



**Warwickshire
County Council**

Communities

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Mr Jeff Brown
Head of Development Control Services
The Council House
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Warwickshire
CV9 1DE

11th September 2019

Dear Jeff,

Development of Land to the West of Harthill Quarry for Residential Purposes.

Local Authority Planning Reference Number: PAP/2018/014

I refer to your letter dated 12th July 2019 and the information attached to it, in particular The Environment Practice letter dated 5th July and the report prepared by GWP Consultants relating to the above mentioned development.

By way of introduction and clarification I would like to advise that Harthill Quarry contains significant reserves of hard rock amounting to approximately 20,000,000 tonnes. This reserve is useful to the County Council as Mineral Planning Authority in that means that we are able to demonstrate that we have a land bank of sufficient size to justify our conclusion that we do not need to allocate land in the draft minerals local plan for further hard rock extraction.

Harthill Quarry is also an active mineral extraction site with a valid planning permission to operate until 2042. This site is a long established quarry which was "mothballed" for a number of years. The consents for mineral extraction are valid and cannot be challenged although they are subject to the Environment Act 1995 reviews of old mineral permissions (ROMPS). The next review is likely to occur in September 2031. Until that date the quarry is free to operate so long as the operators comply with the conditions imposed upon ROMP reference number NW126/01CM013 granted on 19th December 2001.

With regard to the Minerals Local Plan for Warwickshire adopted in 1995, this document is now very old and only six of its policies have been "saved" under the provisions of the Planning and Compulsory Purchase Act 2004. Of the six saved policies none are directly relevant to the housing development under consideration by your Council. By 2031 it is likely that these policies will be replaced by a new Minerals Local Plan and different policies will most likely apply. The next ROMP will be judged against these future policies.

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Warwickshire*

I have read the representations made by The Environment Practice and the report prepared by GWP Consultants and I can advise you that I agree with the three conclusions contained in the last three paragraphs of the report. It is likely that complaints will be received from some residents of the new houses and that these complaints will give rise to extra operating costs for the quarry (and extra costs for both the County and Borough Councils in investigating these complaints).

However, compelling evidence has not been supplied which would indicate that the quarry could not operate under these circumstances.

I acknowledge the suggestion that the extra operating costs would reduce the viability of the quarrying operation. Logic would suggest that this is correct however it is beyond my expertise to assess whether or not this impact would be so significant as to make quarrying on the site unviable.

I acknowledge that placing housing in close proximity to a large working quarry is not ideal however the pressure to maximise the use of developable land means that this will sometimes be inevitable. Paragraph 182 of the NPPF certainly advises caution. This paragraph advises that existing businesses and facilities should not have unreasonable restrictions placed upon them as a result of development. The County Planning Authority cannot fundamentally review the conditions which apply to the quarry until 2031 although I accept that changes to the blasting regime may become necessary to comply with existing conditions. The board members must decide if this is an unreasonable restriction. It must be acknowledged that this is a complex analysis and in part a subjective one.

The paragraph also indicates that where existing facilities could have a significant adverse effect on new development even this may be acceptable if suitable mitigation can be provided.

Obviously those moving into the new houses would know that they are relatively close to a working quarry and we as Mineral Planning Authority would take that into account when considering future concerns.

I am not sure I can add much more to our previous communications on this subject so I hope that it is sufficient for your needs.

Should you require any further information or assistance then please contact me using the above contact details and I will be happy to help.

Yours sincerely



Ian Grace
Principal Planner
Planning Delivery



Mr Jeff Brown
 Head of Development Control Services
 North Warwickshire Borough Council
 The Council House
 South Street
 Atherstone
 Warwickshire
 CV9 1DE

9 October 2019

Dear Mr Brown,

**Land to the West of Hartshill Quarry
 Tarmac Planning Application ref: PAP/2018/0140**

I refer to Warwickshire County Council's letter dated 11 September 2019 addressed to you.

We understand that the County Council does not see any valid planning objection to Tarmac's objection and welcome its confirmation in relation to the proposed residential development being undertaken that *"compelling evidence has not been supplied which would indicate that the quarry could not operate under these circumstances"* (p2).

However, we do wish to provide the following observations on the letter.

We do not consider that there is evidence to support the County Council's statement that it is likely that complaints will be received from some residents of the new houses in the development (p2) and the position is more correctly set out in the Officers' Supplementary Report dated 8 July 2019 to the Planning and Development Board in which it is said there may be **more** complaints, but the development would not introduce any material change in the nature of the complaints (p1).

The County Council's letter (p2) expresses agreement with the conclusions in the 3 last paragraphs of GWP's report on behalf of Crown Aggregates Ltd (CAL) entitled 'Hartshill Quarry – Potential Impacts on Blasting Practices of a Proposed Housing Development' dated 5 July 2019 (GWP's Report). Concern about potential, unfounded complaints from residents is not a sound or correct basis on which to determine a planning application that accords with the development plan. That is not a material consideration sufficient to outweigh the indication given by the development plan pursuant to S38(6) of the Planning and Compulsory Purchase Act 2004 and would constitute placing an unreasonable planning restriction on Tarmac's land.

Given the Quarry recommenced operation in 2017, has been operational for a period in excess of two years and is able to continue in operation with adjustments to blasting practices in place in relation to the existing housing, it is clear that CAL does not consider that such blasting practices place an unreasonable restriction on its operation and they do not prejudice the ability of the Quarry

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 in England and Wales. Company No. 8197397
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to operate viably.

Our survey and assessment work confirm that the Quarry will be able to continue operating within its planning conditions. We have submitted to you our 'Investigation of Vibration Levels Produced Due to Blasting Activities at Jeas Quarry' report dated 20 September 2019.

This indicates that adjustments to blasting practices in relation to the proposed development are most unlikely to be necessary to meet the Quarry's planning conditions, but even if needed, the GWP Report acknowledges that similar blasting practices as used in relation to the existing housing to the north-west and south-east can be used in relation to the proposed residential development (para 3.1) and that it is technically feasible to meet the planning conditions (para 3.2).

We appreciate that the Mineral Planning Authority would not typically have the expertise to assess impacts on operating costs and the viability of a quarry and, therefore, understand that the County Council's comments (p2) in this regard are based on "logic" or supposition, noting that the letter acknowledges that it is beyond the expertise of the author to assess whether or not any such impact would be so significant as to make quarrying on the site unviable.

Tarmac is one of the largest quarry operators in the UK. Our survey and assessment work, together with our experience, indicate that it is not necessarily correct that any additional working costs are likely and, if there were any additional costs, they would be relatively modest and not unreasonably to be expected when operating a Quarry in comparison to the revenues that could be expected.

As noted above, there is already evidence in relation to the Quarry that this is the case, as it is clear that CAL considers that the blasting practices in question are not an unreasonable restriction on quarrying or the business, given their use in relation to the existing housing.

We understand that Hanson, another of the UK'S largest quarry operators, retains ownership of the in situ minerals at the Quarry and have not objected to Tarmac's planning application. This suggests to us that they see no significant detrimental impact upon their retained asset as a result of Tarmac's housing development.

We understand that the Quarry is currently being operated out of phase from the blast results provided to us by the Councils and as such may be in breach of its planning permission. We are surprised that this is not mentioned in the County Council letter.

Incidentally, we note for the record that the County Council is suggesting that it cannot fundamentally review the conditions of the existing mineral permission for the Quarry until 2031 (because the County Council agreed on 5 January 2016 to postpone the review of the existing mineral planning permission ref: NW126/01CM013). Although we have confirmed the Quarry will be able to continue operating within its conditions (a position also effectively confirmed by the GWP report dated 5 July 2019), we note that the review provisions in Schedule 14 of the Environment Act 1995 (as amended) do not prevent the County Council serving notice to review the existing mineral permission even if a postponement has previously been granted.

In conclusion, our survey and assessment work confirm that the Supplementary Report to the Planning and Development Board dated 8 July 2019 was correct to conclude that any restrictions placed on the Quarry would not be unreasonable and any impacts arising from the Quarry on the proposed development would not be significantly adverse (p3). As you will be aware, these are matters of planning judgement for your Council to determine and our work confirms that the

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Council's officers reached a correct and entirely reasonable planning judgement in the previous report.

We look forward to the application being considered at the Planning and Development Board meeting on the 4th of November 2019 with, hopefully, a similar conclusion being reached and a positive decision finally being made on the application.

Yours faithfully,

A handwritten signature in black ink, appearing to read "Neil Beards", written over a faint horizontal line.

PP Neil Beards
Development Manager



TARMAC LTD

INVESTIGATION OF VIBRATION LEVELS PRODUCED DUE TO BLASTING ACTIVITES AT JEES QUARRY

Vibration Levels Investigation Report
Last Site Visit 20/08/2019

Date	11/09/2019
Document Reference	17248.2
Author	S.Skinner (Explosives Engineer)
Reviewed By	R.Farnfield (Head of Explosives Engineering)

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1 Introduction

This report has been developed to summarise the investigation of vibration levels produced due to blasting activities at Hartshill Quarry, Nuneaton, Warwickshire. The investigation undertaken by EPC-UK focuses on the potential affects to an area proposed for a residential development, located to the West and South of the Hartshill Quarry site. The area for proposed development can be seen in Figure 1.

Monitoring activities have been undertaken by EPC-UK throughout June, July and August 2019, in total four site visits have been undertaken with blast events being monitored during each visit. These activities have focused on the area for proposed development.

Jees Quarry is currently constrained with maximum levels of peak particle velocity (PPV) as stated below.

"The peak particle velocity attributable at any blast, measured at a point immediately adjacent to any occupied dwelling outside the boundary of the site shall not exceed 6 mm/sec in 95% of all blasts and no blast should exceed 12 mm/sec"

It is important to consider the potential PPV levels which may occur at residential properties within the proposed dwelling development.

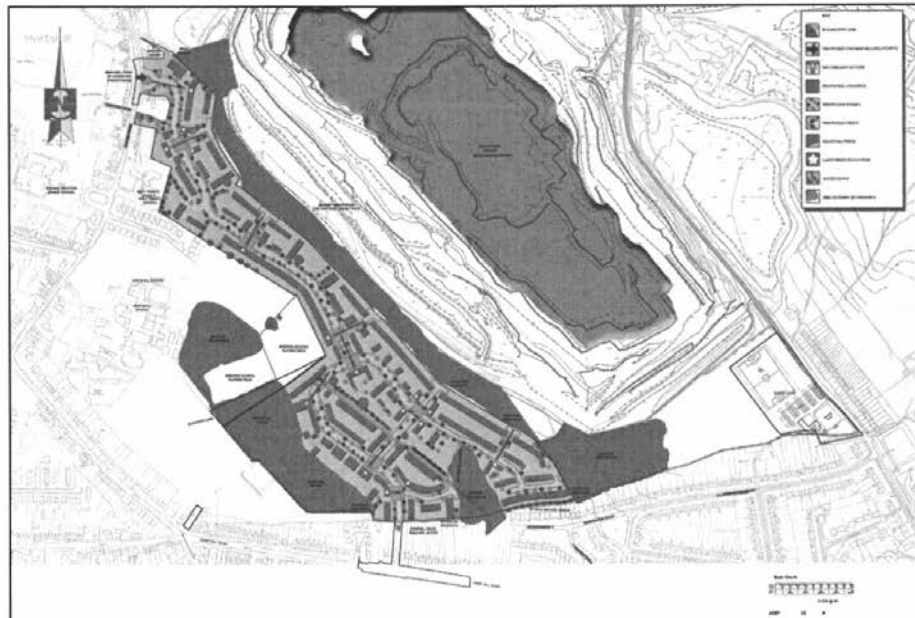


Figure 1: Extent of planning application surrounding the South and West of Jees Quarry.

2 Site visits

2.1 19/06/2019

Table 1: 19.06.2019

Date	Time	Ref	Monitoring Location			Blast Location			Distance	MIC	PPV
			Easting (m)	Northing (m)	Level (m)	Easting (m)	Northing (m)	Level (m)			
19.06.2019	11:56	1	432884	293931	139	432921	294107		179.8	25	5.888
		2	433051	293770	137	432921	294107		361.2	25	0.552
		3	433186	293635	136	432921	294107		541.3	25	0.883
		4	433334	293544	135	432921	294107		698.2	25	<0.5



Figure 2: Site Visit 19.06.2019, Recorded Results.

2.2 16/07/2019

Table 2: 16.07.2019

Date	Time	Ref	Monitoring Location			Blast Location			Distance	MIC	PPV
			Easting (m)	Northing (m)	Level (m)	Easting (m)	Northing (m)	Level (m)			
16.07.2019	12:02	1	432751	294093	141	433426	293655		804.7	65.0	1.020
		2	432813	293866	139	433426	293655		648.3	65.0	1.210
		3	432817	294104	138	433426	293655		756.6	65.0	1.009
		4	432863	293944	137	433426	293655		632.8	65.0	1.364
		5	433187	293507	136	433426	293655		281.1	65.0	5.360



Figure 3: Site Visit, 16.07.2019, Recorded Results

2.3 17/07/2019

Table 3: 17.07.2019

Date	Time	Ref	Monitoring Location			Blast Location			Distance	MIC	PPV
			Easting (m)	Northing (m)	Level (m)	Easting (m)	Northing (m)	Level (m)			
17.07.2019	11:58	1	432751	294093	141	433255	293766		600.8	65.0	2.130
		2	432813	293866	139	433255	293766		453.2	65.0	2.190
		3	432817	294104	138	433255	293766		553.3	65.0	1.513
		4	433187	293507	136	433255	293766		267.8	65.0	3.980



Figure 4: Site Visit, 17.07.2019, Recorded Results

2.4 20/08/2019

Table 4: 20.08.2019

Date	Time	Ref	Monitoring Location			Blast Location			Distance	MIC	PPV
			Easting (m)	Northing (m)	Level (m)	Easting (m)	Northing (m)	Level (m)			
20.08.2019	12:00	1	432754	294091	141	433499	293679		851.3	60.0	1.277
		2	432805	293877	139	433499	293679		721.7	60.0	0.497
		3	432818	294101	138	433499	293679		801.2	60.0	0.500
		4	432854	293949	137	433499	293679		699.2	60.0	<0.5
		5	433002	293678	137	433499	293679		497.0	60.0	<0.5
		6	433082	293747	137	433499	293679		422.5	60.0	1.460
		7	433195	293505	136	433499	293679		350.3	60.0	1.968
		8	433231	293600	134	433499	293679		279.4	60.0	3.205



Figure 5: Site Visit, 20.08.2019, Recorded Results

3 Discussion

The site visits undertaken have allowed for monitoring of four blasts throughout the South-Westerly boundary of the quarry allowing for a wide range of data to be attained within the proposed development site.

It is worth noting that the trigger levels on each monitor were set at 0.5 mm/s, therefore any vibrations beneath this value has not triggered the monitoring and no recording has been documented.

4 Conclusion

To summarise, through carrying out four site visits EPC-UK have monitored and recorded a variety of blasts undertaken at Jeas Quarry. All blast have been undertaken along the South and Western boundary, in close proximity to the proposed development area.

It can be seen that the records stated in this report are below the current maximum PPV limits are described in the quarry's planning permission.

It is important to note that due to the scale of the planning development zone, the area may consist of varying ground conditions, resulting in differences between any recorded PPV's.



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**FURTHER CONSIDERATION OF IMPACT OF PROPOSED
TARMAC DEVELOPMENT ON THE WORKING OF
HARTSHILL QUARRY**

**For
CROWN AGGREGATES LIMITED**

October 2019

Report Title: Further consideration of impact of proposed Tarmac development on the working of Hartshill quarry

Client: Crown Aggregates Limited

Job: HARTSHIL
Report Number: 191010
Version: v.02
Issue Status: Final
Issue Date: 17th October 2019

Prepared by: Alan Cobb
Approved by: Mark Pritchard Date: 17.10.19



Issue History:

Signature:

Issue No.	Issue Date	Description	Prepared	Checked	Approved
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v.02	17.10.19	Final issued to Client	AEC	CL	MP

This document is based on GWP report template v1.05 and Normal template v3.10 17/04/19

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HARTSHIL1910-2	Constraints to working with existing buildings
HARTSHIL1910-3	Constraints on blasting imposed by Tarmac development
HARTSHIL1910-4	Comparison between blasting constraints before and after Tarmac development (40kg MIC)
HARTSHIL1910-5	Comparison between blasting constraints before and after Tarmac development (20kg MIC)

APPENDICES

Appendix 1	EPC report
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FURTHER CONSIDERATION OF IMPACT OF PROPOSED TARMAC DEVELOPMENT ON THE WORKING OF HARTSHILL QUARRY

1. INTRODUCTION

Tarmac Ltd has supplied a report entitled "Investigation of vibration levels produced due to blasting activities at Jeas Quarry"¹ in support of their proposed housing development immediately to the southwest of the quarry (see Appendix 1). The report is written by EPC for Tarmac and EPC undertook the monitoring. Although the report supplies blasting data, there is no detailed discussion of what that data implies with respect to the quarry workings. GWP Consultants LLP (GWP) has therefore undertaken an analysis of the latest data to establish what its implications are regarding the effects of the Tarmac housing proposals on the existing consented quarry operations. This report should be read in conjunction with GWP's previous Report No. 190622 "Hartshill Quarry - Potential Impacts on Blasting Practices of a Proposed Housing Development". This report has also made use of Tarmac Drawing N001-00217 "Hartshill - Appraisal layout" obtained from the North Warwickshire Borough Council planning portal to show where the proposed houses are to be built.

2. ANALYSIS

2.1 Regression analysis

The data supplied by Tarmac has been analysed in the standard fashion to provide a regression line from which probabilities of exceedance of a given Peak Particle Velocity (ppv) at a given distance with a given Maximum Instantaneous Charge weight (MIC) may be calculated. The results are shown in Table 1 and illustrated on Drawing No. HARTSHIL1910-1. The scatter shown is typical of quarry blasting and indicates why, in designing blasts to comply with Planning Conditions, the upper 95% line needs to be used in calculating the permissible MIC.

The regression line previously used by the quarry (as supplied by the previous owners Midland Quarry Products (MQP)) is also shown on this drawing. It can be seen that the MQP supplied regression line significantly underestimates the vibration generated as shown by the EPC results.

2.2 Required charge weights to comply with Planning Consent

From the regression analysis it is possible to compute the Maximum Instantaneous Charge weights (MIC) that can be employed at any given distance to comply with the 6mm/s peak particle velocity (ppv) limit at any inhabited property imposed by the Planning Consent. This is shown in Table 2, also with the MIC's required to limit the ppv to 3.5mm/s (complaints when vibration exceeds this level are very likely to occur).

As explained in GWP Report No. 190622, a MIC less than 40kg would impose serious constraints on the blasting activities. Reducing it much below 20kg would cause great difficulty, involving use of smaller size blasthole rigs.

As shown in Table 2, a MIC of 40kg can only be used when blasting is further than 255m from inhabited buildings, and 20kg at distances no closer than 180m.

2.3 Constraints imposed by Tarmac housing proposals

Drawing No. HARTSHIL1910-2 shows the limits on allowable MIC imposed by the existing housing and within which the quarry is currently obliged to work. The extent of current permitted excavation is also shown. From this it can be seen that only small areas of the quarry at the northwestern and southeastern ends would require MIC's less than 20kg and most of it can be worked with a MIC of 40kg or greater.

Drawing No. HARTSHIL1910-3 shows the limits on allowable MIC that would be imposed on the quarry by the Tarmac housing proposals. It shows that the area over which a 40kg MIC can be used will reduce by some 10-11ha, a significant amount of the reserve. The presence of housing all the

¹ The quarry is known as Hartshill Quarry by the current owners (Crown Aggregates Ltd) and is so referred to in this report.

way along the southwestern perimeter will prevent even 20kg MIC being used in a quarter of the quarry area.

Plans showing how much of the consented quarry reserve will be derogated by the proposed Tarmac development are shown on Drawing Nos. HARTSHIL1910-4 and 5. Drawing No. HARTSHIL1910-4 shows the decrease in area over which a MIC of 40kg will be able to be used and Drawing No. HARTSHIL1910-5 shows the decrease in area over which a MIC of 20kg could be used. Both will give rise to significantly increased costs of working. Indeed, blasting along the southwestern side will be heavily constrained as many of the houses will be as close as 60m to the active quarry excavation. In these circumstances a large increase in complaints is inevitable.

2.4 Air overpressure

The EPC measurements did not include air overpressure. Whilst there is no limit on air overpressure in the Planning Consent (other than to keep it as low as possible) air overpressure is an inevitable part of quarry blasting. It is also liable to rattle doors and windows and generate complaints. That new houses inevitably generate plaster shrinkage cracks in their first few years, will lead to a number of unjustified complaints of damage which will not occur if the housing is not built.

3. CONCLUSIONS

The new data indicates that the effects of the proposed new housing southwest of Hartshill Quarry will give rise to more severe constraints on blasting than originally estimated. The new data indicates that the vibration due to blasting actually generated is higher than previously believed. Building houses as proposed by Tarmac will result in the quarry not being able to use a MIC of 40kg in the southwestern half of the quarry where currently this is possible. Even MIC's as low as 20kg will not be permissible on the upper southwestern face, leading to considerable increases in the cost of working. The presence of houses as close as 60m to the crest of southwest face will inevitably lead to complaints from the occupants regarding the quarry operations.

GWP CONSULTANTS
OCTOBER 2019

Table 1
EPC Blasting data and regression analysis

m = -1.502
 C = 6.7123
 A = 822.43
 B = -1.502
 A(95%)= 1535.8
 B(95%)= -1.502
 Standard Err.= 0.38
 Correl. Coeff.= -0.85
 Number of events 18

Date	Time	Unit	Blast coordinates			Monitor coordinates			Res.PPV mm/s	Dist. m	MIC kg	Scale Distance
			Easting	Northing	Level	Easting	Northing	Level				
19/06/2019	11.56	1	432921	294107		432884	293931	139	5.89	179.8	25	36.0
19/06/2019	11.56	2	432921	294107		433051	293770	137	0.55	361.2	25	72.2
19/06/2019	11.56	3	432921	294107		433186	293635	136	0.88	541.3	25	108.3
16/07/2019	12.02	1	433426	293655		432751	294093	141	1.02	804.7	65	99.8
16/07/2019	12.02	2	433426	293655		432813	293866	139	1.21	648.3	65	80.4
16/07/2019	12.02	3	433426	293655		432817	294104	138	1.01	756.6	65	93.8
16/07/2019	12.02	4	433426	293655		432863	293944	137	1.36	632.8	65	78.5
16/07/2019	12.02	5	433426	293655		433187	293507	136	5.36	281.1	65	34.9
17/07/2019	11.58	1	433255	293766		432751	294093	141	2.13	600.8	65	74.5
17/07/2019	11.58	2	433255	293766		432813	293866	139	2.19	453.2	65	56.2
17/07/2019	11.58	3	433255	293766		432817	294104	138	1.51	553.3	65	68.6
17/07/2019	11.58	4	433255	293766		433187	293507	136	3.98	267.8	65	33.2
20/08/2019	12.00	1	433499	293679		432754	294091	141	1.28	851.3	60	109.9
20/08/2019	12.00	2	433499	293679		432805	293877	139	0.50	721.7	60	93.2
20/08/2019	12.00	3	433499	293679		432818	294101	138	0.50	801.2	60	103.4
20/08/2019	12.00	6	433499	293679		433082	293747	137	1.46	422.5	60	54.5
20/08/2019	12.00	7	433499	293679		433195	293505	136	1.97	350.3	60	45.2
20/08/2019	12.00	8	433499	293679		433231	293600	136	3.21	279.5	60	36.1

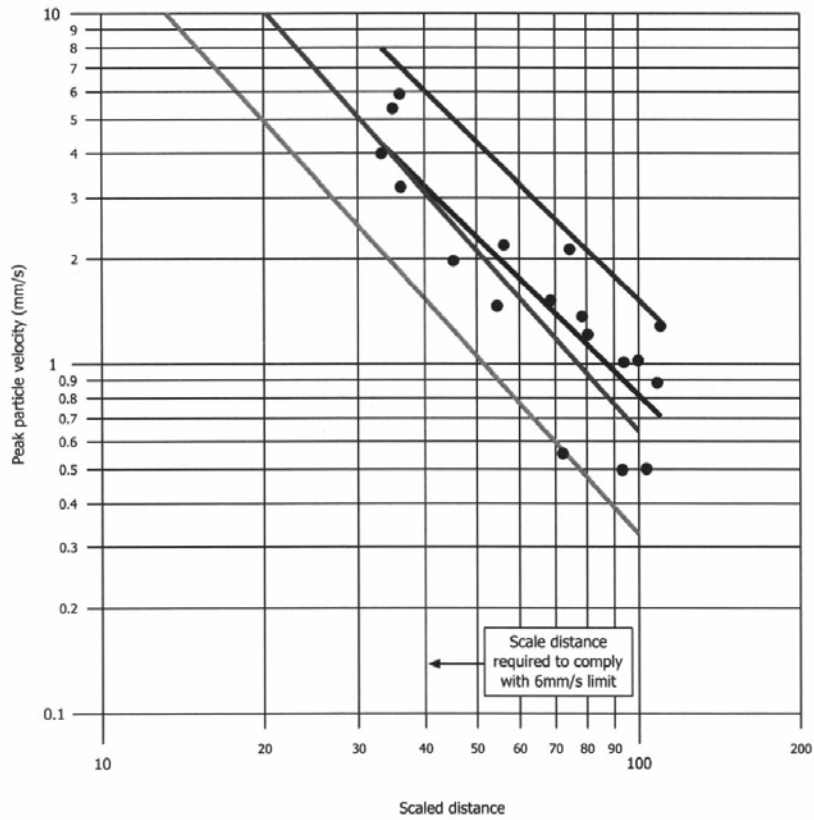
Tables 1 and 2.xlsx, Table 1
 14/10/2019

GWP consultants






Table 2
Charge weight distance table

A (95%) 1535.7873
 B (95%) -1.5019626
 Limit 6 mm/s 3.5 mm/s

Distance (m)	MIC (kg)		Distance (m)	MIC (kg)
150	14.0		150	6.8
175	19.0		175	9.3
179	20.0		179	9.8
200	24.9		200	12.1
225	31.5		225	15.3
250	38.8		250	18.9
255	40.4		255	19.7
275	47.0		275	22.9
300	55.9		300	27.3
325	65.6		325	32.0
350	76.1		350	37.1
375	87.4		375	42.6
400	99.4		400	48.5
425	112.2		425	54.7
450	125.8		450	61.4
475	140.2		475	68.4
500	155.3		500	75.8
525	171.2		525	83.5
550	187.9		550	91.7
575	205.4		575	100.2
600	223.7		600	109.1



LEGEND

-  Tarmac vibration data
-  Mean regression line, Tarmac data
-  +95% upper bound, Tarmac data
-  Mean regression line, MQP
-  +95% upper bound, MQP

NOTES

- Tarmac data as presented in "Tarmac Ltd Investigation of vibration levels produced close to blasting activities of Jeas Quarry".
- MQP data presented in "Jeas and Boons Quarry Periodic review of minerals percussion blasting regression line".

Version	Revision and compilation notes	Date	Client			
B	Draft with minor revision	14.10.2019	Crown Aggregates Limited			
C	Revised	17.10.2019	Project Hartshill Quarry			
 <p>GWP consultants</p> <p>Upton House Market Street, Charlbury Oxfordshire OX7 3PJ United Kingdom</p> <p>tel: +44 (0)1608 810374 fax: +44 (0)1608 810093 e-mail: info@gwp.uk.com web: www.gwp.uk.com</p> <p><small>GWP Consultants LLP. Registered No. OC208 83 Registered Office: Upton House, Market Street, Charlbury, Oxfordshire OX7 3PJ, UK</small></p>			Regression plot from Tarmac data			
			Date	Drawn	Checked	Scale
			17.10.2019	AEC/DJM	MP	NTS at A4
Drawing Ref		Drawing No	Version			
HARTSHIL1910		1	C			



GWP consultants
 1400 House, Chesham
 Chesham, Bucks HP80 1JF
 United Kingdom
 www.gwp.co.uk

Constraints on blasting imposed by Tarmac development

Date	17.10.2019	Checked	AMP	Scale	1:5000 at A3
Drawing Ref	Herts-Hill1910	Drawing No	3	Version	B

Version	Revision and compilation notes	Date
A	Draft	14.10.2019
B	Revised	17.10.2019

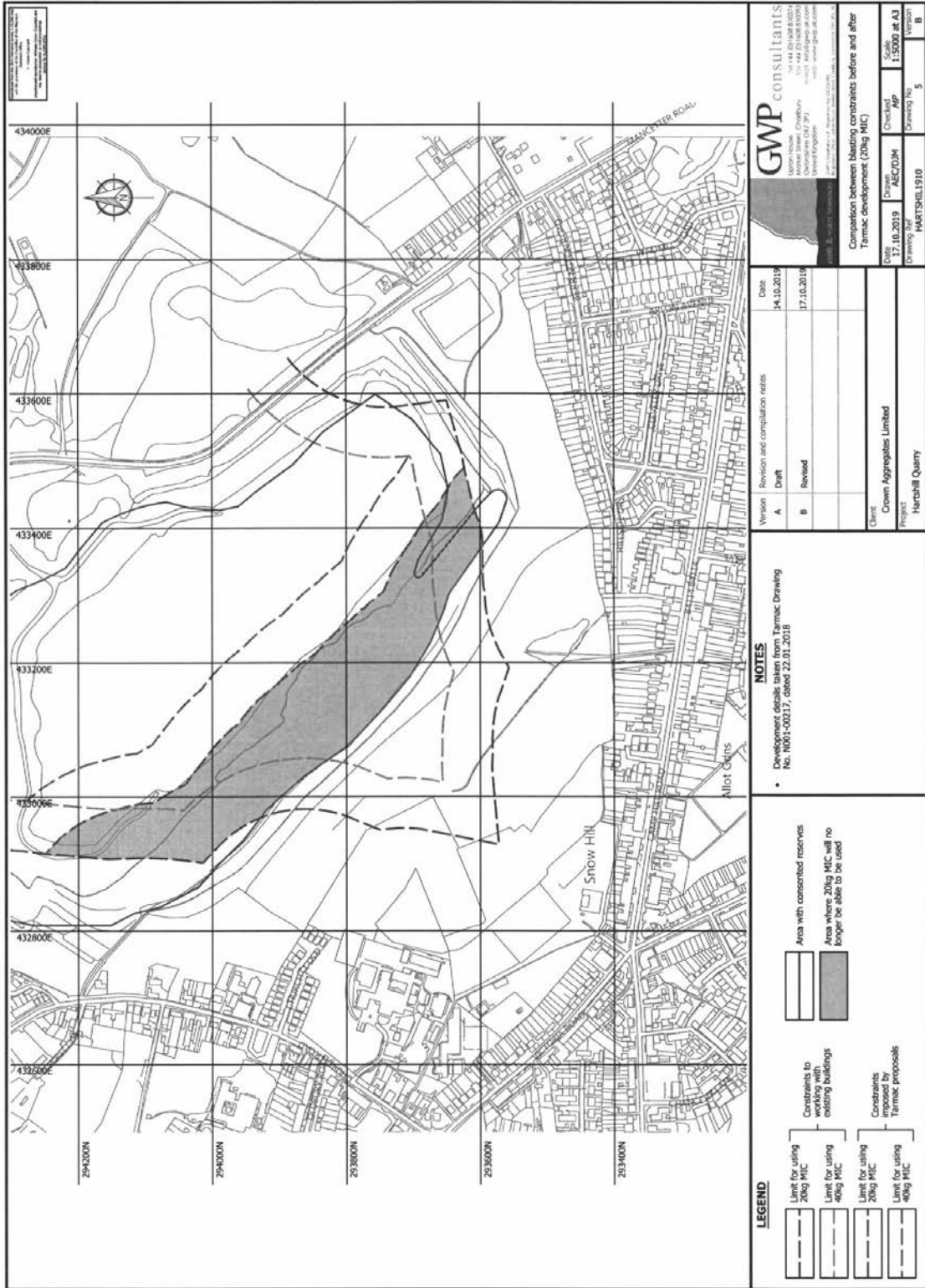
Client: Crown Aggregates Limited
 Project: Herts Hill Quarry

NOTES

- Development details taken from Tarmac Drawing No. N001-00217, dated 22.01.2018

LEGEND

- Limit for using 20kg MIC (180m from housing)
- Limit for using 40kg MIC (255m from housing)
- Area with consented reserves



GWP consultants
 1101 Hillside
 Laboratory
 Devonport (NZ) 911
 United Kingdom
 www.gwp.co.uk

Comparison between blasting constraints before and after
 Tarmac development (20kg MIC)

Date: 14.10.2019
 17.10.2019

Checked: MP
 Scale: 1:5000 at A3

Drawn: AEC/DJM
 Drawing No: 3

Version: B

Client: Crown Aggregates Limited
 Project: Hartsbill Quarry

Version	Revision and compilation notes	Date
A	Drift	14.10.2019
B	Revised	17.10.2019

NOTES

- Development details taken from Tarmac Drawing No. N001-00317, dated 22.01.2018

LEGEND

	Limit for using 20kg MIC		Constraints to working with existing buildings
	Limit for using 40kg MIC		Area with conserved reserves
	Limit for using 20kg MIC		Area where 20kg MIC will no longer be able to be used
	Limit for using 40kg MIC		Constraints imposed by Tarmac proposals

APPENDIX 1

EPC report



NORTH WARWICKSHIRE BOROUGH COUNCIL
RECEIVED 23/09/2019
PLANNING & DEVELOPMENT DIVISION

PAP/2018/0140

TARMAC LTD
**INVESTIGATION OF VIBRATION LEVELS PRODUCED DUE
TO BLASTING ACTIVITIES AT JEES QUARRY**

Vibration Levels Investigation Report
Last Site Visit 20/08/2019

Date	11/09/2019
Document Reference	17248.2
Author	S.Skinner (Explosives Engineer)
Reviewed By	R.Farnfield (Head of Explosives Engineering)

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2.3	17/07/2019	7
2.4	20/08/2019	8
3	Discussion	10
4	Conclusion.....	10

1 Introduction

This report has been developed to summarise the investigation of vibration levels produced due to blasting activities at Hartshill Quarry, Nuneaton, Warwickshire. The investigation undertaken by EPC-UK focuses on the potential affects to an area proposed for a residential development, located to the West and South of the Hartshill Quarry site. The area for proposed development can be seen in Figure 1.

Monitoring activities have been undertaken by EPC-UK throughout June, July and August 2019, in total four site visits have been undertaken with blast events being monitored during each visit. These activities have focused on the area for proposed development.

Jees Quarry is currently constrained with maximum levels of peak particle velocity (PPV) as stated below.

"The peak particle velocity attributable at any blast, measured at a point immediately adjacent to any occupied dwelling outside the boundary of the site shall not exceed 6 mm/sec in 95% of all blasts and no blast should exceed 12 mm/sec"

It is important to consider the potential PPV levels which may occur at residential properties within the proposed dwelling development.

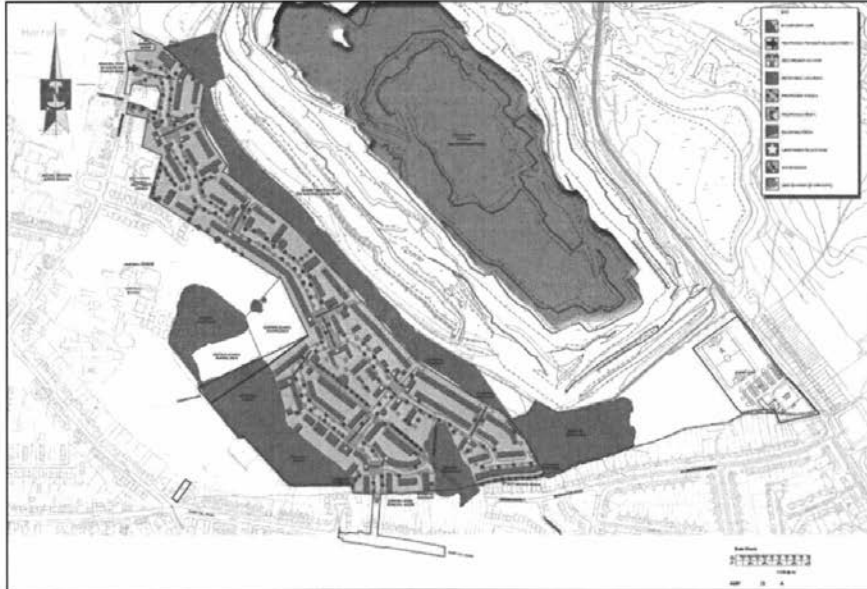


Figure 1: Extent of planning application surrounding the South and West of Jees Quarry.

2 Site visits
2.1 19/06/2019

Table 1: 19.06.2019

Date	Time	Ref	Monitoring Location			Blast Location			Distance	MIC	PPV
			Easting (m)	Northing (m)	Level (m)	Easting (m)	Northing (m)	Level (m)			
19.06.2019	11:56	1	432884	293931	139	432921	294107		179.8	25	5.888
		2	433051	293770	137	432921	294107		361.2	25	0.552
		3	433186	293635	136	432921	294107		541.3	25	0.883
		4	433334	293544	135	432921	294107		698.2	25	<0.5

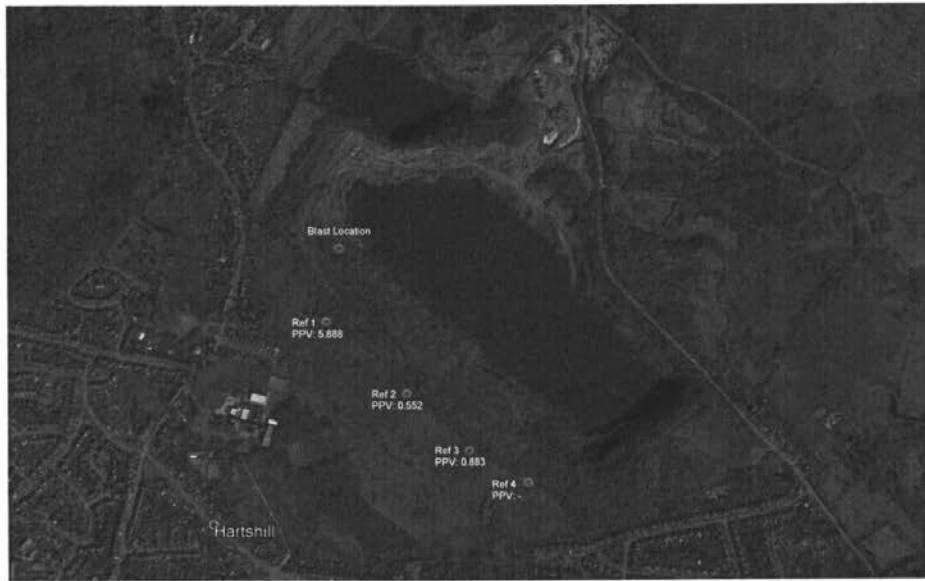


Figure 2: Site Visit 19.06.2019, Recorded Results.

2.2 16/07/2019

Table 2: 16.07.2019

Date	Time	Ref	Monitoring Location			Blast Location			Distance	MIC	PPV
			Easting (m)	Northing (m)	Level (m)	Easting (m)	Northing (m)	Level (m)			
16.07.2019	12:02	1	432751	294093	141	433426	293655		804.7	65.0	1.020
		2	432813	293866	139	433426	293655		648.3	65.0	1.210
		3	432817	294104	138	433426	293655		756.6	65.0	1.009
		4	432863	293944	137	433426	293655		632.8	65.0	1.364
		5	433187	293507	136	433426	293655		281.1	65.0	5.360

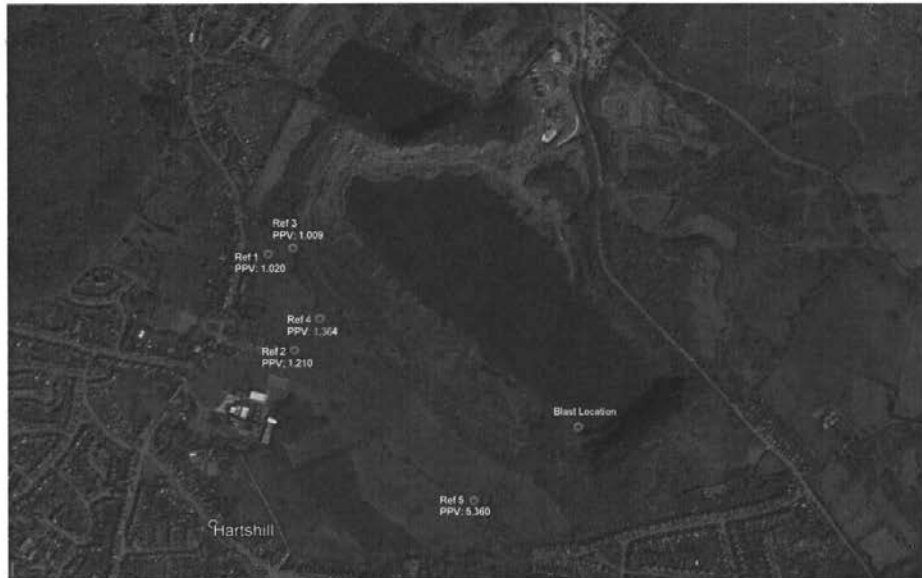


Figure 3: Site Visit, 16.07.2019, Recorded Results

2.3 17/07/2019

Table 3: 17.07.2019

Date	Time	Ref	Monitoring Location			Blast Location			Distance	MIC	PPV
			Easting (m)	Northing (m)	Level (m)	Easting (m)	Northing (m)	Level (m)			
17.07.2019	11:58	1	432751	294093	141	433255	293766		600.8	65.0	2.130
		2	432813	293866	139	433255	293766		453.2	65.0	2.190
		3	432817	294104	138	433255	293766		553.3	65.0	1.513
		4	433187	293507	138	433255	293766		267.8	65.0	3.980



Figure 4: Site Visit, 17.07.2019, Recorded Results

2.4 20/08/2019

Table 4: 20.08.2019

Date	Time	Monitoring Location			Blast Location			Distance	MIC	PPV
		Ref	Easting (m)	Northing (m)	Level (m)	Easting (m)	Northing (m)			
20.08.2019	12:00	1	432754	294091	141	433499	293679	851.3	60.0	1.277
		2	432805	293877	139	433499	293679	721.7	60.0	0.497
		3	432818	294101	138	433499	293679	801.2	60.0	0.500
		4	432854	293949	137	433499	293679	699.2	60.0	<0.5
		5	433002	293678	137	433499	293679	497.0	60.0	<0.5
		6	433082	293747	137	433499	293679	422.5	60.0	1.460
		7	433195	293505	136	433499	293679	350.3	60.0	1.968
		8	433231	293600	134	433499	293679	279.4	60.0	3.205



Figure 5: Site Visit, 20.08.2019, Recorded Results

3 Discussion

The site visits undertaken have allowed for monitoring of four blasts throughout the South-Westerly boundary of the quarry allowing for a wide range of data to be attained within the proposed development site.

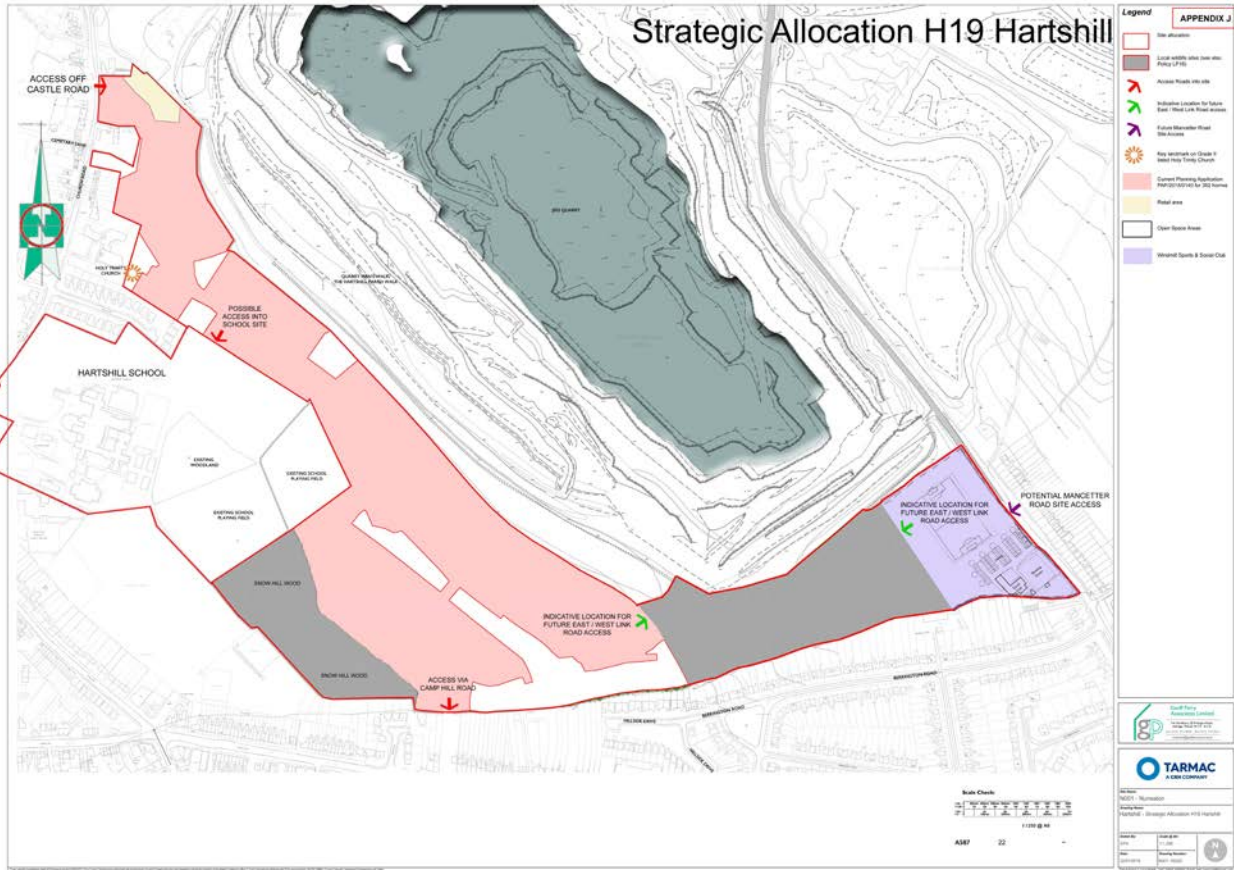
It is worth noting that the trigger levels on each monitor were set at 0.5 mm/s, therefore any vibrations beneath this value has not triggered the monitoring and no recording has been documented.

4 Conclusion

To summarise, through carrying out four site visits EPC-UK have monitored and recorded a variety of blasts undertaken at Jeas Quarry. All blast have been undertaken along the South and Western boundary, in close proximity to the proposed development area.

It can be seen that the records stated in this report are below the current maximum PPV limits are described in the quarry's planning permission.

It is important to note that due to the scale of the planning development zone, the area may consist of varying ground conditions, resulting in differences between any recorded PPV's.



Jeff Brown

From: Beards, Neil <neil.beards@tarmac.com>
Sent: 23 October 2019 07:23
To: Jeff Brown; 'iangrace@warwickshire.gov.uk'
Cc: Graham Fergus (graham@firstcity.co.uk)
Subject: Re: PAP/2018/0140 Land East of Castle Road & North of Camp Hill Road, Hartshill & Nuneaton

Jeff

Having consulted with our blasting advisors we see nothing in the updated GWP report that alters the views we have previously expressed on this matter and in particular in our letter to you dated 09/10/19.

In addition we would make the point that when Crown purchased the quarry the residential proposals for the Tarmac land were fully within public knowledge as an allocated site and as usual it would be expected that a quarry operator would consider the surrounding land uses and policies for development proposals in the vicinity so as to assess as part of the purchase the future environment in which the quarry would operate. Crown clearly made the commercial decision to purchase in these circumstances and cannot reasonably now complain that the prior development proposals are coming forward.

Regards

Neil

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www.tarmac.com



*Tarmac is the UK's leading sustainable
building materials and construction solutions company*

From: Jeff Brown <JeffBrown@NorthWarks.gov.uk>
Sent: Monday, October 21, 2019 12:49:15 PM
To: Beards, Neil <neil.beards@tarmac.com>; 'iangrace@warwickshire.gov.uk' <iangrace@warwickshire.gov.uk>
Cc: Graham Fergus (graham@firstcity.co.uk) <graham@firstcity.co.uk>
Subject: FW: PAP/2018/0140 Land East of Castle Road & North of Camp Hill Road, Hartshill & Nuneaton

Neil/Ian

Please see the attached updated report.

In view of us reporting this case to our Planning Board on 4th November, I'd really appreciate a very early initial response from you both please. My deadline for my report is the end of the day on the 23rd (that's Wednesday)

Many thanks

Jeff.



Armed Forces Community Covenant

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Jeff Brown

From: Ian Grace <iangrace@warwickshire.gov.uk>
Sent: 22 October 2019 16:17
To: Jeff Brown; 'Beards, Neil'; Matthew Williams
Cc: Graham Fergus (graham@firstcity.co.uk)
Subject: Re: PAP/2018/0140 Land East of Castle Road & North of Camp Hill Road, Hartshill & Nuneaton

Dear Jeff,

I have read the report prepared by GWP Consultants for Crown Aggregates commenting upon planning application no PAP/2018/0140. I have little to add to the contents of my letter dated 11th September 2019 commenting upon this planning application.

It is beyond my area of expertise to comment on the technical detail contained within the GWP report so I would not wish to challenge any of its technical conclusions.

This report confirms my conclusions that approval of housing in relatively close proximity to the quarry will most likely affect how the quarry operates but as I say in my letter I cannot comment on how this could affect the economic viability of the quarry. Again this is a matter which is beyond my expertise.

I am afraid that there is little else that I can add to the debate.

Yours sincerely,

Ian Grace,
Principal Planner,
Planning Delivery,
Environment Services,
Communities,
Warwickshire County Council.

Tel 01926 412645
Minicom 01926 412277
E- Mail : iangrace@warwickshire.gov.uk
Web : www.warwickshire.gov.uk

From: Jeff Brown <JeffBrown@NorthWarks.gov.uk>
Sent: 21 October 2019 12:49
To: 'Beards, Neil' <neil.beards@tarmac.com>; Ian Grace <iangrace@warwickshire.gov.uk>
Cc: Graham Fergus (graham@firstcity.co.uk) <graham@firstcity.co.uk>
Subject: FW: PAP/2018/0140 Land East of Castle Road & North of Camp Hill Road, Hartshill & Nuneaton

Neil/Ian

Please see the attached updated report.

In view of us reporting this case to our Planning Board on 4th November, I'd really appreciate a very early initial response from you both please. My deadline for my report is the end of the day on the 23rd (that's Wednesday)

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Jeff.



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