

REF: 1600/PYB/DVW/mjs

John Small
DMR (North Wales) Ltd
Unit 3
Five Crosses Industrial Estate
Minera
Wrexham LL11 3RD

13th July 2016

Dear John,

RE: PEN Y BRYN, WREXHAM: CONTAMINATED LAND QUERIES

Regarding the following documents provided by Natural Resources Wales (NRW) and Wrexham County Borough Council (WCBC), replies to queries raised are presented below. However, firstly we assume that the comments are based on GSL geo-environmental report Rev A dated June 2015.

We would also like to point out that the development has changed since our report with the apartments fronting Pen y Bryn being replaced with retail units, see attached plan.

- Letter from NRW to WCBC dated 4th July 2016, Reference CAS-20402-C3B5,
- WCBC memo to David Williams dated 14th June 2016, Ref P/2016/0490.

NRW Correspondence

We are confused regarding the logic behind this letter.

The first paragraph discharges Condition 10, which is for sustainable drainage by soakaways, which testing has proved are suitable.

The report then goes on to say that it is considered that the risk to controlled waters has not been addressed and then goes on to say that the use of soakaways is inappropriate at the site.

The report does give an adequate assessment of controlled waters as presented below and supplemented by further information, which is presented in the report.

Firstly, there are no nearby surface water courses that could be affected.

The chemical testing revealed lead contamination in the made ground, as well as one slightly elevated value of mercury. In addition, slightly elevated values of benzo (a) pyrene were recorded at the time, although these are well below the new C4SL guidance values.

At present all water falling on this site will be subject to infiltration into the ground as all the buildings have now been demolished.

The development proposals will involve removing all of the made ground on site, as it is not suitable for engineering construction purposes. This was mentioned in the report and has since been confirmed by the client, i.e. the made ground lies above the previous topsoil layer and is generally 600mm thick, which just happens to be the construction thickness for the car parking areas.

This will then remove all contamination from site; the site is then going to be covered entirely with buildings and hardstandings, which will prevent infiltration into the ground, see attached plan. However, there is a small grassed area behind the apartments. It should then be pointed out that following this work soakaways will be acceptable at the site.

Therefore, following development the risks posed to controlled water will have been removed.

A remediation strategy is attached.

WCBC Correspondence

Comments are numbered as in the WCBC correspondence.

- i. The final development plans are attached, which have changed considerably, as mentioned above. The only amenity area is a small grassed area; there are no communal gardens area, the development comprising apartments and retail units. The made ground below the grassed area will be removed at the same time as the car park construction and levels will be reinstated using clean sand and gravel derived from the soakaway excavation, see remediation strategy attached.
- ii. The area to the north east of the development area was included in a separate report carried out at the same time. A desk study was carried out for a new garage at the adjacent funeral directors. This was part of the land deal and this garage has already been constructed. The envirocheck report purchased covered both site, hence the extended boundary. Figure 2 confirms the extent of the site covered in the June 2015 report.
- iii. The made ground on the site has to be removed, as it is unsuitable to remain below car parking areas. The formation will therefore be in the underlying natural sand and gravel and the car park construction made up with imported granular material from nearby quarries. This has subsequently been confirmed by the client.
- iv. The larger pieces of asbestos have already been removed from site and proof will be provided by the client. Obviously the smaller pieces in the ground are to be removed during the excavation of the made ground.
- v. The demolition has been completed and all demolition debris taken off site.

- vi. The backfilled well is beneath the proposed retail units and as such has to be treated as discussed in Section 9.1 of our report.
- vii. We have addressed this issue directly with DVW and none of the water supply pipes are in the vicinity of the garage. In addition, following stripping of the made ground any hot spots can be identified and addressed.
- viii. See attached remediation strategy.

We trust this is satisfactory, should you have any queries please call Mike Scott on 01244 661361.

Yours sincerely

A handwritten signature in black ink, appearing to read 'M J Scott', with a long horizontal flourish extending to the right.

M J Scott
Enc

TENTERS SQUARE, PEN Y BRYN: REMEDIATION STRATEGY

Introduction

1. Groundsolve Ltd (GSL). have been instructed to provide details relating to the remediation strategy for the above referenced contract. A Geo-environmental Report was carried out by GSL in June 2015. This was Revision A and updated the original report with findings from soakaway testing.
2. The development on site will comprise a mix of apartment blocks and retail units with associated car parking. The proposed site layout is presented on the accompanying drawing.

Background

3. The above report identified the following past site uses.
 - Private car park,
 - Auto Repair garage,
 - Overnight taxi storage,
 - Electrical equipment store,
 - Second hand furniture & Clothing store, Motor supply shop.
4. Chemical testing revealed elevated levels of lead, mercury and PAH fractions associated with the made ground on site.
5. It has been recommended that the made ground be removed beneath the car park construction down to the underlying natural sand and gravel. The made ground being replaced with imported granular material obtained from a quarry and topped with tarmac.
6. Only one small area of landscaping is proposed and it is recommended that the made ground be removed from this area as well and replaced with natural sand and gravel derived from soakaway excavations.
7. A remediation strategy is therefore required to address the risks from soil contamination.
8. Remediation measures will require verification and validation.

Site Preparation

9. Following removal of the made ground beneath car parking areas photographic evidence will be provided to prove this material has been removed from site,
10. All dockets for the removal of the made ground shall be supplied to WCBC as part of the validation report.

11. The landscaped area will also be reduced to the underlying natural ground and photographic evidence provided.

Remediation Strategy: Soil

12. Remediation is not proposed in areas where buildings and hardstanding will be constructed. The presence of buildings and hard cover will effectively eliminate any pathway between the soil (source) and site occupiers (target).

13. The sand and gravel to be placed in the landscaped area will be tested for the same suite of contaminants in the geo-environmental report, to confirm it is suitable for inclusion in the works. The sand and gravel will then be covered with a nominal 150mm of topsoil and capped with turf.

14. The suitability of the imported topsoil should be verified as follows:

- (i) All imported material must be obtained from a reputable source and the supplier should provide a certificate of analysis confirming the chemical and physical nature of the material.
- (ii) Independent analysis should be undertaken on the material after it has been imported to the site in order to confirm its chemical composition. Samples must be analysed in an accredited laboratory and results compared against the guideline criteria specified in the previous reports.
- (iii) Testing should be carried out on at least one sample in the landscaped area. This sample should be obtained from the material after importation to site. The sampling and analysis regime should be agreed in advance with the contaminated land officer of WCBC.

15. A watching brief should be carried out during development to manage any potential unforeseen areas of contamination. These may be identifiable by material type, colour or smell. The remediation of unforeseen areas of contamination should be determined depending on type and extent of contamination. This will be carried out following the stripping of the made ground.

Validation: Soil

16. The remediation strategy should be supported by a Validation Report, which is to be produced following completion of the works.

17. The report should include details of material removed and imported to the site, results of chemical testing on imported soil, site plans and photographs.

18. Validation of suitability of imported topsoil will be required as follows:

- i. Evidence of source of material including transport dockets,
- ii. Suppliers certificates of chemical and physical analysis of material,

iii. Certificates of independent analysis of material sampled from site,

iv. Confirmation that the imported material is suitable for use.

19. The following additional material should also be incorporated into the validation report:

- (i) As built site layout clearly showing areas of buildings, hard cover and imported landscaping materials.
- (ii) Confirmation that no previously unforeseen, significant sources of contamination have been encountered.

All works must be agreed in advance with the regulating Local Authority and all documentation submitted to them in respect of any relevant outstanding planning conditions.



Please do not scale from this drawing.

Surface water drainage TBC subject to percolation tests.

All drainage and connection into existing sewer subject to Welsh Water approval.



Ferndale Villa, 25 Manley Road,
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Tel (01978) 353445
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Project; Pen y Bryn House, off Tenters Square, Wrexham	
Title; Site Plan as Proposed	Scale (A2); 1:200
Dwg No; TS/NB/01	Date; May 2015
Revision; Rev A: Make amendments further to comments received from WCBC Building Control - 12-11-15 Rev B: Add further parking space as required. - 19-04-16 Rev C: Amend as latest internal layouts - 13-07-16	