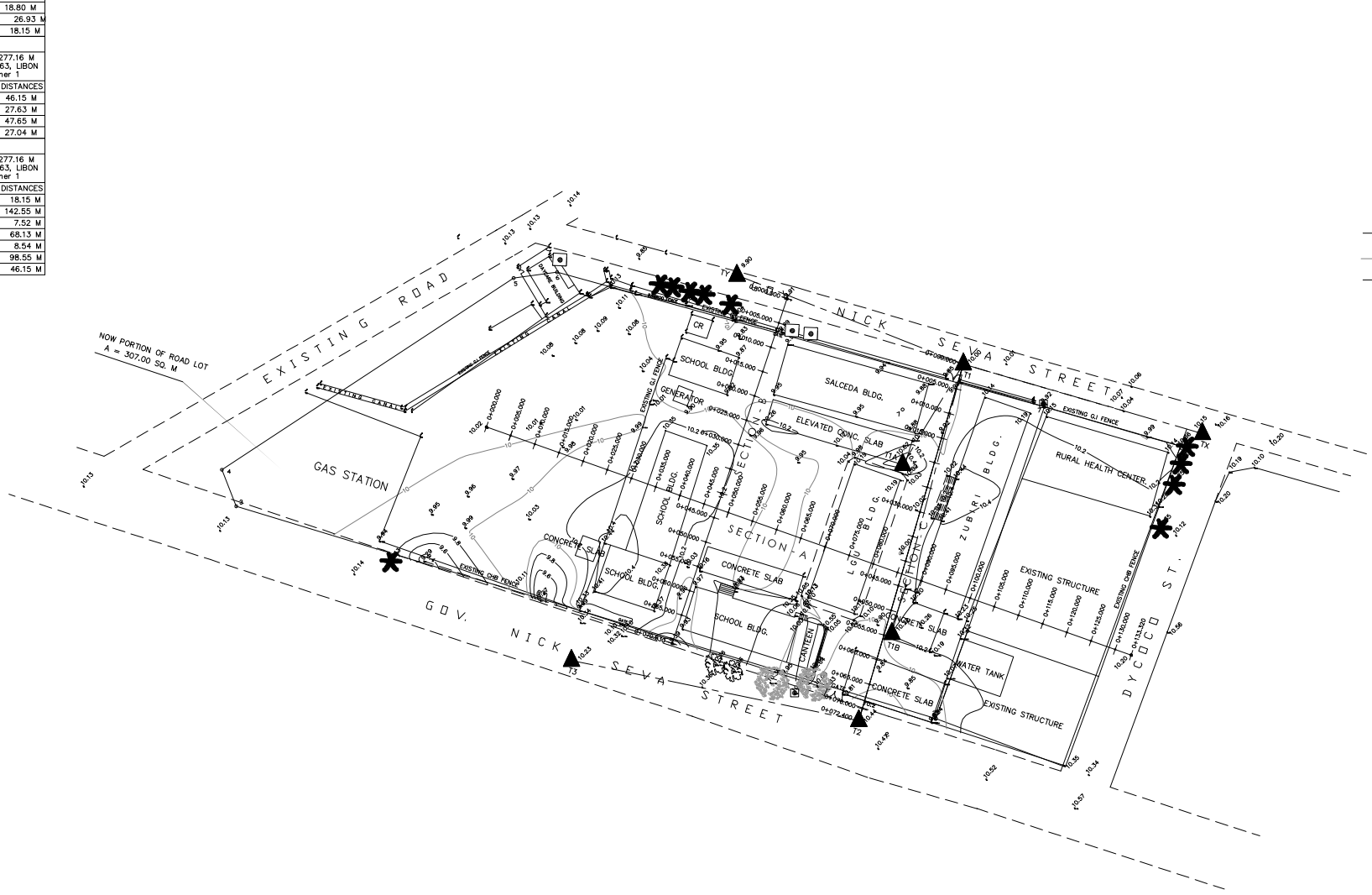
Ⅱ．地形測量図／地質調査報告書

LOT 667		
TIE LINE S85°49'W 277.16 M from BLLM #1, Cad-1163, LIBON CADASTRE To corner 1		
LINES	BEARINGS	DISTANCES
1-2	S70°51'E	27.04 M
2-3	S20°12'W	18.80 M
3-4	N69°29'W	26.93 M
4-1	N19°52'E	18.15 M

LOT 668		
TIE LINE S85°49'W 277.16 M from BLLM #1, Cad-1163, LIBON CADASTRE To corner 1		
LINES	BEARINGS	DISTANCES
1-2	N18°53'E	46.15 M
2-3	S73°58'E	27.63 M
3-4	S19°34'W	47.65 M
4-1	N70°51'E	27.04 M

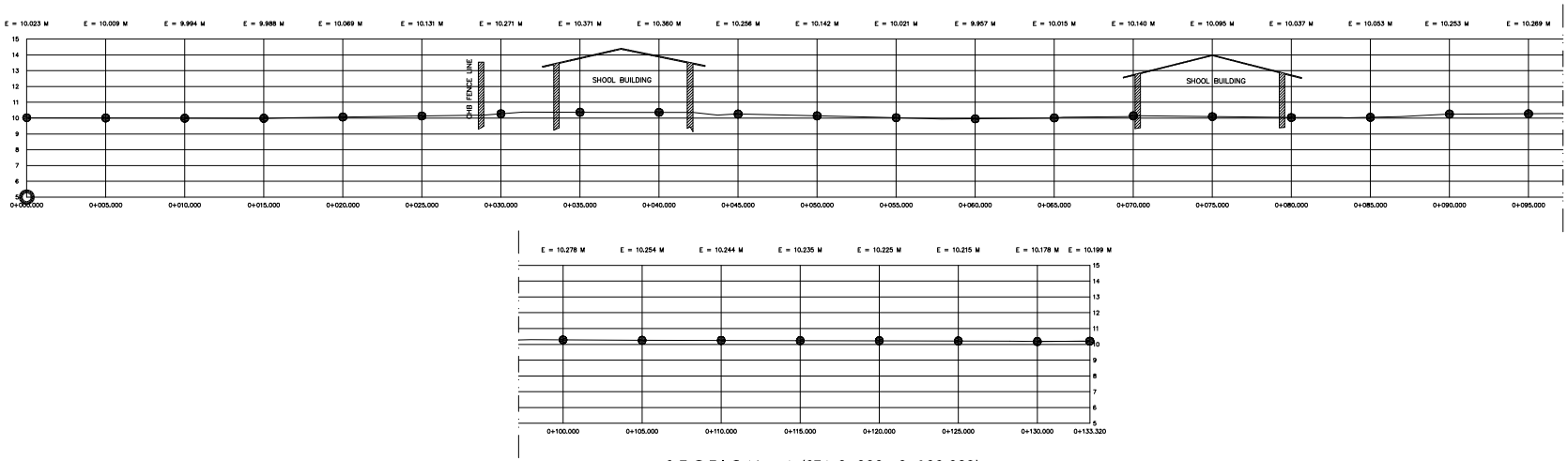
LOT 669		
TIE LINE S85°49'W 277.16 M from BLLM #1, Cad-1163, LIBON CADASTRE To corner 1		
LINES	BEARINGS	DISTANCES
1-2	S19°52'W	18.15 M
2-3	S19°52'W	142.55 M
3-4	S19°52'W	7.52 M
4-5	S19°52'W	68.13 M
5-6	S19°52'W	8.54 M
6-7	S19°52'W	98.55 M
7-1	S19°52'W	46.15 M



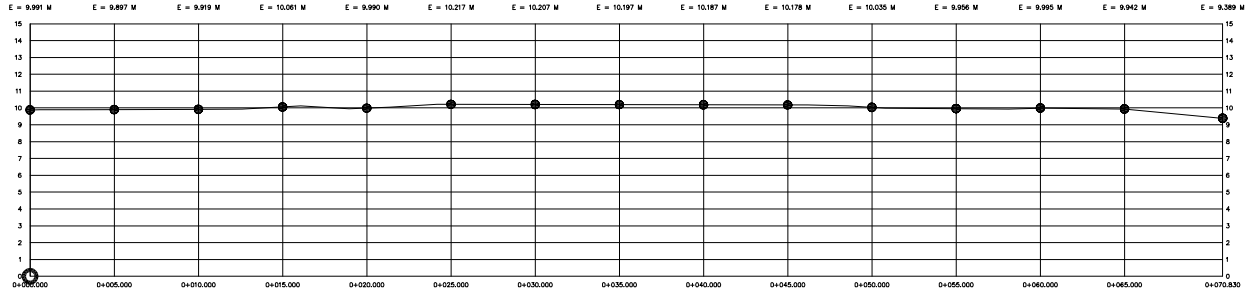
LEGEND:

- COCO TREE
- TALISAY TREE
- MANGO TREE
- TRAVERSE LINE
- CONTOUR LINE
- SECTION LINE
- ELECTRIC POST

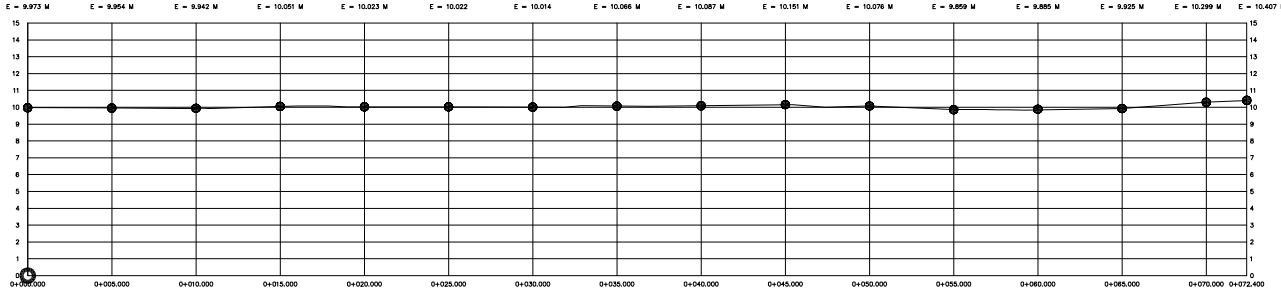
PREPARED BY:	CLIENT:	PROJECT:	ENGINEER:		SHEET No.
RAINBOW GEO-SCIENTIFIC CORPORATION In God We Trust Tel. No. 721-7585 Fax 7324778	MOHRI, ARCHITECT & ASSOCIATES, INC. 3rd Floor Cacho-Gonzales Bldg. 101 AGUIRRE COR. TRASIERRA ST. LEGASPI VILLAGE, MAKATI CITY	TOPOGRAPHIC SURVEY OF LOT 669, Cad-1163, LIBON CADASTRE AREA: 9,763.00 SQ. M SCALE : 1 : 500 MTS	BEDA C. MONPONBANUA GEODETIC ENGINEER REG. CERT. NO.: 3751 DATE: 09-03-91 LICENSE NO. 3804472 DATE: 07-26-10	DATE SURVEYED: SEPTEMBER 16, 2010 DATE PREPARED: SEPTEMBER 24, 2010 CONTOUR INTERVAL: 0.20 M	1/1 MVD2



SECTION - A (STA 0+000 - 0+133.320)



SECTION - B (STA 0+000 - 0+70.830)



SECTION - C (STA 0+000 - 0+72.400)

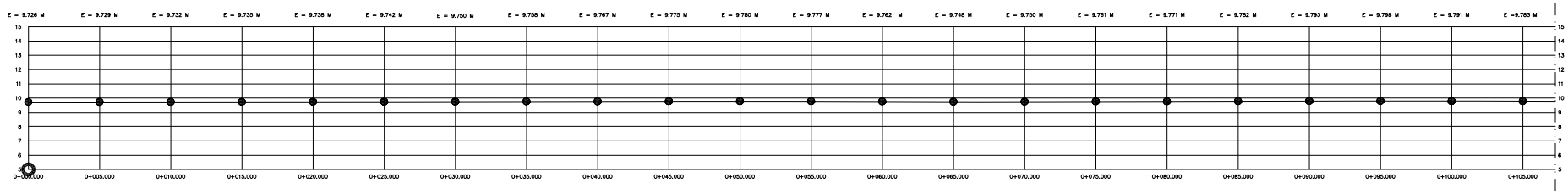
PREPARED BY:	CLIENT:	PROJECT:	ENGINEER:		SHEET No.
RAINBOW GEO-SCIENTIFIC CORPORATION In God We Trust Tel. No. 781-7888 Fax 7886778	MOHRI, ARCHITECT & ASSOCIATES, INC. 3rd Floor Cacho-Gonzales Bldg. 101 AGUIRRE COR. TRASIERRA ST. LEGASPI VILLAGE, MAKATI CITY	SECTIONS OF LOT 669, Cad-1163, LIBON CADASTRE SCALE: 1 : 100 MTS	BEDA C. MONPONBANUA GEODETIC ENGINEER REG. CERT. NO.: 3731 LICENSE NO.: 0602472 DATED: 09-23-91 DATED: 07-26-10	DATE PREPARED: OCTOBER 01, 2010 SHEET CONTENT: SECTION A - C	1/1 MVD2

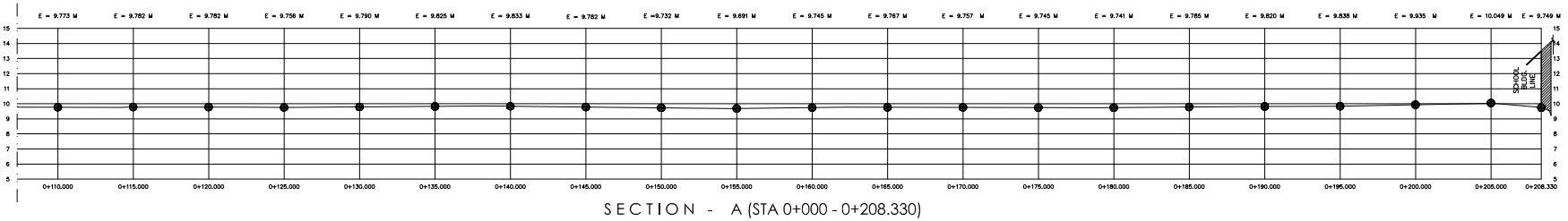
TIE LINE N63°09'W 555.75 M from BLLM #1, Cad 471-D, POLANGUI CADASTRE To corner 1		
LINES	BEARINGS	DISTANCES
1–2	S24°00'W	147.46 M
2–3	S25°54'W	48.52 M
3–4	N77°28'W	8.98 M
4–5	N74°50'W	9.21 M
5–6	N78°23'W	17.49 M
6–7	N70°00'W	65.44 M
7–8	N67°33'W	19.04 M
8–9	N66°26'W	26.53 M
9–10	N69°13'W	14.94 M
10–11	N69°05'W	14.82 M
11–12	N67°37'W	18.30 M
12–13	N67°53'W	9.96 M
13–14	N34°29'E	246.82 M
14–15	S54°46'E	83.98 M
15–16	S54°40'E	61.25 M
16–1	S54°36'E	18.43 M

LEGEND:

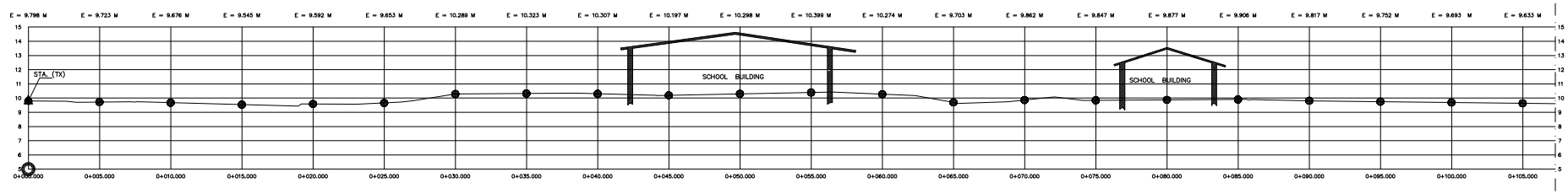
*	COCO TREE
	TREE
	MANGO TREE
	NARRA TREE
	WATER TANK
— · —	TRAVERSE LINE
——	CONTOUR LINE
——	SECTION LINE

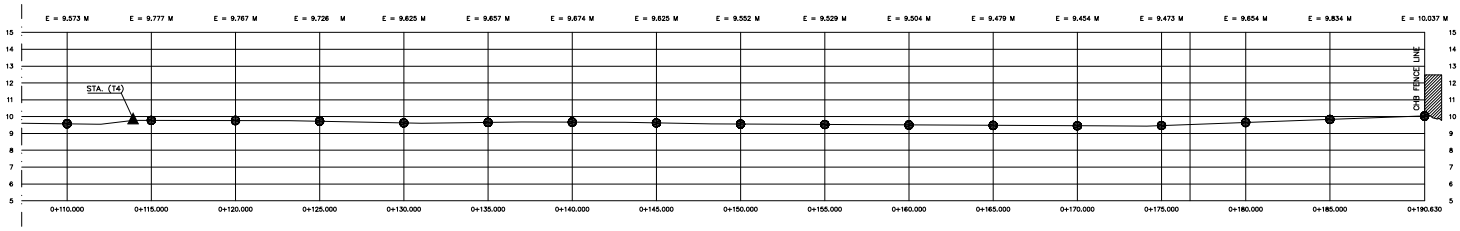
PREPARED BY:	CLIENT:	PROJECT:	ENGINEER:		SHEET No.
RAINBOW GEO-SCIENTIFIC CORPORATION In God We Trust Tel. No. 731-7566 Fax 7324776	MOHRI, ARCHITECT & ASSOCIATES, INC. 3rd Floor Cacho-Gonzales Bldg. 101 AGUIRRE COR. TRASIERRA ST. LEGASPI VILLAGE, MAKATI CITY	TOPOGRAPHIC SURVEY OF LOT 83, Cad-471-D, POLANGUI CADASTRE SCALE: 1 : 500 MTS AREA: 40,829.00 SQ. M	BEDA C. MONPONBANUA GEODETIC ENGINEER REG. CERT. NO: 3751 DATE: 09-03-91 LICENSE NO. 3804472 DATE: 07-26-10	DATE PREPARED: SEPTEMBER 22, 2010 CONTOUR INTERVAL: 0.20 M	1/1 MV02



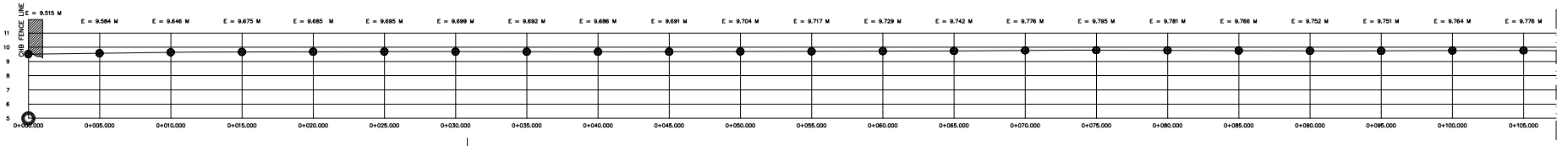


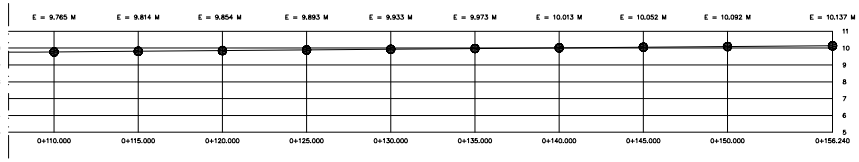
SECTION - A (STA 0+000 - 0+208.330)





SECTION - B (STA 0+000 - 0+190.630)



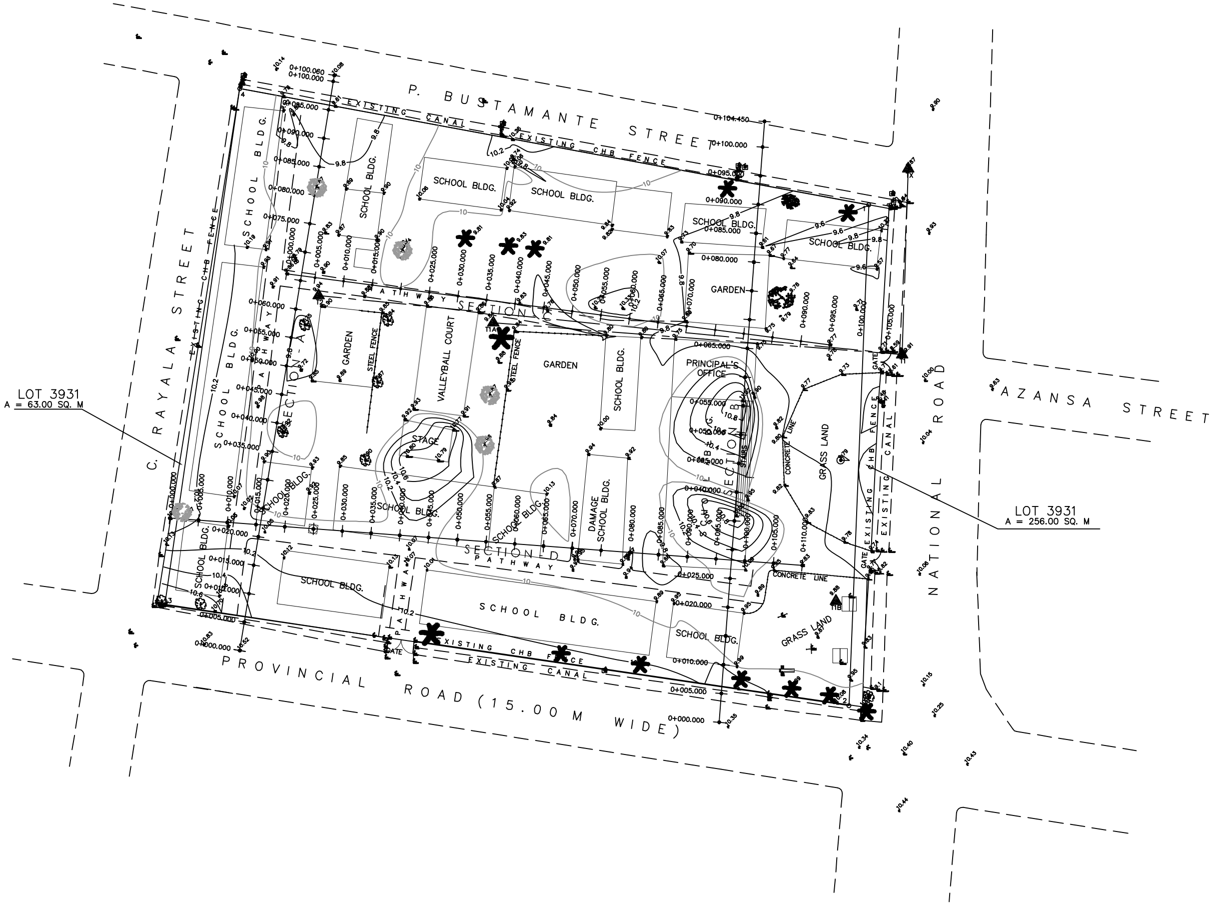


SECTION - C (STA 0+000 - 0+156.240)

PREPARED BY:	CLIENT:	PROJECT:	ENGINEER:		SHEET No.
RAINBOW GEO-SCIENTIFIC CORPORATION In God We Trust Tel. No. 781-7888 Fax 7886678	MOHRI, ARCHITECT & ASSOCIATES, INC. 3rd Floor Cacho-Gonzales Bldg. 101 AGUIRRE COR. TRASIERRA ST. LEGASPI VILLAGE, MAKATI CITY	SECTIONS OF LOT 83, Cad-471-D, POLANGUI CADASTRE SCALE: 1 : 100 MTS	BEDA C. MONPONBANUA GEODETIC ENGINEER REG. CERT. NO.: 3791 LICENSE NO.: 0004472 DATE: 09-23-91 DATE: 07-26-10	DATE PREPARED: SEPTEMBER 23, 2010 SHEET CONTENT: SECTION A - C	1/1 MVD2

TIE LINE N53°39'W 365.72 M
from BLLM #1, OAS
CADASTRE To corner 1

LINES	BEARINGS	DISTANCES
1–2	S02°16'W	86.89 M
2–3	N81°38'W	119.91 M
3–4	N08°15'E	90.44 M
4–1	S79°32'E	110.95 M



LEGEND:

Symbol	Description
*	COCO TREE
	TALISAY TREE
	ACACIA TREE
	TRAVERSE LINE
	CONTOUR LINE
	SECTION LINE
	WATER TANK
	NARRA TREE
	CONCRETE ELECTRIC POST / LAMP POST

PREPARED BY:

RAINBOW GEO-SCIENTIFIC CORPORATION
In God We Trust Tel. No. 721-7866 Fax 7324776

CLIENT:

MOHRI, ARCHITECT & ASSOCIATES, INC.
3rd Floor Cacho-Gonzales Bldg. 101 AGUIRRE COR. TRASIERRA ST. LEGASPI VILLAGE, MAKATI CITY

PROJECT:

TOPOGRAPHIC SURVEY OF LOT 03676, Psc-4604

AREA: 10,193.20 SQ. M
SCALE : 1 : 500 MTS

ENGINEER:

BEDA C. MONPONBANUA
GEODETIC ENGINEER

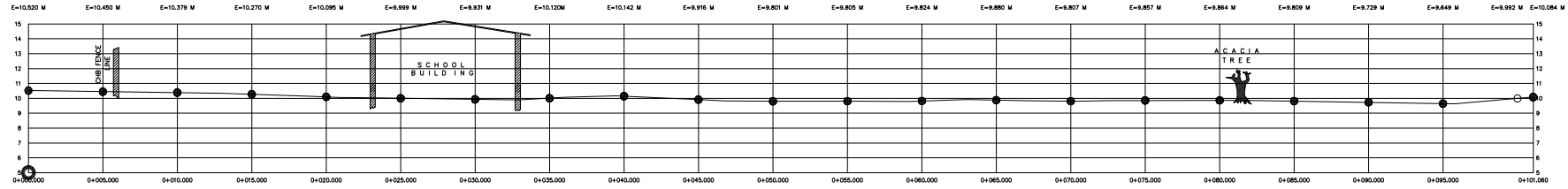
REG. CERT. NO.: 3751 DATE: 09-03-91
LICENSE NO.: 3804472 DATE: 07-26-10

DATE SURVEYED: SEPTEMBER 13 & 15, 2010
DATE PREPARED: SEPTEMBER 24-25, 2010
CONTOUR INTERVAL: 0.20 M

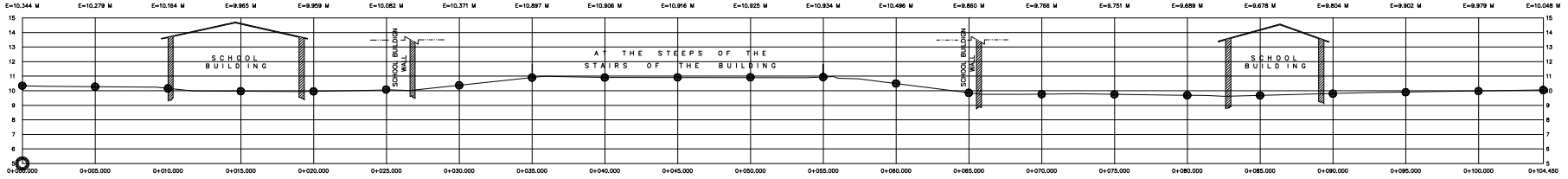
SHEET No.

1/1

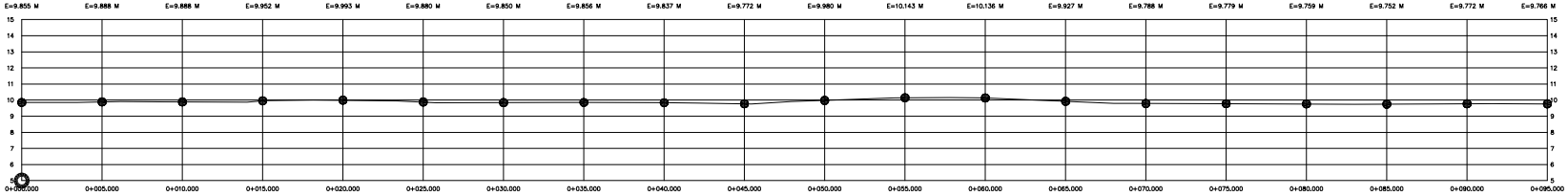
MV013



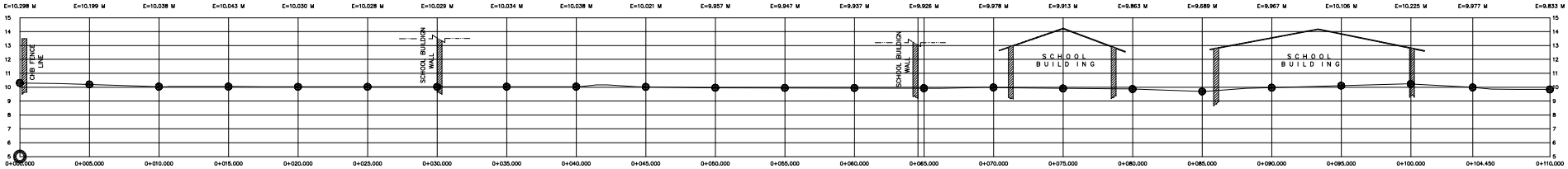
SECTION - A (STA 0+000 - 0+101.060)



SECTION - B (STA 0+000 - 0+104.450)



SECTION - C (STA 0+000 - 0+105.000)



SECTION - D (STA 0+000 - 0+105.000)

PREPARED BY:	CLIENT:	PROJECT:	ENGINEER:		SHEET No.
RAINBOW GEO-SCIENTIFIC CORPORATION In God We Trust Tel. No. 781-7888 Fax 7886778	MOHRI, ARCHITECT & ASSOCIATES, INC. 3rd Floor Cacho-Gonzales Bldg. 101 AGUIRRE COR. TRASIERRA ST. LEGASPI VILLAGE, MAKATI CITY	SECTIONS OF LOT 03676, Psc-4604 SCALE: 1 = 100 MTS	BEDA C. MONPONBANUA GEODETIC ENGINEER REG. CERT. NO.: 3731 DATE: 09-23-91 LICENSE NO.: 0002472 DATE: 07-26-10	DATE PREPARED: SEPTEMBER 29-30, 2010 SHEET CONTENT: SECTION A - D	1/1 MVD13A

30 X 40 FORMAT

TIE LINE N37°40'E 194.07 M from BLLM #1, MANITO CADASTRE To corner 1		
LINES	BEARINGS	DISTANCES
1–2	N12°03'E	72.54 M
2–3	N66°14'W	41.01 M
3–4	N62°17'W	42.27 M
4–5	N18°04'E	65.76 M
5–6	S89°26'E	49.93 M
6–7	S79°41'E	21.93 M
7–8	S57°08'E	27.47 M
8–9	S60°21'E	25.04 M
9–10	S68°46'E	36.03 M
10–11	S71°15'E	80.00 M
11–12	S61°34'E	46.51 M
12–13	S39°03'W	92.71 M
13–14	S41°12'W	47.83 M
14–1	N77°19'W	140.46 M

LEGEND:

- BANANA TREE
- TREE
- ACACIA TREE
- MANGGO TREE
- COTTAGE / HUT
- ELECTRIC POST
- TRAVERSE LINE
- CONTOUR LINE
- SECTION LINE
- ELECTRIC WIRE LINE
- WATER LINE
- BOUNDARY LINE

NOTE:

- –All corners are P.S
- –Corner 4 of Lot 89, case 01, Cad 595 Manito Cadastre was used as common point.
- –Corner 5 of Lot 89 case 1, Cad 595 were used as for check and also the existing CHB Fence along lines 14–1 of Lot 166 were used as reference line.
- –A portion of Provincial Road designated as Sub-lot A, with an area of 804.00 sq. m. which is now with existing CHB fence and gate occupied by Manito Elementary School.

PREPARED BY:

RAINBOW GEO-SCIENTIFIC CORPORATION
In God We Trust Tel. No. 721-7566 Fax 7224776

CLIENT:

MOHRI, ARCHITECT & ASSOCIATES, INC.
3rd Floor Cacho-Gonzales Bldg. 101 AGUIRRE COR. TRASIERRA ST. LEGASPI VILLAGE, MAKATI CITY

PROJECT:

TOPOGRAPHIC SURVEY OF LOT 166, MANITO CADASTRE

AREA: 32,192.00 SQ. M
SCALE: 1 : 500 MTS

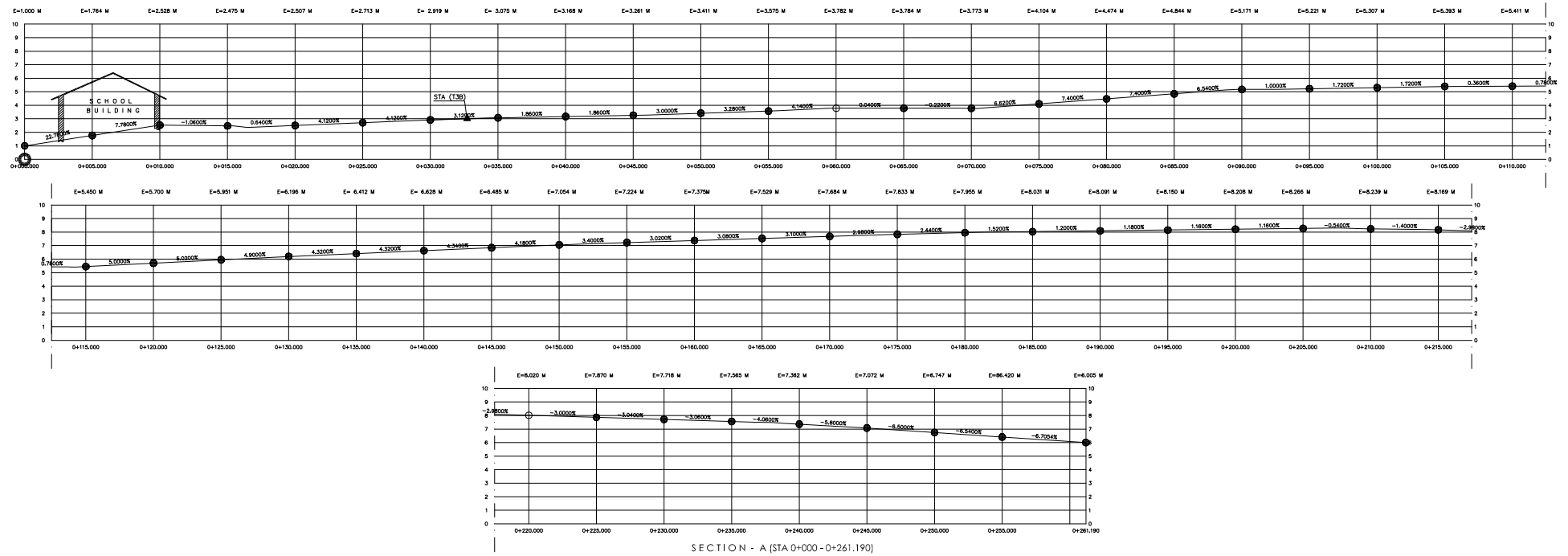
ENGINEER:

BEDA C. MONPONBANUA
GEODETIC ENGINEER
REG. CERT. NO.: 3751 DATE: 09-03-91
LICENSE NO. 3804472 DATE: 07-26-10

DATE SURVEYED: SEPTEMBER 10,11,17 & 18, 2010
DATE PREPARED: SEPTEMBER 23-24, 2010
CONTOUR INTERVAL: 0.20 M

SHEET No.
1/1

MV02



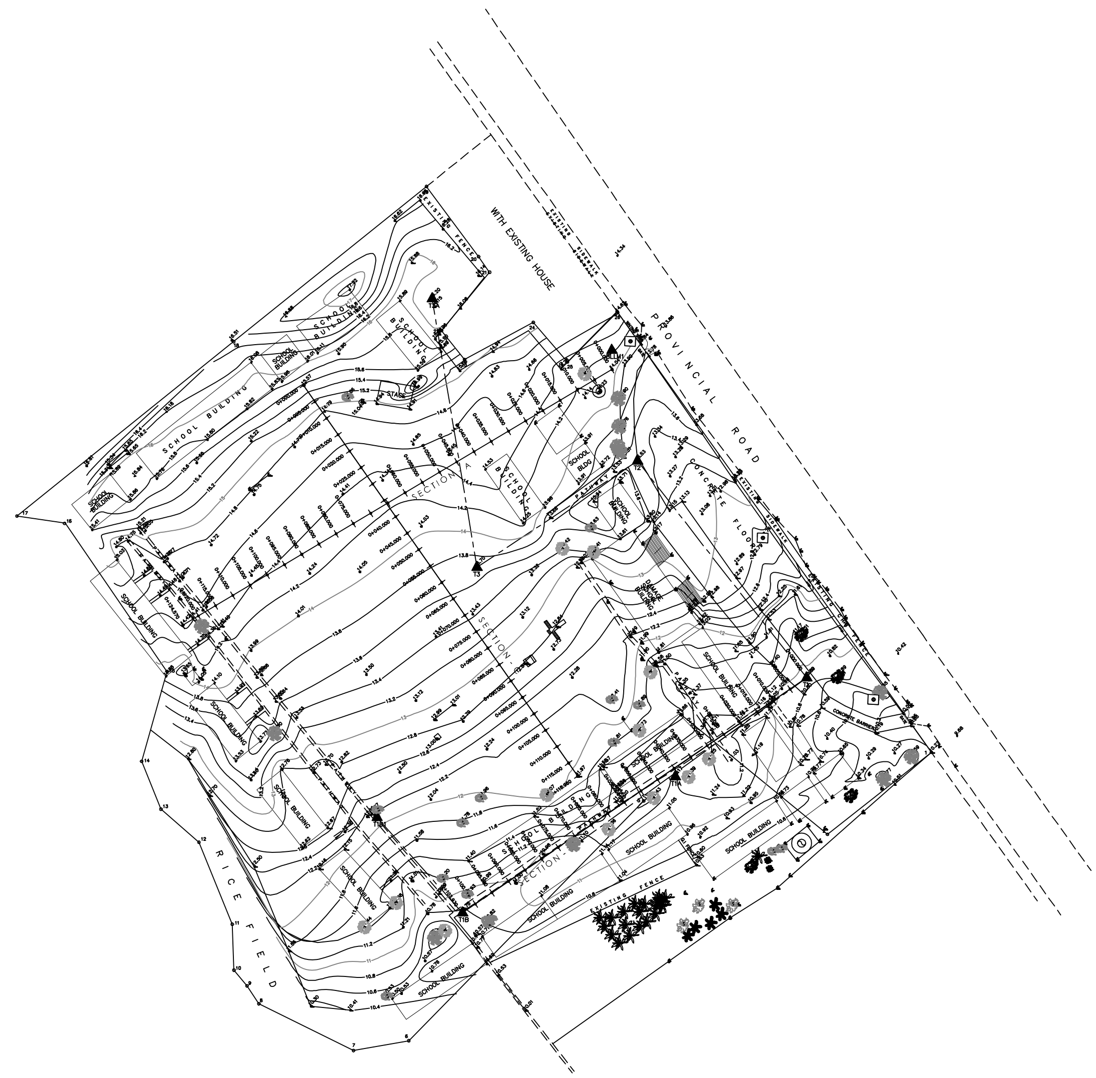
SECTION - A (STA 0+000 - 0+261.190)

SECTION - B (STA 0+000 - 0+109.420)

SECTION - C (STA 0+000 - 0+139.290)

PREPARED BY:	CLIENT:	PROJECT:	ENGINEER:		SHEET No.
RAINBOW GEO-SCIENTIFIC CORPORATION In God We Trust Tel. No. 781-7888 Fax 7886678	MOHRI, ARCHITECT & ASSOCIATES, INC. 3rd Floor Cacho-Gonzales Bldg. 101 AGUIRRE COR. TRASIERRA ST. LEGASPI VILLAGE, MAKATI CITY	SECTIONS OF LOT 166, MANITO CADASTRE SCALE: 1 : 100 MTS	BEDA C. MONPONBANUA GEODETIC ENGINEER REG. CERT. NO.: 3791 LICENSE NO.: 0024472 DATE: 09-23-91 DATED: 07-26-10	DATE PREPARED: OCTOBER 5-6, 2010 SHEET CONTENT: SECTIONS A - C	1/1 MVD2

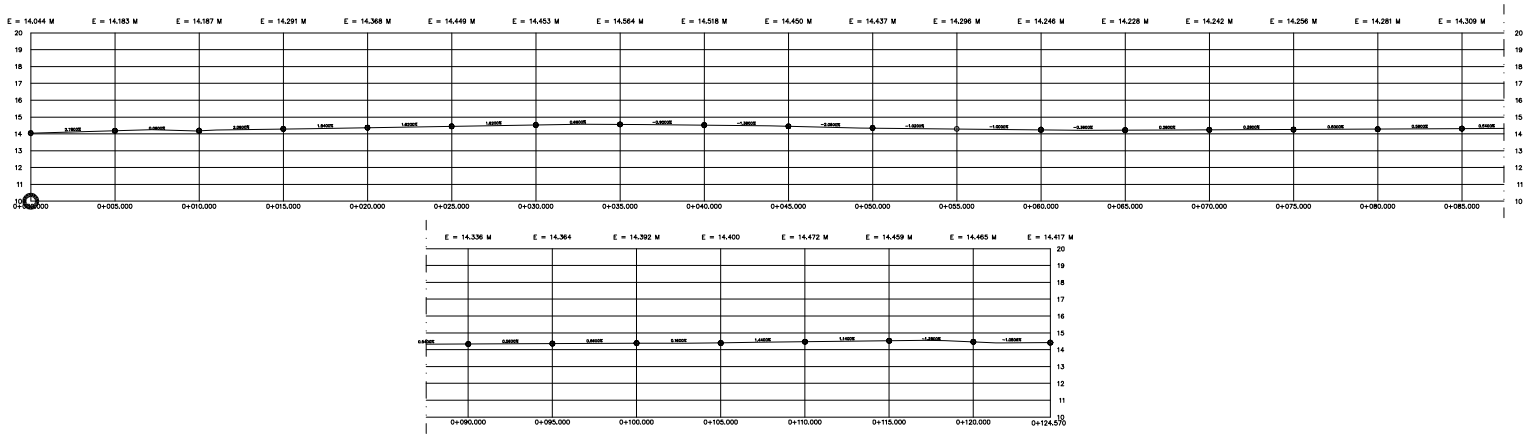
TIE LINE S35°46'E 130.98 M from BLLM #1, Cad 488-D, STO. DOMINGO CADASTRE to Cor. 1.		
LINES	BEARINGS	DISTANCES
1–2	S51°45'W	33.00 M
2–3	N50°45'W	47.13 M
3–4	S45°27'W	19.15 M
4–5	S28°11'E	9.14 M
5–6	S44°26'W	80.65 M
6–7	S82°33'W	14.55 M
7–8	N63°29'W	25.52 M
8–9	N33°29'W	4.68 M
9–10	N39°50'W	4.25 M
10–11	N02°57'W	11.45 M
11–12	N22°10'W	22.75 M
12–13	N49°00'W	12.55 M
13–14	N21°58'W	11.06 M
14–15	N15°47'E	23.64 M
15–16	N34°28'E	46.91 M
16–17	N59°20'W	13.71 M
17–18	N51°45'E	67.12 M
18–19	N51°25'E	61.59 M
19–20	S36°41'E	21.77 M
20–21	S34°59'E	4.76 M
21–22	S39°32'W	18.84 M
22–23	S38°31'E	9.20 M
23–24	N61°46'E	19.49 M
24–25	S40°48'E	13.04 M
25–26	N44°30'E	17.64 M
26–1	S33°47'E	138.07 M
AREA = 24,357.00 SQ. M.		



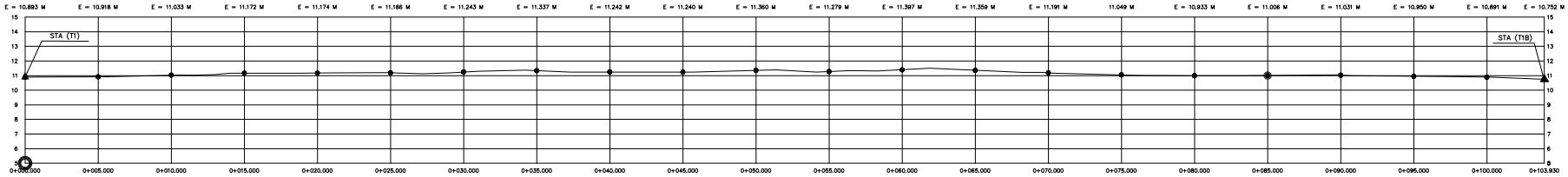
LEGEND:

- WATER TANK
- TREE
- MANGO TREE
- NARRA TREE
- COCO TREE
- CONCRETE ELECTRIC POST / LAMP POST
- WATER TANK
- KAMANSI
- BANANA TREE
- JACKFRUIT TREE
- TRAVERSE LINE
- CONTOUR LINE
- SECTION LINE

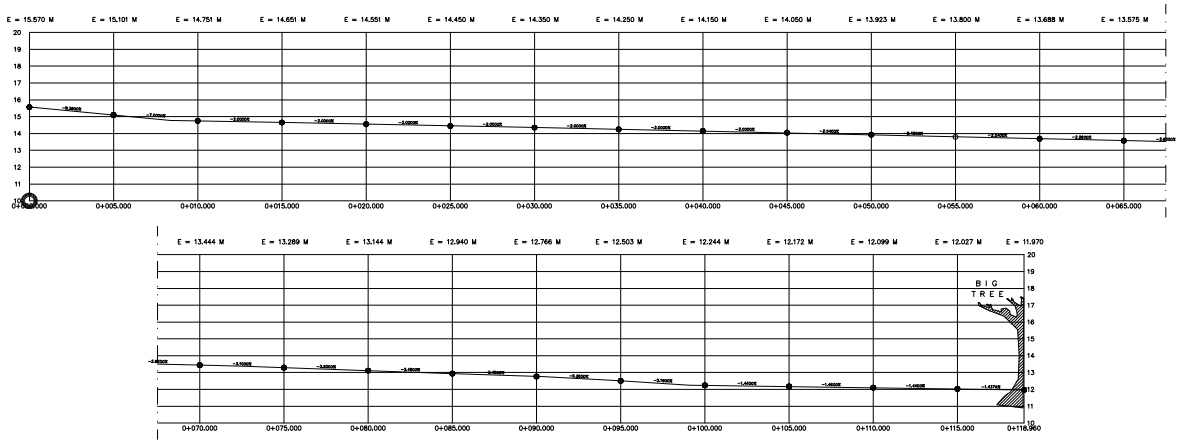
PREPARED BY:	CLIENT:	PROJECT:	ENGINEER:		SHEET No.
RAINBOW GEO-SCIENTIFIC CORPORATION In God We Trust Tel. No. 751-7886 Fax 7324776	MOHRI, ARCHITECT & ASSOCIATES, INC. 3rd Floor Cacho-Gonzales Bldg. 101 AGUIRRE COR. TRASIERRA ST. LEGASPI VILLAGE, MAKATI CITY	TOPOGRAPHIC SURVEY OF LOT 1651,Cad 488-D, STO. DOMINGO CADASTRE AREA: 24,419.00 SQ. M SCALE : 1 : 500 MTS	BEDA C. MONPONBANUA GEODETIC ENGINEER REG. CERT. NO: 3751 DATE: 09-03-91 LICENSE NO. 3804472 DATE: 07-26-10	DATE SURVEYED: SEPTEMBER 14, 2010 DATE PREPARED: SEPTEMBER 27-28, 2010 CONTOUR INTERVAL: 0.20 M	1/1 MV02



SECTION - A (STA 0+000 - 0+124.570)



SECTION - B (STA 0+000 - 0+103.930)



SECTION - C (STA 0+000 - 0+118.960)

PREPARED BY:	CLIENT:	PROJECT:	ENGINEER:		SHEET No.
RAINBOW GEO-SCIENTIFIC CORPORATION In God We Trust Tel. No. 781-7888 Fax 7886778	MOHRI, ARCHITECT & ASSOCIATES, INC. 3rd Floor Cacho-Gonzales Bldg. 101 AGUIRRE COR. TRASIERRA ST. LEGASPI VILLAGE, MAKATI CITY	SECTIONS OF LOT 1651,Cad 488-D, STO. DOMINGO CADASTRE SCALE: 1 : 100 MTS	BEDA C. MONPONBANUA GEODETIC ENGINEER REG. CERT. NO.: 5229 DATE: 09-03-10 LICENSE NO.: 0054572 DATE: 07-25-10	DATE PREPARED: OCTOBER 7-8, 2010 SHEET CONTENT: SECTION A - C	1/1 MVD10

30 X 40 FORMAT

LOT 942
AREA = 5,796.00 SQ. M

LINES	BEARINGS	DISTANCES
1–2	N89°20'E	70.06 M
2–3	S 2°09'W	51.79 M
3–4	DUE WEST	3.80 M
4–5	S 6°53'W	29.60 M
5–6	N80°35'W	31.54 M
6–7	S 3°49'W	12.49 M
7–8	N84°15'W	91.12 M
8–9	N 1°37'E	17.09 M
9–10	S84°24'E	57.99 M
10–11	N 3°36'E	48.15 M
11–1	N 1°56'E	19.02 M

LOT 943
AREA = 2,351.00 SQ. M

LINES	BEARINGS	DISTANCES
1–2	N89°02'E	43.02 M
2–3	S 0°21'E	54.70 M
3–4	N86°53'W	45.37 M
4–1	N 2°51'E	51.79 M

LOT 944
AREA = 5,796.00 SQ. M

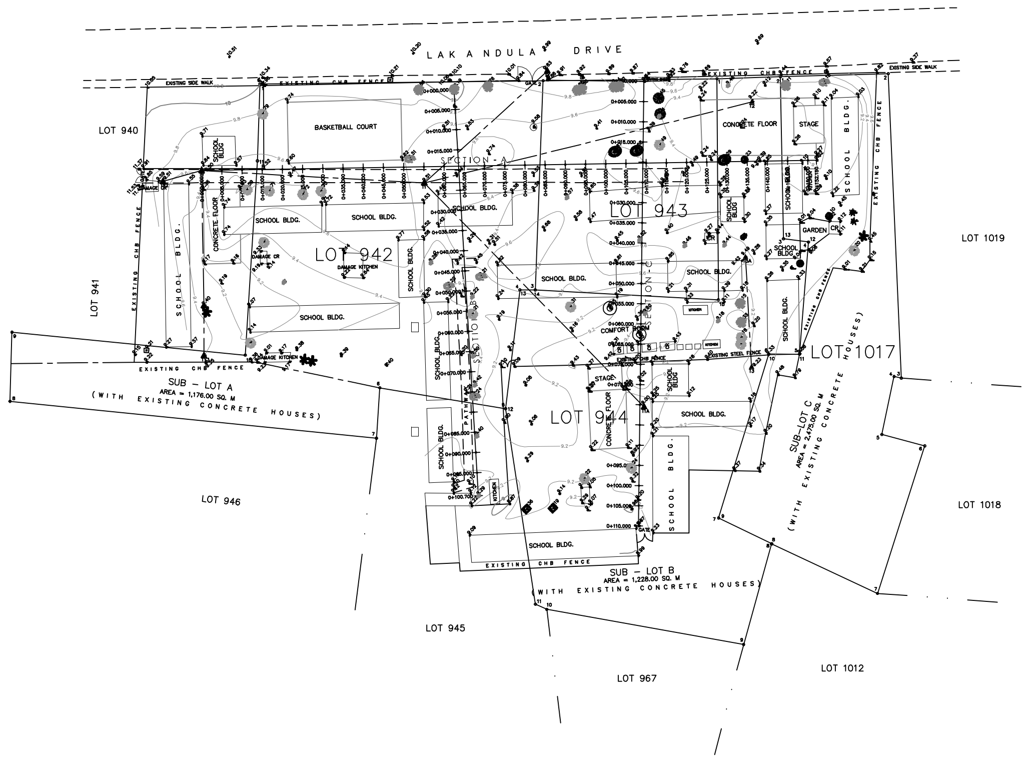
LINES	BEARINGS	DISTANCES
1–2	N88°04'E	15.68 M
2–3	S 1°05'E	40.12 M
3–4	S82°37'E	6.23 M
4–5	S 4°33'W	27.83 M
5–6	N88°51'W	7.61 M
6–7	S17°00'W	42.39 M
7–8	S64°04'E	14.59 M
8–9	S15°33'W	25.88 M
9–10	N79°52'W	49.47 M
10–11	N65°45'W	3.09 M
11–12	N 8°39'W	48.92 M
12–13	N 6°53'E	29.60 M
13–14	DUE EAST	3.80 M
14–15	S86°53'E	45.37 M
15–1	N00°21'W	54.70 M

LOT 944
AREA = 5,796.00 SQ. M

LINES	BEARINGS	DISTANCES
1–2	N88°25'E	26.70 M
2–3	S 2°27'E	75.38 M
3–4	N77°27'E	1.83 M
4–5	S11°53'W	14.67 M
5–6	S74°53'E	10.97 M
6–7	S17°46'W	38.33 M
7–8	S64°56'W	28.91 M
8–9	N64°04'W	14.59 M
9–10	N17°00'E	42.39 M
10–11	S89°51'E	7.61 M
11–12	N 4°33'E	27.87 M
12–13	N82°37'W	6.23 M
13–1	N 1°05'W	40.12 M

TIE LINE From BLLM 8, Cad-47, Legazpi Cadastre to cor. 1 of:

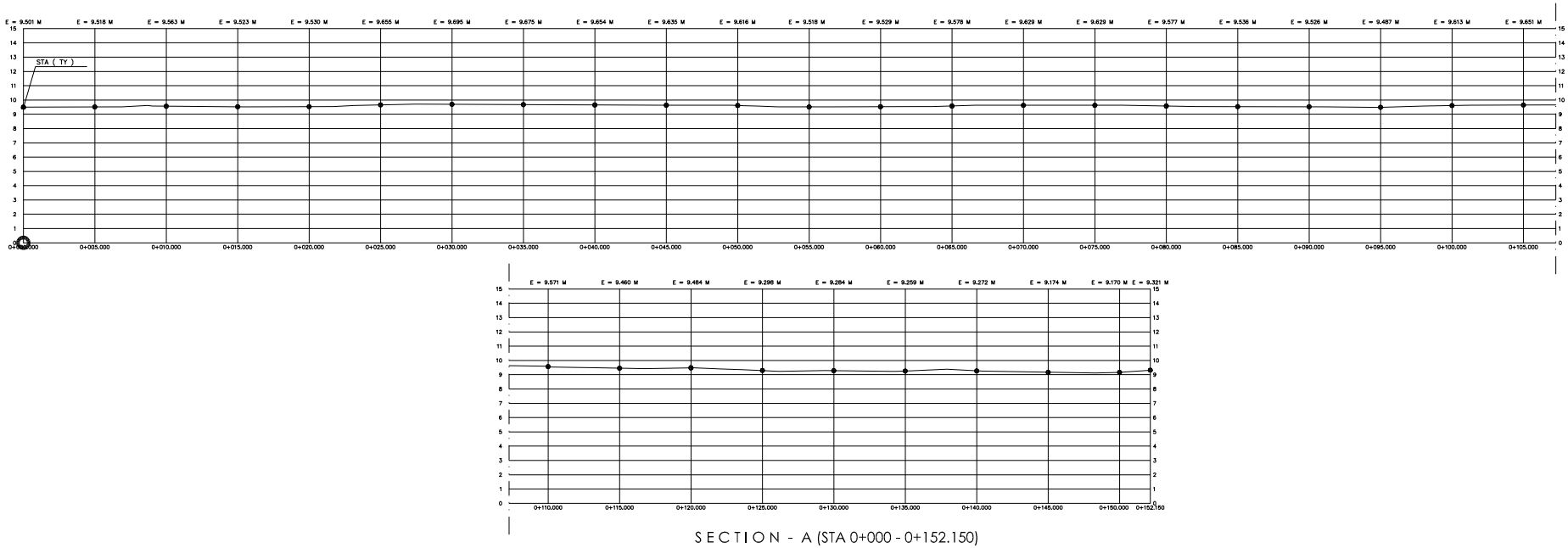
LOT	BEARINGS	DISTANCES
942	S88°36'E	363.38 M
943	S88°56'E	433.40 M
944	S89°06'E	476.40 M
1017	S89°11'E	492.06 M



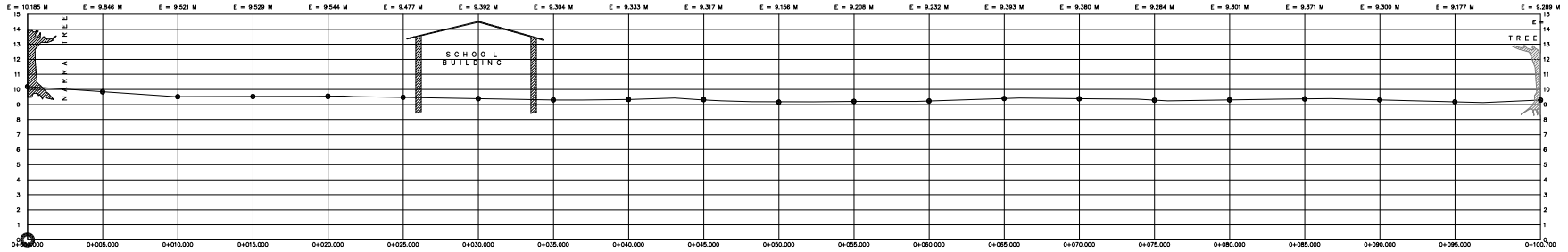
LEGEND:

- COCO TREE
- ACACIA TREE
- MANGO TREE
- NARRA TREE
- BANABA TREE
- BANANA TREE
- FINE TREE
- JACKFRUIT TREE
- TREE
- TALISAY TREE
- CONCRETE ELECTRIC POST / LAMP POST
- WATER TANK
- HAND PUMP
- TRAVERSE LINE
- CONTOUR LINE
- SECTION LINE

PREPARED BY:	CLIENT:	PROJECT:	ENGINEER:		SHEET No.
RAINBOW GEO-SCIENTIFIC CORPORATION In God We Trust Tel. No. 721-7666 Fax 7264776	MOHRI, ARCHITECT & ASSOCIATES, INC. 3rd Floor Cacho-Gonzales Bldg. 101 AGUIRRE COR. TRASIERRA ST. LEGASPI VILLAGE, MAKATI CITY	TOPOGRAPHIC SURVEY OF GOGON ELEMENTARY SCHOOL AREA: 16,261.00 SQ. M SCALE : 1 : 500 MTS	BEDA C. MONPONBANUA GEODETIC ENGINEER REG. CERT. NO: 3751 DATE: 09-03-91 LICENSE NO. 3804472 DATE: 07-26-10	DATE SURVEYED: SEPTEMBER 15 & 17, 2010 DATE PREPARED: SEPTEMBER 27-28, 2010 CONTOUR INTERVAL: 0.20 M	1/1 MV02



SECTION - A (STA 0+000 - 0+152.150)



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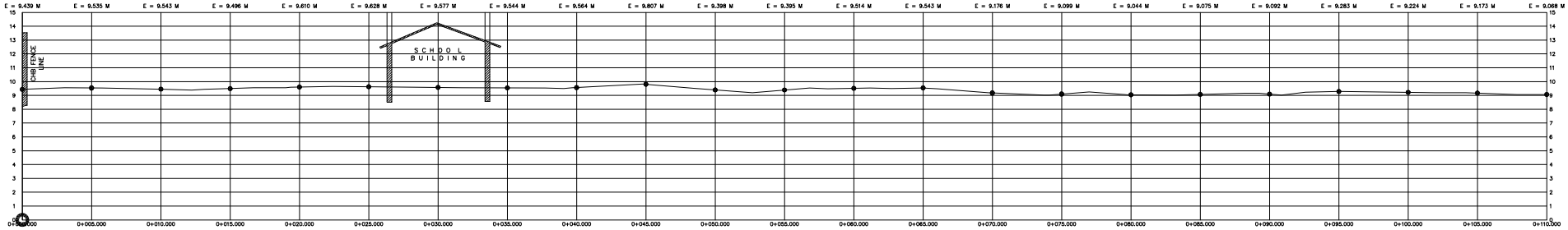
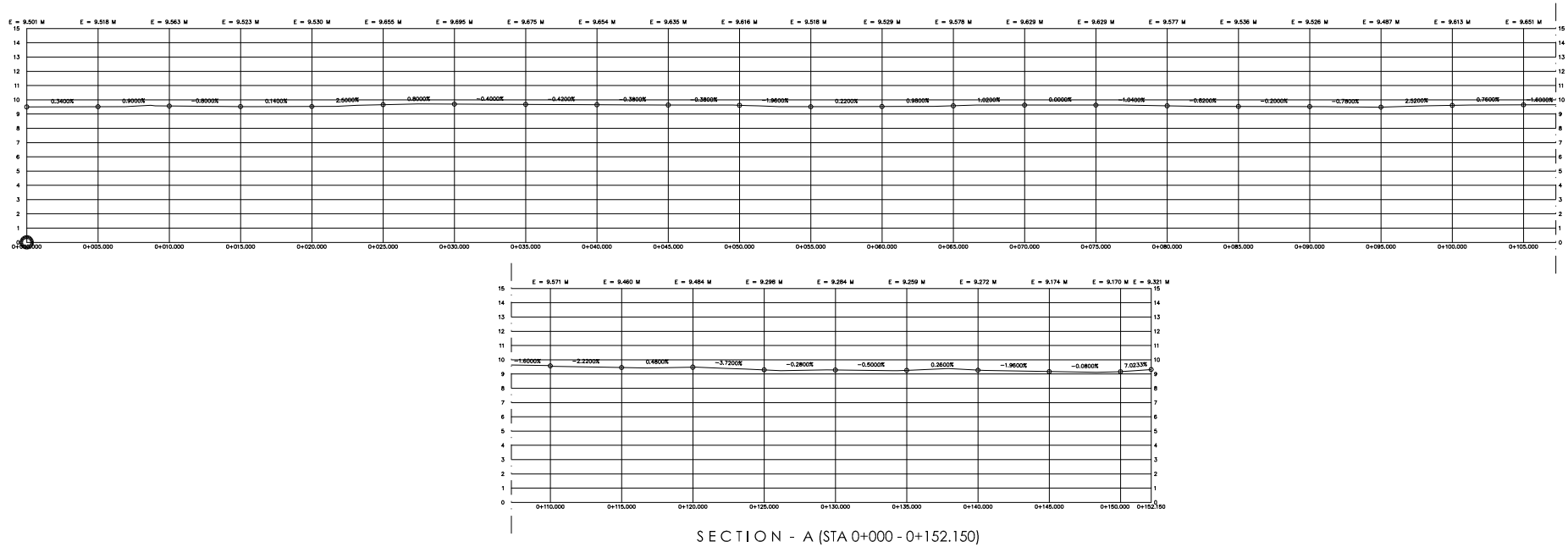


SECTION - C (STA 0+000 - 0+110.000)

PREPARED BY:	CLIENT:	PROJECT:	ENGINEER:		SHEET No.
RAINBOW GEO-SCIENTIFIC CORPORATION In God We Trust Tel. No. 781-7888 Fax 7886778	MOHRI, ARCHITECT & ASSOCIATES, INC. 3rd Floor Cacho-Gonzales Bldg. 101 AGUIRRE COR. TRASIERRA ST. LEGASPI VILLAGE, MAKATI CITY	SECTIONS OF GOGON ELEMENTARY SCHOOL SCALE: 1 : 100 MTS	BEDA C. MONPONBANUA GEODETIC ENGINEER REG. CERT. NO.: 5229 LICENSE NO.: 0004572 DATE: 09-03-11 DATE: 07-25-13	DATE PREPARED: OCTOBER 4-5, 2010 SHEET CONTENT: SECTION A - C	1/1 MVD10

30 X 40 FORMAT



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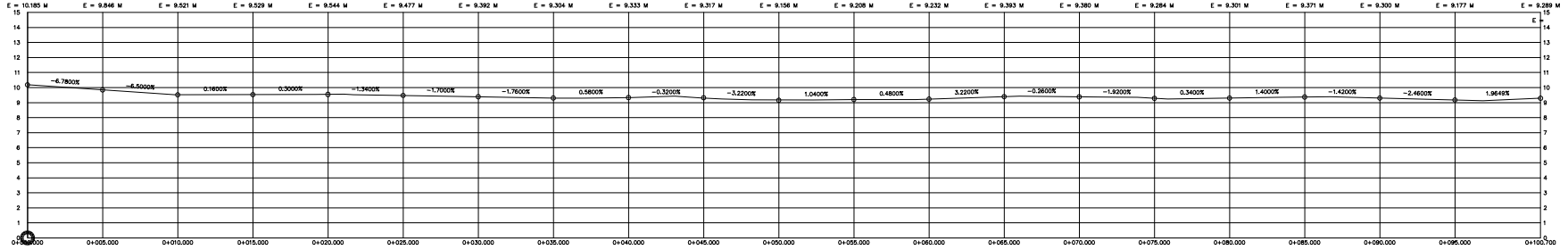

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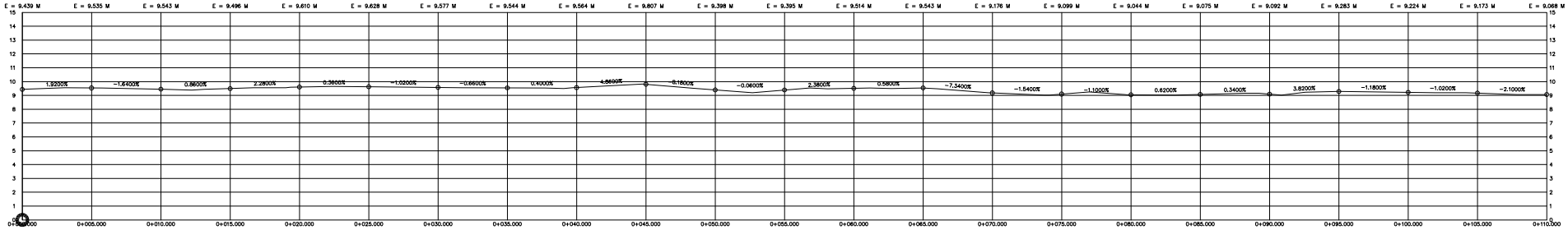


SECTION - C

PREPARED BY:	CLIENT:	PROJECT:	ENGINEER:		SHEET No.
RAINBOW GEO-SCIENTIFIC CORPORATION In God We Trust Tel. No. 781-7888 Fax 7886778	MOHRI, ARCHITECT & ASSOCIATES, INC. 3rd Floor Cacho-Gonzales Bldg. 101 AGUIRRE COR. TRASIERRA ST. LEGASPI VILLAGE, MAKATI CITY	TOPOGRAPHIC SURVEY OF LOT 83, Cad-471-D SCALE: 1 : 500 MTS AREA: 32,192.00 SQ. M		DATE PREPARED: SEPTEMBER 22, 2010 CONTOUR INTERVAL: 0.20 M	1/1 MVD2

30 X 40 FORMAT

FINAL REPORT

SUBSURFACE INVESTIGATION

PROPOSED MAYON EVACUATION CENTER (3-STOREY)

LIBON COMMUNITY COLLEGE
BRGY. ZONE 4 LIBON, PROVINCE OF ALBAY

MOHRI, ARCHITECT & ASSOCIATES, INC.

OCTOBER 2010
JOB NO. 2209-10.R1

GEOTECHNICS PHILIPPINES, INC.
GEOTECHNICAL & FOUNDATION CONSULTANTS

DPWH-BRS Accredited

FINAL REPORT

TABLE OF CONTENTS

Contents **No. of Pages**

GEOTECHNICS PHILIPPINES, INC.
Geotechnical Contractor

119 Sauyo Road, Novaliches
Quezon City, Philippines

Business development : 9306555
Customer Service : 9382124/9353730
Fax : 4561140
Homepage : www.geophil.com
Email : jmcgpi@gmail.com

FINAL REPORT

SUB-SURFACE INVESTIGATION FOR THE PROPOSED MAYON EVACUATION CENTER (3-STOREY) LOCATED AT BRGY. ZONE 4 LIBON, PROVINCE OF ALBAY

1. INTRODUCTION

Geotechnics Philippines, Incorporated (GPI) completed the subsurface soil investigation for the proposed Mayon Evacuation Center. The proposed site explored is located at Brgy. Zone 4 Libon, Province of Albay.

Two (2) boreholes were drilled at the proposed site on October 16, 2010. Borings were undertaken down to 10m for both BH-1 and BH-2 below existing natural ground line. Borehole locations are as indicated on the accompanying Boring Plan and Soil Profile Sheets.

The subsurface soil exploration was undertaken upon the request of Mohri & PA Associates, Inc. in order to gain information on the subsurface conditions and bearing characteristics of the underlying soils at site.

The undersigned was tasked to evaluate the results of the completed subsurface soil exploration and to recommend a suitable foundation solution for the proposed structure.

This report embodies the undersigned's engineering analysis and recommendations based mainly on the results of the geotechnical soil borings and pertinent laboratory tests performed on extracted samples.

The results of geotechnical soil borings and laboratory tests can be referred to in the Attachments accompanying this report.

2. FIELD AND LABORATORY TEST PROCEDURES

Drilling Procedure

The boreholes were advanced by wash boring to the maximum boring depths. Standard Penetration Tests were conducted at every 1.5m interval or at change in soil formations. It consisted of driving a standard split spoon sampler of 5.08cm (2" O.D.) diameter in three (3) successive 15cm (6") intervals using a drop hammer of 64kg (140 lbs) weight from a height of 76cm (30"). The number of blows required to penetrate 15cm are recorded successively until the third interval is penetrated. The first interval blow count is called as the seating drive and is discarded. The last two blow counts are added to give the N-value, a measure of the density or consistency of the soil layer. SPT procedures are conducted in accordance with ASTM D-1586. Undisturbed soil samples were taken in soft to stiff soil deposits for Natural Moisture Content (NMC) testing and particle size analysis of soil.

2.2 LABORATORY TEST PROCEDURES

The following laboratory tests were performed on the soil samples taken from the site;

a. Classification of Soils (USCS) for Engineering Purposes	ASTM D 2487
b. Particle Size Analysis of Soil	ASTM D 422
c. Determination of Moisture Content of Soils	ASTM D 2216
d. Liquid Limit of Soils	ASTM D 4318
e. Plastic Limit of Soils	ASTM D 4318

3. SITE SOILS AND OBSERVATIONS

The soil profile indicating the completed two (2) boreholes is attached in this report. Standard Penetration Tests (SPT) indicate shallow layers of very loose poorly graded sand with silt (SP-SM) at depth 2.0m from the existing natural ground line. Drill intersections indicate deposition of fat clay (CH) with intervening layers and pockets of silty sand (SM) with traces of gravel down to a depth of 10m. A layer of silty clay (CH) may also be found within this depth. Trend of N-values generally shows increasing consistency and density with increasing depth. However, it is important to note the existence of relatively looser soils in deeper layers especially in BH-2.

Groundwater table (GWT) levels can be found at a depth of 0.75m for BH-1 and 1.57m for BH-2 reckoned from the existing natural ground line at the time of borings. Thus, excavation may possibly be in wet condition unless otherwise controlled as the detected GWT is fairly within the depths of excavation of proposed foundation elements.

4. ENGINEERING ANALYSIS AND CONSIDERATIONS

SPT N-values of 2 to 4 at a depth from 0 to 2.00 show very loose silty sand, thus shallow foundations to rest on the topmost loose formation (above 2-m) is not permitted. However, directly beneath is a layer of medium dense clayey and silty sand (SC-SM) with thickness ranging from 2m to 4m. Shallow foundations are possible to rest at 2.0m depth to bypass the relatively loose layers of poorly graded sand. This loosee sand have to be removed and replaced with selected granular fill preferably well graded. An engineered fill has to be compacted at 95% of the soil's maximum dry density (95% MDD) in 300mm lift.

These shallow foundations shall be in the form of a isolated footing stiffened by a structural tie beam cast in place between column. The system will essentially function as an integrated foundation. The rigidity will assist in bridging across localized settlements and assuring uniform settlement of the structure.

The spread footing shall be proportioned and designed based on a net Allowable Bearing Capacity of 96 kPa (2000 psf). The effect of overburden shall be added to obtain the allowable gross bearing capacity. Where necessary, depending on the final design on the reactions of the building, and due to the low bearing capacity, a mat foundation may also be adopted as an alternate solution to spread footing to support the building foundation. The mat foundation should be made to maintain nearly uniform pressure to avoid differential settlements. For settlement analysis, a compression index of 0.54, modulus

of elasticity of 6 Mpa, and a Poisson's ratio of 0.35 may be used. Soil unit weight of 12 kN/m^3 and an angle of internal friction of 28 degrees may be used for shallow foundation calculations.

The floor slabs should not be connected to more rigid elements of the structure such as walls and columns, and should be allowed to settle independently of the building.

This solution, however, is not without possible problems. The relatively poor deposits underlying the site are within the zone of influence of shallow foundations. These poor soil deposits together with the intervening pockets of loose to very loose sands pose a potentially liquefiable and therefore a risk during a significant seismic event. The nature of the soil formations, however, requires considerable earthquake magnitude and epicentral distance to cause soil liquefaction. Hence, settlements can be expected as well as the inherent danger of liquefaction.

5. CONSTRUCTION CONSIDERATIONS

The shallow water table poses a problem during foundation construction. Adequate number of dewatering equipment should be provided in order to allow excavation in almost dry condition. Likewise, concreting shall also be done in the dry condition by dewatering the foundations continuously.

Engineered fill shall be compacted using a vibratory plate compactor of adequate size As previously noted, floor slabs should not be connected to more rigid elements of the structure such as walls and columns, and should be allowed to settle independently of the building.

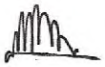
6. CONCLUSIONS AND RECOMMENDATIONS

The spread footing or mat solution may be adopted, the foundation are subject to settlements and possibility of liquefaction due to poor soil deposits underneath. Although the mat will minimize the effect if the cited recommendations are followed by the engineer on record of the structure. The economics for using shallow foundations is considered in the design of the proposed 3-storey structure.

The recommendations submitted in this report are based in part upon the data obtained from a limited number of soil samples. The nature and extent of variations between explorations may not become evident until construction or further investigation. If the variations are of considerable magnitude, it will be necessary to reevaluate the recommendations in this report.

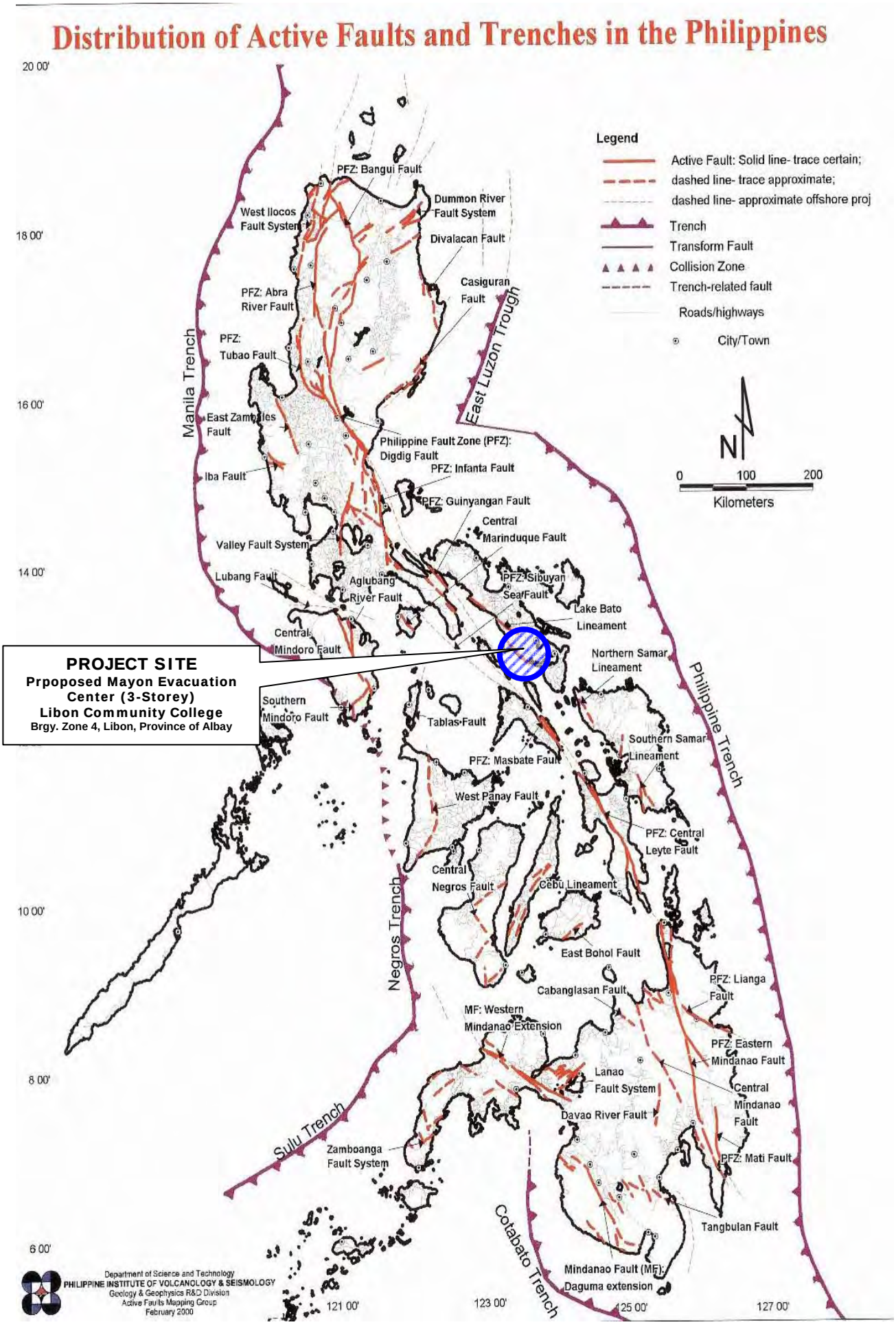
This report has been done by the undersigned in accordance with generally accepted Engineering Principles and Practices.

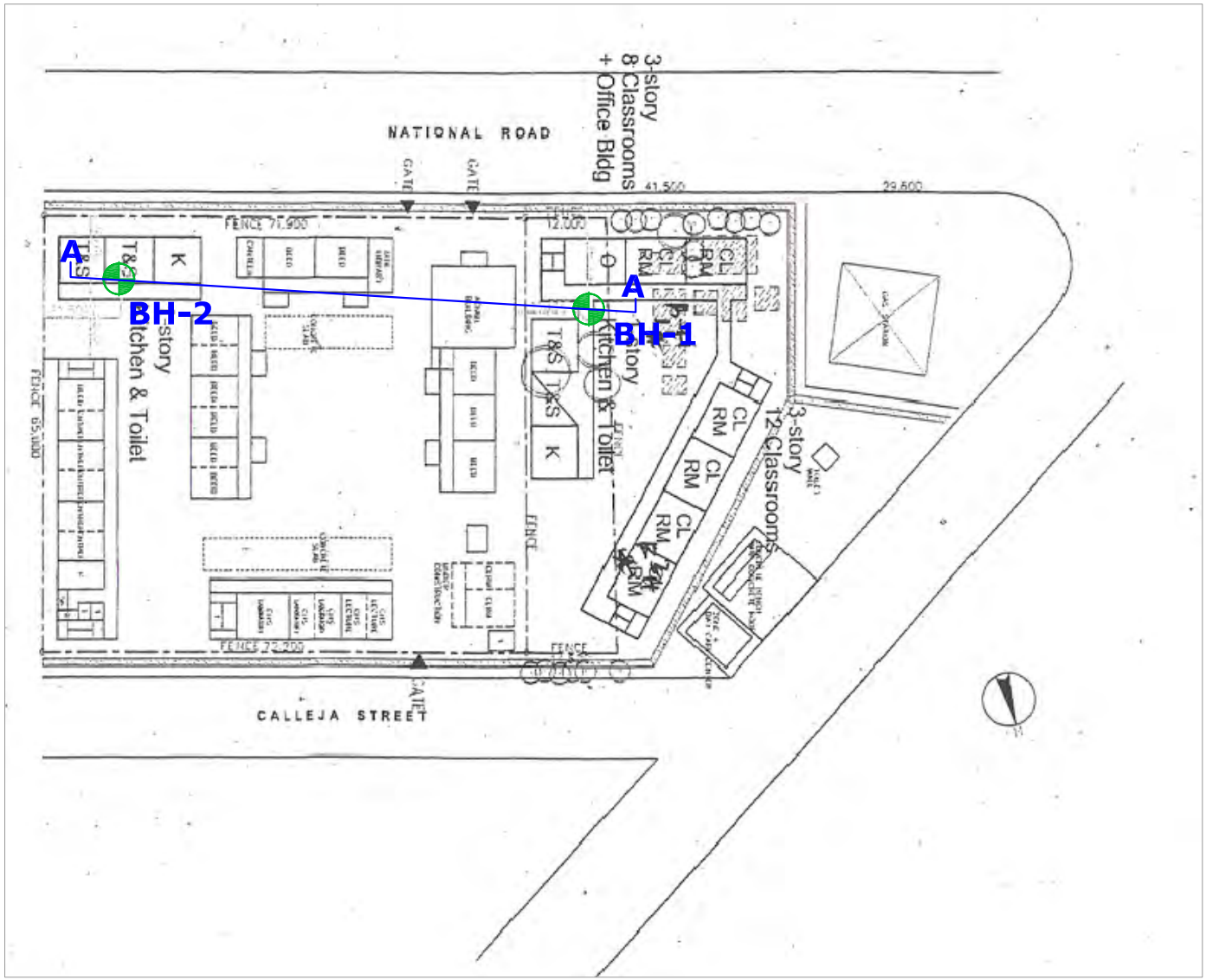
If you require additional comments or clarifications pertaining to the recommendations, the undersigned will be pleased to comply.



DIOSDADO A. URENA
CE Reg. No. 053884
PTR No. 3228274
Issued on January 8, 2010
Issued at Quezon City

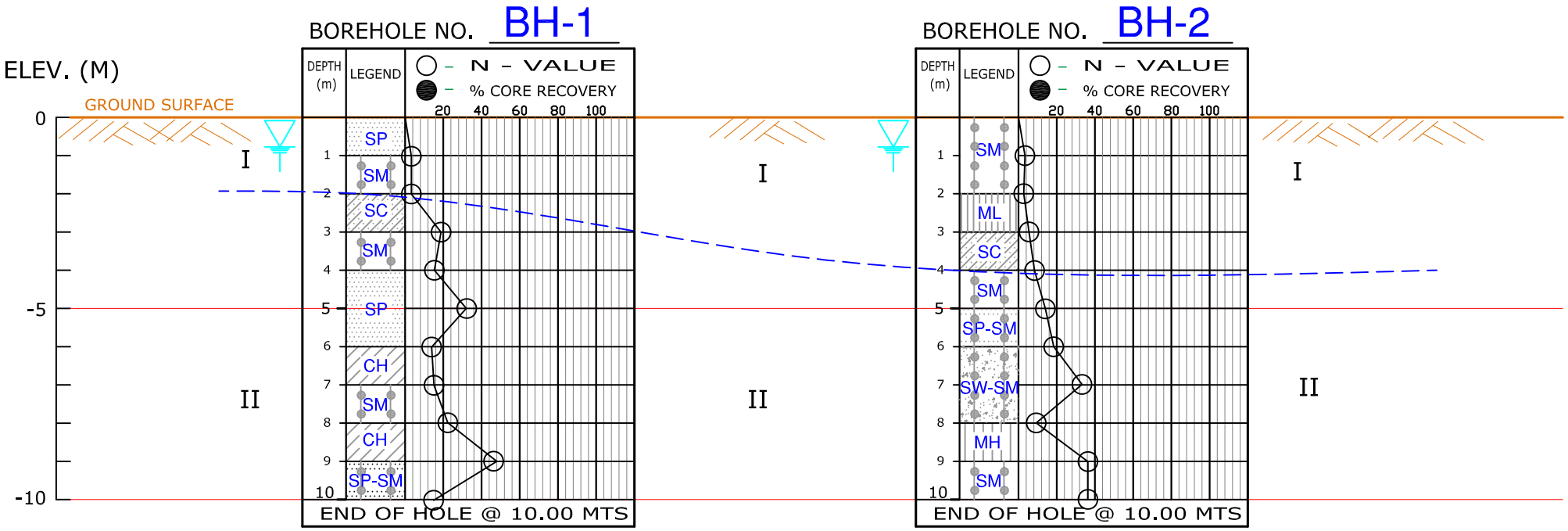
APPENDICES


Distribution of Active Faults and Trenches in the Philippines
PROJECT SITE
Prpoposed Mayon Evacuation Center (3-Storey)
Libon Community College
Brgy. Zone 4, Libon, Province of Albay
Legend
Active Fault: Solid line- trace certain;
dashed line- trace approximate;
dashed line- approximate offshore proj
Trench
Transform Fault
Collision Zone
Trench-related fault
Roads/highways
City/Town
N
0 100 200
Kilometers
PFZ: Bangui Fault
West Ilocos Fault System
Dummon River Fault System
Divalacan Fault
Casiguran Fault
PFZ: Abra River Fault
PFZ: Tubao Fault
East Zambales Fault
Philippine Fault Zone (PFZ): Digdig Fault
PFZ: Infanta Fault
PFZ: Guinyangan Fault
Central Marinduque Fault
Valley Fault System
Lubang Fault
Aglubang River Fault
PFZ: Sibuyan Sea Fault
Lake Bato Lineament
Central Mindoro Fault
Northern Samar Lineament
Southern Mindoro Fault
Tablas Fault
Southern Samar Lineament
PFZ: Masbate Fault
West Panay Fault
PFZ: Central Leyte Fault
Central Negros Fault
Cebu Lineament
East Bohol Fault
Cabanglasan Fault
PFZ: Lianga Fault
MF: Western Mindanao Extension
PFZ: Eastern Mindanao Fault
Lanao Fault System
Central Mindanao Fault
Davao River Fault
Zamboanga Fault System
PFZ: Mati Fault
Tangbulan Fault
Mindanao Fault (MF): Daguma extension
Manila Trench
East Luzon Trough
Philippine Trench
Negros Trench
Sulu Trench
Cotabato Trench
20 00'
18 00'
16 00'
14 00'
10 00'
8 00'
6 00'
121 00'
123 00'
125 00'
127 00'
Department of Science and Technology
PHILIPPINE INSTITUTE OF VOLCANOLOGY & SEISMOLOGY
Geology & Geophysics R&D Division
Active Faults Mapping Group
February 2000



VICINITY MAP

CONTRACTOR **GEOTECHNICS PHILIPPINES, INC.** 119 SAUYO ROAD, NOVALICHES, QUEZON CITY	PROJECT TITLE **Proposed Mayon Evacuation Center (Libon Community College)** Brgy. Zone 4 Libon, Province of Albay	SCALE NTS	SHEET CONTENTS **LOCATION PLAN/VICINITY MAP**	JOB NO. **2209-10.R1**
			CLIENT **MOHRI, ARCHITECT & ASSOCIATES, INC.**	SHEET NO. 1/1



SECTION A - A

L E G E N D :

- CH - Silty C L A Y
- CL - Sandy C L A Y
- MH - Clayey S I L T
- ML - Sandy S I L T
- SC - Clayey S A N D
- SM - Silty S A N D
- GM - Silty G R A V E L
- SC-SM - Clayey silty S A N D
- SP - Poorly graded SAND
- SW - Well graded SAND
- SP-SM - Poorly graded SAND w/ silt
- SW-SM - Well graded SAND w/ silt
- GP - Poorly graded GRAVEL
- GW - Well graded GRAVEL
- GP-GM - Poorly graded GRAVEL w/ silt
- GW-GM - Well graded GRAVEL w/ silt
- SD - SANDSTONE
- GC-GM - Clayey silty GRAVEL
- COBBLES
- GVL - GRAVEL
- SILTSTONE
- Silty TUFF
- Sandy TUFF
- SHALE

I - N-VALUE<10 (LIQUEFIABLE ZONE)
II - N-VALUE>10
III - REFUSAL (WEATHERED ZONE)
IV - CORING / HARD FORMATION

CONTRACTOR
GEOTECHNICS PHILIPPINES, INC.
119 SAUYO ROAD, NOVALICHES, QUEZON CITY

PROJECT TITLE:
Proposed Mayon Evacuation Center (Libon Community College)
Brgy. Zone 4 Libon, Province of Albay

SHEET CONTENTS:
S O I L P R O F I L E
SCALE : N. T. S.

CLIENT:
MOHRI, ARCHITECT & ASSOCIATES, INC.

DRAWN BY:
MARIA ANTONIETTE P. CUNAHAP

CHECKED BY:
A. B. A. / M. R. R.

CERTIFIED BY:
AUTHORIZED SIGNATORY

JOB NO.
2209-10.R1

SHEET NO.
1/1