

SITE INVESTIGATION
FOR PROPOSED
NEW DOMESTIC CONSTRUCTION
AT
LOT 1401 GAINSBOROUGH DRIVE, PIMPAMA



SITE CLASSIFICATION

This site was originally classified 'P' due to the depth and type of controlled fill material present. However, it is possible to provide an alternative classification based on engineering principles.

It is considered a suitable alternative classification would be:

H1: HIGHLY REACTIVE

Ys = 40 - 60mm

Notes: In determining the suitability of the fill material on this site as a founding material for the proposed residence, Qld Soil Testing Pty Ltd have relied upon the Level 1 compaction information prepared by Morrison Geotechnic. The accuracy of that information has not been checked by Qld Soil Testing. The suitability of the footing system design contained in this report for this site is conditional on the accuracy of the supplied information. Qld Soil Testing accepts no responsibility for any variations to the design due to inaccuracies in the supplied information.

- : A street tree was observed to the front and rear of the site. The classification has been carried out considering an estimation of the tree height at the time of our investigation. Based on this current estimate, the tree is not considered to influence the proposed dwelling at this time. QLD Soil Testing does not have the necessary expertise to determine the mature height of the tree and have not attempted to do so. If at any time the ratio of tree height to distance from the dwelling is in excess of 1:1 the owner may need to carry out additional measures capable of preventing or dealing with the moisture transfer from the foundation soils to the tree. This may require additional design input from a suitably qualified professional at that time. Alternatively, advice from a suitably qualified arborist could be sought by the owner at this time for inclusion into the design.
- : Prior to the commencement of cut/fill operations, all existing topsoil is to be stripped from the construction area.

David H Hardy
RPEQ 6725
for and on behalf of
Qld Soil Testing Pty Ltd

14/121 Newmarket Road
Windsor, QLD 4030

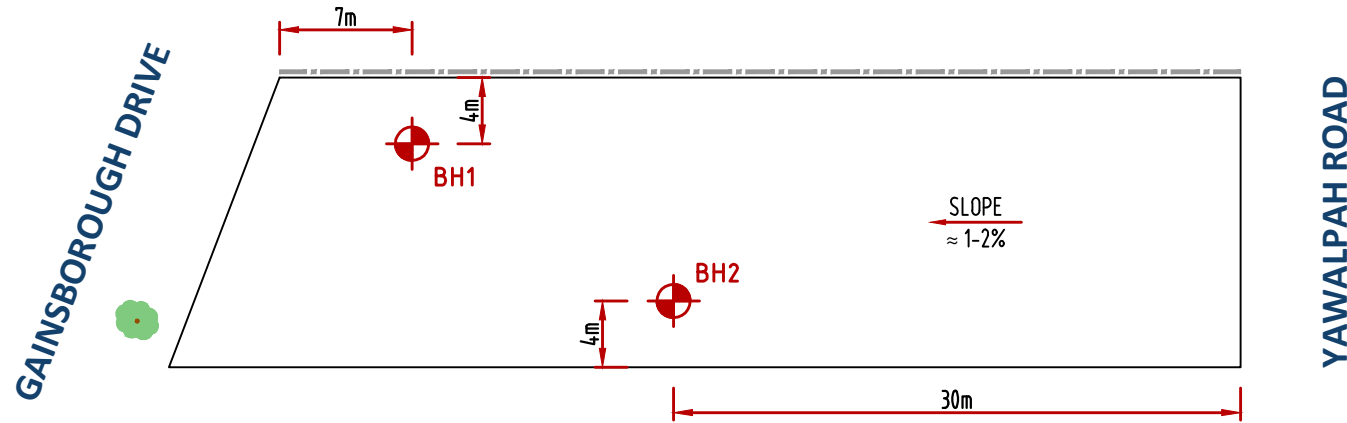
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QST Group ABN 68 620 644 751 Qld Soil Testing ABN 13 104 315 657
QST Group Pty Ltd is an Agent of Qld Soil Testing Pty Ltd

JOB No: 0938/20
22 May, 2020

SITE SKETCH (N.T.S.)



NOTE: SITE PLAN IS A GRAPHIC REPRESENTATION ONLY. ALL NOTED MEASUREMENTS HAVE BEEN TAKEN FROM RELEVANT ALLOTMENT BOUNDARIES AND/OR SIGNIFICANT SITE FEATURES. STREET NAME IS SHOWN FOR ALLOTMENT ORIENTATION PURPOSES ONLY.

SHRINK/SWELL TEST RESULTS

BOREHOLE No.	1
DEPTH (mm)	1400
Iss	3.7

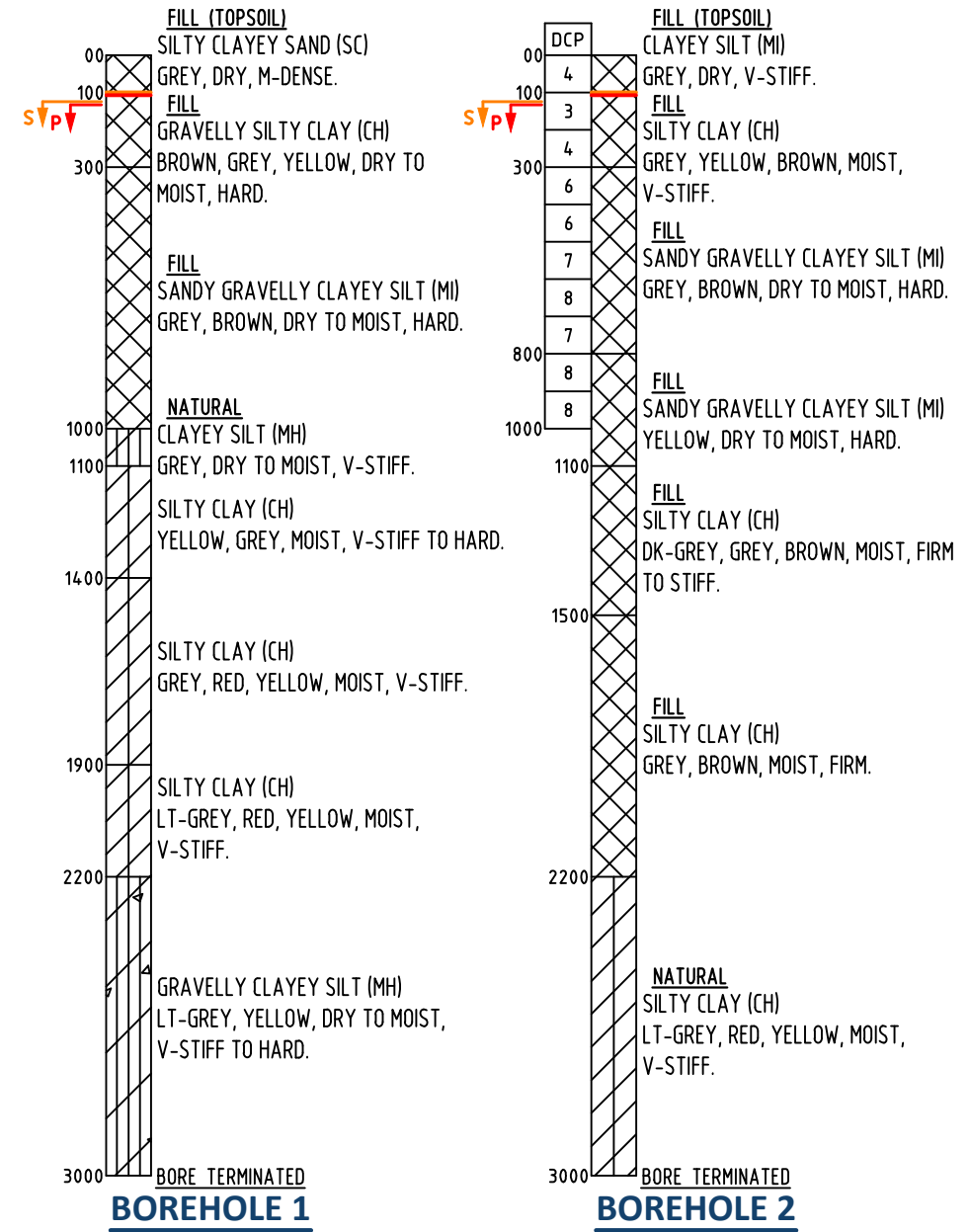
LEGEND

- RETAINING WALL(S)
- SERVICE MANHOLE(S)
- LARGE TREE(S)
- MEDIUM TREE(S)
- SMALL TREE(S)
- SERVICE GULLY PIT(S)
- ▬ WATER TABLE OBSERVED AT NOMINATED DEPTH
- ▬ BATTER(S)
- MAX T.C AUGER REFUSAL / BORE TERMINATED

DEPTH INDICATES COMMENCEMENT OF SUITABLE FOUNDING MATERIAL FOR **SLAB (PERIMETER)/FOOTINGS**.

DEPTH INDICATES COMMENCEMENT OF SUITABLE FOUNDING MATERIAL FOR **SLAB (INTERNAL)**.

PIERS (WHERE REQUIRED) TO FOUND BEYOND THE APPROPRIATE DEPTH (REFER DESIGN)



SITE INVESTIGATION RESULT
 LOT 1401 GAINSBOROUGH DRIVE
 PIMPAMA

06/05/20 DATE	SI-A ISSUE
0938/20 JOB No.	1 DWG. No.

SOIL TEST

SITE INVESTIGATION

As requested, a geotechnical site investigation was carried out for the site indicated on Page 1 of this report.

The site investigation comprised of drilling a number of holes to determine the soil profile. The required number of holes was determined on site by the drilling technician based on the conditions observed on site and the requirements of AS2870 Clause 2.3.4. A minimum of one Dynamic Cone Penetrometer (DCP) test was performed unless it was deemed not necessary. Representative clay samples were taken as deemed appropriate and tested in the laboratory. The general site conditions were also noted.

The report is based on site conditions encountered at the time of our investigation. If the condition of the site varies considerably after our site investigation, eg major earth works, then the site classification may need to be amended.

SITE CLASSIFICATION

The results of the site investigation and laboratory testing enable the site to be classified in accordance with AS2870 based on the estimated characteristic surface movement (y_s). The various site classes are outlined in the CSIRO Building Technology File 18 "Foundation Maintenance and Footing Performance: A Homeowner's Guide". The classification of the subject site is indicated on Page R1.

WIND CLASSIFICATION

Where requested, a visual investigation and desktop study of the site has been carried out in accordance with AS4055-2012. The results of this classification are presented along with the borehole information.

FOUNDING MATERIAL

The minimum founding material is indicated on the Borelog Profile on Drawing No.1 and is based on our findings as well as any information provided to us. The nominated material is dependent on all requirements set out in this report being complied with. Where a Footing System Design is to be carried out at a later date, it is possible the required founding material may differ based on information provided at that time. If conditions encountered on site differ from the information set out herein, this office is to be contacted immediately for further advice. Where a third party utilises this report for any purpose, including carrying out a Footing System Design, it is their responsibility to ensure the nominated founding material is suitable for the intended use.

TREES

Unless otherwise noted, the Site Classification in this report has been based on the assumption that all trees on site that could affect the performance of the footings will be removed. Trees that could affect the performance of the footings are those which are a distance from the house of:

0.75 x "h"	"M" sites
1.0 x "h"	"H" sites
1.5 x "h"	"E" sites

Where "h" is the mature height of the tree. Where rows or groups of trees are involved, the distance from the house should be increased.

As the trees are removed, the hole left by the root ball is to be filled with water and the surrounding area saturated.

The classification may vary if trees are to be left on site.

CONTROLLED FILL MATERIAL

Where Qld Soil Testing has been provided with a compaction certificate, this certificate has been relied upon in determining the suitability of the fill material on this site as the founding material for the proposed residence. Qld Soil Testing accepts no responsibility for any inaccuracies in the supplied compaction certificate.

LIMITS OF REPORT

The findings in the report are based on information obtained from the field site investigation. It should be noted that the soil conditions could vary considerably over short distances. Where soil conditions are encountered during excavation that varies from the site investigation findings then the engineer should be immediately contacted.

Unless otherwise noted this investigation and report does not address the following issues:

- Mining Subsidence (In areas in the vicinity of underground mines a specialist consultant is required to be engaged for a Mining Subsidence Study.)
- Slope/Stability Analysis. On steep sites and in areas prone to slippage the local authority should be consulted. A specialist report may be required.
- Contamination and/or hazardous materials on site.
- Underground services. It is the client's responsibility to inform us of the existence of, or the future construction of, underground services in the vicinity of the house.
- Contours, slope, site proportion/dimensions. Any slopes or dimensions shown are indicative only and should not be relied upon by others.
- Location of springs or underground water. Where water tables are noted the depth to the water table may vary significantly over short periods of time. Significant variation of subsurface flow may occur between periods of wet and dry weather.
- Deep soft/unstable soils. Investigations are normally limited to a depth of 1.5 metres. Therefore deep underlying problems will not be detected by a limited investigation such as this. A search of council records should be undertaken by either the owner or the builder prior to construction to discover such information.
- Acid Sulphate Soils. Chemical Testing for the presence of Acid Sulphate Soils does not form part of this report. Where the presence of acid sulphate soils is possible, eg. reclaimed marine environments, advice should be sought from the Local Authority and/or an expert in the field.
- Flood Hazard Areas. It is the client's responsibility to inform us if the site is located within a Flood Hazard Area as defined by the Qld Development Code MP 3.5. Where information relating to a Flood Hazard Area has not been provided then no consideration has been given to this matter.

SITE INVESTIGATION
FOR PROPOSED
NEW DOMESTIC CONSTRUCTION
AT
LOT 1402 GAINSBOROUGH DRIVE, PIMPAMA



SITE CLASSIFICATION

This site was originally classified 'P' due to the depth and type of controlled fill material present. However, it is possible to provide an alternative classification based on engineering principles. It is considered a suitable alternative classification would be:

H1: HIGHLY REACTIVE

$Y_s = 40 - 60\text{mm}$

Notes: In determining the suitability of the fill material on this site as a founding material for the proposed residence, Qld Soil Testing Pty Ltd have relied upon the Level 1 compaction information prepared by Morrison Geotechnic. The accuracy of that information has not been checked by Qld Soil Testing. The suitability of the footing system design contained in this report for this site is conditional on the accuracy of the supplied information. Qld Soil Testing accepts no responsibility for any variations to the design due to inaccuracies in the supplied information.

: Street trees were observed to the front and rear of the site. The classification has been carried out considering an estimation of the tree heights at the time of our investigation. Based on these current estimates, the trees are not considered to influence the proposed dwelling at this time. QLD Soil Testing does not have the necessary expertise to determine the mature height of the trees and have not attempted to do so. If at any time the ratio of tree height to distance from the dwelling is in excess of 1:2 the owner may need to carry out additional measures capable of preventing or dealing with the moisture transfer from the foundation soils to the tree. This may require additional design input from a suitably qualified professional at that time. Alternatively, advice from a suitably qualified arborist could be sought by the owner at this time for inclusion into the design.

: Prior to the commencement of cut/fill operations, all existing topsoil is to be stripped from the construction area.

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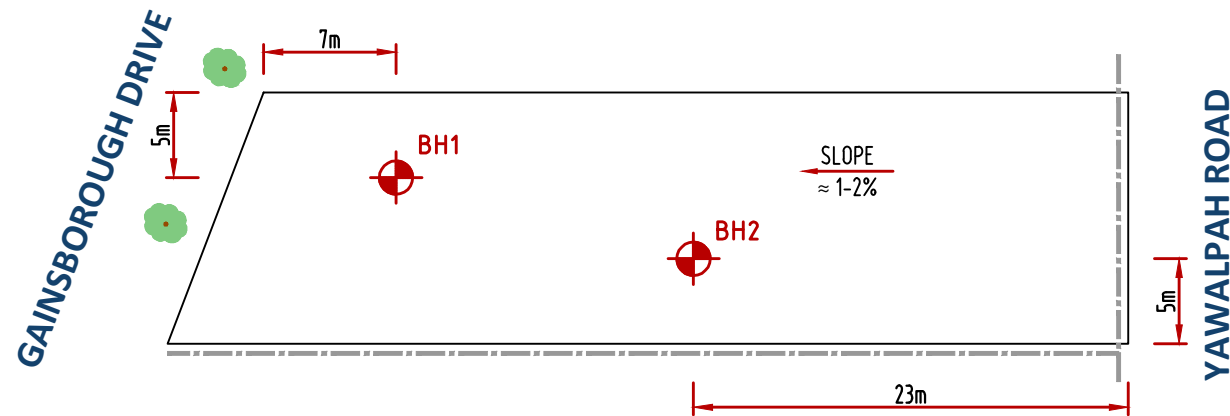
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JOB No: 0939/20
22 May, 2020

SITE SKETCH (N.T.S.)



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SHRINK/SWELL TEST RESULTS

BOREHOLE No.	1
DEPTH (mm)	1800
Iss	3.7

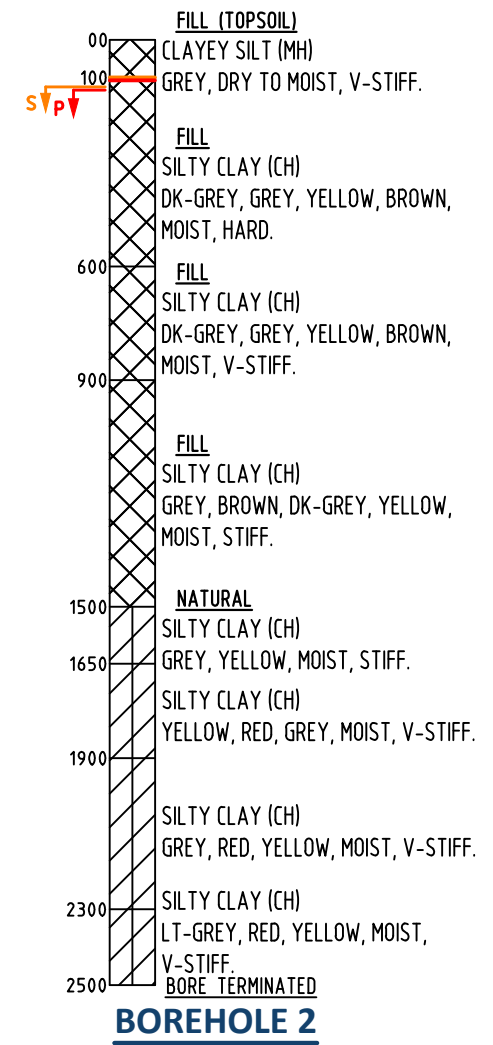
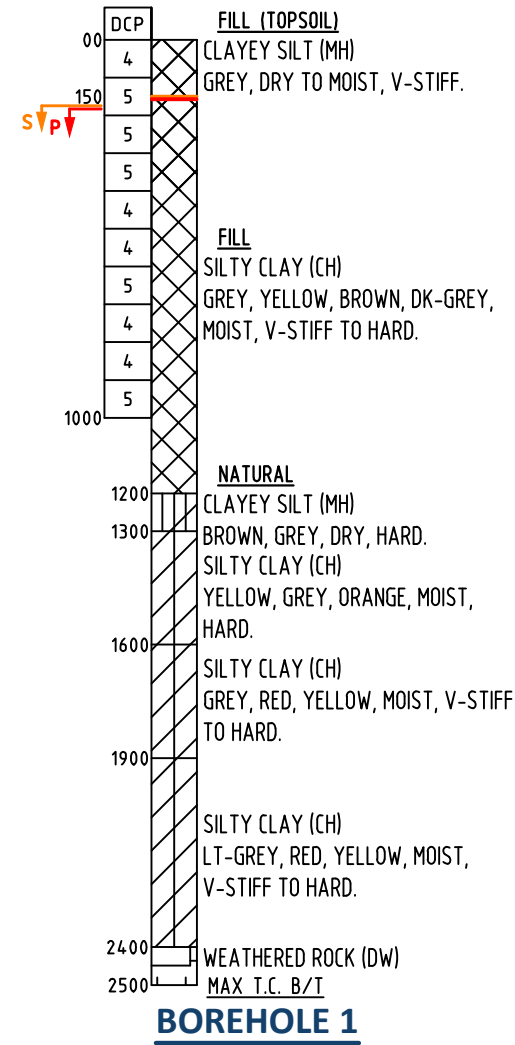
LEGEND

- RETAINING WALL(S)
- SERVICE MANHOLE(S)
- LARGE TREE(S)
- SERVICE GULLY PIT(S)
- MEDIUM TREE(S)
- ▬ WATER TABLE OBSERVED AT NOMINATED DEPTH
- SMALL TREE(S)
- ▬ BATTER(S)
- MAX T.C AUGER REFUSAL / BORE TERMINATED

DEPTH INDICATES COMMENCEMENT OF SUITABLE FOUNDING MATERIAL FOR **SLAB (PERIMETER)/FOOTINGS**.

DEPTH INDICATES COMMENCEMENT OF SUITABLE FOUNDING MATERIAL FOR **SLAB (INTERNAL)**.

PIERS (WHERE REQUIRED) TO FOUND BEYOND THE APPROPRIATE DEPTH (REFER DESIGN)



SOIL TEST

SITE INVESTIGATION

As requested, a geotechnical site investigation was carried out for the site indicated on Page 1 of this report.

The site investigation comprised of drilling a number of holes to determine the soil profile. The required number of holes was determined on site by the drilling technician based on the conditions observed on site and the requirements of AS2870 Clause 2.3.4. A minimum of one Dynamic Cone Penetrometer (DCP) test was performed unless it was deemed not necessary. Representative clay samples were taken as deemed appropriate and tested in the laboratory. The general site conditions were also noted.

The report is based on site conditions encountered at the time of our investigation. If the condition of the site varies considerably after our site investigation, eg major earth works, then the site classification may need to be amended.

SITE CLASSIFICATION

The results of the site investigation and laboratory testing enable the site to be classified in accordance with AS2870 based on the estimated characteristic surface movement (γ_s). The various site classes are outlined in the CSIRO Building Technology File 18 "Foundation Maintenance and Footing Performance: A Homeowner's Guide". The classification of the subject site is indicated on Page R1.

WIND CLASSIFICATION

Where requested, a visual investigation and desktop study of the site has been carried out in accordance with AS4055-2012. The results of this classification are presented along with the borehole information.

FOUNDING MATERIAL

The minimum founding material is indicated on the Borelog Profile on Drawing No.1 and is based on our findings as well as any information provided to us. The nominated material is dependent on all requirements set out in this report being complied with. Where a Footing System Design is to be carried out at a later date, it is possible the required founding material may differ based on information provided at that time. If conditions encountered on site differ from the information set out herein, this office is to be contacted immediately for further advice. Where a third party utilises this report for any purpose, including carrying out a Footing System Design, it is their responsibility to ensure the nominated founding material is suitable for the intended use.

TREES

Unless otherwise noted, the Site Classification in this report has been based on the assumption that all trees on site that could affect the performance of the footings will be removed. Trees that could affect the performance of the footings are those which are a distance from the house of:

0.75 x "h"	"M" sites
1.0 x "h"	"H" sites
1.5 x "h"	"E" sites

Where "h" is the mature height of the tree. Where rows or groups of trees are involved, the distance from the house should be increased.

As the trees are removed, the hole left by the root ball is to be filled with water and the surrounding area saturated.

The classification may vary if trees are to be left on site.

CONTROLLED FILL MATERIAL

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LIMITS OF REPORT

The findings in the report are based on information obtained from the field site investigation. It should be noted that the soil conditions could vary considerably over short distances. Where soil conditions are encountered during excavation that varies from the site investigation findings then the engineer should be immediately contacted.

Unless otherwise noted this investigation and report does not address the following issues:

- Mining Subsidence (In areas in the vicinity of underground mines a specialist consultant is required to be engaged for a Mining Subsidence Study.)
- Slope/Stability Analysis. On steep sites and in areas prone to slippage the local authority should be consulted. A specialist report may be required.
- Contamination and/or hazardous materials on site.
- Underground services. It is the client's responsibility to inform us of the existence of, or the future construction of, underground services in the vicinity of the house.
- Contours, slope, site proportion/dimensions. Any slopes or dimensions shown are indicative only and should not be relied upon by others.
- Location of springs or underground water. Where water tables are noted the depth to the water table may vary significantly over short periods of time. Significant variation of subsurface flow may occur between periods of wet and dry weather.
- Deep soft/unstable soils. Investigations are normally limited to a depth of 1.5 metres. Therefore deep underlying problems will not be detected by a limited investigation such as this. A search of council records should be undertaken by either the owner or the builder prior to construction to discover such information.
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- Flood Hazard Areas. It is the client's responsibility to inform us if the site is located within a Flood Hazard Area as defined by the Qld Development Code MP 3.5. Where information relating to a Flood Hazard Area has not been provided then no consideration has been given to this matter.

SITE INVESTIGATION
FOR PROPOSED
NEW DOMESTIC CONSTRUCTION
AT
LOT 1403 GAINSBOROUGH DRIVE, PIMPAMA



SITE CLASSIFICATION

This site was originally classified 'P' due to the depth and type of controlled fill material present. However, it is possible to provide an alternative classification based on engineering principles. It is considered a suitable alternative classification would be:

H1: HIGHLY REACTIVE

$Y_s = 40 - 60\text{mm}$

Notes: In determining the suitability of the fill material on this site as a founding material for the proposed residence, Qld Soil Testing Pty Ltd have relied upon the Level 1 compaction information prepared by Morrison Geotechnic. The accuracy of that information has not been checked by Qld Soil Testing. The suitability of the footing system design contained in this report for this site is conditional on the accuracy of the supplied information. Qld Soil Testing accepts no responsibility for any variations to the design due to inaccuracies in the supplied information.

: Street trees were observed to the front and rear of the site. The classification has been carried out considering an estimation of the tree heights at the time of our investigation. Based on these current estimates, the trees are not considered to influence the proposed dwelling at this time. QLD Soil Testing does not have the necessary expertise to determine the mature height of the trees and have not attempted to do so. If at any time the ratio of tree height to distance from the dwelling is in excess of 1:2 the owner may need to carry out additional measures capable of preventing or dealing with the moisture transfer from the foundation soils to the tree. This may require additional design input from a suitably qualified professional at that time. Alternatively, advice from a suitably qualified arborist could be sought by the owner at this time for inclusion into the design.

: Prior to the commencement of cut/fill operations, all existing topsoil is to be stripped from the construction area.

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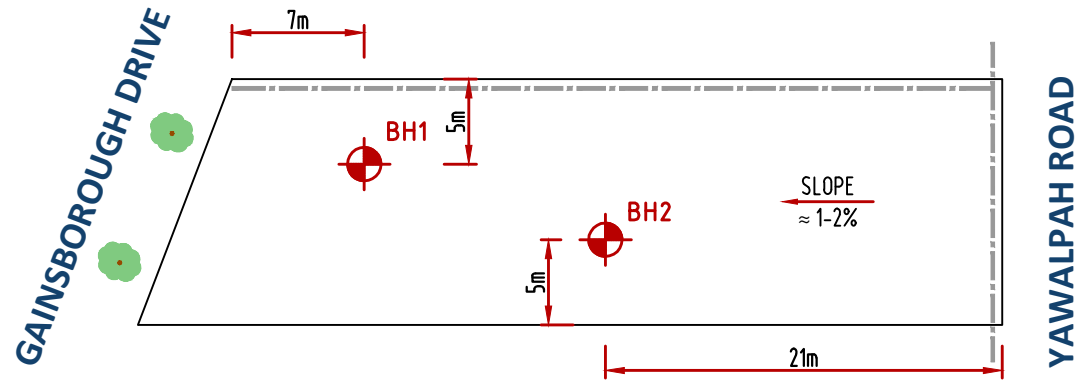
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JOB No: 0940/20
22 May, 2020

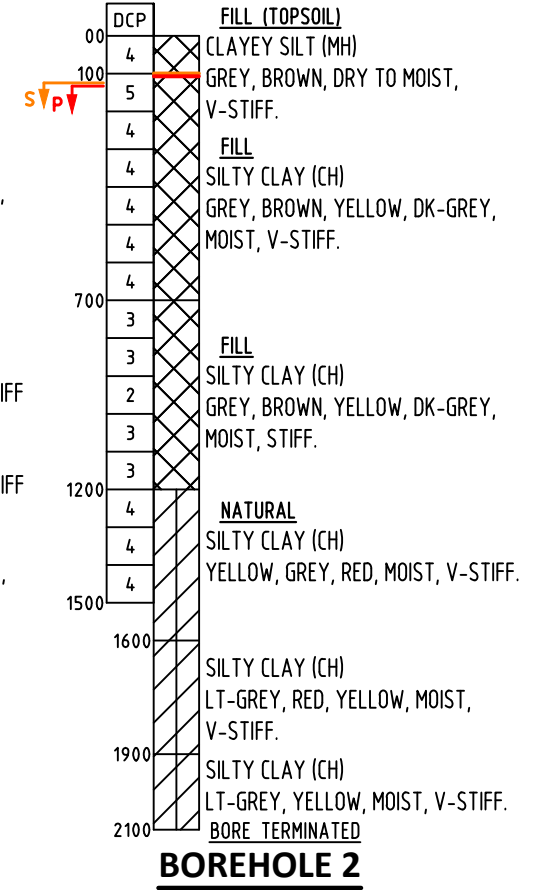
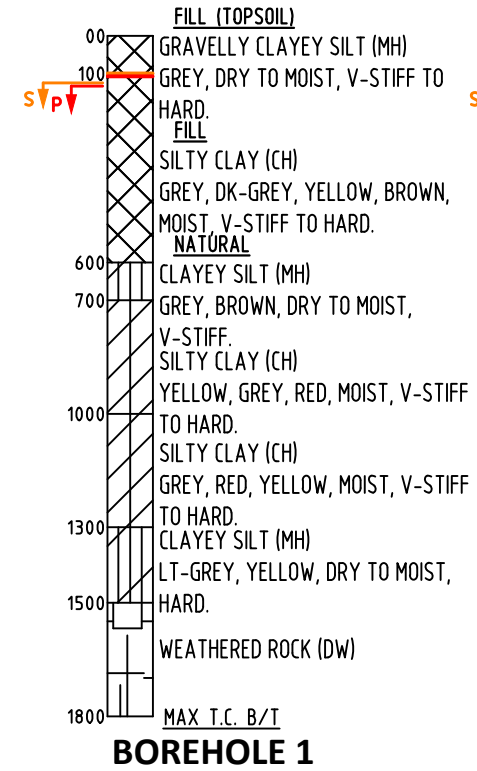
SITE SKETCH (N.T.S.)



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SHRINK/SWELL TEST RESULTS

BOREHOLE No.	2
DEPTH (mm)	600
I _{ss}	4.6



LEGEND

- RETAINING WALL(S)
- SERVICE MANHOLE(S)
- LARGE TREE(S)
- SERVICE GULLY PIT(S)
- MEDIUM TREE(S)
- ▬ WATER TABLE OBSERVED AT NOMINATED DEPTH
- SMALL TREE(S)
- ▬ BATTER(S)
- MAX T.C. AUGER REFUSAL / BORE TERMINATED

DEPTH INDICATES COMMENCEMENT OF SUITABLE FOUNDING MATERIAL FOR **SLAB (PERIMETER)/FOOTINGS**.

DEPTH INDICATES COMMENCEMENT OF SUITABLE FOUNDING MATERIAL FOR **SLAB (INTERNAL)**.

PIERS (WHERE REQUIRED) TO FOUND BEYOND THE APPROPRIATE DEPTH (REFER DESIGN)



SITE INVESTIGATION RESULT
 LOT 1403 GAINSBOROUGH DRIVE
 PIMPAMA

06/05/20	SI-A
DATE	ISSUE
0940/20	1
JOB No.	DWG. No.

QST GROUP - BORELOGS_A3 (2019.10.01-2024)

SOIL TEST

SITE INVESTIGATION

As requested, a geotechnical site investigation was carried out for the site indicated on Page 1 of this report.

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SITE INVESTIGATION
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AT
LOT 1404 GAINSBOROUGH DRIVE, PIMPAMA



SITE CLASSIFICATION

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H1: HIGHLY REACTIVE

$Y_s = 40 - 60\text{mm}$

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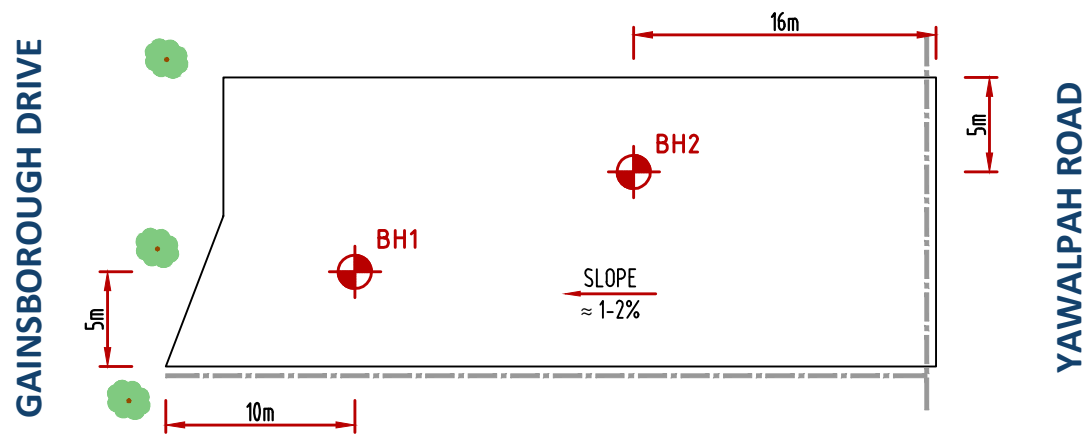
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JOB No: 0941/20
22 May, 2020

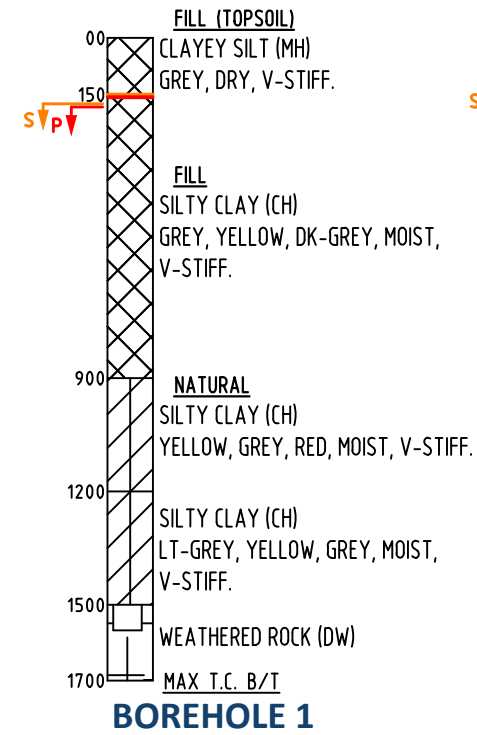
SITE SKETCH (N.T.S.)



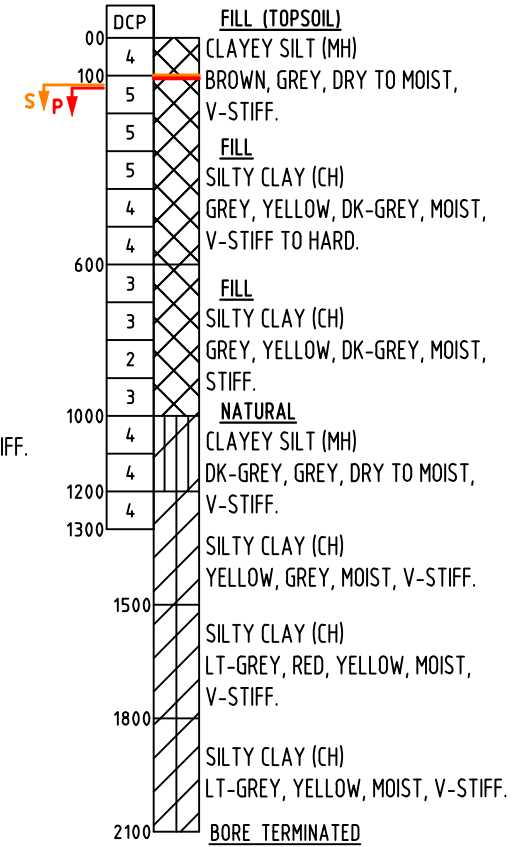
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SHRINK/SWELL TEST RESULTS

BOREHOLE No.	1
DEPTH (mm)	600
Iss	4.6



BOREHOLE 1



BOREHOLE 2

LEGEND

- RETAINING WALL(S)
- SERVICE MANHOLE(S)
- LARGE TREE(S)
- SERVICE GULLY PIT(S)
- MEDIUM TREE(S)
- ▬ WATER TABLE OBSERVED AT NOMINATED DEPTH
- SMALL TREE(S)
- ▬ BATTER(S)
- MAX T.C AUGER REFUSAL / BORE TERMINATED

DEPTH INDICATES COMMENCEMENT OF SUITABLE FOUNDING MATERIAL FOR **SLAB (PERIMETER)/FOOTINGS**.

DEPTH INDICATES COMMENCEMENT OF SUITABLE FOUNDING MATERIAL FOR **SLAB (INTERNAL)**.

PIERS (WHERE REQUIRED) TO FOUND BEYOND THE APPROPRIATE DEPTH (REFER DESIGN)



SITE INVESTIGATION RESULT
 LOT 1404 GAINSBOROUGH DRIVE
 PIMPAMA

06/05/20 DATE	SI-A ISSUE
0941/20 JOB No.	1 DWG. No.

SOIL TEST

SITE INVESTIGATION

As requested, a geotechnical site investigation was carried out for the site indicated on Page 1 of this report.

The site investigation comprised of drilling a number of holes to determine the soil profile. The required number of holes was determined on site by the drilling technician based on the conditions observed on site and the requirements of AS2870 Clause 2.3.4. A minimum of one Dynamic Cone Penetrometer (DCP) test was performed unless it was deemed not necessary. Representative clay samples were taken as deemed appropriate and tested in the laboratory. The general site conditions were also noted.

The report is based on site conditions encountered at the time of our investigation. If the condition of the site varies considerably after our site investigation, eg major earth works, then the site classification may need to be amended.

SITE CLASSIFICATION

The results of the site investigation and laboratory testing enable the site to be classified in accordance with AS2870 based on the estimated characteristic surface movement (y_s). The various site classes are outlined in the CSIRO Building Technology File 18 "Foundation Maintenance and Footing Performance: A Homeowner's Guide". The classification of the subject site is indicated on Page R1.

WIND CLASSIFICATION

Where requested, a visual investigation and desktop study of the site has been carried out in accordance with AS4055-2012. The results of this classification are presented along with the borehole information.

FOUNDING MATERIAL

The minimum founding material is indicated on the Borelog Profile on Drawing No.1 and is based on our findings as well as any information provided to us. The nominated material is dependent on all requirements set out in this report being complied with. Where a Footing System Design is to be carried out at a later date, it is possible the required founding material may differ based on information provided at that time. If conditions encountered on site differ from the information set out herein, this office is to be contacted immediately for further advice. Where a third party utilises this report for any purpose, including carrying out a Footing System Design, it is their responsibility to ensure the nominated founding material is suitable for the intended use.

TREES

Unless otherwise noted, the Site Classification in this report has been based on the assumption that all trees on site that could affect the performance of the footings will be removed. Trees that could affect the performance of the footings are those which are a distance from the house of:

0.75 x "h"	"M" sites
1.0 x "h"	"H" sites
1.5 x "h"	"E" sites

Where "h" is the mature height of the tree. Where rows or groups of trees are involved, the distance from the house should be increased.

As the trees are removed, the hole left by the root ball is to be filled with water and the surrounding area saturated.

The classification may vary if trees are to be left on site.

CONTROLLED FILL MATERIAL

Where Qld Soil Testing has been provided with a compaction certificate, this certificate has been relied upon in determining the suitability of the fill material on this site as the founding material for the proposed residence. Qld Soil Testing accepts no responsibility for any inaccuracies in the supplied compaction certificate.

LIMITS OF REPORT

The findings in the report are based on information obtained from the field site investigation. It should be noted that the soil conditions could vary considerably over short distances. Where soil conditions are encountered during excavation that varies from the site investigation findings then the engineer should be immediately contacted.

Unless otherwise noted this investigation and report does not address the following issues:

- Mining Subsidence (In areas in the vicinity of underground mines a specialist consultant is required to be engaged for a Mining Subsidence Study.)
- Slope/Stability Analysis. On steep sites and in areas prone to slippage the local authority should be consulted. A specialist report may be required.
- Contamination and/or hazardous materials on site.
- Underground services. It is the client's responsibility to inform us of the existence of, or the future construction of, underground services in the vicinity of the house.
- Contours, slope, site proportion/dimensions. Any slopes or dimensions shown are indicative only and should not be relied upon by others.
- Location of springs or underground water. Where water tables are noted the depth to the water table may vary significantly over short periods of time. Significant variation of subsurface flow may occur between periods of wet and dry weather.
- Deep soft/unstable soils. Investigations are normally limited to a depth of 1.5 metres. Therefore deep underlying problems will not be detected by a limited investigation such as this. A search of council records should be undertaken by either the owner or the builder prior to construction to discover such information.
- Acid Sulphate Soils. Chemical Testing for the presence of Acid Sulphate Soils does not form part of this report. Where the presence of acid sulphate soils is possible, eg. reclaimed marine environments, advice should be sought from the Local Authority and/or an expert in the field.
- Flood Hazard Areas. It is the client's responsibility to inform us if the site is located within a Flood Hazard Area as defined by the Qld Development Code MP 3.5. Where information relating to a Flood Hazard Area has not been provided then no consideration has been given to this matter.

SITE INVESTIGATION
FOR PROPOSED
NEW DOMESTIC CONSTRUCTION
AT
LOT 1405 GAINSBOROUGH DRIVE, PIMPAMA



SITE CLASSIFICATION

This site was originally classified 'P' due to the depth and type of controlled fill material present. However, it is possible to provide an alternative classification based on engineering principles. It is considered a suitable alternative classification would be:

H1: HIGHLY REACTIVE

Ys = 40 - 60mm

Notes: *In determining the suitability of the fill material on this site as a founding material for the proposed residence, Qld Soil Testing Pty Ltd have relied upon the Level 1 compaction information prepared by Morrison Geotechnic. The accuracy of that information has not been checked by Qld Soil Testing. The suitability of the footing system design contained in this report for this site is conditional on the accuracy of the supplied information. Qld Soil Testing accepts no responsibility for any variations to the design due to inaccuracies in the supplied information.*

- : Prior to the commencement of cut/fill operations, all existing topsoil is to be stripped from the construction area.*
- : Street trees were observed to the front of the site. The classification has been carried out considering an estimation of the tree heights at the time of our investigation. Based on these current estimates, the trees are not considered to influence the proposed dwelling at this time. QLD Soil Testing does not have the necessary expertise to determine the mature height of the trees and have not attempted to do so. If at any time the ratio of tree height to distance from the dwelling is in excess of 1:2 the owner may need to carry out additional measures capable of preventing or dealing with the moisture transfer from the foundation soils to the tree. This may require additional design input from a suitably qualified professional at that time. Alternatively, advice from a suitably qualified arborist could be sought by the owner at this time for inclusion into the design.*

David H Hardy
RPEQ 6725
for and on behalf of
Qld Soil Testing Pty Ltd

14/121 Newmarket Road
Windsor, QLD 4030

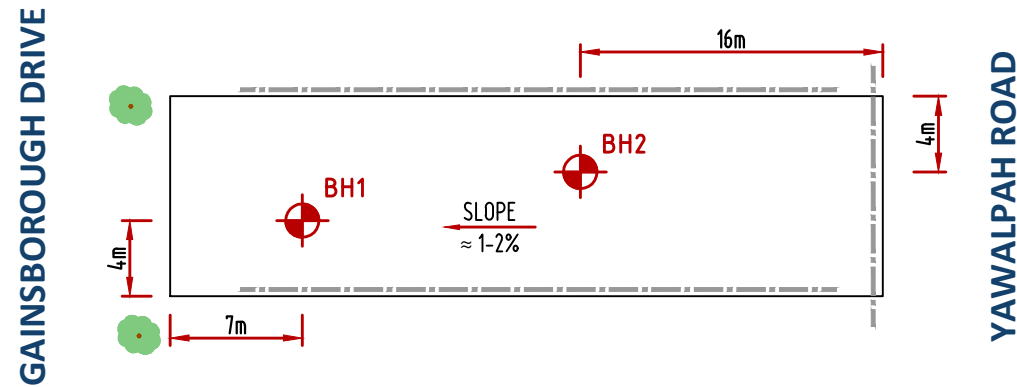
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QST Group ABN 68 620 644 751 Qld Soil Testing ABN 13 104 315 657
QST Group Pty Ltd is an Agent of Qld Soil Testing Pty Ltd

JOB No: 0942/20
22 May, 2020

SITE SKETCH (N.T.S.)



NOTE: SITE PLAN IS A GRAPHIC REPRESENTATION ONLY. ALL NOTED MEASUREMENTS HAVE BEEN TAKEN FROM RELEVANT ALLOTMENT BOUNDARIES AND/OR SIGNIFICANT SITE FEATURES. STREET NAME IS SHOWN FOR ALLOTMENT ORIENTATION PURPOSES ONLY.

SHRINK/SWELL TEST RESULTS

BOREHOLE No.	2
DEPTH (mm)	600
Iss	4.6

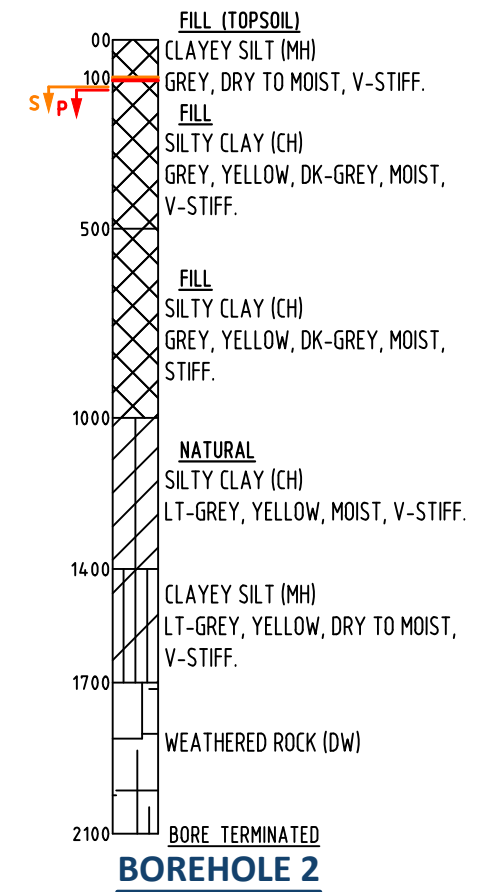
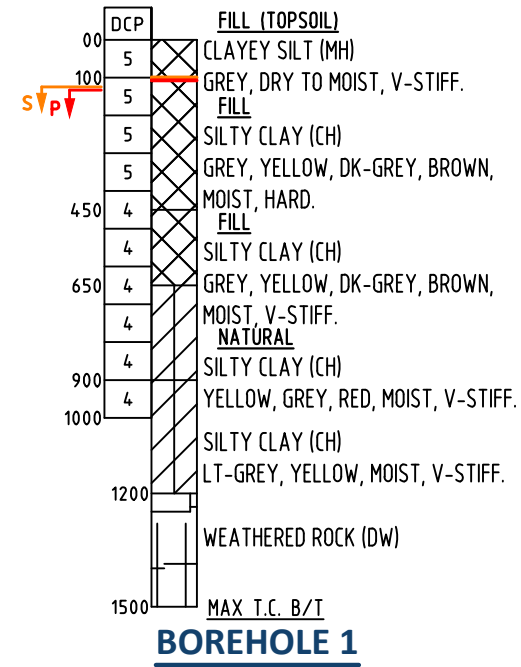
LEGEND

- RETAINING WALL(S)
- SERVICE MANHOLE(S)
- LARGE TREE(S)
- MEDIUM TREE(S)
- SMALL TREE(S)
- MAX T.C AUGER REFUSAL / BORE TERMINATED
- ▣ SERVICE GULLY PIT(S)
- ▬ WATER TABLE OBSERVED AT NOMINATED DEPTH
- ▬ BATTER(S)

DEPTH INDICATES COMMENCEMENT OF SUITABLE FOUNDING MATERIAL FOR **SLAB (PERIMETER)/FOOTINGS**.

DEPTH INDICATES COMMENCEMENT OF SUITABLE FOUNDING MATERIAL FOR **SLAB (INTERNAL)**.

PIERS (WHERE REQUIRED) TO FOUND BEYOND THE APPROPRIATE DEPTH (REFER DESIGN)



SOIL TEST

SITE INVESTIGATION

As requested, a geotechnical site investigation was carried out for the site indicated on Page 1 of this report.

The site investigation comprised of drilling a number of holes to determine the soil profile. The required number of holes was determined on site by the drilling technician based on the conditions observed on site and the requirements of AS2870 Clause 2.3.4. A minimum of one Dynamic Cone Penetrometer (DCP) test was performed unless it was deemed not necessary. Representative clay samples were taken as deemed appropriate and tested in the laboratory. The general site conditions were also noted.

The report is based on site conditions encountered at the time of our investigation. If the condition of the site varies considerably after our site investigation, eg major earth works, then the site classification may need to be amended.

SITE CLASSIFICATION

The results of the site investigation and laboratory testing enable the site to be classified in accordance with AS2870 based on the estimated characteristic surface movement (y_s). The various site classes are outlined in the CSIRO Building Technology File 18 "Foundation Maintenance and Footing Performance: A Homeowner's Guide". The classification of the subject site is indicated on Page R1.

WIND CLASSIFICATION

Where requested, a visual investigation and desktop study of the site has been carried out in accordance with AS4055-2012. The results of this classification are presented along with the borehole information.

FOUNDING MATERIAL

The minimum founding material is indicated on the Borelog Profile on Drawing No.1 and is based on our findings as well as any information provided to us. The nominated material is dependent on all requirements set out in this report being complied with. Where a Footing System Design is to be carried out at a later date, it is possible the required founding material may differ based on information provided at that time. If conditions encountered on site differ from the information set out herein, this office is to be contacted immediately for further advice. Where a third party utilises this report for any purpose, including carrying out a Footing System Design, it is their responsibility to ensure the nominated founding material is suitable for the intended use.

TREES

Unless otherwise noted, the Site Classification in this report has been based on the assumption that all trees on site that could affect the performance of the footings will be removed. Trees that could affect the performance of the footings are those which are a distance from the house of:

0.75 x "h"	"M" sites
1.0 x "h"	"H" sites
1.5 x "h"	"E" sites

Where "h" is the mature height of the tree. Where rows or groups of trees are involved, the distance from the house should be increased.

As the trees are removed, the hole left by the root ball is to be filled with water and the surrounding area saturated.

The classification may vary if trees are to be left on site.

CONTROLLED FILL MATERIAL

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LIMITS OF REPORT

The findings in the report are based on information obtained from the field site investigation. It should be noted that the soil conditions could vary considerably over short distances. Where soil conditions are encountered during excavation that varies from the site investigation findings then the engineer should be immediately contacted.

Unless otherwise noted this investigation and report does not address the following issues:

- Mining Subsidence (In areas in the vicinity of underground mines a specialist consultant is required to be engaged for a Mining Subsidence Study.)
- Slope/Stability Analysis. On steep sites and in areas prone to slippage the local authority should be consulted. A specialist report may be required.
- Contamination and/or hazardous materials on site.
- Underground services. It is the client's responsibility to inform us of the existence of, or the future construction of, underground services in the vicinity of the house.
- Contours, slope, site proportion/dimensions. Any slopes or dimensions shown are indicative only and should not be relied upon by others.
- Location of springs or underground water. Where water tables are noted the depth to the water table may vary significantly over short periods of time. Significant variation of subsurface flow may occur between periods of wet and dry weather.
- Deep soft/unstable soils. Investigations are normally limited to a depth of 1.5 metres. Therefore deep underlying problems will not be detected by a limited investigation such as this. A search of council records should be undertaken by either the owner or the builder prior to construction to discover such information.
- Acid Sulphate Soils. Chemical Testing for the presence of Acid Sulphate Soils does not form part of this report. Where the presence of acid sulphate soils is possible, eg. reclaimed marine environments, advice should be sought from the Local Authority and/or an expert in the field.
- Flood Hazard Areas. It is the client's responsibility to inform us if the site is located within a Flood Hazard Area as defined by the Qld Development Code MP 3.5. Where information relating to a Flood Hazard Area has not been provided then no consideration has been given to this matter.

SITE INVESTIGATION
FOR PROPOSED
NEW DOMESTIC CONSTRUCTION
AT
LOT 1406 GAINSBOROUGH DRIVE, PIMPAMA



SITE CLASSIFICATION

This site was originally classified 'P' due to the depth and type of controlled fill material present. However, it is possible to provide an alternative classification based on engineering principles. It is considered a suitable alternative classification would be:

H1: HIGHLY REACTIVE

Y_s = 40 - 60mm

Notes: *In determining the suitability of the fill material on this site as a founding material for the proposed residence, Qld Soil Testing Pty Ltd have relied upon the Level 1 compaction information prepared by Morrison Geotechnic. The accuracy of that information has not been checked by Qld Soil Testing. The suitability of the footing system design contained in this report for this site is conditional on the accuracy of the supplied information. Qld Soil Testing accepts no responsibility for any variations to the design due to inaccuracies in the supplied information.*

- : Prior to the commencement of cut/fill operations, all existing topsoil is to be stripped from the construction area.*
- : Street trees were observed to the front of the site. The classification has been carried out considering an estimation of the tree heights at the time of our investigation. Based on these current estimates, the trees are not considered to influence the proposed dwelling at this time. QLD Soil Testing does not have the necessary expertise to determine the mature height of the trees and have not attempted to do so. If at any time the ratio of tree height to distance from the dwelling is in excess of 1:2 the owner may need to carry out additional measures capable of preventing or dealing with the moisture transfer from the foundation soils to the tree. This may require additional design input from a suitably qualified professional at that time. Alternatively, advice from a suitably qualified arborist could be sought by the owner at this time for inclusion into the design.*

David H Hardy
RPEQ 6725
for and on behalf of
Qld Soil Testing Pty Ltd

14/121 Newmarket Road
Windsor, QLD 4030

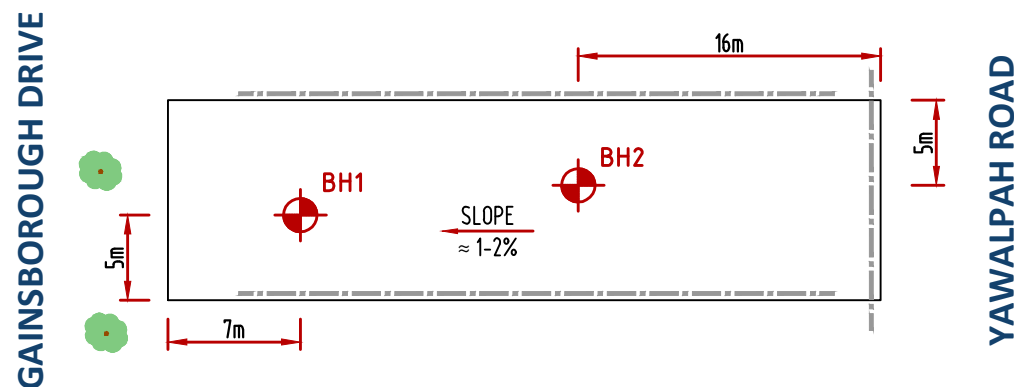
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QST Group ABN 68 620 644 751 Qld Soil Testing ABN 13 104 315 657
QST Group Pty Ltd is an Agent of Qld Soil Testing Pty Ltd

JOB No: 0943/20
22 May, 2020

SITE SKETCH (N.T.S.)



NOTE: SITE PLAN IS A GRAPHIC REPRESENTATION ONLY. ALL NOTED MEASUREMENTS HAVE BEEN TAKEN FROM RELEVANT ALLOTMENT BOUNDARIES AND/OR SIGNIFICANT SITE FEATURES. STREET NAME IS SHOWN FOR ALLOTMENT ORIENTATION PURPOSES ONLY.

SHRINK/SWELL TEST RESULTS

BOREHOLE No.	2
DEPTH (mm)	500
Iss	4.6

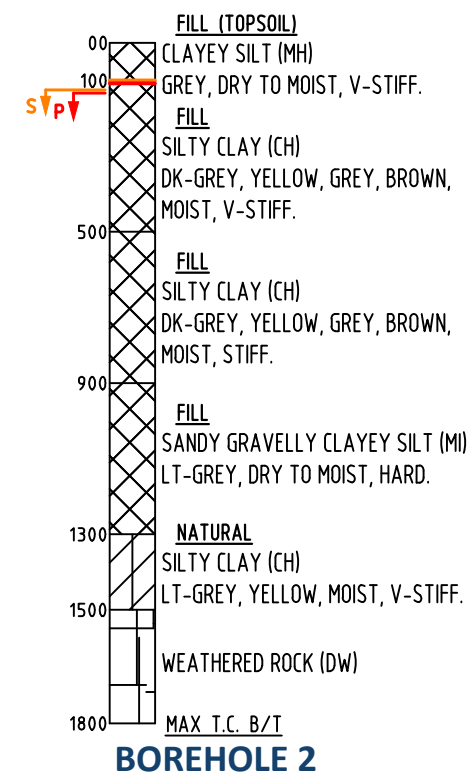
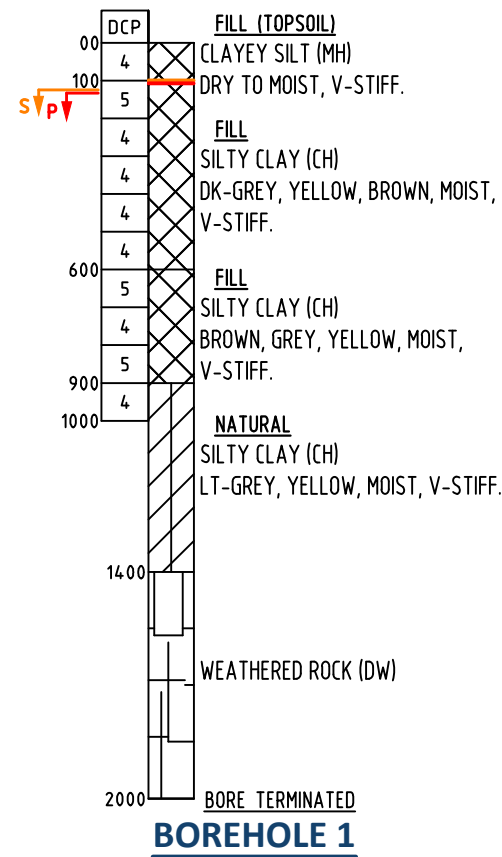
LEGEND


- RETAINING WALL(S)
- SERVICE MANHOLE(S)
- LARGE TREE(S)
- SERVICE GULLY PIT(S)
- MEDIUM TREE(S)
- ▬ WATER TABLE OBSERVED AT NOMINATED DEPTH
- SMALL TREE(S)
- ▬ BATTER(S)
- MAX T.C AUGER REFUSAL / BORE TERMINATED

DEPTH INDICATES COMMENCEMENT OF SUITABLE FOUNDING MATERIAL FOR **SLAB (PERIMETER)/FOOTINGS**.

DEPTH INDICATES COMMENCEMENT OF SUITABLE FOUNDING MATERIAL FOR **SLAB (INTERNAL)**.

PIERS (WHERE REQUIRED) TO FOUND BEYOND THE APPROPRIATE DEPTH (REFER DESIGN)



 <p>Soil Testing Engineering Surveying Contract Drilling</p>	<p align="center">SITE INVESTIGATION RESULT</p> <p align="center">LOT 1406 GAINSBOROUGH DRIVE PIMPAMA</p>	<p>04/05/20</p> <p>DATE</p>	<p>SI-A</p> <p>ISSUE</p>
		<p>0943/20</p> <p>JOB No.</p>	<p>1</p> <p>DWG. No.</p>

QST GROUP - BORELOGS A3 (2019.10.01-2024)

SOIL TEST

SITE INVESTIGATION

As requested, a geotechnical site investigation was carried out for the site indicated on Page 1 of this report.

The site investigation comprised of drilling a number of holes to determine the soil profile. The required number of holes was determined on site by the drilling technician based on the conditions observed on site and the requirements of AS2870 Clause 2.3.4. A minimum of one Dynamic Cone Penetrometer (DCP) test was performed unless it was deemed not necessary. Representative clay samples were taken as deemed appropriate and tested in the laboratory. The general site conditions were also noted.

The report is based on site conditions encountered at the time of our investigation. If the condition of the site varies considerably after our site investigation, eg major earth works, then the site classification may need to be amended.

SITE CLASSIFICATION

The results of the site investigation and laboratory testing enable the site to be classified in accordance with AS2870 based on the estimated characteristic surface movement (y_s). The various site classes are outlined in the CSIRO Building Technology File 18 "Foundation Maintenance and Footing Performance: A Homeowner's Guide". The classification of the subject site is indicated on Page R1.

WIND CLASSIFICATION

Where requested, a visual investigation and desktop study of the site has been carried out in accordance with AS4055-2012. The results of this classification are presented along with the borehole information.

FOUNDING MATERIAL

The minimum founding material is indicated on the Borelog Profile on Drawing No.1 and is based on our findings as well as any information provided to us. The nominated material is dependent on all requirements set out in this report being complied with. Where a Footing System Design is to be carried out at a later date, it is possible the required founding material may differ based on information provided at that time. If conditions encountered on site differ from the information set out herein, this office is to be contacted immediately for further advice. Where a third party utilises this report for any purpose, including carrying out a Footing System Design, it is their responsibility to ensure the nominated founding material is suitable for the intended use.

TREES

Unless otherwise noted, the Site Classification in this report has been based on the assumption that all trees on site that could affect the performance of the footings will be removed. Trees that could affect the performance of the footings are those which are a distance from the house of:

0.75 x "h"	"M" sites
1.0 x "h"	"H" sites
1.5 x "h"	"E" sites

Where "h" is the mature height of the tree. Where rows or groups of trees are involved, the distance from the house should be increased.

As the trees are removed, the hole left by the root ball is to be filled with water and the surrounding area saturated.

The classification may vary if trees are to be left on site.

CONTROLLED FILL MATERIAL

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LIMITS OF REPORT

The findings in the report are based on information obtained from the field site investigation. It should be noted that the soil conditions could vary considerably over short distances. Where soil conditions are encountered during excavation that varies from the site investigation findings then the engineer should be immediately contacted.

Unless otherwise noted this investigation and report does not address the following issues:

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- Slope/Stability Analysis. On steep sites and in areas prone to slippage the local authority should be consulted. A specialist report may be required.
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SITE INVESTIGATION
FOR PROPOSED
NEW DOMESTIC CONSTRUCTION
AT
LOT 1407 GAINSBOROUGH DRIVE, PIMPAMA



SITE CLASSIFICATION

This site was originally classified 'P' due to the depth and type of controlled fill material present. However, it is possible to provide an alternative classification based on engineering principles. It is considered a suitable alternative classification would be:

H1: HIGHLY REACTIVE

$Y_s = 40 - 60\text{mm}$

Notes: In determining the suitability of the fill material on this site as a founding material for the proposed residence, Qld Soil Testing Pty Ltd have relied upon the Level 1 compaction information prepared by Morrison Geotechnic. The accuracy of that information has not been checked by Qld Soil Testing. The suitability of the footing system design contained in this report for this site is conditional on the accuracy of the supplied information. Qld Soil Testing accepts no responsibility for any variations to the design due to inaccuracies in the supplied information.

- : Prior to the commencement of cut/fill operations, all existing topsoil is to be stripped from the construction area.
- : Street trees were observed to the front of the site. The classification has been carried out considering an estimation of the tree heights at the time of our investigation. Based on these current estimates, the trees are not considered to influence the proposed dwelling at this time. QLD Soil Testing does not have the necessary expertise to determine the mature height of the trees and have not attempted to do so. If at any time the ratio of tree height to distance from the dwelling is in excess of 1:2 the owner may need to carry out additional measures capable of preventing or dealing with the moisture transfer from the foundation soils to the tree. This may require additional design input from a suitably qualified professional at that time. Alternatively, advice from a suitably qualified arborist could be sought by the owner at this time for inclusion into the design.

David H Hardy
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for and on behalf of
Qld Soil Testing Pty Ltd

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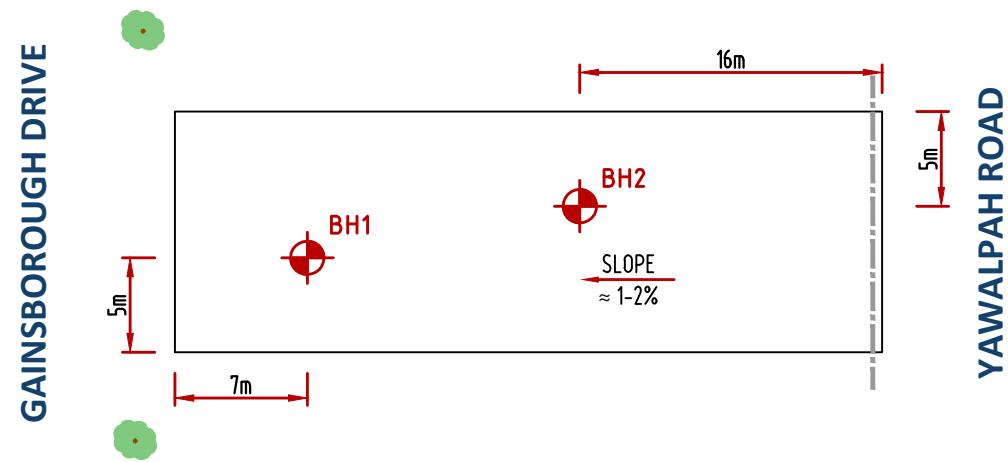
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QST Group ABN 68 620 644 751 Qld Soil Testing ABN 13 104 315 657
QST Group Pty Ltd is an Agent of Qld Soil Testing Pty Ltd

JOB No: 0944/20
22 May, 2020

SITE SKETCH (N.T.S.)



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SHRINK/SWELL TEST RESULTS

BOREHOLE No.	2
DEPTH (mm)	600
Iss	4.6

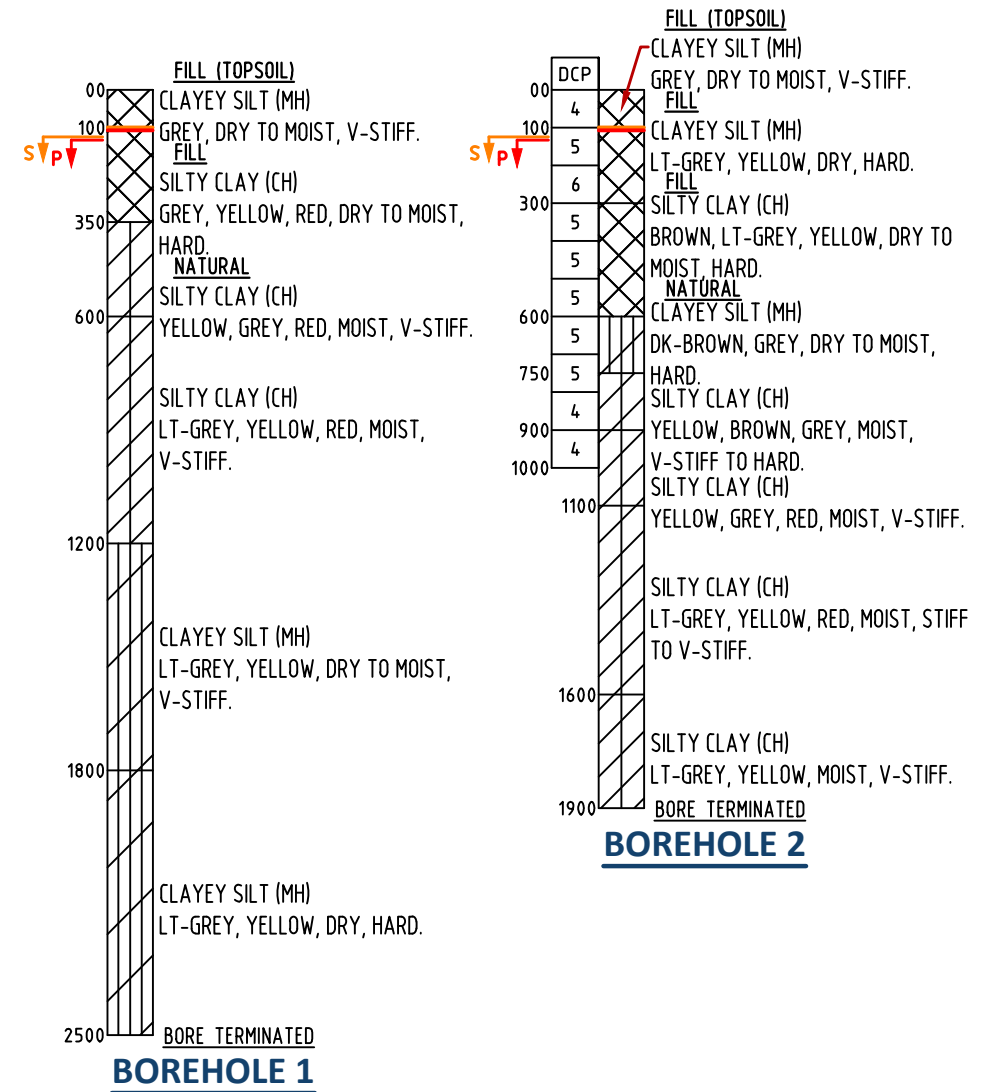
LEGEND

- | | |
|---|--|
| <ul style="list-style-type: none"> RETAINING WALL(S) LARGE TREE(S) MEDIUM TREE(S) SMALL TREE(S) AUGER REFUSAL / BORE TERMINATED | <ul style="list-style-type: none"> SERVICE MANHOLE(S) SERVICE GULLY PIT(S) WATER TABLE OBSERVED AT NOMINATED DEPTH BATTER(S) |
|---|--|

DEPTH INDICATES COMMENCEMENT OF SUITABLE FOUNDING MATERIAL FOR **SLAB (PERIMETER)/FOOTINGS**.

DEPTH INDICATES COMMENCEMENT OF SUITABLE FOUNDING MATERIAL FOR **SLAB (INTERNAL)**.

PIERS (WHERE REQUIRED) TO FOUND BEYOND THE APPROPRIATE DEPTH (REFER DESIGN)



<p style="font-size: x-small;">Soil Testing Engineering Surveying Contract Drilling</p>	<h3 style="margin: 0;">SITE INVESTIGATION RESULT</h3> <p style="margin: 0;">LOT 1407 GAINSBOROUGH DRIVE PIMPAMA</p>	<p style="margin: 0;">07/05/20</p> <p style="font-size: x-small; margin: 0;">DATE</p>	<p style="margin: 0;">SI-A</p> <p style="font-size: x-small; margin: 0;">ISSUE</p>
			<p style="margin: 0;">0944/20</p> <p style="font-size: x-small; margin: 0;">JOB No.</p>

SOIL TEST

SITE INVESTIGATION

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Unless otherwise noted, the Site Classification in this report has been based on the assumption that all trees on site that could affect the performance of the footings will be removed. Trees that could affect the performance of the footings are those which are a distance from the house of:

0.75 x "h"	"M" sites
1.0 x "h"	"H" sites
1.5 x "h"	"E" sites

Where "h" is the mature height of the tree. Where rows or groups of trees are involved, the distance from the house should be increased.

As the trees are removed, the hole left by the root ball is to be filled with water and the surrounding area saturated.

The classification may vary if trees are to be left on site.

CONTROLLED FILL MATERIAL

Where Qld Soil Testing has been provided with a compaction certificate, this certificate has been relied upon in determining the suitability of the fill material on this site as the founding material for the proposed residence. Qld Soil Testing accepts no responsibility for any inaccuracies in the supplied compaction certificate.

LIMITS OF REPORT

The findings in the report are based on information obtained from the field site investigation. It should be noted that the soil conditions could vary considerably over short distances. Where soil conditions are encountered during excavation that varies from the site investigation findings then the engineer should be immediately contacted.

Unless otherwise noted this investigation and report does not address the following issues:

- Mining Subsidence (In areas in the vicinity of underground mines a specialist consultant is required to be engaged for a Mining Subsidence Study.)
- Slope/Stability Analysis. On steep sites and in areas prone to slippage the local authority should be consulted. A specialist report may be required.
- Contamination and/or hazardous materials on site.
- Underground services. It is the client's responsibility to inform us of the existence of, or the future construction of, underground services in the vicinity of the house.
- Contours, slope, site proportion/dimensions. Any slopes or dimensions shown are indicative only and should not be relied upon by others.
- Location of springs or underground water. Where water tables are noted the depth to the water table may vary significantly over short periods of time. Significant variation of subsurface flow may occur between periods of wet and dry weather.
- Deep soft/unstable soils. Investigations are normally limited to a depth of 1.5 metres. Therefore deep underlying problems will not be detected by a limited investigation such as this. A search of council records should be undertaken by either the owner or the builder prior to construction to discover such information.
- Acid Sulphate Soils. Chemical Testing for the presence of Acid Sulphate Soils does not form part of this report. Where the presence of acid sulphate soils is possible, eg. reclaimed marine environments, advice should be sought from the Local Authority and/or an expert in the field.
- Flood Hazard Areas. It is the client's responsibility to inform us if the site is located within a Flood Hazard Area as defined by the Qld Development Code MP 3.5. Where information relating to a Flood Hazard Area has not been provided then no consideration has been given to this matter.

SITE INVESTIGATION
FOR PROPOSED
NEW DOMESTIC CONSTRUCTION
AT
LOT 1408 GAINSBOROUGH DRIVE, PIMPAMA



SITE CLASSIFICATION

This site was originally classified 'P' due to the depth and type of controlled fill material present. However, it is possible to provide an alternative classification based on engineering principles. It is considered a suitable alternative classification would be:

H1: HIGHLY REACTIVE

$Y_s = 40 - 60\text{mm}$

Notes: *In determining the suitability of the fill material on this site as a founding material for the proposed residence, Qld Soil Testing Pty Ltd have relied upon the Level 1 compaction information prepared by Morrison Geotechnic. The accuracy of that information has not been checked by Qld Soil Testing. The suitability of the footing system design contained in this report for this site is conditional on the accuracy of the supplied information. Qld Soil Testing accepts no responsibility for any variations to the design due to inaccuracies in the supplied information.*

- : Prior to the commencement of cut/fill operations, all existing topsoil is to be stripped from the construction area.*
- : A street tree was observed to the front of the site. The classification has been carried out considering an estimation of the tree height at the time of our investigation. Based on this current estimate, the tree is not considered to influence the proposed dwelling at this time. QLD Soil Testing does not have the necessary expertise to determine the mature height of the tree and have not attempted to do so. If at any time the ratio of tree height to distance from the dwelling is in excess of 1:1 the owner may need to carry out additional measures capable of preventing or dealing with the moisture transfer from the foundation soils to the tree. This may require additional design input from a suitably qualified professional at that time. Alternatively, advice from a suitably qualified arborist could be sought by the owner at this time for inclusion into the design.*

David H Hardy
RPEQ 6725
for and on behalf of
Qld Soil Testing Pty Ltd

14/121 Newmarket Road
Windsor, QLD 4030

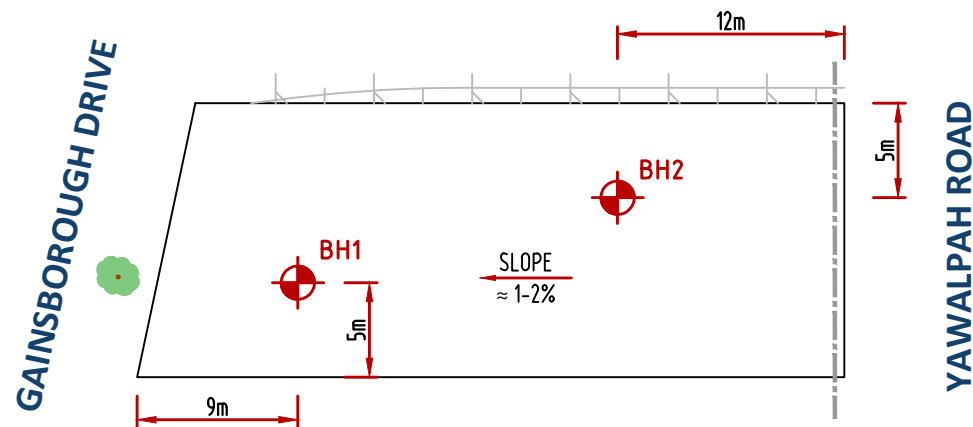
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QST Group ABN 68 620 644 751 Qld Soil Testing ABN 13 104 315 657
QST Group Pty Ltd is an Agent of Qld Soil Testing Pty Ltd

JOB No: 0945/20
22 May, 2020

SITE SKETCH (N.T.S.)



NOTE: SITE PLAN IS A GRAPHIC REPRESENTATION ONLY. ALL NOTED MEASUREMENTS HAVE BEEN TAKEN FROM RELEVANT ALLOTMENT BOUNDARIES AND/OR SIGNIFICANT SITE FEATURES. STREET NAME IS SHOWN FOR ALLOTMENT ORIENTATION PURPOSES ONLY.

SHRINK/SWELL TEST RESULTS

BOREHOLE No.	2
DEPTH (mm)	600
Iss	4.6

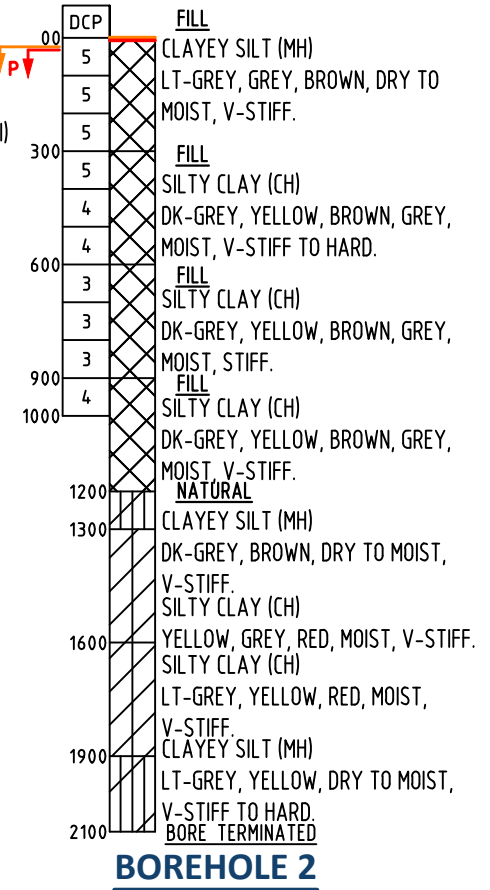
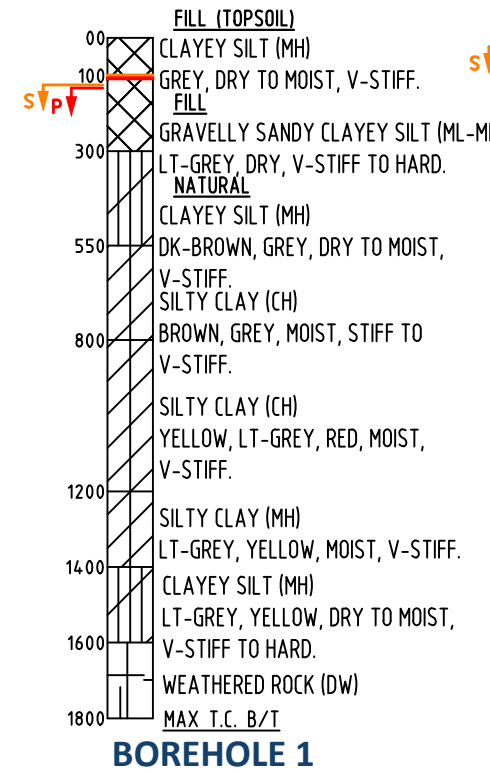
LEGEND

- | | |
|---|--|
| <ul style="list-style-type: none"> RETAINING WALL(S) LARGE TREE(S) MEDIUM TREE(S) SMALL TREE(S) AUGER REFUSAL / BORE TERMINATED | <ul style="list-style-type: none"> SERVICE MANHOLE(S) SERVICE GULLY PIT(S) WATER TABLE OBSERVED AT NOMINATED DEPTH BATTER(S) |
|---|--|

DEPTH INDICATES COMMENCEMENT OF SUITABLE FOUNDING MATERIAL FOR **SLAB (PERIMETER)/FOOTINGS**.

DEPTH INDICATES COMMENCEMENT OF SUITABLE FOUNDING MATERIAL FOR **SLAB (INTERNAL)**.

PIERS (WHERE REQUIRED) TO FOUND BEYOND THE APPROPRIATE DEPTH (REFER DESIGN)



SOIL TEST

SITE INVESTIGATION

As requested, a geotechnical site investigation was carried out for the site indicated on Page 1 of this report.

The site investigation comprised of drilling a number of holes to determine the soil profile. The required number of holes was determined on site by the drilling technician based on the conditions observed on site and the requirements of AS2870 Clause 2.3.4. A minimum of one Dynamic Cone Penetrometer (DCP) test was performed unless it was deemed not necessary. Representative clay samples were taken as deemed appropriate and tested in the laboratory. The general site conditions were also noted.

The report is based on site conditions encountered at the time of our investigation. If the condition of the site varies considerably after our site investigation, eg major earth works, then the site classification may need to be amended.

SITE CLASSIFICATION

The results of the site investigation and laboratory testing enable the site to be classified in accordance with AS2870 based on the estimated characteristic surface movement (y_s). The various site classes are outlined in the CSIRO Building Technology File 18 "Foundation Maintenance and Footing Performance: A Homeowner's Guide". The classification of the subject site is indicated on Page R1.

WIND CLASSIFICATION

Where requested, a visual investigation and desktop study of the site has been carried out in accordance with AS4055-2012. The results of this classification are presented along with the borehole information.

FOUNDING MATERIAL

The minimum founding material is indicated on the Borelog Profile on Drawing No.1 and is based on our findings as well as any information provided to us. The nominated material is dependent on all requirements set out in this report being complied with. Where a Footing System Design is to be carried out at a later date, it is possible the required founding material may differ based on information provided at that time. If conditions encountered on site differ from the information set out herein, this office is to be contacted immediately for further advice. Where a third party utilises this report for any purpose, including carrying out a Footing System Design, it is their responsibility to ensure the nominated founding material is suitable for the intended use.

TREES

Unless otherwise noted, the Site Classification in this report has been based on the assumption that all trees on site that could affect the performance of the footings will be removed. Trees that could affect the performance of the footings are those which are a distance from the house of:

0.75 x "h"	"M" sites
1.0 x "h"	"H" sites
1.5 x "h"	"E" sites

Where "h" is the mature height of the tree. Where rows or groups of trees are involved, the distance from the house should be increased.

As the trees are removed, the hole left by the root ball is to be filled with water and the surrounding area saturated.

The classification may vary if trees are to be left on site.

CONTROLLED FILL MATERIAL

Where Qld Soil Testing has been provided with a compaction certificate, this certificate has been relied upon in determining the suitability of the fill material on this site as the founding material for the proposed residence. Qld Soil Testing accepts no responsibility for any inaccuracies in the supplied compaction certificate.

LIMITS OF REPORT

The findings in the report are based on information obtained from the field site investigation. It should be noted that the soil conditions could vary considerably over short distances. Where soil conditions are encountered during excavation that varies from the site investigation findings then the engineer should be immediately contacted.

Unless otherwise noted this investigation and report does not address the following issues:

- Mining Subsidence (In areas in the vicinity of underground mines a specialist consultant is required to be engaged for a Mining Subsidence Study.)
- Slope/Stability Analysis. On steep sites and in areas prone to slippage the local authority should be consulted. A specialist report may be required.
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- Location of springs or underground water. Where water tables are noted the depth to the water table may vary significantly over short periods of time. Significant variation of subsurface flow may occur between periods of wet and dry weather.
- Deep soft/unstable soils. Investigations are normally limited to a depth of 1.5 metres. Therefore deep underlying problems will not be detected by a limited investigation such as this. A search of council records should be undertaken by either the owner or the builder prior to construction to discover such information.
- Acid Sulphate Soils. Chemical Testing for the presence of Acid Sulphate Soils does not form part of this report. Where the presence of acid sulphate soils is possible, eg. reclaimed marine environments, advice should be sought from the Local Authority and/or an expert in the field.
- Flood Hazard Areas. It is the client's responsibility to inform us if the site is located within a Flood Hazard Area as defined by the Qld Development Code MP 3.5. Where information relating to a Flood Hazard Area has not been provided then no consideration has been given to this matter.

SITE INVESTIGATION
FOR PROPOSED
NEW DOMESTIC CONSTRUCTION
AT
LOT 1409 GAINSBOROUGH DRIVE, PIMPAMA



SITE CLASSIFICATION

This site was originally classified 'P' due to the depth and type of controlled fill material present. However, it is possible to provide an alternative classification based on engineering principles. It is considered a suitable alternative classification would be:

H1: HIGHLY REACTIVE

$Y_s = 40 - 60\text{mm}$

Notes: In determining the suitability of the fill material on this site as a founding material for the proposed residence, Qld Soil Testing Pty Ltd have relied upon the Level 1 compaction information prepared by Morrison Geotechnic. The accuracy of that information has not been checked by Qld Soil Testing. The suitability of the footing system design contained in this report for this site is conditional on the accuracy of the supplied information. Qld Soil Testing accepts no responsibility for any variations to the design due to inaccuracies in the supplied information.

- : Prior to the commencement of cut/fill operations, all existing topsoil is to be stripped from the construction area.
- : A street tree was observed to the front of the site. The classification has been carried out considering an estimation of the tree height at the time of our investigation. Based on this current estimate, the tree is not considered to influence the proposed dwelling at this time. QLD Soil Testing does not have the necessary expertise to determine the mature height of the tree and have not attempted to do so. If at any time the ratio of tree height to distance from the dwelling is in excess of 1:1 the owner may need to carry out additional measures capable of preventing or dealing with the moisture transfer from the foundation soils to the tree. This may require additional design input from a suitably qualified professional at that time. Alternatively, advice from a suitably qualified arborist could be sought by the owner at this time for inclusion into the design.

David H Hardy
RPEQ 6725
for and on behalf of
Qld Soil Testing Pty Ltd

14/121 Newmarket Road
Windsor, QLD 4030

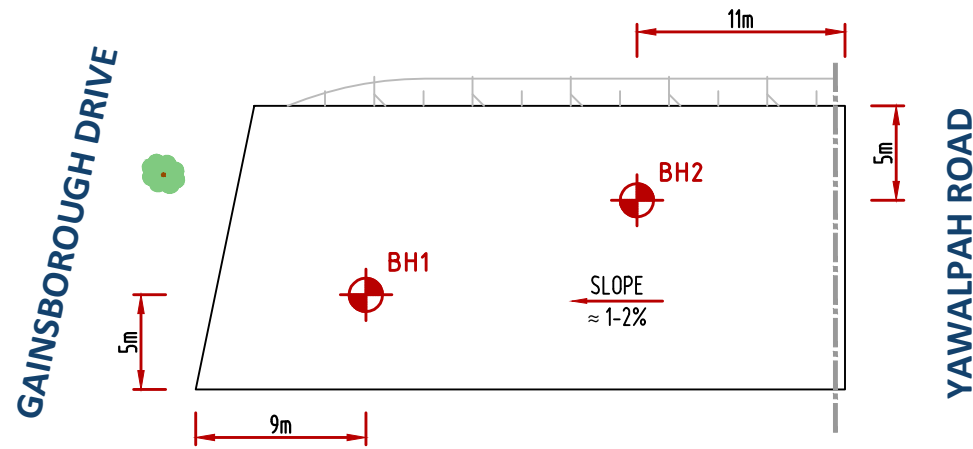
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QST Group ABN 68 620 644 751 Qld Soil Testing ABN 13 104 315 657
QST Group Pty Ltd is an Agent of Qld Soil Testing Pty Ltd

JOB No: 0946/20
22 May, 2020

SITE SKETCH (N.T.S.)



NOTE: SITE PLAN IS A GRAPHIC REPRESENTATION ONLY. ALL NOTED MEASUREMENTS HAVE BEEN TAKEN FROM RELEVANT ALLOTMENT BOUNDARIES AND/OR SIGNIFICANT SITE FEATURES. STREET NAME IS SHOWN FOR ALLOTMENT ORIENTATION PURPOSES ONLY.

SHRINK/SWELL TEST RESULTS

BOREHOLE No.	2
DEPTH (mm)	600
Iss	4.6

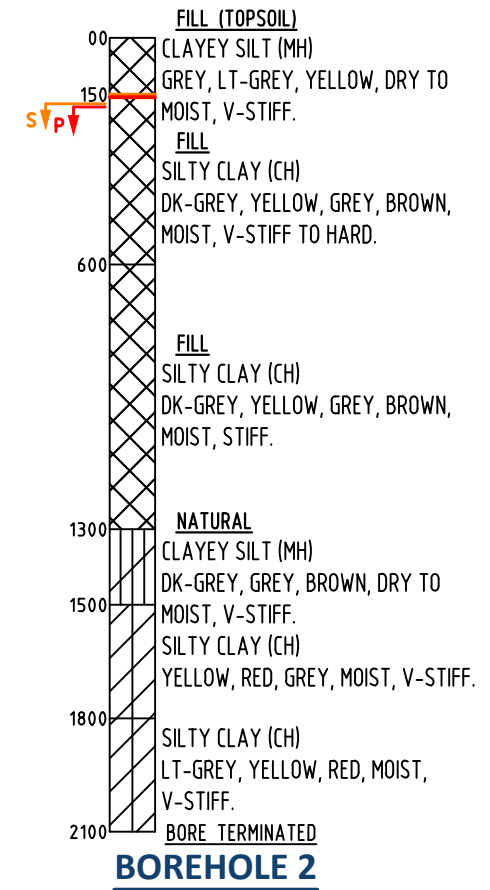
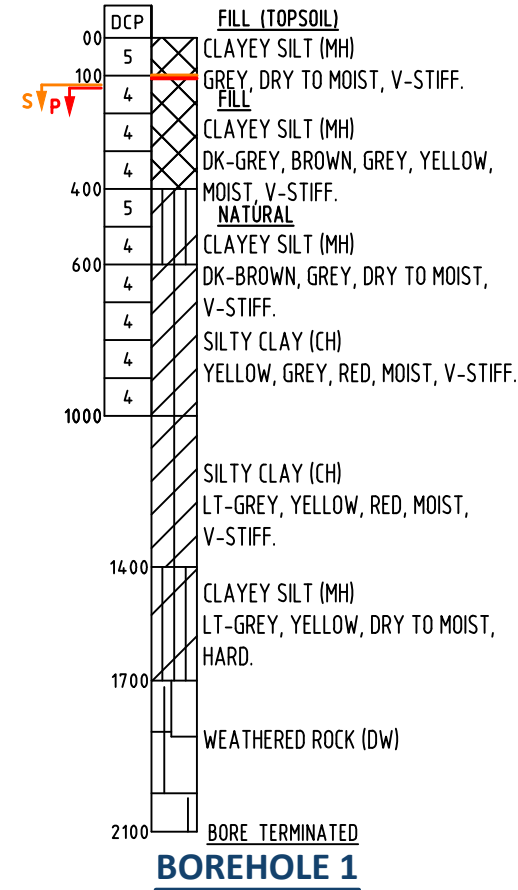
LEGEND

- RETAINING WALL(S)
- SERVICE MANHOLE(S)
- LARGE TREE(S)
- SERVICE GULLY PIT(S)
- MEDIUM TREE(S)
- ▬ WATER TABLE OBSERVED AT NOMINATED DEPTH
- SMALL TREE(S)
- ▬ BATTER(S)
- MAX T.C AUGER REFUSAL / BORE TERMINATED

DEPTH INDICATES COMMENCEMENT OF SUITABLE FOUNDING MATERIAL FOR **SLAB (PERIMETER)/FOOTINGS**.

DEPTH INDICATES COMMENCEMENT OF SUITABLE FOUNDING MATERIAL FOR **SLAB (INTERNAL)**.

PIERS (WHERE REQUIRED) TO FOUND BEYOND THE APPROPRIATE DEPTH (REFER DESIGN)



SOIL TEST

SITE INVESTIGATION

As requested, a geotechnical site investigation was carried out for the site indicated on Page 1 of this report.

The site investigation comprised of drilling a number of holes to determine the soil profile. The required number of holes was determined on site by the drilling technician based on the conditions observed on site and the requirements of AS2870 Clause 2.3.4. A minimum of one Dynamic Cone Penetrometer (DCP) test was performed unless it was deemed not necessary. Representative clay samples were taken as deemed appropriate and tested in the laboratory. The general site conditions were also noted.

The report is based on site conditions encountered at the time of our investigation. If the condition of the site varies considerably after our site investigation, eg major earth works, then the site classification may need to be amended.

SITE CLASSIFICATION

The results of the site investigation and laboratory testing enable the site to be classified in accordance with AS2870 based on the estimated characteristic surface movement (γ_s). The various site classes are outlined in the CSIRO Building Technology File 18 "Foundation Maintenance and Footing Performance: A Homeowner's Guide". The classification of the subject site is indicated on Page R1.

WIND CLASSIFICATION

Where requested, a visual investigation and desktop study of the site has been carried out in accordance with AS4055-2012. The results of this classification are presented along with the borehole information.

FOUNDING MATERIAL

The minimum founding material is indicated on the Borelog Profile on Drawing No.1 and is based on our findings as well as any information provided to us. The nominated material is dependent on all requirements set out in this report being complied with. Where a Footing System Design is to be carried out at a later date, it is possible the required founding material may differ based on information provided at that time. If conditions encountered on site differ from the information set out herein, this office is to be contacted immediately for further advice. Where a third party utilises this report for any purpose, including carrying out a Footing System Design, it is their responsibility to ensure the nominated founding material is suitable for the intended use.

TREES

Unless otherwise noted, the Site Classification in this report has been based on the assumption that all trees on site that could affect the performance of the footings will be removed. Trees that could affect the performance of the footings are those which are a distance from the house of:

0.75 x "h"	"M" sites
1.0 x "h"	"H" sites
1.5 x "h"	"E" sites

Where "h" is the mature height of the tree. Where rows or groups of trees are involved, the distance from the house should be increased.

As the trees are removed, the hole left by the root ball is to be filled with water and the surrounding area saturated.

The classification may vary if trees are to be left on site.

CONTROLLED FILL MATERIAL

Where Qld Soil Testing has been provided with a compaction certificate, this certificate has been relied upon in determining the suitability of the fill material on this site as the founding material for the proposed residence. Qld Soil Testing accepts no responsibility for any inaccuracies in the supplied compaction certificate.

LIMITS OF REPORT

The findings in the report are based on information obtained from the field site investigation. It should be noted that the soil conditions could vary considerably over short distances. Where soil conditions are encountered during excavation that varies from the site investigation findings then the engineer should be immediately contacted.

Unless otherwise noted this investigation and report does not address the following issues:

- Mining Subsidence (In areas in the vicinity of underground mines a specialist consultant is required to be engaged for a Mining Subsidence Study.)
- Slope/Stability Analysis. On steep sites and in areas prone to slippage the local authority should be consulted. A specialist report may be required.
- Contamination and/or hazardous materials on site.
- Underground services. It is the client's responsibility to inform us of the existence of, or the future construction of, underground services in the vicinity of the house.
- Contours, slope, site proportion/dimensions. Any slopes or dimensions shown are indicative only and should not be relied upon by others.
- Location of springs or underground water. Where water tables are noted the depth to the water table may vary significantly over short periods of time. Significant variation of subsurface flow may occur between periods of wet and dry weather.
- Deep soft/unstable soils. Investigations are normally limited to a depth of 1.5 metres. Therefore deep underlying problems will not be detected by a limited investigation such as this. A search of council records should be undertaken by either the owner or the builder prior to construction to discover such information.
- Acid Sulphate Soils. Chemical Testing for the presence of Acid Sulphate Soils does not form part of this report. Where the presence of acid sulphate soils is possible, eg. reclaimed marine environments, advice should be sought from the Local Authority and/or an expert in the field.
- Flood Hazard Areas. It is the client's responsibility to inform us if the site is located within a Flood Hazard Area as defined by the Qld Development Code MP 3.5. Where information relating to a Flood Hazard Area has not been provided then no consideration has been given to this matter.

SITE INVESTIGATION
FOR PROPOSED
NEW DOMESTIC CONSTRUCTION
AT
LOT 1410 GAINSBOROUGH DRIVE, PIMPAMA



SITE CLASSIFICATION

This site was originally classified 'P' due to the depth and type of controlled fill material present. However, it is possible to provide an alternative classification based on engineering principles. It is considered a suitable alternative classification would be:

H1: HIGHLY REACTIVE

$Y_s = 40 - 60\text{mm}$

Notes: In determining the suitability of the fill material on this site as a founding material for the proposed residence, Qld Soil Testing Pty Ltd have relied upon the Level 1 compaction information prepared by Morrison Geotechnic. The accuracy of that information has not been checked by Qld Soil Testing. The suitability of the footing system design contained in this report for this site is conditional on the accuracy of the supplied information. Qld Soil Testing accepts no responsibility for any variations to the design due to inaccuracies in the supplied information.

: Street trees were observed to the front of the site. The classification has been carried out considering an estimation of the tree heights at the time of our investigation. Based on these current estimates, the trees are not considered to influence the proposed dwelling at this time. QLD Soil Testing does not have the necessary expertise to determine the mature height of the trees and have not attempted to do so. If at any time the ratio of tree height to distance from the dwelling is in excess of 1:2 the owner may need to carry out additional measures capable of preventing or dealing with the moisture transfer from the foundation soils to the tree. This may require additional design input from a suitably qualified professional at that time. Alternatively, advice from a suitably qualified arborist could be sought by the owner at this time for inclusion into the design.

: Prior to the commencement of cut/fill operations, all existing topsoil is to be stripped from the construction area.

David H Hardy
RPEQ 6725
for and on behalf of
Qld Soil Testing Pty Ltd

14/121 Newmarket Road
Windsor, QLD 4030

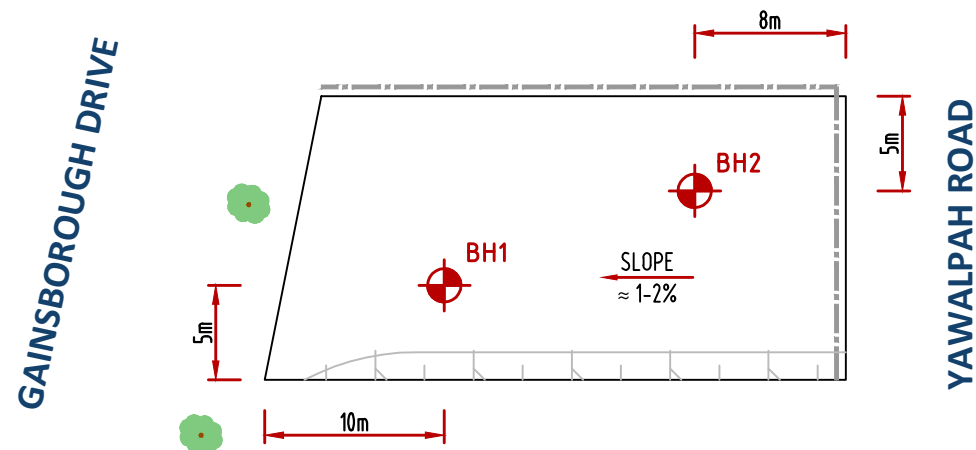
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QST Group ABN 68 620 644 751 Qld Soil Testing ABN 13 104 315 657
QST Group Pty Ltd is an Agent of Qld Soil Testing Pty Ltd

JOB No: 0947/20
22 May, 2020

SITE SKETCH (N.T.S.)



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SHRINK/SWELL TEST RESULTS

BOREHOLE No.	1
DEPTH (mm)	600
Iss	4.1

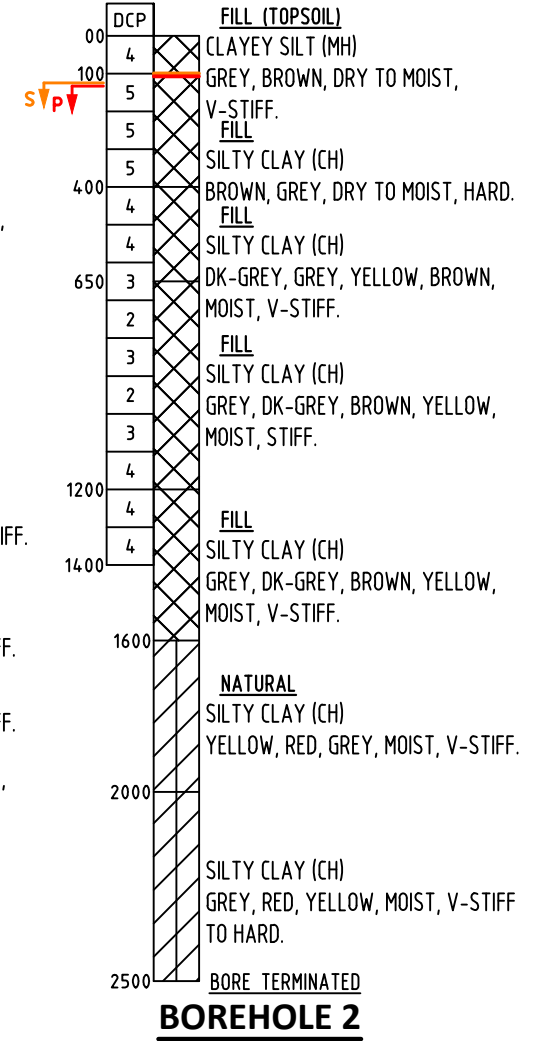
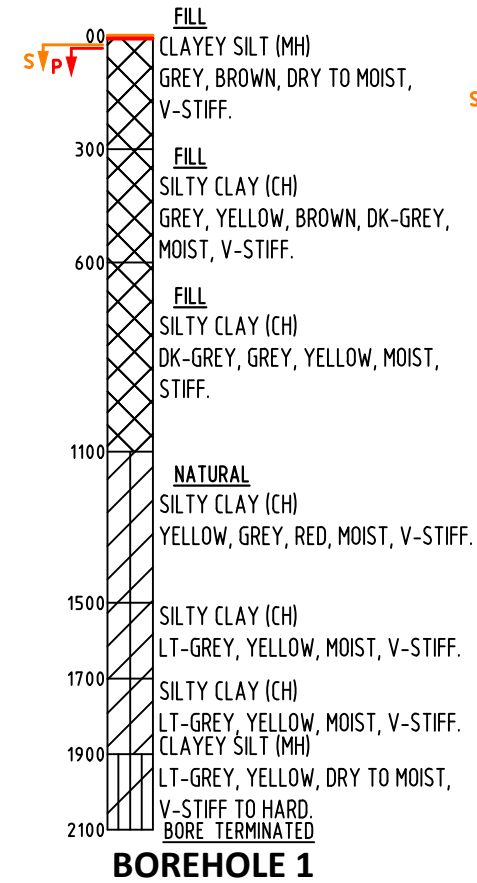
LEGEND

- RETAINING WALL(S)
- SERVICE MANHOLE(S)
- LARGE TREE(S)
- SERVICE GULLY PIT(S)
- MEDIUM TREE(S)
- ▬ WATER TABLE OBSERVED AT NOMINATED DEPTH
- SMALL TREE(S)
- ▬ BATTER(S)
- MAX T.C AUGER REFUSAL / BORE TERMINATED

DEPTH INDICATES COMMENCEMENT OF SUITABLE FOUNDING MATERIAL FOR **SLAB (PERIMETER)/FOOTINGS**.

DEPTH INDICATES COMMENCEMENT OF SUITABLE FOUNDING MATERIAL FOR **SLAB (INTERNAL)**.

PIERS (WHERE REQUIRED) TO FOUND BEYOND THE APPROPRIATE DEPTH (REFER DESIGN)



SITE INVESTIGATION RESULT
 LOT 14/10 GAINSBOROUGH DRIVE
 PIMPAMA

06/05/20 DATE	SI-A ISSUE
0947/20 JOB No.	1 DWG. No.

SOIL TEST

SITE INVESTIGATION

As requested, a geotechnical site investigation was carried out for the site indicated on Page 1 of this report.

The site investigation comprised of drilling a number of holes to determine the soil profile. The required number of holes was determined on site by the drilling technician based on the conditions observed on site and the requirements of AS2870 Clause 2.3.4. A minimum of one Dynamic Cone Penetrometer (DCP) test was performed unless it was deemed not necessary. Representative clay samples were taken as deemed appropriate and tested in the laboratory. The general site conditions were also noted.

The report is based on site conditions encountered at the time of our investigation. If the condition of the site varies considerably after our site investigation, eg major earth works, then the site classification may need to be amended.

SITE CLASSIFICATION

The results of the site investigation and laboratory testing enable the site to be classified in accordance with AS2870 based on the estimated characteristic surface movement (γ_s). The various site classes are outlined in the CSIRO Building Technology File 18 "Foundation Maintenance and Footing Performance: A Homeowner's Guide". The classification of the subject site is indicated on Page R1.

WIND CLASSIFICATION

Where requested, a visual investigation and desktop study of the site has been carried out in accordance with AS4055-2012. The results of this classification are presented along with the borehole information.

FOUNDING MATERIAL

The minimum founding material is indicated on the Borelog Profile on Drawing No.1 and is based on our findings as well as any information provided to us. The nominated material is dependent on all requirements set out in this report being complied with. Where a Footing System Design is to be carried out at a later date, it is possible the required founding material may differ based on information provided at that time. If conditions encountered on site differ from the information set out herein, this office is to be contacted immediately for further advice. Where a third party utilises this report for any purpose, including carrying out a Footing System Design, it is their responsibility to ensure the nominated founding material is suitable for the intended use.

TREES

Unless otherwise noted, the Site Classification in this report has been based on the assumption that all trees on site that could affect the performance of the footings will be removed. Trees that could affect the performance of the footings are those which are a distance from the house of:

0.75 x "h"	"M" sites
1.0 x "h"	"H" sites
1.5 x "h"	"E" sites

Where "h" is the mature height of the tree. Where rows or groups of trees are involved, the distance from the house should be increased.

As the trees are removed, the hole left by the root ball is to be filled with water and the surrounding area saturated.

The classification may vary if trees are to be left on site.

CONTROLLED FILL MATERIAL

Where Qld Soil Testing has been provided with a compaction certificate, this certificate has been relied upon in determining the suitability of the fill material on this site as the founding material for the proposed residence. Qld Soil Testing accepts no responsibility for any inaccuracies in the supplied compaction certificate.

LIMITS OF REPORT

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Unless otherwise noted this investigation and report does not address the following issues:

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- Underground services. It is the client's responsibility to inform us of the existence of, or the future construction of, underground services in the vicinity of the house.
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- Deep soft/unstable soils. Investigations are normally limited to a depth of 1.5 metres. Therefore deep underlying problems will not be detected by a limited investigation such as this. A search of council records should be undertaken by either the owner or the builder prior to construction to discover such information.
- Acid Sulphate Soils. Chemical Testing for the presence of Acid Sulphate Soils does not form part of this report. Where the presence of acid sulphate soils is possible, eg. reclaimed marine environments, advice should be sought from the Local Authority and/or an expert in the field.
- Flood Hazard Areas. It is the client's responsibility to inform us if the site is located within a Flood Hazard Area as defined by the Qld Development Code MP 3.5. Where information relating to a Flood Hazard Area has not been provided then no consideration has been given to this matter.

SITE INVESTIGATION
FOR PROPOSED
NEW DOMESTIC CONSTRUCTION
AT
LOT 1411 GAINSBOROUGH DRIVE, PIMPAMA



SITE CLASSIFICATION

This site was originally classified 'P' due to the depth and type of controlled fill material present. However, it is possible to provide an alternative classification based on engineering principles. It is considered a suitable alternative classification would be:

H1: HIGHLY REACTIVE

$Y_s = 40 - 60\text{mm}$

Notes: In determining the suitability of the fill material on this site as a founding material for the proposed residence, Qld Soil Testing Pty Ltd have relied upon the Level 1 compaction information prepared by Morrison Geotechnic. The accuracy of that information has not been checked by Qld Soil Testing. The suitability of the footing system design contained in this report for this site is conditional on the accuracy of the supplied information. Qld Soil Testing accepts no responsibility for any variations to the design due to inaccuracies in the supplied information.

- : A street tree was observed to the front of the site. The classification has been carried out considering an estimation of the tree height at the time of our investigation. Based on this current estimate, the tree is not considered to influence the proposed dwelling at this time. QLD Soil Testing does not have the necessary expertise to determine the mature height of the tree and have not attempted to do so. If at any time the ratio of tree height to distance from the dwelling is in excess of 1:1 the owner may need to carry out additional measures capable of preventing or dealing with the moisture transfer from the foundation soils to the tree. This may require additional design input from a suitably qualified professional at that time. Alternatively, advice from a suitably qualified arborist could be sought by the owner at this time for inclusion into the design.
- : Prior to the commencement of cut/fill operations, all existing topsoil is to be stripped from the construction area.

David H Hardy
RPEQ 6725
for and on behalf of
Qld Soil Testing Pty Ltd

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Windsor, QLD 4030

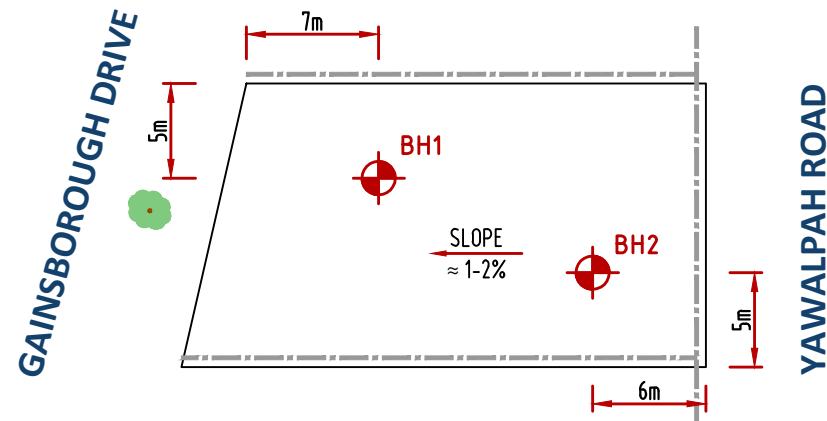
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QST Group ABN 68 620 644 751 Qld Soil Testing ABN 13 104 315 657
QST Group Pty Ltd is an Agent of Qld Soil Testing Pty Ltd

JOB No: 0948/20
22 May, 2020

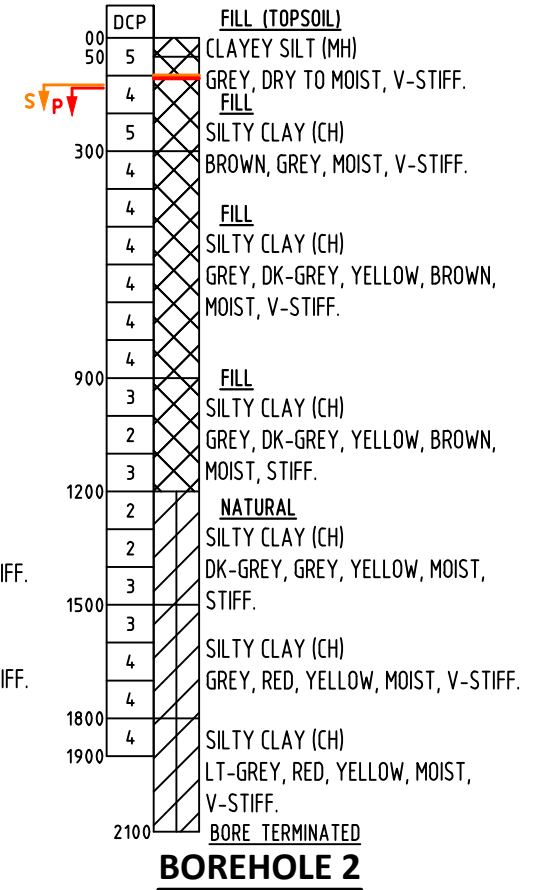
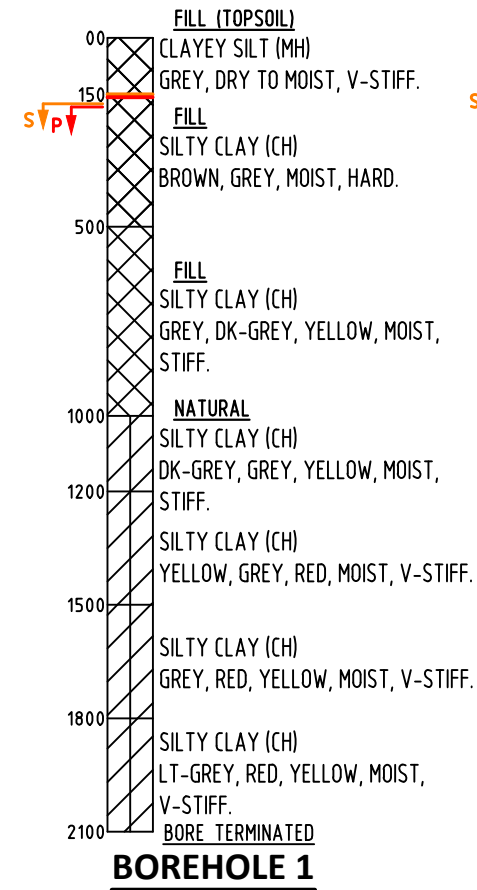
SITE SKETCH (N.T.S.)



NOTE: SITE PLAN IS A GRAPHIC REPRESENTATION ONLY. ALL NOTED MEASUREMENTS HAVE BEEN TAKEN FROM RELEVANT ALLOTMENT BOUNDARIES AND/OR SIGNIFICANT SITE FEATURES. STREET NAME IS SHOWN FOR ALLOTMENT ORIENTATION PURPOSES ONLY.

SHRINK/SWELL TEST RESULTS

BOREHOLE No.	1
DEPTH (mm)	600
Iss	4.1



LEGEND

- RETAINING WALL(S)
- SERVICE MANHOLE(S)
- LARGE TREE(S)
- SERVICE GULLY PIT(S)
- MEDIUM TREE(S)
- ▬ WATER TABLE OBSERVED AT NOMINATED DEPTH
- SMALL TREE(S)
- ▬ BATTER(S)
- MAX T.C AUGER REFUSAL / BORE TERMINATED

DEPTH INDICATES COMMENCEMENT OF SUITABLE FOUNDING MATERIAL FOR **SLAB (PERIMETER)/FOOTINGS**.

DEPTH INDICATES COMMENCEMENT OF SUITABLE FOUNDING MATERIAL FOR **SLAB (INTERNAL)**.

PIERS (WHERE REQUIRED) TO FOUND BEYOND THE APPROPRIATE DEPTH (REFER DESIGN)



SITE INVESTIGATION RESULT
 LOT 1411 GAINSBOROUGH DRIVE
 PIMPAMA

08/05/20	SI-A
DATE	ISSUE
0948/20	1
JOB No.	DWG. No.

SOIL TEST

SITE INVESTIGATION

As requested, a geotechnical site investigation was carried out for the site indicated on Page 1 of this report.

The site investigation comprised of drilling a number of holes to determine the soil profile. The required number of holes was determined on site by the drilling technician based on the conditions observed on site and the requirements of AS2870 Clause 2.3.4. A minimum of one Dynamic Cone Penetrometer (DCP) test was performed unless it was deemed not necessary. Representative clay samples were taken as deemed appropriate and tested in the laboratory. The general site conditions were also noted.

The report is based on site conditions encountered at the time of our investigation. If the condition of the site varies considerably after our site investigation, eg major earth works, then the site classification may need to be amended.

SITE CLASSIFICATION

The results of the site investigation and laboratory testing enable the site to be classified in accordance with AS2870 based on the estimated characteristic surface movement (y_s). The various site classes are outlined in the CSIRO Building Technology File 18 "Foundation Maintenance and Footing Performance: A Homeowner's Guide". The classification of the subject site is indicated on Page R1.

WIND CLASSIFICATION

Where requested, a visual investigation and desktop study of the site has been carried out in accordance with AS4055-2012. The results of this classification are presented along with the borehole information.

FOUNDING MATERIAL

The minimum founding material is indicated on the Borelog Profile on Drawing No.1 and is based on our findings as well as any information provided to us. The nominated material is dependent on all requirements set out in this report being complied with. Where a Footing System Design is to be carried out at a later date, it is possible the required founding material may differ based on information provided at that time. If conditions encountered on site differ from the information set out herein, this office is to be contacted immediately for further advice. Where a third party utilises this report for any purpose, including carrying out a Footing System Design, it is their responsibility to ensure the nominated founding material is suitable for the intended use.

TREES

Unless otherwise noted, the Site Classification in this report has been based on the assumption that all trees on site that could affect the performance of the footings will be removed. Trees that could affect the performance of the footings are those which are a distance from the house of:

0.75 x "h"	"M" sites
1.0 x "h"	"H" sites
1.5 x "h"	"E" sites

Where "h" is the mature height of the tree. Where rows or groups of trees are involved, the distance from the house should be increased.

As the trees are removed, the hole left by the root ball is to be filled with water and the surrounding area saturated.

The classification may vary if trees are to be left on site.

CONTROLLED FILL MATERIAL

Where Qld Soil Testing has been provided with a compaction certificate, this certificate has been relied upon in determining the suitability of the fill material on this site as the founding material for the proposed residence. Qld Soil Testing accepts no responsibility for any inaccuracies in the supplied compaction certificate.

LIMITS OF REPORT

The findings in the report are based on information obtained from the field site investigation. It should be noted that the soil conditions could vary considerably over short distances. Where soil conditions are encountered during excavation that varies from the site investigation findings then the engineer should be immediately contacted.

Unless otherwise noted this investigation and report does not address the following issues:

- Mining Subsidence (In areas in the vicinity of underground mines a specialist consultant is required to be engaged for a Mining Subsidence Study.)
- Slope/Stability Analysis. On steep sites and in areas prone to slippage the local authority should be consulted. A specialist report may be required.
- Contamination and/or hazardous materials on site.
- Underground services. It is the client's responsibility to inform us of the existence of, or the future construction of, underground services in the vicinity of the house.
- Contours, slope, site proportion/dimensions. Any slopes or dimensions shown are indicative only and should not be relied upon by others.
- Location of springs or underground water. Where water tables are noted the depth to the water table may vary significantly over short periods of time. Significant variation of subsurface flow may occur between periods of wet and dry weather.
- Deep soft/unstable soils. Investigations are normally limited to a depth of 1.5 metres. Therefore deep underlying problems will not be detected by a limited investigation such as this. A search of council records should be undertaken by either the owner or the builder prior to construction to discover such information.
- Acid Sulphate Soils. Chemical Testing for the presence of Acid Sulphate Soils does not form part of this report. Where the presence of acid sulphate soils is possible, eg. reclaimed marine environments, advice should be sought from the Local Authority and/or an expert in the field.
- Flood Hazard Areas. It is the client's responsibility to inform us if the site is located within a Flood Hazard Area as defined by the Qld Development Code MP 3.5. Where information relating to a Flood Hazard Area has not been provided then no consideration has been given to this matter.

SITE INVESTIGATION
FOR PROPOSED
NEW DOMESTIC CONSTRUCTION
AT
LOT 1417 GAINSBOROUGH DRIVE, PIMPAMA



SITE CLASSIFICATION

P: DUE TO THE DEPTH OF CONTROLLED FILL MATERIAL & TREES

$$Y_s = 45\text{mm}; Y_t = 15\text{mm}$$

Based on engineering principles, it is considered a suitable footing system design would be equivalent to:

H2: HIGHLY REACTIVE

Notes: *In determining the suitability of the fill material on this site as a founding material for the proposed residence, Qld Soil Testing Pty Ltd have relied upon the Level 1 compaction information prepared by Morrison Geotechnic. The accuracy of that information has not been checked by Qld Soil Testing. The suitability of the footing system design contained in this report for this site is conditional on the accuracy of the supplied information. Qld Soil Testing accepts no responsibility for any variations to the design due to inaccuracies in the supplied information.*

: Trees were observed to the east of the site. The classification has been carried out considering an estimation of 20m tree heights at the time of our investigation. The equivalent classification provided above is a suggestion only. The Footing System designer is responsible for taking due consideration of the Characteristic Surface Movement (Ys) and the Potential Surface Movement due to the tree induced suction change (Yt) and designing in accordance with Engineering principles as outlined in AS2870.

: Prior to the commencement of cut/fill operations, all existing topsoil is to be stripped from the construction area.

David H Hardy
RPEQ 6725
for and on behalf of
Qld Soil Testing Pty Ltd

14/121 Newmarket Road
Windsor, QLD 4030

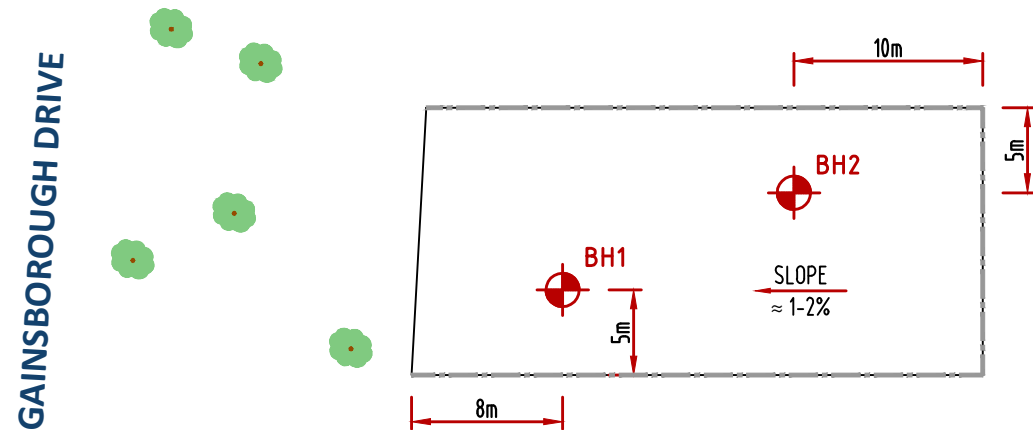
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QST Group ABN 68 620 644 751 Qld Soil Testing ABN 13 104 315 657
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JOB No: 0954/20
22 May, 2020

SITE SKETCH (N.T.S.)



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SHRINK/SWELL TEST RESULTS

BOREHOLE No.	1
DEPTH (mm)	500
Iss	3.4

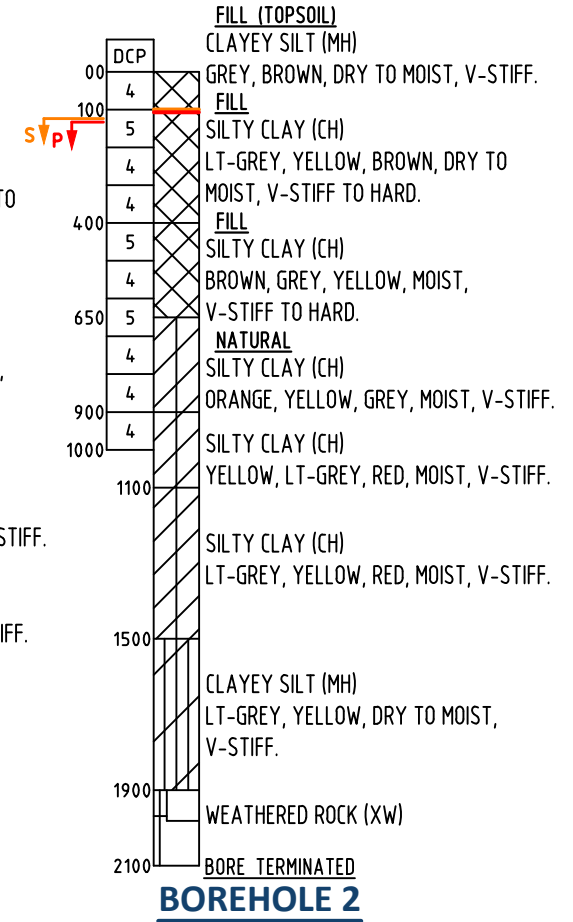
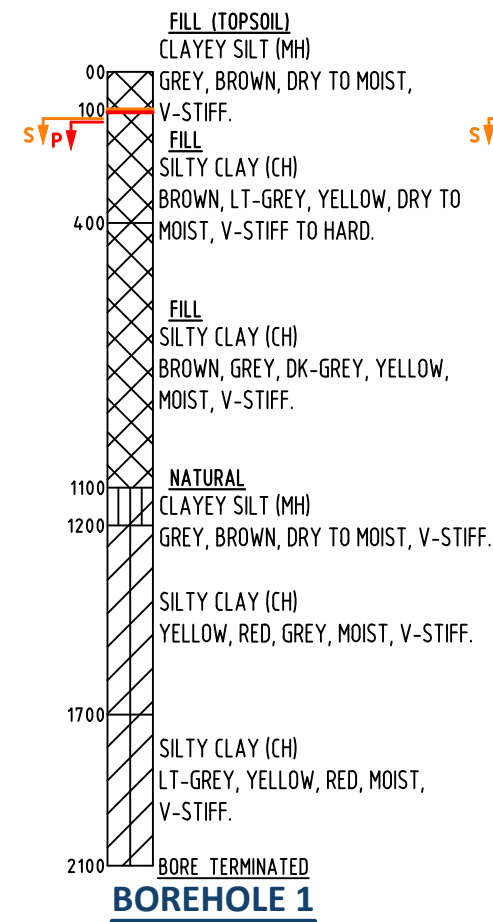
LEGEND

- RETAINING WALL(S)
- SERVICE MANHOLE(S)
- LARGE TREE(S)
- MEDIUM TREE(S)
- SMALL TREE(S)
- SERVICE GULLY PIT(S)
- WATER TABLE OBSERVED AT NOMINATED DEPTH
- BATTER(S)
- AUGER REFUSAL / BORE TERMINATED

DEPTH INDICATES COMMENCEMENT OF SUITABLE FOUNDING MATERIAL FOR **SLAB (PERIMETER)/FOOTINGS**.

DEPTH INDICATES COMMENCEMENT OF SUITABLE FOUNDING MATERIAL FOR **SLAB (INTERNAL)**.

PIERS (WHERE REQUIRED) TO FOUND BEYOND THE APPROPRIATE DEPTH (REFER DESIGN)



SITE INVESTIGATION RESULT
 LOT 1417 GAINSBOROUGH DRIVE
 PIMPAMA

07/05/20 DATE	SI-A ISSUE
0954/20 JOB No.	1 DWG. No.

SOIL TEST

SITE INVESTIGATION

As requested, a geotechnical site investigation was carried out for the site indicated on Page 1 of this report.

The site investigation comprised of drilling a number of holes to determine the soil profile. The required number of holes was determined on site by the drilling technician based on the conditions observed on site and the requirements of AS2870 Clause 2.3.4. A minimum of one Dynamic Cone Penetrometer (DCP) test was performed unless it was deemed not necessary. Representative clay samples were taken as deemed appropriate and tested in the laboratory. The general site conditions were also noted.

The report is based on site conditions encountered at the time of our investigation. If the condition of the site varies considerably after our site investigation, eg major earth works, then the site classification may need to be amended.

SITE CLASSIFICATION

The results of the site investigation and laboratory testing enable the site to be classified in accordance with AS2870 based on the estimated characteristic surface movement (y_s). The various site classes are outlined in the CSIRO Building Technology File 18 "Foundation Maintenance and Footing Performance: A Homeowner's Guide". The classification of the subject site is indicated on Page R1.

WIND CLASSIFICATION

Where requested, a visual investigation and desktop study of the site has been carried out in accordance with AS4055-2012. The results of this classification are presented along with the borehole information.

FOUNDING MATERIAL

The minimum founding material is indicated on the Borelog Profile on Drawing No.1 and is based on our findings as well as any information provided to us. The nominated material is dependent on all requirements set out in this report being complied with. Where a Footing System Design is to be carried out at a later date, it is possible the required founding material may differ based on information provided at that time. If conditions encountered on site differ from the information set out herein, this office is to be contacted immediately for further advice. Where a third party utilises this report for any purpose, including carrying out a Footing System Design, it is their responsibility to ensure the nominated founding material is suitable for the intended use.

TREES

Unless otherwise noted, the Site Classification in this report has been based on the assumption that all trees on site that could affect the performance of the footings will be removed. Trees that could affect the performance of the footings are those which are a distance from the house of:

0.75 x "h"	"M" sites
1.0 x "h"	"H" sites
1.5 x "h"	"E" sites

Where "h" is the mature height of the tree. Where rows or groups of trees are involved, the distance from the house should be increased.

As the trees are removed, the hole left by the root ball is to be filled with water and the surrounding area saturated.

The classification may vary if trees are to be left on site.

CONTROLLED FILL MATERIAL

Where Qld Soil Testing has been provided with a compaction certificate, this certificate has been relied upon in determining the suitability of the fill material on this site as the founding material for the proposed residence. Qld Soil Testing accepts no responsibility for any inaccuracies in the supplied compaction certificate.

LIMITS OF REPORT

The findings in the report are based on information obtained from the field site investigation. It should be noted that the soil conditions could vary considerably over short distances. Where soil conditions are encountered during excavation that varies from the site investigation findings then the engineer should be immediately contacted.

Unless otherwise noted this investigation and report does not address the following issues:

- Mining Subsidence (In areas in the vicinity of underground mines a specialist consultant is required to be engaged for a Mining Subsidence Study.)
- Slope/Stability Analysis. On steep sites and in areas prone to slippage the local authority should be consulted. A specialist report may be required.
- Contamination and/or hazardous materials on site.
- Underground services. It is the client's responsibility to inform us of the existence of, or the future construction of, underground services in the vicinity of the house.
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- Deep soft/unstable soils. Investigations are normally limited to a depth of 1.5 metres. Therefore deep underlying problems will not be detected by a limited investigation such as this. A search of council records should be undertaken by either the owner or the builder prior to construction to discover such information.
- Acid Sulphate Soils. Chemical Testing for the presence of Acid Sulphate Soils does not form part of this report. Where the presence of acid sulphate soils is possible, eg. reclaimed marine environments, advice should be sought from the Local Authority and/or an expert in the field.
- Flood Hazard Areas. It is the client's responsibility to inform us if the site is located within a Flood Hazard Area as defined by the Qld Development Code MP 3.5. Where information relating to a Flood Hazard Area has not been provided then no consideration has been given to this matter.

SITE INVESTIGATION
FOR PROPOSED
NEW DOMESTIC CONSTRUCTION
AT
LOT 1418 GAINSBOROUGH DRIVE, PIMPAMA



SITE CLASSIFICATION

Based on the depth and type of controlled fill material present and using engineering principles, it is considered a suitable classification would be:

H1: HIGHLY REACTIVE

Ys = 40 - 60mm

Notes: *In determining the suitability of the fill material on this site as a founding material for the proposed residence, Qld Soil Testing Pty Ltd have relied upon the Level 1 compaction information prepared by Morrison Geotechnic. The accuracy of that information has not been checked by Qld Soil Testing. The suitability of the footing system design contained in this report for this site is conditional on the accuracy of the supplied information. Qld Soil Testing accepts no responsibility for any variations to the design due to inaccuracies in the supplied information.*

- : Prior to the commencement of cut/fill operations, all existing topsoil is to be stripped from the construction area.*
- : Street trees were observed to the front of the site. The classification has been carried out considering an estimation of the tree heights at the time of our investigation. Based on these current estimates, the trees are not considered to influence the proposed dwelling at this time. QLD Soil Testing does not have the necessary expertise to determine the mature height of the trees and have not attempted to do so. If at any time the ratio of tree height to distance from the dwelling is in excess of 1:2 the owner may need to carry out additional measures capable of preventing or dealing with the moisture transfer from the foundation soils to the tree. This may require additional design input from a suitably qualified professional at that time. Alternatively, advice from a suitably qualified arborist could be sought by the owner at this time for inclusion into the design.*

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for and on behalf of
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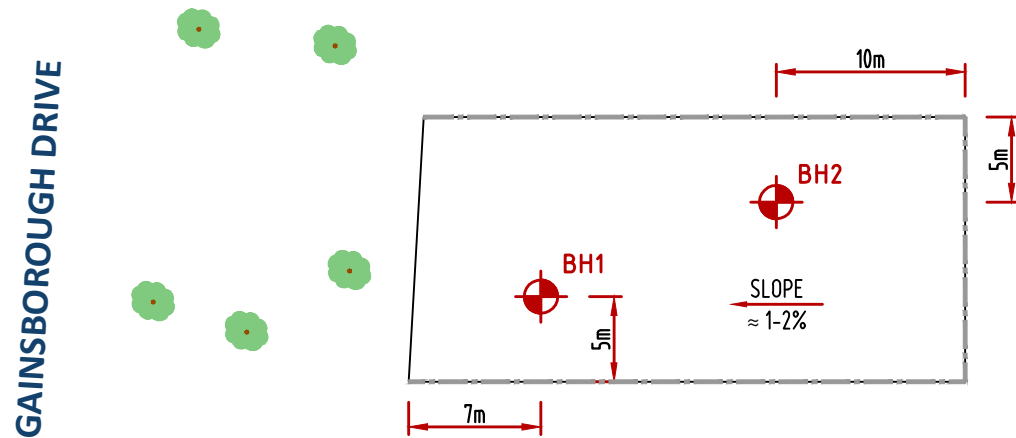
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QST Group Pty Ltd is an Agent of Qld Soil Testing Pty Ltd

JOB No: 0955/20
22 May, 2020

SITE SKETCH (N.T.S.)



NOTE: SITE PLAN IS A GRAPHIC REPRESENTATION ONLY. ALL NOTED MEASUREMENTS HAVE BEEN TAKEN FROM RELEVANT ALLOTMENT BOUNDARIES AND/OR SIGNIFICANT SITE FEATURES. STREET NAME IS SHOWN FOR ALLOTMENT ORIENTATION PURPOSES ONLY.

SHRINK/SWELL TEST RESULTS

BOREHOLE No.	1
DEPTH (mm)	500
Iss	3.4

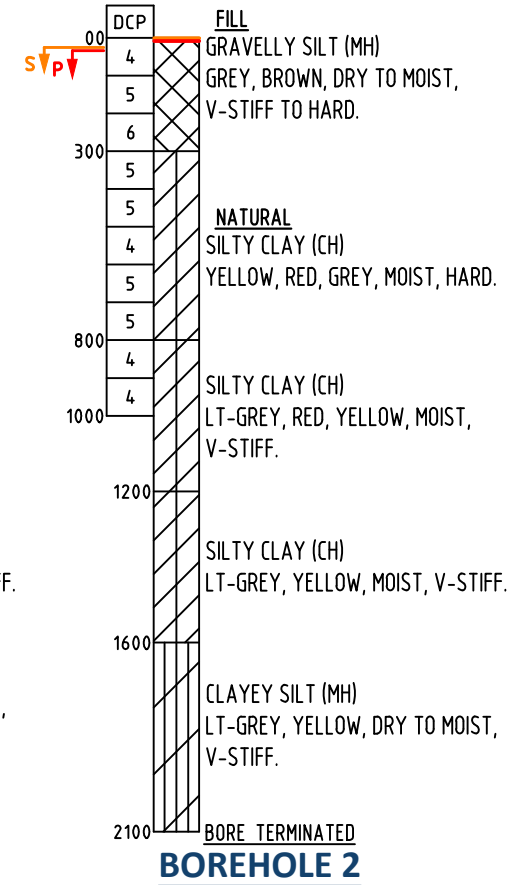
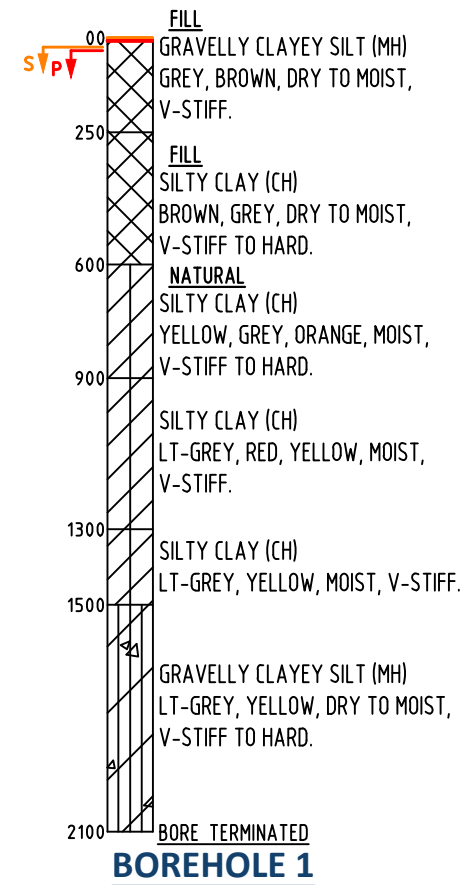
LEGEND

- RETAINING WALL(S)
- SERVICE MANHOLE(S)
- LARGE TREE(S)
- SERVICE GULLY PIT(S)
- MEDIUM TREE(S)
- ▬ WATER TABLE OBSERVED AT NOMINATED DEPTH
- SMALL TREE(S)
- ▬ BATTER(S)
- MAX T.C AUGER REFUSAL / BORE TERMINATED

DEPTH INDICATES COMMENCEMENT OF SUITABLE FOUNDING MATERIAL FOR **SLAB (PERIMETER)/FOOTINGS**.

DEPTH INDICATES COMMENCEMENT OF SUITABLE FOUNDING MATERIAL FOR **SLAB (INTERNAL)**.

PIERS (WHERE REQUIRED) TO FOUND BEYOND THE APPROPRIATE DEPTH (REFER DESIGN)



SITE INVESTIGATION RESULT
 LOT 14/18 GAINSBOROUGH DRIVE
 PIMPAMA

07/05/20 DATE	SI-A ISSUE
0955/20 JOB No.	1 DWG. No.

SOIL TEST

SITE INVESTIGATION

As requested, a geotechnical site investigation was carried out for the site indicated on Page 1 of this report.

The site investigation comprised of drilling a number of holes to determine the soil profile. The required number of holes was determined on site by the drilling technician based on the conditions observed on site and the requirements of AS2870 Clause 2.3.4. A minimum of one Dynamic Cone Penetrometer (DCP) test was performed unless it was deemed not necessary. Representative clay samples were taken as deemed appropriate and tested in the laboratory. The general site conditions were also noted.

The report is based on site conditions encountered at the time of our investigation. If the condition of the site varies considerably after our site investigation, eg major earth works, then the site classification may need to be amended.

SITE CLASSIFICATION

The results of the site investigation and laboratory testing enable the site to be classified in accordance with AS2870 based on the estimated characteristic surface movement (y_s). The various site classes are outlined in the CSIRO Building Technology File 18 "Foundation Maintenance and Footing Performance: A Homeowner's Guide". The classification of the subject site is indicated on Page R1.

WIND CLASSIFICATION

Where requested, a visual investigation and desktop study of the site has been carried out in accordance with AS4055-2012. The results of this classification are presented along with the borehole information.

FOUNDING MATERIAL

The minimum founding material is indicated on the Borelog Profile on Drawing No.1 and is based on our findings as well as any information provided to us. The nominated material is dependent on all requirements set out in this report being complied with. Where a Footing System Design is to be carried out at a later date, it is possible the required founding material may differ based on information provided at that time. If conditions encountered on site differ from the information set out herein, this office is to be contacted immediately for further advice. Where a third party utilises this report for any purpose, including carrying out a Footing System Design, it is their responsibility to ensure the nominated founding material is suitable for the intended use.

TREES

Unless otherwise noted, the Site Classification in this report has been based on the assumption that all trees on site that could affect the performance of the footings will be removed. Trees that could affect the performance of the footings are those which are a distance from the house of:

0.75 x "h"	"M" sites
1.0 x "h"	"H" sites
1.5 x "h"	"E" sites

Where "h" is the mature height of the tree. Where rows or groups of trees are involved, the distance from the house should be increased.

As the trees are removed, the hole left by the root ball is to be filled with water and the surrounding area saturated.

The classification may vary if trees are to be left on site.

CONTROLLED FILL MATERIAL

Where Qld Soil Testing has been provided with a compaction certificate, this certificate has been relied upon in determining the suitability of the fill material on this site as the founding material for the proposed residence. Qld Soil Testing accepts no responsibility for any inaccuracies in the supplied compaction certificate.

LIMITS OF REPORT

The findings in the report are based on information obtained from the field site investigation. It should be noted that the soil conditions could vary considerably over short distances. Where soil conditions are encountered during excavation that varies from the site investigation findings then the engineer should be immediately contacted.

Unless otherwise noted this investigation and report does not address the following issues:

- Mining Subsidence (In areas in the vicinity of underground mines a specialist consultant is required to be engaged for a Mining Subsidence Study.)
- Slope/Stability Analysis. On steep sites and in areas prone to slippage the local authority should be consulted. A specialist report may be required.
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- Underground services. It is the client's responsibility to inform us of the existence of, or the future construction of, underground services in the vicinity of the house.
- Contours, slope, site proportion/dimensions. Any slopes or dimensions shown are indicative only and should not be relied upon by others.
- Location of springs or underground water. Where water tables are noted the depth to the water table may vary significantly over short periods of time. Significant variation of subsurface flow may occur between periods of wet and dry weather.
- Deep soft/unstable soils. Investigations are normally limited to a depth of 1.5 metres. Therefore deep underlying problems will not be detected by a limited investigation such as this. A search of council records should be undertaken by either the owner or the builder prior to construction to discover such information.
- Acid Sulphate Soils. Chemical Testing for the presence of Acid Sulphate Soils does not form part of this report. Where the presence of acid sulphate soils is possible, eg. reclaimed marine environments, advice should be sought from the Local Authority and/or an expert in the field.
- Flood Hazard Areas. It is the client's responsibility to inform us if the site is located within a Flood Hazard Area as defined by the Qld Development Code MP 3.5. Where information relating to a Flood Hazard Area has not been provided then no consideration has been given to this matter.

SITE INVESTIGATION
FOR PROPOSED
NEW DOMESTIC CONSTRUCTION
AT
LOT 1419 GAINSBOROUGH DRIVE, PIMPAMA



SITE CLASSIFICATION

H1: HIGHLY REACTIVE

Y_s = 40 - 60mm

Notes: *In determining the suitability of the fill material on this site as a founding material for the proposed residence, Qld Soil Testing Pty Ltd have relied upon the Level 1 compaction information prepared by Morrison Geotechnic. The accuracy of that information has not been checked by Qld Soil Testing. The suitability of the footing system design contained in this report for this site is conditional on the accuracy of the supplied information. Qld Soil Testing accepts no responsibility for any variations to the design due to inaccuracies in the supplied information.*

- : Street trees were observed to the front of the site. The classification has been carried out considering an estimation of the tree heights at the time of our investigation. Based on these current estimates, the trees are not considered to influence the proposed dwelling at this time. QLD Soil Testing does not have the necessary expertise to determine the mature height of the trees and have not attempted to do so. If at any time the ratio of tree height to distance from the dwelling is in excess of 1:2 the owner may need to carry out additional measures capable of preventing or dealing with the moisture transfer from the foundation soils to the tree. This may require additional design input from a suitably qualified professional at that time. Alternatively, advice from a suitably qualified arborist could be sought by the owner at this time for inclusion into the design.*
- : Prior to the commencement of cut/fill operations, all existing topsoil is to be stripped from the construction area.*

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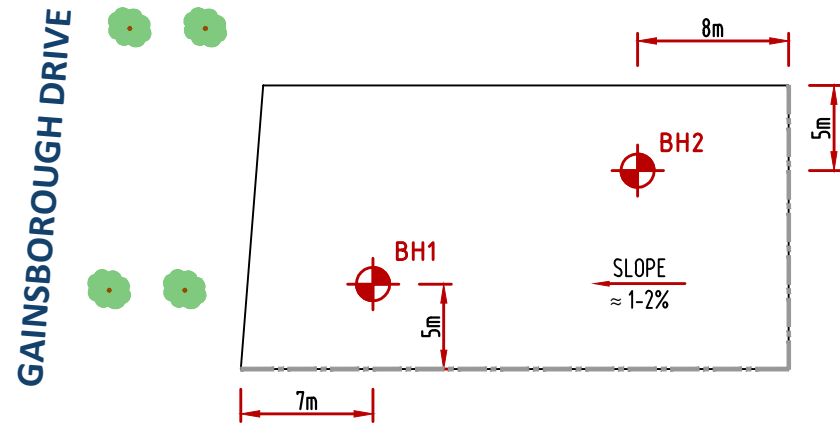
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QST Group Pty Ltd is an Agent of Qld Soil Testing Pty Ltd

JOB No: 0956/20
22 May, 2020

SITE SKETCH (N.T.S.)



NOTE: SITE PLAN IS A GRAPHIC REPRESENTATION ONLY. ALL NOTED MEASUREMENTS HAVE BEEN TAKEN FROM RELEVANT ALLOTMENT BOUNDARIES AND/OR SIGNIFICANT SITE FEATURES. STREET NAME IS SHOWN FOR ALLOTMENT ORIENTATION PURPOSES ONLY.

SHRINK/SWELL TEST RESULTS

BOREHOLE No.	2
DEPTH (mm)	600
Iss	5.4

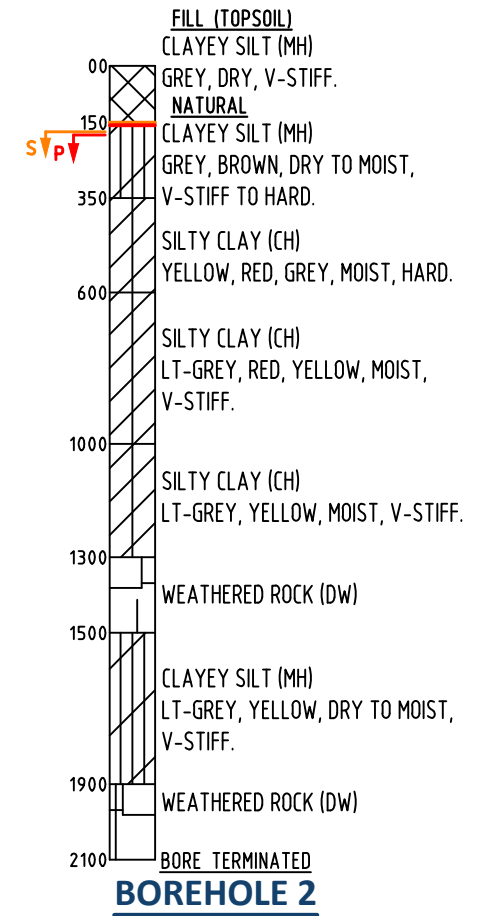
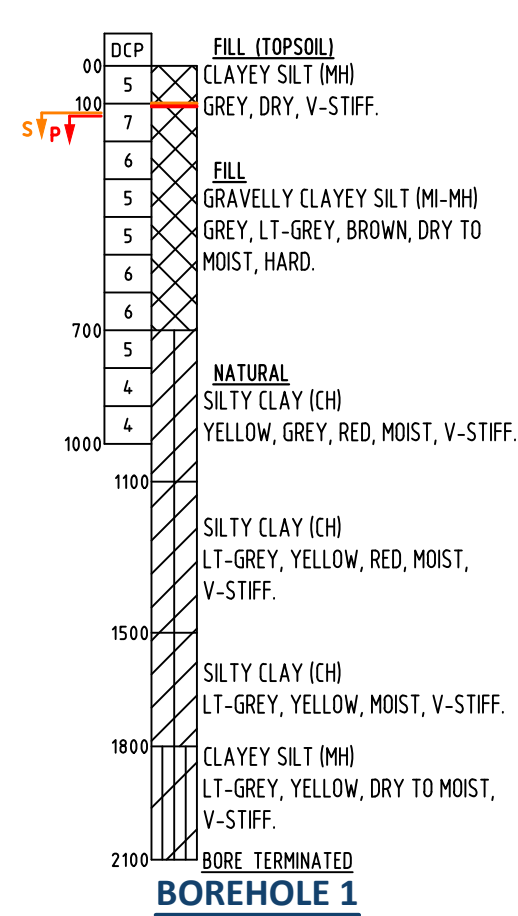
LEGEND

- RETAINING WALL(S)
- SERVICE MANHOLE(S)
- LARGE TREE(S)
- MEDIUM TREE(S)
- SMALL TREE(S)
- SERVICE GULLY PIT(S)
- ▬ WATER TABLE OBSERVED AT NOMINATED DEPTH
- ▬ BATTER(S)
- MAX T.C AUGER REFUSAL / BORE TERMINATED

DEPTH INDICATES COMMENCEMENT OF SUITABLE FOUNDING MATERIAL FOR **SLAB (PERIMETER)/FOOTINGS**.

DEPTH INDICATES COMMENCEMENT OF SUITABLE FOUNDING MATERIAL FOR **SLAB (INTERNAL)**.

PIERS (WHERE REQUIRED) TO FOUND BEYOND THE APPROPRIATE DEPTH (REFER DESIGN)



SOIL TEST

SITE INVESTIGATION

As requested, a geotechnical site investigation was carried out for the site indicated on Page 1 of this report.

The site investigation comprised of drilling a number of holes to determine the soil profile. The required number of holes was determined on site by the drilling technician based on the conditions observed on site and the requirements of AS2870 Clause 2.3.4. A minimum of one Dynamic Cone Penetrometer (DCP) test was performed unless it was deemed not necessary. Representative clay samples were taken as deemed appropriate and tested in the laboratory. The general site conditions were also noted.

The report is based on site conditions encountered at the time of our investigation. If the condition of the site varies considerably after our site investigation, eg major earth works, then the site classification may need to be amended.

SITE CLASSIFICATION

The results of the site investigation and laboratory testing enable the site to be classified in accordance with AS2870 based on the estimated characteristic surface movement (γ_s). The various site classes are outlined in the CSIRO Building Technology File 18 "Foundation Maintenance and Footing Performance: A Homeowner's Guide". The classification of the subject site is indicated on Page R1.

WIND CLASSIFICATION

Where requested, a visual investigation and desktop study of the site has been carried out in accordance with AS4055-2012. The results of this classification are presented along with the borehole information.

FOUNDING MATERIAL

The minimum founding material is indicated on the Borelog Profile on Drawing No.1 and is based on our findings as well as any information provided to us. The nominated material is dependent on all requirements set out in this report being complied with. Where a Footing System Design is to be carried out at a later date, it is possible the required founding material may differ based on information provided at that time. If conditions encountered on site differ from the information set out herein, this office is to be contacted immediately for further advice. Where a third party utilises this report for any purpose, including carrying out a Footing System Design, it is their responsibility to ensure the nominated founding material is suitable for the intended use.

TREES

Unless otherwise noted, the Site Classification in this report has been based on the assumption that all trees on site that could affect the performance of the footings will be removed. Trees that could affect the performance of the footings are those which are a distance from the house of:

0.75 x "h"	"M" sites
1.0 x "h"	"H" sites
1.5 x "h"	"E" sites

Where "h" is the mature height of the tree. Where rows or groups of trees are involved, the distance from the house should be increased.

As the trees are removed, the hole left by the root ball is to be filled with water and the surrounding area saturated.

The classification may vary if trees are to be left on site.

CONTROLLED FILL MATERIAL

Where Qld Soil Testing has been provided with a compaction certificate, this certificate has been relied upon in determining the suitability of the fill material on this site as the founding material for the proposed residence. Qld Soil Testing accepts no responsibility for any inaccuracies in the supplied compaction certificate.

LIMITS OF REPORT

The findings in the report are based on information obtained from the field site investigation. It should be noted that the soil conditions could vary considerably over short distances. Where soil conditions are encountered during excavation that varies from the site investigation findings then the engineer should be immediately contacted.

Unless otherwise noted this investigation and report does not address the following issues:

- Mining Subsidence (In areas in the vicinity of underground mines a specialist consultant is required to be engaged for a Mining Subsidence Study.)
- Slope/Stability Analysis. On steep sites and in areas prone to slippage the local authority should be consulted. A specialist report may be required.
- Contamination and/or hazardous materials on site.
- Underground services. It is the client's responsibility to inform us of the existence of, or the future construction of, underground services in the vicinity of the house.
- Contours, slope, site proportion/dimensions. Any slopes or dimensions shown are indicative only and should not be relied upon by others.
- Location of springs or underground water. Where water tables are noted the depth to the water table may vary significantly over short periods of time. Significant variation of subsurface flow may occur between periods of wet and dry weather.
- Deep soft/unstable soils. Investigations are normally limited to a depth of 1.5 metres. Therefore deep underlying problems will not be detected by a limited investigation such as this. A search of council records should be undertaken by either the owner or the builder prior to construction to discover such information.
- Acid Sulphate Soils. Chemical Testing for the presence of Acid Sulphate Soils does not form part of this report. Where the presence of acid sulphate soils is possible, eg. reclaimed marine environments, advice should be sought from the Local Authority and/or an expert in the field.
- Flood Hazard Areas. It is the client's responsibility to inform us if the site is located within a Flood Hazard Area as defined by the Qld Development Code MP 3.5. Where information relating to a Flood Hazard Area has not been provided then no consideration has been given to this matter.

SITE INVESTIGATION
FOR PROPOSED
NEW DOMESTIC CONSTRUCTION
AT
LOT 1420 GAINSBOROUGH DRIVE, PIMPAMA



SITE CLASSIFICATION

H1: HIGHLY REACTIVE

Ys = 40 - 60mm

Notes: In determining the suitability of the fill material on this site as a founding material for the proposed residence, Qld Soil Testing Pty Ltd have relied upon the Level 1 compaction information prepared by Morrison Geotechnic. The accuracy of that information has not been checked by Qld Soil Testing. The suitability of the footing system design contained in this report for this site is conditional on the accuracy of the supplied information. Qld Soil Testing accepts no responsibility for any variations to the design due to inaccuracies in the supplied information.

- : Street trees were observed to the front of the site. The classification has been carried out considering an estimation of the tree heights at the time of our investigation. Based on these current estimates, the trees are not considered to influence the proposed dwelling at this time. QLD Soil Testing does not have the necessary expertise to determine the mature height of the trees and have not attempted to do so. If at any time the ratio of tree height to distance from the dwelling is in excess of 1:2 the owner may need to carry out additional measures capable of preventing or dealing with the moisture transfer from the foundation soils to the tree. This may require additional design input from a suitably qualified professional at that time. Alternatively, advice from a suitably qualified arborist could be sought by the owner at this time for inclusion into the design.
- : Prior to the commencement of cut/fill operations, all existing topsoil is to be stripped from the construction area.

David H Hardy
RPEQ 6725
for and on behalf of
Qld Soil Testing Pty Ltd

14/121 Newmarket Road
Windsor, QLD 4030

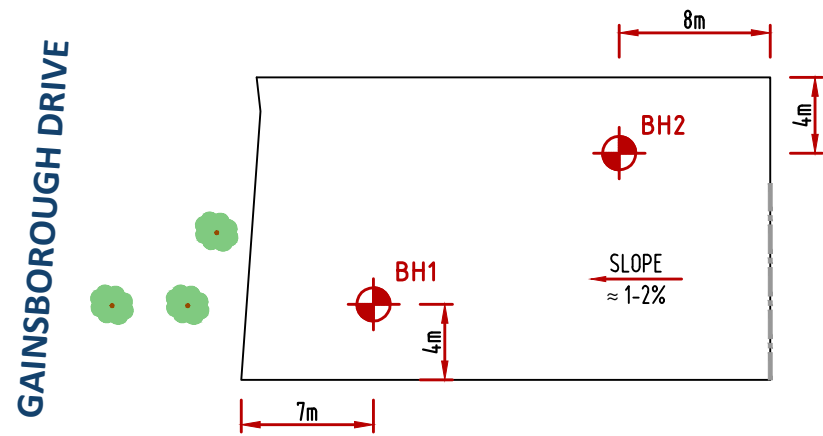
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Web: www.qstgroup.com.au

QST Group ABN 68 620 644 751 Qld Soil Testing ABN 13 104 315 657
QST Group Pty Ltd is an Agent of Qld Soil Testing Pty Ltd

JOB No: 0957/20
22 May, 2020

SITE SKETCH (N.T.S.)



NOTE: SITE PLAN IS A GRAPHIC REPRESENTATION ONLY. ALL NOTED MEASUREMENTS HAVE BEEN TAKEN FROM RELEVANT ALLOTMENT BOUNDARIES AND/OR SIGNIFICANT SITE FEATURES. STREET NAME IS SHOWN FOR ALLOTMENT ORIENTATION PURPOSES ONLY.

SHRINK/SWELL TEST RESULTS

BOREHOLE No.	1
DEPTH (mm)	600
ISS	5.4

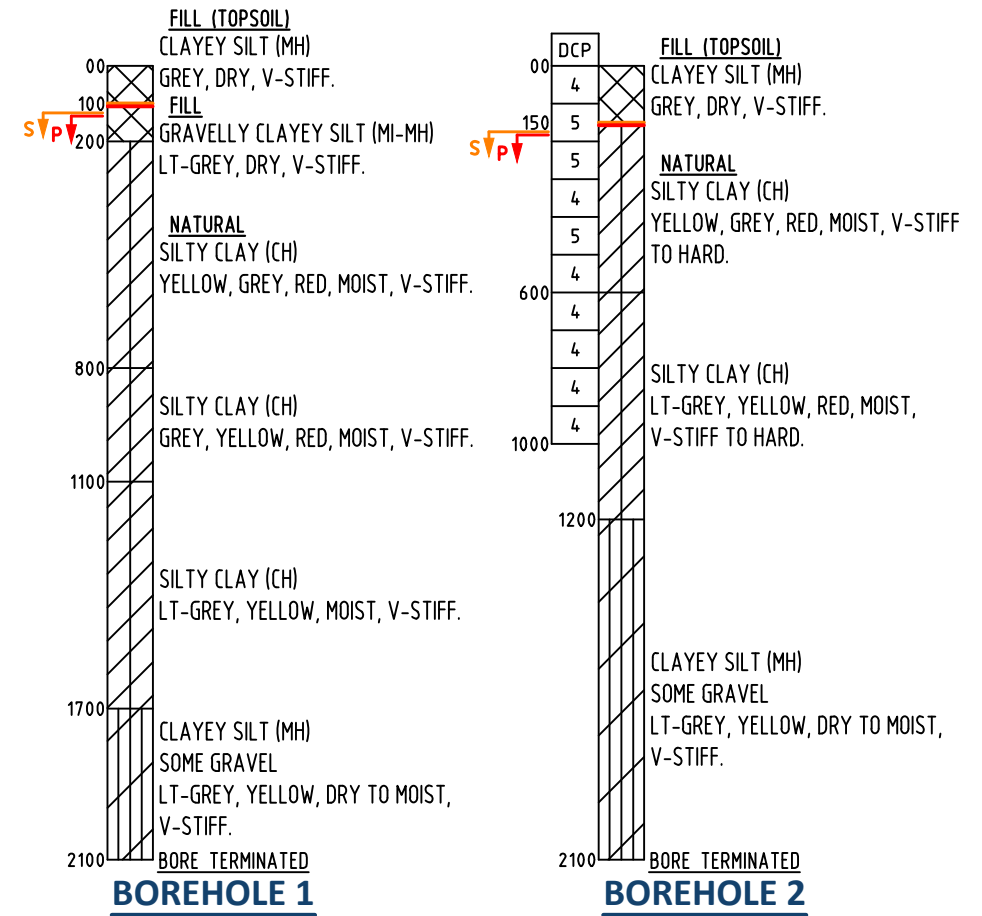
LEGEND

- RETAINING WALL(S)
- SERVICE MANHOLE(S)
- LARGE TREE(S)
- SERVICE GULLY PIT(S)
- MEDIUM TREE(S)
- ▬ WATER TABLE OBSERVED AT NOMINATED DEPTH
- SMALL TREE(S)
- ▬ BATTER(S)
- MAX T.C AUGER REFUSAL / BORE TERMINATED

DEPTH INDICATES COMMENCEMENT OF SUITABLE FOUNDING MATERIAL FOR **SLAB (PERIMETER)/FOOTINGS.**

DEPTH INDICATES COMMENCEMENT OF SUITABLE FOUNDING MATERIAL FOR **SLAB (INTERNAL).**

PIERS (WHERE REQUIRED) TO FOUND BEYOND THE APPROPRIATE DEPTH (REFER DESIGN)



SOIL TEST

SITE INVESTIGATION

As requested, a geotechnical site investigation was carried out for the site indicated on Page 1 of this report.

The site investigation comprised of drilling a number of holes to determine the soil profile. The required number of holes was determined on site by the drilling technician based on the conditions observed on site and the requirements of AS2870 Clause 2.3.4. A minimum of one Dynamic Cone Penetrometer (DCP) test was performed unless it was deemed not necessary. Representative clay samples were taken as deemed appropriate and tested in the laboratory. The general site conditions were also noted.

The report is based on site conditions encountered at the time of our investigation. If the condition of the site varies considerably after our site investigation, eg major earth works, then the site classification may need to be amended.

SITE CLASSIFICATION

The results of the site investigation and laboratory testing enable the site to be classified in accordance with AS2870 based on the estimated characteristic surface movement (y_s). The various site classes are outlined in the CSIRO Building Technology File 18 "Foundation Maintenance and Footing Performance: A Homeowner's Guide". The classification of the subject site is indicated on Page R1.

WIND CLASSIFICATION

Where requested, a visual investigation and desktop study of the site has been carried out in accordance with AS4055-2012. The results of this classification are presented along with the borehole information.

FOUNDING MATERIAL

The minimum founding material is indicated on the Borelog Profile on Drawing No.1 and is based on our findings as well as any information provided to us. The nominated material is dependent on all requirements set out in this report being complied with. Where a Footing System Design is to be carried out at a later date, it is possible the required founding material may differ based on information provided at that time. If conditions encountered on site differ from the information set out herein, this office is to be contacted immediately for further advice. Where a third party utilises this report for any purpose, including carrying out a Footing System Design, it is their responsibility to ensure the nominated founding material is suitable for the intended use.

TREES

Unless otherwise noted, the Site Classification in this report has been based on the assumption that all trees on site that could affect the performance of the footings will be removed. Trees that could affect the performance of the footings are those which are a distance from the house of:

0.75 x "h"	"M" sites
1.0 x "h"	"H" sites
1.5 x "h"	"E" sites

Where "h" is the mature height of the tree. Where rows or groups of trees are involved, the distance from the house should be increased.

As the trees are removed, the hole left by the root ball is to be filled with water and the surrounding area saturated.

The classification may vary if trees are to be left on site.

CONTROLLED FILL MATERIAL

Where Qld Soil Testing has been provided with a compaction certificate, this certificate has been relied upon in determining the suitability of the fill material on this site as the founding material for the proposed residence. Qld Soil Testing accepts no responsibility for any inaccuracies in the supplied compaction certificate.

LIMITS OF REPORT

The findings in the report are based on information obtained from the field site investigation. It should be noted that the soil conditions could vary considerably over short distances. Where soil conditions are encountered during excavation that varies from the site investigation findings then the engineer should be immediately contacted.

Unless otherwise noted this investigation and report does not address the following issues:

- Mining Subsidence (In areas in the vicinity of underground mines a specialist consultant is required to be engaged for a Mining Subsidence Study.)
- Slope/Stability Analysis. On steep sites and in areas prone to slippage the local authority should be consulted. A specialist report may be required.
- Contamination and/or hazardous materials on site.
- Underground services. It is the client's responsibility to inform us of the existence of, or the future construction of, underground services in the vicinity of the house.
- Contours, slope, site proportion/dimensions. Any slopes or dimensions shown are indicative only and should not be relied upon by others.
- Location of springs or underground water. Where water tables are noted the depth to the water table may vary significantly over short periods of time. Significant variation of subsurface flow may occur between periods of wet and dry weather.
- Deep soft/unstable soils. Investigations are normally limited to a depth of 1.5 metres. Therefore deep underlying problems will not be detected by a limited investigation such as this. A search of council records should be undertaken by either the owner or the builder prior to construction to discover such information.
- Acid Sulphate Soils. Chemical Testing for the presence of Acid Sulphate Soils does not form part of this report. Where the presence of acid sulphate soils is possible, eg. reclaimed marine environments, advice should be sought from the Local Authority and/or an expert in the field.
- Flood Hazard Areas. It is the client's responsibility to inform us if the site is located within a Flood Hazard Area as defined by the Qld Development Code MP 3.5. Where information relating to a Flood Hazard Area has not been provided then no consideration has been given to this matter.

SITE INVESTIGATION
FOR PROPOSED
NEW DOMESTIC CONSTRUCTION
AT
LOT 1421 GAINSBOROUGH DRIVE, PIMPAMA



SITE CLASSIFICATION

H1: HIGHLY REACTIVE

Ys = 40 - 60mm

Notes: In determining the suitability of the fill material on this site as a founding material for the proposed residence, Qld Soil Testing Pty Ltd have relied upon the Level 1 compaction information prepared by Morrison Geotechnic. QST Group did not find any fill based on our soil test but disclosure plan suggests some fill on site. The accuracy of that information has not been checked by Qld Soil Testing. The suitability of the footing system design contained in this report for this site is conditional on the accuracy of the supplied information. Qld Soil Testing accepts no responsibility for any variations to the design due to inaccuracies in the supplied information.

- : Street trees were observed to the front of the site. The classification has been carried out considering an estimation of the tree heights at the time of our investigation. Based on these current estimates, the trees are not considered to influence the proposed dwelling at this time. Qld Soil Testing does not have the necessary expertise to determine the mature height of the trees and have not attempted to do so. If at any time the ratio of tree height to distance from the dwelling is in excess of 1:2 the owner may need to carry out additional measures capable of preventing or dealing with the moisture transfer from the foundation soils to the tree. This may require additional design input from a suitably qualified professional at that time. Alternatively, advice from a suitably qualified arborist could be sought by the owner at this time for inclusion into the design.
- : Prior to the commencement of cut/fill operations, all existing topsoil is to be stripped from the construction area.

David H Hardy
RPEQ 6725
for and on behalf of
Qld Soil Testing Pty Ltd

14/121 Newmarket Road
Windsor, QLD 4030

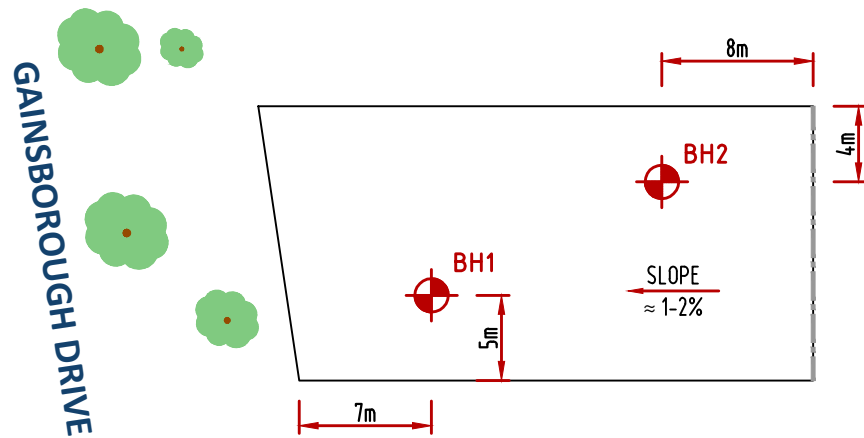
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QST Group ABN 68 620 644 751 Qld Soil Testing ABN 13 104 315 657
QST Group Pty Ltd is an Agent of Qld Soil Testing Pty Ltd

JOB No: 0958/20
22 May, 2020

SITE SKETCH (N.T.S.)



NOTE: SITE PLAN IS A GRAPHIC REPRESENTATION ONLY. ALL NOTED MEASUREMENTS HAVE BEEN TAKEN FROM RELEVANT ALLOTMENT BOUNDARIES AND/OR SIGNIFICANT SITE FEATURES. STREET NAME IS SHOWN FOR ALLOTMENT ORIENTATION PURPOSES ONLY.

SHRINK/SWELL TEST RESULTS

BOREHOLE No.	2
DEPTH (mm)	500
Iss	5.4

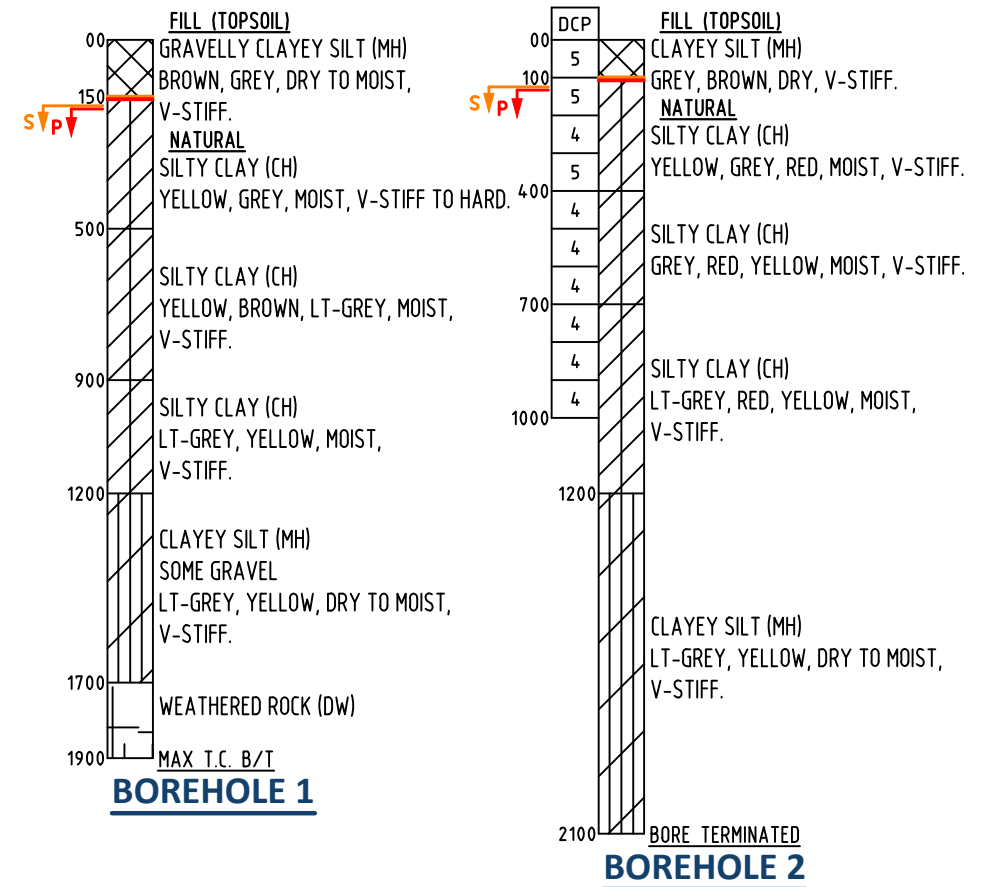
LEGEND

- RETAINING WALL(S)
- SERVICE MANHOLE(S)
- LARGE TREE(S)
- SERVICE GULLY PIT(S)
- MEDIUM TREE(S)
- ▬ WATER TABLE OBSERVED AT NOMINATED DEPTH
- SMALL TREE(S)
- ▬ BATTER(S)
- MAX T.C. AUGER REFUSAL / BORE TERMINATED

DEPTH INDICATES COMMENCEMENT OF SUITABLE FOUNDING MATERIAL FOR **SLAB (PERIMETER)/FOOTINGS**.

DEPTH INDICATES COMMENCEMENT OF SUITABLE FOUNDING MATERIAL FOR **SLAB (INTERNAL)**.

PIERS (WHERE REQUIRED) TO FOUND BEYOND THE APPROPRIATE DEPTH (REFER DESIGN)



<p>Soil Testing Engineering Surveying Contract Drilling</p>	<p>SITE INVESTIGATION RESULT</p> <p>LOT 1421 GAINSBOROUGH DRIVE PIMPAMA</p>		<p>06/05/20</p> <p>DATE</p>	<p>SI-A</p> <p>ISSUE</p>
			<p>0958/20</p> <p>JOB No.</p>	<p>1</p> <p>DWG. No.</p>

SOIL TEST

SITE INVESTIGATION

As requested, a geotechnical site investigation was carried out for the site indicated on Page 1 of this report.

The site investigation comprised of drilling a number of holes to determine the soil profile. The required number of holes was determined on site by the drilling technician based on the conditions observed on site and the requirements of AS2870 Clause 2.3.4. A minimum of one Dynamic Cone Penetrometer (DCP) test was performed unless it was deemed not necessary. Representative clay samples were taken as deemed appropriate and tested in the laboratory. The general site conditions were also noted.

The report is based on site conditions encountered at the time of our investigation. If the condition of the site varies considerably after our site investigation, eg major earth works, then the site classification may need to be amended.

SITE CLASSIFICATION

The results of the site investigation and laboratory testing enable the site to be classified in accordance with AS2870 based on the estimated characteristic surface movement (y_s). The various site classes are outlined in the CSIRO Building Technology File 18 "Foundation Maintenance and Footing Performance: A Homeowner's Guide". The classification of the subject site is indicated on Page R1.

WIND CLASSIFICATION

Where requested, a visual investigation and desktop study of the site has been carried out in accordance with AS4055-2012. The results of this classification are presented along with the borehole information.

FOUNDING MATERIAL

The minimum founding material is indicated on the Borelog Profile on Drawing No.1 and is based on our findings as well as any information provided to us. The nominated material is dependent on all requirements set out in this report being complied with. Where a Footing System Design is to be carried out at a later date, it is possible the required founding material may differ based on information provided at that time. If conditions encountered on site differ from the information set out herein, this office is to be contacted immediately for further advice. Where a third party utilises this report for any purpose, including carrying out a Footing System Design, it is their responsibility to ensure the nominated founding material is suitable for the intended use.

TREES

Unless otherwise noted, the Site Classification in this report has been based on the assumption that all trees on site that could affect the performance of the footings will be removed. Trees that could affect the performance of the footings are those which are a distance from the house of:

0.75 x "h"	"M" sites
1.0 x "h"	"H" sites
1.5 x "h"	"E" sites

Where "h" is the mature height of the tree. Where rows or groups of trees are involved, the distance from the house should be increased.

As the trees are removed, the hole left by the root ball is to be filled with water and the surrounding area saturated.

The classification may vary if trees are to be left on site.

CONTROLLED FILL MATERIAL

Where Qld Soil Testing has been provided with a compaction certificate, this certificate has been relied upon in determining the suitability of the fill material on this site as the founding material for the proposed residence. Qld Soil Testing accepts no responsibility for any inaccuracies in the supplied compaction certificate.

LIMITS OF REPORT

The findings in the report are based on information obtained from the field site investigation. It should be noted that the soil conditions could vary considerably over short distances. Where soil conditions are encountered during excavation that varies from the site investigation findings then the engineer should be immediately contacted.

Unless otherwise noted this investigation and report does not address the following issues:

- Mining Subsidence (In areas in the vicinity of underground mines a specialist consultant is required to be engaged for a Mining Subsidence Study.)
- Slope/Stability Analysis. On steep sites and in areas prone to slippage the local authority should be consulted. A specialist report may be required.
- Contamination and/or hazardous materials on site.
- Underground services. It is the client's responsibility to inform us of the existence of, or the future construction of, underground services in the vicinity of the house.
- Contours, slope, site proportion/dimensions. Any slopes or dimensions shown are indicative only and should not be relied upon by others.
- Location of springs or underground water. Where water tables are noted the depth to the water table may vary significantly over short periods of time. Significant variation of subsurface flow may occur between periods of wet and dry weather.
- Deep soft/unstable soils. Investigations are normally limited to a depth of 1.5 metres. Therefore deep underlying problems will not be detected by a limited investigation such as this. A search of council records should be undertaken by either the owner or the builder prior to construction to discover such information.
- Acid Sulphate Soils. Chemical Testing for the presence of Acid Sulphate Soils does not form part of this report. Where the presence of acid sulphate soils is possible, eg. reclaimed marine environments, advice should be sought from the Local Authority and/or an expert in the field.
- Flood Hazard Areas. It is the client's responsibility to inform us if the site is located within a Flood Hazard Area as defined by the Qld Development Code MP 3.5. Where information relating to a Flood Hazard Area has not been provided then no consideration has been given to this matter.

SITE INVESTIGATION
FOR PROPOSED
NEW DOMESTIC CONSTRUCTION
AT
LOT 1422 GAINSBOROUGH DRIVE, PIMPAMA



SITE CLASSIFICATION

Based on the depth and type of controlled fill material present and using engineering principles, it is considered a suitable classification would be:

H1: HIGHLY REACTIVE

Y_s = 40 - 60mm

Notes: *In determining the suitability of the fill material on this site as a founding material for the proposed residence, Qld Soil Testing Pty Ltd have relied upon the Level 1 compaction information prepared by Morrison Geotechnic. The accuracy of that information has not been checked by Qld Soil Testing. The suitability of the footing system design contained in this report for this site is conditional on the accuracy of the supplied information. Qld Soil Testing accepts no responsibility for any variations to the design due to inaccuracies in the supplied information.*

: Prior to the commencement of cut/fill operations, all existing topsoil is to be stripped from the construction area.

: Street trees were observed to the front of the site. The classification has been carried out considering an estimation of the tree heights at the time of our investigation. Based on these current estimates, the trees are not considered to influence the proposed dwelling at this time. QLD Soil Testing does not have the necessary expertise to determine the mature height of the trees and have not attempted to do so. If at any time the ratio of tree height to distance from the dwelling is in excess of 1:2 the owner may need to carry out additional measures capable of preventing or dealing with the moisture transfer from the foundation soils to the tree. This may require additional design input from a suitably qualified professional at that time. Alternatively, advice from a suitably qualified arborist could be sought by the owner at this time for inclusion into the design.

David H Hardy
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for and on behalf of
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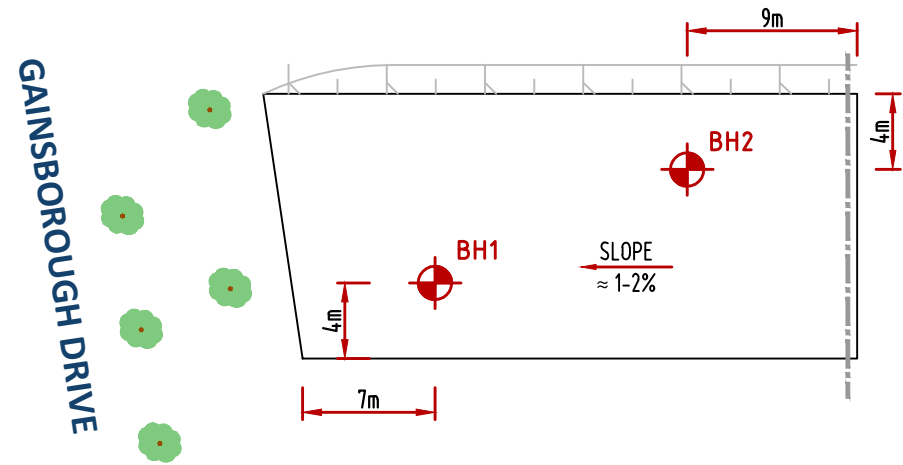
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QST Group ABN 68 620 644 751 Qld Soil Testing ABN 13 104 315 657
QST Group Pty Ltd is an Agent of Qld Soil Testing Pty Ltd

JOB No: 0959/20
22 May, 2020

SITE SKETCH (N.T.S.)



NOTE: SITE PLAN IS A GRAPHIC REPRESENTATION ONLY. ALL NOTED MEASUREMENTS HAVE BEEN TAKEN FROM RELEVANT ALLOTMENT BOUNDARIES AND/OR SIGNIFICANT SITE FEATURES. STREET NAME IS SHOWN FOR ALLOTMENT ORIENTATION PURPOSES ONLY.

SHRINK/SWELL TEST RESULTS

BOREHOLE No.	2
DEPTH (mm)	600
Iss	5.2

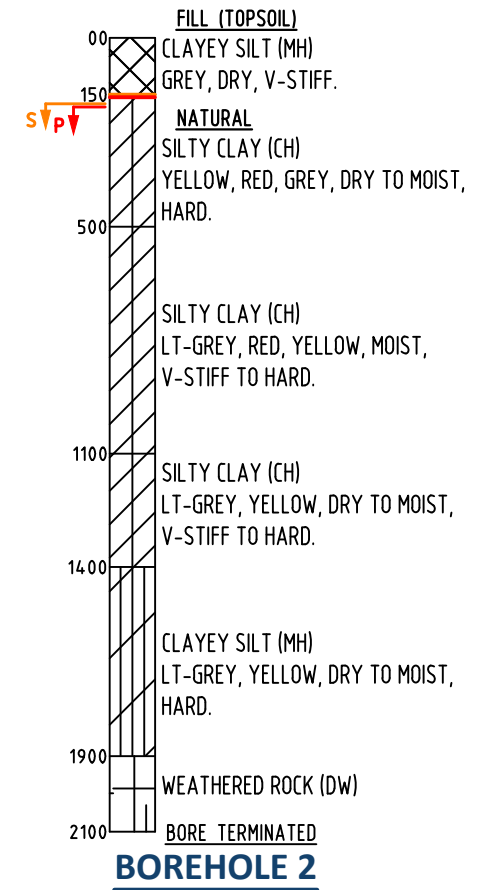
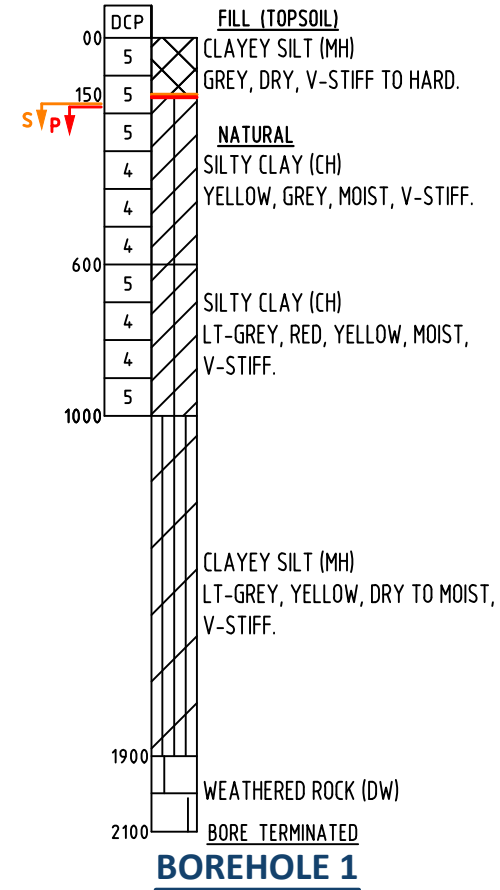
LEGEND

- RETAINING WALL(S)
- SERVICE MANHOLE(S)
- LARGE TREE(S)
- MEDIUM TREE(S)
- SMALL TREE(S)
- MAX T.C AUGER REFUSAL / BORE TERMINATED
- ▣ SERVICE GULLY PIT(S)
- ≡ WATER TABLE OBSERVED AT NOMINATED DEPTH
- ⊥ BATTER(S)

DEPTH INDICATES COMMENCEMENT OF SUITABLE FOUNDING MATERIAL FOR **SLAB (PERIMETER)/FOOTINGS**.

DEPTH INDICATES COMMENCEMENT OF SUITABLE FOUNDING MATERIAL FOR **SLAB (INTERNAL)**.

PIERS (WHERE REQUIRED) TO FOUND BEYOND THE APPROPRIATE DEPTH (REFER DESIGN)



SOIL TEST

SITE INVESTIGATION

As requested, a geotechnical site investigation was carried out for the site indicated on Page 1 of this report.

The site investigation comprised of drilling a number of holes to determine the soil profile. The required number of holes was determined on site by the drilling technician based on the conditions observed on site and the requirements of AS2870 Clause 2.3.4. A minimum of one Dynamic Cone Penetrometer (DCP) test was performed unless it was deemed not necessary. Representative clay samples were taken as deemed appropriate and tested in the laboratory. The general site conditions were also noted.

The report is based on site conditions encountered at the time of our investigation. If the condition of the site varies considerably after our site investigation, eg major earth works, then the site classification may need to be amended.

SITE CLASSIFICATION

The results of the site investigation and laboratory testing enable the site to be classified in accordance with AS2870 based on the estimated characteristic surface movement (γ_s). The various site classes are outlined in the CSIRO Building Technology File 18 "Foundation Maintenance and Footing Performance: A Homeowner's Guide". The classification of the subject site is indicated on Page R1.

WIND CLASSIFICATION

Where requested, a visual investigation and desktop study of the site has been carried out in accordance with AS4055-2012. The results of this classification are presented along with the borehole information.

FOUNDING MATERIAL

The minimum founding material is indicated on the Borelog Profile on Drawing No.1 and is based on our findings as well as any information provided to us. The nominated material is dependent on all requirements set out in this report being complied with. Where a Footing System Design is to be carried out at a later date, it is possible the required founding material may differ based on information provided at that time. If conditions encountered on site differ from the information set out herein, this office is to be contacted immediately for further advice. Where a third party utilises this report for any purpose, including carrying out a Footing System Design, it is their responsibility to ensure the nominated founding material is suitable for the intended use.

TREES

Unless otherwise noted, the Site Classification in this report has been based on the assumption that all trees on site that could affect the performance of the footings will be removed. Trees that could affect the performance of the footings are those which are a distance from the house of:

0.75 x "h"	"M" sites
1.0 x "h"	"H" sites
1.5 x "h"	"E" sites

Where "h" is the mature height of the tree. Where rows or groups of trees are involved, the distance from the house should be increased.

As the trees are removed, the hole left by the root ball is to be filled with water and the surrounding area saturated.

The classification may vary if trees are to be left on site.

CONTROLLED FILL MATERIAL

Where Qld Soil Testing has been provided with a compaction certificate, this certificate has been relied upon in determining the suitability of the fill material on this site as the founding material for the proposed residence. Qld Soil Testing accepts no responsibility for any inaccuracies in the supplied compaction certificate.

LIMITS OF REPORT

The findings in the report are based on information obtained from the field site investigation. It should be noted that the soil conditions could vary considerably over short distances. Where soil conditions are encountered during excavation that varies from the site investigation findings then the engineer should be immediately contacted.

Unless otherwise noted this investigation and report does not address the following issues:

- Mining Subsidence (In areas in the vicinity of underground mines a specialist consultant is required to be engaged for a Mining Subsidence Study.)
- Slope/Stability Analysis. On steep sites and in areas prone to slippage the local authority should be consulted. A specialist report may be required.
- Contamination and/or hazardous materials on site.
- Underground services. It is the client's responsibility to inform us of the existence of, or the future construction of, underground services in the vicinity of the house.
- Contours, slope, site proportion/dimensions. Any slopes or dimensions shown are indicative only and should not be relied upon by others.
- Location of springs or underground water. Where water tables are noted the depth to the water table may vary significantly over short periods of time. Significant variation of subsurface flow may occur between periods of wet and dry weather.
- Deep soft/unstable soils. Investigations are normally limited to a depth of 1.5 metres. Therefore deep underlying problems will not be detected by a limited investigation such as this. A search of council records should be undertaken by either the owner or the builder prior to construction to discover such information.
- Acid Sulphate Soils. Chemical Testing for the presence of Acid Sulphate Soils does not form part of this report. Where the presence of acid sulphate soils is possible, eg. reclaimed marine environments, advice should be sought from the Local Authority and/or an expert in the field.
- Flood Hazard Areas. It is the client's responsibility to inform us if the site is located within a Flood Hazard Area as defined by the Qld Development Code MP 3.5. Where information relating to a Flood Hazard Area has not been provided then no consideration has been given to this matter.

SITE INVESTIGATION
FOR PROPOSED
NEW DOMESTIC CONSTRUCTION
AT
LOT 1423 GAINSBOROUGH DRIVE, PIMPAMA



SITE CLASSIFICATION

Based on the depth and type of controlled fill material present and using engineering principles, it is considered a suitable classification would be:

H1: HIGHLY REACTIVE

$Y_s = 40 - 60\text{mm}$

Notes: In determining the suitability of the fill material on this site as a founding material for the proposed residence, Qld Soil Testing Pty Ltd have relied upon the Level 1 compaction information prepared by Morrison Geotechnic. The accuracy of that information has not been checked by Qld Soil Testing. The suitability of the footing system design contained in this report for this site is conditional on the accuracy of the supplied information. Qld Soil Testing accepts no responsibility for any variations to the design due to inaccuracies in the supplied information.

- : A street tree was observed to the front of the site. The classification has been carried out considering an estimation of the tree height at the time of our investigation. Based on this current estimate, the tree is not considered to influence the proposed dwelling at this time. QLD Soil Testing does not have the necessary expertise to determine the mature height of the tree and have not attempted to do so. If at any time the ratio of tree height to distance from the dwelling is in excess of 1:1 the owner may need to carry out additional measures capable of preventing or dealing with the moisture transfer from the foundation soils to the tree. This may require additional design input from a suitably qualified professional at that time. Alternatively, advice from a suitably qualified arborist could be sought by the owner at this time for inclusion into the design.
- : Prior to the commencement of cut/fill operations, all existing topsoil is to be stripped from the construction area.

David H Hardy
RPEQ 6725
for and on behalf of
Qld Soil Testing Pty Ltd

14/121 Newmarket Road
Windsor, QLD 4030

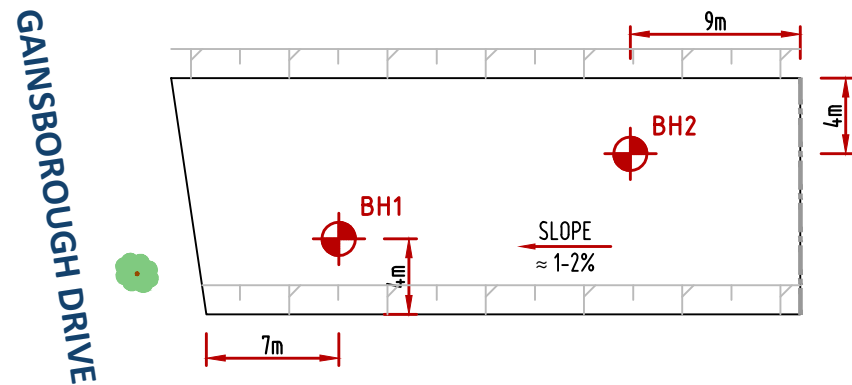
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Fax: (07) 3357 5572

QST Group ABN 68 620 644 751 Qld Soil Testing ABN 13 104 315 657
QST Group Pty Ltd is an Agent of Qld Soil Testing Pty Ltd

Email: mail@qstgroup.com.au
Web: www.qstgroup.com.au

JOB No: 0960/20
22 May, 2020

SITE SKETCH (N.T.S.)



NOTE: SITE PLAN IS A GRAPHIC REPRESENTATION ONLY. ALL NOTED MEASUREMENTS HAVE BEEN TAKEN FROM RELEVANT ALLOTMENT BOUNDARIES AND/OR SIGNIFICANT SITE FEATURES. STREET NAME IS SHOWN FOR ALLOTMENT ORIENTATION PURPOSES ONLY.

SHRINK/SWELL TEST RESULTS

BOREHOLE No.	1
DEPTH (mm)	500
Iss	5.2

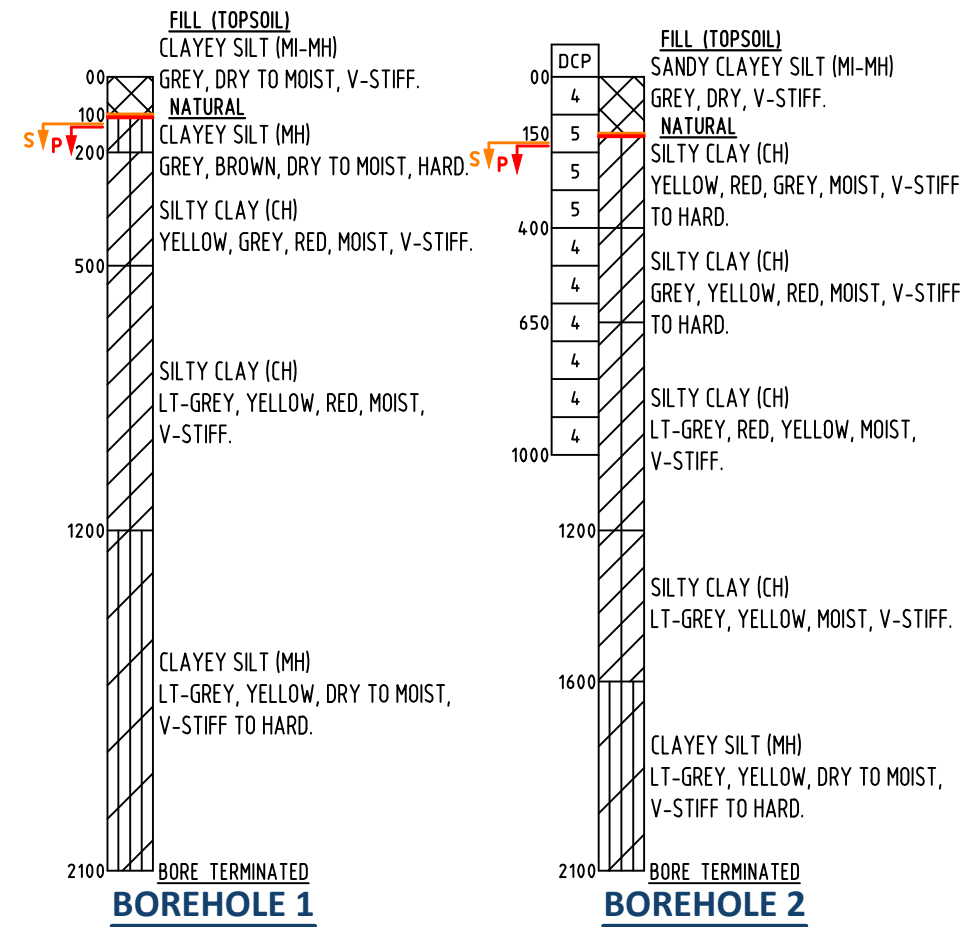
LEGEND

RETAINING WALL(S)	SERVICE MANHOLE(S)
LARGE TREE(S)	SERVICE GULLY PIT(S)
MEDIUM TREE(S)	WATER TABLE OBSERVED AT NOMINATED DEPTH
SMALL TREE(S)	BATTER(S)
MAX T.C. AUGER REFUSAL / BORE TERMINATED	

DEPTH INDICATES COMMENCEMENT OF SUITABLE FOUNDING MATERIAL FOR **SLAB (PERIMETER)/FOOTINGS**.

DEPTH INDICATES COMMENCEMENT OF SUITABLE FOUNDING MATERIAL FOR **SLAB (INTERNAL)**.

PIERS (WHERE REQUIRED) TO FOUND BEYOND THE APPROPRIATE DEPTH (REFER DESIGN)



SITE INVESTIGATION RESULT
 LOT 1423 GAINSBOROUGH DRIVE
 PIMPAMA

07/05/20 DATE	SI-A ISSUE
0960/20 JOB No.	1 DWG. No.

SOIL TEST

SITE INVESTIGATION

As requested, a geotechnical site investigation was carried out for the site indicated on Page 1 of this report.

The site investigation comprised of drilling a number of holes to determine the soil profile. The required number of holes was determined on site by the drilling technician based on the conditions observed on site and the requirements of AS2870 Clause 2.3.4. A minimum of one Dynamic Cone Penetrometer (DCP) test was performed unless it was deemed not necessary. Representative clay samples were taken as deemed appropriate and tested in the laboratory. The general site conditions were also noted.

The report is based on site conditions encountered at the time of our investigation. If the condition of the site varies considerably after our site investigation, eg major earth works, then the site classification may need to be amended.

SITE CLASSIFICATION

The results of the site investigation and laboratory testing enable the site to be classified in accordance with AS2870 based on the estimated characteristic surface movement (y_s). The various site classes are outlined in the CSIRO Building Technology File 18 "Foundation Maintenance and Footing Performance: A Homeowner's Guide". The classification of the subject site is indicated on Page R1.

WIND CLASSIFICATION

Where requested, a visual investigation and desktop study of the site has been carried out in accordance with AS4055-2012. The results of this classification are presented along with the borehole information.

FOUNDING MATERIAL

The minimum founding material is indicated on the Borelog Profile on Drawing No.1 and is based on our findings as well as any information provided to us. The nominated material is dependent on all requirements set out in this report being complied with. Where a Footing System Design is to be carried out at a later date, it is possible the required founding material may differ based on information provided at that time. If conditions encountered on site differ from the information set out herein, this office is to be contacted immediately for further advice. Where a third party utilises this report for any purpose, including carrying out a Footing System Design, it is their responsibility to ensure the nominated founding material is suitable for the intended use.

TREES

Unless otherwise noted, the Site Classification in this report has been based on the assumption that all trees on site that could affect the performance of the footings will be removed. Trees that could affect the performance of the footings are those which are a distance from the house of:

0.75 x "h"	"M" sites
1.0 x "h"	"H" sites
1.5 x "h"	"E" sites

Where "h" is the mature height of the tree. Where rows or groups of trees are involved, the distance from the house should be increased.

As the trees are removed, the hole left by the root ball is to be filled with water and the surrounding area saturated.

The classification may vary if trees are to be left on site.

CONTROLLED FILL MATERIAL

Where Qld Soil Testing has been provided with a compaction certificate, this certificate has been relied upon in determining the suitability of the fill material on this site as the founding material for the proposed residence. Qld Soil Testing accepts no responsibility for any inaccuracies in the supplied compaction certificate.

LIMITS OF REPORT

The findings in the report are based on information obtained from the field site investigation. It should be noted that the soil conditions could vary considerably over short distances. Where soil conditions are encountered during excavation that varies from the site investigation findings then the engineer should be immediately contacted.

Unless otherwise noted this investigation and report does not address the following issues:

- Mining Subsidence (In areas in the vicinity of underground mines a specialist consultant is required to be engaged for a Mining Subsidence Study.)
- Slope/Stability Analysis. On steep sites and in areas prone to slippage the local authority should be consulted. A specialist report may be required.
- Contamination and/or hazardous materials on site.
- Underground services. It is the client's responsibility to inform us of the existence of, or the future construction of, underground services in the vicinity of the house.
- Contours, slope, site proportion/dimensions. Any slopes or dimensions shown are indicative only and should not be relied upon by others.
- Location of springs or underground water. Where water tables are noted the depth to the water table may vary significantly over short periods of time. Significant variation of subsurface flow may occur between periods of wet and dry weather.
- Deep soft/unstable soils. Investigations are normally limited to a depth of 1.5 metres. Therefore deep underlying problems will not be detected by a limited investigation such as this. A search of council records should be undertaken by either the owner or the builder prior to construction to discover such information.
- Acid Sulphate Soils. Chemical Testing for the presence of Acid Sulphate Soils does not form part of this report. Where the presence of acid sulphate soils is possible, eg. reclaimed marine environments, advice should be sought from the Local Authority and/or an expert in the field.
- Flood Hazard Areas. It is the client's responsibility to inform us if the site is located within a Flood Hazard Area as defined by the Qld Development Code MP 3.5. Where information relating to a Flood Hazard Area has not been provided then no consideration has been given to this matter.

SITE INVESTIGATION
FOR PROPOSED
NEW DOMESTIC CONSTRUCTION
AT
LOT 1424 GAINSBOROUGH DRIVE, PIMPAMA



SITE CLASSIFICATION

H1: HIGHLY REACTIVE

Y_s = 40 - 60mm

Note: Street trees were observed to the front of the site. The classification has been carried out considering an estimation of the tree heights at the time of our investigation. Based on these current estimates, the trees are not considered to influence the proposed dwelling at this time. QLD Soil Testing does not have the necessary expertise to determine the mature height of the trees and have not attempted to do so. If at any time the ratio of tree height to distance from the dwelling is in excess of 1:2 the owner may need to carry out additional measures capable of preventing or dealing with the moisture transfer from the foundation soils to the tree. This may require additional design input from a suitably qualified professional at that time. Alternatively, advice from a suitably qualified arborist could be sought by the owner at this time for inclusion into the design.

: Prior to the commencement of cut/fill operations, all existing topsoil is to be stripped from the construction area.

David H Hardy
RPEQ 6725
for and on behalf of
Qld Soil Testing Pty Ltd

14/121 Newmarket Road
Windsor, QLD 4030

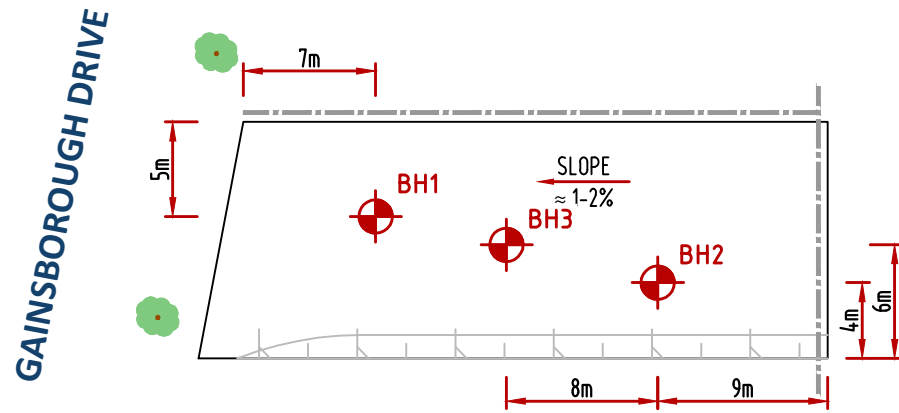
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Fax: (07) 3357 5572

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QST Group Pty Ltd is an Agent of Qld Soil Testing Pty Ltd

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Web: www.qstgroup.com.au

JOB No: 0961/20
22 May, 2020

SITE SKETCH (N.T.S.)



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SHRINK/SWELL TEST RESULTS

BOREHOLE No.	2
DEPTH (mm)	600
Iss	4.7

LEGEND

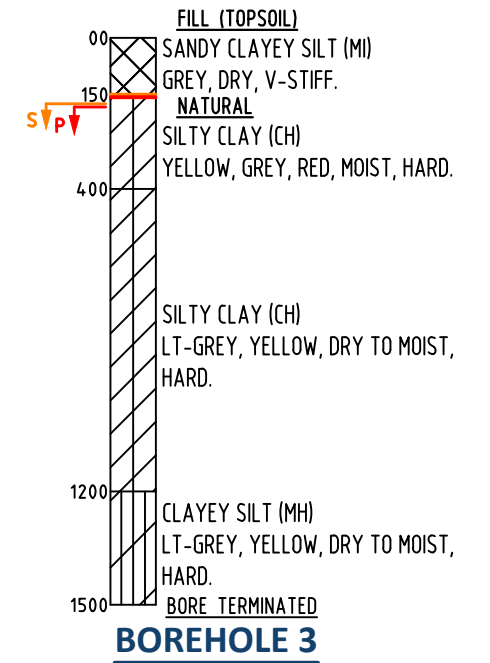
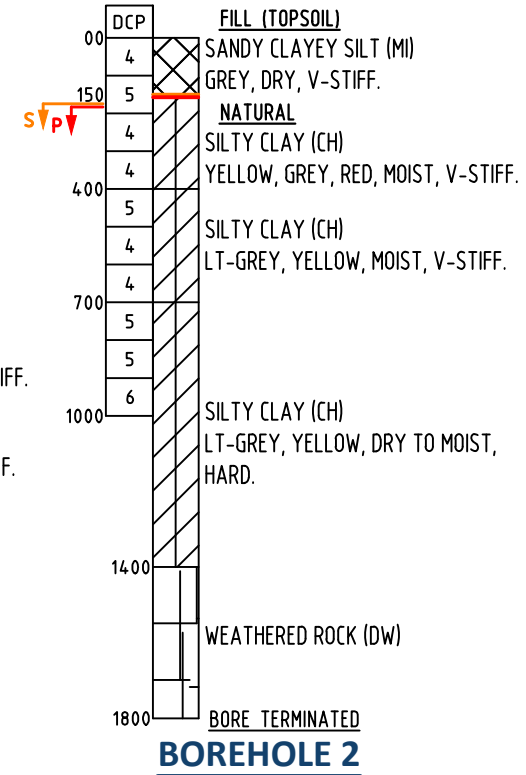
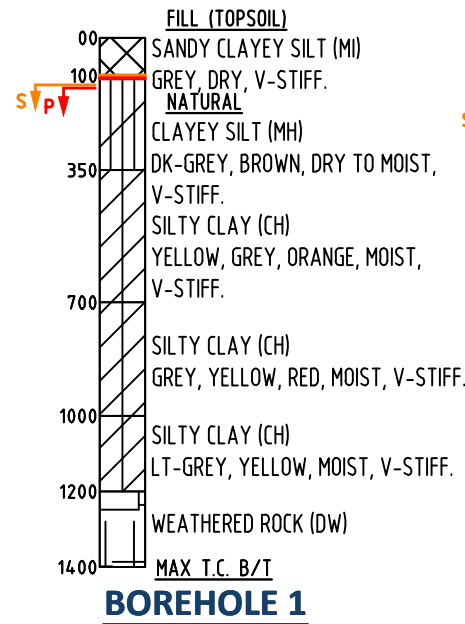
- RETAINING WALL(S)
- LARGE TREE(S)
- MEDIUM TREE(S)
- SMALL TREE(S)
- SERVICE MANHOLE(S)
- SERVICE GULLY PIT(S)
- WATER TABLE OBSERVED AT NOMINATED DEPTH
- BATTER(S)

MAX T.C AUGER REFUSAL / BORE TERMINATED

DEPTH INDICATES COMMENCEMENT OF SUITABLE FOUNDING MATERIAL FOR **SLAB (PERIMETER)/FOOTINGS.**

DEPTH INDICATES COMMENCEMENT OF SUITABLE FOUNDING MATERIAL FOR **SLAB (INTERNAL).**

PIERS (WHERE REQUIRED) TO FOUND BEYOND THE APPROPRIATE DEPTH (REFER DESIGN)



SOIL TEST

SITE INVESTIGATION

As requested, a geotechnical site investigation was carried out for the site indicated on Page 1 of this report.

The site investigation comprised of drilling a number of holes to determine the soil profile. The required number of holes was determined on site by the drilling technician based on the conditions observed on site and the requirements of AS2870 Clause 2.3.4. A minimum of one Dynamic Cone Penetrometer (DCP) test was performed unless it was deemed not necessary. Representative clay samples were taken as deemed appropriate and tested in the laboratory. The general site conditions were also noted.

The report is based on site conditions encountered at the time of our investigation. If the condition of the site varies considerably after our site investigation, eg major earth works, then the site classification may need to be amended.

SITE CLASSIFICATION

The results of the site investigation and laboratory testing enable the site to be classified in accordance with AS2870 based on the estimated characteristic surface movement (y_s). The various site classes are outlined in the CSIRO Building Technology File 18 "Foundation Maintenance and Footing Performance: A Homeowner's Guide". The classification of the subject site is indicated on Page R1.

WIND CLASSIFICATION

Where requested, a visual investigation and desktop study of the site has been carried out in accordance with AS4055-2012. The results of this classification are presented along with the borehole information.

FOUNDING MATERIAL

The minimum founding material is indicated on the Borelog Profile on Drawing No.1 and is based on our findings as well as any information provided to us. The nominated material is dependent on all requirements set out in this report being complied with. Where a Footing System Design is to be carried out at a later date, it is possible the required founding material may differ based on information provided at that time. If conditions encountered on site differ from the information set out herein, this office is to be contacted immediately for further advice. Where a third party utilises this report for any purpose, including carrying out a Footing System Design, it is their responsibility to ensure the nominated founding material is suitable for the intended use.

TREES

Unless otherwise noted, the Site Classification in this report has been based on the assumption that all trees on site that could affect the performance of the footings will be removed. Trees that could affect the performance of the footings are those which are a distance from the house of:

0.75 x "h"	"M" sites
1.0 x "h"	"H" sites
1.5 x "h"	"E" sites

Where "h" is the mature height of the tree. Where rows or groups of trees are involved, the distance from the house should be increased.

As the trees are removed, the hole left by the root ball is to be filled with water and the surrounding area saturated.

The classification may vary if trees are to be left on site.

CONTROLLED FILL MATERIAL

Where Qld Soil Testing has been provided with a compaction certificate, this certificate has been relied upon in determining the suitability of the fill material on this site as the founding material for the proposed residence. Qld Soil Testing accepts no responsibility for any inaccuracies in the supplied compaction certificate.

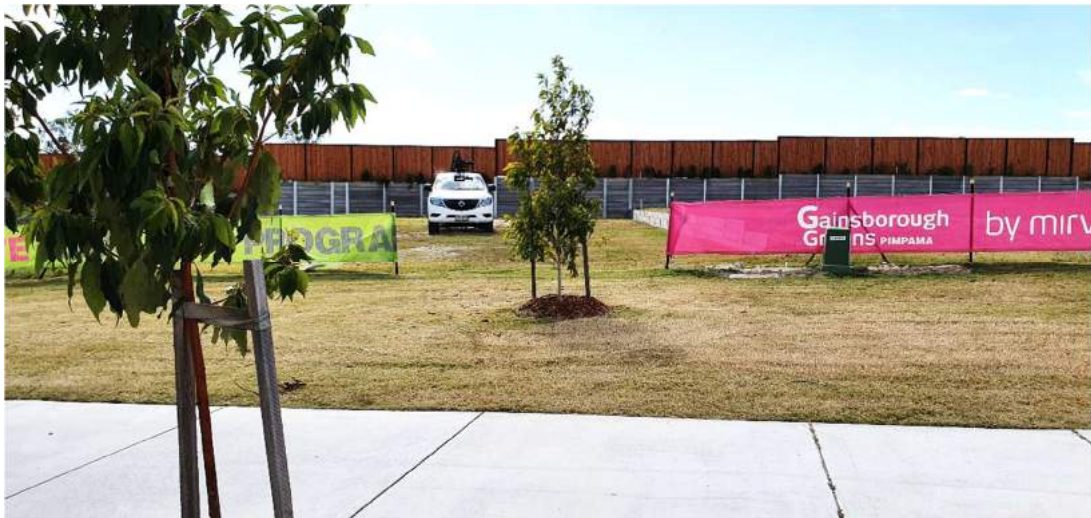
LIMITS OF REPORT

The findings in the report are based on information obtained from the field site investigation. It should be noted that the soil conditions could vary considerably over short distances. Where soil conditions are encountered during excavation that varies from the site investigation findings then the engineer should be immediately contacted.

Unless otherwise noted this investigation and report does not address the following issues:

- Mining Subsidence (In areas in the vicinity of underground mines a specialist consultant is required to be engaged for a Mining Subsidence Study.)
- Slope/Stability Analysis. On steep sites and in areas prone to slippage the local authority should be consulted. A specialist report may be required.
- Contamination and/or hazardous materials on site.
- Underground services. It is the client's responsibility to inform us of the existence of, or the future construction of, underground services in the vicinity of the house.
- Contours, slope, site proportion/dimensions. Any slopes or dimensions shown are indicative only and should not be relied upon by others.
- Location of springs or underground water. Where water tables are noted the depth to the water table may vary significantly over short periods of time. Significant variation of subsurface flow may occur between periods of wet and dry weather.
- Deep soft/unstable soils. Investigations are normally limited to a depth of 1.5 metres. Therefore deep underlying problems will not be detected by a limited investigation such as this. A search of council records should be undertaken by either the owner or the builder prior to construction to discover such information.
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- Flood Hazard Areas. It is the client's responsibility to inform us if the site is located within a Flood Hazard Area as defined by the Qld Development Code MP 3.5. Where information relating to a Flood Hazard Area has not been provided then no consideration has been given to this matter.

SITE INVESTIGATION
FOR PROPOSED
NEW DOMESTIC CONSTRUCTION
AT
LOT 1425 GAINSBOROUGH DRIVE, PIMPAMA



SITE CLASSIFICATION

H1: HIGHLY REACTIVE

Ys = 40 - 60mm

Notes: In determining the suitability of the fill material on this site as a founding material for the proposed residence, Qld Soil Testing Pty Ltd have relied upon the Level 1 compaction information prepared by Morrison Geotechnic. The accuracy of that information has not been checked by Qld Soil Testing. The suitability of the footing system design contained in this report for this site is conditional on the accuracy of the supplied information. Qld Soil Testing accepts no responsibility for any variations to the design due to inaccuracies in the supplied information.

- : Street trees were observed to the front of the site. The classification has been carried out considering an estimation of the tree heights at the time of our investigation. Based on these current estimates, the trees are not considered to influence the proposed dwelling at this time. QLD Soil Testing does not have the necessary expertise to determine the mature height of the trees and have not attempted to do so. If at any time the ratio of tree height to distance from the dwelling is in excess of 1:2 the owner may need to carry out additional measures capable of preventing or dealing with the moisture transfer from the foundation soils to the tree. This may require additional design input from a suitably qualified professional at that time. Alternatively, advice from a suitably qualified arborist could be sought by the owner at this time for inclusion into the design.
- : Prior to the commencement of cut/fill operations, all existing topsoil is to be stripped from the construction area.

David H Hardy
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for and on behalf of
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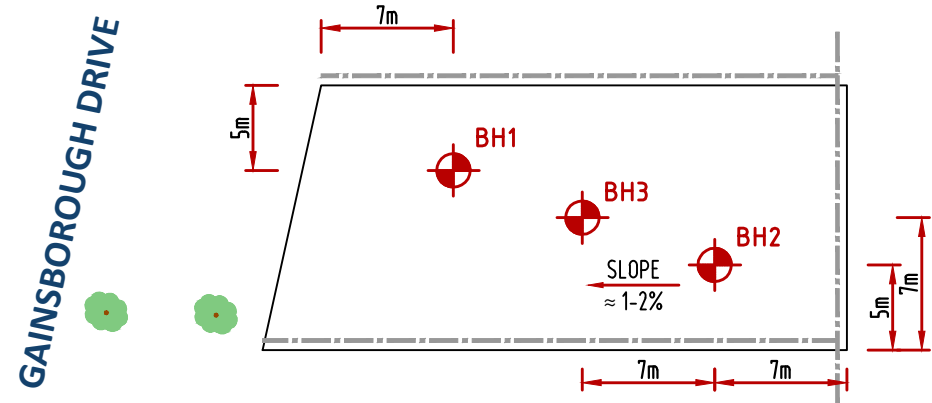
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Email: mail@qstgroup.com.au
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JOB No: 0962/20
22 May, 2020

SITE SKETCH (N.T.S.)



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SHRINK/SWELL TEST RESULTS

BOREHOLE No.	3
DEPTH (mm)	600
Iss	4.7

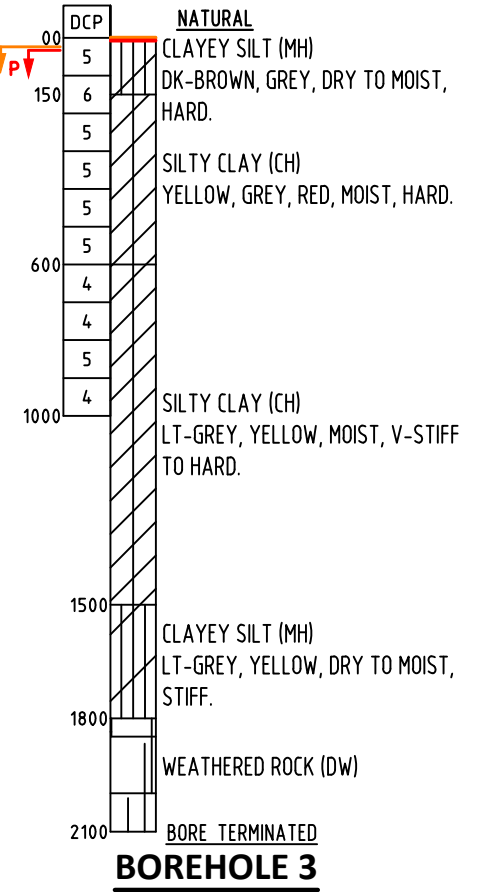
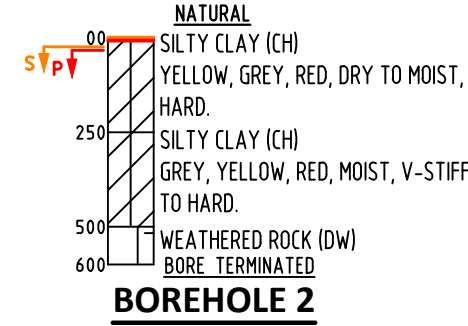
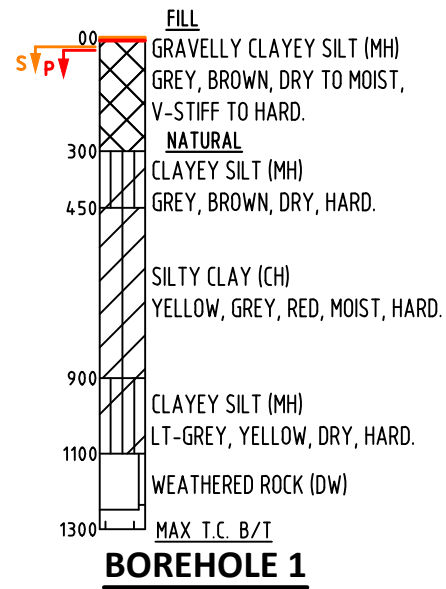
LEGEND

- RETAINING WALL(S)
- SERVICE MANHOLE(S)
- LARGE TREE(S)
- SERVICE GULLY PIT(S)
- MEDIUM TREE(S)
- ▬ WATER TABLE OBSERVED AT NOMINATED DEPTH
- SMALL TREE(S)
- ▬ BATTER(S)
- MAX T.C AUGER REFUSAL / BORE TERMINATED

DEPTH INDICATES COMMENCEMENT OF SUITABLE FOUNDING MATERIAL FOR **SLAB (PERIMETER)/FOOTINGS**.

DEPTH INDICATES COMMENCEMENT OF SUITABLE FOUNDING MATERIAL FOR **SLAB (INTERNAL)**.

PIERS (WHERE REQUIRED) TO FOUND BEYOND THE APPROPRIATE DEPTH (REFER DESIGN)



SOIL TEST

SITE INVESTIGATION

As requested, a geotechnical site investigation was carried out for the site indicated on Page 1 of this report.

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SITE CLASSIFICATION

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WIND CLASSIFICATION

Where requested, a visual investigation and desktop study of the site has been carried out in accordance with AS4055-2012. The results of this classification are presented along with the borehole information.

FOUNDING MATERIAL

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TREES

Unless otherwise noted, the Site Classification in this report has been based on the assumption that all trees on site that could affect the performance of the footings will be removed. Trees that could affect the performance of the footings are those which are a distance from the house of:

0.75 x "h"	"M" sites
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Where "h" is the mature height of the tree. Where rows or groups of trees are involved, the distance from the house should be increased.

As the trees are removed, the hole left by the root ball is to be filled with water and the surrounding area saturated.

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CONTROLLED FILL MATERIAL

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LIMITS OF REPORT

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- Acid Sulphate Soils. Chemical Testing for the presence of Acid Sulphate Soils does not form part of this report. Where the presence of acid sulphate soils is possible, eg. reclaimed marine environments, advice should be sought from the Local Authority and/or an expert in the field.
- Flood Hazard Areas. It is the client's responsibility to inform us if the site is located within a Flood Hazard Area as defined by the Qld Development Code MP 3.5. Where information relating to a Flood Hazard Area has not been provided then no consideration has been given to this matter.

SITE INVESTIGATION
FOR PROPOSED
NEW DOMESTIC CONSTRUCTION
AT
LOT 1426 GAINSBOROUGH DRIVE, PIMPAMA



SITE CLASSIFICATION

H1: HIGHLY REACTIVE

Ys = 40 - 60mm

Notes: In determining the suitability of the fill material on this site as a founding material for the proposed residence, Qld Soil Testing Pty Ltd have relied upon the Level 1 compaction information prepared by Morrison Geotechnic. The accuracy of that information has not been checked by Qld Soil Testing. The suitability of the footing system design contained in this report for this site is conditional on the accuracy of the supplied information. Qld Soil Testing accepts no responsibility for any variations to the design due to inaccuracies in the supplied information.

- : Prior to the commencement of cut/fill operations, all existing topsoil is to be stripped from the construction area.
- : Street trees were observed to the front of the site. The classification has been carried out considering an estimation of the tree heights at the time of our investigation. Based on these current estimates, the trees are not considered to influence the proposed dwelling at this time. QLD Soil Testing does not have the necessary expertise to determine the mature height of the trees and have not attempted to do so. If at any time the ratio of tree height to distance from the dwelling is in excess of 1:2 the owner may need to carry out additional measures capable of preventing or dealing with the moisture transfer from the foundation soils to the tree. This may require additional design input from a suitably qualified professional at that time. Alternatively, advice from a suitably qualified arborist could be sought by the owner at this time for inclusion into the design.

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RPEQ 6725
for and on behalf of
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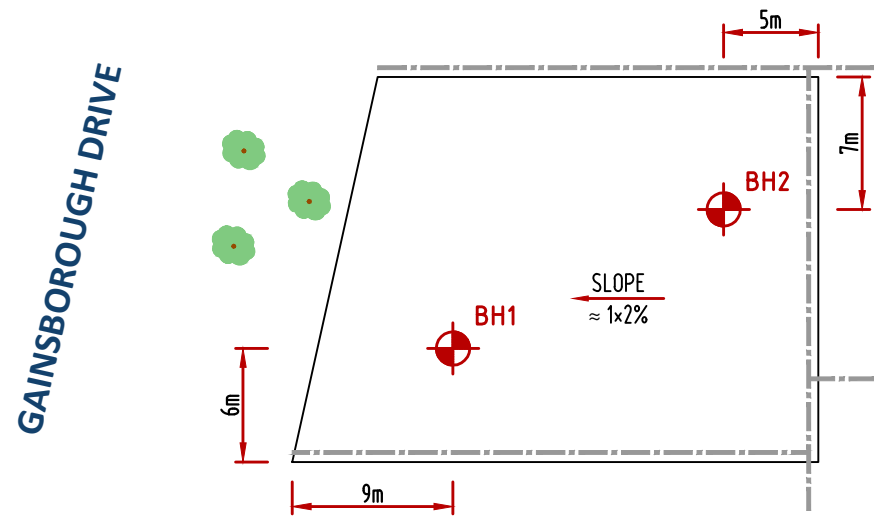
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QST Group Pty Ltd is an Agent of Qld Soil Testing Pty Ltd

JOB No: 0963/20
22 May, 2020

SITE SKETCH (N.T.S.)



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SHRINK/SWELL TEST RESULTS

BOREHOLE No.	2
DEPTH (mm)	600
ISS	4.7

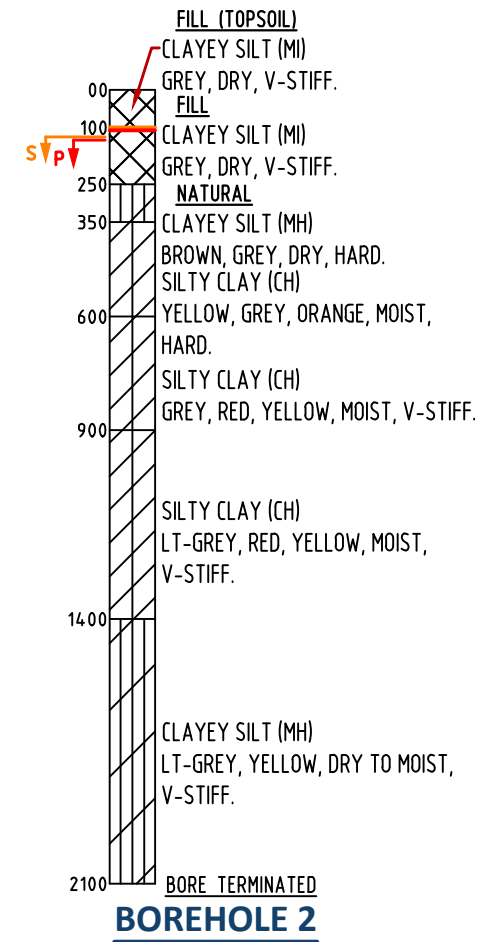
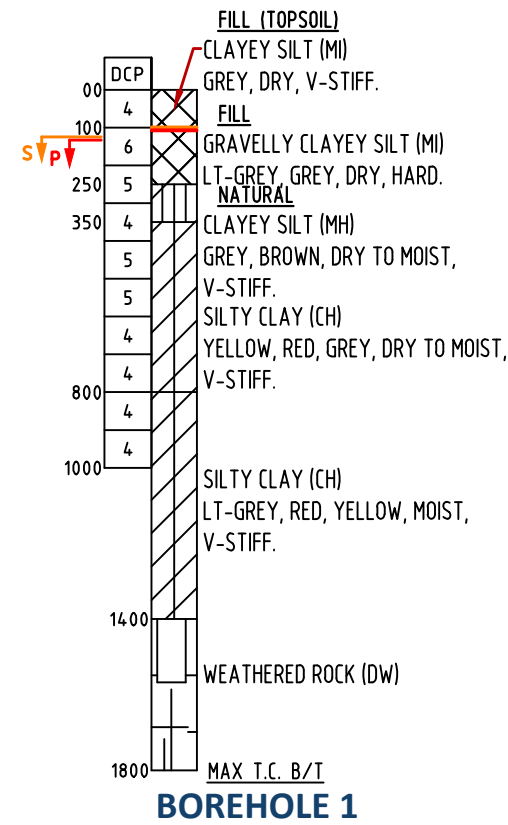
LEGEND

- RETAINING WALL(S)
- SERVICE MANHOLE(S)
- LARGE TREE(S)
- MEDIUM TREE(S)
- SMALL TREE(S)
- MAX T.C. AUGER REFUSAL / BORE TERMINATED
- ▣ SERVICE GULLY PIT(S)
- ▬ WATER TABLE OBSERVED AT NOMINATED DEPTH
- └─ BATTER(S)

DEPTH INDICATES COMMENCEMENT OF SUITABLE FOUNDING MATERIAL FOR **SLAB (PERIMETER)/FOOTINGS.**

DEPTH INDICATES COMMENCEMENT OF SUITABLE FOUNDING MATERIAL FOR **SLAB (INTERNAL).**

PIERS (WHERE REQUIRED) TO FOUND BEYOND THE APPROPRIATE DEPTH (REFER DESIGN)



SITE INVESTIGATION RESULT
 LOT 1426 GAINSBOROUGH DRIVE
 PIMPAMA

01/05/20 DATE	SI-A ISSUE
0963/20 JOB No.	1 DWG. No.

SOIL TEST

SITE INVESTIGATION

As requested, a geotechnical site investigation was carried out for the site indicated on Page 1 of this report.

The site investigation comprised of drilling a number of holes to determine the soil profile. The required number of holes was determined on site by the drilling technician based on the conditions observed on site and the requirements of AS2870 Clause 2.3.4. A minimum of one Dynamic Cone Penetrometer (DCP) test was performed unless it was deemed not necessary. Representative clay samples were taken as deemed appropriate and tested in the laboratory. The general site conditions were also noted.

The report is based on site conditions encountered at the time of our investigation. If the condition of the site varies considerably after our site investigation, eg major earth works, then the site classification may need to be amended.

SITE CLASSIFICATION

The results of the site investigation and laboratory testing enable the site to be classified in accordance with AS2870 based on the estimated characteristic surface movement (y_s). The various site classes are outlined in the CSIRO Building Technology File 18 "Foundation Maintenance and Footing Performance: A Homeowner's Guide". The classification of the subject site is indicated on Page R1.

WIND CLASSIFICATION

Where requested, a visual investigation and desktop study of the site has been carried out in accordance with AS4055-2012. The results of this classification are presented along with the borehole information.

FOUNDING MATERIAL

The minimum founding material is indicated on the Borelog Profile on Drawing No.1 and is based on our findings as well as any information provided to us. The nominated material is dependent on all requirements set out in this report being complied with. Where a Footing System Design is to be carried out at a later date, it is possible the required founding material may differ based on information provided at that time. If conditions encountered on site differ from the information set out herein, this office is to be contacted immediately for further advice. Where a third party utilises this report for any purpose, including carrying out a Footing System Design, it is their responsibility to ensure the nominated founding material is suitable for the intended use.

TREES

Unless otherwise noted, the Site Classification in this report has been based on the assumption that all trees on site that could affect the performance of the footings will be removed. Trees that could affect the performance of the footings are those which are a distance from the house of:

0.75 x "h"	"M" sites
1.0 x "h"	"H" sites
1.5 x "h"	"E" sites

Where "h" is the mature height of the tree. Where rows or groups of trees are involved, the distance from the house should be increased.

As the trees are removed, the hole left by the root ball is to be filled with water and the surrounding area saturated.

The classification may vary if trees are to be left on site.

CONTROLLED FILL MATERIAL

Where Qld Soil Testing has been provided with a compaction certificate, this certificate has been relied upon in determining the suitability of the fill material on this site as the founding material for the proposed residence. Qld Soil Testing accepts no responsibility for any inaccuracies in the supplied compaction certificate.

LIMITS OF REPORT

The findings in the report are based on information obtained from the field site investigation. It should be noted that the soil conditions could vary considerably over short distances. Where soil conditions are encountered during excavation that varies from the site investigation findings then the engineer should be immediately contacted.

Unless otherwise noted this investigation and report does not address the following issues:

- Mining Subsidence (In areas in the vicinity of underground mines a specialist consultant is required to be engaged for a Mining Subsidence Study.)
- Slope/Stability Analysis. On steep sites and in areas prone to slippage the local authority should be consulted. A specialist report may be required.
- Contamination and/or hazardous materials on site.
- Underground services. It is the client's responsibility to inform us of the existence of, or the future construction of, underground services in the vicinity of the house.
- Contours, slope, site proportion/dimensions. Any slopes or dimensions shown are indicative only and should not be relied upon by others.
- Location of springs or underground water. Where water tables are noted the depth to the water table may vary significantly over short periods of time. Significant variation of subsurface flow may occur between periods of wet and dry weather.
- Deep soft/unstable soils. Investigations are normally limited to a depth of 1.5 metres. Therefore deep underlying problems will not be detected by a limited investigation such as this. A search of council records should be undertaken by either the owner or the builder prior to construction to discover such information.
- Acid Sulphate Soils. Chemical Testing for the presence of Acid Sulphate Soils does not form part of this report. Where the presence of acid sulphate soils is possible, eg. reclaimed marine environments, advice should be sought from the Local Authority and/or an expert in the field.
- Flood Hazard Areas. It is the client's responsibility to inform us if the site is located within a Flood Hazard Area as defined by the Qld Development Code MP 3.5. Where information relating to a Flood Hazard Area has not been provided then no consideration has been given to this matter.