Ministry of Transport

Project Management Unit Thang Long

Japan International Cooperation Agency

Loan No. : VN13-P2
Contract No. 127/HD-PUMTL

Consulting Services for Package 3
Technical Design, Cost Estimation and Tender Assistance
for
Hanoi City Ring Road No.3 Construction Project
Mai Dich – South Thang Long Section

Work Plan for Existing Utilities Survey

July 22th 2015

The Joint Venture of

NIPPON KOEI CO.,LTD.

NIPPON ENGINEERING CONSULTANTS CO.,LTD.

NIPPON KOEI VIETNAM INTERNATIONAL CO., LTD.

1. General

1.1 Introduction

- The Project road is a part of HRR3 (Western Section) and is planned to construct viaduct on the median of existing Pham Van Dong Street (primary urban road). The beginning point of the Project road is at the north side of existing Mai Dich Flyover (KM0+130) and the end point is at the south side of existing Thang Long Bridge (KM5+493.7).
- The Project site is located in Cau Giay and Tu Liem districts at western urban area in Hanoi city.

1.2 Legal Basis

- Construction Law No.50/2014/QH13 dated June 18th 2014 as replacement of Construction Law No.16/2003/QH11 dated November 26th 2003;
- Highway Transportation Law No.23/2008/QH12 dated November 13th 2008
- Land Law No.45/2013/QH11 dated November 29th 2013
- Environmental Protection Law No.55/2014/QH13 dated June 23th 2014
- Decree No.12/2009/NĐ-CP dated February 12th 2009, issued by Government for management of construction and investment project. And Decree No.83/2009/NĐ-CP dated November 15th 2009 for supplementation and modification some provisions of Decree No. 12/2009/NĐ-CP;
- Decree No.15/2013/NĐ-CP, dated February 6th 2013, issued by Government for quality management of construction work;
- Terms of Reference (TOR) for consulting services of technical design for Hanoi Ring Road No.3 construction project, Mai Dich – South Thang Long section;
- Contract for consulting services of technical design, cost estimation and tender assistance for Hanoi Ring Road No.3 construction project, Mai Dich – South Thang Long section, Contract No 1725/HD-PMUTL, dated June 19th 2015;
- Minutes of handing over for primary control network grade IV (GPS) and secondary control points of F/S stage, date 26th June 2015

1.3 Definition

Words and expressions in this work plan shall be referred to the followings:

- ”Client” means PMUTL,
- ”Consultant” means NK-NE-NKV JV
- ”Sub-Consultant” means Service Trading Technology and Construction Joint Stock Company (T&C)
- ”Project” means stage 1 of Ring Road No. 3 Construction Project, Mai Dich – South Thanh Long Section,
- ”Survey” or ”Work” means existing utilities survey in the Project,
- ”Consulting Service” means package 3: consulting services of Technical Design, Cost Estimation and Tender Assistance for the Project.

1.4 Location of the Work

- Beginning point is at the North of Mai Dich flyover (Mai Dich flyover on the Ring Road 3 overpass Xuan Thuy street).
- Ending point is at approach of the Thang Long bridge in front of Ciputra residental area
- Length: 5,5 km along the Project road

- Project road alignment: Start from Mai Dich flyover and run along the median of Pham Van Dong street, overpass Hoang Quoc Viet intersection, continuously run straight and cross with the NH69 intersection, go to the North and cross with planned interchnage of West Lake – Ba Vi axis road (at the area of Hoa Binh park) and end at the approach of the Thang Long bridge.

1.5 Technical Features of the Project

The technical features of the project are shown in the table below:

Table 1: Main Technical Features of the Project

No.	Item	Main Features	
		Stage 1: Initial Stage (The Project)	Stage 2: Ultimate Stage
1	Beginning Point (BP)	KM0+130, North side of the existing Mai Dich Flyover	
2	Ending Point (EP)	KM5+493.7, South side of the existing Thang Long Bridge	
3	Road Length	5.364km	
4	Road Classification	Expressway Class A, Grade 100	
5	Design Speed	100km/hr	
6	Nos. of Lane	4 lanes	
7	Road Width	24.0m	
8	Cross Section Elements	0.5m+2.5m+2@3.75m+0.75m+1.5m+0.75m+2@3.75m+2.5m+0.5m - Carriageway : 4@3.75m= 15.0m - Outer Safe Line : 2@2.50m= 5.0m - Median : 1@1.50m= 1.5m - Inner Safe Line : 2@0.75m= 1.5m - Concrete Barrier : 2@0.50m= 1.0m	
9	Interchange (IC)	1 Interchange South Thang Long IC - IC Type: Half-diamond - Rampway: 1 lane (Width: 7.0m (0.5m+0.5m+3.5m +2.0m+0.5m))	2 ICs (Half-diamond) - Hoang Quoc Viet IC - Co Nhue IC
10	Viaduct	Total Length: 4.803km Superstructure - Typical Type: PC Super T Girder (Span Length: 30-40m) - At Hoang Quoc Viet/Co Khue Intersections: Steel Box Girder (Fewness Type, Span Arrangement: 63m+78m+63m) Substructure - All Sections: One Column RC Pier Foundation - Standard Section : RC Bored Pile - Narrow Section : Rotation Steel Pile	
11	Pavement Structure	Ultra-thin Bonded Wearing Course, t=2cm (Urban Road: Porous Course, t=4cm)	
12	Auxiliary Works	Retaining wall, drainage system, lighting system, plants, ditch, noise barrier and preparation works for future installation of ITS equipment. Urban Road: Improvement of existing pavement after construction, restoration of existing drainage system and road lighting.	

Source: Decision No. 2660/QD-BGTVT dated 3rd September, 2013, MOT

2. Scope of Work

The Works is to survey exitisting utilities to be affected by the Project based on the TOR in the contract of Consulting Services of the Project as mentioned in detail as below.

2.1 Area of Survey

The Survey area is along the Project road with the length of 5.5 km with the witdth up to the ROW of phase 2 of Pham Van Dong road. In addition, other than above, areas to be affected by the Project shall be included in the Survey area (e.g. area for shifting the Project road center line, planned detour, etc.)

2.2 Objectives of Survey

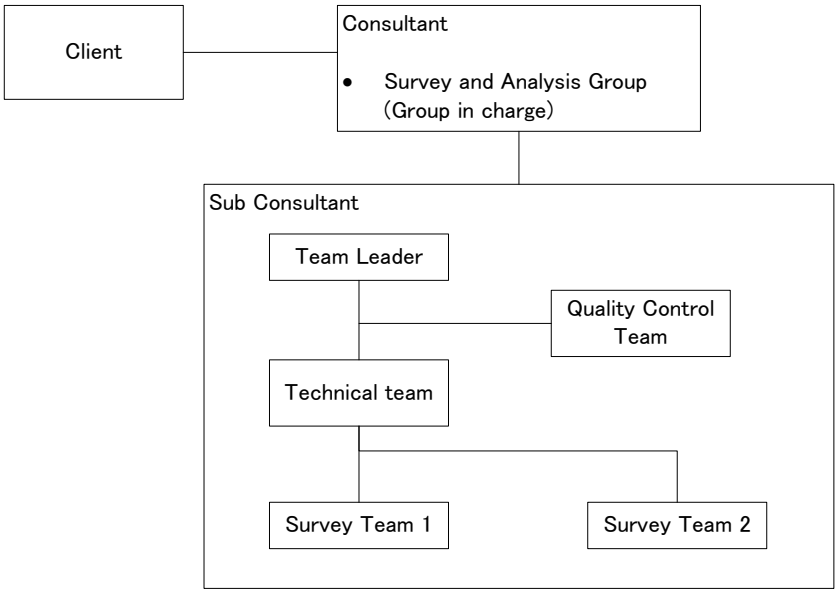
Table 2 provides a list of existing utilities as objectives of Survey. Existing utilities both on the ground and underground will be surveyed.

Table 2: List of Existing Utilities to be Surveyed

No.	Type of Existing Utilities
1	**WATER SUPPLY AND SEWER SYSTEMS**
1.1	Transmission line (pipes, valves, meters, etc.)
1.2	Distribution line (Pipes: Primary, Secondary, Tertiary, valves, meters, etc)
1.3	Fire fighting water system (pipes, valves, meters, hydrants, etc.)
1.4	Sewage (pipes, valves, meters, etc.)
2	**ELETRICAL SYSTEM**
2.1	High voltage transmission line and facilities
2.2	Distribution network with facilities
2.3.	Street Lighting system
2.4	Traffic light system
3	**TELECOMMUCATION SYSTEM**
3.1	International telecom zone 1
3.2	Inter-province telecom zone 1
3.3	Viettel Telecom
3.4	FPT Telecom
3.5	Ministry of Defense telecom cable
3.6	Communication arms – Brigade no. 205
3.7	Postal optic cable
3.8	Hanoi TV cable network
3.9	VTVcab network
3.10	Viettel TV cable network
3.11	MyTVcable network
3.12	SCTV cable network

3. Implementation Organization and Equipment

3.1 Organization Chart of the Work



3.2 Key Personnel of the Work

No.	Position	Name	Tasks	Remark
A	Consultant			
1	Team Leader	Ichizuru Ishimoto	Management and Guidance	Accountability for the Service
2	Deputy Team Leader	Do Hoang Anh	Management and Guidance	
3	Material Engineer	Toru Fujino	In charge	Responsibility for the Team
4	Utility Engineer		In charge	
B	Sub Consultant			

No.	Position	Name	Tasks	Remark
1	Team Leader	Tran Van Quan	In chanrge	Responsibility for the Team
2	Quality Control Manager	Pham Nhan Duc	In chanrge	
3	Technical Team 1	Nguyen Van Thanh	Site survey	
4	Technical Team 2	Tran Van Quang	Site survey	

Full name of the personnel shall be informed in details upon actual deployment.

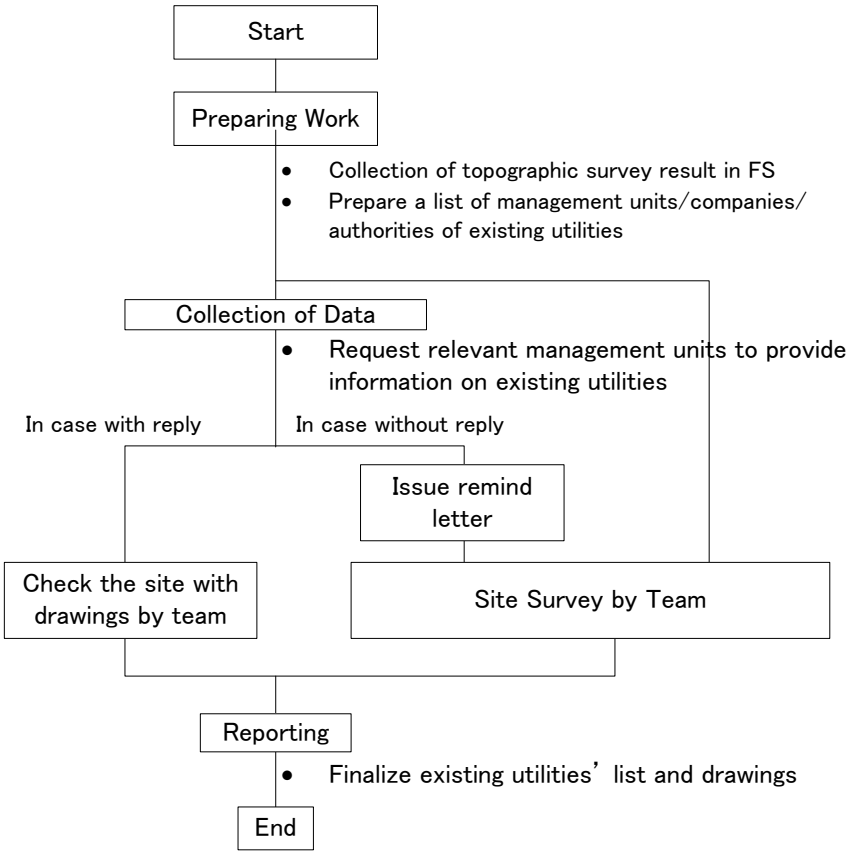
3.3 Equipment

No.	Equipment	Origin	Manufacturer	Year of Manufacture	Quantity
1	Measuring to determine the utilities' location (x,y coordinates) using Total Station GTS235	Japan	Topcon	2009	01
2	Measuring to determine elevation of the utilities using Levelling Machine B21	Japan	Sokia	2009	01

4. Methodology of the Survey

4.1 Flow Chart of the Work

Figure below shows a flow chart of the Work.



4.2 Preparing Work

- Receive topographic survey document, control network, planimetric drawings scaled 1/500
- Prepare a list of management units/companies/authorities of existing utilities including addresses, telephone numbers as a sample attached in Appendix 1.
- Plan to contact and make appointment with management units/companies/authorities one by one: To prioritize contacting managing units of utilities that is difficult to relocate such as: high voltage power network, military utilities (if any), TV cable, water supply transmission, etc.

4.3 Collection of Information

a) Issue letter

- Issue official letters to management units/ organizations (Signing by Consultant/ PMUTL) requesting to provide information of existing utilities with topographic survey drawing.

b) Collection Data of Public Utilities:

- To update data of the existing utilities on the planimetric drawings of the Project scaled 1/500 associated with written certification of the data for accuracy.

4.4 Site Survey/Check site condition

Survey team will carry out site survey besed on collected information or without information on site. For confirmation of topographic survey result in FS stage, initial site survey will be carried out by the team to point out the location of existing facilities on the topo drawing.

Upon the receiving of data on exiting utilities by management units, check survey will be carried out by the team to increase accuracy of survey. In case of discrepancy, joint site visit will be arranged with management units.

In case no data provided by management units, the team will mention in the report the situation.

4.4 Reporting

Report shall be prepared as mentioned in Section 5 below.

4.5 Other Requirements

Sub-consultant will take responsibilities of safety, access to the site, reinstatement of any damage of exiting utilities/properties caused by the survey.

5. Document to be Submitted

The final products to be submitted are listed below (hard copy and soft data).

(1) Survey Report

(2) Drawings

Drawings shall present all public utilities on topographic map with the scale of 1/500 including following information. Drawings will be produced in A3 size. Detailed information may be submitted by a separated list:

a. Name and type of facility
b. Location with coordinates/stations
c. Dimention: diameter of pipes, size of manhole, structures/facilities
d. Elevations: height and depth
e. Major design capacity
f. Objectives
g. Current Status,
h. Other if any

For Planimetric drawings, the band of detail shall be oriented to suit the general alignment of the proposed alignment. A North Point correctly oriented and coordinate grid shall be included on every sheet. The overlap of adjacent drawings shall give a minimum overlap of 40mm of detailed common to each drawing. The Match Lines shall be included on each drawing. The coordinates and heights of all the monuments, markers and bench marks shall be shown on the drawings. Names and annotations shall be horizontally aligned except for names relating to linear features which shall be aligned parallel with those features.

The approved final drawings shall be retained by the Sub-consultant for a period of one (1) year from the issue of the corresponding survey report, during which time they shall be made available to the Consultant on request and copies supplied to the Consultant when instructed.

Soft data of the drawings shall be produced in AutoCAD dwg format. The names, colors, and contents of layers created in CAD files shall be further instructed

Survey results shall include calculation results, observation sheets, photographs, etc. The forms and data sheets used in the Survey results shall be approved by the Consultant prior to the preparation.

Survey report shall describe the survey method adopted, used equipment, work schedule, difficulties encountered and its solutions, etc.

6. Work Quanties

NO.	ITEM	UNIT	QUANTITY
1	Public Utility Survey	LS	1[*1]
2	Mobilization and Transportation	LS	1
3	Reporting	LS	1

[*1]: equivalent to 40 man-day as mentioned in the contaract document of the Project.

7. Schedule

The Works shall be commenced immediately after signing of the Contract or the issuance of the Notice to Proceed by the Consultant. All the Work shall be completed not later than 28 August 2015.

APPENDIX

- List of management units and contact information.
- Survey schedule .

APPENDIX

DANH SÁCH CÁC CƠ QUAN QUẢN LÝ & THÔNG TIN LIÊN HỆ
CÔNG TRÌNH NGẦM & NỔI TRÊN ĐƯỜNG VÀNH ĐAI III : ĐOẠN MAI DỊCH- NAM THĂNG LONG (PHẠM VĂN ĐỒNG)

LIST OF UTILITY MANAGEMENT UNITS AND CONTACT INFORMATION
ABOUT UNDERGROUND & ON LAND WORKS IN RING ROAD No3 AREA: SECTION MAI DỊCH- NAM THANG LONG (PHAM VAN ĐONG STREET)

No	Tªn c«ng ty liªn hÖ Name of Company to contact	§Þa chØ Address	Sè ®iÖn tho¹i, fax / Office phone, fax number	Ng-êi cã tr¸ch nhiÖm/ Name of who have responsive			LÞch làm viÖc Working schedule	Ghi chó Note
				Hä tªn/ Fulname	Chøc vô/ Position	Sè ®t liªn hÖ Mobifone		
1	**WATER SUPPLY AND DRAINAGE SYSTEM**							
1.1	Ha Noi Clean water supply Limited Company							
1.2	Ha Noi Sewerage and drainage Limited Company							
2	**ELECTRICAL SYSTEM**							
2.1	National high voltage electric network of Ha Noi area							
2.2	Ha Noi city and district electricity (Cau Giay & Bac Tu Liem)							
2.3.	Common electric light							
2.4	Traffic control light							
3	**TELECOMMUNICATION SYSTEM**							
3.1	International telecommunication area No.1							
3.2	Interprovincial telecommunication area No.1							
3.3	Viettel telecommunication in the Central area							
	FPT telecommunication in the Central area							
3.5	Communication cable of Defense Department							
3.6	Brigade No205 of Signal Arm							
3.7	Post-office optical cable							
3.8	Cable television network of HaNoi TV							
3.9	Cable television network of VTVcab							
3.1	Cable television network of Viettel							
3.11	Cable television network of MyTV							
3.12	Cable television network of SCTV							

LIST OF MANAGEMENT COMPANIES AND TIME FOR COMPLETION OF SURVEY WORK FOR GROUND AND UNDERGROUND WORKS ON RINGROAD NO.3:
MAI DICH-SOUTH THANG LONG SECTION (PHAM VAN DONG)

No	Company	Time for completion	Remark
1	Cau Giay Dist. Electrical Company	28/8/2015	
2	North Tu Liem Dist. Electrical Company	28/8/2015	
3	High-tension power station of Hanoi City	15/8/2015	
4	205 Brigade of Information Dept under Defence Ministry	28/8/2015	
5	Hanoi Water Company	28/8/2015	
6	Telecommunication Company area 1	15/8/2015	
7	Hanoi telephone Company	28/8/2015	
8	Viettel Corporation	15/8/2015	
9	FPT JSC	15/8/2015	
10	VN Cable Television (VCTV)	15/8/2015	
11	Hanoi Television	15/8/2016	
12	Telecommunication and Information Center – Hanoi Electric Company	15/8/2017	
13	Traffic light management unit	28/8/2018	
14	Hanoi Green Trees Development JSC	15/8/2019	
15	Hanoi lighting company	28/8/2020	
16	Hanoi sewage company	15/8/2021	