Project Code: JA08O1057

AGREEMENT

BETWEEN

NIPPON KOEI CO., LTD.

AND

THANG LOI ENGINEERING CONSULTANTS CO., LTD.

FOR FURNISHING EXPERTS

FOR CONSULTING SERVICES

FOR

DETAILED DESIGN FOR DANANG - QUANG NGAI EXPRESSWAY DEVELOPMENT PROJECT

IN VIETNAM

DECEMBER, 2011

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This Agreement made and entered into this 1st day of December, 2011 by and between Nippon Koei Co., Ltd. with its main office located at No. 4, Kojimachi 5-chome, Chiyoda-ku, Tokyo, Japan (hereinafter referred to as "NK") and Thang Loi Engineering Consultants Co., Ltd. with its main office located at 16A/93 Trung Kinh Street, Cau Giay, Hanoi, Vietnam, and represented by Mr. Nguyen Manh Cuong referred to as "the Company").

WITNESSETH

WHEREAS, NK entered into the Contract for Consulting Services dated 15th day of November, 2011 (hereinafter referred to as "the Prime Contract") with Project management Unit No. 85 (hereinafter referred to as "the Client"), for Danang - Quang Ngai Expressway Development Project (hereinafter referred to as "the Project").

WHEREAS, NK desires that the Company will furnish NK with the individual Experts (hereinafter referred to as "the Experts") required by NK to perform certain consulting services for the Project.

AND WHEREAS, the Company agrees to furnish the Experts under the terms and conditions stipulated in this Agreement.

NOW, THEREFORE, it is hereby agreed by and between the parties hereto as follows:

ARTICLE 1 SCOPE AND PERIOD OF SERVICES

1.1 The Experts shall carry out the services as stipulated in Appendix 1 SCOPE OF SERVICES hereto (hereinafter referred to as "the Services"), under the direction of the General Manager of Highway and Bridges Department of NK (hereinafter referred to as "the General Manager") or his designated person (hereinafter referred to as "the Project Manager").

1.2 In order to perform the Services, the Experts may be given further detailed instructions where necessary from time to time by the Project Manager.

1.3 The position and assignment period of the Experts shall be as mentioned in Appendix 2 POSITION AND ASSIGNMENT PERIOD. The assignment period may, however, be extended or shortened upon written consent of the parties hereto, subject to the prior approval of the Client.

ARTICLE 2 RESPONSIBILITIES

2.1 The Experts shall render the Services with due diligence and efficiency, in conformity with sound engineering, administrative and financial practices, in a manner acceptable and satisfactory to NK and the Client, and act at all times to protect the interests of NK and the Client.

2.2 During the assignment period as indicated in Appendix 2 POSITION AND ASSIGNMENT PERIOD, the Experts are exclusively assigned to the Project and is not allowed to be engaged in any other services whatsoever. The Experts shall devote his full time to perform the Services.

2.3 Prior to his embarking on his assignment, the Company shall cause the Experts to and the Experts himself shall submit a medical certificate from the licensed physician attesting to the good health of the Experts to complete the assignment described in Appendix 1 and Appendix 2 hereto to the Project Manager, subject to NK's request. The cost of this medical certificate shall be born by the Company or the Experts.

2.4 The Experts shall maintain the good health to complete the assignment described in Appendix 1 and Appendix 2 hereto. When the Experts and/or the Company

finds or recognizes that the health condition of the Experts are not good enough to complete the assignment, the Experts and/or the Company shall report the health condition of the Experts to the Project Manager without any delay.

2.5 The Experts may leave the country in which the site is located for whatever reason during the term of this Agreement, subject to approval of the Project Manager; such approval shall not be unreasonably withheld by the Project Manager.

2.6 The Company shall cause the Experts to use only licensed, or otherwise legally obtained computer software for the assignment described in Appendix 1 and Appendix 2 hereto. If, at the beginning of the assignment, the Experts possesses any illegally copied software, and/or is found to be using them during the above assignment period, the Company shall cause the Experts to replace them by licensed copies without delay.

2.7 The Company shall cause the Experts to pursue the Services pursuant to this Agreement.

2.8 The Company shall send Timesheet every month to NK without delay by the form shown in Appendix 5. Timesheet would be sent to the Project Manager electronically before the third day of the next month unless instructed by NK.

ARTICLE 3 INDEMNITY

3.1 The Company shall indemnify, protect and defend, at the Company's own responsibility and expense, NK from and against any and all actions, claims, demands, losses, costs, expenses or damages arising out of the Experts' failure to perform the Services during the assignment period as indicated in Appendix 2 POSITION AND ASSIGNMENT PERIOD as well as arising out of failure to comply with any obligations undertaken by the Company and the Experts hereunder. The Company shall be liable towards NK for such loss or damage to an amount equivalent to the damage or loss caused.

3.2 Notwithstanding the foregoing Article 3.1, the Company shall indemnify NK against all losses and claims in respect of death of or injury to any person, caused by the Experts during his assignment period.

ARTICLE 4 REPLACEMENT OF THE EXPERTS

The Company shall replace the Experts with an alternative Experts with more experience and competence in the following cases:

i) where in the opinion of the Client, the Project Manager or the Project Manager, the Experts is found unqualified or incompetent to handle any or part of the Services;

ii) where the Experts is involved in any act or behavior that violates laws, regulations or public policy in the country where the Project is to be carried out (hereinafter referred to the "Site Country") or in any country where the Experts has connection;

iii) death of the Expert;

iv) where the Expert is found to be physically difficult to perform any or part of the Services for reasons of health or private matters; or

v) where the Company is required to replace the Expert for reasons justifiable enough to the Client.

In any of these cases, replacement shall be made within fifteen (15) days with the prior approval of the Project Manager. Any additional costs that may result from such replacement shall be the sole responsibility of the Company, if the Client will not accept reimbursement of such additional cost.

ARTICLE 5 WORKING HOURS

The Company shall cause the Experts to follow the standard working hours and legal holidays observed at the site of the Project or decided by the Project Manager. The Company acknowledges and it shall cause the Experts to acknowledge that overtime work and/or work on a holiday which may be requested by the Project Manager are already covered and compensated by the monthly remuneration rate payable to the Company.

Working hours are 44 hours per week from Monday to morning of Saturday.
Holidays will include Sundays, Saturday afternoon and Vietnam's observed National Holidays.

ARTICLE 6 INSURANCES

The Company (or the Expert himself) shall effect the insurance of the Expert in respect to life, health, medical, accident, travel, and other group insurance which is normally carried out by the Company for its personnel assigned to domestic undertakings. The Company shall provide copies of said insurance policies to NK prior to his embarking on his assignment subject to NK's request. The Company acknowledges that NK is not required to take out any insurance for the Experts in connection with the Services.

ARTICLE 7 TAXES AND DUTIES

The Company shall pay any taxes, duties, charges and/or fees imposed in the Site Country, of whatever nature accruing from this Agreement and custom duties on equipment and goods which shall be imported into the Site Country for the Services of the Experts excluding valued added tax (VAT).

ARTICLE 8 SERVICES, FACILITIES AND EQUIPMENT

NK will be responsible for providing facilities and equipments for the proper execution of the project.

ARTICLE 9 PAYMENT

9.1 NK shall pay the Company remuneration for the actual days spent by the Experts in performing the Services for the Project. The amount of remuneration and out-of-pocket expenses shall be as stated in Appendix 3 COST ESTIMATE hereto. Computation shall be made for the assignment period stipulated in Appendix 2 POSITION AND ASSIGNMENT PERIOD. For a period less than one (1) month, remuneration shall be calculated on a prorata basis (one day being equivalent to 1/30 of one man-month).

9.2 NK shall reimburse or pay the following expenses in the currency designated in Appendix 3 COST ESTIMATE hereto upon presentation of the Company's invoice with original receipts in the schedule specified in Appendix 4 MODE OF PAYMENT.

9.3 The expenditures incurred in the Site Country for the Services of the Experts stipulated in the Prime Contract other than the items stipulated in Appendix 3

COST ESTIMATE shall be controlled by the Project Manager and can be reimbursed only with prior approval of the Project Manager.

9.4 If the Company and/or the Experts fails to perform the Services or obligation hereunder, then NK shall be entitled to set-off any payments due and owing to NK against such payments as due and owing to the Company pursuant to this Agreement.

ARTICLE 10 ASSIGNMENT

Neither this Agreement nor any portion of the interest of each of the parties hereto may be assigned, pledged, transferred or hypothecated without prior written consent of the party hereto.

ARTICLE 11 COPYRIGHT

The copyright of all the reports, documents and drawings prepared by NK and/or the Experts in connection with the Prime Contract rests with the Client. The Company (or the Experts) shall not use the contents thereof for any purposes unrelated to the Services without the prior written approval of NK. The Company and the Experts acknowledge that copyright of computer software preinstalled in computers that are used for the Services is owned by copyright holder and duplicating any software from those computers to any other computers is strictly prohibited.

ARTICLE 12 CONFIDENTIALITY

The Company and the Experts shall not at any time disclose to any person or entity any confidential information obtained from the Project under this Agreement. Except with prior written consent of NK, the Company and/or the Experts shall in no case communicate or disclose to any third party any information of this Agreement.

ARTICLE 13 TERM AND TERMINATION

13.1 This Agreement shall become effective on the date of its signing and shall remain in force until the Services of the Experts and all payments therefor shall have been completed.

13.2 This Agreement shall be terminated with immediate effect if and when the Prime Contract between NK and the Client is suspended or terminated. NK shall promptly notify the Company of the termination of this Agreement.

13.3 This Agreement may be terminated with immediate effect by giving a written notice of termination to the other party, if the other party becomes insolvent or a petition in bankruptcy or for corporate reorganization or for any similar relief is filed by or against the other party or a receiver is appointed with respect to any of the assets of the other party, or liquidation proceeding is commenced by or against the other party.

13.4 This Agreement may be terminated by either party hereto upon thirty (30) days written notice, should the other party fail substantially to perform in accordance with its terms through no fault of the party initiating the termination.

13.5 This Agreement may be terminated by NK in case of the Expert death or in case NK finds the Experts has difficulty in completing the Services for reasons that are justifiable to the Client.

13.6 In the event of termination of this Agreement for any reason, the Company shall be paid the costs of the Experts, both in foreign and in local currencies, for the Services performed up to the termination date, including all reimbursable costs then due, plus return expenses, subject to Article 9.4 hereof.

13.7 In the event of termination of this Agreement or upon expiration of the assignment period, the Company shall return and cause the Experts to return to NK any and all documents, equipment, goods or other materials provided by NK, upon request of NK. Further, the Company shall cause the Experts to erase the contents relating to the Services contained in his computer.

ARTICLE 14 ENTIRE AGREEMENT AND MODIFICATION

14.1 This Agreement, including Appendixes, constitutes the complete and final agreement between the parties herein with respect to the subject matter hereof and supersedes all prior negotiations, representations and agreements, oral or written, between the parties with respect hereto.

14.2 This Agreement may only be modified, in whole or in part, by the mutual agreement in writing of both parties.

ARTICLE 15 INDEPENDENT CONTRACTOR

The parties hereto are independent contractors under this Agreement and nothing in this Agreement shall be construed to create a partnership, joint venture, agency or employment relationship between the parties. Neither party has any right, power or authority to assume or to create any obligation on behalf of the other party.

ARTICLE 16 SEVERABILITY

If any one or more of the provisions contained in this Agreement is held invalid, illegal or unenforceable in any respect, the validity, legality and enforceability of the remaining provisions contained herein shall not be in any way affected or impaired thereby.
The parties hereto shall endeavor in good faith to replace the invalid, illegal or unenforceable provision with a valid provision, the effect of which is as close as possible to that of the invalid, illegal or unenforceable provision.

ARTICLE 17 APPLICABLE LAW

This Agreement shall be governed solely by and construed in accordance with the laws of Viet Nam.

ARTICLE 18 ARBITRATION

Any dispute or differences arising out of this Agreement which cannot be amicably settled between the parties hereto shall be finally settled by arbitration under the Rules of Conciliation and Arbitration of the International Chamber of Commerce. Arbitration shall take place in Hanoi City, Viet Nam. The resulting award shall be final and binding on both of the parties.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be signed in their respective names as of the day and year first above written.

For and on behalf of
THANG LOI ENGINEERING
CONSULTANTS CO., LTD.

Nguyen Manh Cuong
General Director

For and on behalf of
NIPPON KOEI CO., LTD.

Ichizuru ISHIMOTO
Project Manager

Appendix 1

SCOPE OF SERVICES

Scope of services of the Experts is provided by Terms of Services in the consulting service contract as attached hereunder.

Appendix A:
Description of the Services

IV. Appendices

APPENDIX A - DESCRIPTION OF THE SERVICES

Terms of Reference

1. Background

The Government of the Socialist Republic of Vietnam (GOVN) represented by Ministry of Transport (MOT) is planning to implement Expressway Development (Da Nang - Quang Ngai) Project (hereafter called the Project). Vietnamese MOT is the line agency who makes investment decision for the Project. Vietnam Expressway Corporation (VEC) is the project owner and Project Management Unit No. 85 (PMU85) is the project management consultant at project preparation and implementation phases until the works is handed over and put into operation. PMU85 is authorized by MOT to manage the implementation of Detailed Design Consulting Services Contract and is also the implementing agency who actively works with relevant authorities to solve all the issues related to the Project. The purpose of the Expressway is to improve the inter-regional transport networks to support the socio-economic development in the Central region and in the whole country and promote traffic safety.

In preparation for the Project, the GOVN commissioned a Feasibility Study (FS) in 2003 which was subsequently revised and completed in March 2008 by JETRO Consultants. In order to meet the requirements of the guidelines and loan procedure of the World Bank and other international financial donors, the FS was updated by Nippon Koei Co., Ltd., being completed in May 2009 and completed by Transport Engineering Design Incorporated (TEDI) in 2010. This updated FS is being reviewed and further refined by CPCS Transcom Limited.

The Project consists of the following three components;

(1) Component A: Civil Works
Construction of four-lane dual carriageway road (with capacity for eventual widening to six lanes) and 131 km in total length.

(2) Component B: ITS (Intelligent Transport System) Works
Provision of traffic management and toll collection facilities

(3) Component C: Expressway Operations and Maintenance
Planning an institution to operate and maintain the expressway and identifying facilities and equipment that it will need.

It is currently expected that the project will be implemented with financial support from the World Bank and the Japan International Cooperation Agency (JICA). Funds from these agencies would be used to finance separate sections of the Project. The current Terms of Reference pertain to the entire Project.

2. Objectives of the Consulting Services

The objectives of the consulting services are:

- To undertake the efficient and proper preparation of the detailed engineering design;

- To prepare an implementation program that can ensure delivery of the project in an efficient and timely manner infrastructure in accordance with the implementation program; and
- To promote technology transfer by employing suitably qualified Vietnamese professionals for the detailed design and implementation planning for the Project and by providing appropriate training for staff of the related agencies who will be at various times responsible for the Project.

3. Scope of Services

3.1 General

In executing the services, the Consultant shall follow the current relevant Guidelines and regulation/procedures of GOVN and the Bank based on the FIDIC Conditions of Contracts. The Consultant shall assist PMU85 in all aspects of the work including the review of previous studies, detailed design and tender assistance required for implementation of the Project. The scope of the consulting services broadly consists of, but not limited to, the following works:

1. Review of previous studies.
2. Detailed engineering design including cost estimation and preparation of tender documents and other supporting documentation.
3. Assistance with calling and assessing tenders for works and for contract negotiations.

Special attention is drawn to the requirement that the Consultant conduct independent bid evaluations and give the Client advice on issues related to contract negotiations for the Client's reference.

The Consultant shall perform the tasks listed below:

3.2 Review of Previous Studies and Establishing the Detailed Design Framework

The Consultant shall:

(1) Review Previous Studies

The Consultant shall review the previous studies to acquaint themselves with the evolution of the Project and its current features, and to identify matters that may materially affect the work of the current contract. Key issues will be identified for discussion and agreement with PMU85. The review shall cover, among others, the following subjects:

a. Review of horizontal and vertical alignment and proposed structures.

b. Review site-specific social and environmental impacts identified in the Environmental Impact Assessment (EIA) prepared by PMU85 and the mitigation measures proposed in the associated Environmental Management Plan (EMP).

c. Review construction phasing and management of traffic during construction.

d. Review toll operation and control facilities, operation and maintenance facilities and services, service areas, parking areas, etc.

(2) Establish Detailed Engineering Design Framework

The Consultant shall:

a. Establish design criteria and design standards to be applied for the Project.

b. Recommend and agree with PMU85 the format and content for the Bills of Quantities, cost estimates and prequalification and bidding documents.

c. Recommend and agree with PMU85/VEC the time schedule for preparation of the detailed design, the Bills of Quantities, cost estimates, prequalification documents and bidding documents to allow the tendering of works and construction for each contract package to commence immediately after the completion of necessary design and documentation work and the gaining of necessary approvals.

3.3 Detailed Engineering Design and Procurement Planning

Tasks to be undertaking by the Consultant to prepare the detailed engineering design and the planning of procurement will include:

1. Identify project packaging.
2. Conduct surveys and investigations.
3. Prepare detailed design for roads, bridges and other structures.
4. Design of intelligent transport systems and toll facilities.
5. Establish an operation and maintenance system for the project.
6. Prepare an Environmental Impact Assessment, Environmental Management Plan, Ethnic Minority Development Plan (if needed) and Resettlement Action Plan.
7. Recommend construction methods and prepare a construction schedule.
8. Prepare a cost estimate for the Project.
9. Prepare pre-qualification, tender and contract documents.
10. Prepare an implementation program.

In undertaking the detailed engineering design, the Consultant shall:

a. Use the reference documents of previous studies approved by GOVN and the World Bank as the basis for detailed design.

b. Use engineering standards approved by GOVN. Where current standards are not available or are unsuitable, the Consultants shall make recommendations for appropriate standards and gain approval from PMU85 for their use.

c. Undertake the work in a phased manner so that pre-qualification of contractors can occur for packages for which detailed design and documentation is completed while detailed design and documentation continues for other packages.

3.3.1 Packaging

The Consultant shall identify a recommended packaging for the project and get agreement with the Client before commencing detailed design. Packaging shall satisfy the following conditions:

a. Individual packages should be confined to a single province;

b. Individual package shall be financed by only a single financier;

c. The value of a package should generally be from about 70 million to 100 million.USD, i.e. neither too big nor too small.

d. During preparation of the detailed design, the Consultant shall study, initiate the solutions and design a contract package with reasonable scopes of works beforehand so that its construction can be commenced in September, 2012.

3.3.2 Surveys and Investigations

(1) Data collection

- Investigate and collect the following data for cost estimate and general cost

estimate: Production costs related to local transportation activities; depreciation regulations related to traffic vehicles; haulage tables for transportation services; charges for travel, bridges and roads, and insurance; costs for traffic accidents; inflation and exchange rate in the previous years; local unit price for calculation of general cost estimate; consult unit prices of projects under implementation in the region; investigate sources of materials and energies for construction; cooperate with local governments to identify disposal areas for soil and waste materials (including liquid waste)

- Survey for construction material transportation
- Investigate and collect planning data related to the project and work with relevant authorities: Collect planning maps of highways, railways, waterways and maritime; plan of industrial and urban zones along the route; plan of systems of hydraulic works , irrigation, canals, dykes, and pumping stations, etc; plan of underground works and system of underground and overhead lines; Plan of water supply and drainage system; plan of electricity supply and lighting; plan of communication system and other relevant plans along the route, etc (the plans must be granted with official approval of relevant authorities)
- Collect project documents and design document of the relevant projects
- Work and agree in writing with relevant authorities of Da nang city, Quang Nam and Quang Ngai provinces, 5th military zone under Ministry of Defense, EVN, VNPT, PMU of industrial zones and other relevant managing agencies about the following contents: Alignments; alternative design of interchange; scale and location of toll plazas, control center, service stations; elevation of detailed plans of urban zones and industrial zones; location, span or width, and elevation of culvert and frontage road; navigational clearance, railway clearance; documents related to hydraulic works, irrigation, water sources and sewage system for urban zones, clearance of large canals and dykes; areas within military structures, military barracks; and the other relevant documents, etc.

(2) Surveys

Implement detailed surveys served for engineering designs of all work items under the project including: surveys of topography, hydrology, geology and testing, material sources, traffic issues, electricity, land acquisition and resettlement, surveys of relevant underground and overhead structures and staking land acquisition, etc ..,and additional survey quantities (if any) during the design. The surveys must comply with current Vietnamese specifications and standards, and supply sufficient data for documentation of detail engineering designs. Before implementation of surveys, the Consultant must carry out thorough studies on existing documents and data in the previous stages (FS, JETRO). Based on the findings from the studies, the Consultant makes and submits detailed plans for PMU85's approval to implement. Scope of the work are mainly, but not limited, as follows:

(i) Topographic survey

- Class IV primary control points (national coordinate system VN2000): Installed with GPS technology, mark specification is in accordance with standard 22 TCN 263-2000. Each mark's distance is about 3-4 km along the expressway route, and at least 4 marks/ point at points of intersection and large bridges such as Ky Lam, Tam Ky.... and at least 2 marks/ point for the other interchanges and bridges. The marks along the route and at the large bridges and interchanges should be arranged reasonably to avoid overlapping.
- Class IV leveling network: Installed with highly accurate geometric leveling equipment. Marks of IV class leveling network share same positions with those of IV

class primary control points. Its errors are varied within standard 22 TCN 263-2000.

- Secondary control point (traverse net): measured with electronic tachometer which has accuracy and errors according to standard 22 TC 263-2000. Each mark's distance is about 150m-200 m/1 point along the expressway route, and at least 8 marks/ point for points of interchange and large bridges and at least 4 marks/ point for the other interchanges and bridges. The marks along the route and at the large bridges, interchanges should be arranged reasonably to avoid overlapping.
- Technical leveling network: Marks of technical leveling networks share same positions with those of secondary control point. It is measured with highly accurate geometric leveling equipment. Its accuracy and error is in line with standard 22 TCN 263-2000.
- Site planning: According to the alignment determined in FS, a site plan at scale of 1/1000 is made along the route, with measurement range in the expressway from center line to sides of 70 m and that in level crossing (traverse) from center line to sides of 50 m. The site plan is required to have full description of topography, ground objects, underground and surface structures, high voltage and low voltage lines, ground communication lines, railway signals, location of lakes and ponds, system of irrigation and canals; special ground objects, historical site, temples, pagodas, feretories, cemeteries, and administrative land boundary, etc as well as GPS marks, and secondary control points.
- Detailed stakeout works: According to the above site plan at scale of 1/1000, alignment design must comply with the specification and is agreed with relevant authorities (locality, military, etc). Based on system of secondary control points, official setting out in the field includes: top marking, marking in the curve, main stakeout in TS, TC, P, ST, CT; and detailed stake arrangement with max. distance of lower than 20m/ stake, and main stakes in the curve and in changed terrains and stakes of ground objects, culverts, control stakes, locations in planned industrial and urban zones (focusing on starting points and ending points) boundary of communes and districts, etc. Main stakes at top of curves, in TS, TC, P, ST, CT, Km, culverts, bridges, intersection, etc must be concreted according to standard 22 TCN 263-2000.
- Survey of longitudinal section at horizontal scale of 1/1000, and vertical scale of 1/100.
- Survey of cross-section at scale of 1/200. Surveying range is 70 m from center line to both sides of the expressway.
- Survey of culverts for drainage: Planimetric survey of the culverts with span (width) of more than 1.5m is at scale of 1/500 at the culverts, and axial measurement range of 100 m and horizontal one of 100 m for each side. The axial survey of dyke's center line, horizontal survey of dyke, and road crossing at all points of dyke's center line are at scale of 1/200. Surveying range includes range of planimetric survey of the culverts. Intersection angle is surveyed between road and culvert center lines. It is necessary to agree in writing with the relevant agencies on irrigation culverts.
- Survey of intersection points with the other works such as railways, high-voltage and low-voltage lines, communication lines including phone lines, electricity and lighting structures, post and communication cables and underground structures in the expressway routes consists of the following works: measurement of height of rail top at the intersection points with the existing routes; investigation of planned elevation of crossroad, if any; survey of elevation and locating alignment and electrical poles (by coordinate), survey of at least two adjacent poles, intersection angle between lines and perpendicular lines, distance from the center line to the poles, height of the poles,

clearance between the lowest lines and natural surface; and survey of kinds of poles, electricity, cables, pipeline, electric transmission grid, managing agencies.

- Survey of interchanges: Identify crossroad intersecting with designed route (coordinate, station); identify the intersection angle, width of road base, kind of pavement, existing structure, kinds of vehicle, etc in the interchanges; stake out concrete/ iron piles at centerlines, starting points, ending points, top points, and basic points in the curve; make site plan with scale of 1/500 with measurement range within designed interchange range; survey longitudinal section of interchanges and its branches with length scale of 1/1000 and height scale of 1/100; survey cross-section of interchange at scale of 1/200 and distance from centerline to each side of 50m, and survey range is equal to site plan one.
- Survey of bridge: Make elevation plan at construction place of bridge at scale of 1/500; survey profile of bridge at scale of 1/500 at center line of the expressway; stake center line of the bridge with accuracy equivalent to that of secondary control points (it is noted to collect hydrographic and hydraulic data, and the documents agreed with local authorities on plan of rivers, dykes and hydraulic works. It is necessary to survey meteorological data such as: temperature, wind, rainfall, humidity, earthquake, and figures of flow rate, velocity and water level.
- Survey of residential underpass culverts: Make plan at scale of 1/500 with distance from center line to two sides of 200m and 100m respectively along the main route; survey the intersection angle between the interchange and the main route; survey kinds of intersection (district ones, commune ones, and ward ones), scale and plans (if any). Survey profile of intersection at scale of 1/500, at distance from the expressway's centerline to each side of 200m, and survey cross section of intersection at scale of 1/200 from the intersection's centerline to each side of 30m.
- Survey of canals and dykes: Identify location and boundary of canals and dykes; set plan at scale of 1/500 in boundary of canals and dykes; survey longitudinal section of canals and dykes at scale of 1/1000, and their height at scale of 1/100; survey their cross section at scale of 1/100, at distance from their centerline to each side of 20m.
- Survey of toll plazas, control centers, service station, expressway management offices, bus station, communication stations: Establish area control points equivalent to secondary control points; survey topographic plan at scale of 1/500.
- Survey and investigation of land acquisition and resettlement.
- Survey of tunnel portals: The Consultant shall submit detailed applicable specifications (survey specifications related to tunnel have not been available in Vietnam) to the Client for approval or to authorities for approval.
- Survey of frontage roads: Frontage roads are located inside survey areas (70m from center line to both sides). Thus, there is no additional works of frontage road survey.

(ii) Survey of hydrographical data

- Collect meteorological and hydrographical data related to rainfall, wind, and temperature, humidity from meteorological stations, and flow rate and water level at hydrographical stations in rivers in the project area.
- Collect relevant documents and work with Ministry and provincial departments of agriculture and rural development to agree with bridge designs. In terms of the culverts over irrigation systems, it is necessary to work with relevant authorities and local governments to gain agreement on culvert location, width, and required elevation

from its bottom.

- Survey water level along each 1 km distance of the expressway, forming 1 water level group (each water level includes: highest one, frequent one, average one, and lowest one in 3 consecutive years; survey causes and period of flood....For drainage culverts, survey water level groups (each water level includes: highest one, frequent one, average one, and lowest one in 3 consecutive years). Survey year and causes of flood. Illustrate surveyed water level groups in the site plan.

- Survey situation of existing drainage works, irrigational system along and through the route, identify existing cross-section of canals and dykes, their top width, bottom width, depth, bottom elevation, functions, flow direction and longitudinal slope, and mark at their side.

- Survey fully existing situation of drainage, utility purposes and managing agencies of irrigation systems along and through the route.

- Hydrologic survey of bridge: Measure cross-section of flow; survey the water level in form of 3 groups at each location of bridge including: highest one, frequent one, average one, and lowest one in 3 consecutive years, causes and duration of flood.

- Hydraulic and hydrologic calculation: Based on survey data, carry out hydrologic calculation for the engineering design such as designed water level along the route, and hydraulic and hydrologic calculation of bridges and culverts (flow rate, velocity, and water level, general and local scour).

(iii) Engineering geological survey:

The Consultant is required to study thoroughly geological data in FS stage to arrange the holes drilled at stage of the engineering designs, avoiding to quantity overlapping. Requirements of geological drill are as follows:

- Engineering geological survey of normal foundation: Drill both normal foundation and culverts with two holes at the depth of 7 m per 1 km.

- Survey at special sections such as the ones which need deep excavation, embankment or soft ground ones: Drill one hole at the expressway centerline per 75 m; drill geological cross-sections with two holes for two sides and one hole at the centerline per 150 m and these cross-sections should be combined the locations of drilled culverts. Depth of borings must be enough to meet the requirements of detailed design. Carry out Vane shear test (VST) at drilled holes of the centerline at cross-section location. Distance of vane shear is 2 m to bottom of the holes..

- Engineering geological survey of bridge: Each abutment and bridge pier have one the drilled hole (location of abutment and bridge pier is identified after completion of the plan and profile of bridge's center line); the hole is 3-5 m deeper than pile foundation with the completing conditions equivalent to standard of 22 TCN 263-2000; one sample/ 2m is taken. SPT piercing in the holes is carried out with distance of 2m/ point. Test physico-mechanical properties of ground, especially in case of soft ground, test the additional parameters such as Cv, K, organic content, and compress 3 axles in form of UU and CU to provide sufficient data for soft ground treatment.

- Engineering geological survey of tunnel: The Consultant is required to submit tunnel survey specifications. In case of the survey specifications of the Consultant is approved and suit with Consultant's proposal so PMU85 will agree with the Consultant's proposal. Engineering geological survey of tunnel: Drill at least one hole at the tunnel plaza, two holes at expressway centerline and horizontal drills with at least 50m at each tunnel portals. Depth of borings must be enough to meet the requirements of detailed design. Testing 17 undisturbed soil samples/ each boring and

8 disturbed samples/each boring. Seismic measurement at 4 points at the depth of 50m and 8 points at the depth of 100m is carried out to identify strata structure. The consultant shall prepare and submit PMU85 tunnel survey specifications for their review and approval.

- Engineering geological survey of residential underpass culvert: Drill two staggered holes at each location of the residential underpass culvert, one hole at right lane of the expressway, and another at left one; Take one sample/ 2m; carry out SPT piercing in the holes with distance of 2m/ point.
- Engineering geological survey of toll plazas, control centers, service station, expressway management offices: each location has at 2- 4 holes with full depth to provide sufficient data for the design and the specific alternative shall be submitted to PMU85 before implementation.
- Sampling and testing works is carried out in accordance with the standards of 22 TCN 259-2000, 22 TCN 263-2000, 22TCN262-2000 and enough data is required to collect to serve for detailed engineering design. For the embankments on the soft ground, it necessary to test the parameters such as Cv, K, organic content, and compress 3 axles in form of UU and CU to provide sufficient data for soft ground treatment. The Consultant shall collect and store samples, especially the ones at large bridges. These samples shall be handed over to the client upon the Project completion.

(iv) Material Source Survey

This task must be ensured to collect all data of locations of material sources which meet the requirements of the Project, are practical and feasible during construction.

- Back filling materials (borrow pits) and sand for soft ground treatment: identify exploitable soil and sand quarries; work with local governments to gain agreement in writing ad then, map out them on plan at scale of 1/50,000. Collect data related to capacity and quality of each quarry; take testing sample to identify necessary parameters of back filling materials and others for soft ground treatment.
- Survey and evaluation of general situation, capacity and transportation length of the routes for exploitation and transportation to the construction site.
- Borrow pits and quarry sites for construction of bridge and culverts, pavement: For borrow pits and quarry sites which are exploited or being exploited, collect data related to their capacity and quality, exploitability, and transporting conditions to the construction site. For new borrow pits and quarry sites, carry out procedures for survey and testing necessary characteristics of each material.

(v) Survey of other relevant structures

- Survey current situations of traffic works in the area to evaluate usage capacity and level that shall be upgraded to construct service roads for construction of the expressway.
- Survey old bridges and culverts on the cross lines: Identify location, survey profile, main cross-section, and elevation of components of existing works; review construction materials; evaluate loading capacity of the works; evaluate fault degrees, suitability and utilizing capacity.
- Survey current situations of irrigation works within study area.
- Survey underground structures, public works: optical cables, underground cables, pipeline, oil and petrol pipeline, etc.
- Survey existing power supply in the route, and request for supplying capacity and

starting points. For transformer stations, request was made to identify their location, scale, capacity, specifications, and works which is supplied with power, etc. Survey additional locations of transformer stations; identify clearly locations of the station by coordinate and full description in maps including topographic, geologic and ground object data, and agreeing with the local governments in writing on these issues, etc.

- Survey cultural buildings, temples, pagodas, and relevant legal religious buildings.

(vi) Additional Traffic Surveys

- The Consultant shall review available traffic data on the existing road and conduct additional surveys as necessary to:
- Collect data needed for the detailed design of foundations, pavements, interchanges, and toll stations, etc; and
- Collect base line data that can be used for monitoring performance of the completed Project, where this data shall include the quantity and composition of traffic using the current national highway, total travel time and the variability of the travel time for, separately, cars and trucks, and the number and type of traffic accidents per annum along the current corridor. This data will be collected separately for at least the segments Danang to Tam Ky and Tam Ky to Quang Ngai.

(vii) Independent Land Valuation Survey

As part of the work on updating the Resettlement Action Plan (RAP) the consultant will engage as a sub-consultant a qualified Land Valuation Consultant (LVC). The LVC must be licensed by the Ministry of Finance to undertake land valuation in Viet Nam and be independent of all project stakeholders. As part of the updating work the LVC will undertake a survey to establish current market values for all types of land, by location and use, sufficient to confirm the budget under the updated RAP.

(viii) Environmental and Social Surveys

Undertake surveys as necessary to update the EIA and EMP.

3.3.3 Detailed Design of Road, Bridges and Other Structures

The Consultant shall:

(1) Prepare a comparative analysis to aid the selection of the most appropriate types of interchange bridge structures and other important structures taking into account the site conditions, construction method as well as economic conditions.

(2) Review the preliminary design in the previous studies taking account of the results of updated topographic survey, materials survey, geotechnical survey and soil investigation, hydrological survey and other available data.

(3) Take account of site-specific social and environmental impacts identified in the EIA prepared by PMU85/VEC and the mitigation measures proposed in the associated EMP, and any other matters identified though work described in Section 3.3.6, in the detailed engineering design. Maintain records of changes in features of the Project to facilitate updating the EIA and EMP.

(4) Prepare detailed engineering designs for roads, interchanges, bridges and other structures, soft ground treatment and pavement structure, including structural analysis, design calculation, drawings, etc. taking into account the most appropriate construction method.

(5) Prepare engineering drawing that include site plans, interchange plans, general views and structural drawings. Unless agreed, scales for drawings shall be not

less than:

a.	Plan	1:1000
b.	Elevation	1:100
c.	Cross sections	1:200
d.	Structures	1:200
e.	Other	as appropriate

(6) Calculate quantities for each item of work based on the detailed design and the agreed form and content of the bill of quantities.

(7) Undertake a road safety audit of the expressway design and revise the design, if appropriate, to address any safety issued identified in the design. A report will be prepared by an experienced Road Safety Audit Expert and submitted for review by the appropriate authority to confirm that appropriate measures have been taken to address road safety issues.

(8) The Consultant shall prepare detailed design of service areas in the alignment

(9) Using a participatory approach, identify the impact of the expressway construction on local infrastructure, which will include consideration of pedestrian and vehicle accesses, and disruption to irrigation and other agricultural or community facilities. Based on consultations with local communities prepare plans and procedures for minimizing impacts on local communities both during and after construction of expressways. To the extent possible existing accesses should be reinstated through use of over and under passes. Where an access cannot be reinstated alternative routes must be provided.

(10) The Consultant shall prepare the documents of land acquisition staking for the Project.

3.3.4 Study and Design of ITS and Toll Collection System

(1) The Consultant shall conduct an investigation into intelligent transport systems (ITS) and the toll collection system needed for the Project. The systems will include vehicle and incident detection, CCTV, information systems, data transmission, etc. The work shall draw on technical standards that it is expected will be established by the GOVN with support from JICA, and will cover:

a. Identification of potential data and information needs, traffic management issues and emergency support such as police, fire and ambulance services.

b. Conceptual design of ITS and toll collection systems.

c. Setting of design standards for each system component and configuration of each item of equipment.

d. Conceptual plan for institutional arrangements and staffing needed to manage the ITS and toll collection systems, including branch offices.

(2) Following this investigation and approval of proposals by VEC, detailed design and cost estimates shall be prepared for the following facilities:

a. Central control and operation center and branch offices.

b. Agreed vehicle and incident detection, CCTV, information systems, data transmission and other systems.

c. Toll collection facilities including toll gate equipment and its operation system.

d. Communication and other facilities needed for emergency support such as police, fire and ambulance services.

3.3.5 Expressway Operations and Maintenance

The Consultant shall review the operation and maintenance systems for existing and proposed expressway in Vietnam and recommend the most appropriate system for the Project. In doing so, the Consultant will also take account of work described in Section 3.3.4, and also the work of a separate planned investigation of legal and regulatory frameworks, policies, and institutional and administrative arrangements for expressways in Vietnam to be undertaken by the GOVN with support from the World Bank. The work to be undertaken by the Consultant shall include the following:

a. Plan a Management Unit to undertake operations and maintenance of the expressway, including goals and objectives, organization structure, and staffing needs for the proposed Unit. This work should be undertaken to a sufficient level of detail to allow work described in the next item to be undertaken.

b. Determine the buildings, facilities and equipment needed by the Unit, including its central and branch offices, submit the plans to VEC for review.

c. Following approval, prepared the detailed design and cost estimates for buildings and facilities for the Management Unit and prepared specifications and cost estimates for all equipment, vehicles, materials and supplies, including stock, that will need to be procured to allow the Unit to undertake operations and maintenance of the expressway.

3.3.6 Review and update, as necessary, an Environmental Impact Assessment (EIA), Environmental Management Plan (EMP), Ethnic Minority Development Plan (EMDP) and Resettlement Action Plan (RAP)

The Consultant shall review the EIA for the Project and submit an updated EIA and an associated EMP with recommendations for mitigation measures in response to the environmental impacts, if any. An EMDP will be prepared if needed. The Consultant shall review and update the Resettlement Action Plan (RAP) prepared by PMU85/VEC. The EIA, EMP, EMDP and RAP will be prepared in accordance with World Bank guidelines including the *Environmental Assessment Guidebook* and *Involuntary Resettlement in Development Projects: Policy Guidelines in World Bank-Financed Projects.*

A more detailed outline of activities to be undertaken with regard to the EIA and EMP is presented in Annex A. Information on the work to be undertaken in updating the RAP is given in Annex B. The work on the RAP will draw on the independent land valuation survey described in Section 3.3.2(6). The work of the Consultant on resettlement will support the relevant Resettlement Committees, which have the principal responsibility for planning and implementing resettlement activities.

Note: The EIA, EMP, EMDP (if needed) and RAP shall be translated into Vietnamese by the Consultant and submitted PMU85/VEC. In case, there is discrepancy between English version and Vietnamese one, the English version will prevail.

3.3.7 Construction Method and Schedule

The Consultant shall carry out the study of construction execution and propose the most suitable and practical construction method and schedule of the Project.

3.3.8 Cost Estimate

The Consultant shall prepare the detailed cost estimate for the construction of the Project, including:

a. Bills of Quantities for the construction works of every contract package and the whole project.

b. The cost estimate for every contract package based on a detailed unit price analysis.

c. Prepare the total cost estimate for every contract package and the whole project based on the Bills of Quantities and taking account of project management and other costs, and showing a breakdown of foreign and local currency portions.

d. Prepare annual financing schedules for every contract package and the whole project based on the construction schedule and showing total costs and a breakdown of foreign and local currently portions.

3.3.9 Pre-qualification, Bidding and Contract Documents

For sections of the Project to be funded with assistance from the World Bank, the Consultant shall prepare procurement documents in accordance with the World Bank's *Procurement Guidelines*, *Standard Pre-Qualification Documents* and *Standard Bidding Documents for Procurement of Works*. For sections to be funded with assistance from the Government of Japan, the documents will be prepared in accordance with the most recent version of the *Handbook for Procurement under ODA Loans*. These standard documents will be provided to the Consultant.

The procurement documents to be prepared by the Consultant will include those needed for pre-qualification, bidding and contracting each contract package. The documents shall be prepared and completed in a timely manner so that prequalification of packages for which design has been completed and approvals gained can be undertaken in parallel with detailed design for other packages and the bidding can be started immediately after completing the detailed design for the concerned contract package.

Pre-qualification, bidding and contract documents shall be in English. The documents shall be translated into Vietnamese by the Consultant and submitted to VEC for approval. Where there is discrepancy between the English and Vietnamese versions, the English version will prevail.

3.3.10 Preparation of Implementation Program

The Consultant shall prepare the implementation program in accordance with the final scope of works.

3.4 Procurement Assistance

The Consultant shall provide necessary technical assistance to PMU85/VEC in all aspects of the procurement process in accordance with the procurement regulations of GOVN and World Bank guidelines.

The technical assistance shall include, but not limited to, the following:

(1) Preparation of the Procurement Plan covering all major work contracts.

(2) Preparation of pre-qualification and bidding documents for each contract package.

(3) Providing necessary assistance on invitation of pre-qualification, evaluation of pre-qualification applications and preparation of pre-qualification evaluation reports for submission for review by concerned agencies including PMU85, VEC,

MOT and the World Bank.

(4) Providing necessary assistance on invitation for bids, bid opening, pre-bid conference, pre-bid site visits for the pre-qualified interested bidders, preparation of clarification answers and addendum to bidding documents, evaluation of bids, preparation of bid evaluation report in accordance with the World Bank's standard bid evaluation form and the MOT's form for submission for review by concerned agencies including PMU85,VEC, MOT and the World Bank.

(5) Assist PMU85/VEC in contract negotiation, preparation and finalization of contracts submission for review by concerned agencies including VEC, MOT and the World Bank.

3.5. The Consultant shall stake land acquisition to hand over to local authorities who undertake compensation for land acquisition and resettlement.

3.6. The Consultant shall undertake training and technology transfer for PMU85, VEC, local consultant and relevant authorities.

4. Obligations of the Consultants

The Consultants shall commit to complete well all the works stipulated in the TOR and the Contract Agreement. All members of the Consultants shall comply with Vietnamese law and regulations and World Bank requirements during the undertaking of the consulting services in Vietnam.

The Consultants shall be responsible for equipments and software required for carrying out their work.

Annex A

Updating the Environmental Impact Assessment and Management Plan for the Proposed Da Nang to Quang Ngai Expressway Project Detail Design Stage

1. **Background:** In 2008-2010, PMU85 and its environmental consultants prepared and updated the Environmental Impact Assessment (EIA) and developed the Environmental Management Plan (EMP) based on the updated Feasibility Study published in October 2010. At that time, the entire alignment was re examined and the alignment segments were selected based not only on the technical, cost and geotechnical criteria but also taking into consideration environmental and social issues. Thus the current EIA/EMP reports are based on the alignment which was selected using environmental, technical and social criteria. However, the comparison and selection of the alignment is based on the feasibility level design, with inadequate maps and design details. Also, the current review of the feasibility study and the detailed engineering design could lead to some further revisions to the features of the project that could have environmental and other consequences.

2. **Objective:** The main objectives of the proposed assignment are to: (a) confirm that the selected alignment and the corresponding mitigation measures in presented in the EA reports are based on sound engineering design carried out using appropriate scale maps and drawings; (b) confirm that the project specific environmental, social and cultural issues are properly integrated in the analysis and selection of the final alignment, design, construction and operation of the proposed Da Nang to Quang Ngai Expressway; (c) confirm that the proposed mitigation measures are appropriate, feasible, and cost effective and are incorporated in the detail design, technical specs and contract documents; and (d) update the EIA and EMP reports highlighting the changes and modifications.

3. In reviewing and updating the EA reports, the Consultant will use the latest version of the preliminary design/feasibility report and any updates to it. PMU85 will share with the Consultants the latest version of the EIA/EMP reports and World Bank comments on the EIA/EMP reports.

4. **Scope of Work:** The scope of work comprises of the following main tasks divided into two phases.

5. **Phase 1: Confirm the appropriateness of the selected alignment and the adequacy of the proposed mitigation measures**

   - Review the latest EIA/EMP reports and the World Bank comments. Review the comparison of the alternatives and the selection of the options and confirm that the preferred alternatives and the final alignment are based on the engineering design using appropriate scale maps and drawings and takes into consideration environmental and social issues.
   - Based on detail field survey carried out during detail engineering design phase, review, comment on the adequacy of impacts assessment and discuss any potential environmental impacts or issues not raised in the EIA provided.

- Review the environmental mitigation measures proposed for the design, construction and operational phases. Confirm the appropriateness and adequacy of the proposed mitigation measures and recommend supplement mitigation measures as needed.
- Prepare a brief report on the comparison and selection of the alternatives and the final alignment. The report should: (a) include evaluation of the adequacy/-shortcomings in the choice of the alignment and whether the alternatives and the alignment were evaluated and selected with adequate detail engineering design, appropriate scale topographical maps and other information; (b) include an assessment of the best way to finalize the comparative options for selecting the remaining short segments of the alignment, the adequacy of the proposed mitigation measures and how best to incorporate the mitigation measures in the EA reports, the engineering design and the contract documents; and (c) review this TOR and if necessary, propose modifications of the TOR and resources (time and manpower) allocated to remediate/modify the above deficiencies and how best to proceed with updating the final EAs.
- In undertaking this work, collection of baseline environmental and social data is not envisaged. In the event that some data collection or confirmation is necessary, the Design Consultant should discuss the issue with PMU85, VEC and the EA Consultants responsible for compiling the original EA reports to confirm the need for additional data to supplement the information already collected. Allowance should be made in the budget for collection of some additional data in case it should be necessary.

6. <u>Phase 2: Update the EA reports, Engineering Design and Contract documents</u>

- Following consensus on the revised scope of work and budget, the Design Consultant will: (a) for the alignments segments for which previous work may be considered insufficient, strengthen the analysis using detail design and appropriate scale maps and information; (b) for the short segment alignment which require comparative analysis, obtain the necessary social and environmental information to supplement the technical and cost information for an in-depth analysis and selection of the alignment; (c) for the newly selected segments of the alignment, develop mitigation measures in consultation with PMU85/VEC and the environmental and social groups; (d) for the whole alignment, confirm the appropriateness of the mitigation measures and ensure that the mitigation measures are included in the design, technical specifications and contract documents; and (e) update the EIA/EMP reports. The Design Consultant should ensure that the mitigation measures proposed to remediate the impacts are practical, feasible and cost effective and that the measures should reduce/remediate the adverse environmental impacts to acceptable levels. The proposed mitigation measures should be practical and implementable and should be costed for capital and recurrent operating and monitoring costs.
- Prepare Terms of Reference for independent environmental monitoring and supervision during construction of the Project.

7. Reporting. The Design Consultant is required to deliver interim reports to VEC and the

World Bank for review and comments. The interim schedule is as follows:

- 2 months after signing the Contract: A brief report on the appropriateness of the proposed alignment, adequacy of socio-environmental impacts assessment and the corresponding mitigation measures.
- 5 months after signing the Contract: Updated draft EIA and EMP reports
- 8 months after signing the Contract: Draft final updated EIA and EMP reports, subject to no final updated EIA and EMP reports for any individual segment being submitted no less than 2 months in advance of completion of detailed engineering design for any individual section or component of the project.

Annex B

Resettlement Study Methodology
Preparation of an Updated Resettlement Plan

Following detailed design and together with the PMU85 and VEC staff and concerned resettlement committees (RCs), the scope of work to be undertaken by the Consultant will include, but not necessarily be limited to, the following:

(1) Discuss with the PMU85 and VEC staff and implementing agencies (People's Committees and Resettlement Committees) on the cut-off-date of eligibility.

(2) Updated Census of Affected Persons (APs) and Detailed Measurement Survey: Review the AP and IOL database survey prepared during the Feasibility Study. Work with RCs to ensure an updated census is prepared, a detailed measurement survey (DMS) of all lost assets is conducted, and the AP database is finalized. The updated information in the DMS baseline survey for each AP household will include the following:

   a. Number of household members, gender of head of household, and ethnicity of family

   b. Primary and secondary sources of income and levels of income for each, and location of income source (i.e., whether on site or off site)

   c. Loss of potential work days due to loss of business by roadside shop owners or employment in roadside industries/businesses due to dislocation and/or disruption of normal economic activities

   d. Number, type and area of the houses to be affected, and whether totally affected and must relocate or partially affected and can repair on same site

   e. Number and area of all residential plots to be affected, and whether have sufficient remaining land or must relocate

   f. Number, category and area of agricultural land to be affected; area of total agricultural landholding; area of remaining unaffected agricultural landholding

   g. Quantity and types of crops and trees to be affected

   h. Businesses to be affected including structures, land and other fixed assets

   i. Quantity and category of other fixed assets affected by the Project

   j. Temporary damage to productive assets

   k. Legal status of affected land and structure assets, and duration of tenure and ownership

   l. Resettlement needs, choices/preferences for resettlement and income restoration activities

(3) Work with RCs to review the SES baseline and analysis and carry out supplementary work to improve the updated RP as necessary. If RP updating

does not occur for at least two years after SES which was undertaken during the Feasibility Study, another SES will be carried out. It will cover 20% of severely affected APs and at least 10% of all other APs, disaggregated by gender, ethnicity, and type of impact (i.e. loss of residential land and house, loss of agricultural land, loss of income from business or employment, etc.). Data to be collected should include, among others the following:

a. Household head: name, sex, age, livelihood or occupation, income, education and ethnicity

b. Household members: number, livelihood or occupation, income, school age, children and school attendance, and literacy

c. Living conditions: access to water, sanitation and energy for cooking and lighting; ownership of durable goods; and

d. Access to basic services and facilities

e. Expenditures and Poverty Levels

f. Residential history of family and of community

g. Main agricultural practices of the family and community, if an agricultural area

h. Main non-agricultural employment opportunities

(4) Ensure that an updated replacement cost is estimated for each affected commune based on the current market prices for different types of land and non-land assets including transaction costs such as administrative charges, taxes, registration. Analyze and compare results with current rates issued by the Provincial People's Committees and establish project rates. Further details of the requirements of the replacement cost survey are given below.

(5) Review and assess the consultation and disclosure program carried out during the Feasibility Study. Design and facilitate implementation of a consultation and disclosure program to ensure all key stakeholders have been identified and consulted closely on their views about the project and resettlement effects, including poor and vulnerable APs (for example, the very poor, those without formal land title, female-headed households, ethnic minority groups, isolated groups, and the elderly) who might require special assistance are identified and consulted. Review and revise, as necessary, the gender strategy. Document the consultation and disclosure activities. Attach minutes of meetings, photos, attendance sheets in the updated RP.

(6) Review and finalize the relocation strategy. Identify risks of loss of income/livelihood due to relocation, record discussions with APs in terms of final options for compensation and relocation. Review discussions held with local officials in terms of availability of replacement land, location of potential replacement land/resettlement sites (i.e., name of commune and distance from existing site) confirmed during the Feasibility Study and carry out feasibility study of the final sites identified. Confirm available resources and facilities and identify requirements to improve replacement land. Discuss land title issues and

process to acquire land with title. Identify environmental risks and arrangements for environmental management and monitoring.

(7) Where incomes must be restored, review and assess list of severely affected APs and also APs most vulnerable to risk; carry out feasibility studies for income restoration programs and prepare a good monitoring program to see how APs are able to rehabilitate themselves, if not improve their socio-economic conditions, any problems faced and how to fine tune the programs introduced to make it workable/implementable based on current conditions/feedback from APs.

(8) Review the Bank's relevant policies and guidelines and Government relevant laws and regulations. Review and revise gaps between Bank and Government policies and key strategies to reconcile differences to meet Bank's policies.

(9) Review project policies and finalize entitlements for all types and level of impacts. Finalize options for locally acceptable replacements for land and non-land assets, lost services, cultural sites, common property or access to traditional resources for subsistence, income or cultural activities.

(10) Review grievance mechanism and an appeal procedure. Finalize responsibilities, reporting requirements, and budget allocation to support the committee's functions.

(11) Review and assess institutional arrangements. Focus on staffing, capacity, and logistical arrangements. Assess trainings and capacity buildings undertaken during Feasibility Study and include skills and training required during RP updating and implementation. Update key milestones for establishing units at the central and field level.

(12) Work with RCs to establish an appropriate implementation schedule for land acquisition, compensation and resettlement and income restoration, in conjunction with the proposed implementation schedule for civil works, showing how affected people will be properly compensated and relocated before the site is required to be handed over to the contractor.

(13) Review and revise as necessary a monitoring and evaluation plan with clear reporting requirements, an updated RP budget covering all land acquisition and resettlement activities with a clear description of flow of funds.

(14) Review and assess grievance redress committees established and ensure that the responsibilities, reporting requirements, and budget allocation to support the committee's functions are in place.

(15) Prepare updated RP. Prior to submission of updated RP to the Bank for review and approval, pertinent resettlement information in the updated RP should be disclosed to APs in a form and manner understood by them. This may be in a form of an Information Brochure to be distributed to the APs. The Information Brochure should contain a brief description of the Project, the types of impacts, basic compensation policy and entitlements, implementation schedule, implementing organizations, public consultation mechanisms and grievance procedures, and timing for compensation payments and schedule for clearing

the land required for the Project.

(16) Coordinate with the independent monitoring organization. Ensure that findings and recommendations made by the IMO are discussed with PMU85 and RCs for appropriate action to ensure that resettlement updating and implementation are undertaken properly and effectively.

DETAILED TERMS OF REFERENCE FOR REPLACEMENT COST SURVEY

I. Objectives of the Assignment

Under the Replacement Cost Survey (RCS) the team shall verify and establish compensation rates for land, crops, trees, structures, and other non-land based income (e.g. fishponds) to ensure that Displaced Persons (DPs) are compensated at replacement costs.

II. Scope of Works

Approach. The establishment of replacement costs will be carried out based on information collected from both Desk research and Direct interviews with people in affected area, both those persons who are affected and those not affected. Desk research will focus on relevant publications, materials of Government authorities, both at central and local levels. However, these materials will play the supporting role only. As the work is aimed at obtaining reasonable replacement costs for different types of affected assets, market evidences are the factors which most strongly base the formulation of these costs. Direct interviews with people in the affected area, both those, whose assets are affected by the Project and those, whose assets are not, will produce reliable data for establishment.

Basis for Valuation. The basis for valuation assessment of both land and real estate should be (i) research and market investigations carried out by the RCS team, (ii) accumulated market evidence already held by the valuation organization, (iii) the results of any valuation surveys carried out by any other organization that is available and (iv) survey maps of the land to be valued and surrounding land. Valuation of land must be undertaken by a licensed Land Valuer.

Data collection. The interviews will be conducted based on a pre-developed interview guide. Sample size will be determined by the RCS team for land, structures and other fixed assets.

Structures: (a) Interviews with owners of structures (main materials they used for their current structures; type of shops where they bought construction materials; distance of transport; origin of the materials (local or overseas); costs of various materials; labor cost); and (b) interviews with construction contractors (main materials which are most used by the local people to build their structures; costs of those main materials; cost of labor; average construction cost (cost per sq.m floor) for different types of houses according to different categories; and (c) validation of provincial construction prices (cost per sq.m floor for each category). Proposed compensation rates for structures will be based on sample of houses in each class to ensure that the rates established cover the whole range of houses in that class.

Land. Price of land will be differentiated based on the use of land, including:

Residential land; Garden land; Agricultural land; Land with water surface for fishery cultivation; and Forest land.

The objective of this establishment is to determine whether the provincial prices are sufficient or not to purchase the same quality and quantity of land. The establishment of compensation for the loss of land is based on its market value. The best way to obtain this market value is to gather data of some sales of land, which have just taken place. However, the transfer of land use right does not always go along with such sales, which makes details of such sales not recorded. The team will make their best effort to collect sales evidence to support the verification of provincial prices. In addition, information to base the establishment will be collected from direct interviews with owners of land in Project affected area, including those, whose land is affected and those whose land is not. The interviews will cover the following issues: (i) recent land use rights transfer in the area and (ii) price, at which owners (affected and not affected persons) are willing to sell their land.

Apart from determining the rates for various types of land. The Land Valuer also need to determine the transaction costs involved such as administrative charges, taxes, registration and titling costs. The Land Valuer should bear in mind that when establishing replacement cost for each type of assets, transaction costs should be clearly specified and should be shouldered by the Project.

Crops and Trees. The objective of this establishment is to determine whether the provincial prices paid to DPs are equivalent, lower or higher than the average market price. The basis of the establishment is to determine the average market price for each type of crops and trees. The information to base the establishment will be collected from:

- Secondary sources: (a) publications of respective ministries (environment, agriculture, forestry and (b) publications of Price Committee (if available)
- Primary source: (a) interviews with people who own the same crops and trees in the locality. The interviews will cover price, at which owners are willing to sell each type of their crops and trees. The prices for perennial trees will be differentiated by the age of the trees and (b) market; team will investigate the sales price of outputs of different types of crops and trees in the market.

Replacement Cost = Current Market Value + Transaction Cost. Apart from determining the rates for land and non-land assets indicated above. The RCS team also needs to determine the transaction costs involved such as administrative charges, taxes, registration and building permit costs. The RCS team should bear in mind that when establishing replacement cost for each type of assets, transaction costs should be clearly specified to ensure that these expenses or costs are shouldered by the Project and should not be deducted from the compensation payment that each AP will receive. A separate section in the report should present how transaction costs are calculated.

III. Formal Outputs

Based on the activities carried out, the consultant team should (i) present the methodology used and (ii) prepare a table and discuss among the team the unit rates to be applied for the project.

IV. Working Schedule

The tasks for the Replacement Cost Survey will be a critical input to the Detailed Measurement Survey (DMS) to be undertaken to prepare the detailed Resettlement Action Plan. To ensure that the results of the Replacement Cost Survey are available to be incorporated in the DMS it is expected that this work will be undertaken between December 2011 – May 2012 with the following inputs submission schedule:

No.	Output	Hard copies		Date
		Vietnamese	English	
1	Inception report	6	6	1 month after beginning of the assignment
2	Replacement cost survey	6	6	06 month after signing of contract

V. Qualification and Experience Requirements

The team will be composed of one senior social development consultant, at least 2 resettlement consultants and a team of enumerators, statistician and encoders. A licensed Land Valuer must be engaged as part of the team to prepare land valuations that are (i) prepared using internationally accepted methodologies, (ii) reflect market values and clear transaction costs and (iii) are independent.

Each member of the RCS team will have the following minimum qualifications and experience:

(a) The consultants must hold a university degree with a minimum of Bachelor preferably with a major in social sciences;

(b) The Land Valuer must hold all required licenses and registrations to practice as a land valuer in Vietnam;

(c) The consultant must have at least 2 years working in similar field and that have experience in RCS for projects funded by WB or other international sponsors such as ADB;

(d) Preferably RCS consultants should have experience in the management of projects;

(e) Consultant must be fluent in written and spoken English.

VI. Client's Inputs

The consultant shall report to the PMU85 and VEC, who will provide, free of charge, the RAPs, and available related documents of the project.

PMU85/VEC will assist in arranging access to, and coordination with relevant departments, local authorities and organizations in the three project provinces of Da Nang, Quang Nam, and Quang Ngai.

Appendix B: Reporting Requirements

APPENDIX B - REPORTING REQUIREMENTS

The Consultant shall prepare and submit the following reports and documents in English and Vietnamese to Client:

(1) Inception Report

Within one (1) month after commencement of the services of the project, the Consultant shall submit the fifteen.(15) copies of an Inception Report for guiding all the consulting services to be undertaken by the Consultant.

(2) Review of Previous Studies and Establishing the Detailed Design Framework

Within two (2) months after commencement of the services, the Consultant shall submit fifteen (15) copies of Review and Detailed Design Framework.

(3) Monthly Progress Reports

The Consultant shall submit fifteen (15) copies of a Monthly Progress Report in the accepted form describing briefly and concisely all activities and progress in the previous month. Problems encountered or problems anticipated shall be clearly stated, together with measures taken or recommendations for their correction. It will also indicate the works to be performed during the coming month.

(4) Environmental and Social Reports

The Consultant shall submit 15 copies of the Environmental Impact Statement, Environmental Management Plan, Ethnic Minority Development Plan (if required) and Resettlement Action Plan.

(5) Land Acquisition Staking Report

The Consultant shall submit 15 copies of Land Acquisition Staking Report to PMU85.

(6) Survey Reports, Design Reports and Prequalification, Tender and Contract Documents

It is expected that the bidding process for each contract package will be started right after the completion of its detailed design and bidding documents.

Continuous detailed design for each contract package until its completion is carried out and the Consultant shall submit design reports, prequalification and tender documents for each contract package. The schedule of document submission is as follows: Within 6 months since the commencement date, the Consultant shall submit 3 sets of draft design report, prequalification and tender documents for the first three contract packages. Until the 12th month since the commencement date, the Consultant shall submit full sets of design reports, prequalification and tender documents for the whole project.

Survey reports, detailed design reports, prequalification and bidding documents prepared by the Consultant shall be submitted to PMU85 who will review the documents and arrange for review of the documents by appropriate authorities. In the review process, the Consultant shall be responsible for making clarifications of the documents to the

authorities. Based on their comments and recommendations, the Consultant shall update, revise and finalize the documents until these documents are approved by relevant authorities.

(7) Road Safety Audit

The Consultant shall submit 15 copies of a Road Safety Audit report setting out (i) issues identified during an safety audit of the expressway design, and (ii) measures taken to address the above issues.

(8) Updating the Environmental Impact Assessment and Management Plan

The Design Consultant is required to deliver interim reports to PMU85/VEC and the World Bank for review and comments. The interim schedule is as follows:

- 2 months after signing the Contract: A brief report on the appropriateness of the proposed alignment, adequacy of socio-environmental impacts assessment and the corresponding mitigation measures.
- 5 months after signing the Contract: Updated draft EIA and EMP reports
- 8 months after signing the Contract: Draft final updated EIA and EMP reports, subject to no final updated EIA and EMP reports for any individual segment being submitted no less than 2 months in advance of completion of detailed engineering design for any individual section or component of the project.

(9) The replacement cost survey

To ensure that the results of the Replacement Cost Survey are available to be incorporated in the Detailed Measurement Survey it is expected that this work will be undertaken between December 2011 – May 2012 with the following inputs submission schedule:

No.	Output	Hard copies		Date
		Vietnamese	English	
1	Inception report	6	6	1 month after beginning of the assignment
2	Replacement cost survey	6	6	06 month after signing of contract

Appendix 2

POSITION AND ASSIGNMENT PERIOD

Calender	Calender Year	2011						2012										'13	Duration
	Calender Month	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	
	Cumulative Month	-5	-4	-3	-2	-1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	
1st Priority Package (PKG3A)	Civil Engineering Design																				7
	Procurement Assistance																				10
2nd Priority Packages (PKG1, PKGA4)	Civil Engineering Design																				8
	Procurement Assistance																				10
Non-priority Packages (Other PKGs)	Civil Engineering Design																				12
	Procurement Assistance																				

No.	TOR 5.2	Position	Name	Firm	Home/ Field	2011 J -5	A -4	S -3	O -2	N -1	D 1	2012 J 2	F 3	M 4	A 5	M 6	J 7	J 8	A 9	S 10	O 11	N 12	D 13	'13 J 14	Duration
Management Team (MGT)																									
L1	1	Co-Project Manager	Doan Van Thang	NK	(Field)																				14
Civil Design Team (CID)																									
Civil Design Management (CDM)																									
L2	2	Highway Engineer 1 (Geometric)	Pham Viet Hung	NK	(Field)																				14
L3	2	Highway Engineer 2 (Road Structure)	Ha Phuoc Thuan	NK	(Field)																				14
L5	3	Bridge/Structural Engineer 1 (Superstructure)	Cat Trong Tien	NK	(Field)																				14
L6	3	Bridge/Structural Engineer 2 (Subst./Foundatio	Nguyen Van Le	NK	(Field)																				14
Section Design (SED)																									
Road Design 2 (RDD2, PKGA1-A5, WB Section)																									
L11	2	Highway Engineer 5 (Geometric)	Nguyen Vu Manh	NK	(Field)																				12
L12	2	Highway Engineer 6 (Road Structure)	Huynh Van Quang	NK	(Field)																				12
L13	3	Bridge/Structural Engineer 5	Ho Le Thai	NK	(Field)										(Outsource D/D to sub-consultants)										4
L14	3	Bridge/Structural Engineer 6	Le Thanh Tung	NK	(Field)										(Outsource D/D to sub-consultants)										4
Interchange Design (ICD)																									
L15	22	Interchange Specialist	Phan Dang Viet Anh	NK	(Field)										(Outsource D/D to sub-consultants)										3
Tunnel Design (TND)																									
L17	22	Tunnel Engineer	Nguyen Quang Toan	NK	(Field)																				4
Geotechnical Design (GTD)																									
L18	4	Soil/Geotechnical Engineer 1 (Slope)	Quach Trung Hoc	NK	(Field)																				2
L19	22	Soft Ground Treatment Specialist	Bui Xuan Hanh	NK	(Field)																				2
Drainage Design (DRD)																									
L20	22	Drainage Engineer 1	Luong Tien Hung	NK	(Field)																				7
Revetment and River Bed Protection Design (RRD)																									
L22	22	River Engineer	Nguyen Son	NK	(Field)																				3
Pavement Design (PVD) / Material Sources Survey (MLS)																									
L23	5	Pavement/Material Engineer 1	Vu Anh Tuan	NK	(Field)																				4
Topographic Survey (TPS)																									
L25	8	Senior Surveyor 1	Le Van Thu	NK	(Field)																				1.5
L26	8	Senior Surveyor 2	Dao Tran Chau	NK	(Field)																				9.5
Hydrological Survey (HDS)																									
L32	7	Hydraulic Engineer 1	Hoang Manh Dung	NK	(Field)																				2
L33	7	Hydraulic Engineer 2	Nguyen Duc Duy	NK	(Field)																				2
Traffic Survey (TRS)																									
L35	14	Transport Economist	Trinh Duc Thang	NK	(Field)																				3
O&M and ITS Team (OMI)																									
O&M (OAM)																									
L40	15	Architect 1	Nguyen Van Hoa	NK	(Field)																				3
Electrical Facility and ITS Design (EID)																									
L43	17	Communication System Engineer	Man Thanh Nam	NK	(Field)																				3
L44	13	Electrical Engineer 1	Nguyen Van Tiem	NK	(Field)																				7
Cost and Document Team (COD)																									
Cost Estimate (COS)																									
L47	16	Cost Estimator 1 (Civil Work Packages)	Le Cong Thinh	NK	(Field)																				12
L49	16	Cost Estimator 3 (Other Packages)	Dao Thi Nhu Phuong	NK	(Field)																				2
Document (DOC)																									
L50	6	Procurement/Contract Specialist 1	Nguyen The Truong	NK	(Field)																				16
Environmental Team (ENV)																									
Social and Environmental (SAE)																									
L52	9	Senior Environmental Specialist	Ngo The Hung	NK	(Field)																				8
L53	21	Environmental Specialist	Tran Tuan Anh	NK	(Field)																				8
Training (TRG)																									
L57	20	Training Specialist	Nguyen Phuoc Quy Duy	NK	(Field)																				4

No.	Position	Name	Assignment Period
L1	Co-Project Manager	Doan Van Thang	Nov 2011 - Dec 2012 (14 Months)
L2	Highway Engineer 1 (Geometric)	Pham Viet Hung	Nov 2011 - Nov 2012 (13 Months)
L3	Highway Engineer 2 (Road Structure)	Ha Phuoc Thuan	Nov 2011 - Nov 2012 (13 Months)
L5	Bridge/Structural Engineer 1 (Superstructure)	Cat Trong Tien	Oct 2011 - Oct 2012 (13 Months)
L6	Bridge/Structural Engineer 2 (Substructure/Foundation)	Nguyen Van Le	Nov 2011 - Nov 2012 (13 Months)
L11	Highway Engineer 5 (Geometric)	Nguyen Vu Manh	Dec 2011 - Nov 2012 (12 Months)
L12	Highway Engineer 6 (Road Structure)	Huynh Van Quang	Dec 2011 - Nov 2012 (12 Months)
L13	Bridge/Structural Engineer 5	Ho Le Thai	Dec 2011 - Mar 2012 (4 Months)
L14	Bridge/Structural Engineer 6	Le Thanh Tung	Dec 2011 - Mar 2012 (4 Months)
L15	Interchange Specialist	Phan Dang Viet Anh	Jan 2012 - Feb 2012 (2 Months)
L17	Tunnel Engineer	Nguyen Quang Toan	Dec 2011 - Mar 2012 (4 Months)
L18	Soil/Geotechnical Engineer 1 (Slope)	Quach Trung Hoc	Feb 2012 - Mar 2012 (2 Months)
L19	Soft Ground Treatment Specialist	Bui Xuan Hanh	Feb 2012 - Apr 2012 (3 Months)
L20	Drainage Engineer 1	Luong Tien Hung	Feb 2012 - Aug 2012 (7 Months)
L22	River Engineer	Nguyen Son	Dec 2011 - Jan 2012 (2 Months)
L23	Pavement/Material Engineer 1	Vu Anh Tuan	Feb 2012 - May 2012 (4 Months)
L25	Senior Surveyor 1	Le Van Thu	Jul 2011 - Oct 2011 (4 Months)
L26	Senior Surveyor 2	Dao Tran Chau	Sept 2011 - Feb 2012 (6 Months)
L32	Hydraulic Engineer 1	Hoang Manh Dung	Nov 2011 - Mar 2012 (5 Months)
L33	Hydraulic Engineer 2	Nguyen Duc Duy	Dec 2011 - Feb 2012 (3 Months)
L35	Transport Economist	Trinh Duc Thang	Dec 2011 - Feb 2012 (3 Months)
L40	Architect 1	Nguyen Van Hoa	Sep 2012 - Nov 2012 (3 Months)
L43	Communication & ITS Engineer	Man Thanh Nam	Sep 2012 - Nov 2012 (3 Months)
L44	Electrical Engineer 1	Nguyen Van Tiem	Apr 2012 - Oct 2012 (7 Months)
L47	Cost Estimator 1 (Civil Work Packages)	Le Cong Thinh	Dec 2011 - Oct 2012 (11 Months)
L49	Cost Estimator 3 (Other Packages)	Dao Thi Nhu Phuong	Oct 2012 - Nov 2012 (2 Months)
L50	Procurement/Contract Specialist 1	Nguyen The Truong	Sep 2011 - Aug 2012 (12 Months)
L52	Senior Environmental Specialist	Ngo The Hung	Dec 2011 - Jul 2012 (8 Months)

No.	Position	Name	Assignment Period
L53	Environmental Specialist	Tran Tuan Anh	Dec 2011 - Jul 2012 (8 Months)
L57	Training Specialist	Nguyen Phuoc Quy Duy	Dec 2011 - Mar 2012 (4 Months)

Appendix 3

COST ESTIMATE

1. REMUNERATION

Position		Name	Remuneration		
			Rate (USD/ Month)	MM	Amount
L1	Co-Project Manager	Doan Van Thang	2,000	14	28,000
L2	Highway Engineer 1 (Geometric)	Pham Viet Hung	1,800	13	23,400
L3	Highway Engineer 2 (Road Structure)	Ha Phuoc Thuan	1,300	13	16,900
L5	Bridge/Structural Engineer 1 (Superstructure)	Cat Trong Tien	1,600	13	20,800
L6	Bridge/Structural Engineer 2 (Substructure/Foundation)	Nguyen Van Le	1,300	13	16,900
L11	Highway Engineer 5 (Geometric)	Nguyen Vu Manh	1,300	12	15,600
L12	Highway Engineer 6 (Road Structure)	Huynh Van Quang	1,300	12	15,600
L13	Bridge/Structural Engineer 5	Ho Le Thai	1,300	4	5,200
L14	Bridge/Structural Engineer 6	Le Thanh Tung	1,300	4	5,200
L15	Interchange Specialist	Phan Dang Viet Anh	1,600	2	3,200
L17	Tunnel Engineer	Nguyen Quang Toan	1,600	4	6,400
L18	Soil/Geotechnical Engineer 1 (Slope)	Quach Trung Hoc	1,600	2	3,200
L19	Soft Ground Treatment Specialist	Bui Xuan Hanh	1,600	3	4,800
L20	Drainage Engineer 1	Luong Tien Hung	1,600	7	11,200
L22	River Engineer	Nguyen Son	1,600	2	3,200
L23	Pavement/Material Engineer 1	Vu Anh Tuan	1,600	4	6,400
L25	Senior Surveyor 1	Le Van Thu	1,700	6	10,200
L26	Senior Surveyor 2	Dao Tran Chau	1,300	5	6,500
L32	Hydraulic Engineer 1	Hoang Manh Dung	1,600	3	4,800
L33	Hydraulic Engineer 2	Nguyen Duc Duy	1,300	3	3,900
L35	Transport Economist	Trinh Duc Thang	1,600	3	4,800
L40	Architect 1	Nguyen Van Hoa	1,600	3	4,800
L43	Communication & ITS Engineer	Man Thanh Nam	1,600	3	4,800
L44	Electrical Engineer 1	Nguyen Van Tiem	1,600	7	11,200
L47	Cost Estimator 1 (Civil Work Packages)	Le Cong Thinh	1,600	11	17,600
L49	Cost Estimator 3 (Other Packages)	Dao Thi Nhu Phuong	1,300	2	2,600
L50	Procurement/Contract Specialist 1	Nguyen The Truong	1,600	12	19,200
L52	Senior Environmental Specialist	Ngo The Hung	1,700	8	13,600
L53	Environmental Specialist	Tran Tuan Anh	1,600	8	12,800
L57	Training Specialist	Nguyen Phuoc Quy Duy	1,600	4	6,400
Total					309,200

2. OUT OF POCKET EXPENSES

Position		Name	Perdiem + Accommodation		
			Rate (USD/Month)	MM	Amount
L1	Co-Project Manager	Doan Van Thang	750	14	10,500
L2	Highway Engineer 1 (Geometric)	Pham Viet Hung	750	13	9,750
L3	Highway Engineer 2 (Road Structure)	Ha Phuoc Thuan	750	13	9,750
L5	Bridge/Structural Engineer 1 (Superstructure)	Cat Trong Tien	750	13	9,750
L6	Bridge/Structural Engineer 2 (Substructure/Foundation)	Nguyen Van Le	750	13	9,750
L15	Interchange Specialist	Phan Dang Viet Anh	750	2	1,500
L17	Tunnel Engineer	Nguyen Quang Toan	750	4	3,000
L18	Soil/Geotechnical Engineer 1 (Slope)	Quach Trung Hoc	750	2	1,500
L19	Soft Ground Treatment Specialist	Bui Xuan Hanh	750	3	2,250
L20	Drainage Engineer 1	Luong Tien Hung	750	7	5,250
L22	River Engineer	Nguyen Son	750	2	1,500
L23	Pavement/Material Engineer 1	Vu Anh Tuan	750	4	3,000
L25	Senior Surveyor 1	Le Van Thu	750	6	4,500
L26	Senior Surveyor 2	Dao Tran Chau	750	5	3,750
L32	Hydraulic Engineer 1	Hoang Manh Dung	750	3	2,250
L33	Hydraulic Engineer 2	Nguyen Duc Duy	750	3	2,250
L35	Transport Economist	Trinh Duc Thang	750	3	2,250
L40	Architect 1	Nguyen Van Hoa	750	3	2,250
L43	Communication & ITS Engineer	Man Thanh Nam	750	3	2,250
L44	Electrical Engineer 1	Nguyen Van Tiem	750	7	5,250
L47	Cost Estimator 1 (Civil Work Packages)	Le Cong Thinh	750	11	8,250
L49	Cost Estimator 3 (Other Packages)	Dao Thi Nhu Phuong	750	2	1,500
L50	Procurement/Contract Specialist 1	Nguyen The Truong	750	12	9,000
L52	Senior Environmental Specialist	Ngo The Hung	750	8	6,000
L53	Environmental Specialist	Tran Tuan Anh	750	8	6,000
L57	Training Specialist	Nguyen Phuoc Quy Duy	750	4	3,000
				Total	126,000

3. LOCAL TRANSPORTATION

Description	Ticket	Personnel	Amount (USD)	Total
Air ticket from Hanoi to Da Nang for mobilization	One way	26	80	1,680
Air ticket from Da Nang to Hanoi for demobilization	One way	26	80	1,680

Appendix 4

MODE OF PAYMENT

A. The Company shall submit an itemized invoice for services performed by him as described below at the following timing: A sample invoice form is attached hereto.

First Payment: Upon sign-off of this contract.

Final Payment: Upon end of the completion of his assignment.

B. The above invoices shall be submitted to NK with the following particulars:

Address : General Manager
Highways and Bridges Department
Overseas Consulting Administration

Project Code : JA08O1057

C. The payment shall be made in US Dollar by way of telegraphic transfer to the account mentioned below within one (1) month from the date of the receipt of Company's invoice. The Company shall confirm in advance the reliability of transferring to this account.

Bank Name	:	Vietnam Technological and Commercial Joint stock Bank
Branch Name	:	
Swift Code	:	VTCB VNVX
Account Name	:	T.E.C CO. LTD
Account Number	:	11023921015021
Bank Address	:	70-72 Ba Trieu Str., Hoan Kiem Dist., Hanoi City
Country	:	Vietnam

D. Remittance charges shall be deducted from the amount of each payment.

(Letter Head)

No. (your ref. No.)

INVOICE

General Manager of Highways and Bridges Dept.
Overseas Consulting Administration
Nippon Koei Co., Ltd.
4 Kojimachi 5-chome
Chiyoda-ku, Tokyo 102-8539
Japan

Date: _____

Subject : DANANG -QUANG NGAI EXPRESSWAY DEVELOPMENT PROJECT
(Project Code : JA08O1057)

Period: For 2011

Payment should be made to:

Name : _____
Account No. : _____
Name of Bank : _____
Sort Code : _____

	Expenditure this Period	Expenditure to Date
1. Remuneration Name of Experts : _____ Period: d/m/y - d/m/y(days) ___/30 x ____=	_____	_____
2. Direct Cost		
_____	_____	_____
_____	_____	_____
_____	_____	_____
Total	_____	_____

*Numbers should be rounded to two decimal places and where the digit at the third decimal place is 5 or bigger, the number should be rounded up, where it is smaller than 5, the number must be rounded down.

(Signature)
Authorized Person's Name

Appendix 5

Project: JA08O1057

Company: Thang Loi

Name of Personnel:

Position:

Date	Project Location	Working Days	Brief Description of Activities	Remarks	Project code
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					
		0			

Signature of Expert

Signature of Project Manager