4. Minutes of Discussions

4-1. Basic Design Study

Minutes of Discussions
on
the Basic Design Study on the Project for
the Improvement of Primary Education Facilities (phase IV)
in Mongolia

In response to a request from the Government of Mongolia, the Government of Japan has decided to conduct a Basic Design Study on the Project for the Improvement of Primary Education Facilities (phase IV) (hereinafter referred to as "the Project") and entrusted the study to Japan International Cooperation Agency (hereinafter referred to as "JICA").

JICA sent to Mongolia the Basic Design Study Team (hereinafter referred to as "the Team") headed by Mr. Akihiko Hoshino, Director, Project Management Division II, Grant Aid and Loan Support Department, JICA, and is scheduled to stay in the country from 2 June to 28 June 2008.

The Team held discussions with the officials concerned of the Government of Mongolia and conducted a field survey at the study areas.

In the course of discussions and the field survey, both parties confirmed the main items described in the attached sheets. The Team will proceed to further works and prepare the Basic Design Study Report.

Ulaanbaatar, 9 June 2008

Mr. Akihiko Hoshino
Leader
Basic Design Study Team
Japan International Cooperation Agency

Mr. Ganbaatar Jadambaa
Acting Director
Department of Finance and Economy
Ministry of Education, Culture and Science
Mongolia

Mr. Enkhbayar Demberel
Superintendent
Education Department of Ulaanbaatar City
Mongolia

(witness)

Mr. Khurenbaatar Baavgai
Director General
Department of Economic Cooperation
Policy and Coordination
Ministry of Finance and Economy
Mongolia

ATTACHMENT

1. Objective of the Project

The objective of the Project is to improve the physical educational environment of basic schools in Ulaanbaatar, Capital City of Mongolia (hereinafter referred to as "UBC") by extending the capacity of existing schools, constructing new schools and providing basic educational equipment.

2. Project Sites

The 27 sites listed in Annex-1 have been confirmed as the candidate sites to be surveyed for the Project.

3. Responsible and Implementing Organization

3-1 The responsible organization is the Ministry of Education, Culture and Science of Mongolia (hereinafter referred to as "MECS"). The organization chart of the MECS is attached as Annex-2.

3-2 The implementing agency is the Department for Education of UBC.
The organization chart of the Department for Education of UBC is attached as Annex-3.

4. Items requested by the Government of Mongolia

After a series of discussions with the Team, the Mongolian side requested the items described in Annex-1 and Annex-4. JICA will assess the appropriateness of the request, and the final component of the Project will be determined after further study.

5. Japan's Grant Aid Scheme

5-1. The Mongolian side understood the Japan's grant aid scheme explained by the Team, as described in Annex-5.

5-2. The Mongolian side will take the necessary measures, described in Annex-6 for the smooth implementation of the Project on condition that the Japan's grant aid is extended to the Project.

6. Schedule of the Study

6-1. The consultant team will proceed to further studies in Mongolia until 28 June 2008.

6-2. JICA will prepare a Draft Report in English and dispatch a mission to explain the outline of the Basic Design around in October 2008.

6-3. In the event of the Draft Report being acceptable in principle by the Mongolian side, JICA will complete the Final Report and send it to the Government of Mongolia by around February 2009.

7. Other Relevant Items

7-1. Selection Criteria of the Project sites

Both sides agreed that the candidate schools would be selected according to the selection criteria listed in Annex-7.

7-2. The priority of candidate school

The Mongolian side explained that the new construction of schools takes precedence over the extension of existing schools.

7-3. Land for the Project

The Mongolian side agreed to provide the evidence of land ownership of the candidate schools authorized by the governor of UBC to the Japanese side by 27 June 2008.

7-4. Demolishing work

The Mongolian side agreed to implement demolishing works, which would be identified by the Japanese side as necessary, before the commencement of the construction to be implemented by the Japanese side.

7-5. Operation and maintenance

The Mongolian side agreed to allocate necessary budget for teaching and administrative staff members for the proper and effective operation and maintenance of facilities and equipment covered by the Project.

Annex-1 List of Candidate Schools

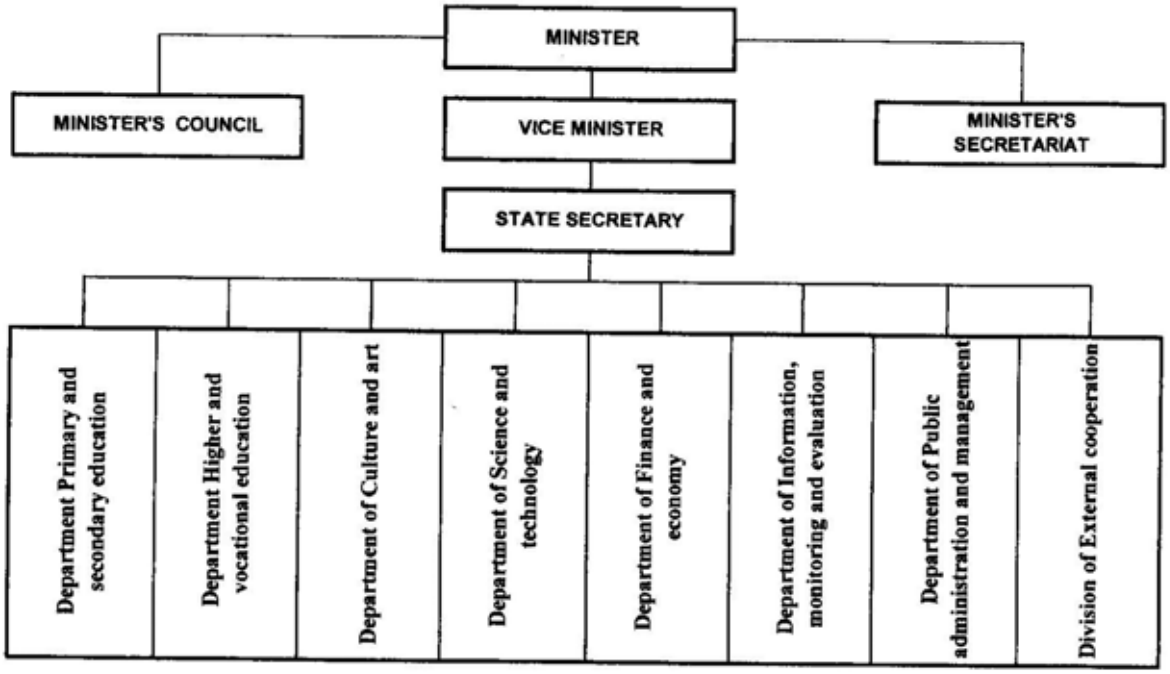
Extension

No.	School Name	District
1	School No.2	Sukhbaatar
2	School No.3	
3	School No.16	
4	School No.35	
5	School No.40	Bayangol
6	School No.73	
7	School No.19	
8	School No.20	
9	School No.21	Bayanzurkh
10	Amgalan School complex	
11	School No.79	
12	Shavi school complex	
13	School No.85	
14	School No.52	Khan-Uul
15	School No.5	Chingeltei
16	School No.57	
17	School No.12	Songinokhairkhan

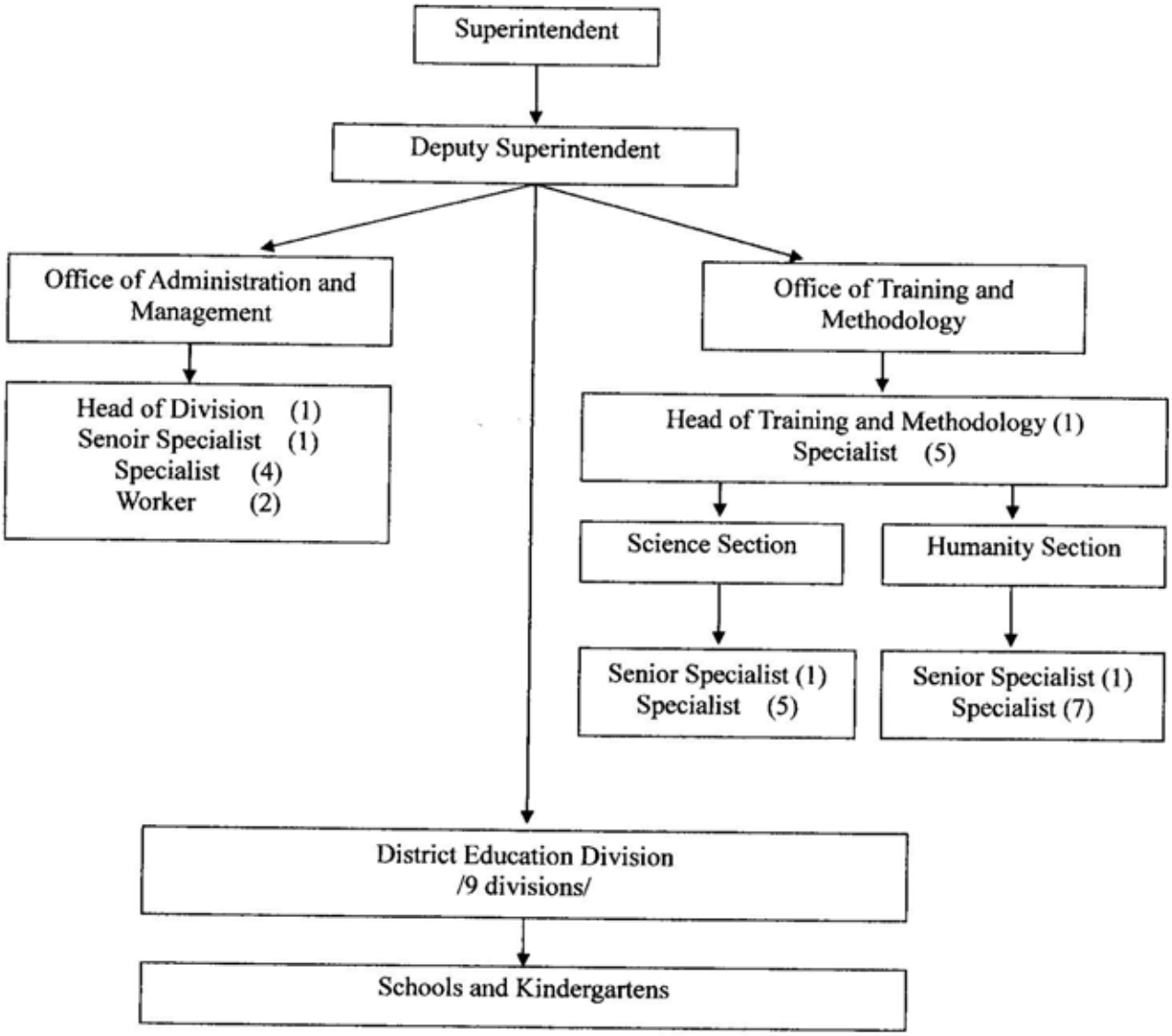
New Construction

No.	Location	District
1	Khujir-Bulan	Bayanzurkh
2	Nogooni zoori	
3	7th bus stop	Chingeltei
4	61th Garam	Songino-Khairkhan
5	Bayankhoshuu Western	
6	Near Bayangol	
7	Near Takhilt	
8	Yarmag	Khan-uul
9	Near 100 ail	Sukhbaatar
10	AZE School	

Annex-2 Organization Chart of the Ministry of Education, Culture and Science of Mongolia



Annex-3 Organization Chart of Education Department of Ulaanbaatar City



Note: ( ) indicates the number of the staff members.

Annex-4 Major Components Requested for the Project

1. Facilities

1-1. Components for School Extension

(1) Classroom

(2) Teacher's room

(3) Cloakroom

(4) Toilet and hand washing places

1-2. Components for New School Construction

(1) Classroom

(2) Teacher's room

(3) Cloakroom

(4)Toilet and hand washing places

(5) Gym

(6) Kitchen

(7)Computer room

(8)Chemistry room

(9)Physics room

(10)Vocational training room

2. Equipment

(1)Basic educational furniture

(2)Basic teaching material

- ·Geographical map of Mongolia
- ·Administrative map of Mongolia
- ·Mineral resources map of Mongolia
- ·Botanical map of Mongolia
- ·Zoological map of Mongolia
- ·World geographical map
- ·Chemical elements chart
- ·Unit chart
- ·Human body dissection chart
- ·Cyrillic alphabet chart for Mongolia
- ·Thermometer
- ·Compass
- ·Tape measure

- Geometrical blocks
- Abacus
- T-shape ruler
- Ruler set
- Multiplication table
- Overhead projector

(3)Maintenance tools

Annex-5 The Japan's Grant Aid Scheme

The Grant Aid Scheme provides a recipient country with non-reimbursable funds to procure the facilities, equipment and services (engineering services and transportation of the products, etc.) for economic and social development of the country under principles in accordance with the relevant laws and regulation of Japan. The Grant Aid is not supplied through the donation of materials as such.

1. Japan's Grant Aid Procedures

(1) The Japan's Grant Aid Program is executed by the following procedures.

Application (request made by a recipient country)

Study (Basic Design Study conducted by JICA)

Appraisal & Approval (appraisal by the Government of Japan and approval by the Cabinet of Japan)

Determination of Implementation (Exchange of Notes between both Governments)

Implementation (implementation of the Project)

(2) Firstly, an application or a request for a Grant Aid project submitted by the recipient country is examined by the Government of Japan (the Ministry of Foreign Affairs) to determine whether or not it is eligible for Japan's Grant Aid. If the request is deemed appropriate, the Government of Japan assigns JICA to conduct a study on the request. If necessary, JICA sends a Preliminary Study Team to the recipient country to confirm the contents of the request.

Secondly, JICA conducts the study (Basic Design Study), using (a) Japanese consulting firm(s).

Thirdly, the Government of Japan appraises the project to see whether or not it is suitable for Japan's Grant Aid Program, based on the Basic Design Study Report prepared by JICA and the results are then submitted to the cabinet for approval.

Fourthly, the project approved by the cabinet becomes official with the Exchange of Notes signed by the Government of Japan and the recipient country.

Finally, for the implementation of the Project, JICA assists the recipient country in preparing contracts and so on.

2. Basic Design Study

(1)Contents of the Study

The aim of the Basic Design Study (hereinafter referred to as "the Study"), conducted by JICA on a requested project (hereinafter referred to as "the Project") is to provide a basic document necessary for appraisal of the project by the Japanese Government. The contents of the Study are as follows:

a) Confirmation of the background, objectives, and benefits of the Project and also institutional capacity of agencies concerned of the recipient country necessary for the Project's implementation,

b) Evaluation of the appropriateness of the Project for the Grant Aid Scheme from a technical, social and economical point of view,

c) Confirmation of items agreed on by the both parties concerning a basic concept of the Project,

d) Preparation of a basic design of the Project,

e) Estimation of cost of the Project,

The contents of the original request are not necessarily approved in their initial form as the contents of the Grant Aid project. The Basic Design of the project is confirmed considering the guidelines of Japan's Grant Aid Scheme.

The Government of Japan requests the Government of the recipient country to take whatever measures are necessary to ensure its self-reliance in the implementation of the Project. Such measures must be guaranteed even through they may fall outside of the jurisdiction of the organization in the recipient country actually implementing the Project. Therefore, the implementation of the Project is confirmed by all relevant organizations of the recipient country through the Minutes of Discussions.

(2)Selection of Consultants

For smooth implementation of the study, JICA uses (a) registered consultant firm(s). JICA selects (a) firm(s) based on proposals submitted by the interested firms. The firm(s) selected carry(ies) out a Basic Design Study and write(s) a report, based upon terms of reference set by JICA.

The consulting firm(s) used for the study is (are) recommended by JICA to a recipient country to also work in the Project's implementation after Exchange of Notes, in order to maintain technical consistency between the Basic Design and detailed Design.

3. Japan's Grant Aid Scheme

(1) Exchange of Notes (E/N)

Japan's Grant Aid is extend in accordance with the Notes exchanged by the two Government concerned, in which the objectives of the Project, period of execution, conditions and amount of the Grant Aid etc., are confirmed.

(2)"The period of the Grant Aid" means one Japanese fiscal year which the Cabinet approves the Project for. Within the fiscal year, all procedure such as exchanging of the Notes, concluding a contract with (a) consulting firm(s) and (a) contractor(s) and final payment to them must be completed.

However, in case of delays in delivery, installation or construction due to unforeseen factors such as weather, the period of the Grant Aid can be further extended for a maximum of one fiscal year at most by mutual agreement between the two Governments.

(3) Under the Grant, in principle, Japanese products and services including transport or those of the recipient country are to be purchased.

When the two Governments deem it necessary, the Grant may be used for the purchase of products or services of a third country.

However the prime contractors, namely, consulting, contractor and procurement firms, are limited to "Japanese nationals". (The term "Japanese nationals" means persons of Japanese nationality or Japanese corporations controlled by persons of Japanese nationality.)

(4) Necessity of the "Verification"

The Government of the recipient country or its designated authority will conclude contracts denominated in Japanese yen with Japanese nationals. Those contracts shall be verified by the Government of Japan. This "Verification" is deemed necessary to secure accountability to Japanese tax payers.

(5)Undertakings Required to the Government of the Recipient Country

In the implementation of the Grant Aid project, the recipient country is required to undertake such necessary measures as the following:

a) To secure land necessary for the sites of the project, and to clear, level and reclaim the land prior to commencement for the construction,

b) To provide facilities for distribution of electricity, water supply and drainage and other incidental facilities in and around the sites,

c) To secure buildings prior to the installation work in case the installation of the equipment,

d) To ensure all the expenses and prompt execution for unloading, customs clearance at the port of disembarkation and internal transportation of the products purchased under the Grant Aid,

e) To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which may be imposed in the recipient country with respect to the supply of the products and services under the Verified Contracts,

f) To accord Japanese nationals whose services may be required in connection with the supply of the products and services under the Verified Contracts, such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work.

(6)Proper Use

The recipient country is required to maintain and use the facilities constructed and equipment purchased under the Grant Aid properly and effectively and to assign staff necessary for the operation and maintenance as well as to bear all expenses other than those covered by the Grant Aid.

(7) Re-export

The products purchased under the Grant Aid shall not be re-exported from the recipient country.

(8) Banking Arrangement (B/A)

a) The Government of the recipient country or its designated authority should open an account in the name of the Government of the recipient country in an authorized foreign exchange bank in Japan (hereinafter referred to as "the Bank"). The Government of Japan will execute the Grant Aid by making payments in Japanese yen to cover the obligations incurred by Government of the recipient country or its designated authority under the Verified Contracts.

b) The payments will be made when payment requests are presented by the bank to the Government of Japan under an Authorization to Pay (A/P) issued by the Government of the recipient country or its designated authority.

(5) Authorization to Pay (A/P)

The Government of the recipient country should bear an advising commission of an Authorization to Pay and payment commissions to the Bank.

Annex – 6 Necessary Undertakings to be Taken by Each Government

No	Items	To be covered by Grant Aid	To be covered by Recipient Side
1	To secure land		●
2	To clear, level and reclaim the site when needed		●
3	To construct gates and fences in and around the site		●
4	To construct the parking lot when needed		●
5	To construct roads		
	1) Within the site	●	
	2) Outside the site		●
6	To construct the building	●	
7	To provide facilities for the distribution of electricity, water supply, drainage and other incidental facilities		
	1) Electricity		
	a. The distributing line to the site		●
	b. The drop wiring and internal wiring within the site	●	
	c. The main circuit breaker and transformer	●	
	2) Water Supply		
	a. The city water distribution main to the site		●
	b. The supply system within the site (receiving and elevated tanks)	●	
	3) Drainage		
	a. The city drainage main (for storm sewer and others to the site)		●
	b. The drainage system (for toilet sewer, ordinary waste, storm drainage and others) within the site	●	
	4) Heating		
	a. The public or private heating inlet and outlet pipes to the buildings		●
	b. The heating system inside buildings	●	
	5) Telephone System		
	a. The telephone trunk line to the main distribution frame/panel (MDF) of the building		●
	b. The MDF and the extension after the frame/panel	●	
	6) Furniture and Equipment		
	a. General furniture		●
	b. Project equipment	●	
8	To bear the following commissions to the Japanese bank for banking services based upon the B/A		
	1) Advising commission of A/P		●
	2) Payment commission		●
9	To ensure unloading and customs clearance at port of disembarkation in recipient country		
	1) Marine (Air) transportation of the products from Japan the recipient	●	
	2) Tax exemption and custom clearance of the products at the port of disembarkation		●
	3) Internal transportation from the port of disembarkation to the project site	●	
10	To accord Japanese nationals, whose service may be required in connection with the supply of the products and the services under the verified contract, such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work		●
11	To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which may be imposed in the recipient country with respect to the supply of the products and services under the verified contracts		●
12	To maintain and use properly and effectively the facilities contracted and equipment provided under the Grant		●
13	To bear all the expenses, other than those to be borne by the Grant, necessary for construction of the facilities as well as for the transportation and installation of the equipment		●

(B/A : Banking Arrangement, A/P : Authorization to pay)

Annex-7 Criteria for the Site Selection

The sites/schools to be covered by the Project shall fulfill the following criteria:

(1) Land ownership or proper land use right for school construction is legally secured with the written evidence.

(2) No dwelling or obstacle such as underground service line which need extensive relocation exists within the site.

(3) No other classroom construction program at the same site planned by MECS, UBC, other donors, NGOs, etc.

(4) Topographically safe and appropriately sized land for construction is secured.

(5) Access road for construction works and transportation of materials is properly provided.

(6) School is open to general public with no special qualification being required for admission.

(7) Sufficient teachers, staff and budget for proper operation and maintenance of the facilities are secured by the relevant authorities.

(8) Present and future facility demand can be quantitatively estimated by a set of data such as number of school-aged children in the catchment area, planned population of ongoing housing development, etc.

Among the sites/schools which satisfy the above conditions, order of priority will be given according the following criteria:

(1) Priority will be given to the sites where recent population increase is remarkable or no school is established within the target school district.

(2) Priority will be given to the sites where the school is forced to operate triple-shift sessions.

(3) Priority will be given to the sites where extension of classrooms is urgently required because of overcrowding of existing facilities even after the introduction of double-shift classes.

(4) Priority will be given to the sites where shortage of classrooms calculated based on the demand analysis is beyond the size for efficient operation and construction.

4-2. Explanation on Draft Report

Minutes of Discussions
on
the Basic Design Study on the Project for
the Improvement of Primary Education Facilities (PhaseIV)
in
Mongolia
(EXPLANATION ON DRAFT REPORT)

In June 2008, the Japan International Cooperation Agency (JICA) dispatched a Basic Design Study Team on the Project for the Improvement of Primary Education Facilities (Phase IV) (hereinafter referred to as "the Project") to Mongolia, and through discussions, site surveys and technical examination of the results in Japan, JICA prepared a draft report of the study.

In order to explain and to consult the Mongolian side on the components of the draft report, JICA sent to Mongolia the Draft Report Explanation Team (hereinafter referred to as "the Team"), which is headed by Mr. Kazutoshi ONUKI, Deputy Resident Representative, JICA Mongolia Office, from October 13th to 22nd , 2008.

As a result of discussions, both sides have confirmed the main items described on the attached sheet.

Ulaanbaatar, 17 October, 2008

Mr. Kazutoshi Onuki
Leader
Basic Design Study Team
Japan International Cooperation Agency

Mr. Narantsogt Sanjaa
Director
Department of Finance and Economy
Ministry of Education, Culture and Science
Mongolia

Mr. Enkhbayar Demberel
Superintendent
Education Department of Ulaanbaatar City
Mongolia

(witness)

Mr. Dorjkhand Togmid
Deputy Director
Department of Policy and Coordination for Loans and Aid
Ministry of Finance
Mongolia

ATTACHMENT

1. Components of the draft report

The Mongolian side agreed and accepted in principle the contents of the draft report proposed by the Team.

2. Japan's Grant Aid Scheme

The Mongolian side understands the Japan's Grant Aid Scheme and the necessary measures to be taken by the Government of Mongolia as explained by the Team and described in Annex-4 and Annex-5 of the Minutes of Discussions signed by both parties on June 9th 2008.

3. Final Report

JICA will complete the final report in accordance with the result of discussions and forward it to the Mongolian side around February 2009.

4. Other relevant issues

4-1. Schools and facilities covered by the Project

Both sides agreed on schools and components covered by the Project as shown in Annex-1. The Mongolian side agreed that the Japanese side would make final decision on this matter through further study in Japan.

4-2. Allocation of necessary budget and personnel

The Mongolian side agreed to allocate enough budget and personnel (teachers and general staff) to properly operate and maintain the facilities and equipment covered by the Project.

4-3. Securing proposed building sites

The Mongolian side confirmed that they would secure the identified building sites in the recipient schools by the actual construction work starts.

4-4. Proper use and maintenance

Both sides understood that proper use and maintenance of the facilities would be indispensable for the lifelong use. The Mongolian side assured the Japanese side that it will facilitate the proper use and maintenance the of facilities in the schools covered by the Project with

the active involvement of concerned parties such as District education officer, schools, communities and so on.

4-5. Students transferring plan for newly built schools

In order to operate newly built schools properly, the Mongolian side assured the Japanese side to reorganize the student catchment area for new schools before the completion of construction, and relocate students accordingly after the completion.

4-6. Site preparation works to be covered by the Mongolian side

The Japanese side explained the content of the site preparation works to be covered by the Mongolian side as described in Annex-2. The Mongolian side confirmed to complete the required works before the commencement of construction.

4-7. Contents of Draft Report

Both sides agreed that the contents of the draft report would be confidential, be dealt with carefully and not be disclosed to any third parties.

4-8 Confidentiality of the Project Cost Estimation

The Team explained the cost estimation of the Project as described in Annex-3. Both sides agreed that the Project Cost Estimation should never be duplicated or released to any outside parties before signing of all the Contracts for the Project. The Mongolian side understood that the Project Cost Estimation attached as Annex-3 is not final and is subject to change.

Annex-1. Schools and Components covered by the Project

1. Schools

Site	District	No. of class-rooms	Facilities		Building services		
			Classroom building	Gym	Water tank	Sewage tank	Boiler
Existing schools (7)							
1 No.35 School	Sukhbaatar	8	○	-	-	○	-
2 No.19 School	Bayangol	8	○	-	-	-	-
3 Shavi CS	Bayanzurkh	19	○	-	-	-	-
4 Amgalan CS	Bayanzurkh	12	○	-	-	○	-
5 No.79 School	Bayanzurkh	12	○	-	-	○	○
6 No.52 School	Khan-Uul	8	○	-	-	-	-
7 No.12 School	Songinokhairkhan	8	○	-	-	-	-
New schools (5)							
1 Khujir Bulan	Bayanzurkh	16	○	○	○	○	○
2 361st Garam	Songinokhairkhan	16	○	○	○	○	○
3 Near Tahilt	Songinokhairkhan	16	○	○	○	○	○
4 Near Bayangol	Songinokhairkhan	16	○	○	-	-	○
5 Yarmag	Khan-Uul	16	○	○	-	-	○
Total		155	17	5	3	6	6

2. Facilities

2-1. Components for School Extension

(1) Classroom

(2) Teacher's room

(3) Cloakroom

(4) Toilet and hand washing places

2-2. Components for New School Construction

(1) Classroom

(2) Teacher's room

(3) Cloakroom

(4)Toilet and hand washing places

(5) Gym

(6) Kitchen

(7)Computer room

(8)Multipurpose room

3. Equipment

(1)Basic educational furniture

(2)Basic teaching material

・Geographical map of Mongolia
・Administrative map of Mongolia
・Mineral resources map of Mongolia
・Botanical map of Mongolia
・Zoological map of Mongolia
・World geographical map
・Chemical elements chart
・Unit chart
・Human body dissection chart
・Cyrillic alphabet chart for Mongolia
・Thermometer
・Compass
・Tape measure
・Geometrical blocks
・Abacus
・T-shape ruler
・Ruler set
・Multiplication table
・Projector set

(3)Maintenance tools

Annex-2. Site Preparation to be covered by the Mongolian side

Site	Works to be done prior to the commencement of construction				Works to be done after the commencement of construction				
	Removal or relocation of obstacles		Site clear-ance	Improve-ment of access road	Installation and connection of infrastructure (*1/2)				Provision of external facilities
	Removal	Relocation			Electri-city	Heating	Water supply	Sewer-age	
Existing schools									
1 No.35 School	Paving, curbs, fences, play equipment, trees	Aerial power line & poles	○	-	New connec-tion	-	-	-	-
2 No.19 School	Paving, curbs, play equipment	-	○	Partial improve-ment	Ditto	Branch-ing at the site	-	-	-
3 Shavi CS	Curbs, wooden fences	-	○	-	Ditto	Ditto	-	-	Approach path after relocating guards' huts (ger)
4 Amgalan CS	Buried pipes (unused), curbs	Aerial line	○	-	Ditto	Ditto	-	-	-
5 No.79 School	Buried pipes (unused), fences, play equipment	Aerial power line & poles	○	-	Ditto	-	New connec-tion	-	Gates, fences, approach path, coal shed, slope protection
6 No.52 School	Curbing, play equipment	-	○	-	Ditto	Branch-ing at the site	-	-	-
7 No.12 School	Buried pipes (unused), paving, curbs, play equipment	Aerial line	○	Partial improve-ment	Ditto	Ditto	-	-	-
New schools									
1 Kujir Bulan	Supports of fences	-	○	-	New connec-tion	-	-	-	Gates, fences, approach path, coal shed, slope protection
2 361st Garam	-	-	○	Construc-tion	Ditto	-	-	-	Gates, fences, approach path, coal shed
3 Near Tahilt	-	-	○	Ditto	Ditto	-	-	-	Ditto
4 Near Bayangol	-	-	○	Ditto	Ditto	-	New connec-tion	New connec-tion	Ditto
5 Yarmag	-	-	○	Ditto	Ditto	-	Ditto	Ditto	Ditto

*1 The Mongolian side will complete the application for and the provision of electricity and heating by the time when the utilities will be needed temporarily for the construction.

*2 The demarcation of work between the Japanese and the Mongolian side with respect to the installation of infrastructure is defined as follows:

- Electricity: Where buried line is concerned, the Japanese side will cover up to the installation of an lead-in panel within the site and the Mongolian side will extend power line into the site and connect it to the panel. In case of aerial line, the Japanese side will provide a lead-in pole within the site and the Mongolian side will extend power line to the pole.
- Heating: The Mongolian side will cover up to the branching at the existing main pipe inside the site and the Japanese side will undertake the rest of work. The Japanese side will provide an inspection pit at the branching point.

- Water supply: As far as the connection with the existing water pipe inside the site is possible, the Japanese side will undertake all works associated with water supply. Otherwise, the Japanese side will provide an inspection pit inside the site and the Mongolian side will extend water pipe from the main to the inspection pit.
- Sewerage: Where the connection with the existing sewage pit inside the site is possible, the Japanese side will undertake all the works associated with sewage. Otherwise, the Japanese side will provide a sewage pit inside the site and the Mongolian side will extend sewer pipe from the main to the pit.

5. Other Relevant Data

5-1. Cost Estimation for the Works Borne by the Recipient Country

Code	Item	Content	QTY	Unit Cost	Total ('000Tg.)
1	**No. 35 School**				**4,315.0**
A	Removal of obstacles	Pavement, PC curbstones, steel fences, playground equipment & trees		-	360.0
	Relocation of obstacles	Aerial power line & pole	105m	-	1,875.0
B	Clearance & leveling of the construction area		1200sq.m	1.4	1,680.0
D	Connection of electricity	Buried line	5m	80.0	400.0
2	**No. 19 School**				**3,790.0**
A	Removal of obstacles	Pavement, PC curbstones & playground equipment		-	360.0
B	Clearance & leveling of the construction area		1150sq.m	1.4	1,610.0
C	Improvement of access road	Gravel pavement	15m	28.0	420.0
D	Connection of electricity	Buried line	5m	80.0	400.0
E	Connection of heating		1unit	1,000.0	1,000.0
3	**Shavi CS**				**7,070.0**
A	Removal of obstacles	PC curbstones & wooden fence		-	180.0
B	Clearance & leveling of the construction area		1350sq.m	1.4	1,890.0
D	Connection of electricity	Buried line	5m	80.0	400.0
E	Connection of heating		1unit	1,000.0	1,000.0
H	Construction of external facilities	Relocation of the guard's house (gher)	1unit	-	360.0
		Approach path	27m	120.0	3,240.0
4	**Amgalan CS**				**5,435.0**
A	Removal of obstacles	Pavement, PC curbstones, playground equipment & buried water pipe		-	360.0
	Relocation of obstacles	Aerial power line	65m	-	1,275.0
B	Clearance & leveling of the construction area		1000sq.m	1.4	1,400.0
D	Connection of electricity	Aerial line	20m	70.0	1,400.0
E	Connection of heating		1unit	1,000.0	1,000.0
5	**No. 79 School**				**32,560.0**
A	Removal of obstacles	Pavement, steel fences, playground equipment & buried sewage pipe		-	360.0
	Relocation of obstacles	Aerial power line & pole	50m	-	1,050.0
B	Clearance & leveling of the construction area		2250sq.m	4.0	9,000.0
D	Connection of electricity	Aerial line	20m	70.0	1,400.0
F	Connection of city water	from the main under the front road	10m	110.0	1,100.0
H	Construction of external facilities	Boundary fence	80m	35.0	2,800.0
		School gate	1unit	350.0	350.0
		Approach path	50m	120.0	6,000.0
		Slope protection	400sq.m	5.0	2,000.0
		Slope toe drainage	70m	50.0	3,500.0
		Coal shed	1unit	5,000.0	5,000.0
6	**No. 52 School**				**3,580.0**
A	Removal of obstacles	Pavement, PC curbstones & playground equipment		-	360.0
B	Clearance & leveling of the construction area		1300sq.m	1.4	1,820.0
D	Connection of electricity	Buried line	5m	80.0	400.0
E	Connection of heating		1unit	1,000.0	1,000.0
7	**No. 12 School**				**7,110.0**
A	Removal of obstacles	Pavement, PC curbstones & playground equipment			180.0
	Relocation of obstacles	Aerial communication line	120m	70.0	2,100.0
B	Clearance & leveling of the construction area		1950sq.m	1.4	2,730.0
C	Improvement of access road	Gravel pavement	25m	28.0	700.0
D	Connection of electricity	Buried line	5m	80.0	400.0
E	Connection of heating		1unit	1,000.0	1,000.0
Existing Schools		**TOTAL**			**63,860.0**

Code	Item	Content	QTY	Unit Cost	Total
8	**Yarmag (New School)**				**51,650.0**
B	Clearance & leveling of the construction area		2800 sq.m	4.0	11,200.0
C	Improvement of access road	Gravel pavement	50 m	28.0	1,400.0
D	Connection of electricity	Aerial line	15 m	70.0	1,050.0
F	Connection of city water	from the main under the front road	10 m	110.0	1,100.0
G	Connection of sewerage	to the main under the front road	10 m	110.0	1,100.0
H	Construction of external facilities	Boundary fence	390 m	35.0	13,650.0
		School gate	1 unit	350.0	350.0
		Approach path	140 m	120.0	16,800.0
		Coal shed	1 unit	5,000.0	5,000.0
9	**Khujir Bulan (New School)**				**63,830.0**
A	Removal of obstacles	Wooden poles			180.0
B	Clearance & leveling of the construction area		2600 sq.m	4.0	10,400.0
D	Connection of electricity	Aerial line	60 m	70.0	4,200.0
H	Construction of external facilities	Boundary fence	400 m	35.0	14,000.0
		School gate	1 unit	350.0	350.0
		Approach path	60 m	120.0	7,200.0
		Slope protection	2700 sq.m	5.0	13,500.0
		Slope toe drainage	180 m	50.0	9,000.0
		Coal shed	1 unit	5,000.0	5,000.0
10	**361st Garam (New School)**				**47,770.0**
B	Clearance & leveling of the construction area		2800 sq.m	4.0	11,200.0
C	Improvement of access road	Gravel pavement	40 m	28.0	1,120.0
D	Connection of electricity	Aerial line	50 m	70.0	3,500.0
H	Construction of external facilities	Boundary fence	520 m	35.0	18,200.0
		School gate	1 unit	350.0	350.0
		Approach path	70 m	120.0	8,400.0
		Coal shed	1 unit	5,000.0	5,000.0
11	**Near Tahilt (New School)**				**47,780.0**
B	Clearance & leveling of the construction area		2800 sq.m	4.0	11,200.0
C	Improvement of access road	Gravel pavement	10 m	28.0	280.0
D	Connection of electricity	Aerial line	50 m	70.0	3,500.0
H	Construction of external facilities	Boundary fence	390 m	35.0	13,650.0
		School gate	1 unit	350.0	350.0
		Approach path	115 m	120.0	13,800.0
		Coal shed	1 unit	5,000.0	5,000.0
12	**Near Bayangol (New School)**				**49,775.0**
B	Clearance & leveling of the construction area		2600 sq.m	4.0	10,400.0
C	Improvement of access road	Gravel pavement	75 m	28.0	2,100.0
D	Connection of electricity	Aerial line	80 m	70.0	5,600.0
F	Connection of city water	from the main under the front road	10 m	110.0	1,100.0
G	Connection of sewerage	to the main under the front road	10 m	110.0	1,100.0
H	Construction of external facilities	Boundary fence	535 m	35.0	18,725.0
		School gate	1 unit	350.0	350.0
		Approach path	45 m	120.0	5,400.0
		Coal shed	1 unit	5,000.0	5,000.0
New Schools		**TOTAL**			**260,805.0**
	GRAND TOTAL				**324,665.0**
	Commission to the bank				**36,620.0**

5-2. Abstract of Geotechnical Investigation Reports

- No. 79 School (existing school site, Bayanzurkh District)
- No. 52 School (existing school site, Khan-Uul District)
- No. 12 School (existing school site, Sogino-khairkhan District)
- New school site near Tahilt (Sogino-khairkhan District)
- New school site at Yarmag (Khan-Uul District)

NO. 79 SCHOOL

Монгол Улс
Сойл Трейд ХХК

Архив№ 2008/076

“Дунд сургуулийн барилгыг сайжруулах” төслийн хүрээнд Баянзүрх дүүргийн 79 дугаар сургуулийн шинээр баригдах хичээлийн байрны барилгын талбайн инженер-геологийн судалгааны дүгнэлт

Улаанбаатар
2008

Soil Trade LLC

REPORT OF BOREHOLE: BH-1

and Standard Penetration Test (SPT)

CLIENT: Matsuda Consultants International Co.,LTD
PROJECT: Improvement of Primary Education Facilities (PhaseIV)
LOCATION: 79th school, Bayanzurh District, Ulaanbaatar City

SURFACE RL: 1363.4 m
HOLE DEPTH: 10.0 m
GROUND WATER LEVEL:
Detected m Stabilized m

DRILLER: Soil Trade LLC
DRILL RIG: UGB-1BS
HOLE DIA:
DATE: 15/07/2008
LOGGED: P.Erdenetsetseg

Depth, m	Started depth, m	Ended depth, m	Tickness of stratum, m	Graphic log	Description of soil
1	0.0	1.6	1.6		Embankment soil - Clayey SAND - Modern Quaternary age, Technogen deposit (tQrv); dark grey, with domestic and construction wastes
2	1.6	2.5	0.9		Poorly graded GRAVEL with sand and clay (GP-GC) - Upper & Modern Quaternary age's delluvium-proluvium deposit (dpQIII-IV); yellowish brown, hard consistency, angular gravel
3	2.5	3.7	1.2		Clayey SAND with gravel (SC) - Upper & Modern Quaternary age's elluvium-deluvium deposit (edQIII-IV); yellowish brown to brownish grey, highly weathered, hard
4	3.7	10.0	6.3		SANDSTONE (C_1) - fractured and weathered sedimentary effusive stone of Low Carbon age
5					
6					
7					
8					
9					
10					
11					
12					

Standard Penetration Test

Depth, m	Number of blows every 15 cm			Symbol of sampling	Ground water level
	15см	30см	45см		
1.0					
2.0	39/30	14	17	22	•
3.0	34/30	12	16	18	•
4.0	84/30	24	35	49	•
5.0	50/9	39	50		
6.0					•
7.0					
8.0					•
9.0					
10.0					
11.0					
12.0					

Soil Trade LLC

REPORT OF BOREHOLE: BH-2

and Standard Penetration Test (SPT)

CLIENT: Matsuda Consultants International Co.,LTD
PROJECT: Improvement of Primary Education Facilities (PhaseIV)
LOCATION: 79th school, Bayanzurh District, Ulaanbaatar City

SURFACE RL: 1364.0 m
HOLE DEPTH: 10.0 m
GROUND WATER LEVEL:
Detected m Stabilized m

DRILLER: Soil Trade LLC
DRILL RIG: UGB-1BS
HOLE DIA: 168, 146, 127, 112 mm
DATE: 15/07/2008
LOGGED: P.Erdenetsetseg

Depth, m	Started depth, m	Ended depth, m	Tickness of stratum, m	Graphic log	Description of soil
1–2	0.0	2.3	2.3		Embankment soil - dark grey. Modern Quaternary age, Technogen deposit (tQIV). Clayey SAND.
3–5	2.3	4.8	2.5		Clayey SAND with gravel (SC) - Upper & Modern Quaternary age's deluvium-proluvium deposit; yellowish brown, angular, semihard
6	4.8	6.3	1.5		Clayey SAND with gravel (SC) - Upper & Modern Quaternary age's elluvium-deluvium deposit (edQIII-IV); yellowish brown to brownish grey, highly weathered, hard
7–10	6.3	10.0	3.7		SANDSTONE (C1) - fractured and weathered sedimentary effusive stone of Low Carbon age
11–12					

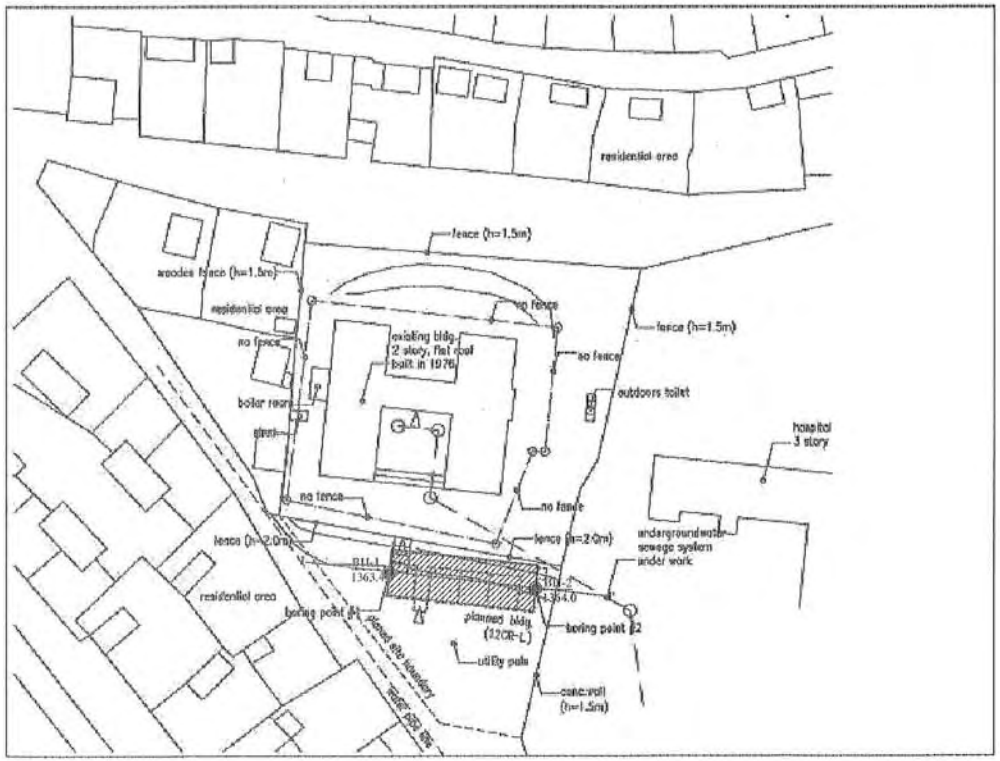
Standard Penetration Test

Depth, m	Number of blows / Penetration depth, cm	Number of blows every 15 cm			
		15cm	30cm	45cm	0 10 20 30 40 50
1.0–2.0					
3.0	27/30	10	12	15	
4.0	35/30	12	17	18	
5.0	34/30	12	15	19	
6.0	45/30	10	18	27	
7.0	66/30	22	30	36	
8.0–9.0					
10.0–11.0					
12.0					

Symbol of sampling

Ground water level

Location Map of Borehole
M 1:500



LEGEND

- Proposed building
- Existed building
- BH-2 / 1364.0 — Borehole's number and it's elevation
- I — I' — Engineering geological cross section and it's number

SOIL	SOIL TRADE LLC MONGOLIA Geotechnical Investigation & Construction Design		Order 2008 Design Stage Work Draw
Client	Matsuda Consultants International Co., LTD	Improvement of Primary Education Facilities (PhaseIV) 79th school	Map number 3
Checked by		A.Batsaihan	Scale
Drawn by		T.Altanchimeg	H 1:100 V 1:000

NO. 52 SCHOOL

Монгол Улс
Сойл Трейд ХХК

Архив№ 2008/078

УЛСЫН ЭКСПЕРТИЗ

“Дунд сургуулийн барилгыг сайжруулах” төслийн хүрээнд Хан-Уул дүүргийн 52 дугаар сургуулийн шинээр баригдах хичээлийн байрны барилгын талбайн инженер-геологийн судалгааны дүгнэлт

Улаанбаатар
2008

Soil Trade LLC

REPORT OF BOREHOLE: BH-1

AND Standard Penetration Test (SPT)

CLIENT: Matsuda Consultants International Co.,LTD
PROJECT: Improvement of Primary Education Facilities (PhaseIV)
LOCATION: 52th school, Khan-Uul District, Ulaanbaatar City

SURFACE RL: 1286.82 m
HOLE DEPTH: 10.5 m
GROUND WATER LEVEL:
Detected 4.0 m Stabilized 3.7 m

DRILLER: Soil Trade LLC
DRILL RIG: UGB-1
HOLE DIA:
DATE: 10/07/2008
LOGGED: P.Erdenetsetseg

Depth, m	Started depth, m	Ended depth, m	Thickness of stratum, m	Graphic log	Description of soil
1	0.0	1.1	1.1		Embankment soil - yellowish brown to dark brown, dark grey, hard consistency, Modern Quaternary age, Technogen deposit (tQIV). Pooply graded GRAVEL with clay and sand, Clayey SAND.
2					Poorly graded GRAVEL with sand (GP) - yellowish brown to dark brown, slightly moist, medium dense, well rounded. Upper & Modern Quaternary age's, Alluvium-Proluvium deposts (apQm-IV).
3					
4					
5					
6					
7					
8					
9					
10					

Standard Penetration Test

Depth, m	Penetration depth, cm / Number of blows	15cm	30cm	45cm	Symbol of sampling	Ground water level
1.0						
2.0	29/30	10	13	16		
3.0	37/30	12	17	20		
4.0	41/30	15	19	22		
5.0	40/30	13	19	21		
6.0	44/30	14	18	26		
7.0	42/30	15	19	23		
8.0	50/30	12	22	28		
9.0	66/30	22	31	35		
10.0	62/30	19	29	33		

Soil Trade LLC

REPORT OF BOREHOLE: BH-2

AND Standard Penetration Test (SPT)

CLIENT: Matsuda Consultants International Co.,LTD
PROJECT: Improvement of Primary Education Facilities (PhaseIV)
LOCATION: 52th school, Khan-Uul District, Ulaanbaatar City

SURFACE RL: 1286.84 m
HOLE DEPTH: 10.5 m
GROUND WATER LEVEL:
Detected 4.0 m Stabilized 3.7 m

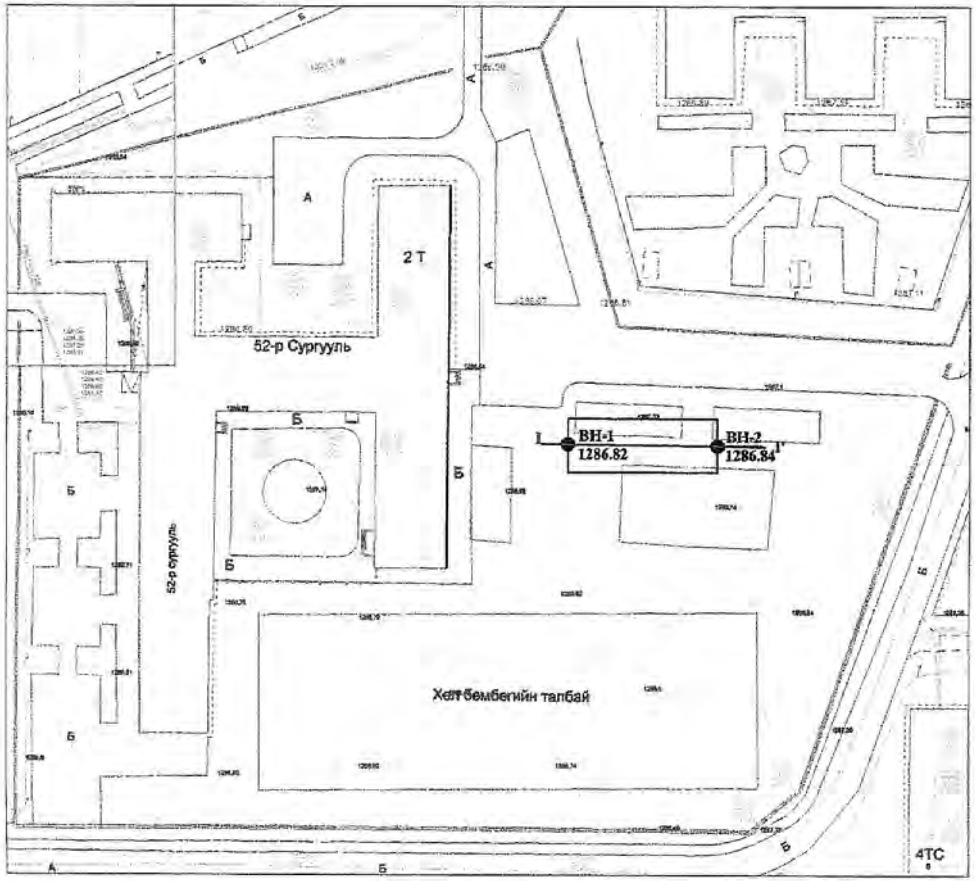
DRILLER: Soil Trade LLC
DRILL RIG: UGB-1
HOLE DIA:
DATE: 10/07/2008
LOGGED: A.Batsaikhan

Depth, m	Startat depth, m	Ended depth, m	Tickness of stratum, m	Graphic log	Description of soil	Standard Penetration Test: Depth, m	Number of blows every 15 cm: 15см	30см	45см	Symbol of sampling	Ground water level
1	0.0	1.0	1.0		Embankment soil - yellowish brown to dark brown, dark grey, hard consistency, Modern Quaternary age, Technogen deposit (tQIV). Pooply graded GRAVEL with clay and sand, Clayey SAND.	1.0					
2						2.0	34/30	13	15	19	
3						3.0	37/30	11	17	20	
4						4.0	40/30	15	19	21	
5					Poorly graded GRAVEL with sand (GP) - yellowish brown to dark brown, slightly moist, medium dense, well rounded. Upper & Modern Quaternary age's. Alluvium-Proluvium deposts (apQIII-IV).	5.0	45/30	11	21	24	
6						6.0	52/30	18	23	29	
7						7.0	50/30	15	24	28	
8						8.0	61/30	21	29	32	
9						9.0	66/30	22	32	34	
10						10.0	70/30	28	32	38	
	1.0	10.5	9.5								

Location Map of Borehole

M 1:1000

Appendix 1



Legend

52-р Сургууль — **Proposed building**

BH-1 1286.82 — **Existed building**

BH-1 1286.82 — **Borehole's number and it's elevation**

I — I' — **Engineering geological cross section and it's number**

SOIL TRADE LLC Geotechnical Investigation & Construction Design	Client: Matsuda Consultants International Co.,Ltd		project name: Improvement of Primary Education Facilities (Phase IV) 52th School
	Drawn: A.Batsaikhan	Date: Jul 16, 2008	
	Design: J.Battsetseg	Date: Jul 16, 2008	
	Scale: 1:1000	A-4	Sheet: 1

NO. 12 SCHOOL

Сойл трейд ххк

Монгол Улс
Сойл Трейд ХХК

Архив№ 2008/075

“Дунд сургуулийн барилгыг сайжруулах” төслийн хүрээнд Сонгинохайрхан дүүргийн 12 дугаар сургуулийн шинээр баригдах хичээлийн байрны барилгын талбайн инженер-геологийн судалгааны дүгнэлт

Улаанбаатар
2008

Soil Trade LLC

REPORT OF BOREHOLE: BH-1

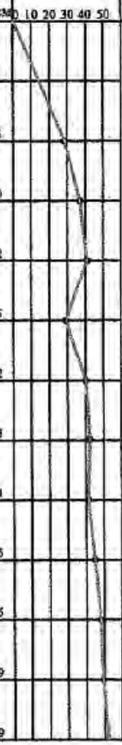
AND Standard Penetration Test (SPT)

CLIENT:	Matsuda Consultants International Co.,LTD	SURVACE RL:	1270.43 m	DRILLER:	Soil Trade LLC
PROJECT:	The Project for Improvement of Primary Education Facilities (PhaseIV)	HOLE DEPTH:	12.0 m	DRILL RIG:	UGB-1
		GROUND WATER LEVEL:	Detected 7.7 m Stabilized 7.1 m	HOLE DIA:	168,146,127,112 mm
LOCATION:	UB-Songino Hairhan 18th horoo			DATE:	28/06/2008
				LOGGED:	P.Erdenetsetseg

Started depth, m	Ended depth, m	Tickness of stratum, m	Description of soil
0.0	1.8	1.8	Embankment soil - yellowish brown to dark brown, dark gray, hard consistency, Modern Quaternary age, Technogen deposit (tQ_{IV}). Pooply graded GRAVEL with clay and sand, Clayey SAND.
1.8	4.7	2.9	Poorly graded GRAVEL with sand and clay (GP-GC) - yellowish brown to light yellowish brown, hard to stiff consistency, subrounded. Upper & Modern Quaternary age's, Alluvium-Proluvium deposits (apQ_{III-IV}).
4.7	5.9	1.2	Poorly graded GRAVEL with sand (GP) - yellowish brown to dark brown, slightly moist, medium dense, subrounded. Upper & Modern Quaternary age's, Alluvium-Proluvium deposts (apQ_{III-IV}).
5.9	12.0	6.1	Poorly graded GRAVEL with sand and clay (GP-GC) - yellowish brown to light yellowish brown, hard to stiff consistency, subrounded. Upper & Modern Quaternary age's, Alluvium-Proluvium deposits (apQ_{III-IV}).

Standard Penetration Test

Depth, m	Number of blows / Penetration depth, cm	15cm	30cm	45cm
-1.0				
-2.0	29/30	10	13	16
-3.0	37/30	12	17	20
-4.0	41/30	15	19	22
-5.0	29/30	11	13	16
-6.0	40/30	14	18	22
-7.0	42/30	15	19	23
-8.0	41/30	12	17	24
-9.0	45/30	16	20	25
-10.0	48/30	19	22	26
-11.0	49/30	16	20	29
12.0	52/30	20	23	29



Soil Trade LLC

REPORT OF BOREHOLE: BH-2

AND Standard Penetration Test (SPT)

CLIENT: Matsuda Consultants International Co.,LTD
PROJECT: The Project for Improvement of Primary Education Facilities (PhaseIV)
LOCATION: UB-Songino Hairhan 18th horoo

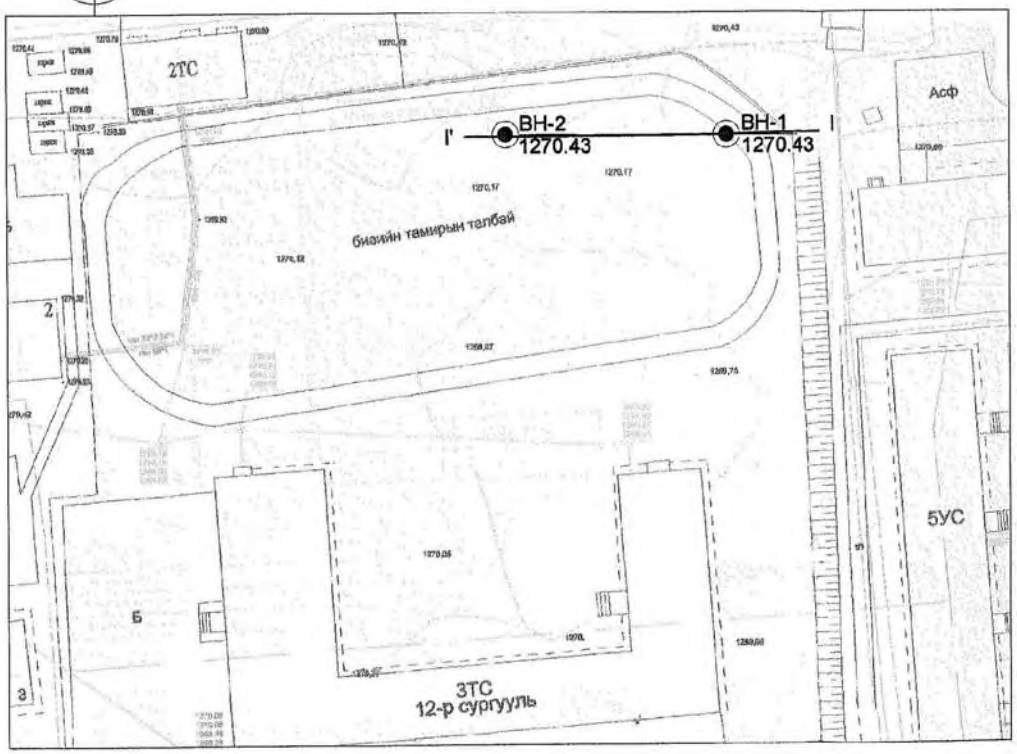
SURVACE RL: 1270.43 m
HOLE DEPTH: 12.0 m
GROUND WATER LEVEL:
Detected 7.8 m Stabilized 7.2 m

DRILLER: Soil Trade LLC
DRILL RIG: UGB-1
HOLE DIA: 168,146,127,112 mm
DATE: 28/06/2008
LOGGED: P.Erdenetsetseg

Depth, m	Started depth, m	Ended depth, m	Tickness of stratum, m	Graphic log	Description of soil	Standard Penetration Test: Depth, m	Number of blows every 15 cm: 15cm	30cm	45cm	Symbol of sampling	Ground water level
1					Embankment soil - yellowish brown to dark brown, dark gray, hard consistency, Modern Quaternary age, Technogen deposit (tQIV). Pooply graded GRAVEL with clay and sand, Clayey SAND.	-1.0					
2	0.0	2.1	2.1			-2.0					
3					Poorly graded GRAVEL with sand and clay (GP-GC) - yellowish brown to light yellowish brown, hard to stiff consistency, subrounded. Upper & Modern Quaternary age's, Alluvium-Proluvium deposits (apQ III-IV).	-3.0	39/30	22	19	20	●	
4						-4.0	44/30	20	22	22		
5	2.1	5.0	2.9		Poorly graded GRAVEL with sand (GP) - yellowish brown to dark brown, slightly moist, medium dense, subrounded. Upper & Modern Quaternary age's, Alluvium-Proluvium deposts (apQIII-IV).	-5.0	27/30	22	12	15		
6	5.0	6.1	1.1			-6.0	35/30	11	17	19	●	
7					Poorly graded GRAVEL with sand and clay (GP-GC) - yellowish brown to light yellowish brown, hard to stiff consistency, subrounded. Upper & Modern Quaternary age's, Alluvium-Proluvium deposits (apQ III-IV).	-7.0	39/30	15	18	21	●	▼
8						-8.0	41/30	16	19	22		
9						-9.0	44/30	14	21	23		
10						-10.0	45/30	17	20	25		
11						-11.0	49/30	19	22	27	●	
12	6.1	12.0	5.9			12.0	20/30	19	21	30		

BOREHOLE LOCATION MAP

Scale 1:500



LEGEND

- Existing Building
- Existing building
- Ц-2 1270.43 — Borehole Number, Aperture of Elevation, m
- I — I' — Number of Engeneering-Geological cross section

	SOIL TRADE LLC MONGOLIA Geotechnical Investigation & Construction Design		Order 2008
			Design Stage
			Work Draw
Client	Matsuda Consultants International Co., LTD	The Project for Improvement of Primary Education Facilities (Phase IV)	Map number 2
Checked by		A.Batsaihan	Scale
Drawn by		P.Erdenetsetseg	1:500

A43

NEW SCHOOL SITE NEAR TAHILT

Сойл трейд ХХК

Монгол Улс
Сойл Трейд ХХК

Архив№ 2008/083

“Дунд сургуулийн барилгыг сайжруулах” төслийн хүрээнд Сонгинохайрхан дүүргийн Тахилтад шинээр баригдах хичээлийн байрны барилгын талбайн инженер-геологийн судалгааны дүгнэлт

Улаанбаатар
2008

Soil Trade LLC

REPORT OF BOREHOLE: BH-1

and Standard Penetration Test (SPT)

CLIENT: Matsuda Consaltants International LLC
PROJECT: Improvement of Primary Education Facilities
LOCATION: School at Takhilt, Songinokhairkhan District, Ulaanbaatar City

SURFACE RL: 1295.1 m
HOLE DEPTH: 10.0 m
GROUND WATER LEVEL:
Detected m Stabilized m

HOLE DIA: 168, 146, 127 mm
DRILL RIG: URB-50M
DRILLER: Soil Trade LLC
DATE: 07.04.2008
LOGGED: T.Altanchimeg

Depth, m	Started depth, m	Ended depth, m	Thickness of stratum, m	Soil / Rock Material Description: Graphic log	Symbol	Description of soil	Standard Penetration Test: Depth, m	Number of blows every 15 cm: 15cm	30cm	45cm	Ground water level	Sampling: Depth, m	Symbol of sampling
	0.0	0.4	0.4			Top soil - clayey SAND with gravel: dark brown, with vegatation roots, hard consistency							
1.0	0.4	2.3	1.9		SC	Clayey SAND with gravel - Upper & Modern Quaternary age's, Proluvium deposit, yellowish brown, hard consistency, angular	1.0	42/30	18	23	19		
2.0	2.3	2.5	0.2				2.0	45/30	17	22	23	2.3	*
	2.5	2.8	0.3		GP	Clayey SAND with gravel - Eluvial deposit, yellowish brown to yellowish green, weathered, with lense of Poorly graded GRAVEL						2.8	*
3.0	2.8	3.8	1.0		SC		3.0	54/30	19	26	28	3.5	*
4.0							4.0	71/30	30	29	42		
5.0							5.0	79/30	28	36	43		
6.0							6.0					5.6	*
7.0						SANDSTONE - Highly weathered sedimentary effusive stone of Low Carbon age, bluish grey	7.0						
8.0							8.0					8.0	*
9.0							9.0						
10.0	3.8	10.5	6.7				10.0						
11.0							11.0						

Soil Trade LLC

REPORT OF BOREHOLE: BH-2

and Standard Penetration Test (SPT)

CLIENT: Matsuda Consaltants International LLC
PROJECT: Improvement of Primary Education Facilities
LOCATION: School
District, Ulaanbaatar City

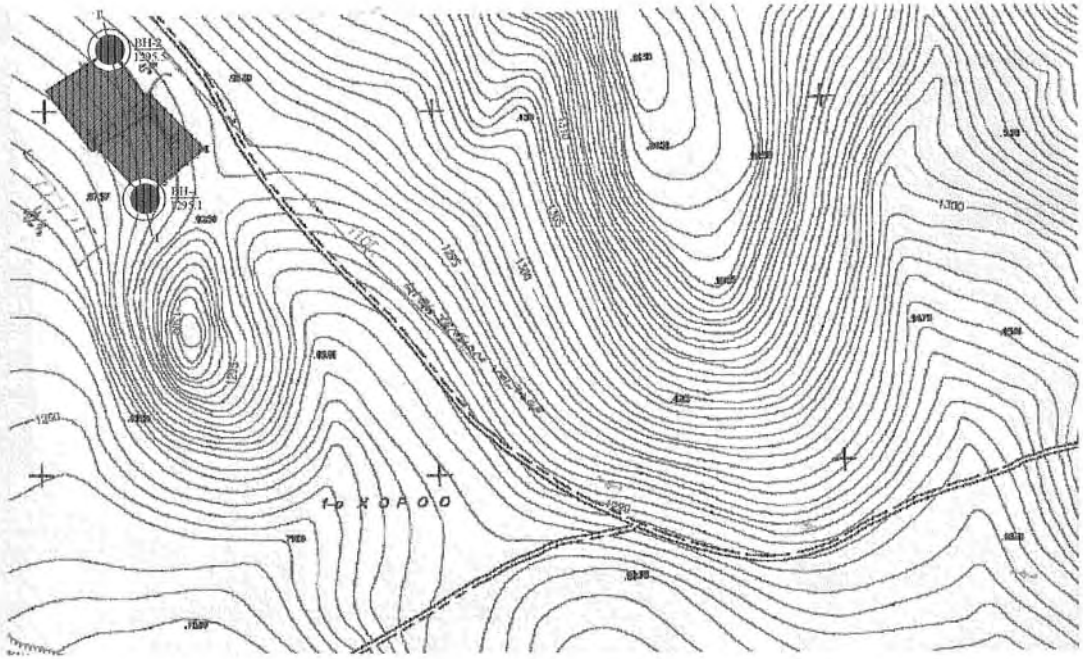
SURFACE RL: 1295.5 m
HOLE DEPTH: 10.0 m
GROUND WATER LEVEL:
Detected m Stabilized m

HOLE DIA: 168, 146, 127 mm
DRILL RIG: URB-50M
DRILLER: Soil Trade LLC
DATE: 07.04.2008
LOGGED: T.Altanchimeg

Depth, m	Started depth, m	Ended depth, m	Thickness of stratum, m	Soil / Rock Material Description: Graphic log	Symbol	Description of soil	Standard Penetration Test: Depth, m	Number of blows every 15 cm: 15cm	30cm	45cm	Ground water level	Sampling: Depth, m	Symbol of sampling
	0.0	0.5	0.5			Top soil - Dark brown, with vegatation roots, hard consistency, clayey SAND with gravel							
1.0	0.5	1.1	1.0		SC	Clayey SAND with gravel - Upper & Modern Quaternary age's, Proluvium deposit, yellowish brown, hard consistency, angular	1.0	43/30	17	23	20		
2.0					SC	Clayey SAND with gravel - Eluvial deposit, yellowish brown to yellowish green, weathered	2.0	46/30	18	22	24	1.7	*
3.0	1.1	3.2	2.1				3.0	52/30	19	25	27	2.7	*
4.0							4.0	74/30	31	30	44	3.3	*
5.0							5.0	82/30	27	37	45	5.0	*
6.0							6.0					6.2	*
7.0						SANDSTONE - Highly weathered sedimentary effusive stone of Low Carbon age, bluish grey	7.0						
8.0							8.0					7.8	*
9.0							9.0					9.0	*
10.0	3.2	10.0	6.8				10.0						
11.0							11.0						

Location Plan of Investigation Area

M 1:500



LEGEND

- Proposed building
- BH-2 1295.5 — Borehole's number and it's elevation
- I — I' — Engineering geological cross section and it's number

SOIL	SOIL TRADE LLC MONGOLIA Geotechnical Investigation & Construction Design		Order 2008
			Design Stage
			Work Draw
Client	Matsuda Consultants International Co., LTD	Improvement of Primary Education Facilities (Phase IV) School at Takhilt	Map number 3
Checked by		A.Batsaihan	Scale
Drawn by		T.Altanchimeg	H 1:100 V 1:500

NEW SCHOOL SITE AT YARMAG

Монгол Улс
Сойл Трейд ХХК

Архив№ 2008/081

“Дунд сургуулийн барилгыг сайжруулах” төслийн хүрээнд Хан-Уул дүүргийн Яармагт шинээр баригдах сургуулийн хичээлийн байрны барилгын талбайн инженер-геологийн судалгааны дүгнэлт

Улаанбаатар
2008

Soil Trade LLC

REPORT OF BOREHOLE: BH-1

and Standard Penetration Test (SPT)

CLIENT: Matsuda Consaltants International LLC
PROJECT: Improvement of Primary Education Facitities (phase4)
LOCATION: Yarmag school, Khan-Uul District, Ulaanbaatar City

SURFACE RL: 99.8 m
HOLE DEPTH: 10.5 m
GROUND WATER LEVEL:
Detected m Stabilized m

HOLE DIA: 168, 146, 127 mm
DRILL RIG: URB-50M
DRILLER: Soil Trade LLC
DATE: 07.17.2008
LOGGED: J.Battsetseg

Depth, m	Started depth, m	Ended depth, m	Tickness of stratum, m	Visual classification	Symbol	Description of soil
	0.0	0.2	0.2			Embankment soil - Clayey Sand, dark brown, with vegetation roots
1.0	0.2	1.3	1.1		GP	Poorly graded GRAVEL with sand - Upper & Modern Quaternary age's, deluvium-proluvium deposit, yellowish brown, mendium dense, slightly moist
2.0	1.3	2.7	1.4		GP-GC	Poorly graded GRAVEL with sand and clay - Upper & Modern Quaternary age's, deluvium-proluvium deposit, brownish grey, mendium dense, hard consistency
3.0	2.7	3.8	1.1		GP	Poorly graded GRAVEL with sand - Upper & Modern Quaternary age's, deluvium-proluvium deposit, yellowish brown, medium dense, slightly moist
4.0	3.8	6.1	2.3		SC	Clayey SAND and clayey Sand with gravel - Upper & Modern Quaternary age's, deluvium-proluvium deposit, yellowish brown, loose, hard consistency
7.0	6.1	10.5	4.4		SC	Clayey SAND - Neogene age's, brownish red, loose, hard consistency
11.0						

Depth,m	Number Blows / Penetration depth	Number of every 15 cm 15cm	30cm	45cm
1.0	28/30	12	12	14
2.0	29/30	7	14	15
3.0	52/30	17	23	29
4.0	37/30	12	19	18
5.0	18/30	6	7	11
6.0	24/30	8	12	12
7.0	23/30	11	11	12
8.0	27/30	7	14	13
9.0	24/30	8	11	13
10.0	24/30	10	11	14
11.0				

Standard Penetration Test: 0 10 20 30 40 50 60

Ground water (Stabilized)

Sampling

Depth, m	Symbol of sampling
1.0	•
2.0	•
4.0	•
5.0	•
8.0	•
10.0	•

Soil Trade LLC

REPORT OF BOREHOLE: BH-2

and Standard Penetration Test (SPT)

CLIENT: Matsuda Consaltants International LLC
PROJECT: Improvement of Primary Education Facitities (phase4)
LOCATION: Yarmag school, Khan-Uul District, Ulaanbaatar City

SURFACE RL: 99.7 m
HOLE DEPTH: 10.5 m
GROUND WATER LEVEL:
Detected m Stabilized m

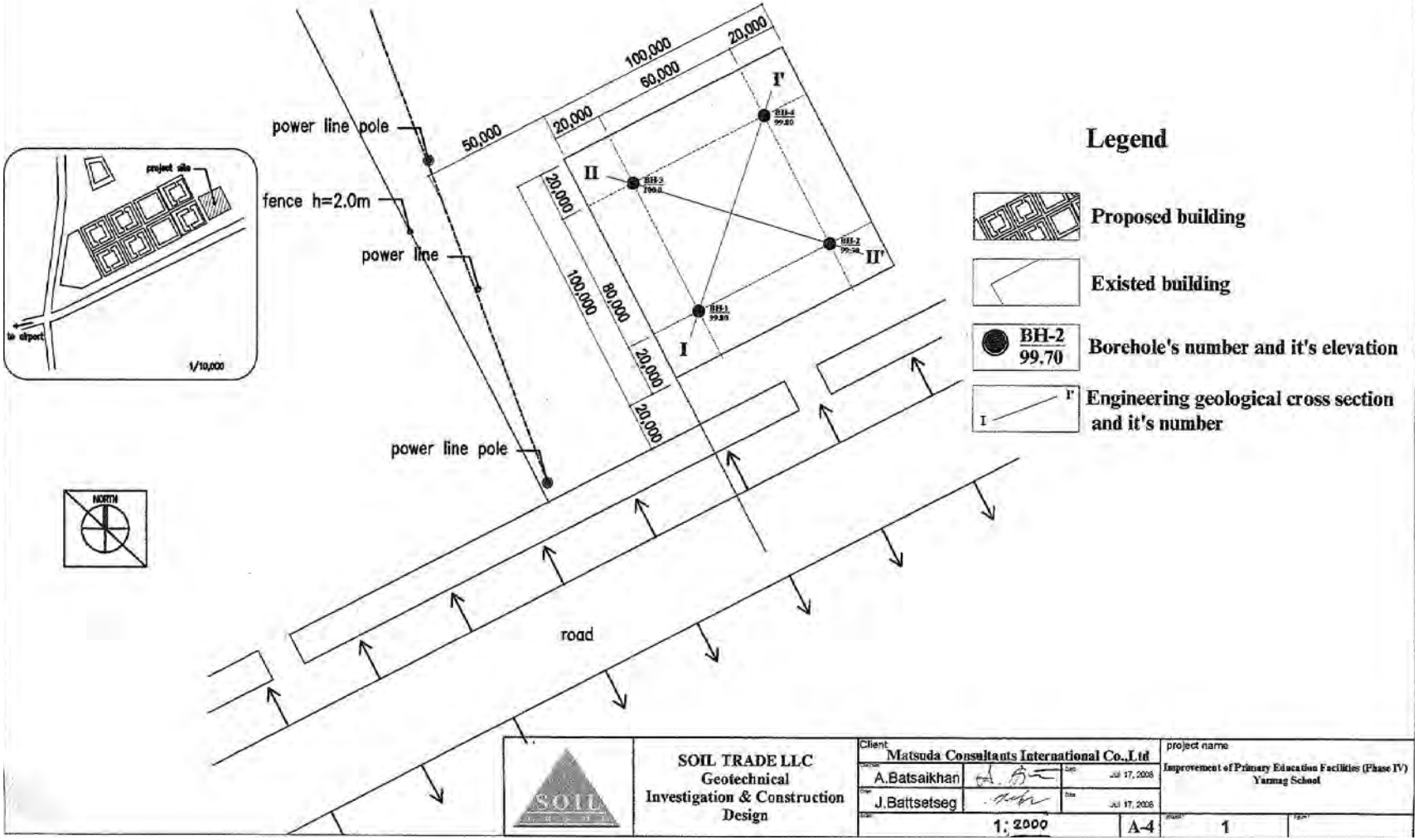
HOLE DIA: 168, 146, 127 mm
DRILL RIG: URB-50M
DRILLER: Soil Trade LLC
DATE: 07.17.2008
LOGGED: J.Battsetseg

Depth, m	Started depth, m	Ended depth, m	Tickness of stratum, m	Soil / Rock Material Description: Visual classification	Symbol	Description of soil	Standard Penetration Test: Depth,m	Number Blows / Penetration depth,cm	Number of every 15 cm: 15cm	30cm	45cm	Ground water (Stabilized)	Sampling: Depth, m	Symbol of sampling
	0.0	0.2	0.2			Embankment soil - Dark brown, clayey with vegetable								
1.0	0.2	1.3	1.1		GP	Poorly graded GRAVEL with sand - Upper & Modern Quaternary age's, Deluvium-Proluvium deposits, yellowish brown, mendium dense, slightly moist.	1.0	23/30	10	11	12		1.0	•
2.0	1.3	2.7	1.4		GP-GC	Poorly graded GRAVEL with sand and clay - Upper & Modern Quaternary age's, Deluvium-Proluvium deposits, brownish grey, mendium dense, hard consistency.	2.0	31/30	12	13	18		2.0	•
3.0	2.7	3.6	0.9		GP	Poorly graded GRAVEL with sand - Upper & Modern Quaternary age's, Deluvium-Proluvium deposits, yellowish brown, mendium dense, slightly moist.	3.0	51/30	21	25	26			
4.0							4.0	33/30	7	16	17		4.0	•
5.0					SC	Clayey SAND and clayey with gravel SAND - Upper & Modern Quaternary age's, Deluvium-Proluvium deposits, yellowish brown, slim dense, hard consistency	5.0	31/30	12	19	12			
6.0	3.6	6.2	2.6				6.0	27/30	10	11	16		6.0	•
7.0							7.0	31/30	11	14	15			
8.0					SC	Cleyey SAND - Neogen age's, deposits, brownish red, slim dense, hard consistency.	8.0	23/30	14	13	10		8.0	•
9.0							9.0	29/30	8	11	18			
10.0	6.2	10.5	4.3				10.0	31/30	10	13	18		10.0	•
11.0							11.0							

Location Map of Borehole

Appendix 1

M 1:2000



SOIL TRADE LLC Geotechnical Investigation & Construction Design	Client: Matsuda Consultants International Co.,Ltd		project name: Improvement of Primary Education Facilities (Phase IV) Yarmag School
	Drawn: A.Batsaikhan	Date: Jul 17, 2008	
	Chk: J.Battsetseg	Date: Jul 17, 2008	
	Scale: 1: 2000	A-4	Project: 1

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