Ms Laura Wilkinson
D2 Planning Limited
Suites 3 & 4 Westbury Court
Church Road
Westbury on Trym
Bristol, BS9 3EF

Date: 19th August 2015
Our Ref: SL/1898/1560/01/AWS

By email only

Dear Laura,

Re: Mineral Resource Viability at Netley

Following our previous mineral resource viability assessment, we have carried out some further works to assess the potential resource, and our meeting last week with the Mineral Planning Authority also raised a number of points that we have looked into. This letter presents the latest findings in our assessment.

Sanctus has obtained correspondence from a local sand and gravel producer/broker (TJ Transport), and this is enclosed in support of this latest assessment.

Programme Constraints

We understand that in order for the development to contribute to the Council's 5 year housing land supply and for the development to be financially viable, construction of houses would need to commence by April 2017 (18-months from now). This has implications for the scheme as discussed below.

Production

As previously confirmed, the sand & gravel has a content of clay and silt (fines) and processing is required. The local producer confirmed that the site is not suitable for a washing plant to produce a graded product for sale; this would mean all of the material would have to be transported from site as bulk unprocessed material resulting in additional lorry movements when compared to processed product.

The producer confirmed that the royalty paid would be based on the processed product and this had not been taken into account by our previous assessment. Further, the samples taken to date were obtained from cable percussive boreholes that use water to lubricate drilling, which will have washed a quantity of fines from the drilling arisings that were sampled; therefore the quantity of fines could be much higher than indicated by the laboratory analysis.

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Sanctus estimates that the fines content could be as high as 30% (currently indicated up to 16%) and this could have a significant adverse impact on the assessment. Even using 16%, the volume of marketable sand & gravel would drop to 302,400T and a profit of £453,600.

Groundwater

Groundwater is an issue for this site, with the earlier assessment demonstrating that the cost-benefit of extracting sand & gravel beneath the water table as not being recommended. It is has since come to light that the proposed development has had to incorporate a large area of sustainable drainage due to the risk of flooding.

Flooding therefore represents a major risk to potential quarry operations and its profitability; Sanctus considers that the profit from the sand & gravel alone could be exhausted by implementing flood controls and additional maintenance of the local highways.

Marketability

To meet the restrictive timeframe will result with a significant effect on the profitability of developing the resource, as less desirable markets will need to be accessed. This would mean that the material will have to travel further, so increasing transport costs, and would have to be marketed against much lower graded material such as some recycled product which can be over 50% cheaper.

The recycled market in the local area also has a large supply with over 125,000T being supplied by a single supplier from a single site in the last year alone. A quick review of case studies presented by the many other suppliers in the local area indicates similar annual outputs and that the 125,000T is not an unusual amount.

The Hampshire Minerals and Waste Plan provides a summary of average sales of aggregates in the area between 2001 and 2010 (Table 6.1, page 65), which indicated an annual average for all aggregates of 4.44 million tonnes. Therefore the estimated 302,400T on site split over the two year development programme would have an insignificant contribution to the annual local supply.

Other Constraints

With the timescale that these works would need to be completed within the number of lorry movements could surpass 120 HGV movements per day (excluding lorries for the restoration phase); this would put great strain upon the local road network while also causing inconvenience for local residents, before the development works for the housing is undertaken.

Another consideration would be the sustainability and carbon footprint for the development. With the numerous vehicle movements listed above, increased travel distance, processing, plant, etc. the development would have a large and negative carbon footprint before construction even began, and in developing the sand & gravel the market for recycled aggregates would be diluted. These issues significantly detract from the argument for developing the sand & gravel, and without this quarrying the housing development could be a low carbon project.

Mitigation

Sanctus asked the local supplier whether there would be a market for recovering and processing incidental sand & gravel from construction excavations. The supplier commented that typically sand & gravel excavated during construction is reused on site, but that they would be willing to process these.

All construction arisings and destination (i.e. reuse on site or processing plant) would be recorded on a material audit by the building contractor and these could be supplied to the MPA for their records.

Conclusions

In conclusion the quarrying operation, under the current proposed development, would face many hurdles and complications, with questionable benefit for the local aggregates market, a significant risk to the developer, increased carbon footprint and much disruption for the local inhabitants.

Our recommendation would be for the development to occur without the quarrying operation, but instead reuse on site wherever possible to ensure the limited resource isn't wasted.

If you have any queries or would like to discuss the above, please do not hesitate to contact us.

Yours Sincerely,

Sanctus Limited

A Selby

Adam Selby
Senior Environmental Engineer

Encl.

Adam Selby

From: Matt Hankins <MattHankins@grsroadstone.co.uk>
Sent: 15 August 2015 21:54
To: Adam Selby
Subject: Fwd: Netley

Hope this helps Adam this is direct from my contact who knows that area really well

Matt Hankins

Begin forwarded message:

> **From:** Terry Higgins <THiggins@tj-transport.co.uk>
> **Date:** 14 August 2015 16:32:08 BST
> **To:** 'Matt Hankins' <MattHankins@grsroadstone.co.uk>
> **Subject: RE: Netley**
>
> Matt
>
> 1. Royalty before costs = £4.75 per solid metre I would guess. In other words if there is 200000m solid in the floor and all of it is used then the material to the landowner is worth just under £1million.
> 2. To be fair any royalty is usually calculated on finished product – measured usually by weight and therefore quantifiable and recordable.
> 3. Given the lack of creditable soil analysis and based on very creditable local knowledge of the material – I would suggest that to excavate, process, market and deliver that volume in a 2 year programme is just about doable! To try and speed it up creates two separate problems. One logistical… the amount of machinery required to maintain the integrity and safety of the site whilst trying to process and sell… secondly, it can only have one effect on the royalty which will be to drive it down in value. The longer the permitted time to excavate and sell means that the right market can be serviced. If you need to speed up the operation the result is that the material has to travel further to find a "home" and the resulting transport costs eat into the value left for royalty. Also the further the material travels the likelihood is that many more vehicles are required and again this upsets the Highways Agency, planners and only adds to the logistical problems already mentioned.
> 4. The volumes in the Southampton area are a matter of public record in terms of what is permitted and planned. Recyled aggregate is more difficult to accurately assess but as an indicator my company from one location alone in the same geographical footprint processed and sold over 125,000t of crushed concrete in 2014 as a 6f5 material.
> 5. Not a fair question because the majority of sand and gravel being sold ex works along the coast are processed product and include Aggregate Tax as well as all the production costs. Anywhere between £10 – 15 per tonne depending on what type of Sand/gravel? Soft sand? Plastering sand? ¾ all in ballast? Single size? A fairer comparison would be against recycled product which typically leaves site ex works at circa £5.50 -£6.00 tonne.
> 6. I think we have got our wires crossed reference the washing of the material. I do not think that the site in question lends itself to a washing operation. A dry screening – possibly. And again to wash the material would perhaps not produce too much more in terms of royalty when balanced against the time constraints of two years. 5 years - and we could look to wash and screen and find fixed outlets at a premium royalty, rather than be dependent on certain larger civil engineering projects for the 6F5 material.
> 7. I see little local arisings of sand and gravel based spoil that are worthy of processing. Anything that remotely looks useable is rarely taken away from site.

However – with the restoration project in mind and the offer of a royalty for inbound materials – it would make sense to dry screen those and rescue hard product for crushing. That would produce a double income stream as it were. £ 60 per load (15 loose metres) and a further £1.00 per tonne for exported crushed concrete. And of course for every tonne out creates another tonne of airspace to be charged at part of the £60 per load.

In simple terms 200000m (if that's what we are discussing) equals a royalty of nearly £1million out and £1million - £1.25 million in plus a little for anything recycled. All operating costs plus relevant aggregate taxes etc would be borne by the operator.
I trust that helps?

Kind Regards



Terry Higgins

Chairman

TJ TRANSPORT

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From: Matt Hankins [mailto:MattHankins@grsroadstone.co.uk]
Sent: 13 August 2015 18:40
To: Terry Higgins
Subject: Fwd: Netley

TJ can you have a look at this mate

Matt Hankins

Begin forwarded message:

> **From:** Adam Selby <aselby@sanctusltd.co.uk>
> **Date:** 13 August 2015 17:42:08 BST
> **To:** Matt Hankins <MattHankins@grsroadstone.co.uk>
> **Cc:** Alex Hathaway <ahathaway@sanctusltd.co.uk>
> **Subject: RE: Netley**
>
> Good afternoon Matt,
>
> We had a meeting with the MPA officer yesterday who had several queries regarding processing the sand and gravel and the current market for aggregates in the Southampton area. Please could you pass these on to your local contact or answer

directly, we will need to present the response on headed paper to the MPA officer. Also we need to reply by the end of next week, so I would very much if you could get on to this asap!

1. On your email you indicate a royalty before costs, can you indicate what cost per cube would be subtracted from the royalty? Also would the royalty be based on pre-processed quantities, or on quantity of product generated?
2. Could the deposit be developed any quicker than 2 years? Would this impact on the royalty offered?
3. Please can you indicate current volumes of sand and gravel (quarried and dredged) and recycled aggregate that are being processed in the Southampton area?
4. What are the going rates for sand + gravel and recycled aggregates in the area?
5. You have indicated that you could market the deposit as a range between class 1A and 6F5 and that you would have to wash the material – can you indicate how much processing and water would be required to generate this, and what % would become waste?
6. Would your local contact accept incidental loads of construction arisings of sand and gravel to process? Would the same royalty be applied to this?

If you have any queries, please let Alex or me know. Thanks.

Best regards

Adam

Adam Selby
Senior Environmental Engineer

Sanctus House, The Waterfront, Stonehouse Park
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From: Matt Hankins [mailto:MattHankins@grsroadstone.co.uk]
Sent: 14 May 2015 08:00
To: Adam Selby
Cc: Peter Cooke
Subject: Re: Netley

Adam

I have spent quite a considerable time today analysing the information and considering our response. I have spoken to our local haulier and contractor to get his view as they have huge experience of this area.

In summary:

We have had to make more presumptions that we would like, but reading the script and overview from Hampshire it is clear that they do NOT support the idea of gravel extraction. If that objection were to be overcome, one assumption is that they would condition the volume in total or the volume of lorry movements, or certainly restrict the length of time that the site would be permitted.

Also given the difficulties is well pointing the site and thus excavating beneath the water table we have assumed the potential volumes/s to be that above the water table.

Our personal knowledge of this area (We ran the main site next door for many years and knows the material very well), we know that the basic make up is clay bound gravel rather than sand based gravel. This suggests that to process the materials is likely to require a washing plant rather than dry screening – and again given the comparative small site and likely diminished length of time under planning.. we have assumed a worst case scenario of looking to move the materials as a range between class 1A through to 6F5 capping.

Our suggestion would be that GRS have prime responsibility for marketing and selling the materials (although we would be happy to do so) as that is the prime function of GRS.

Our thoughts would be that we could supply and all necessary plant and operate the site under licence from yourselves or some such arrangement.

We estimate that if 200,000t on S+G as designated above were placed into the market that the royalty before costs (including aggregate tax if applicable) would be a little as £1.25 tonne for class 1A and maybe £4.25 per tonne for 6F5. So I guess as a ball park estimate 200,000t @ £3.00t average . We believe it could be marketed over 24 months reasonably successfully. We estimate the topsoil to have little value.. partly because we know the quality in that area but mainly because with all the recycling activity in this area there is no shortage of approved and certificated topsoils. Obviously it may make sense to keep some for final restoration but see know more than £1.00 tonne as a royalty loaded.

Obviously there will be (as demonstrated on the soil reports) an amount of clay. We know from experience that this clay is acceptable for lining of landfill.

So again on the basis that the site is prepared prior to receiving material we would offer £60.00 per load in order to ensure that 200,000t can be brought back in swiftly to comply with what we suspect will be a short restoration planned period.,

This is a brief overview from our local company who have some experience of this area, I am also trying to get a view from Lafarge Tarmac, who have a couple of sites close by and their options would be to dig material and export it direct to one of their sites with a washing plant to extract maximum value out of the material, but all depends on clay content vs the viability of washing etc. I assume the real value for you would be in the importation of infill material like you are doing at Chipping Sodbury in Bristol.

As we haven't had a great deal of time to explore more into the site, this is just a quick snapshot and we would obviously need to take a closer look to firm prices and costs etc.

I will call you later today, as I have a meeting with the operations director from Larfarge Tarmac to discuss this site

Kind Regards

Kind Regards

Matt Hankins

On 11 May 2015, at 11:53, Adam Selby <aselby@sanctusltd.co.uk> wrote:

> Good morning Matt,
>
> Please find attached the information you require including: initial mineral assessment and local authority response, location plan, logs, grading certs and a volume estimation of accessible S+G.
>
> We have been advised that the S+G below the water table would prove very difficult to extract due to amount of dewatering that would be required; potential subsidence issues for neighbouring properties and infrastructure; and potentially pulling leachate in from an old nearby landfill. Therefore we have estimated the volume of S+G

above groundwater and allowed a 2 in 1 batter with a 10m standoff around the boundary.

Please can you review the information and let us know your thoughts. As indicated last week, we need to return our assessment by the end of this week.

If you have any queries please do not hesitate to contact me.

Best Regards

Adam Selby
Senior Environmental Engineer

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