Plate 29

Plate 30

Plate 31

Plate 32

Plate 33

HB Geotechnical Services Limited

Site Visit Report

Contract: St Gabriels
Contractor: McLaren
Purpose of Site Visit: The foundation inspections for the main structural buildings getting installed by the groundworker Murraywood Construction on behalf of the main contractor, McLaren Construction.
Visit Undertaken By: Robert Hutchison

Day and Date of Visit: Wednesday 21st February 2024	Arrival Time: N/A to Site Visit	Departure Time: N/A to Site Visit
Weather and Site Conditions: Overcast, windy, with heavy rain. It has been raining widespread across the UK throughout the day. At the time of the site visit, it is early afternoon. The rain over the previous week has been intermittent all throughout the week.		
Contractor Representative on Site: Construction Manager, Colin	No. of Employees on Site: N/A to Site Visit	

Contractors Activities & Plant on Site (Employees, Subcontractors, idle and working plant etc.)
The main subcontractor related to the works (Murraywood Construction) was present onsite with various pieces of plant and equipment to undertake the groundworks.

Health & Safety and Environmental Compliance (Notify Contractor of any non-compliances)
No non-compliances were witnessed during the site visit or during the activities of the site visit.

Site Records/Observations:

1.0 Summary

At Plot 4 three of the foundation excavations have been undertaken with cages in two and competent glacial till can be seen throughout. The pile cap excavation has also been undertaken for the tower crane. At Plot 3 two of the pad foundations are currently being excavated, with one of them already down to virgin glacial till.

2.0 Site Walkover

On arrival at site, Robert Hutchison (RH) undertook a walkover of the entire site. The following key observations were made:

1. At Plot 4 a number of the foundations have been excavated already, with the cages under construction. The piles for the tower crane have been installed and the excavation for the pile cap for the tower crane is underway as well.

2. From a structural point of view and the thickness of the pads, they are being cast in Plot 4 circa 0.5m-1m into natural material which is highly conservative from a geotechnical point of view. RH has no concerns about the material.

3. RH has informed the site team that as a preference, if they want to continue with the testing, RH would take hand shear veins over plate bearing tests as they would be more representative due to some slight surface slurrying due to the weather. Also, there is no requirement for medium term manned access and plates and machines in the middle of the excavations. It would be easier and more productive to undertake hand shear veins, if they wish

to do so. To confirm, there is no requirement for validation testing. There is merely a requirement to cast it in natural material.

4. From a temporary works point of view, the batters that are being excavated appear to be circa 40-45 degrees. RH has informed the construction team that those batters are conservative and any materials they have, they can be steepened up in the temporary case. The construction team will take this under advisement. It will have a direct impact on reducing the amount of material that is taken offsite but it is purely a buildability issue and really a decision for the groundworkers and the construction team.

5. As a compare and contrast, it should be noted that there are vertical excavations being carried out for sumps for locally collecting water and vertical and bench excavations for the pile cap. There are no signs of spoiling, degradation or ravelling in the natural materials.

6. The main ground materials may need a slightly slacker batter, but the natural clays can be done very comfortably at 70 degrees.

7. At Plot 3 two of the foundation excavations are currently underway. One of the foundation excavations is already down to virgin glacial till with the other excavation well underway. RH has had a discussion with the groundworks manager to confirm that is the only criteria for the design, to have the materials cast in virgin clay.

8. The lab testing technician is booked in for tomorrow, Thursday 22nd. RH has suggested to keep the guy on but only to undertake hand shear vein testing, not plate bearing tests. RH will have a further discussion with McLaren as to whether or not the foundation testing discussed with the structural engineer continues. As stated previously, from RHs point of view, there is no requirement.

9. In Plot 3 the pile foundations have been installed for the pile cap, but no excavation works have been undertaken for the actual pile cap, as of yet.

3.0 General RH Discussion

Within the Plot 4 area, the thickness of made ground can readily be seen to be between 300mm-1m deep. Naturally, the foundation excavations have standing water in the bottom of them. RH does not see this being a problem per se as it is purely a temporary works issue. RH has discussed this with the Construction Manager, Colin. As part of the groundworkers procedures the foundation is being pumped out every day. Prior to the final casting the foundation will be pumped out and any soft material will be excavated prior to the final pour of the foundation.

Through an overall discussion with the site team and subsequent discussions with the structural engineer, there was a suggestion by the structural engineer that plate bearing tests and/or hand shear veins be carried out to confirm bearing capacity. RH has confirmed with the site team that these are not required, and the overall construction model is satisfied by design. The key criteria is that the foundations are cast into natural materials. Therefore, as soon as natural materials are encountered that is where the foundations can be cast.

There was a brief discussion with the groundworker and also Colin from McLaren with regards to a slight clash between the pile cap and a structural foundation of 50mm. RH asked if there were any issues with thinning down the pile cap by 50mm or indeed circa 100mm. At a generic level, RH does not as it is a piled cap, and it is temporary works. There is no great requirement a thick level of cover to reinforcement etc. RH does not see any issues with locating where the pile is versus where the foundation is by thinning the pile cap down 100mm. Obviously, at a detail level that is down to the structural engineer for the pile cap to do. Also, taking into account temporary works of sheet piling etc. At a holistic level RH does not see any reason why not. That would be subject to detailed design by others.

4.0 Reports by Exception

There were no exceptions.

5.0 Photographs

Photographs of the works, together with annotations are shown in the photos appended to this report.

[END]

HB Geotechnical Services Limited

Site Visit Report

Contract: St Gabriels
Contractor: McLaren
Purpose of Site Visit: The ongoing inspection of the foundation excavations by the groundworker for the traditional shallow pad foundations for Blocks 3 and 4.
Visit Undertaken By: Robert Hutchison

Day and Date of Visit: Tuesday 5th March 2024	Arrival Time: N/A to Site Visit	Departure Time: N/A to Site Visit
Weather and Site Conditions: Fair with mild temperatures, and clear skies. The time of the site visit is 7am but the skies appear to be getting sunnier and no rain is forecast. The preceding weather has been slightly variable but not challenging.		
Contractor Representative on Site:		No. of Employees on Site: N/A to Site Visit

Contractors Activities & Plant on Site (Employees, Subcontractors, idle and working plant etc.)
The main subcontractor related to the works (Murraywood Construction) was present onsite with various pieces of plant and equipment to undertake the groundworks.

Health & Safety and Environmental Compliance (Notify Contractor of any non-compliances)
No non-compliances were witnessed during the site visit or during the activities of the site visit.

Site Records/Observations:

1.0 Summary

Block 3 – There has been no further pad excavations since the time of the last visit. The excavations have been blinded and the rebar and form work have been placed in preparation for casting.

Block 4 – It is slightly further along the programme with one of the pads being cast. The other two pads are being blinded and the rebar being completed in one of them, with the form work complete. The other pad being circa 60%-70% complete, by eye, ready for casting of pads.

2.0 Site Walkover

On arrival at site, Robert Hutchison (RH) undertook a walkover of the entire site. The following key observations were made:

1. There appears to have been no further deep excavations in Block 3 since the last visit. What has occurred is the batters of the excavations have been made good for manned access. The excavations have been blinded and rebar is being placed in the excavations ready for casting of the bases.

2. The groundworker, in accordance with good practice, is still maintaining and running pumps from the excavations to allow them to remain dry. This is impressive and good to see.

3. The excavations themselves show no signs of distress and on visual inspection RH sees no areas of concern either.

4. What has occurred, and RH understands the reasoning for this, is that the flexible form work has been placed to the outside of the rebar to maintain the concrete base with the residual gap between the form work and the batter being backfilled with as dug materials. RH understands the reason for backfilling prior to casting the foundation is to keep materials onsite and minimise the amount of site export. What must be understood though is that this material is loosely backfilled, and while this does not cause any concern internally within the structure because the slabs are suspended, where this occurs in the externals, then these areas will need to be re-excavated and backfilled in a competent engineering fashion.

5. The bases have started to be cast on Block 4. In contrast to what is happening on Block 3, at least part of the backfilled excavation between the batter and the cast pad, and the pad has been cast with pre gravel. This may be a learning experience by the site team; that they have used imported materials for backfill for the first cast pad and then decided it would be better for as dug material for backfill between the batters and the pads for Block 3. To reiterate, RH does not have a problem and there is no issue with using as dug material for the backfill for the batters prior to the pads being cast. The only watch point being for the pads that are located in the sides of the pads that are located in the external facades of the structure, these areas will need to be re-excavated and backfilled in an engineered fashion due to certain issues between the pad and the external infrastructure.

6. It can also be seen in Block 4 that the groundworker is still using pumps to dewater the excavations. All excavations are looking remarkably dry which RH believes is a mixture of the weather conditions being less harsh and also the continued use of pumps and dewatering by the groundworker. They also continue to use a sump in Block 4 as well, to pump from the excavations into the sump.

7. With the pads that are in mid construction on Block 4 with the rebar being fitted, they are also starting to backfill the batter excavations between the natural ground and the form work with as dug ground material. RH suspects the first pad on Block 4 was a learning experience whereby the site team backfilled it in part with imported materials before there was a development decision to backfill the excavations between the form work and the soil batters with as dug material to naturally reduce the amount of site export.

3.0 General RH Discussion
There were no discussions with relevant parties.

4.0 Reports by Exception
There were no exceptions.

5.0 Photographs
Photographs of the works, together with annotations are shown in the photos appended to this report.

[END]

Plate 01

Plate 02

Plate 03

Plate 04

Plate 05

Plate 06

Plate 07

Plate 08

Plate 09

Plate 10

Plate 11

Plate 12

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Plate 36

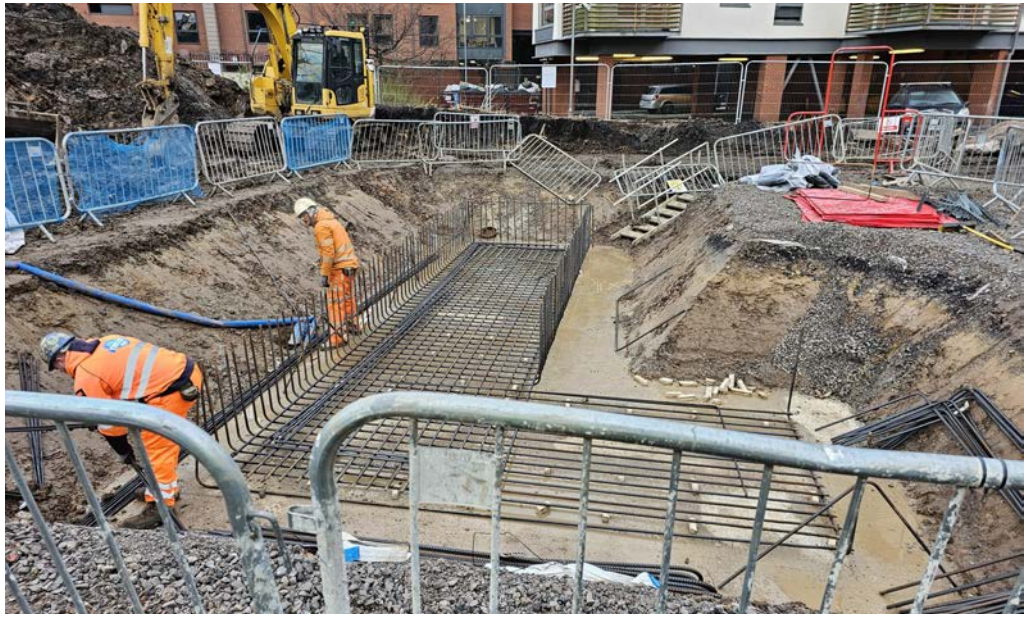

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Plate 40

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Plate 55

Plate 56