

Symbols & Abbreviations

Douglas Partners



Introduction

These notes summarise abbreviations commonly used on borehole logs and test pit reports.

Drilling or Excavation Methods

C	Core Drilling
R	Rotary drilling
SFA	Spiral flight augers
NMLC	Diamond core - 52 mm dia
NQ	Diamond core - 47 mm dia
HQ	Diamond core - 63 mm dia
PQ	Diamond core - 81 mm dia

Water

▷	Water seep
▽	Water level

Sampling and Testing

A	Auger sample
B	Bulk sample
D	Disturbed sample
E	Environmental sample
U ₅₀	Undisturbed tube sample (50mm)
W	Water sample
pp	pocket penetrometer (kPa)
PID	Photo ionisation detector
PL	Point load strength Is(50) MPa
S	Standard Penetration Test
V	Shear vane (kPa)

Description of Defects in Rock

The abbreviated descriptions of the defects should be in the following order: Depth, Type, Orientation, Coating, Shape, Roughness and Other. Drilling and handling breaks are not usually included on the logs.

Defect Type

B	Bedding plane
Cs	Clay seam
Cv	Cleavage
Cz	Crushed zone
Ds	Decomposed seam
F	Fault
J	Joint
Lam	lamination
Pt	Parting
Sz	Sheared Zone
V	Vein

Orientation

The inclination of defects is always measured from the perpendicular to the core axis.

h	horizontal
v	vertical
sh	sub-horizontal
sv	sub-vertical

Coating or Infilling Term

cln	clean
co	coating
he	healed
inf	infilled
stn	stained
ti	tight
vn	veneer

Coating Descriptor

ca	calcite
cbs	carbonaceous
cly	clay
fe	iron oxide
mn	manganese
slt	silty

Shape

cu	curved
ir	irregular
pl	planar
st	stepped
un	undulating

Roughness

po	polished
ro	rough
sl	slickensided
sm	smooth
vr	very rough


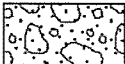
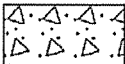

Other

fg	fragmented
bnd	band
qtz	quartz

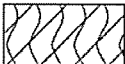
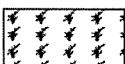
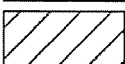
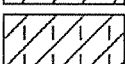
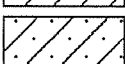
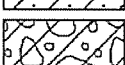
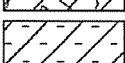

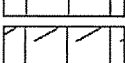
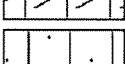
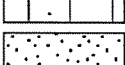
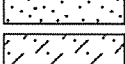
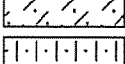
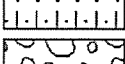
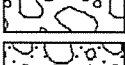
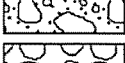
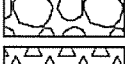
Symbols & Abbreviations

Graphic Symbols for Soil and Rock


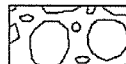

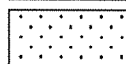
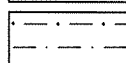
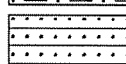
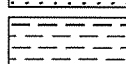

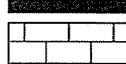
General

	Asphalt
	Road base
	Concrete
	Filling

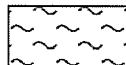


Soils

	Topsoil
	Peat
	Clay
	Silty clay
	Sandy clay
	Gravelly clay
	Shaly clay
	Silt
	Clayey silt
	Sandy silt
	Sand
	Clayey sand
	Silty sand
	Gravel
	Sandy gravel
	Cobbles, boulders
	Talus

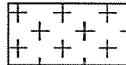
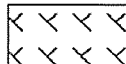
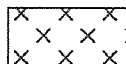
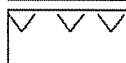
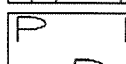
Sedimentary Rocks

	Boulder conglomerate
	Conglomerate
	Conglomeratic sandstone
	Sandstone
	Siltstone
	Laminite
	Mudstone, claystone, shale
	Coal
	Limestone

Metamorphic Rocks

	Slate, phyllite, schist
	Gneiss
	Quartzite

Igneous Rocks

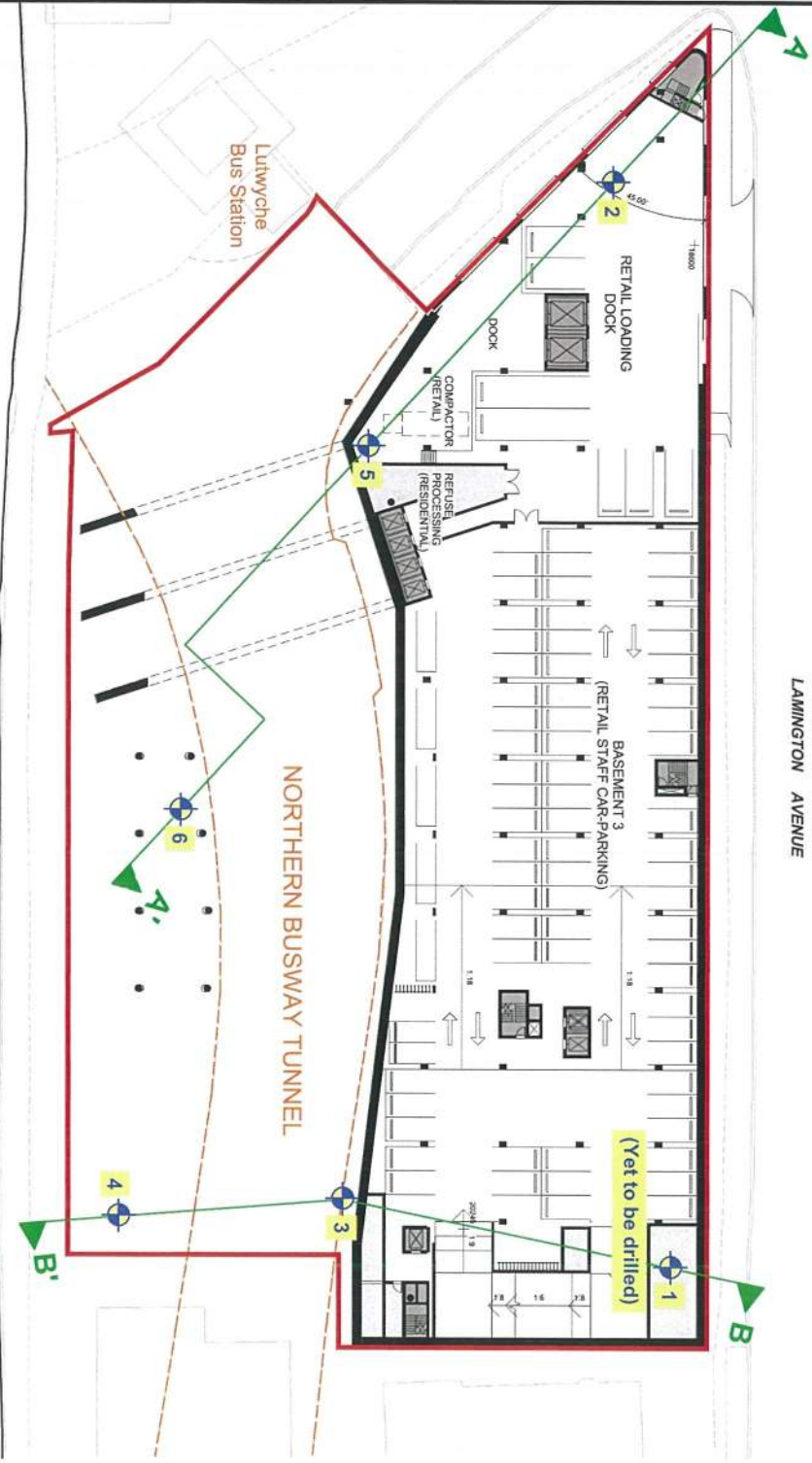
	Granite
	Dolerite, basalt, andesite
	Dacite, epidote
	Tuff, breccia
	Porphyry

Appendix B

Drawing 1 – Test Location Plan



Location Plan



LEGEND:-

-  Test Bore Location and Number
-  Site Boundary

NOTE:-

1. Test locations are approximate only and are shown with reference to existing site features.
2. Plan adapted from Drawing No. DA14B provided by Kane Constructions Pty Ltd.

Appendix C

Borehole Logs

BOREHOLE LOG

CLIENT: Kane Constructions Pty Ltd
PROJECT: Proposed Mixed Use Development
LOCATION: 33 to 57 Lamington Ave and 612 Lutwyche Rd, Lutwyche

SURFACE LEVEL: 20.0 m AHD
EASTING: 503337
NORTHING: 6967085
DIP/AZIMUTH: 90°/-

BORE No: 2
PROJECT No: 87424.00
DATE: 25/11/2015
SHEET 1 OF 3

RL	Depth (m)	Description of Strata	Degree of Weathering					Graphic Log	Rock Strength					Water	Fracture Spacing (m)				Discontinuities		Sampling & In Situ Testing					
			EW	HW	MW	SW	FS		FR	Ex Low	Very Low	Low	Medium		High	Very High	Ex High	0.01	0.05	0.10	0.50	1.00	B - Bedding S - Shear	J - Joint F - Fault	Type	Core Rec. %
20		FILLING - medium dense to dense, brown, gravelly silty sand filling with a trace of clay, moist																								
19	0.5	SILTY SAND - very stiff to hard, brown, silty sand, moist																								
1	1.0	SILTY CLAY - stiff to very stiff, brown and red-brown, medium plasticity silty clay with some sand, moist																				S				6,7,9 N = 16
18	1.9	SANDY CLAY - hard, light grey and brown, sandy clay, moist; fine to medium sand fraction (completely weathered tuff) - becomes clayey sandy silt, yellow-brown and red-brown mottled light grey - yellow-brown band																				S				19, 30/150mm
17	3																									
16	3.9	TUFF - extremely low strength, extremely weathered, light grey and purple, fine to coarse grained tuff																				S				14, 23, 30/125mm
15	5	- very low strength, highly weathered, light grey and brown																				S				30/55mm
14	6	- light grey																								
13	7.0	TUFF - high strength, fresh stained, slightly fractured, light grey and light purple, fine to coarse grained tuff, with some slightly weathered bands																				S				30/50mm PL(A) = 1.5 PL(D) = 1.32
12	8																						C	100	100	PL(A) = 0.86 PL(D) = 2.78
11	9																									PL(A) = 0.89 PL(D) = 0.93
	9.5																						C	100	94	PL(A) = 3.46 PL(D) = 2.7

RIG: Hydrapower Scout **DRILLER:** Ground Test **LOGGED:** LB **CASING:** HWT to 2.5m

TYPE OF BORING: Auger to 2.5m, rotary mud to 7.0m, then NMLC coring

WATER OBSERVATIONS: No free groundwater observed while augering

REMARKS:

SAMPLING & IN SITU TESTING LEGEND					
A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	≧	Water seep	S	Standard penetration test
E	Environmental sample	≡	Water level	V	Shear vane (kPa)

BOREHOLE LOG

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EASTING: 503337
NORTHING: 6967085
DIP/AZIMUTH: 90°/--

BORE No: 2
PROJECT No: 87424.00
DATE: 25/11/2015
SHEET 2 OF 3

RL	Depth (m)	Description of Strata	Degree of Weathering					Graphic Log	Rock Strength					Water	Fracture Spacing (m)				Discontinuities		Sampling & In Situ Testing						
			EW	HW	MW	SW	FS		FR	Ex Low	Very Low	Low	Medium		High	Very High	Ex High	0.01	0.05	0.10	0.50	1.00	B - Bedding S - Shear	J - Joint F - Fault	Type	Core Rec. %	RQD %
10		TUFF - very high strength, fresh stained, slightly fractured, light grey and light purple, fine to coarse grained tuff with some slightly weathered fractured bands <i>(continued)</i>																									
	11																					C	100	94	PL(A) = 2.9 PL(D) = 2.75		
	12																										
	13																										
	14																					C	100	97	PL(A) = 3.19 PL(D) = 3.57		
	15																										
		</																									

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DRILLER: Ground Test

LOGGED: LB

CASING: HWT to 2.5m

TYPE OF BORING: Auger to 2.5m, rotary mud to 7.0m, then NMLC coring

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SHEET 3 OF 3

RL	Depth (m)	Description of Strata	Degree of Weathering					Graphic Log	Rock Strength					Water	Fracture Spacing (m)	Discontinuities		Sampling & In Situ Testing																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
			EW	HW	MW	SW	FS		FR	Ex Low	Very Low	Low	Medium			High	Very High	Ex High	B - Bedding S - Shear	J - Joint F - Fault	Type	Core Rec. %	RQD %	Test Results & Comments																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
		TUFF - very high strength, fresh stained, slightly fractured, light grey and light purple, fine to coarse grained tuff with some slightly weathered fractured bands <i>(continued)</i>						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

RIG: Hydrapower Scout

DRILLER: Ground Test

LOGGED: LB

CASING: HWT to 2.5m

TYPE OF BORING: Auger to 2.5m, rotary mud to 7.0m, then NMLC coring

WATER OBSERVATIONS: No free groundwater observed while augering

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U _s	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	≡	Water level	V	Shear vane (kPa)



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BOREHOLE LOG

CLIENT: Kane Constructions Pty Ltd
PROJECT: Proposed Mixed Use Development
LOCATION: 33 to 57 Lamington Ave and 612 Lutwyche Rd,
 Lutwyche

SURFACE LEVEL: 27.8 m AHD
EASTING: 503418
NORTHING: 6967157
DIP/AZIMUTH: 90°/-

BORE No: 3
PROJECT No: 87424.00
DATE: 19 - 20/11/2015
SHEET 1 OF 3

RL	Depth (m)	Description of Strata	Degree of Weathering				Graphic Log	Rock Strength					Water	Fracture Spacing (m)			Discontinuities		Sampling & In Situ Testing								
			EW	HW	MW	SW		FS	FR	Ex Low	Very Low	Low		Medium	High	Very High	Ex High	0.01	0.05	0.10	0.50	1.00	B - Bedding S - Shear	J - Joint F - Fault	Type	Core Rec. %	RQD %
	0.05	TOPSOIL -loose to med dense brown, silty sand topsoil																									
	27	SILTY CLAY - very stiff, red-brown, silty clay with some gravel and sand, moist																									
	1	- gravel band																									
	1.1	- becomes sandy silty clay and hard																									
	26	SANDY CLAY - very stiff to hard, light grey mottled red-brown, sandy clay with some silt, moist																									
	2																										
	25	- clayey sand band, red-brown mottled light grey																									
	3																										
	24	- gravelly sand band																									
	4	CLAYEY SAND - dense, brown mottled light grey, clayey sand with a trace of gravel and silt, moist																									
	23	- angular gravel band																									
	22	- angular gravel band, black																									
	6																										
	6.4	CLAYEY SILT - very stiff, light grey, high plasticity clayey silt with a trace sand, moist (completely weathered tuff)																									
	21	- brown and light red-brown mottled light grey																									
	7																										
	20	- light grey and light yellow-brown																									
	8																										
	19																										
	9																										
	18																										

RIG: Hydrapower Scout

DRILLER: Ground Test

LOGGED: LB

CASING: HWT to 2.5m

TYPE OF BORING: Auger to 2.5m, rotary mud to 18.1m, then NMLC coring

WATER OBSERVATIONS: No free groundwater observed while augering

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	W	Water seep	S	Standard penetration test
E	Environmental sample	W	Water level	V	Shear vane (kPa)



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BOREHOLE LOG

CLIENT: Kane Constructions Pty Ltd
PROJECT: Proposed Mixed Use Development
LOCATION: 33 to 57 Lamington Ave and 612 Lutwyche Rd,
 Lutwyche

SURFACE LEVEL: 27.8 m AHD **BORE No:** 3
EASTING: 503418 **PROJECT No:** 87424.00
NORTHING: 6967157 **DATE:** 19 - 20/11/2015
DIP/AZIMUTH: 90°/-- **SHEET 2 OF 3**

RL	Depth (m)	Description of Strata	Degree of Weathering					Graphic Log	Rock Strength					Water	Fracture Spacing (m)				Discontinuities		Sampling & In Situ Testing							
			EW	HW	MW	SW	FR		Ex Low	Very Low	Low	Medium	High		Very High	Ex High	0.01	0.05	0.10	0.50	1.00	B - Bedding S - Shear	J - Joint F - Fault	Type	Core Rec. %	RQD %	Test Results & Comments	
17	11	CLAYEY SILT - very stiff, light grey, high plasticity clayey silt with a trace sand, moist (completely weathered tuff) <i>(continued)</i> - light grey, yellow-brown and red-brown banding from 11.2m																							S			6, 10, 16 N = 26
16	12	- hard, yellow-brown and light grey																							S			9, 13, 17 N = 30
15	13																								S			10, 13, 14 N = 27
14	14																											
13	15																								S			7, 12, 18 N = 30
12	16	- becoming light grey sandy clayey silt - hard																							S			30/150mm
11	17	TUFF - extremely low strength, extremely weathered, light grey, fine to medium grained tuff																										
10	18																								S			30/140mm PL(A) = 5.01 PL(D) = 5.41
9	19	TUFF - high to very high strength, fresh stained, slightly fractured, light grey, fine to medium grained tuff																							C	100	97	PL(A) = 5.42 PL(D) = 2.13 PL(A) = 2.47 PL(D) = 2.5 PL(A) = 3.54 PL(D) = 2.56

RIG: Hydrapower Scout

DRILLER: Ground Test

LOGGED: LB

CASING: HWT to 2.5m

TYPE OF BORING: Auger to 2.5m, rotary mud to 18.1m, then NMLC coring

WATER OBSERVATIONS: No free groundwater observed while augering

REMARKS:

SAMPLING & IN SITU TESTING LEGEND			
A	Auger sample	G	Gas sample
B	Bulk sample	P	Piston sample
BLK	Core	U	Tube sample (x mm dia.)
C	Core drilling	W	Water sample
D	Disturbed sample	W	Water seep
E	Environmental sample	W	Water level
		PID	Photo ionisation detector (ppm)
		PL(A)	Point load axial test (s(50) (MPa)
		PL(D)	Point load diametral test (s(50) (MPa)
		pp	Pocket penetrometer (kPa)
		S	Standard penetration test
		V	Shear vane (kPa)



BOREHOLE LOG

CLIENT: Kane Constructions Pty Ltd
PROJECT: Proposed Mixed Use Development
LOCATION: 33 to 57 Lamington Ave and 612 Lutwyche Rd, Lutwyche

SURFACE LEVEL: 27.8 m AHD
EASTING: 503418
NORTHING: 6967157
DIP/AZIMUTH: 90°/-

BORE No: 3
PROJECT No: 87424.00
DATE: 19 - 20/11/2015
SHEET 3 OF 3

RL	Depth (m)	Description of Strata	Degree of Weathering					Graphic Log	Rock Strength					Water	Fracture Spacing (m)	Discontinuities		Sampling & In Situ Testing			Test Results & Comments																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
			EW	HW	MW	SW	FS		FR	Ex Low	Very Low	Low	Medium			High	Very High	Ex High	B - Bedding S - Shear	J - Joint F - Fault		Type	Core Rec. %	RQD %																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
21	7	TUFF - high to very high strength, fresh stained, slightly fractured, light grey, fine to medium grained tuff (continued)						✓																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													

RIG: Hydrapower Scout

DRILLER: Ground Test

LOGGED: LB

CASING: HWT to 2.5m

TYPE OF BORING: Auger to 2.5m, rotary mud to 18.1m, then NMLC coring

WATER OBSERVATIONS: No free groundwater observed while augering

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	>	Water seep	S	Standard penetration test
E	Environmental sample	≡	Water level	V	Shear vane (kPa)



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BOREHOLE LOG

CLIENT: Kane Constructions Pty Ltd
PROJECT: Proposed Mixed Use Development
LOCATION: 33 to 57 Lamington Ave and 612 Lutwyche Rd, Lutwyche

SURFACE LEVEL: 27.1 m AHD
EASTING: 503441
NORTHING: 6967146
DIP/AZIMUTH: 90°/-

BORE No: 4
PROJECT No: 87424.00
DATE: 20/11/2015
SHEET 1 OF 3

RL	Depth (m)	Description of Strata	Degree of Weathering				Graphic Log	Rock Strength					Water	Fracture Spacing (m)			Discontinuities		Sampling & In Situ Testing								
			EW	HW	MW	SW		FS	FR	Ex Low	Very Low	Low		Medium	High	Very High	Ex High	0.01	0.05	0.10	0.50	1.00	B - Bedding S - Shear	J - Joint F - Fault	Type	Core Rec. %	RQD %
27	0.1	TOPSOIL - stiff, brown-dark brown, silty sand topsoil																									
	0.6	FILLING - dense, brown and light grey, gravelly silty sand filling, moist																					S				21, 21, 30/140mm
1		GRAVELLY SANDY CLAY, hard, red-brown, low to medium plasticity gravelly sandy clay, moist																									
26		- clayey sand with some fine to medium gravel																									
2																							S				13, 26, 30/110mm
25																											
3		- becomes gravelly sandy clay, red-brown mottled grey																					S				18, 30/140mm
24																											
4																											
23																											
5																							S				12, 30/120mm
22																											
6	6.0	CLAYEY SILT - hard, light grey mottled brown, clayey silt, moist (completely weathered tuff)																									
21		- light grey mottled brown and light red-brown																					S				9, 19, 30/110mm
7																											
20																											
8		- pink and light grey																					S				11,20,29 N = 49
19																											
9																							S				12,18,27 N = 45

RIG: Hydrapower Scout

DRILLER: Ground Test

LOGGED: LB

CASING: HWT to 2.5m

TYPE OF BORING: Auger to 2.5m, rotary mud to 17.65m, then NMLC coring

WATER OBSERVATIONS: No free groundwater observed while augering

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	>	Water seep	S	Standard penetration test
E	Environmental sample	≡	Water level	V	Shear vane (kPa)



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BOREHOLE LOG

CLIENT: Kane Constructions Pty Ltd
PROJECT: Proposed Mixed Use Development
LOCATION: 33 to 57 Lamington Ave and 612 Lutwyche Rd,
 Lutwyche

SURFACE LEVEL: 27.1 m AHD
EASTING: 503441
NORTHING: 6967146
DIP/AZIMUTH: 90°/-

BORE No: 4
PROJECT No: 87424.00
DATE: 20/11/2015
SHEET 2 OF 3

RL	Depth (m)	Description of Strata	Degree of Weathering					Graphic Log	Rock Strength					Water	Fracture Spacing (m)				Discontinuities		Sampling & In Situ Testing						
			EW	HW	MW	SW	FS		FR	Ex Low	Very Low	Low	Medium		High	Very High	Ex High	0.01	0.05	0.10	0.50	1.00	B - Bedding S - Shear	J - Joint F - Fault	Type	Core Rec. %	RQD %
17		CLAYEY SILT - hard, light grey mottled brown, clayey silt, moist (completely weathered tuff) (continued)																									
		= mottled yellow-brown																									
11																											
12		- light grey mottled orange-brown and orange-brown mottled light grey colour banding																									
		- very stiff																									
13																											
14		- very stiff to hard																									
15																											
16																											
16.5		TUFF - extremely low strength, extremely weathered, light grey, tuff																									
17																											
17.65		TUFF - high and very high strength, fresh, slightly fractured, light grey, fine to medium grained tuff																									
18																											
19																											

RIG: Hydrapower Scout

DRILLER: Ground Test

LOGGED: LB

CASING: HWT to 2.5m

TYPE OF BORING: Auger to 2.5m, rotary mud to 17.65m, then NMLC coring

WATER OBSERVATIONS: No free groundwater observed while augering

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A Auger sample	G Gas sample	PID Photo ionisation detector (ppm)
B Bulk sample	P Piston sample	PL(A) Point load axial test Is(50) (MPa)
BLK Block sample	U Tube sample (x mm dia.)	PL(D) Point load diametral test Is(50) (MPa)
C Core drilling	W Water sample	pp Pocket penetrometer (kPa)
D Disturbed sample	W Water seep	S Standard penetration test
E Environmental sample	W Water level	V Shear vane (kPa)



Douglas Partners
 Geotechnics | Environment | Groundwater

BOREHOLE LOG

CLIENT: Kane Constructions Pty Ltd
PROJECT: Proposed Mixed Use Development
LOCATION: 33 to 57 Lamington Ave and 612 Lutwyche Rd, Lutwyche

SURFACE LEVEL: 27.1 m AHD
EASTING: 503441
NORTHING: 6967146
DIP/AZIMUTH: 90°/--

BORE No: 4
PROJECT No: 87424.00
DATE: 20/11/2015
SHEET 3 OF 3

RL	Depth (m)	Description of Strata	Degree of Weathering				Graphic Log	Rock Strength					Water	Fracture Spacing (m)	Discontinuities		Sampling & In Situ Testing																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
			EW	HW	MW	SW		FS	FR	Ex Low	Very Low	Low			Medium	High	Very High	Ex High	B - Bedding S - Shear	J - Joint F - Fault	Type	Core Rec. %	RQD %	Test Results & Comments																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
7		TUFF - high and very high strength, fresh, slightly fractured, light grey, fine to medium grained tuff (continued)						✓																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											

RIG: Hydrapower Scout **DRILLER:** Ground Test **LOGGED:** LB **CASING:** HWT to 2.5m
TYPE OF BORING: Auger to 2.5m, rotary mud to 17.65m, then NMLC coring
WATER OBSERVATIONS: No free groundwater observed while augering
REMARKS:

SAMPLING & IN SITU TESTING LEGEND			
A Auger sample	G Gas sample	PID Photo ionisation detector (ppm)	
B Bulk sample	P Piston sample	PL(A) Point load axial test Is(50) (MPa)	
BLK Block sample	U Tube sample (x mm dia.)	PL(D) Point load diametral test Is(50) (MPa)	
C Core drilling	W Water sample	pp Pocket penetrometer (kPa)	
D Disturbed sample	> Water seep	S Standard penetration test	
E Environmental sample	≡ Water level	V Shear vane (kPa)	

BOREHOLE LOG

CLIENT: Kane Constructions Pty Ltd
PROJECT: Proposed Mixed Use Development
LOCATION: 33 to 57 Lamington Ave and 612 Lutwyche Rd,
 Lutwyche

SURFACE LEVEL: 25.2 m AHD
EASTING: 503380
NORTHING: 6967096
DIP/AZIMUTH: 90°/--

BORE No: 5
PROJECT No: 87424.00
DATE: 20 - 23/11/2015
SHEET 1 OF 3

RL	Depth (m)	Description of Strata	Degree of Weathering					Graphic Log	Rock Strength					Water	Fracture Spacing (m)	Discontinuities		Sampling & In Situ Testing			
			EW	HW	MW	SW	FS		FR	Ex Low	Very Low	Low	Medium			High	Very High	Ex High	B - Bedding	J - Joint	Type
25		FILLING - very stiff to hard, brown, sandy gravelly clay filling with some ash fragments, moist																			
0.5		FILLING - estimated firm to stiff, brown, gravelly clay filling with some sand, moist																S			3,3,4 N = 7
1																					
24																					
1.5		SILTY CLAY - stiff, brown and yellow-brown, high plasticity silty clay with some sand and gravel, moist																			
2																					
23																		S			3,6,7 N = 13
3		- light grey and light red-brown																			
22																					
3.9		SILTY SANDY CLAY - hard, dark brown-red mottled light grey, medium plasticity silty sandy clay, moist																S			30/150mm
4																					
21																					
5.0		SANDY GRAVELLY CLAY - hard, brown and orange-brown, low plasticity sandy gravelly clay, moist																S			30/40mm
5																					
20																					
6																					
6.5		GRAVEL - dense, red-brown, with some sand and a trace of clay, moist (completely weathered tuff)																			
7		brown mottled pink																			
7.0		TUFF - very low strength, highly weathered, light grey, fine to medium grained tuff																S			30/50mm
18																					
8																					
8.0		TUFF - high strength, fresh stained to fresh, fractured to slightly fractured then unbroken, fine to coarse grained tuff with some slightly weathered bands																			PL(A) = 2.07 PL(D) = 1.44
17																					
9																		C	100	90	PL(A) = 3.33 PL(D) = 2.66
16																					PL(A) = 2.73 PL(D) = 1.69

RIG: Hydrapower Scout

DRILLER: Ground Test

LOGGED: LB

CASING: HWT to 2.5m

TYPE OF BORING: Auger to 2.5m, rotary mud to 8.0m, then NMLC coring

WATER OBSERVATIONS: No free groundwater observed while augering

REMARKS:

SAMPLING & IN SITU TESTING LEGEND			
A	Auger sample	G	Gas sample
B	Bulk sample	P	Piston sample
BLK	Block sample	U	Tube sample (x mm dia.)
C	Core drilling	W	Water sample
D	Disturbed sample	>	Water seep
E	Environmental sample	≡	Water level
		PID	Photo ionisation detector (ppm)
		PL(A)	Point load axial test Is(50) (MPa)
		PL(D)	Point load diametral test Is(50) (MPa)
		pp	Pocket penetrometer (kPa)
		S	Standard penetration test
		V	Shear vane (kPa)



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BOREHOLE LOG

CLIENT: Kane Constructions Pty Ltd
PROJECT: Proposed Mixed Use Development
LOCATION: 33 to 57 Lamington Ave and 612 Lutwyche Rd, Lutwyche

SURFACE LEVEL: 25.2 m AHD
EASTING: 503380
NORTHING: 6967096
DIP/AZIMUTH: 90°/-
BORE No: 5
PROJECT No: 87424.00
DATE: 20 - 23/11/2015
SHEET 2 OF 3

RL	Depth (m)	Description of Strata	Degree of Weathering					Graphic Log	Rock Strength					Water	Fracture Spacing (m)	Discontinuities		Sampling & In Situ Testing						
			EW	HW	MW	SW	FS		FR	Ex Low	Very Low	Low	Medium			High	Very High	Ex High	B - Bedding S - Shear	J - Joint F - Fault	Type	Core Rec. %	RQD %	Test Results & Comments
15		TUFF - high strength, fresh stained to fresh, fractured to slightly fractured then unbroken, fine to coarse grained tuff with some slightly weathered bands <i>(continued)</i>						✓									ro 10.12m: J, 45°, stn fe, pl, ro 10.28m: Cz	C	100	90	PL(A) = 1.95 PL(D) = 1.07			
11								✓										11.37m: Cz				PL(A) = 0.97 PL(D) = 1.22		
14								✓										11.67m: Cz 11.72m: Cz				PL(A) = 1.73 PL(D) = 1.6 PL(A) = 2.27 PL(D) = 2.47		
12								✓										12.48m: J, 25°, stn fe, st, sm	C	100	95	PL(A) = 1.6 PL(D) = 2.3 PL(A) = 1.76 PL(D) = 1.98		
13								✓														PL(A) = 1.42 PL(D) = 1.86		
13								✓										13.5m: Cz				PL(A) = 1.38 PL(D) = 1.57		
12								✓																
14								✓																
11								✓																
15								✓										14.78m: Cz 14.88m: Cz						
10		- fresh from 15.5m to 17.0m						✓										15.24m: Cz 15.28m: Cz	C	100	91	PL(A) = 2.27 PL(D) = 2.19		
16								✓														PL(A) = 3.25 PL(D) = 1.93		
17								✓														PL(A) = 2.34 PL(D) = 2.37		
18								✓											C	100	100	PL(A) = 1.91 PL(D) = 1.66		
7								✓																
19								✓																
6								✓											C	100	100	PL(A) = 2 PL(D) = 1.38		

RIG: Hydrapower Scout

DRILLER: Ground Test

LOGGED: LB

CASING: HWT to 2.5m

TYPE OF BORING: Auger to 2.5m, rotary mud to 8.0m, then NMLC coring

WATER OBSERVATIONS: No free groundwater observed while augering

REMARKS:

SAMPLING & IN SITU TESTING LEGEND			
A Auger sample	G Gas sample	PID Photo ionisation detector (ppm)	
B Bulk sample	P Piston sample	PL(A) Point load axial test Is(50) (MPa)	
BLK Block sample	U Tube sample (x mm dia.)	PL(D) Point load diametral test Is(50) (MPa)	
C Core drilling	W Water sample	pp Pocket penetrometer (kPa)	
D Disturbed sample	> Water seep	S Standard penetration test	
E Environmental sample	= Water level	V Shear vane (kPa)	

BOREHOLE LOG

CLIENT: Kane Constructions Pty Ltd
PROJECT: Proposed Mixed Use Development
LOCATION: 33 to 57 Lamington Ave and 612 Lutwyche Rd, Lutwyche

SURFACE LEVEL: 25.2 m AHD
EASTING: 503380
NORTHING: 6967096
DIP/AZIMUTH: 90°/-

BORE No: 5
PROJECT No: 87424.00
DATE: 20 - 23/11/2015
SHEET 3 OF 3

RL	Depth (m)	Description of Strata	Degree of Weathering					Graphic Log	Rock Strength					Water	Fracture Spacing (m)				Discontinuities		Sampling & In Situ Testing							
			EW	HW	MW	SW	FS		FR	Ex Low	Very Low	Low	Medium		High	Very High	Ex High	0.01	0.05	0.10	0.50	1.00	B - Bedding S - Shear	J - Joint F - Fault	Type	Core Rec. %	RQD %	Test Results & Comments
5		TUFF - high strength, fresh stained to fresh, fractured to slightly fractured then unbroken, fine to coarse grained tuff with some slightly weathered bands (continued)							✓																			PL(A) = 1.57 PL(D) = 1.75
21									✓														C	100	100		PL(A) = 2.51 PL(D) = 1.36	
4									✓																			
22									✓																			
3									✓																			
23								✓																				
2								✓																				
24								✓																				
1								✓																				
25								✓																				
25.15								✓																				
25	25.15	Bore discontinued at 25.15m depth - Limit of investigation																										PL(A) = 1.99 PL(D) = 2.22
25								✓																				
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RIG: Hydrapower Scout

DRILLER: Ground Test

LOGGED: LB

CASING: HWT to 2.5m

TYPE OF BORING: Auger to 2.5m, rotary mud to 8.0m, then NMLC coring

WATER OBSERVATIONS: No free groundwater observed while augering

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	Δ	Water seep	S	Standard penetration test
E	Environmental sample	≡	Water level	V	Shear vane (kPa)

BOREHOLE LOG

CLIENT: Kane Constructions Pty Ltd
PROJECT: Proposed Mixed Use Development
LOCATION: 33 to 57 Lamington Ave and 612 Lutwyche Rd, Lutwyche

SURFACE LEVEL: 27.00 m AHD **BORE No:** 6
EASTING: 503414 **PROJECT No:** 87424.00
NORTHING: 6967113 **DATE:** 24/11/2015
DIP/AZIMUTH: 90°/- **SHEET 1 OF 2**

RL	Depth (m)	Description of Strata	Degree of Weathering					Graphic Log	Rock Strength					Water	Fracture Spacing (m)			Discontinuities		Sampling & In Situ Testing							
			EW	HW	MW	SW	FS		FR	Ex Low	Very Low	Low	Medium		High	Very High	Ex High	0.01	0.05	0.10	0.50	1.00	B - Bedding S - Shear	J - Joint F - Fault	Type	Core Rec. %	RQD %
27		FILLING - medium dense to dense, brown, silty gravelly sand filling, moist																									
26.5	0.5	SANDY CLAY - very stiff, brown, medium plasticity sandy clay with some gravel, moist																									
26	1	- gravel band																					S				7,6,5 N = 11
25	2	- becomes silty clay with some sand																									
24.3	2.3	GRAVELLY SANDY SILT - hard, red-brown, gravelly sandy silt with some clay, moist																					S				17,26,21 N = 47
24	3																										
23	4	- dense, red-brown mottled light grey silty fine to medium sand band																					S				20, 30/135mm
22.3	4.3	SANDY GRAVELLY CLAY - hard, brown-grey mottled red-brown, sandy gravelly clay with some silt, moist																									
22	5																										
21	6																						S				11,17,22 N = 39
20	7	CLAYEY SILT - very stiff to hard, light grey mottled light red, red-brown and yellow-brown, clayey silt with some sand, moist (completely weathered tuff)																					S				16,10,18 N = 28
19	8																										
18	9																						S				7,14,16 N = 30

RIG: Hydrapower Scout

DRILLER: Ground Test

LOGGED: LB

CASING: HWT to 2.5m

TYPE OF BORING: Auger to 2.5m, rotary mud to 13.0m, then NMLC coring

WATER OBSERVATIONS: No free groundwater observed while augering

REMARKS:

SAMPLING & IN SITU TESTING LEGEND			
A Auger sample	G Gas sample	PID Photo ionisation detector (ppm)	
B Bulk sample	P Piston sample	PL(A) Point load axial test Is(50) (MPa)	
BLK Block sample	U Tube sample (x mm dia.)	PL(D) Point load diametral test Is(50) (MPa)	
C Core drilling	W Water sample	pp Pocket penetrometer (kPa)	
D Disturbed sample	> Water seep	S Standard penetration test	
E Environmental sample	≡ Water level	V Shear vane (kPa)	



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BOREHOLE LOG

CLIENT: Kane Constructions Pty Ltd
PROJECT: Proposed Mixed Use Development
LOCATION: 33 to 57 Lamington Ave and 612 Lutwyche Rd,
 Lutwyche

SURFACE LEVEL: 27.00 m AHD **BORE No:** 6
EASTING: 503414 **PROJECT No:** 87424.00
NORTHING: 6967113 **DATE:** 24/11/2015
DIP/AZIMUTH: 90°/- **SHEET 2 OF 2**

RL	Depth (m)	Description of Strata	Degree of Weathering					Graphic Log	Rock Strength					Water	Fracture Spacing (m)				Discontinuities		Sampling & In Situ Testing					
			EW	HW	MW	SW	FS		FR	Ex Low	Very Low	Low	Medium		High	Very High	Ex High	0.01	0.05	0.10	0.50	1.00	B - Bedding	J - Joint	Type	Core Rec. %
17		CLAYEY SILT - very stiff to hard, light grey mottled light red, red-brown and yellow-brown, clayey silt with some sand, moist (completely weathered tuff) (continued)																								9,16,20 N = 36
16	11																									
15	12	- light grey mottled yellow-brown and purple-brown																								
12.5		TUFF - very low strength, highly weathered, light grey, fine to medium grained tuff																				S				16, 30/110mm
14	13.0	TUFF - very high strength, slightly weathered, slightly fractured, light grey, fine to medium grained tuff with some moderately weathered high strength bands																								PL(A) = 4.88 PL(D) = 2.65
13	14																									
12	15																									PL(A) = 4.12 PL(D) = 3.54
11	16	- fresh stained from 15.6m																								PL(A) = 10.8 PL(D) = 9.18
10	17																									PL(A) = 6.23 PL(D) = 2.98
9	18.0	Bore discontinued at 18.0m depth - Limit of investigation																								PL(A) = 5.58 PL(D) = 5.41
8	19																									

RIG: Hydrapower Scout

DRILLER: Ground Test

LOGGED: LB

CASING: HWT to 2.5m

TYPE OF BORING: Auger to 2.5m, rotary mud to 13.0m, then NMLC coring

WATER OBSERVATIONS: No free groundwater observed while augering

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A Auger sample	G Gas sample	PID Photo ionisation detector (ppm)
B Bulk sample	P Piston sample	PL(A) Point load axial test Is(50) (MPa)
BLK Block sample	U Tube sample (x mm dia.)	PL(D) Point load diametral test Is(50) (MPa)
C Core drilling	W Water sample	pp Pocket penetrometer (kPa)
D Disturbed sample	Δ Water seep	S Standard penetration test
E Environmental sample	≡ Water level	V Shear vane (kPa)



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Appendix B

Laboratory Report Sheets

Results of Moisture Content, Plasticity and Linear Shrinkage Tests

Client :	Kane Constructions Pty Ltd	Project No. :	87424
Project :	Proposed Mixed Use Development	Report No. :	BO16-0258
Location :	Lamington Avenue, Lutwyche	Report Date :	05.02.2016
		Date Sampled :	26.11.2015
		Date of Test:	03.02.2016
		Page:	1 of 1

TEST LOCATION	DEPTH (m)	DESCRIPTION	Code	W _F %	W _L %	W _P %	PI %	*LS %
Bore 2	1.00 - 1.45	Silty clay	2.5 - CR	15.5	49	20	29	13.5
Bore 3	1.00 - 1.45	Silty clay/sandy clay	2.5 - CR	12.5	43	17	26	11.5

Legend:

W_F Field Moisture Content
 W_L Liquid limit
 W_P Plastic limit
 PI Plasticity index
 LS Linear shrinkage from liquid limit condition (Mould length 250mm)

Test Methods:

Moisture Content: AS 1289.2.1.1
 Liquid Limit: AS 1289.3.1.2
 Plastic Limit: AS 1289.3.2.1
 Plasticity Index: AS 1289.3.3.1
 Linear Shrinkage: AS 1289.3.4.1
 Sampling Method(s): Sampled by Brisbane Engineering Department

Remarks

Code

Sample history for plasticity tests

1 Air dried
 2 Low temperature (<50°C) oven dried
 3 Oven (105°C) dried
 4 Unknown

Method of preparation for plasticity tests

5 Dry sieved
 6 Wet sieved
 7 Natural

*Specify if sample crumbled CR or curled CU

APPENDIX D – PREVIOUS ADVICE



2 December 2015



Mr Colin Jensen
Chief Executive Officer
Brisbane City Council
GPO Box 1434
Brisbane Qld 4001

Dear Mr Jensen

Brisbane City: Northern Busway

Owner's Consent

Proposed Material Change of Use – Multiple Dwelling and Centre Activities, Preliminary Approval to Carry Out Building Work

Property described as: Lot 88 On SP245827, Lots 89 & 90 On RP19352, Lot 126 On SP252287, Lot 119 On SP263292, Volumetric Lot 117 On SP252339, LOT 2 On SP252340, and Volumetric Lot 120 On SP252340 (Easement A On RP880297, and Easement no. 716620104)

Address: 29, 33, 35 AND 53A Lamington Avenue, 590 and 616 Lutwyche Road, LUTWYCHE QLD 4030

Transport and Main Roads, representing the State, has been approached by Mr James Rennell representing Meridian Property (1) Pty Ltd as the development proponent seeking a development approval for the above site(s).

The State, represented by the Department of Transport and Main Roads (TMR) stands as the owner of Lot 88 on SP245827, Lots 89 & 90 on RP19352, Lot 126 on SP252287, Lot 119 on SP263292, Volumetric Lot 117 on SP252339, LOT 2 on SP252340, and Volumetric Lot 120 on SP252340 (Easement A on RP880297, and Easement no. 716620104)[hereafter "the Land"] for the purposes of the *Sustainable Planning Act 2009* (SPA).

For the purposes of lodging the development application under SPA, the Chief Executive under the *Transport Infrastructure Act 1994* (TIA) administering TMR, consents to the inclusion of the Land as part of the application for material change of use and and preliminary approval to carry out Building Work for centre activities – shop, restaurant, office and multi-unit dwelling.

Please note, the giving of owner's consent does not imply any approval of the development or any new additional approved right of access across the Land or any transport decision under TIA.

Department of Transport and Main Roads
Program Delivery and Operations
Metropolitan Region / Brisbane Office
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Transport and Main Roads has the benefit of certain easements. TMR by this letter of consent does not imply any agreement to the relocation or proposed relocation of the easement. The consent of TMR will be required to the surrender or modification of the existing easements.

Further, should an appeal to the Planning and Environment Court be lodged with respect to the application, the consent of the State as owner of the Land, will not be advanced by or on behalf of the Applicant or a party acting on ~~the~~ company's behalf, as a basis of a ground of appeal that the State has in any way approved the development application.

This letter does not authorise the lodgement of any documentation in the Titles Office on behalf of the interests in land held by the State as identified above.

Should you have any questions, please contact Stephen Smaha, Principal Advisor on 0418 788 250 to discuss.

Yours sincerely

A handwritten signature in black ink, appearing to read 'P. Mengede', written in a cursive style.

Paul Mengede
District Director (Metropolitan)