

Appendix I Results of Soil Investigation

A List of Appendix I

- 1. BORING LOGS**
- 2. SOIL PROFILE**
- 3. LABORATORY TEST RESULTS**
- 4. SOIL PROPERTY CHARTS**
- 5. POTENTIAL OF LIQUEFACTION**

1. BORING LOGS

PROJECT NAME : Geological Survey on the supplement survey for Bago River Bridge Construction Project BORING EQUIPMENT : TOHO "D1" DATE : 24.08.2016 ~ 27.08.2016
 LOCATION : Thanlyin Chin Kat Road, Thaketa Township. BORING METHOD : Rotary Direct Circulation
 GROUND LEVEL : 5.02m ORIENTATION : Vertical
 COORDINATE : E 203871.632 ; N 1860013.429 DEPTH : 50.00m GROUND WATER LEVEL : 2.50m

CLIENT
NIPPON KOEI CO., LTD.

SCALE (m)	ELEVATION (m)	DEPTH GL - (m)	THICKNESS (m)	DIAGRAM	COLOUR	RELATIVE DENSITY (or) CONSISTENCY	SOIL NAME	SOIL DESCRIPTION	DATE & DEPTH (m)	CASING (DEPTH (m) & DIAMETER (mm))	WATER DEPTH (m)	STANDARD PENETRATION TEST TEST METHOD (ASTM)				SAMPLING								
												DEPTH GL - (m)	N-Value (Blows / 30cm)	CURVE OF BLOW ●			SAMPLE (Type & No)	DEPTH GL - (m)	TCR (%)	SCR (%)	ROD (%)	SCALE (m)		
													0	10	20	30	40	50						
3					gray	Medium dense to dense	Silty SAND	Medium dense to dense, gray, moist, fine to medium grained, Silty SAND				31.00	18/30						P-29	31.00				
32					gray	Very stiff	CLAY	Very stiff, gray, moist, low to medium plasticity, CLAY with fine grained sand	25.08.16			32.00	14/30						P-30	31.45	32.00			
33	-27.98	33.00	18.00		gray	Dense	Clayey SAND	Dense, gray, moist, fine to medium grained, low plastic Clayey SAND				33.00	23/30					P-31	33.00	32.45	33.00			
34					gray	Hard	CLAY	Hard, gray, moist, low to medium plasticity, CLAY with fine grained sand	34.00			34.00	28/30					P-32	34.00	33.45	34.00			
35					gray	Very dense	Clayey SAND	Very dense, gray, moist, fine to medium grained, low plastic Clayey SAND				35.00	28/30					P-33	35.00	34.45	35.00			
36					gray	Very dense	Clayey SAND	Very dense, gray, moist, fine to medium grained, low plastic Clayey SAND				36.00	23/30					P-34	36.00	35.45	36.00			
37	-31.98	37.00	4.00		gray	Very dense	Clayey SAND	Very dense, gray, moist, fine to medium grained, low plastic Clayey SAND				37.00	38/30					P-35	37.00	36.45	37.00			
38					gray	Very dense	Clayey SAND	Very dense, gray, moist, fine to medium grained, low plastic Clayey SAND				38.00	40/30					P-36	38.00	37.45	38.00			
39	-33.98	39.00	2.00		gray	Very dense	Clayey SAND	Very dense, gray, moist, fine to medium grained, low plastic Clayey SAND				39.00	50/27					P-37	38.45	39.00	38.45			
40					gray	Very dense	Clayey SAND	Very dense, gray, moist, fine to medium grained, low plastic Clayey SAND				40.00	50/17					P-38	39.42	40.00	39.42			
41					gray	Very dense	Clayey SAND	Very dense, gray, moist, fine to medium grained, low plastic Clayey SAND				41.00	37/30					P-39	40.00	40.32	40.32			
42					gray	Very dense	Clayey SAND	Very dense, gray, moist, fine to medium grained, low plastic Clayey SAND				42.00	36/30					P-40	41.00	41.45	41.45			
43					gray	Very dense	Clayey SAND	Very dense, gray, moist, fine to medium grained, low plastic Clayey SAND				43.00	35/30					P-41	42.00	42.45	42.45			
44					gray	Very dense	Clayey SAND	Very dense, gray, moist, fine to medium grained, low plastic Clayey SAND				44.00	36/30					P-42	43.00	43.45	43.45			
45					gray	Very dense	Clayey SAND	Very dense, gray, moist, fine to medium grained, low plastic Clayey SAND				45.00	50/27					P-43	44.00	44.45	44.45			
46	-40.98	46.00	7.00		gray	Very dense	Clayey SAND	Very dense, gray, moist, fine to medium grained, low plastic Clayey SAND	26.08.16			46.00	50/15					P-44	45.00	45.42	45.42			
47					gray	Very dense	Clayey SAND	Very dense, gray, moist, fine to medium grained, low plastic Clayey SAND	46.00			47.00	50/15					P-45	46.00	46.30	46.30			
48					gray	Very dense	Clayey SAND	Very dense, gray, moist, fine to medium grained, low plastic Clayey SAND				48.00	50/6					P-46	47.00	47.30	47.30			
49					gray	Very dense	Clayey SAND	Very dense, gray, moist, fine to medium grained, low plastic Clayey SAND				49.00	50/7					P-47	48.00	48.21	48.21			
50	-45.23	50.25	4.25		gray	Very dense	Clayey SAND	Very dense, gray, moist, fine to medium grained, low plastic Clayey SAND	27.08.16			50.00	50/10					P-48	49.00	49.22	49.22			
51					gray	Very dense	Clayey SAND	Very dense, gray, moist, fine to medium grained, low plastic Clayey SAND	50.00			51.00								50.00	50.25	50.25		
52					gray	Very dense	Clayey SAND	Very dense, gray, moist, fine to medium grained, low plastic Clayey SAND				52.00												
53					gray	Very dense	Clayey SAND	Very dense, gray, moist, fine to medium grained, low plastic Clayey SAND				53.00												
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59					gray	Very dense	Clayey SAND	Very dense, gray, moist, fine to medium grained, low plastic Clayey SAND				59.00												
60					gray	Very dense	Clayey SAND	Very dense, gray, moist, fine to medium grained, low plastic Clayey SAND				60.00												
61					gray	Very dense	Clayey SAND	Very dense, gray, moist, fine to medium grained, low plastic Clayey SAND				61.00												

NOTES

<p>Relative density description</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>Relative density</th> <th>SPT N-Value (max)</th> <th>Consistency</th> <th>SPT N-Value (max)</th> </tr> <tr> <td>Very loose</td> <td>0 - 4</td> <td>Very soft</td> <td>under 2</td> </tr> <tr> <td>Loose</td> <td>4 - 10</td> <td>Soft</td> <td>2 - 4</td> </tr> <tr> <td>Medium dense</td> <td>10 - 30</td> <td>Firm</td> <td>5 - 8</td> </tr> <tr> <td>Dense</td> <td>30 - 50</td> <td>Stiff</td> <td>9 - 15</td> </tr> <tr> <td>Very dense</td> <td>over 50</td> <td>Very stiff</td> <td>16 - 30</td> </tr> <tr> <td></td> <td></td> <td>Hard</td> <td>over 30</td> </tr> </table>	Relative density	SPT N-Value (max)	Consistency	SPT N-Value (max)	Very loose	0 - 4	Very soft	under 2	Loose	4 - 10	Soft	2 - 4	Medium dense	10 - 30	Firm	5 - 8	Dense	30 - 50	Stiff	9 - 15	Very dense	over 50	Very stiff	16 - 30			Hard	over 30	<p>Consistency description</p>	<p>Sample key</p> <ul style="list-style-type: none"> ● P-1 Disturbed sample (SPT sample) ■ T-1 Undisturbed Sample (Piston sampler) ■ D-1 Undisturbed Sample (Denison sampler) ■ Rock core sample (Single core tube) ■ Rock core sample (Double core tube) ■ Rock core sample (Core Loss) ■ W-1 Water sample 	<p>Planner structure</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>Term</th> <th>Spacing (mm)</th> </tr> <tr> <td>Very thick</td> <td>> 2000</td> </tr> <tr> <td>Thick</td> <td>600 - 2000</td> </tr> <tr> <td>Medium</td> <td>200 - 600</td> </tr> <tr> <td>Thin</td> <td>60 - 200</td> </tr> <tr> <td>Very thin</td> <td>20 - 60</td> </tr> <tr> <td>Thickly laminated</td> <td>6 - 20</td> </tr> <tr> <td>Thinly laminated</td> <td>< 6</td> </tr> </table>	Term	Spacing (mm)	Very thick	> 2000	Thick	600 - 2000	Medium	200 - 600	Thin	60 - 200	Very thin	20 - 60	Thickly laminated	6 - 20	Thinly laminated	< 6	<p>Discontinuities</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>Term</th> <th>Spacing (mm)</th> </tr> <tr> <td>Very widely spaced</td> <td>> 2000</td> </tr> <tr> <td>Widely spaced</td> <td>600 - 2000</td> </tr> <tr> <td>Medium spaced</td> <td>200 - 600</td> </tr> <tr> <td>Closely spaced</td> <td>60 - 200</td> </tr> <tr> <td>Very closely spaced</td> <td>20 - 60</td> </tr> <tr> <td>Extremely closely spaced</td> <td>< 20</td> </tr> </table>	Term	Spacing (mm)	Very widely spaced	> 2000	Widely spaced	600 - 2000	Medium spaced	200 - 600	Closely spaced	60 - 200	Very closely spaced	20 - 60	Extremely closely spaced	< 20
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REVISIONS

Revision No.	Rev: 02
Revision Date	19.09.2016

REMARKS

This borehole is terminated at 50.00m, according to the termination criteria.

PROJECT NAME : Geological Survey on the supplement survey for Bago River Bridge Construction Project BORING EQUIPMENT : TOHO "D1" DATE : 24.08.2016 ~ 27.08.2016
 LOCATION : Thanlyin Chin Kat Road, Thaketa Township. BORING METHOD : Rotary Direct Circulation
 GROUND LEVEL : 5.05m ORIENTATION : Vertical
 COORDINATE : E 203939.419 ; N 1859955.273 DEPTH : 50.00m GROUND WATER LEVEL : 1.50m

CLIENT
NIPPON KOEI CO., LTD.

SCALE (m)	ELEVATION (m)	DEPTH GL - (m)	THICKNESS (m)	DIAGRAM	COLOUR	RELATIVE DENSITY (or) CONSISTENCY	SOIL NAME	SOIL DESCRIPTION	DATE & DEPTH (m)	CASING (DEPTH (m) & DIAMETER (mm))	WATER DEPTH (m)	STANDARD PENETRATION TEST TEST METHOD (ASTM)				SAMPLING						
												DEPTH GL - (m)	N-Value (Blows / 30cm)	0	10	20	30	40	50	SAMPLE (Type & No)	DEPTH GL - (m)	TCR (%)
1					brownish gray	Soft	CLAY	Soft, brownish gray, moist, medium to high plasticity, CLAY (Filled Soil)			▽	1.00					A-1	1.00				1
2	3.05	2.00	2.00									2.00					A-2	1.50				2
3					brown	Firm	CLAY	Firm, brown, moist, low to medium plasticity, CLAY				3.00					A-3	2.50				3
4	1.55	3.50	1.50									4.00	10/30				P-1	4.00				4
5					gray	Loose to medium dense	Silty SAND	Loose to medium dense, gray, moist to wet, fine grained, Silty SAND, with trace of mica mineral				5.00	10/30				P-2	4.45				5
6												6.00	18/30				P-3	5.00				6
7												7.00	6/30				P-4	5.45				7
8												8.00	10/30				P-5	6.00				8
9												9.00	10/30				P-6	6.45				9
10	4.95	10.00	6.50									10.00	12/30				P-7	7.00				10
11					gray	Soft to very stiff	Sandy CLAY	Soft to very stiff, gray, moist, fine grained, low plasticity, Sandy CLAY, with trace of mica mineral				11.00	4/30				P-8	7.45				11
12												12.00	10/30				P-9	8.00				12
13	7.95	13.00	3.00						24.08.16	13.00		13.00	19/30				P-10	8.45				13
14					gray	Medium dense to dense	Silty SAND	Medium dense to dense, gray, moist, fine to medium grained, Silty SAND				14.00	21/30				P-11	9.00				14
15								GL- (25.00 ~ 25.45)m; dense, yellowish brown, fine to medium grained, SAND layer is observed as intercalated layer at that depth				15.00	19/30				P-12	9.45				15
16								GL-(28.00 ~ 30.00)m; medium dense, fine grained, low plastic Clayey SAND layer is observed as intercalated layer at that depth				16.00	30/30				P-13	10.00				16
17												17.00	23/30				P-14	10.45				17
18												18.00	32/30				P-15	11.00				18
19												19.00	37/30				P-16	11.45				19
20												20.00	28/30				P-17	12.00				20
21												21.00	20/30				P-18	12.45				21
22												22.00	27/30				P-19	13.00				22
23												23.00	31/30				P-20	13.45				23
24												24.00	20/30				P-21	14.00				24
25												25.00	25/30				P-22	14.45				25
26												26.00	42/30				P-23	15.00				26
27												27.00	15/30				P-24	15.45				27
28												28.00	24/30				P-25	16.00				28
29												29.00	27/30				P-26	16.45				29
30									25.08.16	29.00		30.00	18/30				P-27	17.00				30
31												31.00	30/30					17.45				31

Continue to next sheet

NOTES Relative density description Relative density SPT N-Value (max) Very loose 0 - 4 Loose 4 - 10 Medium dense 10 - 30 Dense 30 - 50 Very dense over 50		Consistency description Consistency SPT N-Value (max) Very soft under 2 Soft 2 - 4 Firm 5 - 8 Stiff 9 - 15 Very stiff 16 - 30 Hard over 30		Sample key ● P-1 Disturbed sample (SPT sample) □ T-1 Undisturbed Sample (Piston sampler) □ D-1 Undisturbed Sample (Denison sampler) □ Rock core sample (Single core tube) □ Rock core sample (Double core tube) □ Rock core sample (Core Loss) □ W-1 Water sample		Planner structure Term Spacing (mm) Very thick > 2000 Thick 600 - 2000 Medium 200 - 600 Thin 60 - 200 Very thin 20 - 60 Thickly laminated 6 - 20 Thinly laminated < 6		Discontinuities Term Spacing (mm) Very widely spaced > 2000 Widely spaced 600 - 2000 Medium spaced 200 - 600 Closely spaced 60 - 200 Very closely spaced 20 - 60 Extremely closely spaced < 20		FUKKEN CO., LTD. Consulting Engineers (Yangon Branch) Tel : 951 - 8010896, 859 - 420989762 www.fukken.com.mm Revision No. Rev: 02 Revision Date 19.09.2016	
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 LOCATION : Thanlyin Chin Kat Road, Thaketa Township. BORING METHOD : Rotary Direct Circulation **CLIENT**
 GROUND LEVEL : 5.05m ORIENTATION : Vertical **NIPPON KOEI CO., LTD.**
 COORDINATE : E 203939.419 ; N 1859955.273 DEPTH : 50.00m GROUND WATER LEVEL : 1.50m

SCALE (m)	ELEVATION (m)	DEPTH GL - (m)	THICKNESS (m)	DIAGRAM	COLOUR	RELATIVE DENSITY (or) CONSISTENCY	SOIL NAME	SOIL DESCRIPTION	DATE & DEPTH (m)	CASING (DEPTH (m) & DIAMETER (mm))	WATER DEPTH (m)	STANDARD PENETRATION TEST TEST METHOD (ASTM)				SAMPLING								
												DEPTH GL - (m)	N-Value (Blows / 30cm)	CURVE OF BLOW			SAMPLE (Type & No)	DEPTH GL - (m)	TCR (%)	SCR (%)	ROD (%)	SCALE (m)		
													0	10	20	30	40	50						
31	-25.95	31.00	18.00		gray	Medium dense to dense	Silty SAND	Medium dense to dense, gray, moist, fine to medium grained, Silty SAND				31.00	23/30						P-28	31.00				
32					gray	Very stiff to hard	CLAY	Very stiff to hard, gray, moist, low to medium plasticity, CLAY with fine grained sand				32.00	24/30							P-29	31.45			
33												32.45									32.00			
34												33.00	33/30							P-30	33.00			
35	-29.95	35.00	4.00		gray	Dense to very dense	Clayey SAND	Dense to very dense, gray, moist, fine to medium grained, low plastic Clayey SAND				33.45									33.45			
36												34.00	38/30							P-31	34.00			
37												34.45									34.45			
38	-32.95	38.00	3.00		gray	Very stiff to hard	CLAY	Very stiff to hard, gray, moist, low to medium plasticity, CLAY with fine grained sand				35.00	41/30							P-32	35.00			
39												35.45									35.45			
40												36.00	50/30							P-33	36.00			
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46	-40.95	46.00	8.00		gray	Very dense	Clayey SAND	Very dense, gray, moist, fine to medium grained, low plastic Clayey SAND	26.08.16			39.00	24/30							P-36	39.00			
47									41.00			39.45									39.45			
48									40.00			40.00	50/27							P-37	40.00			
49									40.42			40.42									40.42			
50									41.00			41.00	40/30							P-38	41.00			
51									41.45			41.45									41.45			
52									42.00			42.00	50/25							P-39	42.00			
53									42.40			42.40									42.40			
54									43.00			43.00	50/20							P-40	43.00			
55									43.35			43.35									43.35			
56									44.00			44.00	32/30							P-41	44.00			
57									44.45			44.45									44.45			
58									45.00			45.00	50/27							P-42	45.00			
59									45.42			45.42									45.42			
60	-45.25	50.30	4.30		gray	Very dense	Clayey SAND	Very dense, gray, moist, fine to medium grained, low plastic Clayey SAND	27.08.16			46.00	50/17							P-43	46.00			
61									46.32			46.32									46.32			
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									50.00			50.00	50/15							P-47	50.00			
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PROJECT NAME : Geological Survey on the supplement survey for Bago River Bridge Construction Project BORING EQUIPMENT : TOHO "D1" DATE : 20.08.2016 ~ 23.08.2016
 LOCATION : Thanlyin Chin Kat Road, Thaketa Township. BORING METHOD : Rotary Direct Circulation
 GROUND LEVEL : 5.26m ORIENTATION : Vertical **CLIENT**
 COORDINATE : E 204044.248 ; N 1859862.131 DEPTH : 50.00m GROUND WATER LEVEL : 2.00m **NIPPON KOEI CO., LTD.**

SCALE (m)	ELEVATION (m)	DEPTH GL - (m)	THICKNESS (m)	DIAGRAM	COLOUR	RELATIVE DENSITY (or) CONSISTENCY	SOIL NAME	SOIL DESCRIPTION	DATE & DEPTH (m)	CASING (DEPTH (m) & DIAMETER (mm))	WATER DEPTH (m)	STANDARD PENETRATION TEST TEST METHOD (ASTM)					SAMPLING						
												DEPTH GL - (m)	N-Value (Blows / 30cm)	CURVE OF BLOW ●					SAMPLE (Type & No)	DEPTH GL - (m)	TCR (%)	SCR (%)	ROD (%)
1					brownish gray	Soft	CLAY	Soft, brownish gray, moist, medium to high plasticity, CLAY (Filled Soil)				1.00						A-1	1.00				1
2	2.76	2.50	2.50							2.00	2.00							A-2	1.50				2
3					brown	Firm	CLAY	Firm, brown, moist, low to medium plasticity, CLAY				2.00						Uw-1	2.00				3
4	1.26	4.00	1.50									3.00	5/30					P-1	3.00				4
5												4.00	14/30					P-2	3.45				5
6					gray	Medium dense	Silty SAND	Medium dense, gray, moist to wet, fine grained, Silty SAND, with trace of mica mineral				4.00							P-2	4.00			6
7												5.00	13/30					P-3	4.45				7
8												5.00							P-3	5.00			8
9	-3.74	9.00	5.00									6.00	16/30					P-4	5.45				9
10												6.00							P-4	6.00			10
11					gray	Firm to soft	Sandy CLAY	Firm to soft, gray, moist, fine grained, low plasticity, Sandy CLAY, with trace of mica mineral				7.00	24/30						P-5	6.45			11
12	-6.74	12.00	3.00									7.00							P-5	7.00			12
13												8.00	21/30						P-6	7.45			13
14												8.00							P-6	8.00			14
15					gray	Loose	Silty SAND	Loose, gray, moist, fine grained, Silty SAND, with trace of mica mineral				9.00	5/30						P-7	8.45			15
16	-10.74	16.00	4.00					GL- (13.00 ~ 13.45)m; stiff, gray, fine grained, low plasticity, Sandy SILT layer is observed as intercalated layer at that depth	20.08.16	16.00		9.00							P-7	9.00			16
17												10.00	4/30						P-8	9.45			17
18												10.00							P-8	10.00			18
19					gray	Loose to dense	Silty SAND	Loose to dense, gray, moist, fine to medium grained, Silty SAND				11.00	4/30						P-9	10.45			19
20												11.00							P-9	11.00			20
21												12.00	7/30						P-10	11.45			21
22												12.00							P-10	12.00			22
23												13.00	9/30						P-11	12.45			23
24												13.00							P-11	13.00			24
25								GL- (25.00 ~ 25.45)m & (27.00 ~ 27.45)m; dense, gray, fine to medium grained, low plastic Clayey SAND layer is observed as intercalated layer at that depth				14.00	6/30						P-12	13.45			25
26												14.00							P-12	14.00			26
27												15.00	10/30						P-13	14.45			27
28												15.00							P-13	15.00			28
29	-23.74	29.00	13.00									16.00	28/30						P-14	15.45			29
30					gray	Very stiff	CLAY	Very stiff, gray, moist, low to medium plasticity, CLAY with fine grained sand				16.00							P-14	16.00			30
31												17.00	24/30						P-15	16.45			31
												17.00							P-15	17.00			
												18.00	25/30						P-16	17.45			
												18.00							P-16	18.00			
												19.00	25/30						P-17	18.45			
												19.00							P-17	19.00			
												20.00	21/30						P-18	19.45			
												20.00							P-18	20.00			
												21.00	21/30						P-19	20.45			
												21.00							P-19	21.00			
												22.00	8/30						P-20	21.45			
												22.00							P-20	22.00			
												23.00	20/30						P-21	22.45			
												23.00							P-21	23.00			
												24.00	30/30						P-22	23.45			
												24.00							P-22	24.00			
												25.00	38/30						P-23	24.45			
												25.00							P-23	25.00			
												26.00	36/30						P-24	25.45			
												26.00							P-24	26.00			
												27.00	31/30						P-25	26.45			
												27.00							P-25	27.00			
												28.00	37/30						P-26	27.45			
												28.00							P-26	28.00			
												29.00	17/30						P-27	28.45			
												29.00							P-27	29.00			
												30.00	20/30						P-28	29.45			
												30.00							P-28	30.00			
												31.00								30.45			

NOTES

Relative density description		Consistency description	
Relative density	SPT N-Value (max)	Consistency	SPT N-Value (max)
Very loose	0 - 4	Very soft	under 2
Loose	4 - 10	Soft	2 - 4
Medium dense	10 - 30	Firm	5 - 8
Dense	30 - 50	Stiff	9 - 15
Very dense	over 50	Very stiff	16 - 30
		Hard	over 30

Sample key:

- P-1 Disturbed sample (SPT sample)
- T-1 Undisturbed Sample (Piston sampler)
- D-1 Undisturbed Sample (Denison sampler)
- Rock core sample (Single core tube)
- Rock core sample (Double core tube)
- Rock core sample (Core Loss)
- W-1 Water sample

Planner structure:

Term	Spacing (mm)
Very thick	> 2000
Thick	600 - 2000
Medium	200 - 600
Thin	60 - 200
Very thin	20 - 60
Thickly laminated	6 - 20
Thinly laminated	< 6

Discontinuities:

Term	Spacing (mm)
Very widely spaced	> 2000
Widely spaced	600 - 2000
Medium spaced	200 - 600
Closely spaced	60 - 200
Very closely spaced	20 - 60
Extremely closely spaced	< 20

ROD (%) Term

0 - 25	Very poor
25 - 50	Poor
50 - 75	Fair
75 - 90	Good
90 - 100	Excellent

Planner structure

Term	Spacing (mm)
Very thick	> 2000
Thick	600 - 2000
Medium	200 - 600
Thin	60 - 200
Very thin	20 - 60
Thickly laminated	6 - 20
Thinly laminated	< 6

Discontinuities

Term	Spacing (mm)
Very widely spaced	> 2000
Widely spaced	600 - 2000
Medium spaced	200 - 600
Closely spaced	60 - 200
Very closely spaced	20 - 60
Extremely closely spaced	< 20

Remarks:

Continue to next sheet

PROJECT NAME : Geological Survey on the supplement survey for Bago River Bridge Construction Project BORING EQUIPMENT : TOHO "D1" DATE : 20.08.2016 ~ 23.08.2016
 LOCATION : Thanlyin Chin Kat Road, Thaketa Township. BORING METHOD : Rotary Direct Circulation
 GROUND LEVEL : 5.26m ORIENTATION : Vertical
 COORDINATE : E 204044.248 ; N 1859862.131 DEPTH : 50.00m GROUND WATER LEVEL : 2.00m

CLIENT
NIPPON KOEI CO., LTD.

SCALE (m)	ELEVATION (m)	DEPTH GL - (m)	THICKNESS (m)	DIAGRAM	COLOUR	RELATIVE DENSITY (or) CONSISTENCY	SOIL NAME	SOIL DESCRIPTION	DATE & DEPTH (m)	CASING (DEPTH (m) & DIAMETER (mm))	WATER DEPTH (m)	STANDARD PENETRATION TEST TEST METHOD (ASTM)				SAMPLING								
												DEPTH GL - (m)	N-Value (Blows / 30cm)	CURVE OF BLOW ●			SAMPLE (Type & No)	DEPTH GL - (m)	TCR (%)	SCR (%)	ROD (%)	SCALE (m)		
													0	10	20	30	40	50						
31	-25.74	31.00	2.00		gray	Very stiff	CLAY	Very stiff, gray, moist, low to medium plasticity, CLAY with fine grained sand				31.00	27/30						P-29	31.00				31
32					gray	Medium dense to dense	Clayey SAND	Medium dense to dense, gray, moist, fine to medium grained, low plastic Clayey SAND				32.00	35/30							P-30	31.45			32
33												33.00	30/30							P-31	33.00			33
34	-28.74	34.00	3.00		gray	Very stiff to hard	CLAY	Very stiff to hard, gray, moist, low to medium plasticity, CLAY with fine grained sand	22.08.16			34.00	21/30							P-32	34.00			34
35									35.00			35.00	28/30							P-33	35.00			35
36									36.00			36.00	21/30							P-34	36.00			36
37									37.00			37.00	27/30							P-35	37.00			37
38									38.00			38.00	27/30							P-36	38.00			38
39									39.00			39.00	23/30							P-37	39.00			39
40									40.00			40.00	28/30							P-38	40.00			40
41									41.00			41.00	37/30							P-39	41.00			41
42									42.00			42.00	39/30							P-40	42.00			42
43	-37.74	43.00	9.00		gray to yellowish brown	Very dense	Clayey SAND	Very dense, gray to yellowish brown, moist, fine to medium grained, low plastic Clayey SAND	23.08.16			43.00	50/23							P-41	43.00			43
44									44.00			44.00	50/25							P-42	44.00			44
45									45.00			45.00	50/19							P-43	45.00			45
46									46.00			46.00	50/25							P-44	46.00			46
47									47.00			47.00	50/18							P-45	47.00			47
48									48.00			48.00	50/14							P-46	48.00			48
49									49.00			49.00	50/15							P-47	49.00			49
50	-45.02	50.28	7.28						50.00			50.00	50/13							P-48	50.00			50
51								This borehole is terminated at 50.00m, according to the termination criteria.				51.00												51
52												52.00												52
53												53.00												53
54												54.00												54
55												55.00												55
56												56.00												56
57												57.00												57
58												58.00												58
59												59.00												59
60												60.00												60
61												61.00												61

NOTES				Sample key				Planner structure				Discontinuities				<p>FUKKEN CO., LTD. Consulting Engineers (Yangon Branch) www.fukken.com</p>	
Relative density description		Consistency description		● P-1 Disturbed sample (SPT sample)	PBT Permeability Test	Term	Spacing (mm)	Term	Spacing (mm)	Revision No.		Rev: 02					
Relative density	SPT N-Value (min)	Consistency	SPT N-Value (max)	■ T-1 Undisturbed Sample (Piston sampler)	VS Vane Shear Test	Very thick	> 2000	Very widely spaced	> 2000	Revision Date		19.09.2016					
Very loose	0 - 4	Very soft	under 2	■ D-1 Undisturbed Sample (Denison sampler)	PMT Pressuremeter Test	Thick	600 - 2000	Widely spaced	600 - 2000	Remarks _____ _____ _____ _____ _____							
Loose	4 - 10	Soft	2 - 4	■ Rock core sample (Single core tube)		Medium	200 - 600	Medium spaced	200 - 600								
Medium dense	10 - 30	Firm	5 - 8	■ Rock core sample (Double core tube)		Thin	60 - 200	Closely spaced	60 - 200								
Dense	30 - 50	Stiff	9 - 15	■ Rock core sample (Core Loss)		Very thin	20 - 60	Very closely spaced	20 - 60								
Very dense	over 50	Very stiff	16 - 30	■ W-1 Water sample		Thickly laminated	6 - 20	Extremely closely spaced	< 20								
		Hard	over 30			Thinly laminated	< 6										

PROJECT NAME : Geological Survey on the supplement survey for Bago River Bridge Construction Project BORING EQUIPMENT : TOHO "D1" DATE : 19.08.2016 ~ 23.08.2016
 LOCATION : Thanlyin Chin Kat Road, Thaketa Township. BORING METHOD : Rotary Direct Circulation
 GROUND LEVEL : 5.00m ORIENTATION : Vertical **CLIENT**
 COORDINATE : E 204091.678 ; N 1859823.064 DEPTH : 51.00m GROUND WATER LEVEL : 2.50m **NIPPON KOEI CO., LTD.**

SCALE (m)	ELEVATION (m)	DEPTH GL - (m)	THICKNESS (m)	DIAGRAM	COLOUR	RELATIVE DENSITY (or) CONSISTENCY	SOIL NAME	SOIL DESCRIPTION	DATE & DEPTH (m)	CASING (DEPTH (m) & DIAMETER (mm))	WATER DEPTH (m)	STANDARD PENETRATION TEST TEST METHOD (ASTM)					SAMPLING				SCALE (m)		
												DEPTH GL - (m)	CURVE OF BLOW					SAMPLE (Type & No)	DEPTH GL - (m)	TCR (%)		SCR (%)	ROD (%)
												N-Value (Blows / 30cm)											
												0 10 20 30 40 50											
1					brownish gray to yellowish brown	Soft	CLAY	Soft, brownish gray, moist, medium to high plasticity, CLAY with fine grained sand (Filled Soil)				1.00						A-1	1.00				1
2	2.50	2.50	2.50							2.00	2.00							A-2	1.50				2
3					yellowish brown	Soft	Sandy CLAY	Soft, yellowish brown, moist, fine grained, low to medium plasticity, Sandy CLAY				3.00	2/30					P-1	2.00				3
4	1.00	4.00	1.50									4.00	12/30					P-2	2.50				4
5					gray	Loose to medium dense	Silty SAND	Loose to medium dense, gray, moist to wet, fine grained, Silty SAND, with trace of mica mineral				5.00	4/30					P-3	3.00				5
6								GL- (5.00 ~ 5.45)m; soft, gray, fine grained, low to medium plasticity, Sandy CLAY layer is observed as intercalated layer at that depth				6.00	9/30					P-4	3.45				6
7												7.00	8/30					P-5	4.00				7
8												8.00	11/30					P-6	4.45				8
9	-4.00	9.00	5.00									9.00	4/30					P-7	5.00				9
10					gray	Soft to stiff	Sandy SILT	Soft to stiff, gray, moist, fine grained, low plasticity, Sandy SILT, with trace of mica mineral				10.00	7/30					P-8	5.45				10
11								Sand percent is increased in some portion.				11.00	5/30					P-9	6.00				11
12												12.00	9/30					P-10	6.45				12
13												13.00	13/30					P-11	7.00				13
14	-9.00	14.00	5.00									14.00	19/30					P-12	7.45				14
15					gray	Loose to medium dense	Silty SAND	Loose to medium dense, gray, moist, fine to medium grained, Silty SAND				15.00	20/30					P-13	8.00				15
16								GL- (14.00 ~ 14.45)m and (25.00 ~ 25.45)m; medium dense, gray, fine to medium grained, low plastic Clayey SAND layer is observed as intercalated layer at those depths				16.00	17/30					P-14	8.45				16
17												17.00	25/30					P-15	9.00				17
18										19.08.16		18.00	20/30					P-16	9.45				18
19												19.00	22/30					P-17	10.00				19
20												20.00	22/30					P-18	10.45				20
21												21.00	12/30					P-19	11.00				21
22												22.00	10/30					P-20	11.45				22
23												23.00	15/30					P-21	12.00				23
24												24.00	22/30					P-22	12.45				24
25												25.00	15/30					P-23	13.00				25
26	-21.00	26.00	12.00									26.00	12/30					P-24	13.45				26
27					gray	Stiff to hard	CLAY	Stiff to hard, gray, moist, low to medium plasticity, CLAY with fine grained sand				27.00	14/30					P-25	14.00				27
28												28.00	15/30					P-26	14.45				28
29												29.00	21/30					P-27	15.00				29
30												30.00	20/30					P-28	15.45				30
31												31.00											31

Continue to next sheet

NOTES Relative density description Relative density SPT N-Value (max) Very loose 0 - 4 Loose 4 - 10 Medium dense 10 - 30 Dense 30 - 50 Very dense over 50 Consistency description Consistency SPT N-Value (max) Very soft under 2 Soft 2 - 4 Firm 5 - 8 Stiff 9 - 15 Very stiff 16 - 30 Hard over 30		Sample key ● P-1 Disturbed sample (SPT sample) □ T-1 Undisturbed Sample (Piston sampler) □ D-1 Undisturbed Sample (Denison sampler) ■ Rock core sample (Single core tube) ■ Rock core sample (Double core tube) □ Rock core sample (Core Loss) ● W-1 Water sample		Planner structure Term Spacing (mm) Very thick > 2000 Thick 600 - 2000 Medium 200 - 600 Thin 60 - 200 Very thin 20 - 60 Thickly laminated 6 - 20 Thinly laminated < 6		Discontinuities Term Spacing (mm) Very widely spaced > 2000 Widely spaced 600 - 2000 Medium spaced 200 - 600 Closely spaced 60 - 200 Very closely spaced 20 - 60 Extremely closely spaced < 20		FUKKEN CO., LTD. Consulting Engineers (Yangon Branch) Revision No. Rev: 02 Revision Date 19.09.2016	
Remarks _____ _____ _____									

PROJECT NAME : Geological Survey on the supplement survey for Bago River Bridge Construction Project BORING EQUIPMENT : TOHO "D1" DATE : 19.08.2016 ~ 23.08.2016
 LOCATION : Thanlyin Chin Kat Road, Thaketa Township. BORING METHOD : Rotary Direct Circulation
 GROUND LEVEL : 5.00m ORIENTATION : Vertical
 COORDINATE : E 204091.678 ; N 1859823.064 DEPTH : 51.00m GROUND WATER LEVEL : 2.50m

CLIENT
NIPPON KOEI CO., LTD.

SCALE (m)	ELEVATION (m)	DEPTH GL - (m)	THICKNESS (m)	DIAGRAM	COLOUR	RELATIVE DENSITY (or) CONSISTENCY	SOIL NAME	SOIL DESCRIPTION	DATE & DEPTH (m)	CASING (DEPTH (m) & DIAMETER (mm))	WATER DEPTH (m)	STANDARD PENETRATION TEST TEST METHOD (ASTM)				SAMPLING					
												DEPTH GL - (m)	N-Value (Blows / 30cm)	CURVE OF BLOW ●		SAMPLE (Type & No)	DEPTH GL - (m)	TCR (%)	SCR (%)	ROD (%)	SCALE (m)
3					gray	Stiff to hard	CLAY	Stiff to hard, gray, moist, low to medium plasticity, CLAY with silt				31.00	33/30		P-29	31.00					31
32	-27.00	32.00	6.00									32.00	50/28		P-30	32.00					32
33					gray	Very dense	Clayey SAND	Very dense, gray, moist, fine to medium grained, low plastic Clayey SAND	20.08.16			33.00	50/21		P-31	33.00					33
34	-29.00	34.00	2.00						33.00			34.00	27/30		P-32	34.00					34
35					gray	Very stiff to hard	CLAY	Very stiff to hard, gray, moist, low to medium plasticity, CLAY with fine grained sand				35.00	41/30		P-33	35.00					35
36								Thinly fine grained sand layer is including in this layer				36.00	29/30		P-34	36.00					36
37								GL- (35.00 ~ 35.45)m; dense, gray, fine to medium grained, low plastic Clayey SAND layer is observed as intercalated layer at that depth				37.00	20/30		P-35	37.00					37
38												38.00	33/30		P-36	38.00					38
39												39.00	33/30		P-37	39.00					39
40												40.00	29/30		P-38	40.00					40
41	-36.00	41.00	7.00									41.00	50/20		P-39	41.00					41
42					brownish gray to yellowish brown	Dense to very dense	Clayey SAND	Dense to very dense, brownish gray to yellowish brown, moist, fine to medium grained, low plastic Clayey SAND				42.00	50/27		P-40	42.00					42
43												43.00	50/25		P-41	43.00					43
44												44.00	50/26		P-42	44.00					44
45												45.00	38/30		P-43	45.00					45
46												46.00	50/30		P-44	46.00					46
47									22.08.16			47.00	50/25		P-45	47.00					47
48									47.00			48.00	50/20		P-46	48.00					48
49												49.00	50/17		P-47	49.00					49
50												50.00	50/19		P-48	50.00					50
51	-46.32	51.32	10.32						23.08.16			51.00	50/17		P-49	51.00					51
52								This borehole is terminated at 51.00m, according to the termination criteria.	51.00			52.00									52
53												53.00									53
54												54.00									54
55												55.00									55
56												56.00									56
57												57.00									57
58												58.00									58
59												59.00									59
60												60.00									60
61												61.00									61

NOTES

Relative density description		Consistency description	
Relative density	SPT N-Value (max)	Consistency	SPT N-Value (max)
Very loose	0 - 4	Very soft	under 2
Loose	4 - 10	Soft	2 - 4
Medium dense	10 - 30	Firm	5 - 8
Dense	30 - 50	Stiff	9 - 15
Very dense	over 50	Very stiff	16 - 30
		Hard	over 30

Sample key		Planner structure		Discontinuities	
●	Disturbed sample (SPT sample)	PBT	Permeability Test	Term	Spacing (mm)
■	Undisturbed Sample (Piston sampler)	VS	Vane Shear Test	Very thick	> 2000
■	Undisturbed Sample (Denison sampler)	PMT	Pressuremeter Test	Thick	600 - 2000
■	Rock core sample (Single core tube)			Medium	200 - 600
■	Rock core sample (Double core tube)			Thin	60 - 200
■	Rock core sample (Core Loss)			Very thin	20 - 60
■	Water sample			Thickly laminated	6 - 20
				Thinly laminated	< 6

Term	Spacing (mm)
Very thick	> 2000
Thick	600 - 2000
Medium	200 - 600
Thin	60 - 200
Very thin	20 - 60
Thickly laminated	6 - 20
Thinly laminated	< 6

Term	Spacing (mm)
Very widely spaced	> 2000
Widely spaced	600 - 2000
Medium spaced	200 - 600
Closely spaced	60 - 200
Very closely spaced	20 - 60
Extremely closely spaced	< 20

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Revision No. Rev: 02
 Revision Date 19.09.2016

Remarks

PROJECT NAME : Geological Survey on the supplement survey for Bago River Bridge Construction Project BORING EQUIPMENT : TOHO "D1" DATE : 18.08.2016 ~ 22.08.2016
 LOCATION : Thanlyin Chin Kat Road, Thaketa Township. BORING METHOD : Rotary Direct Circulation
 GROUND LEVEL : 5.27m ORIENTATION : Vertical **CLIENT**
 COORDINATE : E 204182.001 ; N 1859742.035 DEPTH : 50.00m GROUND WATER LEVEL : 1.90m **NIPPON KOEI CO., LTD.**

SCALE (m)	ELEVATION (m)	DEPTH GL - (m)	THICKNESS (m)	DIAGRAM	COLOUR	RELATIVE DENSITY (or) CONSISTENCY	SOIL NAME	SOIL DESCRIPTION	DATE & DEPTH (m)	CASING (DEPTH (m) & DIAMETER (mm))	WATER DEPTH (m)	STANDARD PENETRATION TEST TEST METHOD (ASTM)					SAMPLING						
												DEPTH GL - (m)	N-Value (Blows / 30cm)	CURVE OF BLOW ●				SAMPLE (Type & No)	DEPTH GL - (m)	TCR (%)	SCR (%)	ROD (%)	SCALE (m)
1					brown	Soft	CLAY	Soft, brown, moist, low plasticity, CLAY with fine grained sand (Filled Soil)				1.00						A-1	1.00				
2	3.27	2.00	2.00		brown	Soft	CLAY	Soft, brown, moist, low to medium plasticity, CLAY		2.00 Ø112	2.00							A-2	1.50				
3	2.27	3.00	1.00								3.00	8/30						W-1	2.50				
4					gray	Loose to medium dense	Silty SAND	Loose to medium dense, gray, moist to wet, fine grained, Silty SAND, with trace of mica mineral			4.00	7/30						P-1	3.00				
5								GL- (9.00 ~ 9.45)m; loose, fine grained, low plastic Clayey SAND layer is observed as intercalated layer at that depth			5.00	8/30						P-2	4.00				
6											6.00	9/30						P-3	5.00				
7										18.08.16	7.00	10/30						P-4	6.00				
8										8.00	11/30							P-5	7.00				
9										8.00	7/30							P-6	8.00				
10											9.00	7/30						P-7	9.00				
11	-5.73	11.00	8.00		gray	Firm to stiff	Sandy SILT	Firm to stiff, gray, moist, fine grained, low plasticity, Sandy SILT, with trace of organic matter			10.00	8/30						P-8	10.00				
12											11.00	6/30						P-9	11.00				
13	-7.73	13.00	2.00		gray	Medium dense	Silty SAND	Medium dense, gray, moist, fine to medium grained, Silty SAND			12.00	10/30						P-10	12.00				
14											13.00	13/30						P-11	13.00				
15											14.00	17/30						P-12	14.00				
16											15.00	13/30						P-13	15.00				
17											16.00	17/30						P-14	16.00				
18											17.00	16/30						P-15	17.00				
19											18.00	17/30						P-16	18.00				
20											19.00	21/30						P-17	19.00				
21											20.00	29/30						P-18	20.00				
22	-16.73	22.00	9.00								21.00	24/30						P-19	21.00				
23					gray	Stiff to hard	CLAY	Stiff to hard, gray, moist, low to medium plasticity, CLAY with fine grained sand			22.00	13/30						P-20	22.00				
24											23.00	15/30						P-21	23.00				
25								GL- (26.00 ~ 26.45)m; dense, gray, fine to medium grained, low plastic Clayey SAND layer is observed as intercalated layer at that depth			24.00	18/30						P-22	24.00				
26										19.08.16	25.00	24/30						P-23	25.00				
27										26.00	33/30							P-24	26.00				
28										26.00	22/30							P-25	27.00				
29											28.00	19/30						P-26	28.00				
30											29.00	20/30						P-27	29.00				
31											30.00	27/30						P-28	30.00				
32											31.00												

Continue to next sheet

NOTES				Sample key				Planner structure				Discontinuities				FUKKEN CO., LTD. Consulting Engineers (Yangon Branch) www.fukken.com.mm Tel : 951 - 8010896, 859 - 42098762	
Relative density description	Consistency description			● P-1 Disturbed sample (SPT sample)	PBT Permeability Test	Term	Spacing (mm)	Term	Spacing (mm)	Revision No.	Rev: 02						
Relative density	SPT N-Value (max)	Consistency	SPT N-Value (max)	⊖ T-1 Undisturbed Sample (Piston sampler)	VS Vane Shear Test	Very thick	> 2000	Very widely spaced	> 2000	Revision Date	19.09.2016						
Very loose	0 - 4	Very soft	under 2	⊖ D-1 Undisturbed Sample (Denison sampler)	PMT Pressuremeter Test	Thick	600 - 2000	Widely spaced	600 - 2000								
Loose	4 - 10	Soft	2 - 4	⊖ Rock core sample (Single core tube)		Medium	200 - 600	Medium spaced	200 - 600								
Medium dense	10 - 30	Firm	5 - 8	⊖ Rock core sample (Double core tube)		Thin	60 - 200	Closely spaced	60 - 200								
Dense	30 - 50	Stiff	9 - 15	⊖ Rock core sample (Core Loss)		Very thin	20 - 60	Very closely spaced	20 - 60								
Very dense	over 50	Very stiff	16 - 30	⊖ W-1 Water sample		Thickly laminated	6 - 20	Extremely closely spaced	< 20								
		Hard	over 30			Thinly laminated	< 6										
										Remarks							

PROJECT NAME : Geological Survey on the supplement survey for Bago River Bridge Construction Project BORING EQUIPMENT : TOHO "D1" DATE : 17.08.2016 ~ 19.08.2016
 LOCATION : Thanlyin Chin Kat Road, Thaketa Township. BORING METHOD : Rotary Direct Circulation
 GROUND LEVEL : 5.76m ORIENTATION : Vertical **CLIENT**
 COORDINATE : E 204231.206 ; N 1859695.127 DEPTH : 50.00m GROUND WATER LEVEL : 3.00m **NIPPON KOEI CO., LTD.**

SCALE (m)	ELEVATION (m)	DEPTH GL - (m)	THICKNESS (m)	DIAGRAM	COLOUR	RELATIVE DENSITY (or) CONSISTENCY	SOIL NAME	SOIL DESCRIPTION	DATE & DEPTH (m)	CASING (DEPTH (m) & DIAMETER (mm))	WATER DEPTH (m)	STANDARD PENETRATION TEST TEST METHOD (ASTM)		SAMPLING				SCALE (m)			
												DEPTH GL - (m)	N-Value (Blows / 30cm)	SAMPLE (Type & No)	DEPTH GL - (m)	TCR (%)	SCR (%)		ROD (%)		
1					brown	Soft	Sandy CLAY	Soft, brown, moist, fine grained, low to medium plasticity, Sandy CLAY		1.00 Ø112											
2	3.76	2.00	2.00					(Filled Soil)													
3	2.76	3.00	1.00		brown	Soft	CLAY	Soft, brown, moist, medium to high plasticity, CLAY													
4					gray	Loose to medium dense	Silty SAND	Loose to medium dense, gray, moist to wet, fine grained, Silty SAND, with trace of mica mineral													
5								GL- (9.00 ~ 9.45)m; very loose, gray, moist, fine grained, low plastic Clayey SAND layer is observed as intercalated layer at that depth													
6																					
7																					
8																					
9																					
10																					
11	-5.24	11.00	8.00		gray	Firm to stiff	Sandy CLAY	Firm to stiff, gray, moist, fine grained, low plasticity, Sandy CLAY, with trace of mica mineral													
12																					
13	-7.24	13.00	2.00		gray	Medium dense	Silty SAND	Medium dense, gray, moist, fine to medium grained, Silty SAND													
14								GL- (20.00 ~ 20.45)m; medium dense, brownish gray, fine to medium grained, SAND layer is observed at that depth													
15																					
16								GL- (22.00 ~ 24.45)m; thin clay layer is observed as intercalated layer at that depth													
17																					
18																					
19																					
20																					
21									17.08.16												
22									21.00												
23																					
24																					
25	-19.24	25.00	12.00																		
26					brownish yellow and yellowish brown	Medium dense to dense	Clayey SAND	Medium dense to dense, brownish yellow and yellowish brown, moist, fine to medium grained, low plastic Clayey SAND, with trace of fine gravel													
27																					
28																					
29																					
30																					
31																					

Continue to next sheet

Relative density description		Consistency description		Sample key		Planner structure		Discontinuities	
Relative density	SPT N-Value (max)	Consistency	SPT N-Value (max)	● P-1 Disturbed sample (SPT sample) ○ T-1 Undisturbed Sample (Piston sampler) □ D-1 Undisturbed Sample (Denison sampler) ■ Rock core sample (Single core tube) ■ Rock core sample (Double core tube) □ Rock core sample (Core Loss) ⊕ W-1 Water sample	PBT Permeability Test VS Vane Shear Test PMT Pressuremeter Test	Term Spacing (mm) Very thick > 2000 Thick 600 - 2000 Medium 200 - 600 Thin 60 - 200 Very thin 20 - 60 Thickly laminated 6 - 20 Thinly laminated < 6	Term Spacing (mm) Very widely spaced > 2000 Widely spaced 600 - 2000 Medium spaced 200 - 600 Closely spaced 60 - 200 Very closely spaced 20 - 60 Extremely closely spaced < 20	FUKKEN CO., LTD. Consulting Engineers (Yangon Branch) Tel: 951-8010896, 859-42098762 www.myanmargeoconsultant.com	
Very loose	0 - 4	Very soft	under 2	ROD (%) Term 0 - 25 Very poor 25 - 50 Poor 50 - 75 Fair 75 - 90 Good 90 - 100 Excellent				Revision No. Rev: 02 Revision Date 19.09.2016	
Loose	4 - 10	Soft	2 - 4					Remarks	
Medium dense	10 - 30	Firm	5 - 8						
Dense	30 - 50	Stiff	9 - 15						
Very dense	over 50	Very stiff	16 - 30						
		Hard	over 30						

PROJECT NAME : Geological Survey on the supplement survey for Bago River Bridge Construction Project BORING EQUIPMENT : TOHO "D1" DATE : 16.08.2016 ~ 19.08.2016
 LOCATION : Thanlyin Chin Kat Road, Thaketa Township. BORING METHOD : Rotary Direct Circulation
 GROUND LEVEL : 5.66m ORIENTATION : Vertical
 COORDINATE : E 204264.719 ; N 1859651.489 DEPTH : 50.00m GROUND WATER LEVEL : 3.50m

CLIENT
NIPPON KOEI CO., LTD.

SCALE (m)	ELEVATION (m)	DEPTH GL - (m)	THICKNESS (m)	DIAGRAM	COLOUR	RELATIVE DENSITY (or) CONSISTENCY	SOIL NAME	SOIL DESCRIPTION	DATE & DEPTH (m)	CASING (DEPTH (m) & DIAMETER (mm))	WATER DEPTH (m)	STANDARD PENETRATION TEST TEST METHOD (ASTM)					SAMPLING				SCALE (m)		
												DEPTH GL - (m)	CURVE OF BLOW					SAMPLE (Type & No)	DEPTH GL - (m)	TCR (%)		SCR (%)	ROD (%)
													N-Value (Blows / 30cm)	0	10	20	30						
1								Soft, brown, moist, fine grained, low to medium plasticity, Sandy CLAY				1.00										1	
2	3.66	2.00	2.00					(Filled Soil)		2.00		2.00										2	
3								Firm, brown, moist, medium to high plasticity, CLAY				3.00										3	
4												4.00										4	
5	1.16	4.50	2.50					Loose to medium dense, gray, moist to wet, fine grained, Silty SAND with clay patches				5.00										5	
6												6.00										6	
7								GL- (8.00 ~ 8.45)m; firm, gray, fine grained, low plasticity, Sandy CLAY layer is observed as intercalated layer at that depth	16.08.16			7.00										7	
8												8.00										8	
9												9.00										9	
10												10.00										10	
11	-5.34	11.00	6.50					Stiff, gray, moist, fine grained, low plasticity, Sandy CLAY, with trace of mica mineral				11.00										11	
12												12.00										12	
13	-7.34	13.00	2.00					Medium dense, gray, moist, fine to medium grained, Silty SAND, with trace of mica mineral				13.00										13	
14												14.00										14	
15												15.00										15	
16	-10.34	16.00	3.00					Medium dense to dense, gray, moist, fine to medium grained, Silty SAND				16.00										16	
17								GL- (19.00 ~ 19.45)m; dense, gray, fine to medium grained, SAND layer is observed at that depth				17.00										17	
18												18.00										18	
19								GL- (22.00 ~ 24.45)m; thin clay layer is observed as intercalated layer at that depth				19.00										19	
20												20.00										20	
21												21.00										21	
22												22.00										22	
23												23.00										23	
24												24.00										24	
25												25.00										25	
26	-20.34	26.00	10.00					Loose to medium dense, yellowish brown, moist, fine to medium grained, low plastic Clayey SAND, with trace of fine gravel				26.00										26	
27												27.00										27	
28												28.00										28	
29												29.00										29	
30												30.00										30	
31												31.00										31	

Continue to next sheet

NOTES

Relative density description		Consistency description	
Relative density	SPT N-Value (max)	Consistency	SPT N-Value (max)
Very loose	0 - 4	Very soft	under 2
Loose	4 - 10	Soft	2 - 4
Medium dense	10 - 30	Firm	5 - 8
Dense	30 - 50	Stiff	9 - 15
Very dense	over 50	Very stiff	16 - 30
		Hard	over 30

Sample key		Planner structure		Discontinuities	
● P-1	Disturbed sample (SPT sample)	PBT	Permeability Test	Term	Spacing (mm)
□ T-1	Undisturbed Sample (Piston sampler)	VS	Vane Shear Test	Very thick	> 2000
□ D-1	Undisturbed Sample (Denison sampler)	PMT	Pressuremeter Test	Thick	600 - 2000
▬	Rock core sample (Single core tube)			Medium	200 - 600
▬	Rock core sample (Double core tube)			Thin	60 - 200
▬	Rock core sample (Core Loss)			Very thin	20 - 60
□ W-1	Water sample			Thickly laminated	6 - 20
				Thinly laminated	< 6

Term	Spacing (mm)	Term	Spacing (mm)
Very thick	> 2000	Very widely spaced	> 2000
Thick	600 - 2000	Widely spaced	600 - 2000
Medium	200 - 600	Medium spaced	200 - 600
Thin	60 - 200	Closely spaced	60 - 200
Very thin	20 - 60	Very closely spaced	20 - 60
Thickly laminated	6 - 20	Extremely closely spaced	< 20
Thinly laminated	< 6		

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Revision No. **Rev: 02**
Revision Date **19.09.2016**

Remarks

PROJECT NAME : Geological Survey on the supplement survey for Bago River Bridge Construction Project BORING EQUIPMENT : TOHO "D1" DATE : 16.08.2016 ~ 19.08.2016
 LOCATION : Thanlyin Chin Kat Road, Thaketa Township. BORING METHOD : Rotary Direct Circulation
 GROUND LEVEL : 5.66m ORIENTATION : Vertical
 COORDINATE : E 204264.719 ; N 1859651.489 DEPTH : 50.00m GROUND WATER LEVEL : 3.50m

CLIENT
NIPPON KOEI CO., LTD.

SCALE (m)	ELEVATION (m)	DEPTH GL - (m)	THICKNESS (m)	DIAGRAM	COLOUR	RELATIVE DENSITY (or) CONSISTENCY	SOIL NAME	SOIL DESCRIPTION	DATE & DEPTH (m)	CASING (DEPTH (m) & DIAMETER (mm))	WATER DEPTH (m)	STANDARD PENETRATION TEST TEST METHOD (ASTM)					SAMPLING							
												DEPTH GL - (m)	N-Value (Blows / 30cm)	CURVE OF BLOW ●				SAMPLE (Type & No)	DEPTH GL - (m)	TCR (%)	SCR (%)	ROD (%)	SCALE (m)	
													0	10	20	30	40	50						
31					yellowish brown	Loose to medium dense	Clayey SAND	Loose to medium dense, yellowish brown, moist, fine to medium grained, low plastic Clayey SAND, with trace of fine gravel	17.08.16 32.00			31.00	20/30						P-28	31.00 31.45				31
32												32.00	18/30						P-29	32.00 32.45				32
33												33.00	15/30						P-30	33.00 33.45				33
34												34.00	16/30						P-31	34.00 34.45				34
35	-29.34	35.00	9.00									35.00	50/29						P-32	35.00 35.44				35
36					yellowish brown	Very dense	Clayey SAND	Very dense, yellowish brown, moist, fine to medium grained, low plastic Clayey SAND with fine gravel				36.00	18/30						P-33	36.00 36.45				36
37												37.00	50/29						P-34	37.00 37.44				37
38												38.00	50/14						P-35	38.00 38.29				38
39	-33.34	39.00	4.00									39.00	33/30						P-36	39.00 39.45				39
40					gray	Hard	CLAY	Hard, gray, moist, low to medium plasticity, CLAY with silt Thinly fine grained sand layer is including in this layer				40.00	50/24						P-37	40.00 40.39				40
41												41.00	50/17						P-38	41.00 41.32				41
42												42.00	50/13						P-39	42.00 42.28				42
43												43.00	50/15						P-40	43.00 43.30				43
44												44.00	50/14						P-41	44.00 44.29				44
45									18.08.16 45.00			45.00	50/14						P-42	45.00 45.29				45
46												46.00	50/16						P-43	46.00 46.31				46
47												47.00	50/14						P-44	47.00 47.29				47
48												48.00	50/17						P-45	48.00 48.32				48
49	-43.34	49.00	10.00									49.00	50/14						P-46	49.00 49.29				49
50	-44.58	50.24	1.24		gray	Very dense	Clayey SAND	Very dense, gray, moist, fine to medium grained, low plastic Clayey SAND	19.08.16 50.00			50.00	50/9						P-47	50.00				50
51								This borehole is terminated at 50.00m, according to the termination criteria.				51.00												51
52												52.00												52
53												53.00												53
54												54.00												54
55												55.00												55
56												56.00												56
57												57.00												57
58												58.00												58
59												59.00												59
60												60.00												60
61												61.00												61

NOTES

Relative density description		Consistency description	
Relative density	SPT N-Value (max)	Consistency	SPT N-Value (max)
Very loose	0 - 4	Very soft	under 2
Loose	4 - 10	Soft	2 - 4
Medium dense	10 - 30	Firm	5 - 8
Dense	30 - 50	Stiff	9 - 15
Very dense	over 50	Very stiff	16 - 30
		Hard	over 30

Sample key		Planner structure		Discontinuities	
●	P-1 Disturbed sample (SPT sample)	PBT	Permeability Test	Term	Spacing (mm)
■	T-1 Undisturbed Sample (Piston sampler)	VS	Vane Shear Test	Very thick	> 2000
■	D-1 Undisturbed Sample (Denison sampler)	PMT	Pressuremeter Test	Thick	600 - 2000
■	Rock core sample (Single core tube)			Medium	200 - 600
■	Rock core sample (Double core tube)			Thin	60 - 200
■	Rock core sample (Core Loss)			Very thin	20 - 60
■	W-1 Water sample			Thickly laminated	6 - 20
				Thinly laminated	< 6

Term	Spacing (mm)	Term	Spacing (mm)
Very thick	> 2000	Very widely spaced	> 2000
Thick	600 - 2000	Widely spaced	600 - 2000
Medium	200 - 600	Medium spaced	200 - 600
Thin	60 - 200	Closely spaced	60 - 200
Very thin	20 - 60	Very closely spaced	20 - 60
Thickly laminated	6 - 20	Extremely closely spaced	< 20
Thinly laminated	< 6		

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Revision No. Rev: 02
Revision Date 19.09.2016

Remarks

PROJECT NAME : Geological Survey on the supplement survey for Bago River Bridge Construction Project BORING EQUIPMENT : TOHO "D1" DATE : 15.08.2016 ~ 18.08.2016
 LOCATION : Thanlyin Chin Kat Road, Thaketa Township. BORING METHOD : Rotary Direct Circulation
 GROUND LEVEL : 4.97m ORIENTATION : Vertical **CLIENT**
 COORDINATE : E 204261.084 ; N 1859612.551 DEPTH : 50.00m GROUND WATER LEVEL : 3.50m **NIPPON KOEI CO., LTD.**

SCALE (m)	ELEVATION (m)	DEPTH GL - (m)	THICKNESS (m)	DIAGRAM	COLOUR	RELATIVE DENSITY (or) CONSISTENCY	SOIL NAME	SOIL DESCRIPTION	DATE & DEPTH (m)	CASING (DEPTH (m) & DIAMETER (mm))	WATER DEPTH (m)	STANDARD PENETRATION TEST TEST METHOD (ASTM)					SAMPLING						
												DEPTH GL - (m)	CURVE OF BLOW					SAMPLE (Type & No.)	DEPTH GL - (m)	TCR (%)	SCR (%)	ROD (%)	SCALE (m)
												N-Value (Blows / 30cm)	0	10	20	30	40	50					
1					brownish gray	Soft	CLAY	Soft, brownish gray, moist, medium to high plasticity, CLAY	15.08.16	1.00													
2	2.97	2.00	2.00					(Filled Soil)															
3	1.97	3.00	1.00		brownish gray	Soft	CLAY	Soft, brownish gray, moist, medium to high plasticity, CLAY		Ø112		4/30											
4					gray	Loose	Silty SAND	Loose, gray, moist to wet, fine grained, Silty SAND, with trace of mica mineral			▼	8/30											
5					gray	Loose to medium dense	Silty SAND	Loose to medium dense, gray, moist, fine grained, Silty SAND, with trace of mica mineral				8/30											
6					gray	Stiff	Sandy CLAY	Stiff, gray, moist, fine grained, low plasticity, Sandy CLAY, with trace of mica mineral				9/30											
7					gray	Loose to medium dense	Silty SAND	Loose to medium dense, gray, moist, fine grained, Silty SAND, with trace of mica mineral				8/30											
8					gray	Medium dense to dense	Silty SAND	Medium dense to dense, gray, moist, fine to medium grained, Silty SAND				11/30											
9					gray	Medium dense to dense	Silty SAND	GL- (21.00 ~ 22.45)m; Loose, fine to medium grained, low plastic Clayey SAND layer is observed as intercalated layer at that depth				11/30											
10	-5.03	10.00	7.00		gray	Medium dense to dense	Silty SAND	GL- (25.00 ~ 25.25)m; thin clay layer is observed as intercalated layer at that depth				14/30											
11					gray	Medium dense to dense	Silty SAND	Medium dense to dense, gray, moist, fine to medium grained, Silty SAND				9/30											
12	-7.03	12.00	2.00		gray	Loose to medium dense	Silty SAND	Loose to medium dense, gray, moist, fine grained, Silty SAND, with trace of mica mineral				15/30											
13					gray	Loose to medium dense	Silty SAND	Loose to medium dense, gray, moist, fine grained, Silty SAND, with trace of mica mineral				10/30											
14					gray	Loose to medium dense	Silty SAND	Loose to medium dense, gray, moist, fine grained, Silty SAND, with trace of mica mineral				14/30											
15	-10.03	15.00	3.00		gray	Medium dense to dense	Silty SAND	Medium dense to dense, gray, moist, fine to medium grained, Silty SAND				20/30											
16					gray	Medium dense to dense	Silty SAND	Medium dense to dense, gray, moist, fine to medium grained, Silty SAND				29/30											
17					gray	Medium dense to dense	Silty SAND	Medium dense to dense, gray, moist, fine to medium grained, Silty SAND				25/30											
18					gray	Medium dense to dense	Silty SAND	Medium dense to dense, gray, moist, fine to medium grained, Silty SAND				17/30											
19					gray	Medium dense to dense	Silty SAND	Medium dense to dense, gray, moist, fine to medium grained, Silty SAND				21/30											
20					gray	Medium dense to dense	Silty SAND	Medium dense to dense, gray, moist, fine to medium grained, Silty SAND				23/30											
21					gray	Medium dense to dense	Silty SAND	Medium dense to dense, gray, moist, fine to medium grained, Silty SAND				10/30											
22					gray	Medium dense to dense	Silty SAND	Medium dense to dense, gray, moist, fine to medium grained, Silty SAND				10/30											
23					gray	Medium dense to dense	Silty SAND	Medium dense to dense, gray, moist, fine to medium grained, Silty SAND				34/30											
24					gray	Medium dense to dense	Silty SAND	Medium dense to dense, gray, moist, fine to medium grained, Silty SAND				32/30											
25					gray	Medium dense to dense	Silty SAND	Medium dense to dense, gray, moist, fine to medium grained, Silty SAND				23/30											
26	-21.03	26.00	11.00		gray	Medium dense to dense	Silty SAND	Medium dense to dense, gray, moist, fine to medium grained, Silty SAND	16.08.16			23/30											
27					yellowish brown	Medium dense to very dense	Clayey SAND	Medium dense to very dense, yellowish brown, moist, fine to medium grained, low plastic Clayey SAND, with trace of fine gravel	26.00			23/30											
28					yellowish brown	Medium dense to very dense	Clayey SAND	Medium dense to very dense, yellowish brown, moist, fine to medium grained, low plastic Clayey SAND, with trace of fine gravel				25/30											
29					yellowish brown	Medium dense to very dense	Clayey SAND	Medium dense to very dense, yellowish brown, moist, fine to medium grained, low plastic Clayey SAND, with trace of fine gravel				25/30											
30					yellowish brown	Medium dense to very dense	Clayey SAND	Medium dense to very dense, yellowish brown, moist, fine to medium grained, low plastic Clayey SAND, with trace of fine gravel				28/30											
31					yellowish brown	Medium dense to very dense	Clayey SAND	Medium dense to very dense, yellowish brown, moist, fine to medium grained, low plastic Clayey SAND, with trace of fine gravel				34/30											

Continue to next sheet

NOTES Relative density description Relative density SPT N-Value (min) Very loose 0 - 4 Loose 4 - 10 Medium dense 10 - 30 Dense 30 - 50 Very dense over 50		Consistency description Consistency SPT N-Value (min) Very soft under 2 Soft 2 - 4 Firm 5 - 8 Stiff 9 - 15 Very stiff 16 - 30 Hard over 30		Sample key ● P-1 Disturbed sample (SPT sample) PBT Permeability Test □ T-1 Undisturbed Sample (Piston sampler) VS Vane Shear Test □ D-1 Undisturbed Sample (Denison sampler) PMT Pressuremeter Test ■ Rock core sample (Single core tube) ■ Rock core sample (Double core tube) □ Rock core sample (Core Loss) ⊕ W-1 Water sample		Planner structure Term Spacing (mm) Very thick > 2000 Thick 600 - 2000 Medium 200 - 600 Thin 60 - 200 Very thin 20 - 60 Thickly laminated 6 - 20 Thinly laminated < 6		Discontinuities Term Spacing (mm) Very widely spaced > 2000 Widely spaced 600 - 2000 Medium spaced 200 - 600 Closely spaced 60 - 200 Very closely spaced 20 - 60 Extremely closely spaced < 20		FUKKEN CO., LTD. Consulting Engineers (Yangon Branch) Tel : 951 - 8010896, 859 - 42098762 www.myanmargeoconsultant.com Revision No. Rev: 02 Revision Date 19.09.2016	
Remarks _____ _____ _____											

PROJECT NAME : Geological Survey on the supplement survey for Bago River Bridge Construction Project BORING EQUIPMENT : TOHO "D1" DATE : 16.08.2016 ~ 18.08.2016
 LOCATION : Thanlyin Chin Kat Road, Thaketa Township. BORING METHOD : Rotary Direct Circulation
 GROUND LEVEL : 5.20m ORIENTATION : Vertical
 COORDINATE : E 204288.053 ; N 1859558.128 DEPTH : 50.00m GROUND WATER LEVEL : 3.60m

CLIENT
NIPPON KOEI CO., LTD.

SCALE (m)	ELEVATION (m)	DEPTH GL - (m)	THICKNESS (m)	DIAGRAM	COLOUR	RELATIVE DENSITY (or) CONSISTENCY	SOIL NAME	SOIL DESCRIPTION	DATE & DEPTH (m)	CASING (DEPTH (m) & DIAMETER (mm))	WATER DEPTH (m)	STANDARD PENETRATION TEST TEST METHOD (ASTM)				SAMPLING								
												DEPTH GL - (m)	N-Value (Blows / 30cm)	CURVE OF BLOW			SAMPLE (Type & No)	DEPTH GL - (m)	TCR (%)	SCR (%)	ROD (%)	SCALE (m)		
													0	10	20	30	40	50						
31	25.80	31.00	18.00	* * *	gray	Medium dense to dense	Silty SAND	Medium dense to dense, gray, moist, fine to medium grained, Silty SAND				31.00	26/30						P-28	31.00				31
32				* * *	yellowish brown	Medium dense to dense	Clayey SAND	Medium dense to dense, yellowish brown, moist, fine to medium grained, low plastic Clayey SAND, with trace of fine gravel				32.00	26/30							P-29	31.45 32.00 32.45			32
33				* * *								33.00	29/30							P-30	33.00 33.45			33
34				* * *								34.00	36/30							P-31	34.00 34.45			34
35				* * *								35.00	35/30							P-32	35.00 35.45			35
36	30.80	36.00	5.00	* * *								36.00	50/23							P-33	36.00 36.38			36
37				* * *	yellowish brown	Very dense	Clayey SAND	Very dense, yellowish brown, moist, fine to medium grained, low plastic Clayey SAND with fine gravel				37.00	50/20							P-34	37.00 37.35			37
38				* * *								38.00	50/15							P-35	38.00 38.30			38
39	33.80	39.00	3.00	* * *								39.00	32/30							P-36	39.00 39.45			39
40				* * *	gray	Hard	CLAY	Hard, gray, moist, low to medium plasticity, CLAY with silt Thinly fine grained sand layer is including in this layer	17.08.16 40.00			40.00	36/30							P-37	40.00 40.45			40
41				* * *								41.00	50/27							P-38	41.00 41.42			41
42				* * *								42.00	50/15							P-39	42.00 42.30			42
43				* * *								43.00	50/28							P-40	43.00 43.43			43
44				* * *								44.00	50/16							P-41	44.00 44.31			44
45				* * *								45.00	50/15							P-42	45.00 45.30			45
46				* * *								46.00	50/13							P-43	46.00 46.28			46
47				* * *								47.00	50/15							P-44	47.00 47.30			47
48	42.80	48.00	9.00	* * *								48.00	50/15							P-45	48.00 48.30			48
49				* * *	gray	Very dense	Clayey SAND	Very dense, gray, moist, fine to medium grained, low plastic Clayey SAND				49.00	50/13							P-46	49.00 49.28			49
50	45.05	50.25	2.25	* * *					18.08.16 50.00			50.00	50/10							P-47	50.00 50.25			50
51				* * *				This borehole is terminated at 50.00m, according to the termination criteria.				51.00												51
52				* * *								52.00												52
53				* * *								53.00												53
54				* * *								54.00												54
55				* * *								55.00												55
56				* * *								56.00												56
57				* * *								57.00												57
58				* * *								58.00												58
59				* * *								59.00												59
60				* * *								60.00												60
61				* * *								61.00												61

<p>NOTES</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="2">Relative density description</th> <th colspan="2">Consistency description</th> </tr> <tr> <td>Relative density</td> <td>SPT N-Value (max)</td> <td>Consistency</td> <td>SPT N-Value (max)</td> </tr> <tr> <td>Very loose</td> <td>0 - 4</td> <td>Very soft</td> <td>under 2</td> </tr> <tr> <td>Loose</td> <td>4 - 10</td> <td>Soft</td> <td>2 - 4</td> </tr> <tr> <td>Medium dense</td> <td>10 - 30</td> <td>Firm</td> <td>5 - 8</td> </tr> <tr> <td>Dense</td> <td>30 - 50</td> <td>Stiff</td> <td>9 - 15</td> </tr> <tr> <td>Very dense</td> <td>over 50</td> <td>Very stiff</td> <td>16 - 30</td> </tr> <tr> <td></td> <td></td> <td>Hard</td> <td>over 30</td> </tr> </table>	Relative density description		Consistency description		Relative density	SPT N-Value (max)	Consistency	SPT N-Value (max)	Very loose	0 - 4	Very soft	under 2	Loose	4 - 10	Soft	2 - 4	Medium dense	10 - 30	Firm	5 - 8	Dense	30 - 50	Stiff	9 - 15	Very dense	over 50	Very stiff	16 - 30			Hard	over 30	<p>Sample key</p> <ul style="list-style-type: none"> ● P-1 Disturbed sample (SPT sample) ■ T-1 Undisturbed Sample (Piston sampler) ■ D-1 Undisturbed Sample (Denison sampler) ■ Rock core sample (Single core tube) ■ Rock core sample (Double core tube) ■ Rock core sample (Core Loss) ■ W-1 Water sample 	<p>Planner structure</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>Term</th> <th>Spacing (mm)</th> </tr> <tr> <td>Very thick</td> <td>> 2000</td> </tr> <tr> <td>Thick</td> <td>600 - 2000</td> </tr> <tr> <td>Medium</td> <td>200 - 600</td> </tr> <tr> <td>Thin</td> <td>60 - 200</td> </tr> <tr> <td>Very thin</td> <td>20 - 60</td> </tr> <tr> <td>Thickly laminated</td> <td>6 - 20</td> </tr> <tr> <td>Thinly laminated</td> <td>< 6</td> </tr> </table>	Term	Spacing (mm)	Very thick	> 2000	Thick	600 - 2000	Medium	200 - 600	Thin	60 - 200	Very thin	20 - 60	Thickly laminated	6 - 20	Thinly laminated	< 6	<p>Discontinuities</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>Term</th> <th>Spacing (mm)</th> </tr> <tr> <td>Very widely spaced</td> <td>> 2000</td> </tr> <tr> <td>Widely spaced</td> <td>600 - 2000</td> </tr> <tr> <td>Medium spaced</td> <td>200 - 600</td> </tr> <tr> <td>Closely spaced</td> <td>60 - 200</td> </tr> <tr> <td>Very closely spaced</td> <td>20 - 60</td> </tr> <tr> <td>Extremely closely spaced</td> <td>< 20</td> </tr> </table>	Term	Spacing (mm)	Very widely spaced	> 2000	Widely spaced	600 - 2000	Medium spaced	200 - 600	Closely spaced	60 - 200	Very closely spaced	20 - 60	Extremely closely spaced	< 20
Relative density description		Consistency description																																																															
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PROJECT NAME : Geological Survey on the supplement survey for Bago River Bridge Construction Project BORING EQUIPMENT : TOHO "D1" DATE : 12.08.2016 ~ 17.08.2016
 LOCATION : Thanlyin Chin Kat Road, Thaketa Township. BORING METHOD : Rotary Direct Circulation CLIENT : **NIPPON KOEI CO., LTD.**
 GROUND LEVEL : 4.37m ORIENTATION : Vertical
 COORDINATE : E 204312.961 ; N 1859485.491 DEPTH : 50.00m GROUND WATER LEVEL : 1.60m

SCALE (m)	ELEVATION (m)	DEPTH GL. (m)	THICKNESS (m)	DIAGRAM	COLOUR	RELATIVE DENSITY (or) CONSISTENCY	SOIL NAME	SOIL DESCRIPTION	DATE & DEPTH (m)	CASING (DEPTH (m) & DIAMETER (mm))	WATER DEPTH (m)	STANDARD PENETRATION TEST TEST METHOD (ASTM)					SAMPLING						
												DEPTH GL. (m)	CURVE OF BLOW ●					SAMPLE (Type & No.)	DEPTH GL. (m)	TCR (%)	SCR (%)	ROD (%)	SCALE (m)
		N-Value (Blows / 30cm)																					
		0 10 20 30 40 50																					
1					brownish gray	Soft	CLAY	Soft, brownish gray, moist, medium to high plasticity, CLAY				1.00		A-1	1.00								
2	2.37	2.00	2.00					(Filled Soil)		2.00	▽	2.00		A-2	1.50								
3					gray	Soft	CLAY	Soft, gray, moist, low to medium plasticity, CLAY				2.50		Uw-1	2.00								
4												3.00		P-1	2.50								
5	-0.63	5.00	3.00									3.45			3.00								
6					gray	Soft to firm	Sandy CLAY	Soft to firm, gray, moist, fine grained, low plasticity, Sandy CLAY, with trace of mica mineral				4.00		U T-1	3.45								
7												4.80			4.00								
8												5.45		P-2	4.80								
9					gray	Medium dense to loose	Silty SAND	Medium dense to loose, gray, moist, fine grained, Silty SAND, with trace of mica mineral				6.00			5.00								
10												6.45		P-3	6.00								
11												7.00			6.45								
12	-7.63	12.00	4.00		gray	Firm to soft	Sandy CLAY	Firm to soft, gray, moist, fine grained, low plasticity, Sandy CLAY, with trace of mica mineral	12.08.16			7.45		P-4	7.00								
13												8.00			7.45								
14												8.45		P-5	8.00								
15												9.00			8.45								
16												9.45		P-6	9.00								
17					gray	Loose to medium dense	Silty SAND	Loose to medium dense, gray, moist, fine grained, Silty SAND, with trace of mica mineral				10.00			9.45								
18								Clay percent is increased in some portion				10.45		P-7	10.00								
19												11.00			10.45								
20												11.45		P-8	11.00								
21												12.00			11.45								
22												12.45		P-9	12.00								
23					gray	Firm to soft	Sandy CLAY	Firm to soft, gray, moist, fine grained, low plasticity, Sandy CLAY, with trace of mica mineral	12.00			13.00			12.45								
24												13.45		P-10	13.00								
25												14.00			13.45								
26												14.45		P-11	14.00								
27												15.00			14.45								
28												15.45		P-12	15.00								
29					gray	Loose to medium dense	Silty SAND	Loose to medium dense, gray, moist, fine grained, Silty SAND, with trace of mica mineral				16.00			15.45								
30												16.45		P-13	16.00								
31												17.00			16.45								
32					gray	Medium dense to dense	Silty SAND	Medium dense to dense, gray, moist, fine to medium grained, Silty SAND				17.45		P-14	17.00								
33												18.00			17.45								
34												18.45		P-15	18.00								
35												19.00			18.45								
36												19.45		P-16	19.00								
37												20.00			19.45								
38												20.45		P-17	20.00								
39												21.00			20.45								
40												21.45		P-18	21.00								
41												22.00			21.45								
42												22.45		P-19	22.00								
43												23.00			22.45								
44												23.45		P-20	23.00								
45												24.00			23.45								
46												24.45		P-21	24.00								
47												25.00			24.45								
48												25.45		P-22	25.00								
49												26.00			25.45								
50												26.45		P-23	26.00								
51												27.00			26.45								
52												27.45		P-24	27.00								
53												28.00			27.45								
54												28.45		P-25	28.00								
55												29.00			28.45								
56												29.45		P-26	29.00								
57												30.00			29.45								
58												30.45		P-27	30.00								
59												31.00			30.45								
60												31.00											

NOTES

Relative density description		Consistency description	
Relative density	SPT N-Value (max)	Consistency	SPT N-Value (max)
Very loose	0 - 4	Very soft	under 2
Loose	4 - 10	Soft	2 - 4
Medium dense	10 - 30	Firm	5 - 8
Dense	30 - 50	Stiff	9 - 15
Very dense	over 50	Very stiff	16 - 30
		Hard	over 30

Sample key

● P-1 Disturbed sample (SPT sample)	PBT Permeability Test
⊖ T-1 Undisturbed Sample (Piston sampler)	VS Vane Shear Test
⊖ D-1 Undisturbed Sample (Denison sampler)	PMT Pressuremeter Test
▬ Rock core sample (Single core tube)	ROD (%) Term
▬ Rock core sample (Double core tube)	0 - 25 Very poor
▬ Rock core sample (Core Loss)	25 - 50 Poor
▬ W-1 Water sample	50 - 75 Fair
	75 - 90 Good
	90 - 100 Excellent

Planner structure

Term	Spacing (mm)
Very thick	> 2000
Thick	600 - 2000
Medium	200 - 600
Thin	60 - 200
Very thin	20 - 60
Thickly laminated	6 - 20
Thinly laminated	< 6

Discontinuities

Term	Spacing (mm)
Very widely spaced	> 2000
Widely spaced	600 - 2000
Medium spaced	200 - 600
Closely spaced	60 - 200
Very closely spaced	20 - 60
Extremely closely spaced	< 20

Remarks

Continue to next sheet

PROJECT NAME : Geological Survey on the supplement survey for Bago River Bridge Construction Project BORING EQUIPMENT : TOHO "D1" DATE : 12.08.2016 ~ 17.08.2016
 LOCATION : Thanlyin Chin Kat Road, Thaketa Township. BORING METHOD : Rotary Direct Circulation
 GROUND LEVEL : 4.37m ORIENTATION : Vertical
 COORDINATE : E 204312.961 ; N 1859485.491 DEPTH : 50.00m GROUND WATER LEVEL : 1.60m

CLIENT
NIPPON KOEI CO., LTD.

SCALE (m)	ELEVATION (m)	DEPTH GL - (m)	THICKNESS (m)	DIAGRAM	COLOUR	RELATIVE DENSITY (or) CONSISTENCY	SOIL NAME	SOIL DESCRIPTION	DATE & DEPTH (m)	CASING (DEPTH (m) & DIAMETER (mm))	WATER DEPTH (m)	STANDARD PENETRATION TEST TEST METHOD (ASTM)					SAMPLING							
												DEPTH GL - (m)	N-Value (Blows / 30cm)	CURVE OF BLOW ●				SAMPLE (Type & No)	DEPTH GL - (m)	TCR (%)	SCR (%)	ROD (%)	SCALE (m)	
													0	10	20	30	40	50						
31					gray to yellowish brown	Medium dense to dense	Clayey SAND	Medium dense to dense, gray to yellowish brown, moist, fine to medium grained, low plastic Clayey SAND GL- (31.00 ~ 31.45)m; trace of organic matter is observed at that depth					31.00	17/30					P-28	31.00				31
32													32.00	22/30					P-29	31.45 32.00 32.45				32
33													33.00	23/30					P-30	33.00 33.45				33
34													34.00	20/30					P-31	34.00 34.45				34
35								GL- (34.00 ~ 34.45)m; Very stiff, mottled brown and gray, fine to medium grained, low to medium plasticity, Sandy CLAY layer is observed as intercalated layer at that depth					35.00	32/30					P-32	35.00 35.45				35
36									15.08.16				36.00	36/30					P-33	36.00 36.45				36
37													37.00	30/30					P-34	37.00 37.45				37
38													38.00	33/30					P-35	38.00 38.45				38
39													39.00	30/30					P-36	39.00 39.45				39
40													40.00	33/30					P-37	40.00 40.45				40
41													41.00	38/30					P-38	41.00 41.45				41
42	-37.63	42.00	13.00										42.00	50/30					P-39	42.00 42.45				42
43					yellowish brown to gray	Dense to very dense	Clayey SAND	Dense to very dense, yellowish brown to gray, moist, fine grained, low plastic Clayey SAND GL- (50.00 ~ 50.30)m; the grained size of sand is fine to medium grained.					43.00	50/30					P-40	43.00 43.45				43
44													44.00	50/30					P-41	44.00 44.45				44
45													45.00	50/23					P-42	45.00 45.38				45
46													46.00	50/21					P-43	46.00 46.36				46
47									16.08.16				47.00	50/20					P-44	47.00 47.35				47
48													48.00	50/25					P-45	48.00 48.40				48
49													49.00	50/23					P-46	49.00 49.38				49
50	-45.93	50.30	8.30						17.08.16				50.00	50/15					P-47	50.00 50.30				50
51								This borehole is terminated at 50.00m, according to the termination criteria.					51.00											51
52													52.00											52
53													53.00											53
54													54.00											54
55													55.00											55
56													56.00											56
57													57.00											57
58													58.00											58
59													59.00											59
60													60.00											60
61													61.00											61

NOTES

Relative density description		Consistency description	
Relative density	SPT N-Value (max)	Consistency	SPT N-Value (max)
Very loose	0 - 4	Very soft	under 2
Loose	4 - 10	Soft	2 - 4
Medium dense	10 - 30	Firm	5 - 8
Dense	30 - 50	Stiff	9 - 15
Very dense	over 50	Very stiff	16 - 30
		Hard	over 30

Sample key		Planner structure		Discontinuities	
●	P-I Disturbed sample (SPT sample)	PBT	Permeability Test	Term	Spacing (mm)
○	T-I Undisturbed Sample (Piston sampler)	VS	Vane Shear Test	Very thick	> 2000
○	D-I Undisturbed Sample (Denison sampler)	PMT	Pressuremeter Test	Thick	600 - 2000
□	Rock core sample (Single core tube)			Medium	200 - 600
□	Rock core sample (Double core tube)			Thin	60 - 200
□	Rock core sample (Core Loss)			Very thin	20 - 60
□	W-I Water sample			Thickly laminated	6 - 20
				Thinly laminated	< 6

Term	Spacing (mm)
Very thick	> 2000
Thick	600 - 2000
Medium	200 - 600
Thin	60 - 200
Very thin	20 - 60
Thickly laminated	6 - 20
Thinly laminated	< 6

Term	Spacing (mm)
Very widely spaced	> 2000
Widely spaced	600 - 2000
Medium spaced	200 - 600
Closely spaced	60 - 200
Very closely spaced	20 - 60
Extremely closely spaced	< 20

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Revision No. **Rev: 02**
Revision Date **19.09.2016**

Remarks

PROJECT NAME : Geological Survey on the supplement survey for Bago River Bridge Construction Project BORING EQUIPMENT : TOHO "D1" DATE : 10.08.2016 ~ 13.08.2016
 LOCATION : Thanlyin Chin Kat Road, Thaketa Township. BORING METHOD : Rotary Direct Circulation
 GROUND LEVEL : 4.52m ORIENTATION : Vertical
 COORDINATE : E 204384.785 ; N 1859326.929 DEPTH : 43.00m GROUND WATER LEVEL : 2.00m

CLIENT
NIPPON KOEI CO., LTD.

SCALE (m)	ELEVATION (m)	DEPTH GL - (m)	THICKNESS (m)	DIAGRAM	COLOUR	RELATIVE DENSITY (or) CONSISTENCY	SOIL NAME	SOIL DESCRIPTION	DATE & DEPTH (m)	CASING (DEPTH (m) & DIAMETER (mm))	WATER DEPTH (m)	STANDARD PENETRATION TEST TEST METHOD (ASTM)					SAMPLING				SCALE (m)			
												DEPTH GL - (m)	N-Value (Blows / 30cm)	CURVE OF BLOW ●					SAMPLE (Type & No)	DEPTH GL - (m)		TCR (%)	SCR (%)	ROD (%)
													0	10	20	30	40	50						
1	3.52	1.00	1.00		brownish gray	Soft	CLAY	Soft, brownish gray, moist, medium to high plasticity, CLAY (Filled Soil)	10.08.16			1.00							A-1	1.00				1
2					gray	Soft	CLAY	Soft, gray, moist, low to medium plasticity, CLAY with silt	1.00	2.00	2.00	2.00	4/30						P-1	1.50				2
3												3.00							U-w-1	2.00				3
4												4.00							T-1	2.45				4
5	-0.48	5.00	4.00									5.00	2/30						P-2	3.00				5
6					gray	Loose to medium dense	Silty SAND	Loose to medium dense, gray, moist to wet, fine grained, Silty SAND, with trace of mica mineral				6.00	12/30						P-3	3.70				6
7												7.00	6/30						P-4	4.00				7
8								GL- (11.00 ~ 11.45)m; trace of clay is observed at that depth				8.00	5/30						P-5	4.45				8
9												9.00	18/30						P-6	5.00				9
10												10.00	22/30						P-7	5.45				10
11												11.00	9/30						P-8	6.00				11
12												12.00	12/30						P-9	6.45				12
13	-8.48	13.00	8.00		gray	Stiff to very stiff	Sandy SILT	Stiff to very stiff, gray, moist, fine grained, low plasticity, Sandy SILT, with trace of mica mineral				13.00	11/30						P-10	7.00				13
14												14.00	18/30						P-11	7.45				14
15	-10.48	15.00	2.00									15.00	22/30						P-12	8.00				15
16					gray	Medium dense	Silty SAND	Medium dense, gray, moist to wet, fine grained, Silty SAND, with trace of mica mineral				16.00	20/30						P-13	8.45				16
17												17.00	13/30						P-14	9.00				17
18	-13.48	18.00	3.00									18.00	28/30						P-15	9.45				18
19					gray	Medium dense to dense	Silty SAND	Medium dense to dense, gray, moist, fine to medium grained, Silty SAND				19.00	29/30						P-16	10.00				19
20												20.00	22/30						P-17	10.45				20
21												21.00	29/30						P-18	11.00				21
22												22.00	22/30						P-19	11.45				22
23												23.00	33/30						P-20	12.00				23
24												24.00	19/30						P-21	12.45				24
25												25.00	28/30						P-22	13.00				25
26												26.00	20/30						P-23	13.45				26
27												27.00	13/30						P-24	14.00				27
28												28.00	39/30						P-25	14.45				28
29												29.00	17/30						P-26	15.00				29
30												30.00	33/30						P-27	15.45				30
31												31.00							P-28	16.00				31

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NOTES

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Sample key		Planner structure		Discontinuities	
● P-1	Disturbed sample (SPT sample)	PBT	Permeability Test	Very thick	> 2000
□ T-1	Undisturbed Sample (Piston sampler)	VS	Vane Shear Test	Thick	600 - 2000
□ D-1	Undisturbed Sample (Denison sampler)	PMT	Pressuremeter Test	Medium	200 - 600
▬	Rock core sample (Single core tube)	ROD (%)	Term	Thin	60 - 200
▬	Rock core sample (Double core tube)	0 - 25	Very poor	Very thin	20 - 60
▬	Rock core sample (Core Loss)	25 - 50	Poor	Thickly laminated	6 - 20
▬	Water sample	50 - 75	Fair	Thinly laminated	< 6
		75 - 90	Good		
		90 - 100	Excellent		

Term	Spacing (mm)	Term	Spacing (mm)
Very thick	> 2000	Very widely spaced	> 2000
Thick	600 - 2000	Widely spaced	600 - 2000
Medium	200 - 600	Medium spaced	200 - 600
Thin	60 - 200	Closely spaced	60 - 200
Very thin	20 - 60	Very closely spaced	20 - 60
Thickly laminated	6 - 20	Extremely closely spaced	< 20
Thinly laminated	< 6		

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