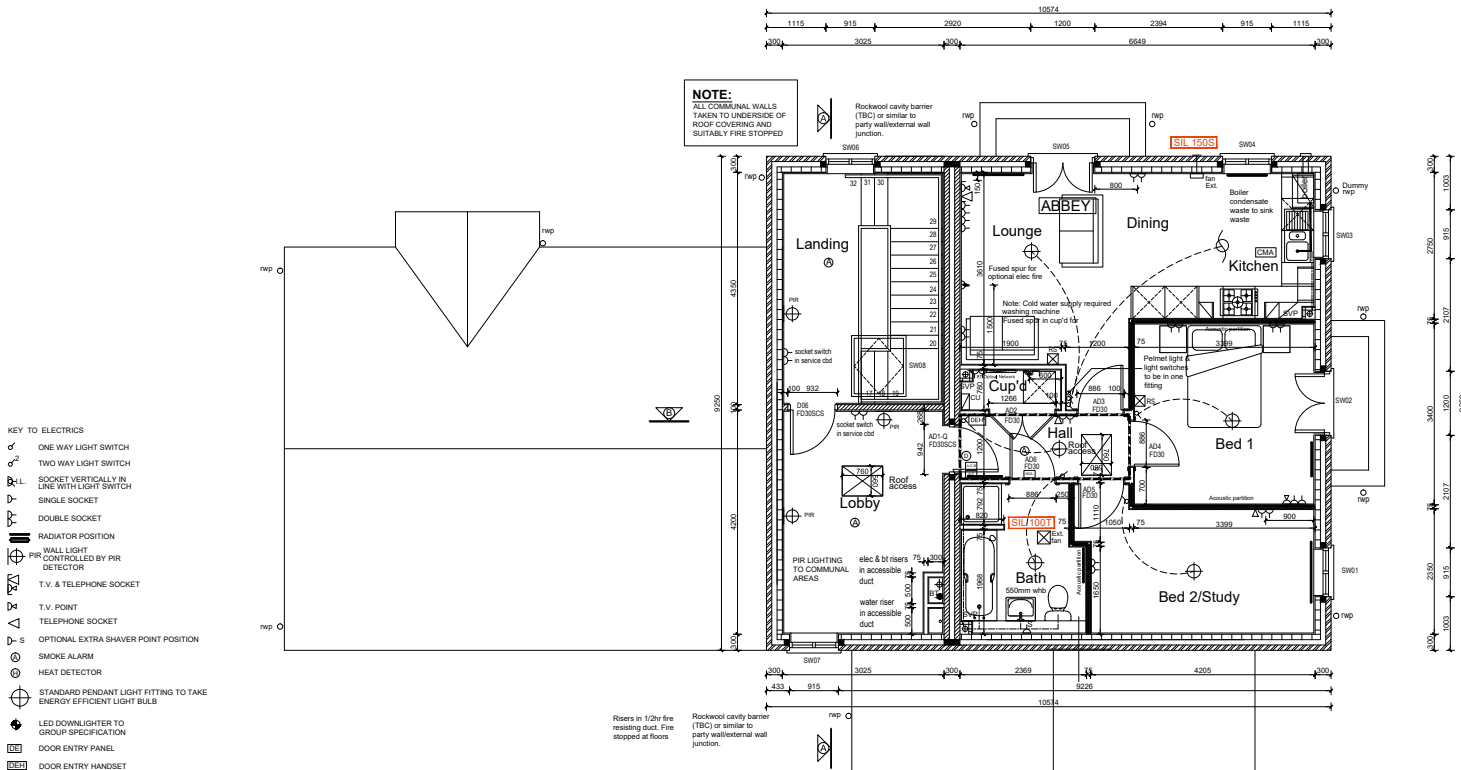
THE ABBEY/KENSINGTON SP
PART L 2013Q

Drg. Title	ABBEY	KENSINGTON SP
	GROUND/FIRST FLOOR = 777 sq ft	GROUND/FIRST FLOOR = 668 sq ft

First Floor Plan
New kitchen Specification

Sheet 3

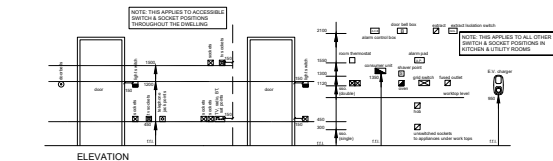
**FOR DETAILS REFER TO
MORRIS HOMES A3
CONSTRUCTIONAL DETAIL
BOOK**



SECOND FLOOR PLAN

ELECTRICS SUBJECT TO
SITE SPECIFICATION

CMA CARBON MONOXIDE ALARM
Carbon monoxide alarm to be fitted to comply with BS EN 50291:2001 powered by a battery supply designed to operate for the working life of the alarm. Alarm should incorporate a warning device to alert users when the working life of the alarm is due to pass.
Alarm to be fitted at ceiling level at least 300mm from any wall or, if located on a wall, is to be as high up as possible but not within 150mm of the ceiling and between 1-3m horizontally of the appliance.



KEY	
100mm Facing brickwork	
100mm TN Medium Density block outer leaf to receive render	
100mm 3.5M Solid Lightweight block Cavity 100mm (100mm) ² (Up to 2 storey construction only)	
100mm TN Solid Lightweight block Cavity 100mm (100mm) ² and 3 storey construction only)	
63 x 38 Timber stud	
63 x 38 Acoustic timber stud partition with 25mm Gyproc Wallboard and skim with 100mm Acoustic Parton Red Insulation to give 42 dB Rd	
63 x 38 Half Hour Fire Resistance Timber stud	
100mm 2.9M Concrete Sidelob block Thermal Conductivity <0.11 W/mK (2 storey construction only)	
100mm 3.3Mmax Concrete Half Strength block Thermal Conductivity <0.12 (2, 3 and 4 storey construction only)	

Note: Cavity wall filled with 100mm Knauf Supafill 40 with
100mm Knauf or similar block.

EXTRACTOR FANS:
Switched Floor Fans
Bathroom: switched fan rated at min. 15 litres/sec ducted at a fall to wall
Kitchen: switched fan rated at min. 15 litres/sec ducted at a fall to wall
Cooker: switched fan rated at min. 15 litres/sec ducted at a fall to wall
Switched floor space to wall grille
East Facade
Bathroom:
Switched fan operated fan rated at min. 15 litres/sec ducted at a fall to wall through floor space to wall grille
Kitchen:
Provide cooker hood / switched fan rated at min. 30 litres / sec ducted at a fall to wall through floor space to wall grille
GLAZING:
Bathrooms: external doors and windows to be sealed double glazed units. In accordance with bathrooms & en-suites to be obscured by glass or glass block units.
REGULATIONS: In compliance with BS 6206: 1991 Provide burglar safety glazing to all entrance doors & internal doors including all external windows to be fitted with burglar safety glazing in accordance with manufacturers' specifications
GLAZING:
Bathrooms: external doors to be fitted with 'easier' glazing / less than minimum to be achieved from inside the building.
KITCHEN: external doors to be fitted with first floor burglarable rooms. 450mm width with or height of 930, 63mm and max 1100mm from floor to top of door.
Carry wall cut to all party walls extending with Redwood cavity wall ties in accordance with cavity stop with vertical cap applied to face of outer leaf and extending past cavity stop.

[illegible]

DOOR SCHEDULE						
REF	WIDTH	HEIGHT	GLAZING	NO.	KEYSTONE	COMMENTS
D01-Q	838	2100	1150 100	1350	SK-60	ENTRANCE
D02	734	1981	N/A	N/A	N/A	FD03C5 stairs
D03	1266	1981	N/A	N/A	N/A	FD03C5 stairs
D04	838	2100	1150 100	1350	SK-60	FD03C5 stairs
D05	838	2100	1150 100	1350	SK-60	FD03C5 stairs
D06	838	2100	1150 100	1350	SK-60	FD03C5 stairs
D07-Q	838	2100	1150 100	1350	SK-60	FD03C5 stairs
D08	838	2100	1150 100	1350	SK-60	FD03C5 stairs
D09	838	2100	1150 100	1350	SK-60	FD03C5 stairs
D10	838	2100	1150 100	1350	SK-60	FD03C5 stairs
D11	838	2100	1150 100	1350	SK-60	FD03C5 stairs
D12	1266	1981	N/A	N/A	N/A	2 X 20 Door F03
D13	838	2100	1150 100	1350	SK-60	29 Door F03
D14	838	2100	1150 100	1350	SK-60	29 Door F03
D15	838	2100	1150 100	1350	SK-60	29 Door F03
D16	838	2100	1150 100	1350	SK-60	29 Door F03
D17	838	2100	1150 100	1350	SK-60	29 Door F03
D18	838	2100	1150 100	1350	SK-60	29 Door F03
D19	838	2100	1150 100	1350	SK-60	29 Door F03
D20	838	2100	1150 100	1350	SK-60	29 Door F03
D21	838	2100	1150 100	1350	SK-60	29 Door F03
D22	838	2100	1150 100	1350	SK-60	29 Door F03
D23	838	2100	1150 100	1350	SK-60	29 Door F03
D24	838	2100	1150 100	1350	SK-60	29 Door F03
D25	838	2100	1150 100	1350	SK-60	29 Door F03
D26	838	2100	1150 100	1350	SK-60	29 Door F03
D27	838	2100	1150 100	1350	SK-60	29 Door F03
D28	838	2100	1150 100	1350	SK-60	29 Door F03
D29	838	2100	1150 100	1350	SK-60	29 Door F03
D30	838	2100	1150 100	1350	SK-60	29 Door F03
D31	838	2100	1150 100	1350	SK-60	29 Door F03
D32	838	2100	1150 100	1350	SK-60	29 Door F03
D33	838	2100	1150 100	1350	SK-60	29 Door F03
D34	838	2100	1150 100	1350	SK-60	29 Door F03
D35	838	2100	1150 100	1350	SK-60	29 Door F03
D36	838	2100	1150 100	1350	SK-60	29 Door F03
D37	838	2100	1150 100	1350	SK-60	29 Door F03
D38	838	2100	1150 100	1350	SK-60	29 Door F03
D39	838	2100	1150 100	1350	SK-60	29 Door F03
D40	838	2100	1150 100	1350	SK-60	29 Door F03
D41	838	2100	1150 100	1350	SK-60	29 Door F03
D42	838	2100	1150 100	1350	SK-60	29 Door F03
D43	838	2100	1150 100	1350	SK-60	29 Door F03
D44	838	2100	1150 100	1350	SK-60	29 Door F03
D45	838	2100	1150 100	1350	SK-60	29 Door F03
D46	838	2100	1150 100	1350	SK-60	29 Door F03
D47	838	2100	1150 100	1350	SK-60	29 Door F03
D48	838	2100	1150 100	1350	SK-60	29 Door F03
D49	838	2100	1150 100	1350	SK-60	29 Door F03
D50	838	2100	1150 100	1350	SK-60	29 Door F03
D51	838	2100	1150 100	1350	SK-60	29 Door F03
D52	838	2100	1150 100	1350	SK-60	29 Door F03
D53	838	2100	1150 100	1350	SK-60	29 Door F03
D54	838	2100	1150 100	1350	SK-60	29 Door F03
D55	838	2100	1150 100	1350	SK-60	29 Door F03
D56	838	2100	1150 100	1350	SK-60	29 Door F03
D57	838	2100	1150 100	1350	SK-60	29 Door F03
D58	838	2100	1150 100	1350	SK-60	29 Door F03
D59	838	2100	1150 100	1350	SK-60	29 Door F03
D60	838	2100	1150 100	1350	SK-60	29 Door F03
D61	838	2100	1150 100	1350	SK-60	29 Door F03
D62	838	2100	1150 100	1350	SK-60	29 Door F03
D63	838	2100	1150 100	1350	SK-60	29 Door F03
D64	838	2100	1150 100	1350	SK-60	29 Door F03
D65	838	2100	1150 100	1350	SK-60	29 Door F03
D66	838	2100	1150 100	1350	SK-60	29 Door F03
D67	838	2100	1150 100	1350	SK-60	29 Door F03
D68	838	2100	1150 100	1350	SK-60	29 Door F03
D69	838	2100	1150 100	1350	SK-60	29 Door F03
D70	838	2100	1150 100	1350	SK-60	29 Door F03
D71	838	2100	1150 100	1350	SK-60	29 Door F03
D72	838	2100	1150 100	1350	SK-60	29 Door F03
D73	838	2100	1150 100	1350	SK-60	29 Door F03
D74	838	2100	1150 100	1350	SK-60	29 Door F03
D75	838	2100	1150 100	1350	SK-60	29 Door F03
D76	838	2100	1150 100	1350	SK-60	29 Door F03
D77	838	2100	1150 100	1350	SK-60	29 Door F03
D78	838	2100	1150 100	1350	SK-60	29 Door F03
D79	838	2100	1150 100	1350	SK-60	29 Door F03
D80	838	2100	1150 100	1350	SK-60	29 Door F03
D81	838	2100	1150 100	1350	SK-60	29 Door F03
D82	838	2100	1150 100	1350	SK-60	29 Door F03
D83	838	2100	1150 100	1350	SK-60	29 Door F03
D84	838	2100	1150 100	1350	SK-60	29 Door F03
D85	838	2100	1150 100	1350	SK-60	29 Door F03
D86	838	2100	1150 100	1350	SK-60	29 Door F03
D87	838	2100	1150 100	1350	SK-60	29 Door F03
D88	838	2100	1150 100	1350	SK-60	29 Door F03
D89	838	2100	1150 100	1350	SK-60	29 Door F03
D90	838	2100	1150 100	1350	SK-60	29 Door F03
D91	838	2100	1150 100	1350	SK-60	29 Door F03
D92	838	2100	1150 100	1350	SK-60	29 Door F03
D93	838	2100	1150 100	1350	SK-60	29 Door F03
D94	838	2100	1150 100	1350	SK-60	29 Door F03
D95	838	2100	1150 100	1350	SK-60	29 Door F03
D96	838	2100	1150 100	1350	SK-60	29 Door F03
D97	838	2100	1150 100	1350	SK-60	29 Door F03
D98	838	2100	1150 100	1350	SK-60	29 Door F03
D99	838	2100	1150 100	1350	SK-60	29 Door F03
D100	838	2100	1150 100	1350	SK-60	29 Door F03

**D30352 = FIRE DOOR WITH SELF-CLOSER							
WINDOW SCHEDULE							
REF	WIDTH	DEPTH	LG/INTL	SIZE	KEYSTONE	COMMENTS	
GWW-01	915	1200	L1RD L0	1200	NO SK		
GWW-02	915	1152	L1RD L0	1200	CF SK		
GWW-03	915	1300	L5100 L0	1200	CF SK		
GWW-04	915	1050	L6105 L0	1200	CF SK		
GWW-05	915	1200	L5100 L0	1200	CF SK		
GWW-06	915	1050	L5100 L0	1200	CF SK		
GWW-07	915	1050	L135 L0	1200	SK AG		
GWW-08	915	1250	L135 L0	1200	SK AG		
GWW-09	915	1200	L5100 L0	1200	CF SK		
GWW-10	915	1300	L5100 L0	1200	CF SK		
GWW-11	915	1300	L6105 L0	1200	CF SK		
GWW-12	915	1200	L5100 L0	1200	CF SK		
GWW-13	1200	1300	L5100 L0	1200	CF SK		
GWW-14	915	1050	L5100 L0	1200	CF SK		
GWW-15	915	1050	L6105 L0	1200	CF SK		
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GWW-187	915	1200	L5100 L0	1200	CF SK		
GWW-188	915	1200	L5100 L0	1200</			

FW01	915	1200	L15	100	S&K	
FW02	915	1200	L15	100	S&K	
FW03	915	1200	L15	100	S&K	
FW04	915	1200	L1500	1200	CF&K	
FW05	915	1200	L15	100	S&K	
FW06	915	1200	L5000	1200	CF&K	
FW07	915	1200	L15	100	S&K	
FW08	915	1200	L15	100	S&K	
FW09	915	1200	L15	100	S&K	
FW10	915	1200	L15	100	S&K	
FW11	915	1200	L15	100	S&K	
FW12	630	1200	L15	100	S&K	
FW13	1200	1200	L15	100	S&K	
FW14	915	1200	L15	100	S&K	
FW15	915	1200	L15	100	S&K	
FW16	915	1200	L15	100	S&K	
FW17	915	1200	L15	100	S&K	
SW01	915	1200	L15	100	S&K	
SW02	1200	1275	L15	100	S&K	External trench door
SW03	915	1200	L15	100	S&K	
SW04	915	1200	L15	100	S&K	
SW05	1200	1275	L1400	100	H&K	External trench door
SW06	915	1200	L15	100	S&K	
SW07	915	1200	L15	100	S&K	
SW08	1140	1180	SS&K VELUX ROOF	100	ACM Ins. Ties	

Q - Denotes window or door to meet with
PART Q(2015) of the Building Regulations
and comply with PAS 24:2012

		REFER TO DETAILS NOTE UPDATED, THRESHOLD NOTE ADDED, ACCREDITED DATE NOTE OMITTED, PELMET LIGHT SWITCH NOTE ADDED, EXTRACT FAN REFERENCES A LEGEND ADDED, B TO T POINT UPDATE, 100% WASHING, BACKGROUND IDENTIFICATION NOTE ADDED, BLOCK LEGEND UPDATED, COMMUNAL LIGHTING UPDATED TO BE PER CDM.	RDL
C	08.11.21	BOILER CONDENSATE WASTE NOTE ADDED, MEDIA PLATE REPLACED WITH T POINT AND 2x400S SOCKETS, EV CHARGING POINT NOTE ADDED, EV CHARGER ADDED TO ELECTRICAL ELEVATION DETAIL, CARBON MONOXIDE ALARM NOTE.	MMX
B	09.03.20	HEATING DESIGN UPDATED, UNTIL SCHEDULE UPDATED	RDL
A	21.10.19	EXTERNAL, WALL & UNDERFLOOR INSULATION SPECIFICATION AMENDMENT	RDL
Rev	Date	Amendment	Init

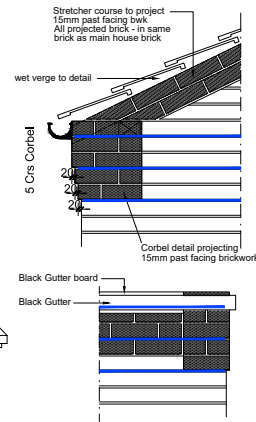
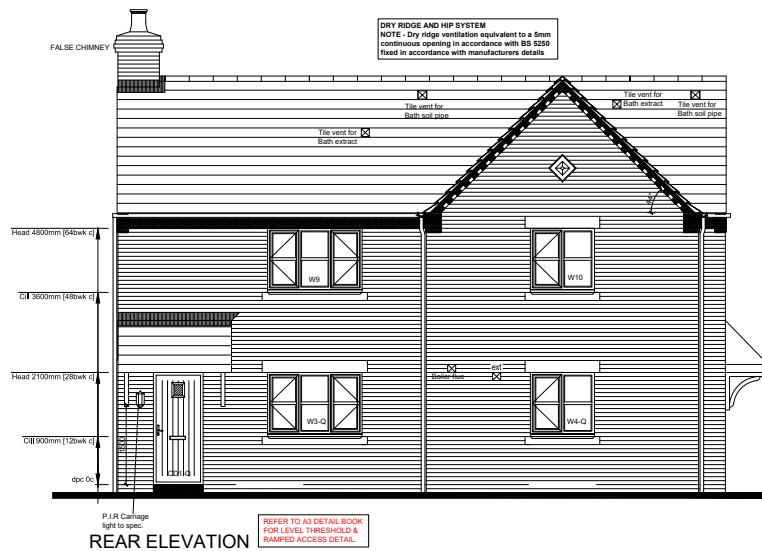
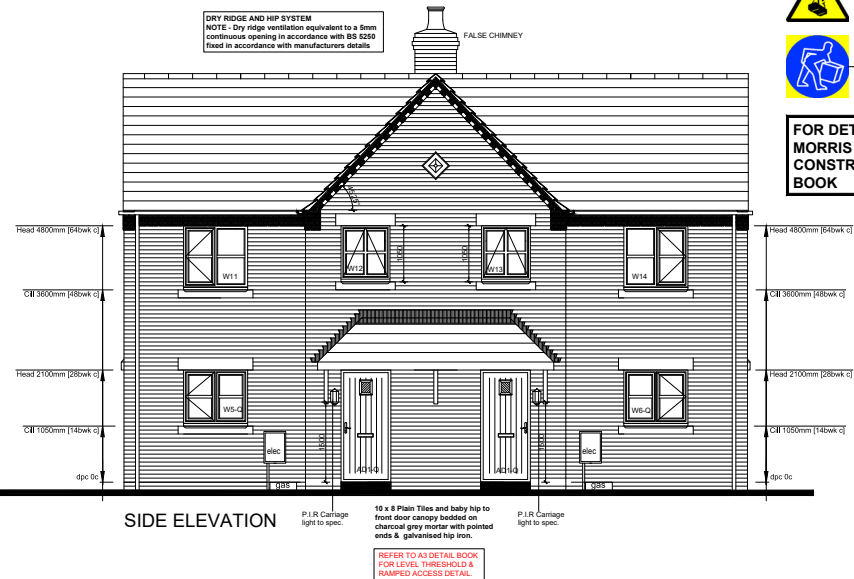
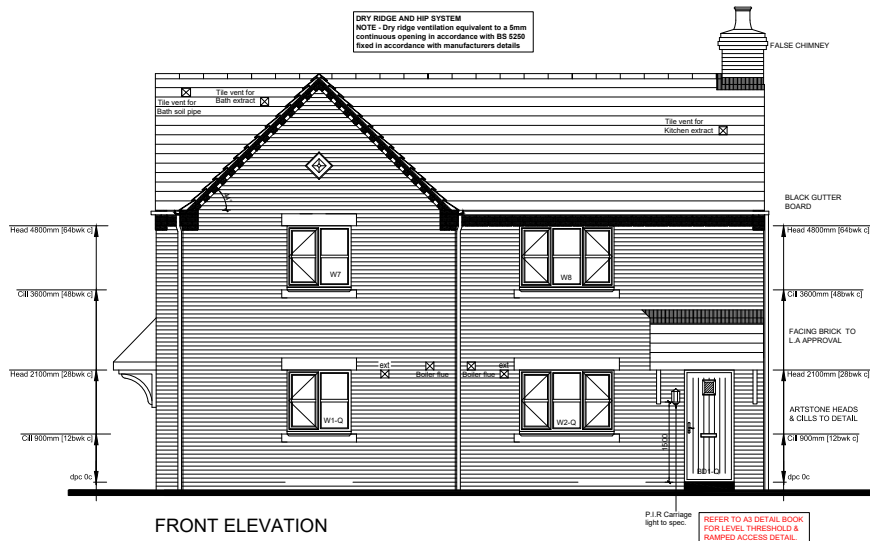


Job Title	THE ABBEY/KENSINGTON SP PART L 2013Q		
Dwg Title	ABBEY GROUND/FIRST FLOOR = 777 sq ft SECOND FLOOR = 736 sq ft	KENSINGTON SP GROUND/FIRST FLOOR = 666 sq ft	
Second Floor Plan New Kitchen Specification		Sheet 4	

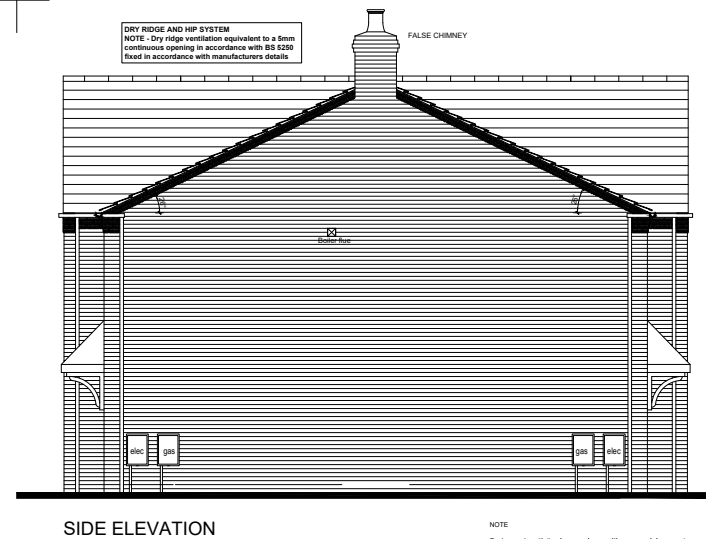
Retrofit Compact Radiators EN442 (@D150)					
Room	Temp	Watts	Catalogue	Len	Hgt
Living/Kitchen	21	916	C11-600900	900	600
Living/Kitchen	21	943	C22-450700	700	450
Bedroom-1	21	804	C21-600600	600	600
Bedroom-2/Study	21	869	C11-4501100	1100	450
Bathroom	22	804	C21-600600	600	600
Hall	21	611	C11-600600	600	600

NOTES

1. For details of expansion joints refer to Structural Engineer's details.
2. Vertical fire stop required in soffit at all party wall junctions.
3. For door and window types and sizes refer to individual apartment working drawings.
4. Decayex vertical front delivery & retrieval post boxes to be built into external wall (ref.204) and white powder coated finish.
5. Communal areas to be fitted with emergency signage & extinguishers in accordance with separate contractors details.



Corbel Detail 26°pitch
(at end gable applications)
DENOTES BEKAERT MURFOR COMPACT E-35 MASONRY REINFORCEMENT



Rev	Date	Amendment	Init
F	22.10.21	Kitchen extract fan changed to ceiling mounted, positions updated. Electric and gas meters positions updated. Material spec updated.	SK
E	30.06.21	Amended to affordable spec, design updated. Corbel reinforcement details added. Refer to details notes added.	SK
D	04.01.21	Front doors amended to standard	uk
C	07.01.20	ROOF PITCHES UPDATED TO SUIT TRUSS DESIGN.	RDL
B	22.03.19	RIDGE & HIP FIXING METHODS UPDATED	RDL
A	09.02.19	TYPE RE NAMED.	RDL



MATERIALS SPECIFICATION - Refer to Material Dispersion Plan for brick and roof tile			
ROOF TILES: MAIN ROOF CANOPY ROOF GARAGE ROOF MAIN ROOF RIDGE TILES MAIN ROOF HP TILES LOWER CANOPY ROOF HPs	Refer to materials dispersion plan 15 x 4 plain tile & baby hip tile Refer to materials dispersion plan Refer to site specific roof tile specification on Dry tile system with metal pointed ends to metal verge Baby hip tiles on charcoal grey mortar with pointed ends and galvanneal hip iron. CORBEL "Bekaert" Concrete or similar approved The "Bekaert" utilized for all requirements including rags, eaves trim and roof ventilation.	BRICKWORK BROCKWORTH NORTHAN RENDER PLINTH BRICKS AIR BRICKS DOORS: FRONT UTILITY WINDOW FRAMES FRENCH/HIP FOLD DOORS GARAGE DOORS:	Refer to materials dispersion plan Brickwork: refer to site specific materials plan for colour Refer to the material plan in all instances NA 225x150 white ceramic tiles to suit main house brick GRP Painted refer to site specific materials plan for colour White GPR or black painted tiles UPVC - horizontal bar while UPVC ref. to site spec. NA
ALL TILE VENTS:		WINDOW CILLS KIDSTONES CHIMNEY POT BATHWATER GOODS & SIPS GUTTER BOARDS GROUND FLOOR ROOF & CANOPIES CHIMNEY POT EXTRACTOR FANS EXTERNAL METERS	Butt floor cills to front elevation & exposed side elevations NA Flatback terracotta "Canor" pot Black plastic 100 x 25mm Black PVCu Reargables, Fascia & soffits White UPVC Flatback Terracotta Canor pot Black plastic Eel vents Gas electric and water boxes where applicable painted black

NOTE
Background ventilation in accordance with approved document Part F System 1 (B.2)

PVC-U windows are to be made in accordance with BS 7412. Glazing to external doors to comply with BS 6862.

All glazing to comply with Approved Document N of Building Regulations.

All habitable first floor rooms to contain windows with an unobstructed openable area that is at least 0.33 m² and at least 450 mm high and 450 mm wide.

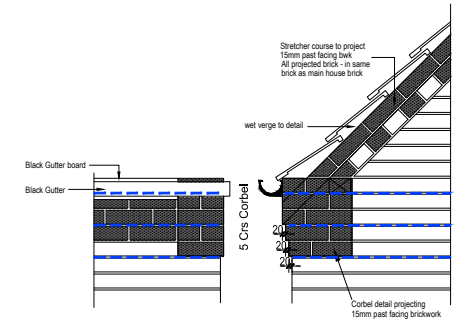
Bottom of the openable area should be not more than 1100 mm above the floor.

Switches and sockets are to be located between 450 mm and 1200 mm above finished floor level, not including consumer units and room state - habitable rooms only.

Dwelling to be constructed in accordance with the DTL Robust Details Document.

Doors to habitable rooms and rooms containing WC's to have a minimum clear opening of 800 mm when not approached head on & 750 mm when approached head on.

Job Title		WINDERMERE-GRASSMERE-AMBLESIDE - 1B2P - AFF PART L 2013Q	
Dwg Title		WIND-543 sq ft / GRASS-504 sq ft / AMBLE-605 sq ft	
Elevations		New Wardrobe Specification	
Date		Drawn	Checked
MAY 17		RDL	
Scale		1:50	
Dwg No		NRS/AFF/H/1B2P/02/L2013Q	
Rev		F	

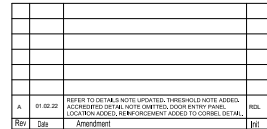


- 

EASY CLEAN HINGES/WINDOWS TO BE UTILISED TO AID MAINTENANCE ON ALL SECOND FLOOR WINDOWS
- 

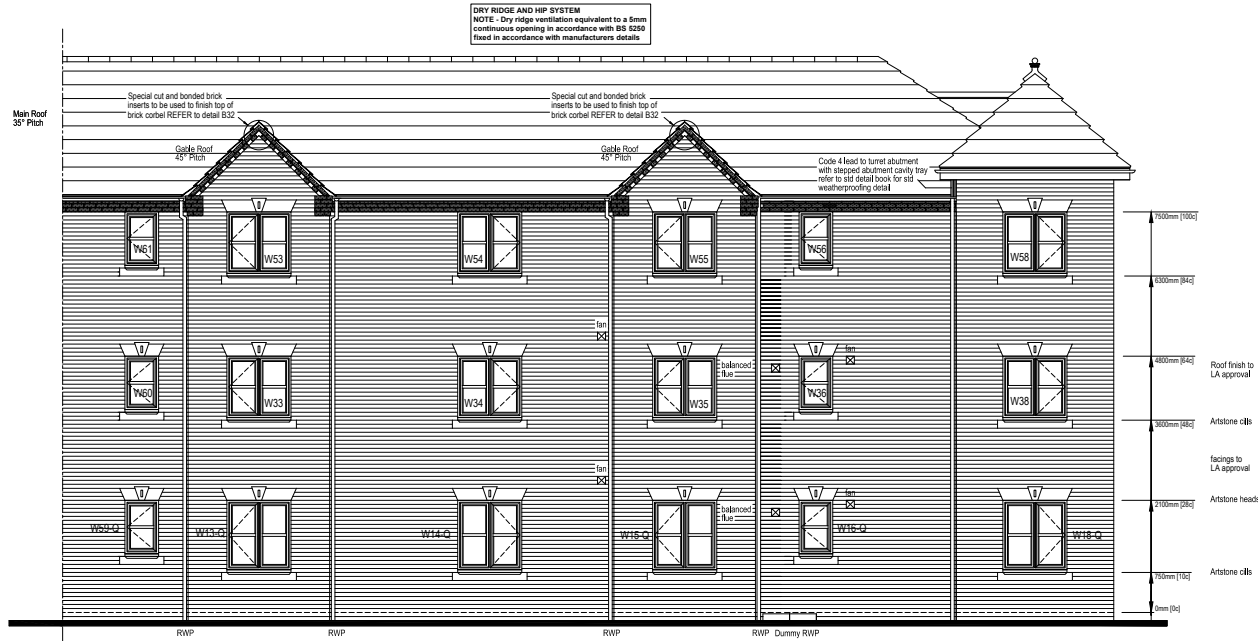
DECORATIVE STONEMWORK HEAVY/AWKWARD OBJECT FORK LIFT TRUCK TO POSITION UNITS ON WORKING PLATFORM. TWO MAN LIFTING TO BE UTILISED FOR PLACEMENT

IMPORTANT NOTE- suspended ceiling to lobby area is to have a 50mm void thus no counterbattening where applicable to allow for front entrance fanlight

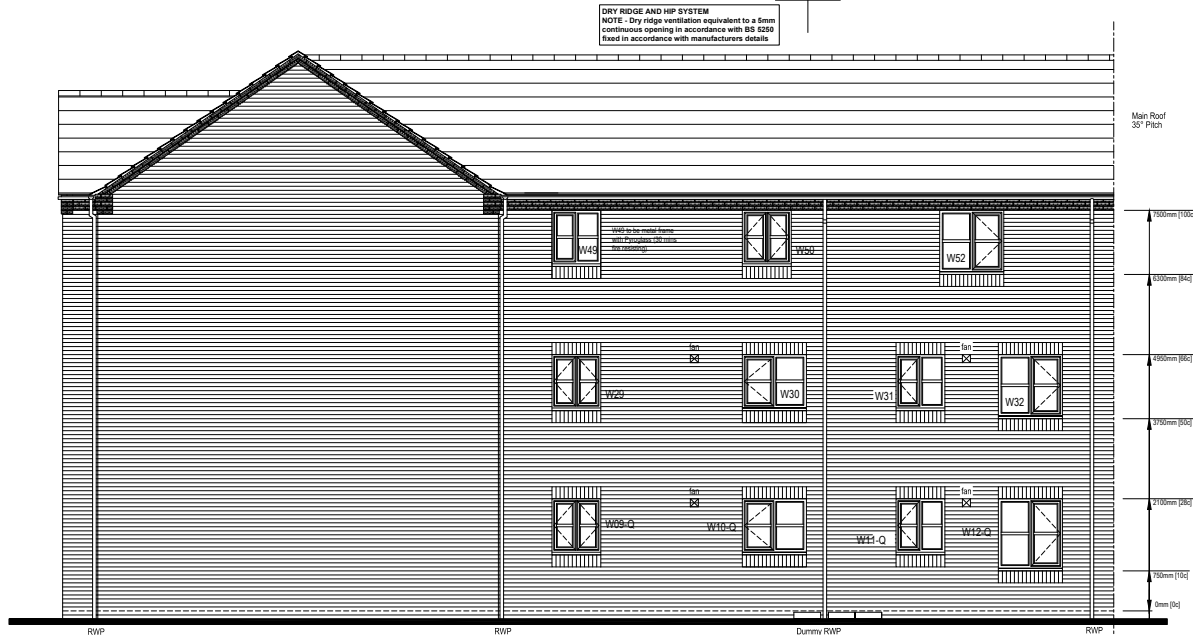


Date	Drawn	checked	scale	Org. no	rev
MAY 19	SJM		1:50	NRS/2APP/ABK/3ST/05/L2013Q	A

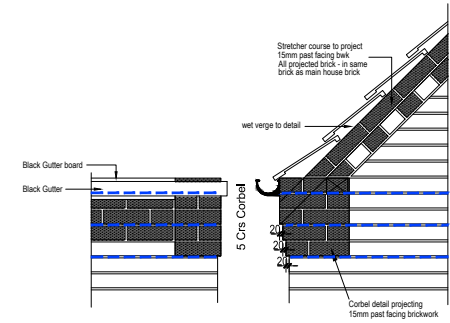
FOR DETAILS REFER TO
MORRIS HOMES A3
CONSTRUCTIONAL DETAIL
BOOK



SIDE ELEVATION



SIDE ELEVATION



Corbel Detail 45° pitch
(at end gable applications)

--- DENOTES BEKAERT MURFOR
COMPACT E-35 MASONRY
REINFORCEMENT



EASY CLEAN HINGES/WINDOWS TO BE
UTILISED TO AID MAINTENANCE ON ALL
SECOND FLOOR WINDOWS



DECORATIVE STONEMASONRY
HEAVY/UNWIELDY OBJECT
FORK LIFT TRUCK TO POSITION UNITS ON
WORKING PLATFORM. TWO MAN LIFTING TO BE
UTILISED FOR PLACEMENT

Rev	Date	Amendment	Int
A	01/02/22	REFER TO DETAILS NOTE UPDATED, ACCREDITED DETAIL NOTE UNLESS REINFORCEMENT ADDED TO CORBEL DETAIL	NEL



Morris Homes (Group) Limited
Mordant House
Abraham Road Wilmslow
Cheshire SK9 5NW
Tel: (01625) 544 444
Fax: (0845) 833 1845

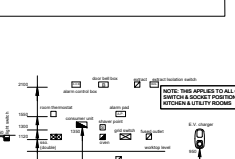
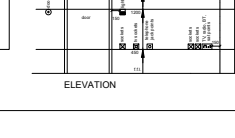
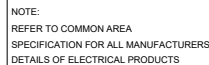
100 146
THE AMERSHAM, BELSIZE & KENSINGTON
PART L 2013Q

Orig Title: Amersham GF-0119 sq. ft. Amersham FF-0147 sq. ft. Amersham SF-0147 sq. ft.
Belsize GF-0119 sq. ft. Belsize FF-0147 sq. ft. Belsize SF-0147 sq. ft.
Kensington GF-0119 sq. ft. Kensington FF-0147 sq. ft. Kensington SF-0147 sq. ft.

Side Elevations
New Wardrobe Specification Sheet 6

Date: MAY 19 Time: SUM Drawn: 1:50 By: 100 146
Title: NRS2APPIABK3ST06L2013Q A

AMERSHAM, BELSIZE & KENSINGTON APARTMENTS - 3 STOREY



C	07.11.21	REPLACED WITH TV POINT AND 2 DOUBBLE SOCKETS. EV CHARGING POINT NOTE ADDED. EV CHARGER ADDED TO ELECTRICAL ELEVATION DETAIL. CARBON MONOXIDE ALARM NOTE.
B	08.03.20	HEATING DESIGN UPDATED
A	21.10.19	EXTERNAL WALL & UNDERFLOOR INSULATION SPECIFICATION AMENDED
Rev	Date	Amendment



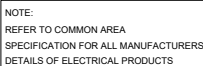
MORRIS



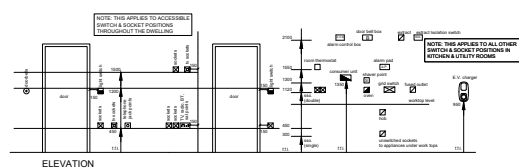
Or, Ylk	Amersham GF=619 sq ft Belize GF=636 sq ft Kensington GF=694 sq ft	Amersham FF=647 sq ft Belize FF=664 sq ft Kensington FF=694 sq ft	Amersham SF=647 sq ft Belize SF=664 sq ft Kensington(Spec) SF=694
---------	---	---	---

Date	Drawn	Checked	Scale	Proj.
MAY 19	SJM		1:50	NRS/2APP/ABK/3ST/03/L2013Q

AMERSHAM, BELSIZE & KENSINGTON APARTMENTS - 3 STOREY



REFER TO BETT ASSOCIATES DETAIL MOR 21/ 18
FOR ALL STEEL,PADSTONE, WIDEPLANK DIRECTIONAL SPANS
MOVEMENT JOINTS, SECTION DETAILS AND FOR ALL
RELAVENT STRUCTURAL ADVICE/NOTATION RELATING TO
THESE APARTMENT TYPES



NOTES

1. For details of expansion joints refer to Structural Engineer's details.
2. Vertical fire stop required in soffit at all party wall junctions.
3. For door and window types and sizes refer to individual apartment working drawings.
4. Decayed vertical front delivery & retrieval post boxes to be built into external wall (ref 2040) and white powder coated finish.
5. Communal areas to be fitted with emergency signage & extinguishers in accordance with separate contractors details.

IMPORTANT NOTES

Q - Denotes window or door to meet with PART Q(2015) of the Building Regulations and comply with PAS 68:2012

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D	01.08.22	REFER TO DETAILS NOTE UPDATED, THRESHOLD NOTE ADDED, REORDERED 1ST BY NOTE DATED, 2ND BY 1/4" RATCH-NUT ADDED, EXTERIOR FAY REFINERES & LESSED ADDED, 3RD BY POINT ELEVATION, CORNER, CORNER, LEPPING ADDED TO BE PRE-APPROPRIATE, REARED TO SINGLE HEATING NO.
C	07.11.21	REPLACE UNDERGROUND HEATING NOTE ADDED, REFINERES REPLACED WITH TYPICAL AND ADJUSTABLE SOCKETS, EV CHARGING-POINT NOTE ADDED, EV CHARGER ADDED TO ELECTRICAL, ELEVATION DETAIL, CARBON MONOXIDE ALARM NOTE
B	08.03.20	HEATING DESIGN UPDATED
A	21.10.19	EXTERNAL WALL & UNDERFLOOR INSULATION SPECIFICATION AMENDED
Rev	5/6	Amendment



Morris Homes (Group) Limited
Morland House
Altrincham Road Wilmslow
Cheshire SK9 5NW
Tel: (01625) 544 444
Fax: (0845) 833 1845

Job Title
THE AMERSHAM, BELSIZE & KENSINGTON
PART L 2013Q

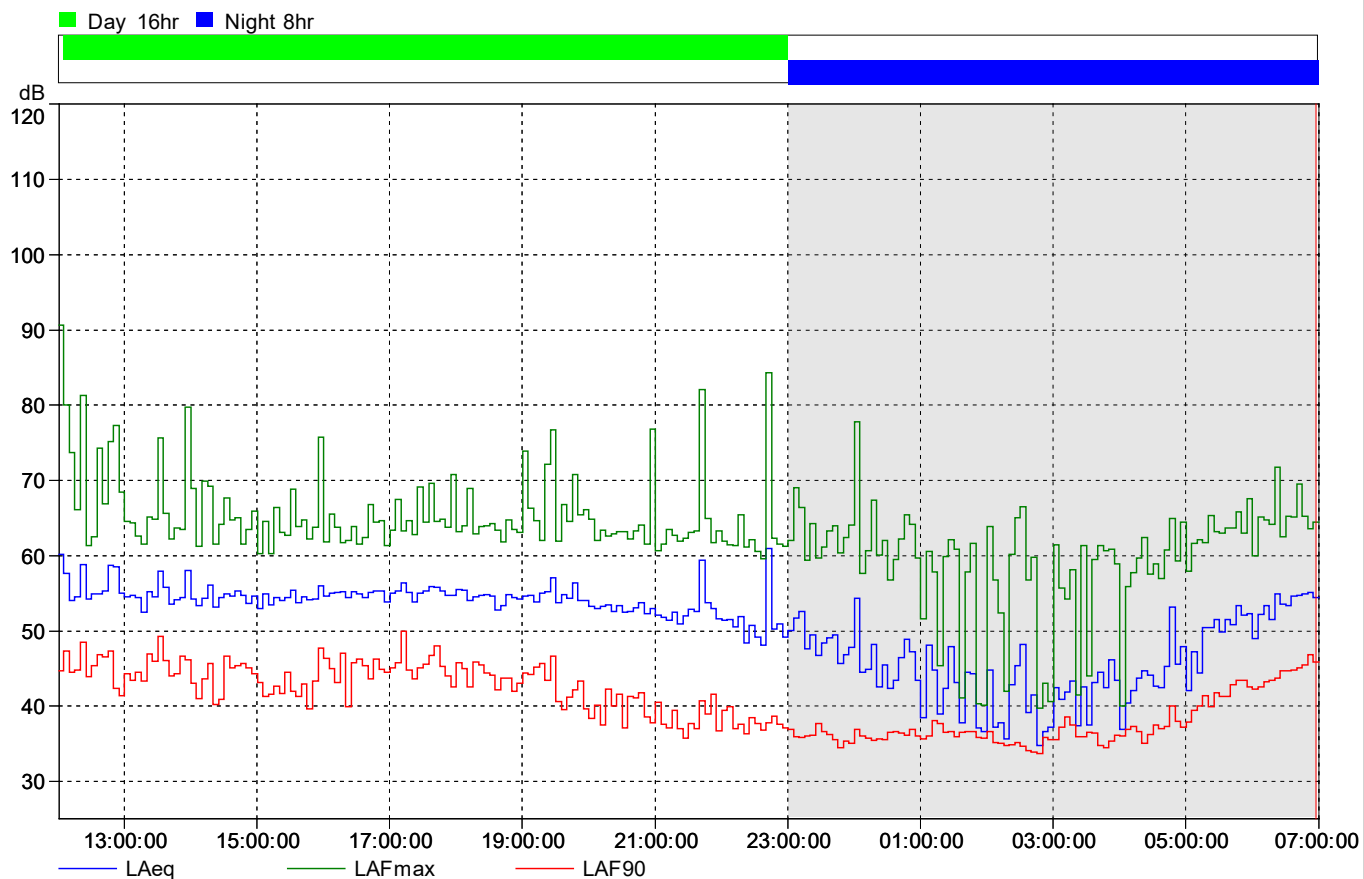
Orig. Title	Amersham GF-619 sq ft	Amersham FF-647 sq ft	Amersham SF-647 sq ft
	Belize GF-636 sq ft	Belize FF-664 sq ft	Belize SF-664 sq ft
	Kensington GF-694 sq ft	Kensington FF-694 sq ft	Kensington(Spec) SF-694 sq ft

Second Floor Layout
New Wardrobe Specification

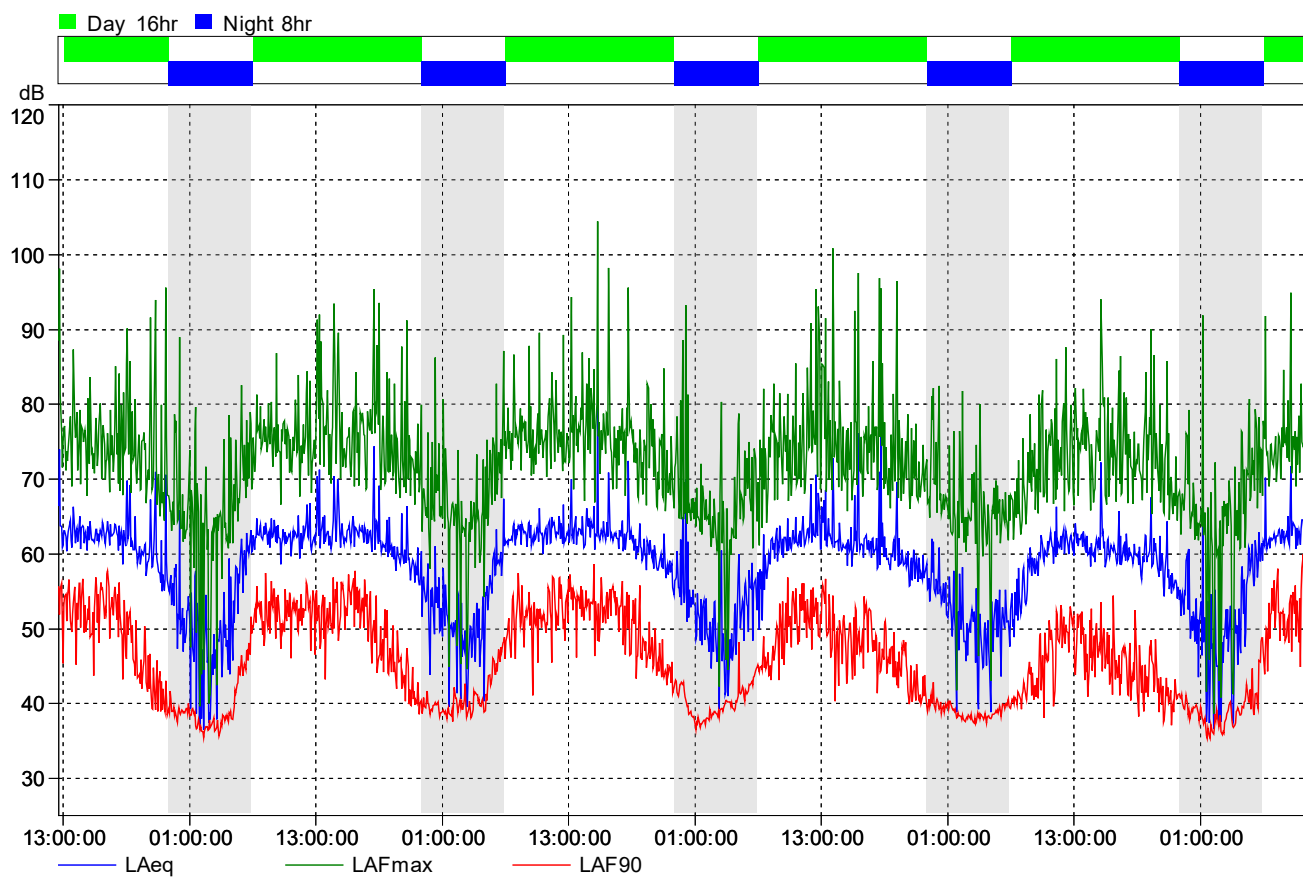
A P P E N D I X C

Noise survey results

Logger Data - Location U1



Logger Data - Location U2





ENVIRONMENTAL NOISE RECORD SHEET

Sheet 1 of 1
JW2280/22253

Location: Cross Lane (A6053) Attended measurements at location A1
Date: 15 August 2022
Calibration Times: 09:42, 10:56

Project: 22253 – East Lancs Paper Mill
Instrumentation: Brüel & Kjær 2260
Operating Condition: Traffic noise, 8m from nearside edge of carriageway

Date	Time		Weather			Noise Level dB(A)						Comments (Including description of noise (eg whine, hiss, rumble, impact, vehicle rain, vegetation, or animal noise)).
	Start	Dur'n (Min)	Wind Speed m/s	Wind Dir'n	Cloud (%)	L10	L50	L90	LMAX	LMIN	LAeq	
15/08/2022	09:50	15	Calm	NA	30	68.4	59.8	49.2	78.8	38.9	63.4	Road traffic along Cross Lane
15/08/2022	10:05	15	Calm	NA	30	67.8	60.2	51.8	78.6	39.7	63.7	Road traffic along Cross Lane
15/08/2022	10:20	15	Calm	NA	30	67.0	58.4	44.0	76.0	36.8	62.8	Road traffic along Cross Lane
15/08/2022	10:35	15	Calm	NA	30	67.6	59.8	47.8	76.8	35.0	63.3	Road traffic along Cross Lane

Date	Time	LAeq dB	Leq Octave Band Pressure Level									Comments
			31	63	125	250	500	1k	2k	4k	8k	
15/08/2022	09:50	63.4	63	72	63	58	57	60	57	50	44	Road traffic along Cross Lane
15/08/2022	10:05	63.7	63	65	59	57	57	61	57	49	41	Road traffic along Cross Lane
15/08/2022	10:20	62.8	65	66	58	58	57	60	56	48	40	Road traffic along Cross Lane
15/08/2022	10:35	63.3	63	65	59	58	57	60	57	48	39	Road traffic along Cross Lane

A P P E N D I X D

Noise ingress calculation sheets

Calculated Indoor Ambient Noise Levels (as per BS 8233:2014 Annex G)



Project:	East Lancs Paper Mill
Project number:	22253
Date:	01/09/2022

Plot:	House Type AP G - Amersham
Room:	Living / Dining / Kitchen

Daytime (<i>L</i> _{Aeq,16hr})				Octave band centre frequency											
	Unit	Value	Description	Term	63	125	250	500	1k	2k	4k	8k	Broadband term		
EXTERNAL NOISE LEVEL															
External noise level			A6053 Cross Lane	<i>L</i> _{eq,1}	69	65	62	61	59	53	47	40		<i>L</i> _{Aeq,1}	63 dB
Façade correction factor				C	0	0	0	0	0	0	0	0			
INCIDENT FAÇADE NOISE LEVEL															
Incident noise level			A6053 Cross Lane	<i>L</i> _{eq,ff}	69	65	62	61	59	53	47	40		<i>L</i> _{Aeq,ff}	63 dB
ROOM DATA															
Room description and reverberation time	Volume	58	Living Room	RT60	0.6	0.6	0.5	0.5	0.4	0.4	0.4	0.3			s
FAÇADE ELEMENTS (A6053 Cross Lane)															
Glazing	Area	3.5	Generic 8/6-16/4	Rw	21	22	21	28	38	40	47	47		Rw / Rw+Ctr	33 / 29 dB
Wall	Area	25.3	Brick and block external wall	Rw	34	40	44	45	51	56	60	63		Rw / Rw+Ctr	50 / 47 dB
Vent	No. off.	3	Titon SF Xtra V50 + C25	Dn,e	34	38	38	33	36	47	49	57		Dn,e,w / Dn,e,w+Ctr	39 / 37 dB
None			--												
RESULTS															
Total calculated indoor noise level				<i>L</i> _{eq,2}	47	41	37	35	27	12	3	-		<i>L</i> _{Aeq,2}	35 dB

Calculated Indoor Ambient Noise Levels (as per BS 8233:2014 Annex G)



Project:	East Lancs Paper Mill
Project number:	22253
Date:	01/09/2022

Plot:	House Type AP G - Amersham
Room:	Bed 2

Night time ($L_{Aeq,8hr}$)				Octave band centre frequency											
	Unit	Value	Description	Term	63	125	250	500	1k	2k	4k	8k	Broadband term		
EXTERNAL NOISE LEVEL															
External noise level			A6053 Cross Lane	$L_{eq,1}$	63	59	55	52	51	46	40	34		$L_{Aeq,1}$	55 dB
Façade correction factor				C	0	0	0	0	0	0	0	0			
INCIDENT FAÇADE NOISE LEVEL															
Incident noise level			A6053 Cross Lane	$L_{eq,ff}$	63	59	55	52	51	46	40	34		$L_{Aeq,ff}$	55 dB
ROOM DATA															
Room description and reverberation time	Volume	23	Bedroom	RT60	0.4	0.5	0.4	0.4	0.3	0.3	0.3	0.2			s
FAÇADE ELEMENTS (A6053 Cross Lane)															
Glazing	Area	1.4	Generic 8/6-16/4	Rw	21	22	21	28	38	40	47	47		Rw / Rw+Ctr	33 / 29 dB
Wall	Area	6.5	Brick and block external wall	Rw	34	40	44	45	51	56	60	63		Rw / Rw+Ctr	50 / 47 dB
Vent	No. off.	2	Titon SF Xtra V50 + C25	Dn,e	34	38	38	33	36	47	49	57		Dn,e,w / Dn,e,w+Ctr	39 / 37 dB
None			--												
RESULTS															
Total calculated indoor noise level				$L_{eq,2}$	40	34	30	26	20	5	-	-		$L_{Aeq,2}$	27 dB

Calculated Indoor Ambient Noise Levels (as per BS 8233:2014 Annex G)



Project:	East Lancs Paper Mill
Project number:	22253
Date:	01/09/2022

Plot:	House Type AP G - Amersham
Room:	Bed 2

Night time ($L_{A_{Max}}$)				Octave band centre frequency											
	Unit	Value	Description	Term	63	125	250	500	1k	2k	4k	8k	Broadband term		
EXTERNAL NOISE LEVEL															
External noise level			A6053 Cross Lane	$L_{Max,1}$	83	77	67	63	63	63	69	60	$L_{A_{Max},1}$	73 dB	
Façade correction factor				C	0	0	0	0	0	0	0	0			
INCIDENT FAÇADE NOISE LEVEL															
Incident noise level			A6053 Cross Lane	$L_{Max,ff}$	83	77	67	63	63	63	69	60	$L_{A_{Max},ff}$	73 dB	
ROOM DATA															
Room description and reverberation time	Volume	23	Bedroom	RT60	0.4	0.5	0.4	0.4	0.3	0.3	0.3	0.2		s	
FAÇADE ELEMENTS (A6053 Cross Lane)															
Glazing	Area	1.4	Generic 8/6-16/4	Rw	21	22	21	28	38	40	47	47	Rw / Rw+Ctr	33 / 29 dB	
Wall	Area	6.5	Brick and block external wall	Rw	34	40	44	45	51	56	60	63	Rw / Rw+Ctr	50 / 47 dB	
Vent	No. off.	2	Titon SF Xtra V50 + C25	Dn,e	34	38	38	33	36	47	49	57	Dn,e,w / Dn,e,w+Ctr	39 / 37 dB	
None			--												
RESULTS															
Total calculated indoor noise level				$L_{Max,2}$	60	52	42	37	32	22	26	9	$L_{A_{Max},2}$	41 dB	

Calculated Indoor Ambient Noise Levels (as per BS 8233:2014 Annex G)



Project:	East Lancs Paper Mill
Project number:	22253
Date:	01/09/2022

Plot:	House Type AP B - Abbey
Room:	Living / Dining / Kitchen

Daytime (<i>L</i> _{Aeq,16hr})				Octave band centre frequency											
	Unit	Value	Description	Term	63	125	250	500	1k	2k	4k	8k	Broadband term		
EXTERNAL NOISE LEVEL															
External noise level			A6053 Cross Lane	<i>L</i> _{eq,1}	69	65	62	61	59	53	47	40		<i>L</i> _{Aeq,1}	63 dB
Façade correction factor				C	0	0	0	0	0	0	0	0			
INCIDENT FAÇADE NOISE LEVEL															
Incident noise level			A6053 Cross Lane	<i>L</i> _{eq,ff}	69	65	62	61	59	53	47	40		<i>L</i> _{Aeq,ff}	63 dB
ROOM DATA															
Room description and reverberation time	Volume	57	Living Room	RT60	0.6	0.6	0.5	0.5	0.4	0.4	0.4	0.3			s
FAÇADE ELEMENTS (A6053 Cross Lane)															
Glazing	Area	3.1	Generic 8/6-16/4	Rw	21	22	21	28	38	40	47	47		Rw / Rw+Ctr	33 / 29 dB
Wall	Area	24.1	Brick and block external wall	Rw	34	40	44	45	51	56	60	63		Rw / Rw+Ctr	50 / 47 dB
Vent	No. off.	3	Titon SF Xtra V50 + C25	Dn,e	34	38	38	33	36	47	49	57		Dn,e,w / Dn,e,w+Ctr	39 / 37 dB
None			--												
RESULTS															
Total calculated indoor noise level				<i>L</i> _{eq,2}	47	40	37	34	27	12	3	-		<i>L</i> _{Aeq,2}	35 dB

Calculated Indoor Ambient Noise Levels (as per BS 8233:2014 Annex G)



Project:	East Lancs Paper Mill
Project number:	22253
Date:	01/09/2022

Plot:	House Type AP B - Abbey
Room:	Bed 2

Night time ($L_{Aeq,8hr}$)				Octave band centre frequency											
	Unit	Value	Description	Term	63	125	250	500	1k	2k	4k	8k	Broadband term		
EXTERNAL NOISE LEVEL															
External noise level			A6053 Cross Lane	$L_{eq,1}$	63	59	55	52	51	46	40	34		$L_{Aeq,1}$	55 dB
Façade correction factor				C	0	0	0	0	0	0	0	0			
INCIDENT FAÇADE NOISE LEVEL															
Incident noise level			A6053 Cross Lane	$L_{eq,ff}$	63	59	55	52	51	46	40	34		$L_{Aeq,ff}$	55 dB
ROOM DATA															
Room description and reverberation time	Volume	25	Bedroom	RT60	0.4	0.5	0.4	0.4	0.3	0.3	0.3	0.2			s
FAÇADE ELEMENTS (A6053 Cross Lane)															
Glazing	Area	1.1	Generic 8/6-16/4	Rw	21	22	21	28	38	40	47	47		Rw / Rw+Ctr	33 / 29 dB
Wall	Area	8.5	Brick and block external wall	Rw	34	40	44	45	51	56	60	63		Rw / Rw+Ctr	50 / 47 dB
Vent	No. off.	2	Titon SF Xtra V50 + C25	Dn,e	34	38	38	33	36	47	49	57		Dn,e,w / Dn,e,w+Ctr	39 / 37 dB
None			--												
RESULTS															
Total calculated indoor noise level				$L_{eq,2}$	39	33	29	26	20	5	-	-		$L_{Aeq,2}$	27 dB

Calculated Indoor Ambient Noise Levels (as per BS 8233:2014 Annex G)



Project:	East Lancs Paper Mill
Project number:	22253
Date:	01/09/2022

Plot:	House Type AP B - Abbey
Room:	Bed 2

Night time ($L_{A\text{Max}}$)				Octave band centre frequency											
	Unit	Value	Description	Term	63	125	250	500	1k	2k	4k	8k	Broadband term		
EXTERNAL NOISE LEVEL															
External noise level			A6053 Cross Lane	$L_{\text{Max},1}$	83	77	67	63	63	63	69	60	$L_{A\text{Max},1}$	73 dB	
Façade correction factor				C	0	0	0	0	0	0	0	0			
INCIDENT FAÇADE NOISE LEVEL															
Incident noise level			A6053 Cross Lane	$L_{\text{Max},\text{ff}}$	83	77	67	63	63	63	69	60	$L_{A\text{Max},\text{ff}}$	73 dB	
ROOM DATA															
Room description and reverberation time	Volume	25	Bedroom	RT60	0.4	0.5	0.4	0.4	0.3	0.3	0.3	0.2		s	
FAÇADE ELEMENTS (A6053 Cross Lane)															
Glazing	Area	1.1	Generic 8/6-16/4	Rw	21	22	21	28	38	40	47	47	Rw / Rw+Ctr	33 / 29 dB	
Wall	Area	8.5	Brick and block external wall	Rw	34	40	44	45	51	56	60	63	Rw / Rw+Ctr	50 / 47 dB	
Vent	No. off.	2	Titon SF Xtra V50 + C25	Dn,e	34	38	38	33	36	47	49	57	Dn,e,w / Dn,e,w+Ctr	39 / 37 dB	
None			--												
RESULTS															
Total calculated indoor noise level				$L_{\text{Max},2}$	59	51	41	37	32	22	25	8	$L_{A\text{Max},2}$	41 dB	

Calculated Indoor Ambient Noise Levels (as per BS 8233:2014 Annex G)



Project:	East Lancs Paper Mill
Project number:	22253
Date:	01/09/2022

Plot:	House Type 7 - Buxton
Room:	Living Room

Daytime (<i>L</i> _{Aeq,16hr})				Octave band centre frequency											
	Unit	Value	Description	Term	63	125	250	500	1k	2k	4k	8k	Broadband term		
EXTERNAL NOISE LEVEL															
External noise level			A6053 Cross Lane	<i>L</i> _{eq,1}	69	65	62	61	59	53	47	40		<i>L</i> _{Aeq,1}	63 dB
Façade correction factor				C	0	0	0	0	0	0	0	0			
INCIDENT FAÇADE NOISE LEVEL															
Incident noise level			A6053 Cross Lane	<i>L</i> _{eq,ff}	69	65	62	61	59	53	47	40		<i>L</i> _{Aeq,ff}	63 dB
ROOM DATA															
Room description and reverberation time	Volume	49	Living Room	RT60	0.6	0.6	0.5	0.5	0.4	0.4	0.4	0.3			s
FAÇADE ELEMENTS (A6053 Cross Lane)															
Glazing	Area	1.8	Generic 8/6-16/4	Rw	21	22	21	28	38	40	47	47		Rw / Rw+Ctr	33 / 29 dB
Wall	Area	6.6	Brick and block external wall	Rw	34	40	44	45	51	56	60	63		Rw / Rw+Ctr	50 / 47 dB
Vent	No. off.	2	Titon SF Xtra V50 + C25	Dn,e	34	38	38	33	36	47	49	57		Dn,e,w / Dn,e,w+Ctr	39 / 37 dB
None			--												
RESULTS															
Total calculated indoor noise level				<i>L</i> _{eq,2}	45	39	35	33	26	11	2	-		<i>L</i> _{Aeq,2}	33 dB

Calculated Indoor Ambient Noise Levels (as per BS 8233:2014 Annex G)



Project:	East Lancs Paper Mill
Project number:	22253
Date:	01/09/2022

Plot:	House Type 7 - Buxton
Room:	Bed 1

Night time ($L_{Aeq,8hr}$)				Octave band centre frequency											
	Unit	Value	Description	Term	63	125	250	500	1k	2k	4k	8k	Broadband term		
EXTERNAL NOISE LEVEL															
External noise level			A6053 Cross Lane	$L_{eq,1}$	63	59	55	52	51	46	40	34		$L_{Aeq,1}$	55 dB
Façade correction factor				C	0	0	0	0	0	0	0	0			
INCIDENT FAÇADE NOISE LEVEL															
Incident noise level			A6053 Cross Lane	$L_{eq,ff}$	63	59	55	52	51	46	40	34		$L_{Aeq,ff}$	55 dB
ROOM DATA															
Room description and reverberation time	Volume	29	Bedroom	RT60	0.4	0.5	0.4	0.4	0.3	0.3	0.3	0.2		s	
FAÇADE ELEMENTS (A6053 Cross Lane)															
Glazing	Area	1.4	Generic 8/6-16/4	Rw	21	22	21	28	38	40	47	47		Rw / Rw+Ctr	33 / 29 dB
Wall	Area	5.8	Brick and block external wall	Rw	34	40	44	45	51	56	60	63		Rw / Rw+Ctr	50 / 47 dB
Vent	No. off.	2	Titon SF Xtra V50 + C25	Dn,e	34	38	38	33	36	47	49	57		Dn,e,w / Dn,e,w+Ctr	39 / 37 dB
None			--												
RESULTS															
Total calculated indoor noise level				$L_{eq,2}$	39	33	29	25	19	4	-	-		$L_{Aeq,2}$	26 dB

Calculated Indoor Ambient Noise Levels (as per BS 8233:2014 Annex G)



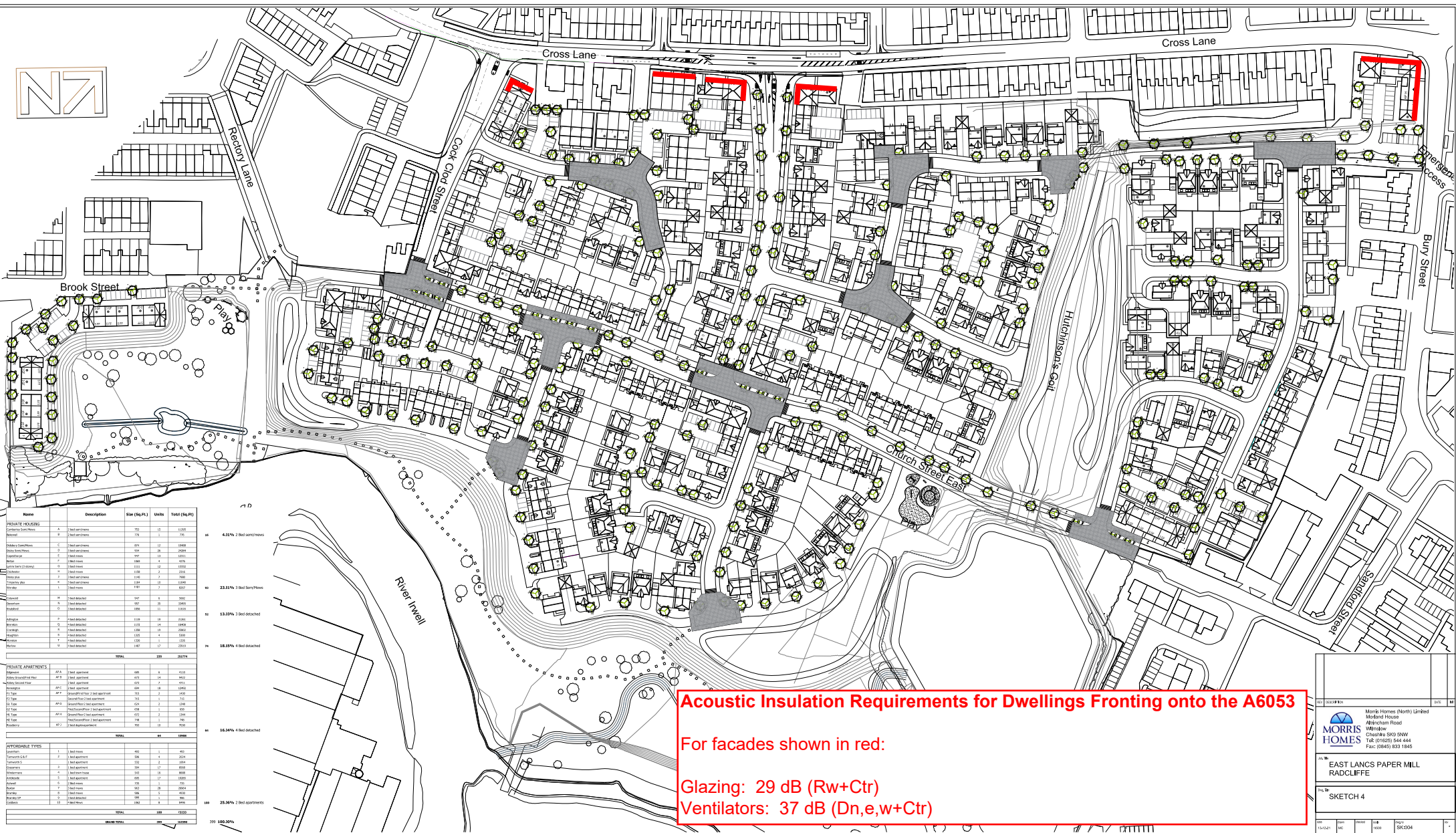
Project:	East Lancs Paper Mill
Project number:	22253
Date:	01/09/2022

Plot:	House Type 7 - Buxton
Room:	Bed 1

Night time ($L_{A\text{Max}}$)				Octave band centre frequency											
	Unit	Value	Description	Term	63	125	250	500	1k	2k	4k	8k	Broadband term		
EXTERNAL NOISE LEVEL															
External noise level			A6053 Cross Lane	$L_{\text{Max},1}$	83	77	67	63	63	63	69	60	$L_{A\text{Max},1}$	73 dB	
Façade correction factor				C	0	0	0	0	0	0	0	0			
INCIDENT FAÇADE NOISE LEVEL															
Incident noise level			A6053 Cross Lane	$L_{\text{Max},\text{ff}}$	83	77	67	63	63	63	69	60	$L_{A\text{Max},\text{ff}}$	73 dB	
ROOM DATA															
Room description and reverberation time	Volume	29	Bedroom	RT60	0.4	0.5	0.4	0.4	0.3	0.3	0.3	0.2		s	
FAÇADE ELEMENTS (A6053 Cross Lane)															
Glazing	Area	1.4	Generic 8/6-16/4	Rw	21	22	21	28	38	40	47	47	Rw / Rw+Ctr	33 / 29 dB	
Wall	Area	5.8	Brick and block external wall	Rw	34	40	44	45	51	56	60	63	Rw / Rw+Ctr	50 / 47 dB	
Vent	No. off.	2	Titon SF Xtra V50 + C25	Dn,e	34	38	38	33	36	47	49	57	Dn,e,w / Dn,e,w+Ctr	39 / 37 dB	
None			--												
RESULTS															
Total calculated indoor noise level				$L_{\text{Max},2}$	59	51	41	36	31	21	25	8	$L_{A\text{Max},2}$	40 dB	

APPENDIX E

Acoustic mitigation scheme mark-up



For facades shown in red:

Glazing: 29 dB (Rw+Ctr)
Ventilators: 37 dB (Dn,e,w+Ctr)

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