

4 August 2008

Supplemental Feasibility Study  
For  
Expressway Development Da Nang – Quang Ngai Project  
In  
The Socialist Republic of Vietnam

**Invitation to Bidders**  
**For**  
**Topographic Survey, Geotechnical Investigation, Hydrological Survey**

Dear Sirs,

The Government of Vietnam (GoV) has received a technical assistance from the World Bank (the Bank) towards the Supplemental Feasibility Study for Expressway Development Da Nang – Quang Ngai Project. To enable this study work to be undertaken, we, Nippon Koei Co., Ltd (NK) now invites bids from suitably qualified companies to undertake a Topographic Survey, Geotechnical Investigation and Hydrological Survey of the study area.

The Bidding Document for the Survey, includes (1) Instructions to Bidders, (2) General Conditions, (3) Specifications, (4) Form of Bid, (5) Form of Agreement, is attached to this Invitation to Bidders (ITB) .

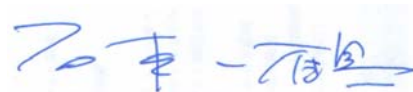
Bidders who are interested in offering shall submit their Bid Document to the following address before 17:00 hours Japanese Standard Time (JST) on 6 August 2008. Electronic submission is acceptable.

Mr. Ichizuru Ishimoto  
General Manager  
Transportation Engineering Dept., Nippon Koei Co., Ltd., Tokyo, 102-0083, Japan  
Tel: +81-3-5276-7670/ Fax: +81-3-5276-3081  
Email: ishimoto-ic@n-koei.jp

The Bid submitted by Bidders shall be opened and evaluated, and the result will be noticed within the following days.

We hope that these documents sufficiently define the work and that you have the capability to carry out the work described therein.

Yours faithfully,



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Ichizuru Ishimoto

**SUPPLEMENTAL FEASIBILITY STUDY  
FOR  
EXPRESSWAY DEVELOPMENT DANANG - QUANG NAGAI  
IN  
THE SOCIALIST REPUBLIC OF VIETNAM**

**BIDDING AND CONTRACT DOCUMENT  
FOR  
TOPOGRAPHIC SURVEY,  
GEOTECHNICAL INVESTIGATION,  
HYDRILOGICAL SURVEY**

1. INSTRUCTION TO BIDDERS
2. GENERAL CONDITION
3. SPECIFICATION
4. FORM OF BID
5. FORM OF AGREEMENT

**August 2008**

**NIPPON KOEI CO., LTD**

**TOKYO, JAPAN**

## **1. INSTRUCTION TO BIDDERS**

### **1.1 Type of Contracts**

The work shall be performed as described in the Specifications. The attached Specifications will be completed by Bidders in conformity with these instructions. There shall be no rise and fall variations allowed for escalation, inflation or any other reason.

### **1.2 Period of Contract**

The Bidders shall commence the work on the date of 15 August 2008 (tentative) and shall complete the work by the date of 15 October 2008 (tentative).

### **1.3 Insurance**

The Bidders shall obtain all insurance required by all the relevant government regulations. The Bidders will be required to indemnify Nippon Koei Co., Ltd. against all damage to property and third parties caused in undertaking the duties and against all claims whatsoever.

### **1.4 Price to be Inclusive**

The survey cost shall include all costs, insurance, transportation, subsistence and provision for all materials and equipment for the proper execution of the works. No payment will be made by Nippon Koei Co., Ltd. for additional costs incurred through break-down of or damage to any item of equipment or any delay resulting from adverse weather conditions, or taxes, pensions, insurance, medical fees, accident benefits and the like.

### **1.5 Inspection of Sites**

The Bidders shall inspect the investigation sites, shown on the location map attached in Appendix-A, and shall make his own assessment of the ease of access to the sites and difficulty of carrying out the work specified.

### **1.6 Delivery of Bid**

The Bid shall be delivered to the following address not later than 17:00 hours Japanese Standard Time (JST) on 6 August 2008.

Electronic submission is acceptable.

Mr. Ichizuru Ishimoto  
General Manager  
Transportation Engineering Dept.,  
Nippon Koei Co., Ltd.  
Tokyo, 102-0083, Japan  
Tel: +81-3-5276-7670/ Fax: +81-3-5276-3081  
Email: [ishimoto-ic@n-koei.jp](mailto:ishimoto-ic@n-koei.jp)

## 2. GENERAL CONDITIONS

### 2.1 Definitions

The following words and expressions shall have meaning assigned to them except where the context otherwise requires;

- (a) “NK” shall mean Nippon Koei Co., Ltd. , the consulting firm responsible for the implementation of the consulting services for “Supplemental Feasibility Study for Expressway Development Da Nang – Quang Ngai Project” having an address of its head office at;  
  
2, Kojimachi 4-chome,  
Chiyoda-ku, Tokyo, 102-0083, Japan
- (b) The “NK Study Team” shall mean a person or persons appointed by NK to supervise the Works at the Site and/or in other places in Vietnam where the Contract has to be carried out or is in progress or is to be carried out.
- (c) The “Engineer” shall mean a person appointed by NK.
- (d) The “Contractor” shall mean the person whose bid been accepted by NK, and the legal successors in title to such person, but not any assignee of such person.
- (e) The “Sub-Contractor” shall mean any person named in the Contract as a Sub-Contractor for a part of the Works or any person to whom a part of the Works has been subcontracted with the consent of the NK Study Team and the legal successors in title to such person, but not any assignee of any such person.
- (f) The “Contract” shall mean the agreement between NK and the Contractor, and include (1) Instructions to Bidders, (2) General Conditions, (3) Specifications, (4) Form of Bid with priced Bill of Quantities, (5) Form of Agreement annexed hereto.
- (g) The “Project” shall mean the Expressway Development Da Nang – Quang Ngai Project, approximately 130 km long, in the central Vietnam.
- (h) The “Study” shall mean the Supplemental Feasibility Study for Expressway Development Da Nang – Quang Ngai Project to be carried out by NK.

- (i) The “Site” shall mean the places of the area shown on the attached project location map in Appendix-A.
- (j) The “Works” shall mean the works to undertake a topographic survey, geotechnical investigation, hydrological survey, and all reporting for the Study to be done by the Contractor under the Contract.
- (k) The “Contract Price” shall mean the sum named in the Contract as the Contract price.
- (l) The “Prices Bill of Quantities” shall mean the price schedule included in the Form of Bid issued under the Contract.
- (m) The “Unit Price” shall mean the unit price stated in the Priced Bill of Quantities attached to the Contract.
- (n) The “Specifications” shall mean the Specification annexed or issued under the Contract.
- (o) The “Drawings” shall mean the drawings referred to in the Specifications and any modification of such figures and drawings approved in writing by the NK Study Team and such other drawings as may from time to time be furnished or approved in writing by the NK Study Team.
- (p) “Day, Week, Month, Year” shall mean calendar day, calendar week, calendar month and calendar year.
- (q) “Approval” or “Approved” shall mean approval or approved in writing by the NK Study Team.
- (r) “Writing” shall mean any manuscript, typewritten or printed statement under seal or hand. Words importing the singular only also include the plural and vice versa where the context requires. The fact that the words defined in this Clause are or are not capitalised in the Contract shall not affect their meaning.

## **2.2 Contractor to Inform Himself Fully**

The Contractor by bidding shall be deemed to have satisfied himself as to all the conditions and circumstances affecting the Contract price, and to have fixed these prices according to his own view for these as no additional allowances, except as otherwise expressly provided, will afterwards be made beyond the Contract Price. The Contractor shall be responsible for any misunderstanding or incorrect

information, whatsoever, obtained except information given in written by the NK Study Team. The contractor shall determine the presence of all services or ground facilities that may be affected by his work.

### **2.3 Effective Date of Contract and Commencement of the Works**

The Contract shall be effective on the date when the Contract has been signed by NK.

The Contractor shall commence the Works upon receipt of “Notice to Proceed” which will be issued by the NK Study Team.

### **2.4 Manner of Execution**

- 1) All the Works to be done under the Contract shall be executed in accordance with the Specifications, or where not specified therein in accordance with such instructions and orders as the NK Study Team may give.
- 2) If the Contractor shall, by written notice to the NK Study Team within seven (7) days after receiving any decision, instruction or order of the NK Study Team, intimate that he disputes or questions the decision for so doing, either party may apply Clause 2.23 Arbitration, but such an intimation shall not relieve the Contractor of his obligation to proceed with the Works in accordance with the decision, instruction, or order in respect of which the intimation has been given.

### **2.5 Information and Official Permission**

- 1) The NK Study Team shall make available to the Contractor for the purpose of performing the Works which are listed in the Specifications contained herein.
- 2) Official permission from the authorities concerned for the execution of the Works at the Site shall be arranged by the Contractor at his own expenses.

### **2.6 Contractor’s Representative and Persons**

- 1) The Contractor shall make his own arrangements for the engagement of all the engineers, technicians and labourers necessary for the execution of the Works. The Contractor shall submit to the NK Study Team for approval a complete list of principal staff showing names, functions, personal histories and periods of assignments prior to commencement of the Works.

- 2) The Contractor shall appoint one or more competent representatives from the Contractor's engineers assigned to the Works to superintend the carrying out of the Works on the Site. The names, training and experience of the Contractor's representatives shall be submitted to the NK Study Team for approval before they are appointed. The said representative, or if more than one shall be appointed, then one such representative shall be present on the site during working hours, and any orders or instructions which the NK Study Team may give to the said representative of the Contractor shall be deemed to have been given to the Contractor by the NK Study Team.
- 3) The Contractor shall be responsible for observation of all regulation and safety precautions imposed by labour legislation and authorities in Vietnam. The Contractor shall prepare a safety policy document for submission to the NK Study Team for approval prior to starting work on the site. No work will be allowed to proceed until this document has been submitted and approved. Any costs delay due to the late submission of this document will be at the Contractor's expense.
- 4) The NK Study Team shall be at liberty by notice in writing to the Contractor to object to any representative or other person employed by the Contractor in the execution of the Works who shall, in the opinion of the NK Study Team, misconduct himself of be incompetent or negligent or be sick and the Contractor shall remove such person from the Works and provide an acceptable replacement for such person at the Contractor's expense.

## **2.7 Working Days and Hours**

The Contractor shall carry out the Works on the Site continuously during the normal working hours generally recognised in Vietnam. The Contractor may, with the arrangement of the NK Study Team, carry out work at other time if it shall be practicable in the circumstances for work to be so done.

## **2.8 Materials, Equipment and Facilities to be Provided by the Contractor**

The Contractor shall, at his own expense, supply and provide all the equipment, materials, labour and other things or every kind required for the execution and completion of the Works.

## **2.9 Program to be Furnished**

- 1) The Contractor shall submit to the NK Study Team for his approval his proposed time schedule and field operation program for each section of the Works.

After approval by the NK Study Team of such time schedule and field operation program, the completion time for the Works stipulated in the same time schedule shall be considered as “Guaranteed Time for Completion of the Works”, and the Contractor shall adhere to the order of procedure method and time schedule unless he obtains the written permission of the NK Study Team to vary such order or method or time schedule.

- 2) Such time schedule and field operation program shall be supplemented by the Contractor in weekly progress reports indicating the actual state of progress of all items during the course of the Works at the Site. The form and substance of such weekly reports shall be satisfactory to the NK Study Team. The weekly progress report shall be submitted by Monday of the following week to which it applies.
- 3) In the course of the Works, when the NK Study Team calls the Contractor for a meeting, the Contractor and/or his representatives shall at any time and at his own expense attend the meeting and shall report the actual state of Works.

## **2.10 Insurance**

- 1) The Contractor shall at his expense effect accident and insurance for engineers, technicians and labourers employed by the Contractor for the execution of the Works, and shall indemnify the NK Study Team from any claim for the compensation of such accident and injury, damage to property and third parties caused in undertaking the duties and all claims whatsoever.
- 2) The Contractor shall, at his expense, insure the equipment, materials and facilities to be provided by the Contractor and keep each part thereof insured for its full value against loss, damage and fire.

## **2.11 Force Majeure**

- 1) If either party is temporarily unable by reason of force majeure or the law or regulation of to meet any of its obligation under the Agreement, and if such party gives to the other party written notice of the event within fourteen (14)

days after its occurrence, such obligations of the party, as it is unable to perform by reason of the event, shall be suspended for as long as the inability continues.

- 2) Neither party shall be liable to the other party for loss or damage sustained by such other party arising from any event referred to in Clause 2.11 1) or delay arising from such event.
- 3) The term "Force Majeure" as employed herein shall mean Act of God, strikes, lock-outs or other industrial disturbances, acts of the public enemy, wars, blockades, earthquakes, storm, lighting, floods, washouts, civil disturbances, explosion, curfews, and any other similar event, beyond the control of either party.

## **2.12 Terms of Payment**

- 1) The payment for the Works shall be made by NK to the Contractor in the following manner:
  - (a) NK shall pay to the Contractor for the Works the sum of Vietnamese Dong XXX,XXX/= (Vietnamese Dong XXX Hundred XXX XXX only). This amount shall be fixed, unless otherwise amended by writing, for the Works.
  - (b) NK shall pay to the Contractor an advance payment of the sum of Vietnamese Dong XXX,XXX/= (Vietnamese Dong XXX Hundred XXX only), equivalent to 40% of the total contract amount, within fourteen (14) days after the NK Study Team is in receipt of the Contractor's invoice.
  - (c) At 100% completion of the Works, NK shall pay to the Contractor the sum of Vietnamese Dong XXX,XXX/= (Vietnamese Dong XXX Hundred XXX only), equivalent to 60% of the total contract amount, within fourteen (14) days after the NK Study Team is in receipt of the Contractor's invoice which shall be provided upon the issuance of a Certificates of Completion of the Works.
  - (d) Payment procedure is provided in Appendix-B. Remittance charge shall be paid by the Contractor.

- 2) No extra payments in respect of overtime, holiday works, additional equipment, materials and facilities, or special conditions of hardship shall be calmed by the Contractor beyond the Contract Price, unless such payment shall have been authorised in writing by the NK Study Team prior to the extra cost concerned being encountered.
  - (a) If upon completion of the Works the actual total quantities so finalised differ from the estimated quantities set out the Contract, or if there should arise an increase or decrease in the Contract Price from any causes, then and in such a case an equitable adjustment shall be made to the Contract Price by mutual written agreement between the NK Study Team and the Contractor in accordance with the provisions of the Contract.
  - (b) Unit prices stated in the Priced BoQ shall be fixed and shall be used in determining any adjustment to the Contract Price where applicable.
  - (c) Any fluctuation in the prices of wages, materials or any other things shall not be the subject of any adjustment.

### **2.13 Taxes and Related Charges**

All the income and other taxes, levies, imposes, deductions, charges, fees and similar assessments whatsoever imposed, assessed, levied or collected by the Government of Vietnam, or any sub-divisions thereof or any taxing authority therein, upon the Contractor and his staff shall be paid and/or borne by the Contractor.

### **2.14 Variations and Omissions**

- 1) The Contractor shall not alter any of the Works except as directed in writing by the NK Study Team. The NK Study Team shall have full power, from time to time, during the execution of the Contract, to direct the Contractor to alter, amend, omit, add to or otherwise vary any of the Works, by notice in writing, and the Contractor shall carry out such variations. In case the NK Study Team asks the Contractor, on the spot, to change the areas to be investigated from the originally proposed areas, the Contractor shall at that instance obey such directions and later obtain written confirmation from the NK Study Team.
- 2) If a decrease in the Works is ordered by the NK Study Team, such orders shall not constitute any ground for claim for damage or loss of anticipated profits on the Works. All extra additional Works shall be performed with the same

materials and workmanship as employed for the Works of similar character in the original one as far as they are applicable thereto.

- 3) In any case there such a direction involves an increase or decrease in the Contract Price, the difference in cost to the Contract, if any, occasioned by such variations, shall be adjusted from the Contract Price as the case may require, unless otherwise specified. The amount of such difference shall be ascertained and determined in accordance with the unit prices specified in the Priced BoQ, so far as the same may be applicable, and where the unit prices are not contained therein, such amount shall be reasonably agreed between the NK Study Team and the Contractor in writing.

#### **2.15 Contractor's Default**

- 1) If the Contractor shall neglect to execute the Works with the diligence and expedition or shall refuse or neglect to comply with any reasonable instructions or orders given in writing by the NK Study Team in connection with the Works, or shall contravene the provisions of the Agreement, the NK Study Team may give notice in writing to the Contractor to make good the failure, neglect or contravention complained of.
- 2) Should the Contractor fail to comply with the notice within a reasonable time from the date thereof, then and in such case the NK Study Team shall be at liberty to employ other workmen and forthwith execute such part of the Works as the Contractor may have neglected to do, or, if the NK Study Team shall think fit, it shall be lawful for him, without prejudice to any other right he may have under the Contract, to make the Works wholly or in part out of the Contractor's hands and re-contract with any other person or persons to complete the Works or any part thereof.
- 3) The NK Study Team shall be entitled to retain and apply any balance which may be otherwise due by him to the Contractor, or such part hereof as may be necessary to payment of the cost of executing the said part of the Works of completing the Works as the case may be. If the cost of completing the Works or executing part thereof as aforesaid shall exceed the balance due to the Contractor, the Contractor shall pay such excess upon request writing from the NK Study Team.

## **2.16 Rejection**

If at any time before the Works are accepted by the NK Study Team, the NK Study Team shall decide that any work done by the Contractor is defective or not in accordance with the Contractor or that the Works or any portion thereof are defective or do not fulfil the requirements of the Contract, then the Contractor shall with all speed and at his own expense make good defects so specified. In case the Contractor shall fail so to do, the NK Study Team may, provided he does so without undue delay, take at the cost of Contractor, such steps as may in all the circumstances be reasonable to make good such defects.

## **2.17 Time for Completion**

- 1) The whole of the Works shall be completed with the time guaranteed by the Contractor or such extended time as may be allowed under the following paragraph.
- 2) The Contractor shall not be held responsible for failure to carry out his obligations in case of force majeure, such as embargo, blockade, war, natural disasters or any disaster or any circumstances beyond his reasonable control.

The Contractor shall notify the NK Study Team in writing within seven (7) days of the commencement of force majeure conditions. Depending on the production of satisfactory evidence and if the existence of force majeure conditions is accepted by the NK Study Team, the NK Study Team will grant extension of the Guaranteed Time for Completion of the Works sufficient to compensate for delay due to force majeure without penalty.

## **2.18 Delay in Completion**

If the Contractor fails to complete the Works in accordance with the Contract within the time fixed by the Contract, there shall be deducted from the Contract Price as and for liquidated and ascertained damages a sum of money equal to half (1/2) percent of the Contract Price for each day between the Guaranteed Time for Completion of the Works and the actual date of completion but the amount so deducted shall not in any case exceed five percent (5%) of the Contract Price. Such deduction shall be in full satisfaction of the Contractors liability for the said failure. The NK Study Team may request the Contractor to employ additional labour or use additional equipment and materials and the Contractor will do so at his expense in case a delay in the completion of the works has to be expected.

## **2.19 Suspension of the Works**

The Contractor shall, on the written order of the NK Study Team, suspend the progress of the Works or any part thereof for time or times and in such manner as the NK Study Team may consider necessary and shall be doing such suspension properly protect and secure the works so far as is necessary in the opinion of the NK Study Team. All expenses incurred by the Contractor by reason of the suspension of the Works by the NK Study Team will be at the sole responsibility of the Contractor if the suspension is:

- (a) Otherwise provided for in the Contract, or
- (b) Necessary for the proper execution of the works or by reason of whether conditions affecting the safety or the quality of the Works or by some defaults on the part of the Contractor, or
- (c) Necessary for the safety of the Works or any part thereof.

## **2.20 Certificate of Completion of the Works**

As soon as in the opinion of the NK Study Team, the whole of the Works shall have been satisfactory completed, the NK Study Team shall issue a Certificate of Completion of Works after receiving a written application thereof. Upon issuance of such Certificate of Completion of Works, the Contractor shall cease to be under further obligation under the Contract.

Such Certificate can be issued separately for the Topographic Survey, Geotechnical Investigation, and Hydrological Survey. When whole the Work completed, a Certificate of Completion of Works shall be issued to terminate the Contract.

## **2.21 Bankruptcy**

If the Contractor shall become bankrupt or insolvent or have a receiving order made against him, or compound with his creditors, or being a corporation, commence to be wound up, not being a member's voluntary winding up for the purpose of amalgamation or reconstruction, or carry out its business under a receiver for the benefit or its creditors or any of them, NK shall be at liberty:

- 1) To terminate the Contract forthwith by notice in writing to the Contractor or to the receiver, or liquidator, or to any person in whom the Contract may become vested, and to act in the manner provided in Clause 2.15 of the

Contractor's Default, as though the last mentioned notice has been the notice referred to in such Clause and the Works has been taken out of the Contractor's hand, or

- 2) To give such receiver, liquidator or other person the opinion of carrying out the Contract subject to his providing a guarantee for the due and faithful performance of the Contract up to an amount to be agreed.

## **2.22 Assignment and Sublet the Contract**

The Contractor shall not, without the prior consent in writing of the NK Study Team, assign or transfer the Works or the benefits or obligations thereof or any part thereof to any other persons. The Contractor shall not, without the prior consent in writing of the NK Study Team, which shall not be unreasonably withheld, sublet the Contract or any part thereof or make any sub-contract with any person or persons.

Any such consent if given shall not relieve the Contractor from his obligations under the Contract. The Sub-Contractor shall be regarded as employee of the Contractor. The Contractor shall be solely responsible for the performance of the Sub-Contractor and for all payments to the Sub-Contractor.

## **2.23 Arbitration**

- (a) If any dispute or difference of any kind whatsoever shall arise between NK and the Contractor in connection with the interpretation or application of the Contract, it shall be settled as much as possible by amicable arrangement between both parties. If such arrangement cannot be realised, the dispute of difference shall be settled by arbitration as provided herein.
- (b) All questions, disputes or differences arising out of or in relation to the interpretation of the Contract which cannot be settled by manual accord shall be submitted to a committee for arbitration consisting of three arbitrators, one to be nominated by NK, another by the Contractor and the third as chairman by the two mentioned arbitrators above, and shall be finally settled in conformity to the rules and procedures of Conciliation and Arbitration of the International Chamber of Commerce. Such arbitration shall be held at such place and time as the arbitrators may decide. Any decision, opinion, direction, certificate or valuation given by the arbitrators shall be obeyed by both parties and be final.

## **2.24 Notice and Correspondence**

Any notice to be given to the Contractor shall be served by sending the same by post, facsimile, email, or leaving the same at the Contractor's principal place of business, or to the address of his representative at the Site. Any notice to be given to the NK Study Team shall be served by sending the same by post, facsimile, email, or leaving the temporary site office of the NK Study Team in Danang, or to NK address as stated in the Contract.

## **2.25 Documents**

- 1) All the correspondences, figures, drawings and other documents shall be made in the English language.
- 2) The several documents have to be taken as mutually explanatory of one another, but in case of ambiguities or discrepancies the same shall be adjusted in accordance with the provisions of Clause 2.23 thereof.

## **2.26 Inspection of Work**

The NK Study Team shall, at all times, have access to the Works wherever it is in preparation or progress and the Contractor shall provide necessary facilities for such access and for inspection. Where the specifications require any work to be specially tested or approved, the Contractor shall give the NK Study Team timely notice of his readiness for inspection and, if the inspection is by an authority other than the NK Study Team, of the date fixed for such inspection.

**SUPPLEMENTAL FEASIBILITY STUDY  
FOR  
EXPRESSWAY DEVELOPMENT DANANG - QUANG NAGAI  
IN  
THE SOCIALIST REPUBLIC OF VIETNAM**

**SPECIFICATIONS  
FOR  
TOPOGRAPHIC SURVEY**

**August 2008**

**NIPPON KOEI CO., LTD**

**TOKYO, JAPAN**

### **3. SPECIFICATIONS FOR TOPOGRAPHIC SURVEY**

#### **3.1 General**

This specifications stipulates the requirements for the topographic survey (the Works) for the Supplemental Feasibility Study for Expressway Development Da Nang – Quang Ngai Project in Vietnam (the Study). The Work is to be performed by a local contractor under the supervision of the NK Study Team.

#### **3.2 Purpose of the Works**

The purpose of the Works is to obtain accurate elevation data along the centrelines of both the mainline and the linking roads for the Study, and further to provide a report together with drawings required. The Study areas are starting the south edge of Danang Bypass on National Highway No.14B in Danang city, then passing through Quang Nam province, and ending near the Provincial Road No. 625 in Quang Ngai province.

#### **3.3 Work Policy**

All the works shall be carried out in accordance with the Specifications or the instructions the NK Study Team may give.

#### **3.4 Scope of Works**

The work items in this survey are as follows:

- 1) Control point survey if required,
- 2) Centreline survey,
- 3) Longitudinal survey, and
- 4) River cross-sectional survey.

The work covered by the Specifications includes furnishing all technical staff, labours, materials, equipment and supplies required to perform the topographic survey for the Study.

##### **3.4.1 Coordinates and Elevation**

Coordinates and elevation shall be in accordance with the National Coordinate System; VN-2000.

### 3.4.2 Survey Centreline

Centreline for survey work is provided in Appendix-T1 for the mainline and Appendix-T2 for the linking roads.

### 3.4.3 Unit of Measurement

The metric system shall be the unit of measurement to be adopted for the works.

### 3.4.4 Control Point Survey

Control point survey could be carried out by the Contractor if it is required by the other survey works, by the Contractor's own expense.

For your reference, the coordinates of the GPS points used in TEDI F/S in 2005 is attached in Appendix-T3.

### 3.4.5 Centreline Survey

Centreline survey shall be carried out in accordance with Appendix-T1 for the mainline and Appendix-T2 for linking roads.

Wooden piles shall be set at an interval of 100m along the centre line, as well as in the beginning and end of curves (e.g., clothoid), points of intersection, etc.

Accuracy of the centre points shall be less than 1/2,000 of the observed distance.

List of the linking roads is shown in table below:

**Table-1 List of Linking Roads**

No.	Station (KM)	Linking Rd	Survey Length (km)
1	20+700	TL610	11.0
2	41+200	NH14E	5.4
3	63+800	TL616	7.8
4	86+300	TL617	3.3
5	125+000	TL623	6.4
6	129+000	TL625	6.8
Total			40.7

### 3.4.6 Longitudinal Profile Survey

Longitudinal profile survey shall be conducted by direct levelling, to measure the height of the centreline piles and the ground they are established upon. These piles are set up at an interval of 100 m or at the beginning and end of curves, e.g. clothoid, and at areas in rivers and canals where a shift in ground level occurs.

Levelling accuracy shall be set within  $5 \text{ cm}\sqrt{s}$  ( $s = \text{km}$ ). The longitudinal profile chart shall be prepared in scale of  $V = 1/500$ ,  $H = 1/5,000$ .

### 3.4.7 River Cross-sectional Survey

The river cross-sectional survey is carried out to measure shifts in ground elevation in rivers.

Levelling accuracy shall be set within  $5 \text{ cm}\sqrt{s}$  ( $s = \text{km}$ ). The cross-sectional chart shall be prepared in scale of  $V = 1/200$ ,  $H = 1/200$ , to cover 100m from the both edges of river banks.

**Table-2 List of Rivers for Cross-section Survey**

No.	River Name	River Section Survey		
		BP	EP	Distance (m)
1		001+400	001+700	300
2		010+900	011+200	300
3		039+500	039+700	200
4		058+000	058+300	300
5	Tam Ky	067+900	068+200	300
6	Tra Bong	109+300	109+800	500
7	Tra Khuc	125+650	126+600	950
Total				2,850

### 3.5 Work Schedule

The Contractor shall complete the Works and submit the final report to the Engineer within two (2) months from the date when Notice to Proceed has been issued.

The Contractor shall submit his detailed work programme and schedule to the Engineer for approval prior to the start of the Works. Approved programme and schedule shall be monitored and kept by the Contractor

throughout the Works. All revisions shall be accompanied by a detailed explanation of the reasons for changes, which shall be subject to the approval by the Engineer.

### **3.6 Language**

Every product of the Works shall be written in English.

### **3.7 Products to be Submitted**

#### **3.7.1 Work Programme**

The Contractor shall submit his detailed Work Programme and Schedule to the NK Study Team for approval prior to the start of the Work. All revisions of the Programme shall be submitted with explanation of the reasons for changes, which shall be subject to the approval by the NK Study Team.

#### **3.7.2 Weekly Progress Report**

The Contractor shall submit the Weekly Progress Report, on Monday of each week, two (2) copies of the written report in a form approved by the NK Study Team on the progress of the work during the preceding week. The report shall show the percentage of each work item completed during the week and the total percentage of the completion as of the date of the report. The report shall include the following descriptions.

- 1) progress of the work,
- 2) number and classification of technical staff and labour engaged in the work on daily basis,
- 3) equipment and apparatus used for the survey works,
- 4) findings,
- 5) accidents, and
- 6) other data which may be necessary to show the work progress.

#### **3.7.3 Final Products**

The Contractor shall submit the final products to the NK Study Team within two (2) months after issuance of Notice to Proceed.

The final products shall include the report, drawings and the electronic files,

data sheets, and photographs.

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

The final products shall consist of one hard copy set of original texts, data sheets, drawings and electronic data, two (2) hard copies of the complete report with the drawings.

For the electronic files submission, the drawings shall be in AutoCAD format, the report shall be in MS-Word format, and the data sheets shall be in MS-Word or MS-Excel format, and image files in JPG format.

The forms and data sheets used in the final report shall be approved by the NK Study Team prior to the preparation of the final report.

The drawings shall include the followings:

1) Longitudinal profile chart

Scale of V = 1/500, H = 1/5,000, covering mainline and linking roads.

2) River cross-sectional chart

Scale of V = 1/200, H = 1/200, covering rivers listed in Table-2 above.

The draft final report of two (2) sets shall be submitted to the NK Study Team for his review and comments, a half month before the submission of the final report.

Prior to the submission of the final products of the Works, some copies of the survey results shall be submitted to the NK Study Team for the comments and instruction.

The copyright of the report including the data sheets, drawings and photographs shall belong to the NK Study Team.

### **3.8 Land Preparation**

The Contractor shall arrange at his own expense so that he may have free access to the land required for performing the Works, whether it may be under the ownership of the Government or the third parties. The Contractor shall indemnify any damages to the land and associated properties.

### **3.9 Preservation of Existing Vegetation**

The Contractor shall preserve and protect all existing vegetation such as trees, vegetables, shrubs, and grasses on or adjacent to the Site which do not unreasonably interfere with the execution of the Works.

The Contractor shall be responsible for all unauthorised cutting or damaging of trees, vegetables, and shrubs, including damage due to careless survey operation.

**SUPPLEMENTAL FEASIBILITY STUDY  
FOR  
EXPRESSWAY DEVELOPMENT DANANG - QUANG NAGAI  
IN  
THE SOCIALIST REPUBLIC OF VIETNAM**

**SPECIFICATIONS  
FOR  
GEOTECHNICAL INVESTIGATION**

**August 2008**

**NIPPON KOEI CO., LTD**

**TOKYO, JAPAN**

## **4. SPECIFICATIONS FOR GEOTECHNICAL INVESTIGATION**

### **4.1 General**

This Specifications stipulates the requirements for the geotechnical investigation (the Works) for the Supplemental Feasibility Study for Expressway Development Da Nang - Quang Ngai Project in Vietnam (the Study). The Work is to be performed by a local contractor under the supervision of the NK Study Team.

### **4.2 Purpose of the Works**

The purpose of the Works is to obtain geotechnical information at the bridges on the revised alignment of the mainline for the Study, and further to provide a report together with boring log required. The Study areas are starting the south edge of Danang Bypass on National Highway No.14B in Danang city, then passing through Quang Nam province, and ending near the Provincial Road No. 625 in Quang Ngai province.

### **4.3 Work Policy**

All the works shall be carried out in accordance with the Specifications or the instructions the NK Study Team may give.

### **4.4 Scope of Works**

The work items in this investigation are as follows:

- 1) Mechanical boring on land
- 2) Standard penetration test (SPT)

The work covered by the Specifications includes furnishing all technical staff, labours, materials, equipment and supplies required to perform the topographic survey for the Study.

#### **4.4.1 Unit of Measurement**

The metric system shall be the unit of measurement to be adopted for the works.

#### **4.4.2 Classification**

The terms "rock" and "soil" are hereby defined when used for the purpose of

classifying drilled materials for payment under the Item "Machine Boring" in the Bill of Quantities.

Rock: Rock shall mean all in-place igneous and sedimentary rock and their metamorphosed products such as schist and quartzite in whatever degree of weathering. A boulder larger than one meter in diameter to be cored like in-place rocks will be classified into rock.

Soil: Soil shall mean all materials except rock as defined above. Soil shall include, but not necessarily be limited to, all geological recent material overlying bedrock such as alluvium, talus and top soil. Unconsolidated recent pyroclastic products such as deposits of volcanic ash, pumice and scoria shall be considered as soil.

#### 4.5 Confirmation of the Sites

Eleven (11) investigations will be carried out. 375 m of soil boring is assumed.

**Table-1 List of Rivers for Geotechnical Investigation**

No.	River Name	Boring			Assumed Depth (m)
		(1)	(2)	(3)	
1		001+620			30
2		011+100			30
3		039+640			30
4		058+140			30
5	Tam Ky	068+010			30
6	Tra Bong	109+410	109+560	109+730	45
7	Tra Khuc	125+790	126+110	126+530	30

The Contractor shall confirm the investigation site and drilling positions before commencement of the Work in the presence of the Engineer.

The ground elevation, NE coordinate of the bore hole position shall be measured by the Contractor.

#### 4.6 Machine Boring

##### 4.6.1 Depth of Drilling

The depth of boring perforation will vary at each location but average depth is assumed as 30 m except the Tra Bong River. 45 m is assumed for the Tra Bong River. No additional payment shall be made to any variation of the work quantities, unless otherwise mutually agreed and confirmed in writing

by the NK Study Team and the Contractor.

If the N-value obtained during Standard Penetration Tests reaches 30 values in any location, boring shall be continued for a further depth of 3 m and then terminated in that depth.

If the N-value exceeds 50, the boring will be continued for a further depth of 2 m and then terminated in that depth.

When the boring ends, the Contractor shall measure the penetration depth by the boring rod, and shall take photographs of the rod at each boring location.

#### **4.6.2 Boring Machine**

- 1) Boring machine of rotary type shall be used.
- 2) Diameter of boring hole shall be more than 56mm for execution of the Standard Penetration Test (SPT).
- 3) Scaffold shall be used to maintain working space and shall be of sufficient durability to execute the Works.

#### **4.6.3 Boring Method**

In principle, the Contractor shall execute the boring without water until the ground water level, and in case of perforation of rock stratum, shall request the instruction from the Engineer.

#### **4.6.4 Ground Water Level Measurement**

The Contractor shall measure the ground water level after the boring.

#### **4.6.5 Drill Log Preparation**

Drill logs shall be prepared for each hole by the Contractor. The drill log shall contain, but not limited to the following items;

- Notes on the hole: name of the site and hole, coordinates, ground height, etc.,
- Operational records: drilling date, hole depth and diameter, model of drill rig, kinds of bit, colour of return water, water loss, water spring, drilling speed, etc.,

- Geological description: type of soil, type of rock, conditions of weathering, fracturing and discontinuities, and all other geological and geotechnical information obtained by careful observation,
- Personal names of the geologist who prepared the drill log and of in charge of the drilling operation,
- Other records, etc.

#### **4.7 Standard Penetration Test (SPT)**

The Standard Penetration Test (SPT) shall be executed in accordance with ASTM specification (D 1586). When the SPTs are executed and the samples are extracted, the bottom of the well should be cleaned and slime shall be removed. The test shall be executed for each depth of 1.0m from the ground surface.

#### **4.8 Daily Report of the Works**

During investigation, the Contractor shall provide the Engineer with a daily report of the Works. The daily report shall contain the result of stratum situation observation, Standard Penetration Tests, condition of samples penetration speed and such characteristics as color and slime.

#### **4.9 Work Schedule**

The Contractor shall complete the Works and submit the final report to the Engineer within two (2) months from the date when Notice to Proceed has been issued.

The Contractor shall submit his detailed work programme and schedule to the Engineer for approval prior to the start of the Works. Approved programme and schedule shall be monitored and kept by the Contractor throughout the Works. All revisions shall be accompanied by a detailed explanation of the reasons for changes, which shall be subject to the approval by the Engineer.

#### **4.10 Language**

Every product of the Works shall be written in English.

## **4.11 Products to be Submitted**

### **4.12.1 Work Programme**

The Contractor shall submit his detailed Work Programme and Schedule to the NK Study Team for approval prior to the start of the Work. All revisions of the Programme shall be submitted with explanation of the reasons for changes, which shall be subject to the approval by the NK Study Team.

### **4.12.2 Weekly Progress Report**

The Contractor shall submit the Weekly Progress Report, on Monday of each week, two (2) copies of the written report in a form approved by the NK Study Team on the progress of the work during the preceding week. The report shall show the percentage of each work item completed during the week and the total percentage of the completion as of the date of the report. The report shall include the following descriptions.

- 1) Progress of the work,
- 2) Number and classification of technical staff and labour engaged in the work on daily basis,
- 3) Equipment and apparatus used for the survey works,
- 4) Findings,
- 5) Accidents, and
- 6) Other data which may be necessary to show the work progress.

### **4.12.3 Final Products**

The Contractor shall submit the final products to the NK Study Team within two (2) months after issuance of Notice to Proceed.

The final products shall include the report, including the drill logs and SPT results and the electronic files, data sheets, and photographs.

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

The final products shall consist of one hard copy set of original texts, data sheets, drawings and electronic data, two (2) hard copies of the complete report with the drawings.

For the electronic files submission, the drawings shall be in AutoCAD format, the report shall be in MS-Word format, and the data sheets shall be in MS-Word or MS-Excel format, and image files in JPG format.

The forms and data sheets used in the final report shall be approved by the NK Study Team prior to the preparation of the final report.

The draft final report of two (2) sets shall be submitted to the NK Study Team for his review and comments, a half month before the submission of the final report.

Prior to the submission of the final products of the Works, some copies of the survey results shall be submitted to the NK Study Team for the comments and instruction.

The copyright of the report including the data sheets, drawings and photographs shall belong to the NK Study Team.

#### **4.13 Land Preparation**

The Contractor shall arrange at his own expense so that he may have free access to the land required for performing the Works, whether it may be under the ownership of the Government or the third parties. The Contractor shall indemnify any damages to the land and associated properties.

#### **4.14 Preservation of Existing Vegetation**

The Contractor shall preserve and protect all existing vegetation such as trees, vegetables, shrubs, and grasses on or adjacent to the Site which do not unreasonably interfere with the execution of the Works.

The Contractor shall be responsible for all unauthorised cutting or damaging of trees, vegetables, and shrubs, including damage due to careless investigation operation.

**SUPPLEMENTAL FEASIBILITY STUDY  
FOR  
EXPRESSWAY DEVELOPMENT DANANG - QUANG NAGAI  
IN  
THE SOCIALIST REPUBLIC OF VIETNAM**

**SPECIFICATIONS  
FOR  
HYDOROLOGICAL SURVEY**

**August 2008**

**NIPPON KOEI CO., LTD**

**TOKYO, JAPAN**

## **5. SPECIFICATIONS FOR HYDROLOGICAL SURVEY**

### **5.1 General**

This Specifications stipulates the requirements for the hydrological survey (the Works) for the Supplemental Feasibility Study for Expressway Development Da Nang – Quang Ngai Project in Vietnam (the Study). The Works is to be performed by a local contractor under the supervision of NK Study Team.

### **5.2 Purpose of the Works**

The purpose of the Works is to obtain hydrological data, especially for flood record in the past, along the centreline of the mainline for the Study. The Study areas are starting the south edge of Danang Bypass on National Highway No.14B in Danang city, then passing through Quang Nam province, and ending near the Provincial Road No. 625 in Quang Ngai province.

### **5.3 Work Policy**

All the works shall be carried out in accordance with the Specifications or the instructions the NK Study Team may give.

### **5.4 Scope of Works**

The work items in this survey are as follows:

- 1) Survey of flood record along the centreline of the mainline.

The Works covered by the Specifications includes furnishing all technical staff, labours, materials, equipment and supplies required to perform the hydrological survey for the Study.

#### **5.4.1 Survey of Flood Record along the Centreline of the Mainline.**

Survey the previous flood record for the identified flood areas along the centreline of the mainline at 500 m interval. The maximum flood level ever experienced shall be identified by the flood marks which may remains on the surface of trees, rocks, walls, fences, or electric poles, and hearing from the residents in the concerned area.

Observed marks shall be measured the elevation and the station of the survey centreline.

**Table-1 List of Flood Areas**

No.	Station (KM)	Survey Length (km)
1	KM0 - KM20	20
2	KM65 - KM77	12
3	KM101 - KM111	10
4	KM124 - KM129	5
Total		47

## **5.5 Work Schedule**

The Contractor shall complete the Works and submit the final report to the Engineer within two (2) months from the date when Notice to Proceed has been issued.

The Contractor shall submit his detailed work programme and schedule to the Engineer for approval prior to the start of the Works. Approved programme and schedule shall be monitored and kept by the Contractor throughout the Works. All revisions shall be accompanied by a detailed explanation of the reasons for changes, which shall be subject to the approval by the Engineer.

## **5.6 Language**

Every products of the Works shall be written in English.

## **5.7 Products to be Submitted**

### **5.7.1 Progress Report**

The Contractor shall submit, on Monday of each week, two (2) copies of the written report in a form approved by the Engineer on the progress of the work during the preceding week. The report shall show the percentage of each work item completed during the week and the total percentage of the completion as of the date of the report. The report shall include the following descriptions.

- 1) Progress of the work,
- 2) Findings,

- 2) Findings,
- 3) Accidents, and
- 4) Other data which may be necessary to show the work progress.

### **5.7.2 Final Products**

The Contractor shall submit the final products to the Engineer within two (2) months after issuance of Notice to Proceed. The final products shall include the report, data sheets and photographs. The report shall describe the survey method adopted, equipment used, work schedule, difficulties encountered and its solutions, the observed and/or identified flood marks, etc. The final products shall consist of one set of original texts, data sheets and photos, and two (2) copies of the original.

For the electronic files submission, the drawings shall be in AutoCAD format, the report shall be in MS-Word format, and the data sheets shall be in MS-Word or MS-Excel format, and image files in JPG format.

The draft final report of two (2) sets shall be submitted to the Engineer for his review and comments, a half month before the submission of the final report.

### **5.8 Land Preparation**

The Contractor shall arrange at his own expense so that he may have free access to the land required for performing the Works, whether it may be under the ownership of the Government or the third parties.

### **5.9 Preservation of Existing Vegetation**

The Contractor shall preserve and protect all existing vegetation such as trees, vegetables, shrubs, and grasses on or adjacent to the Site which do not unreasonably interfere with the execution of the Works.

The Contractor shall be responsible for all unauthorised cutting or damaging of trees, vegetables, and shrubs, including damage due to careless survey operation.

## 6. FORM OF BID

### 6.1 FORM OF BID

Name of Contract : The Topographic Survey, Geotechnical Investigation and Hydrological Survey for the Supplemental Feasibility Study for Expressway Development Da Nang – Quang Ngai Project in Vietnam

From :  
To : Mr. Ichizuru Ishimoto  
General Manager  
Transportation Engineering Dept., Nippon Koei Co., Ltd.,  
Tokyo, 102-0083, Japan  
Tel: +81-3-5276-7670/ Fax: +81-3-5276-3081

Dear Sir,

I/We, the undersigned, have carefully examined and understood the Bidding Documents of the above-named Works. I/We hereby offer to execute and complete such Works as described in the Bill of Quantities in conformity with the Condition of Contract, Specifications, Bill of Quantities and Addenda, if any.

1) The sum for the carrying out of the topographic survey.

Vietnamese Dong \_\_\_\_\_ only  
(in figure)

Vietnamese Dong \_\_\_\_\_  
\_\_\_\_\_ only  
(in words)

2) The sum for the carrying out of the geotechnical investigation.

Vietnamese Dong \_\_\_\_\_ only  
(in figure)

Vietnamese Dong \_\_\_\_\_  
\_\_\_\_\_ only  
(in words)

3) The sum for the carrying out of the hydrological survey.

Vietnamese Dong \_\_\_\_\_ only  
(in figure)

Vietnamese Dong \_\_\_\_\_  
\_\_\_\_\_  
(in words) only

- 4) The sum for the carrying out of all the above, topographic survey, geotechnical investigation and hydrological survey.

Vietnamese Dong \_\_\_\_\_ only  
(in figure)

Vietnamese Dong \_\_\_\_\_  
\_\_\_\_\_  
(in words) only

- 5) In the event our proposal is accepted, we undertake to commence the Works as soon as is reasonably possible after the receipt of the NK's Notice to Proceed, and to complete the whole of the Works comprised in the Contract within the time stated in the Bidding Documents.

- 6) This Bid is valid for the period of thirty (30) calendar days from the date fixed for receiving the same, and it shall remain binding upon us and may be accepted at any time before the expiration of that period.

- 7) Unless and until a formal Agreement is prepared and executed this Bid, together with your written acceptance thereof, shall constitute a binding Contract between us.

- 8) I/We understand that you are not bound to accept the lowest or any bid you may receive.

Signed this \_\_\_\_\_ day of \_\_\_\_\_ 2008

Signature \_\_\_\_\_

Name of Representative \_\_\_\_\_

Title of Representative \_\_\_\_\_

Name of the Firm \_\_\_\_\_

## 6.2 BILL OF QUANTITIES

Item No.	Description	Unit	Quantity	Local currency (VND) Unit Price	Local currency (VND) Amount
<b>1.</b>	<b>Topographic Survey</b>				
1.1	Mobilization & Demobilization	LS	1		
1.2	Control point survey	LS	1	---	---
1.3	Centreline survey				
(a)	Mainline	km	130		
(b)	Linking Roads	km	38.6		
1.4	Longitudinal survey (1), Mainline	km	127.15		
1.4	Longitudinal survey (2), Linking Roads		(40.7)		
(a)	TL610 (KM20+700)	km	11.0		
(b)	NH14E (KM41+200)	km	5.4		
(c)	TL616 (KM63+800)	km	7.8		
(d)	TL617 (KM86+300)	km	3.3		
(e)	TL623 (KM125+000)	km	6.4		
(f)	TL625 (KM139+000)	km	6.8		
1.6	River cross-sectional survey		(2,850)		
(a)	KM001+400 - KM001+700	m	300		
(b)	KM010+900 - KM011+200	m	300		
(c)	KM039+500 - KM039+700	m	200		
(d)	KM058+000 - KM058+300	m	300		
(e)	KM067+900 - KM068+200	m	300		
(f)	KM109+300 - KM109+800	m	500		
(g)	KM125+650 - KM126+600	m	950		
1.7	Reporting				
	<b>Sub-Total (A)</b>				

<b>2.</b>	<b>Geotechnical Investigation</b>				
2.1	Mobilization & Demobilization	LS	1		
2.2	Machine Boring on Land (Soil)	m	375		
(a)	KM001+620	m	30		
(b)	KM011+100	m	30		
(c)	KM039+640	m	30		
(d)	KM0058+140	m	30		
(e)	Tam Ky River (KM068+010)	m	30		
(f)	Tra Bong (KM109+410, KM109+560, KM109+730)	m	135		
(g)	Tra Khuc (KM125+790, KM126+110, KM126+530)	m	90		
2.3	Standard Penetration Test (SPT) @ 1m	nos	375		
2.4	Reporting				
	<b>Sub-Total (B)</b>				

Item No.	Description	Unit	Quantity	Local currency (VND) Unit Price	Local currency (VND) Amount
<b>3.</b>	<b>Hydrological Survey</b>				
3.1	Mobilization & Demobilization	LS	1		
3.2	Flood Record Survey		(47)		
(a)	KM0 – KM20	km	20		
(b)	KM65 – KM77	km	12		
(c)	KM101 – KM111	km	10		
(d)	KM124 – KM129	km	5		
3.3	Reporting				
	<b>Sub-Total (C)</b>				

	<b>Total (D=A+B+C)</b>				
	<b>VAT (E)</b>				
	<b>Total (F=D+E)</b>				

LS: lump sum

nos.: numbers

**7. FORM OF AGREEMENT**

AGREEMENT  
FOR  
TOPOGRAPHIC SURVEY, GEOTECHNICAL INVESTIGATION,  
HYDROLOGICAL SURVEY  
FOR  
SUPPLEMENTAL FEASIBILITY STUDY  
FOR  
EXPRESSWAY DEVELOPMENT DANANG - QUANG NGAI PROJECT  
IN  
VIETNAM

This Contract made entered into \_\_\_\_\_ day of August 2008 by and between Nippon Koei Co., Ltd., having its office at 2, Kojimachi 4-chome, Chiyoda-ku, Tokyo, 102-0083, Japan and \_\_\_\_\_

\_\_\_\_\_ (hereinafter referred to as "the Contractor" which shall include its legal successors and assigns), having its principal office at \_\_\_\_\_

\_\_\_\_\_ WITNESSETH that the parties covenant, promise and agree each with the other as follows:

- (1) The Contractor agrees to do and complete the topographic survey , geotechnical investigation and hydrological survey (hereinafter referred to as the "Works") in accordance with the terms, conditions and requirements of this Contract.
- (2) Nippon Koei Co., Ltd agrees to pay the Contractor in consideration of the fulfilment of the Works, the Contract Price in Vietnamese Dong \_\_\_\_\_  
\_\_\_\_\_ in accordance with the terms and conditions specified in Clause 2.12 of General Conditions.

It is agreed that the terms, conditions and requirements of the Contract shall prevail except to the extent that they are expressly modified or altered by this Contract.

IN WITNESS WHEREOF, each of the parties hereto has caused this Contract to be executed in duplicate as of the date first above written by its duly authorised representative.

For and On Behalf of

For and On Behalf of  
Nippon Koei Co., Ltd

---

Ichizuru Ishimoto  
General Manager  
Transportation Engineering Dept.



## Appendix-B Mode of Payment

A. The Contractor shall submit an invoice for services performed by him/her. A sample invoice form is attached hereto.

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

Address : Mr. Ichizuru Ishimoto  
General Manager  
Transportation Engineering Dept.,  
Nippon Koei Co., Ltd.  
Tokyo, 102-0083, Japan  
Project Code : JA08O1017

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

Bank Name : \_\_\_\_\_  
Branch Name : \_\_\_\_\_  
Account Name : \_\_\_\_\_  
Account Number : \_\_\_\_\_  
Bank Address : \_\_\_\_\_  
Country : Vietnam  
(where the bank exists):

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



## Horizontal Alignment Station and Curve Report

Alignment: cl-survey-080805a

Desc: Survey Centerline

Desc. Station	Spiral/Curve Data	Northing	Easting
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PI	0+000	1769966.81200	515568.79100
	Length: 1814.35942	Course: 122-14-29.0	

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PI	1+814.3594	1768998.87410	517103.39073
	Length: 8646.97844	Course: 178-14-17.9	
	Delta: 55-59-48.9		

### Tangent Data

0+000	1769966.81200	515568.79100
0+219.3349	1769849.79957	515754.30625
Length: 219.33494	Course: 122-14-29.0	

### Circular Curve Data

PC	0+219.3349	1769849.79957	515754.30625
CC		1767312.37554	514153.84403
PT	3+151.3262	1767404.60354	517152.42603
	Delta: 55-59-48.9	Type: RIGHT	
	Radius: 3000.00000	DOC: 01-54-35.5	
	Length: 2931.99128	Tangent: 1595.02448	
	Mid-Ord: 351.11923	External: 397.66142	
	Chord: 2816.68646	Course: 150-14-23.4	
	Es: 397.66142		

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PI	10+203.2802	1760355.98281	517369.22189
	Length: 644.15702	Course: 179-46-56.4	
	Delta: 1-32-38.5		

### Tangent Data

3+151.3262	1767404.60354	517152.42603
10+203.2802	1760355.98281	517369.22189
Length: 7051.95396	Course: 178-14-17.9	

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PI	10+847.4372	1759711.83044	517371.66915
	Length: 7841.08558	Course: 155-32-43.2	
	Delta: 24-14-13.1		

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 Circular Curve Data

PC 10+203.2802                      1760355.98281    517369.22189  
 CC                                      1760367.38031    520369.20024  
 PT 11+472.3256                      1759125.46129    517638.33276  
     Delta: 24-14-13.1    Type:        LEFT  
     Radius: 3000.00000    DOC:        01-54-35.5  
     Length: 1269.04539    Tangent:    644.15702  
     Mid-Ord: 66.85339    External:    68.37714  
     Chord: 1259.60465    Course:     167-39-49.8  
     Es: 68.37714

PI 18+669.2541                      1752574.17525    520617.66691  
     Length: 2574.08634    Course:     181-01-02.2  
     Delta: 25-28-19.0

Tangent Data

11+472.3256                      1759125.46129    517638.33276  
 18+217.2151                      1752985.66147    520430.53496  
     Length: 6744.88954    Course:     155-32-43.2

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 Circular Curve Data

PC 18+217.2151                      1752985.66147    520430.53496  
 CC                                      1752157.71546    518609.95665  
 PT 19+106.3536                      1752122.20748    520609.64142  
     Delta: 25-28-19.0    Type:        RIGHT  
     Radius: 2000.00000    DOC:        02-51-53.2  
     Length: 889.13846    Tangent:    452.03902  
     Mid-Ord: 49.20734    External:    50.44856  
     Chord: 881.83441    Course:     168-16-52.7  
     Es: 50.44856

PI 21+228.4009                      1750000.49462    520571.96661  
     Length: 8305.42743    Course:     117-07-39.4  
     Delta: 63-53-22.8

Tangent Data

19+106.3536                      1752122.20748    520609.64142  
 20+604.8695                      1750623.92773    520583.03678  
     Length: 1498.51593    Course:     181-01-02.2

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 Circular Curve Data

PC 20+604.8695                      1750623.92773    520583.03678  
 CC                                      1750606.17374    521582.87916

PT 21+719.9546 1749716.18059 521126.90527  
 Delta: 63-53-22.8 Type: LEFT  
 Radius: 1000.00000 DOC: 05-43-46.5  
 Length: 1115.08508 Tangent: 623.53139  
 Mid-Ord: 151.44208 External: 178.46994  
 Chord: 1058.20500 Course: 149-04-20.8  
 Es: 178.46994

PI 29+401.8506 1746213.43657 527963.74015  
 Length: 17369.52963 Course: 139-20-57.0  
 Delta: 22-13-17.6

Tangent Data

21+719.9546 1749716.18059 521126.90527  
 28+419.9125 1746661.17472 527089.82194  
 Length: 6699.95791 Course: 117-07-39.4

Circular Curve Data

PC 28+419.9125 1746661.17472 527089.82194  
 CC 1742211.20896 524809.95249  
 PT 30+359.1097 1745468.44624 528603.42126  
 Delta: 22-13-17.6 Type: RIGHT  
 Radius: 5000.00000 DOC: 01-08-45.3  
 Length: 1939.19724 Tangent: 981.93813  
 Mid-Ord: 93.71791 External: 95.50807  
 Chord: 1927.06619 Course: 128-14-18.2  
 Es: 95.50807

PI 46+746.7012 1733035.28296 539279.07607  
 Length: 17129.87021 Course: 151-51-26.2  
 Delta: 12-30-29.2

Tangent Data

30+359.1097 1745468.44624 528603.42126  
 45+650.8070 1733866.73105 538565.15857  
 Length: 15291.69729 Course: 139-20-57.0

Circular Curve Data

PC 45+650.8070 1733866.73105 538565.15857  
 CC 1727352.25647 530978.22105  
 PT 47+833.8838 1732068.95032 539795.97582  
 Delta: 12-30-29.2 Type: RIGHT  
 Radius: 10000.00000 DOC: 00-34-22.6  
 Length: 2183.07676 Tangent: 1095.89421

Mid-Ord: 59.51368 External: 59.86999  
 Chord: 2178.74428 Course: 145-36-11.6  
 Es: 59.86999

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 PI 63+867.8598 1717930.58348 547358.71141  
 Length: 3610.39869 Course: 103-16-40.8  
 Delta: 48-34-45.5  
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Tangent Data

47+833.8838 1732068.95032 539795.97582  
 60+257.4611 1721114.14451 545655.79689  
 Length: 12423.57732 Course: 151-51-26.2  
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Circular Curve Data

PC 60+257.4611 1721114.14451 545655.79689  
 CC 1724887.49958 552710.00070  
 PT 67+040.4106 1717101.36213 550872.59397  
 Delta: 48-34-45.5 Type: LEFT  
 Radius: 8000.00000 DOC: 00-42-58.3  
 Length: 6782.94952 Tangent: 3610.39869  
 Mid-Ord: 708.17914 External: 776.95726  
 Chord: 6581.59511 Course: 127-34-03.5  
 Es: 776.95726  
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PI 67+040.4106 1717101.36213 550872.59397  
 Length: 8418.44510 Course: 103-16-40.7  
 Delta: 0-00-00.1  
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PI 75+458.8557 1715167.85155 559065.99099  
 Length: 5200.29791 Course: 165-17-10.2  
 Delta: 62-00-29.5  
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Tangent Data

67+040.4106 1717101.36213 550872.59397  
 72+454.0654 1715857.97826 556141.52698  
 Length: 5413.65482 Course: 103-16-40.7  
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Circular Curve Data

PC 72+454.0654 1715857.97826 556141.52698  
 CC 1710991.64194 554993.14949  
 PT 77+865.3020 1712261.59893 559829.18188  
 Delta: 62-00-29.5 Type: RIGHT  
 Radius: 5000.00000 DOC: 01-08-45.3  
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Length: 5411.23655 Tangent: 3004.79028  
 Mid-Ord: 714.34786 External: 833.41792  
 Chord: 5150.99436 Course: 134-16-55.4  
 Es: 833.41792

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 PI 80+060.8096 1710138.08973 560386.82193  
 Length: 11830.21050 Course: 127-55-45.9  
 Delta: 37-21-24.3

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 Tangent Data

77+865.3020 1712261.59893 559829.18188  
 78+370.5057 1711772.96266 559957.49926  
 Length: 505.20368 Course: 165-17-10.2

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 Circular Curve Data

PC 78+370.5057 1711772.96266 559957.49926  
 CC 1713042.91965 564793.53165  
 PT 81+630.4978 1709099.07647 561720.08067  
 Delta: 37-21-24.3 Type: LEFT  
 Radius: 5000.00000 DOC: 01-08-45.3  
 Length: 3259.99214 Tangent: 1690.30395  
 Mid-Ord: 263.34402 External: 277.98517  
 Chord: 3202.55532 Course: 146-36-28.1  
 Es: 277.98517

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 PI 91+770.4044 1702866.17531 569718.12093  
 Length: 8335.22272 Course: 100-12-31.2  
 Delta: 27-43-14.7

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 Tangent Data

81+630.4978 1709099.07647 561720.08067  
 90+536.6990 1703624.52190 568745.01284  
 Length: 8906.20120 Course: 127-55-45.9

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 Circular Curve Data

PC 90+536.6990 1703624.52190 568745.01284  
 CC 1707568.36508 571818.46382  
 PT 92+955.7899 1702647.52113 570932.29525  
 Delta: 27-43-14.7 Type: LEFT  
 Radius: 5000.00000 DOC: 01-08-45.3  
 Length: 2419.09093 Tangent: 1233.70536  
 Mid-Ord: 145.58796 External: 149.95426  
 Chord: 2395.56567 Course: 114-04-08.6  
 Es: 149.95426

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 PI 100+057.3073                      1701388.89282    577921.38701  
     Length: 3814.41905 Course: 181-06-53.4  
     Delta: 80-54-22.2  
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Tangent Data

92+955.7899                      1702647.52113    570932.29525  
 96+646.6454                      1701993.37710    574564.72002  
     Length: 3690.85547 Course: 100-12-31.2  
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Circular Curve Data

PC 96+646.6454                      1701993.37710    574564.72002  
 CC                                      1698056.70193    573855.78516  
 PT 102+294.9612                      1697978.87655    577855.02799  
     Delta: 80-54-22.2 Type: RIGHT  
     Radius: 4000.00000 DOC: 01-25-56.6  
     Length: 5648.31579 Tangent: 3410.66189  
     Mid-Ord: 956.24990 External: 1256.67333  
     Chord: 5190.60124 Course: 140-39-42.3  
     Es: 1256.67333  
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PI 102+698.7183                      1697575.19582    577847.17235  
     Length: 3038.54626 Course: 183-07-08.6  
     Delta: 2-00-15.2  
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Tangent Data

102+294.9612                      1697978.87655    577855.02799  
 102+698.7183                      1697575.19582    577847.17235  
     Length: 403.75716 Course: 181-06-53.4  
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PI 105+737.2646                      1694541.15075    577681.84271  
     Length: 6116.03109 Course: 149-18-56.7  
     Delta: 33-48-11.9  
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Circular Curve Data

PC 102+698.7183                      1697575.19582    577847.17235  
 CC                                      1697031.08814    587832.35872  
 PT 108+598.5061                      1691928.02339    579232.43254  
     Delta: 33-48-11.9 Type: LEFT  
     Radius: 10000.00000 DOC: 00-34-22.6  
     Length: 5899.78772 Tangent: 3038.54626  
     Mid-Ord: 431.94772 External: 451.44791  
     Chord: 5814.59390 Course: 166-13-02.6  
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Es: 451.44791

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 PI 111+675.9909 1689281.40916 580802.89297  
 Length: 9423.94680 Course: 172-30-15.2  
 Delta: 23-11-18.5  
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Circular Curve Data

PC 108+598.5061 1691928.02339 579232.43254  
 CC 1684273.42628 566332.54328  
 PT 114+669.2330 1686230.22305 581204.36046  
 Delta: 23-11-18.5 Type: RIGHT  
 Radius: 15000.00000 DOC: 00-22-55.1  
 Length: 6070.72697 Tangent: 3077.48482  
 Mid-Ord: 306.06782 External: 312.44307  
 Chord: 6029.38044 Course: 160-54-36.0  
 Es: 312.44307  
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PI 121+015.6950 1679937.99490 582032.27622  
 Length: 7250.66262 Course: 191-05-09.6  
 Delta: 18-34-54.4  
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Tangent Data

114+669.2330 1686230.22305 581204.36046  
 120+524.9160 1680424.57997 581968.25256  
 Length: 5855.68294 Course: 172-30-15.2  
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Circular Curve Data

PC 120+524.9160 1680424.57997 581968.25256  
 CC 1680033.22061 578993.88912  
 PT 121+497.8556 1679456.37397 581937.90814  
 Delta: 18-34-54.4 Type: RIGHT  
 Radius: 3000.00000 DOC: 01-54-35.5  
 Length: 972.93966 Tangent: 490.77903  
 Mid-Ord: 39.35580 External: 39.87895  
 Chord: 968.68139 Course: 181-47-42.4  
 Es: 39.87895  
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PI 128+257.7392 1672822.63203 580638.10276  
 Length: 621.01885 Course: 195-37-44.2  
 Delta: 4-32-34.6  
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Tangent Data

121+497.8556 1679456.37397 581937.90814  
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128+257.7392                      1672822.63203    580638.10276  
Length: 6759.88359 Course: 191-05-09.6

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PI 128+878.7581                      1672224.57436    580470.79637  
Length: 1522.62254 Course: 140-54-15.8  
Delta: 54-43-28.4

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Circular Curve Data

PC 128+257.7392                      1672822.63203    580638.10276  
CC                                      1672499.34448    581793.73469  
PT 129+403.8875                      1671742.60489    580862.42099  
Delta: 54-43-28.4 Type: LEFT  
Radius: 1200.00000 DOC: 04-46-28.7  
Length: 1146.14828 Tangent: 621.01885  
Mid-Ord: 134.25816 External: 151.17150  
Chord: 1103.07629 Course: 168-16-00.0  
Es: 151.17150

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PI 130+305.4912                      1671042.87500    581430.98700

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Tangent Data

129+403.8875                      1671742.60489    580862.42099  
130+305.4912                      1671042.87500    581430.98700  
Length: 901.60370 Course: 140-54-15.8



### Horizontal Incremental Stationing Report

Alignment: cl-survey-080805a

Desc: Survey Centerline

Station	Northing	Easting	Tangential Direction
0+000	1769966.81200	515568.79100	122-14-29.0
0+100	1769913.46326	515653.37180	122-14-29.0
0+200	1769860.11452	515737.95260	122-14-29.0
0+300	1769805.85376	515821.94666	123-46-55.1
0+400	1769748.87550	515904.12057	125-41-30.6
0+500	1769689.19027	515984.34991	127-36-06.1
0+600	1769626.86437	516062.54555	129-30-41.6
0+700	1769561.96706	516138.62060	131-25-17.1
0+800	1769494.57044	516212.49054	133-19-52.6
0+900	1769424.74937	516284.07332	135-14-28.1
1+000	1769352.58145	516353.28939	137-09-03.6
1+100	1769278.14684	516420.06186	139-03-39.1
1+200	1769201.52824	516484.31654	140-58-14.6
1+300	1769122.81077	516545.98205	142-52-50.1
1+400	1769042.08190	516604.98987	144-47-25.6
1+500	1768959.43131	516661.27445	146-42-01.0
1+600	1768874.95083	516714.77326	148-36-36.5
1+700	1768788.73431	516765.42685	150-31-12.0
1+800	1768700.87754	516813.17895	152-25-47.5
1+900	1768611.47814	516857.97651	154-20-23.0
2+000	1768520.63543	516899.76975	156-14-58.5
2+100	1768428.45033	516938.51225	158-09-34.0
2+200	1768335.02526	516974.16096	160-04-09.5
2+300	1768240.46402	517006.67627	161-58-45.0
2+400	1768144.87166	517036.02207	163-53-20.5
2+500	1768048.35439	517062.16574	165-47-56.0
2+600	1767951.01945	517085.07824	167-42-31.5
2+700	1767852.97497	517104.73411	169-37-07.0
2+800	1767754.32987	517121.11153	171-31-42.5
2+900	1767655.19376	517134.19228	173-26-18.0
3+000	1767555.67678	517143.96184	175-20-53.4
3+100	1767455.88949	517150.40936	177-15-28.9
3+200	1767355.95276	517153.92239	178-14-17.9
3+300	1767256.00002	517156.99666	178-14-17.9
3+400	1767156.04729	517160.07093	178-14-17.9
3+500	1767056.09456	517163.14519	178-14-17.9
3+600	1766956.14182	517166.21946	178-14-17.9
3+700	1766856.18909	517169.29373	178-14-17.9
3+800	1766756.23636	517172.36799	178-14-17.9
3+900	1766656.28362	517175.44226	178-14-17.9

4+000	1766556.33089	517178.51653	178-14-17.9
4+100	1766456.37816	517181.59079	178-14-17.9
4+200	1766356.42543	517184.66506	178-14-17.9
4+300	1766256.47269	517187.73932	178-14-17.9
4+400	1766156.51996	517190.81359	178-14-17.9
4+500	1766056.56723	517193.88786	178-14-17.9
4+600	1765956.61449	517196.96212	178-14-17.9
4+700	1765856.66176	517200.03639	178-14-17.9
4+800	1765756.70903	517203.11066	178-14-17.9
4+900	1765656.75629	517206.18492	178-14-17.9
5+000	1765556.80356	517209.25919	178-14-17.9
5+100	1765456.85083	517212.33346	178-14-17.9
5+200	1765356.89809	517215.40772	178-14-17.9
5+300	1765256.94536	517218.48199	178-14-17.9
5+400	1765156.99263	517221.55626	178-14-17.9
5+500	1765057.03989	517224.63052	178-14-17.9
5+600	1764957.08716	517227.70479	178-14-17.9
5+700	1764857.13443	517230.77906	178-14-17.9
5+800	1764757.18169	517233.85332	178-14-17.9
5+900	1764657.22896	517236.92759	178-14-17.9
6+000	1764557.27623	517240.00185	178-14-17.9
6+100	1764457.32349	517243.07612	178-14-17.9
6+200	1764357.37076	517246.15039	178-14-17.9
6+300	1764257.41803	517249.22465	178-14-17.9
6+400	1764157.46529	517252.29892	178-14-17.9
6+500	1764057.51256	517255.37319	178-14-17.9
6+600	1763957.55983	517258.44745	178-14-17.9
6+700	1763857.60709	517261.52172	178-14-17.9
6+800	1763757.65436	517264.59599	178-14-17.9
6+900	1763657.70163	517267.67025	178-14-17.9
7+000	1763557.74889	517270.74452	178-14-17.9
7+100	1763457.79616	517273.81879	178-14-17.9
7+200	1763357.84343	517276.89305	178-14-17.9
7+300	1763257.89069	517279.96732	178-14-17.9
7+400	1763157.93796	517283.04158	178-14-17.9
7+500	1763057.98523	517286.11585	178-14-17.9
7+600	1762958.03249	517289.19012	178-14-17.9
7+700	1762858.07976	517292.26438	178-14-17.9
7+800	1762758.12703	517295.33865	178-14-17.9
7+900	1762658.17429	517298.41292	178-14-17.9
8+000	1762558.22156	517301.48718	178-14-17.9
8+100	1762458.26883	517304.56145	178-14-17.9
8+200	1762358.31609	517307.63572	178-14-17.9
8+300	1762258.36336	517310.70998	178-14-17.9
8+400	1762158.41063	517313.78425	178-14-17.9
8+500	1762058.45790	517316.85852	178-14-17.9

8+600	1761958.50516	517319.93278	178-14-17.9
8+700	1761858.55243	517323.00705	178-14-17.9
8+800	1761758.59970	517326.08131	178-14-17.9
8+900	1761658.64696	517329.15558	178-14-17.9
9+000	1761558.69423	517332.22985	178-14-17.9
9+100	1761458.74150	517335.30411	178-14-17.9
9+200	1761358.78876	517338.37838	178-14-17.9
9+300	1761258.83603	517341.45265	178-14-17.9
9+400	1761158.88330	517344.52691	178-14-17.9
9+500	1761058.93056	517347.60118	178-14-17.9
9+600	1760958.97783	517350.67545	178-14-17.9
9+700	1760859.02510	517353.74971	178-14-17.9
9+800	1760759.07236	517356.82398	178-14-17.9
9+900	1760659.11963	517359.89825	178-14-17.9
10+000	1760559.16690	517362.97251	178-14-17.9
10+100	1760459.21416	517366.04678	178-14-17.9
10+200	1760359.26143	517369.12104	178-14-17.9
10+300	1760259.28636	517371.14825	177-56-06.4
10+400	1760159.42984	517376.41615	176-01-30.9
10+500	1760059.80436	517385.00905	174-06-55.4
10+600	1759960.52060	517396.91741	172-12-19.9
10+700	1759861.68887	517412.12801	170-17-44.4
10+800	1759763.41896	517430.62393	168-23-08.9
10+900	1759665.82006	517452.38464	166-28-33.4
11+000	1759569.00059	517477.38595	164-33-57.9
11+100	1759473.06814	517505.60010	162-39-22.4
11+200	1759378.12927	517536.99573	160-44-47.0
11+300	1759284.28947	517571.53796	158-50-11.5
11+400	1759191.65299	517609.18841	156-55-36.0
11+500	1759100.26955	517649.78923	155-32-43.2
11+600	1759009.24064	517691.18653	155-32-43.2
11+700	1758918.21172	517732.58383	155-32-43.2
11+800	1758827.18280	517773.98113	155-32-43.2
11+900	1758736.15389	517815.37843	155-32-43.2
12+000	1758645.12497	517856.77573	155-32-43.2
12+100	1758554.09606	517898.17303	155-32-43.2
12+200	1758463.06714	517939.57034	155-32-43.2
12+300	1758372.03823	517980.96764	155-32-43.2
12+400	1758281.00931	518022.36494	155-32-43.2
12+500	1758189.98039	518063.76224	155-32-43.2
12+600	1758098.95148	518105.15954	155-32-43.2
12+700	1758007.92256	518146.55684	155-32-43.2
12+800	1757916.89365	518187.95414	155-32-43.2
12+900	1757825.86473	518229.35144	155-32-43.2
13+000	1757734.83582	518270.74874	155-32-43.2
13+100	1757643.80690	518312.14604	155-32-43.2

13+200	1757552.77798	518353.54334	155-32-43.2
13+300	1757461.74907	518394.94064	155-32-43.2
13+400	1757370.72015	518436.33794	155-32-43.2
13+500	1757279.69124	518477.73524	155-32-43.2
13+600	1757188.66232	518519.13254	155-32-43.2
13+700	1757097.63341	518560.52984	155-32-43.2
13+800	1757006.60449	518601.92715	155-32-43.2
13+900	1756915.57557	518643.32445	155-32-43.2
14+000	1756824.54666	518684.72175	155-32-43.2
14+100	1756733.51774	518726.11905	155-32-43.2
14+200	1756642.48883	518767.51635	155-32-43.2
14+300	1756551.45991	518808.91365	155-32-43.2
14+400	1756460.43100	518850.31095	155-32-43.2
14+500	1756369.40208	518891.70825	155-32-43.2
14+600	1756278.37316	518933.10555	155-32-43.2
14+700	1756187.34425	518974.50285	155-32-43.2
14+800	1756096.31533	519015.90015	155-32-43.2
14+900	1756005.28642	519057.29745	155-32-43.2
15+000	1755914.25750	519098.69475	155-32-43.2
15+100	1755823.22858	519140.09205	155-32-43.2
15+200	1755732.19967	519181.48935	155-32-43.2
15+300	1755641.17075	519222.88665	155-32-43.2
15+400	1755550.14184	519264.28395	155-32-43.2
15+500	1755459.11292	519305.68126	155-32-43.2
15+600	1755368.08401	519347.07856	155-32-43.2
15+700	1755277.05509	519388.47586	155-32-43.2
15+800	1755186.02617	519429.87316	155-32-43.2
15+900	1755094.99726	519471.27046	155-32-43.2
16+000	1755003.96834	519512.66776	155-32-43.2
16+100	1754912.93943	519554.06506	155-32-43.2
16+200	1754821.91051	519595.46236	155-32-43.2
16+300	1754730.88160	519636.85966	155-32-43.2
16+400	1754639.85268	519678.25696	155-32-43.2
16+500	1754548.82376	519719.65426	155-32-43.2
16+600	1754457.79485	519761.05156	155-32-43.2
16+700	1754366.76593	519802.44886	155-32-43.2
16+800	1754275.73702	519843.84616	155-32-43.2
16+900	1754184.70810	519885.24346	155-32-43.2
17+000	1754093.67919	519926.64076	155-32-43.2
17+100	1754002.65027	519968.03806	155-32-43.2
17+200	1753911.62135	520009.43537	155-32-43.2
17+300	1753820.59244	520050.83267	155-32-43.2
17+400	1753729.56352	520092.22997	155-32-43.2
17+500	1753638.53461	520133.62727	155-32-43.2
17+600	1753547.50569	520175.02457	155-32-43.2
17+700	1753456.47678	520216.42187	155-32-43.2

17+800	1753365.44786	520257.81917	155-32-43.2
17+900	1753274.41894	520299.21647	155-32-43.2
18+000	1753183.39003	520340.61377	155-32-43.2
18+100	1753092.36111	520382.01107	155-32-43.2
18+200	1753001.33220	520423.40837	155-32-43.2
18+300	1752909.61562	520463.23648	157-55-01.0
18+400	1752816.05056	520498.49971	160-46-54.3
18+500	1752720.84000	520529.04256	163-38-47.5
18+600	1752624.22192	520554.78870	166-30-40.8
18+700	1752526.43782	520575.67377	169-22-34.0
18+800	1752427.73210	520591.64558	172-14-27.2
18+900	1752328.35148	520602.66419	175-06-20.5
19+000	1752228.54437	520608.70207	177-58-13.7
19+100	1752128.56021	520609.74413	180-50-07.0
19+200	1752028.57581	520607.97882	181-01-02.2
19+300	1751928.59157	520606.20342	181-01-02.2
19+400	1751828.60733	520604.42802	181-01-02.2
19+500	1751728.62309	520602.65262	181-01-02.2
19+600	1751628.63885	520600.87722	181-01-02.2
19+700	1751528.65461	520599.10182	181-01-02.2
19+800	1751428.67037	520597.32642	181-01-02.2
19+900	1751328.68614	520595.55102	181-01-02.2
20+000	1751228.70190	520593.77563	181-01-02.2
20+100	1751128.71766	520592.00023	181-01-02.2
20+200	1751028.73342	520590.22483	181-01-02.2
20+300	1750928.74918	520588.44943	181-01-02.2
20+400	1750828.76494	520586.67403	181-01-02.2
20+500	1750728.78070	520584.89863	181-01-02.2
20+600	1750628.79647	520583.12323	181-01-02.2
20+700	1750528.87535	520585.87116	175-34-00.1
20+800	1750429.72681	520598.56901	169-50-13.7
20+900	1750332.34126	520621.10176	164-06-27.2
21+000	1750237.69176	520653.24427	158-22-40.7
21+100	1750146.72400	520694.67539	152-38-54.2
21+200	1750060.34692	520744.98115	146-55-07.7
21+300	1749979.42356	520803.65890	141-11-21.3
21+400	1749904.76248	520870.12237	135-27-34.8
21+500	1749837.10967	520943.70747	129-43-48.3
21+600	1749777.14109	521023.67896	124-00-01.8
21+700	1749725.45594	521109.23779	118-16-15.3
21+800	1749679.68197	521198.14515	117-07-39.4
21+900	1749634.08458	521287.14447	117-07-39.4
22+000	1749588.48719	521376.14378	117-07-39.4
22+100	1749542.88980	521465.14310	117-07-39.4
22+200	1749497.29241	521554.14241	117-07-39.4
22+300	1749451.69502	521643.14173	117-07-39.4

22+400	1749406.09763	521732.14104	117-07-39.4
22+500	1749360.50024	521821.14036	117-07-39.4
22+600	1749314.90285	521910.13967	117-07-39.4
22+700	1749269.30546	521999.13899	117-07-39.4
22+800	1749223.70808	522088.13830	117-07-39.4
22+900	1749178.11069	522177.13762	117-07-39.4
23+000	1749132.51330	522266.13693	117-07-39.4
23+100	1749086.91591	522355.13625	117-07-39.4
23+200	1749041.31852	522444.13556	117-07-39.4
23+300	1748995.72113	522533.13488	117-07-39.4
23+400	1748950.12374	522622.13420	117-07-39.4
23+500	1748904.52635	522711.13351	117-07-39.4
23+600	1748858.92896	522800.13283	117-07-39.4
23+700	1748813.33158	522889.13214	117-07-39.4
23+800	1748767.73419	522978.13146	117-07-39.4
23+900	1748722.13680	523067.13077	117-07-39.4
24+000	1748676.53941	523156.13009	117-07-39.4
24+100	1748630.94202	523245.12940	117-07-39.4
24+200	1748585.34463	523334.12872	117-07-39.4
24+300	1748539.74724	523423.12803	117-07-39.4
24+400	1748494.14985	523512.12735	117-07-39.4
24+500	1748448.55246	523601.12666	117-07-39.4
24+600	1748402.95508	523690.12598	117-07-39.4
24+700	1748357.35769	523779.12529	117-07-39.4
24+800	1748311.76030	523868.12461	117-07-39.4
24+900	1748266.16291	523957.12392	117-07-39.4
25+000	1748220.56552	524046.12324	117-07-39.4
25+100	1748174.96813	524135.12256	117-07-39.4
25+200	1748129.37074	524224.12187	117-07-39.4
25+300	1748083.77335	524313.12119	117-07-39.4
25+400	1748038.17596	524402.12050	117-07-39.4
25+500	1747992.57858	524491.11982	117-07-39.4
25+600	1747946.98119	524580.11913	117-07-39.4
25+700	1747901.38380	524669.11845	117-07-39.4
25+800	1747855.78641	524758.11776	117-07-39.4
25+900	1747810.18902	524847.11708	117-07-39.4
26+000	1747764.59163	524936.11639	117-07-39.4
26+100	1747718.99424	525025.11571	117-07-39.4
26+200	1747673.39685	525114.11502	117-07-39.4
26+300	1747627.79946	525203.11434	117-07-39.4
26+400	1747582.20208	525292.11365	117-07-39.4
26+500	1747536.60469	525381.11297	117-07-39.4
26+600	1747491.00730	525470.11228	117-07-39.4
26+700	1747445.40991	525559.11160	117-07-39.4
26+800	1747399.81252	525648.11092	117-07-39.4
26+900	1747354.21513	525737.11023	117-07-39.4

27+000	1747308.61774	525826.10955	117-07-39.4
27+100	1747263.02035	525915.10886	117-07-39.4
27+200	1747217.42296	526004.10818	117-07-39.4
27+300	1747171.82558	526093.10749	117-07-39.4
27+400	1747126.22819	526182.10681	117-07-39.4
27+500	1747080.63080	526271.10612	117-07-39.4
27+600	1747035.03341	526360.10544	117-07-39.4
27+700	1746989.43602	526449.10475	117-07-39.4
27+800	1746943.83863	526538.10407	117-07-39.4
27+900	1746898.24124	526627.10338	117-07-39.4
28+000	1746852.64385	526716.10270	117-07-39.4
28+100	1746807.04646	526805.10201	117-07-39.4
28+200	1746761.44907	526894.10133	117-07-39.4
28+300	1746715.85169	526983.10065	117-07-39.4
28+400	1746670.25430	527072.09996	117-07-39.4
28+500	1746624.08764	527160.80377	118-02-43.3
28+600	1746576.19120	527248.58531	119-11-28.6
28+700	1746526.54883	527335.39142	120-20-13.8
28+800	1746475.18038	527421.18739	121-28-59.1
28+900	1746422.10640	527505.93891	122-37-44.4
29+000	1746367.34811	527589.61206	123-46-29.7
29+100	1746310.92743	527672.17339	124-55-15.0
29+200	1746252.86691	527753.58987	126-04-00.3
29+300	1746193.18978	527833.82893	127-12-45.6
29+400	1746131.91991	527912.85848	128-21-30.9
29+500	1746069.08182	527990.64692	129-30-16.2
29+600	1746004.70062	528067.16311	130-39-01.5
29+700	1745938.80208	528142.37647	131-47-46.8
29+800	1745871.41255	528216.25690	132-56-32.1
29+900	1745802.55898	528288.77485	134-05-17.4
30+000	1745732.26893	528359.90132	135-14-02.7
30+100	1745660.57050	528429.60786	136-22-48.0
30+200	1745587.49237	528497.86658	137-31-33.3
30+300	1745513.06377	528564.65019	138-40-18.6
30+400	1745437.42305	528630.05912	139-20-57.0
30+500	1745361.55367	528695.20387	139-20-57.0
30+600	1745285.68430	528760.34861	139-20-57.0
30+700	1745209.81492	528825.49336	139-20-57.0
30+800	1745133.94555	528890.63811	139-20-57.0
30+900	1745058.07617	528955.78285	139-20-57.0
31+000	1744982.20680	529020.92760	139-20-57.0
31+100	1744906.33742	529086.07234	139-20-57.0
31+200	1744830.46805	529151.21709	139-20-57.0
31+300	1744754.59867	529216.36183	139-20-57.0
31+400	1744678.72929	529281.50658	139-20-57.0
31+500	1744602.85992	529346.65133	139-20-57.0

31+600	1744526.99054	529411.79607	139-20-57.0
31+700	1744451.12117	529476.94082	139-20-57.0
31+800	1744375.25179	529542.08556	139-20-57.0
31+900	1744299.38242	529607.23031	139-20-57.0
32+000	1744223.51304	529672.37505	139-20-57.0
32+100	1744147.64367	529737.51980	139-20-57.0
32+200	1744071.77429	529802.66455	139-20-57.0
32+300	1743995.90492	529867.80929	139-20-57.0
32+400	1743920.03554	529932.95404	139-20-57.0
32+500	1743844.16617	529998.09878	139-20-57.0
32+600	1743768.29679	530063.24353	139-20-57.0
32+700	1743692.42742	530128.38827	139-20-57.0
32+800	1743616.55804	530193.53302	139-20-57.0
32+900	1743540.68867	530258.67777	139-20-57.0
33+000	1743464.81929	530323.82251	139-20-57.0
33+100	1743388.94992	530388.96726	139-20-57.0
33+200	1743313.08054	530454.11200	139-20-57.0
33+300	1743237.21116	530519.25675	139-20-57.0
33+400	1743161.34179	530584.40150	139-20-57.0
33+500	1743085.47241	530649.54624	139-20-57.0
33+600	1743009.60304	530714.69099	139-20-57.0
33+700	1742933.73366	530779.83573	139-20-57.0
33+800	1742857.86429	530844.98048	139-20-57.0
33+900	1742781.99491	530910.12522	139-20-57.0
34+000	1742706.12554	530975.26997	139-20-57.0
34+100	1742630.25616	531040.41472	139-20-57.0
34+200	1742554.38679	531105.55946	139-20-57.0
34+300	1742478.51741	531170.70421	139-20-57.0
34+400	1742402.64804	531235.84895	139-20-57.0
34+500	1742326.77866	531300.99370	139-20-57.0
34+600	1742250.90929	531366.13844	139-20-57.0
34+700	1742175.03991	531431.28319	139-20-57.0
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35+000	1741947.43179	531626.71743	139-20-57.0
35+100	1741871.56241	531691.86217	139-20-57.0
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35+400	1741643.95428	531887.29641	139-20-57.0
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35+700	1741416.34616	532082.73065	139-20-57.0
35+800	1741340.47678	532147.87539	139-20-57.0
35+900	1741264.60741	532213.02014	139-20-57.0
36+000	1741188.73803	532278.16488	139-20-57.0
36+100	1741112.86866	532343.30963	139-20-57.0

36+200	1741036.99928	532408.45438	139-20-57.0
36+300	1740961.12991	532473.59912	139-20-57.0
36+400	1740885.26053	532538.74387	139-20-57.0
36+500	1740809.39116	532603.88861	139-20-57.0
36+600	1740733.52178	532669.03336	139-20-57.0
36+700	1740657.65241	532734.17810	139-20-57.0
36+800	1740581.78303	532799.32285	139-20-57.0
36+900	1740505.91366	532864.46760	139-20-57.0
37+000	1740430.04428	532929.61234	139-20-57.0
37+100	1740354.17491	532994.75709	139-20-57.0
37+200	1740278.30553	533059.90183	139-20-57.0
37+300	1740202.43615	533125.04658	139-20-57.0
37+400	1740126.56678	533190.19133	139-20-57.0
37+500	1740050.69740	533255.33607	139-20-57.0
37+600	1739974.82803	533320.48082	139-20-57.0
37+700	1739898.95865	533385.62556	139-20-57.0
37+800	1739823.08928	533450.77031	139-20-57.0
37+900	1739747.21990	533515.91505	139-20-57.0
38+000	1739671.35053	533581.05980	139-20-57.0
38+100	1739595.48115	533646.20455	139-20-57.0
38+200	1739519.61178	533711.34929	139-20-57.0
38+300	1739443.74240	533776.49404	139-20-57.0
38+400	1739367.87303	533841.63878	139-20-57.0
38+500	1739292.00365	533906.78353	139-20-57.0
38+600	1739216.13428	533971.92827	139-20-57.0
38+700	1739140.26490	534037.07302	139-20-57.0
38+800	1739064.39553	534102.21777	139-20-57.0
38+900	1738988.52615	534167.36251	139-20-57.0
39+000	1738912.65678	534232.50726	139-20-57.0
39+100	1738836.78740	534297.65200	139-20-57.0
39+200	1738760.91802	534362.79675	139-20-57.0
39+300	1738685.04865	534427.94149	139-20-57.0
39+400	1738609.17927	534493.08624	139-20-57.0
39+500	1738533.30990	534558.23099	139-20-57.0
39+600	1738457.44052	534623.37573	139-20-57.0
39+700	1738381.57115	534688.52048	139-20-57.0
39+800	1738305.70177	534753.66522	139-20-57.0
39+900	1738229.83240	534818.80997	139-20-57.0
40+000	1738153.96302	534883.95471	139-20-57.0
40+100	1738078.09365	534949.09946	139-20-57.0
40+200	1738002.22427	535014.24421	139-20-57.0
40+300	1737926.35490	535079.38895	139-20-57.0
40+400	1737850.48552	535144.53370	139-20-57.0
40+500	1737774.61615	535209.67844	139-20-57.0
40+600	1737698.74677	535274.82319	139-20-57.0
40+700	1737622.87740	535339.96793	139-20-57.0

40+800	1737547.00802	535405.11268	139-20-57.0
40+900	1737471.13865	535470.25743	139-20-57.0
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41+100	1737319.39990	535600.54692	139-20-57.0
41+200	1737243.53052	535665.69166	139-20-57.0
41+300	1737167.66114	535730.83641	139-20-57.0
41+400	1737091.79177	535795.98116	139-20-57.0
41+500	1737015.92239	535861.12590	139-20-57.0
41+600	1736940.05302	535926.27065	139-20-57.0
41+700	1736864.18364	535991.41539	139-20-57.0
41+800	1736788.31427	536056.56014	139-20-57.0
41+900	1736712.44489	536121.70488	139-20-57.0
42+000	1736636.57552	536186.84963	139-20-57.0
42+100	1736560.70614	536251.99438	139-20-57.0
42+200	1736484.83677	536317.13912	139-20-57.0
42+300	1736408.96739	536382.28387	139-20-57.0
42+400	1736333.09802	536447.42861	139-20-57.0
42+500	1736257.22864	536512.57336	139-20-57.0
42+600	1736181.35927	536577.71810	139-20-57.0
42+700	1736105.48989	536642.86285	139-20-57.0
42+800	1736029.62052	536708.00760	139-20-57.0
42+900	1735953.75114	536773.15234	139-20-57.0
43+000	1735877.88177	536838.29709	139-20-57.0
43+100	1735802.01239	536903.44183	139-20-57.0
43+200	1735726.14301	536968.58658	139-20-57.0
43+300	1735650.27364	537033.73132	139-20-57.0
43+400	1735574.40426	537098.87607	139-20-57.0
43+500	1735498.53489	537164.02082	139-20-57.0
43+600	1735422.66551	537229.16556	139-20-57.0
43+700	1735346.79614	537294.31031	139-20-57.0
43+800	1735270.92676	537359.45505	139-20-57.0
43+900	1735195.05739	537424.59980	139-20-57.0
44+000	1735119.18801	537489.74454	139-20-57.0
44+100	1735043.31864	537554.88929	139-20-57.0
44+200	1734967.44926	537620.03404	139-20-57.0
44+300	1734891.57989	537685.17878	139-20-57.0
44+400	1734815.71051	537750.32353	139-20-57.0
44+500	1734739.84114	537815.46827	139-20-57.0
44+600	1734663.97176	537880.61302	139-20-57.0
44+700	1734588.10239	537945.75776	139-20-57.0
44+800	1734512.23301	538010.90251	139-20-57.0
44+900	1734436.36364	538076.04726	139-20-57.0
45+000	1734360.49426	538141.19200	139-20-57.0
45+100	1734284.62488	538206.33675	139-20-57.0
45+200	1734208.75551	538271.48149	139-20-57.0
45+300	1734132.88613	538336.62624	139-20-57.0

45+400	1734057.01676	538401.77099	139-20-57.0
45+500	1733981.14738	538466.91573	139-20-57.0
45+600	1733905.27801	538532.06048	139-20-57.0
45+700	1733829.32996	538597.11329	139-37-51.7
45+800	1733752.81846	538661.50201	140-12-14.4
45+900	1733675.66690	538725.12240	140-46-37.0
46+000	1733597.88301	538787.96811	141-20-59.7
46+100	1733519.47456	538850.03285	141-55-22.3
46+200	1733440.44940	538911.31041	142-29-45.0
46+300	1733360.81542	538971.79468	143-04-07.6
46+400	1733280.58059	539031.47959	143-38-30.3
46+500	1733199.75294	539090.35918	144-12-52.9
46+600	1733118.34053	539148.42757	144-47-15.5
46+700	1733036.35153	539205.67894	145-21-38.2
46+800	1732953.79412	539262.10758	145-56-00.8
46+900	1732870.67656	539317.70783	146-30-23.5
47+000	1732787.00716	539372.47414	147-04-46.1
47+100	1732702.79430	539426.40103	147-39-08.8
47+200	1732618.04638	539479.48311	148-13-31.4
47+300	1732532.77189	539531.71507	148-47-54.1
47+400	1732446.97935	539583.09169	149-22-16.7
47+500	1732360.67734	539633.60783	149-56-39.4
47+600	1732273.87450	539683.25844	150-31-02.0
47+700	1732186.57950	539732.03855	151-05-24.7
47+800	1732098.80107	539779.94329	151-39-47.3
47+900	1732010.65065	539827.16082	151-51-26.2
48+000	1731922.47310	539874.32776	151-51-26.2
48+100	1731834.29556	539921.49469	151-51-26.2
48+200	1731746.11801	539968.66163	151-51-26.2
48+300	1731657.94046	540015.82857	151-51-26.2
48+400	1731569.76291	540062.99551	151-51-26.2
48+500	1731481.58537	540110.16245	151-51-26.2
48+600	1731393.40782	540157.32939	151-51-26.2
48+700	1731305.23027	540204.49632	151-51-26.2
48+800	1731217.05272	540251.66326	151-51-26.2
48+900	1731128.87518	540298.83020	151-51-26.2
49+000	1731040.69763	540345.99714	151-51-26.2
49+100	1730952.52008	540393.16408	151-51-26.2
49+200	1730864.34253	540440.33102	151-51-26.2
49+300	1730776.16498	540487.49796	151-51-26.2
49+400	1730687.98744	540534.66489	151-51-26.2
49+500	1730599.80989	540581.83183	151-51-26.2
49+600	1730511.63234	540628.99877	151-51-26.2
49+700	1730423.45479	540676.16571	151-51-26.2
49+800	1730335.27725	540723.33265	151-51-26.2
49+900	1730247.09970	540770.49959	151-51-26.2

50+000	1730158.92215	540817.66652	151-51-26.2
50+100	1730070.74460	540864.83346	151-51-26.2
50+200	1729982.56706	540912.00040	151-51-26.2
50+300	1729894.38951	540959.16734	151-51-26.2
50+400	1729806.21196	541006.33428	151-51-26.2
50+500	1729718.03441	541053.50122	151-51-26.2
50+600	1729629.85686	541100.66816	151-51-26.2
50+700	1729541.67932	541147.83509	151-51-26.2
50+800	1729453.50177	541195.00203	151-51-26.2
50+900	1729365.32422	541242.16897	151-51-26.2
51+000	1729277.14667	541289.33591	151-51-26.2
51+100	1729188.96913	541336.50285	151-51-26.2
51+200	1729100.79158	541383.66979	151-51-26.2
51+300	1729012.61403	541430.83672	151-51-26.2
51+400	1728924.43648	541478.00366	151-51-26.2
51+500	1728836.25894	541525.17060	151-51-26.2
51+600	1728748.08139	541572.33754	151-51-26.2
51+700	1728659.90384	541619.50448	151-51-26.2
51+800	1728571.72629	541666.67142	151-51-26.2
51+900	1728483.54874	541713.83836	151-51-26.2
52+000	1728395.37120	541761.00529	151-51-26.2
52+100	1728307.19365	541808.17223	151-51-26.2
52+200	1728219.01610	541855.33917	151-51-26.2
52+300	1728130.83855	541902.50611	151-51-26.2
52+400	1728042.66101	541949.67305	151-51-26.2
52+500	1727954.48346	541996.83999	151-51-26.2
52+600	1727866.30591	542044.00692	151-51-26.2
52+700	1727778.12836	542091.17386	151-51-26.2
52+800	1727689.95082	542138.34080	151-51-26.2
52+900	1727601.77327	542185.50774	151-51-26.2
53+000	1727513.59572	542232.67468	151-51-26.2
53+100	1727425.41817	542279.84162	151-51-26.2
53+200	1727337.24063	542327.00856	151-51-26.2
53+300	1727249.06308	542374.17549	151-51-26.2
53+400	1727160.88553	542421.34243	151-51-26.2
53+500	1727072.70798	542468.50937	151-51-26.2
53+600	1726984.53043	542515.67631	151-51-26.2
53+700	1726896.35289	542562.84325	151-51-26.2
53+800	1726808.17534	542610.01019	151-51-26.2
53+900	1726719.99779	542657.17712	151-51-26.2
54+000	1726631.82024	542704.34406	151-51-26.2
54+100	1726543.64270	542751.51100	151-51-26.2
54+200	1726455.46515	542798.67794	151-51-26.2
54+300	1726367.28760	542845.84488	151-51-26.2
54+400	1726279.11005	542893.01182	151-51-26.2
54+500	1726190.93251	542940.17876	151-51-26.2

54+600	1726102.75496	542987.34569	151-51-26.2
54+700	1726014.57741	543034.51263	151-51-26.2
54+800	1725926.39986	543081.67957	151-51-26.2
54+900	1725838.22231	543128.84651	151-51-26.2
55+000	1725750.04477	543176.01345	151-51-26.2
55+100	1725661.86722	543223.18039	151-51-26.2
55+200	1725573.68967	543270.34732	151-51-26.2
55+300	1725485.51212	543317.51426	151-51-26.2
55+400	1725397.33458	543364.68120	151-51-26.2
55+500	1725309.15703	543411.84814	151-51-26.2
55+600	1725220.97948	543459.01508	151-51-26.2
55+700	1725132.80193	543506.18202	151-51-26.2
55+800	1725044.62439	543553.34896	151-51-26.2
55+900	1724956.44684	543600.51589	151-51-26.2
56+000	1724868.26929	543647.68283	151-51-26.2
56+100	1724780.09174	543694.84977	151-51-26.2
56+200	1724691.91419	543742.01671	151-51-26.2
56+300	1724603.73665	543789.18365	151-51-26.2
56+400	1724515.55910	543836.35059	151-51-26.2
56+500	1724427.38155	543883.51752	151-51-26.2
56+600	1724339.20400	543930.68446	151-51-26.2
56+700	1724251.02646	543977.85140	151-51-26.2
56+800	1724162.84891	544025.01834	151-51-26.2
56+900	1724074.67136	544072.18528	151-51-26.2
57+000	1723986.49381	544119.35222	151-51-26.2
57+100	1723898.31627	544166.51916	151-51-26.2
57+200	1723810.13872	544213.68609	151-51-26.2
57+300	1723721.96117	544260.85303	151-51-26.2
57+400	1723633.78362	544308.01997	151-51-26.2
57+500	1723545.60607	544355.18691	151-51-26.2
57+600	1723457.42853	544402.35385	151-51-26.2
57+700	1723369.25098	544449.52079	151-51-26.2
57+800	1723281.07343	544496.68772	151-51-26.2
57+900	1723192.89588	544543.85466	151-51-26.2
58+000	1723104.71834	544591.02160	151-51-26.2
58+100	1723016.54079	544638.18854	151-51-26.2
58+200	1722928.36324	544685.35548	151-51-26.2
58+300	1722840.18569	544732.52242	151-51-26.2
58+400	1722752.00815	544779.68936	151-51-26.2
58+500	1722663.83060	544826.85629	151-51-26.2
58+600	1722575.65305	544874.02323	151-51-26.2
58+700	1722487.47550	544921.19017	151-51-26.2
58+800	1722399.29795	544968.35711	151-51-26.2
58+900	1722311.12041	545015.52405	151-51-26.2
59+000	1722222.94286	545062.69099	151-51-26.2
59+100	1722134.76531	545109.85792	151-51-26.2

59+200	1722046.58776	545157.02486	151-51-26.2
59+300	1721958.41022	545204.19180	151-51-26.2
59+400	1721870.23267	545251.35874	151-51-26.2
59+500	1721782.05512	545298.52568	151-51-26.2
59+600	1721693.87757	545345.69262	151-51-26.2
59+700	1721605.70003	545392.85956	151-51-26.2
59+800	1721517.52248	545440.02649	151-51-26.2
59+900	1721429.34493	545487.19343	151-51-26.2
60+000	1721341.16738	545534.36037	151-51-26.2
60+100	1721252.98983	545581.52731	151-51-26.2
60+200	1721164.81229	545628.69425	151-51-26.2
60+300	1721076.68826	545675.96082	151-33-09.4
60+400	1720989.06277	545724.14425	150-50-11.1
60+500	1720902.04640	545773.41920	150-07-12.8
60+600	1720815.65275	545823.77798	149-24-14.5
60+700	1720729.89531	545875.21272	148-41-16.2
60+800	1720644.78750	545927.71538	147-58-17.9
60+900	1720560.34260	545981.27776	147-15-19.6
61+000	1720476.57380	546035.89149	146-32-21.3
61+100	1720393.49421	546091.54803	145-49-23.0
61+200	1720311.11680	546148.23870	145-06-24.7
61+300	1720229.45443	546205.95462	144-23-26.3
61+400	1720148.51988	546264.68679	143-40-28.0
61+500	1720068.32578	546324.42603	142-57-29.7
61+600	1719988.88467	546385.16300	142-14-31.4
61+700	1719910.20896	546446.88821	141-31-33.1
61+800	1719832.31093	546509.59203	140-48-34.8
61+900	1719755.20278	546573.26464	140-05-36.5
62+000	1719678.89653	546637.89611	139-22-38.2
62+100	1719603.40411	546703.47633	138-39-39.9
62+200	1719528.73733	546769.99505	137-56-41.6
62+300	1719454.90784	546837.44189	137-13-43.2
62+400	1719381.92718	546905.80631	136-30-44.9
62+500	1719309.80676	546975.07762	135-47-46.6
62+600	1719238.55784	547045.24500	135-04-48.3
62+700	1719168.19155	547116.29748	134-21-50.0
62+800	1719098.71890	547188.22398	133-38-51.7
62+900	1719030.15073	547261.01323	132-55-53.4
63+000	1718962.49776	547334.65388	132-12-55.1
63+100	1718895.77056	547409.13442	131-29-56.8
63+200	1718829.97955	547484.44321	130-46-58.5
63+300	1718765.13502	547560.56848	130-04-00.1
63+400	1718701.24710	547637.49834	129-21-01.8
63+500	1718638.32577	547715.22076	128-38-03.5
63+600	1718576.38086	547793.72361	127-55-05.2
63+700	1718515.42204	547872.99462	127-12-06.9

63+800	1718455.45885	547953.02140	126-29-08.6
63+900	1718396.50066	548033.79145	125-46-10.3
64+000	1718338.55667	548115.29215	125-03-12.0
64+100	1718281.63593	548197.51076	124-20-13.7
64+200	1718225.74735	548280.43444	123-37-15.3
64+300	1718170.89966	548364.05023	122-54-17.0
64+400	1718117.10142	548448.34507	122-11-18.7
64+500	1718064.36104	548533.30578	121-28-20.4
64+600	1718012.68677	548618.91909	120-45-22.1
64+700	1717962.08667	548705.17162	120-02-23.8
64+800	1717912.56865	548792.04990	119-19-25.5
64+900	1717864.14045	548879.54035	118-36-27.2
65+000	1717816.80963	548967.62931	117-53-28.9
65+100	1717770.58360	549056.30300	117-10-30.6
65+200	1717725.46957	549145.54757	116-27-32.2
65+300	1717681.47459	549235.34909	115-44-33.9
65+400	1717638.60554	549325.69351	115-01-35.6
65+500	1717596.86912	549416.56672	114-18-37.3
65+600	1717556.27184	549507.95452	113-35-39.0
65+700	1717516.82005	549599.84264	112-52-40.7
65+800	1717478.51991	549692.21671	112-09-42.4
65+900	1717441.37741	549785.06231	111-26-44.1
66+000	1717405.39835	549878.36492	110-43-45.8
66+100	1717370.58836	549972.10997	110-00-47.5
66+200	1717336.95287	550066.28281	109-17-49.1
66+300	1717304.49713	550160.86872	108-34-50.8
66+400	1717273.22623	550255.85293	107-51-52.5
66+500	1717243.14504	550351.22060	107-08-54.2
66+600	1717214.25826	550446.95682	106-25-55.9
66+700	1717186.57041	550543.04663	105-42-57.6
66+800	1717160.08582	550639.47503	104-59-59.3
66+900	1717134.80862	550736.22695	104-17-01.0
67+000	1717110.74276	550833.28726	103-34-02.7
67+100	1717087.67590	550930.59037	103-16-40.7
67+200	1717064.70835	551027.91710	103-16-40.7
67+300	1717041.74080	551125.24383	103-16-40.7
67+400	1717018.77325	551222.57055	103-16-40.7
67+500	1716995.80570	551319.89728	103-16-40.7
67+600	1716972.83815	551417.22401	103-16-40.7
67+700	1716949.87060	551514.55073	103-16-40.7
67+800	1716926.90305	551611.87746	103-16-40.7
67+900	1716903.93550	551709.20419	103-16-40.7
68+000	1716880.96795	551806.53091	103-16-40.7
68+100	1716858.00040	551903.85764	103-16-40.7
68+200	1716835.03286	552001.18436	103-16-40.7
68+300	1716812.06531	552098.51109	103-16-40.7

68+400	1716789.09776	552195.83782	103-16-40.7
68+500	1716766.13021	552293.16454	103-16-40.7
68+600	1716743.16266	552390.49127	103-16-40.7
68+700	1716720.19511	552487.81800	103-16-40.7
68+800	1716697.22756	552585.14472	103-16-40.7
68+900	1716674.26001	552682.47145	103-16-40.7
69+000	1716651.29246	552779.79817	103-16-40.7
69+100	1716628.32491	552877.12490	103-16-40.7
69+200	1716605.35736	552974.45163	103-16-40.7
69+300	1716582.38981	553071.77835	103-16-40.7
69+400	1716559.42226	553169.10508	103-16-40.7
69+500	1716536.45471	553266.43181	103-16-40.7
69+600	1716513.48716	553363.75853	103-16-40.7
69+700	1716490.51961	553461.08526	103-16-40.7
69+800	1716467.55206	553558.41199	103-16-40.7
69+900	1716444.58451	553655.73871	103-16-40.7
70+000	1716421.61696	553753.06544	103-16-40.7
70+100	1716398.64941	553850.39216	103-16-40.7
70+200	1716375.68186	553947.71889	103-16-40.7
70+300	1716352.71431	554045.04562	103-16-40.7
70+400	1716329.74676	554142.37234	103-16-40.7
70+500	1716306.77921	554239.69907	103-16-40.7
70+600	1716283.81166	554337.02580	103-16-40.7
70+700	1716260.84411	554434.35252	103-16-40.7
70+800	1716237.87656	554531.67925	103-16-40.7
70+900	1716214.90901	554629.00597	103-16-40.7
71+000	1716191.94146	554726.33270	103-16-40.7
71+100	1716168.97391	554823.65943	103-16-40.7
71+200	1716146.00636	554920.98615	103-16-40.7
71+300	1716123.03881	555018.31288	103-16-40.7
71+400	1716100.07126	555115.63961	103-16-40.7
71+500	1716077.10371	555212.96633	103-16-40.7
71+600	1716054.13616	555310.29306	103-16-40.7
71+700	1716031.16861	555407.61979	103-16-40.7
71+800	1716008.20106	555504.94651	103-16-40.7
71+900	1715985.23351	555602.27324	103-16-40.7
72+000	1715962.26596	555699.59996	103-16-40.7
72+100	1715939.29841	555796.92669	103-16-40.7
72+200	1715916.33086	555894.25342	103-16-40.7
72+300	1715893.36331	555991.58014	103-16-40.7
72+400	1715870.39576	556088.90687	103-16-40.7
72+500	1715847.22300	556186.18451	103-48-15.6
72+600	1715822.39281	556283.05105	104-57-00.9
72+700	1715795.63038	556379.40166	106-05-46.2
72+800	1715766.94642	556475.19778	107-14-31.5
72+900	1715736.35240	556570.40110	108-23-16.8

73+000	1715703.86056	556664.97355	109-32-02.1
73+100	1715669.48390	556758.87728	110-40-47.4
73+200	1715633.23616	556852.07475	111-49-32.7
73+300	1715595.13184	556944.52867	112-58-18.0
73+400	1715555.18620	557036.20207	114-07-03.3
73+500	1715513.41519	557127.05828	115-15-48.6
73+600	1715469.83553	557217.06094	116-24-33.9
73+700	1715424.46466	557306.17408	117-33-19.2
73+800	1715377.32072	557394.36203	118-42-04.5
73+900	1715328.42256	557481.58953	119-50-49.8
74+000	1715277.78975	557567.82169	120-59-35.1
74+100	1715225.44254	557653.02402	122-08-20.4
74+200	1715171.40186	557737.16243	123-17-05.7
74+300	1715115.68934	557820.20327	124-25-51.0
74+400	1715058.32725	557902.11333	125-34-36.2
74+500	1714999.33854	557982.85984	126-43-21.5
74+600	1714938.74681	558062.41050	127-52-06.8
74+700	1714876.57629	558140.73350	129-00-52.1
74+800	1714812.85184	558217.79752	130-09-37.4
74+900	1714747.59897	558293.57171	131-18-22.7
75+000	1714680.84375	558368.02578	132-27-08.0
75+100	1714612.61291	558441.12995	133-35-53.3
75+200	1714542.93373	558512.85496	134-44-38.6
75+300	1714471.83408	558583.17215	135-53-23.9
75+400	1714399.34240	558652.05337	137-02-09.2
75+500	1714325.48768	558719.47108	138-10-54.5
75+600	1714250.29947	558785.39831	139-19-39.8
75+700	1714173.80784	558849.80869	140-28-25.1
75+800	1714096.04339	558912.67646	141-37-10.4
75+900	1714017.03721	558973.97647	142-45-55.7
76+000	1713936.82092	559033.68420	143-54-41.0
76+100	1713855.42660	559091.77578	145-03-26.3
76+200	1713772.88680	559148.22795	146-12-11.6
76+300	1713689.23454	559203.01815	147-20-56.9
76+400	1713604.50328	559256.12446	148-29-42.2
76+500	1713518.72691	559307.52564	149-38-27.5
76+600	1713431.93974	559357.20112	150-47-12.8
76+700	1713344.17648	559405.13104	151-55-58.1
76+800	1713255.47224	559451.29623	153-04-43.4
76+900	1713165.86250	559495.67822	154-13-28.7
77+000	1713075.38310	559538.25926	155-22-13.9
77+100	1712984.07023	559579.02231	156-30-59.2
77+200	1712891.96042	559617.95107	157-39-44.5
77+300	1712799.09050	559655.02998	158-48-29.8
77+400	1712705.49763	559690.24420	159-57-15.1
77+500	1712611.21924	559723.57964	161-06-00.4

77+600	1712516.29304	559755.02297	162-14-45.7
77+700	1712420.75700	559784.56162	163-23-31.0
77+800	1712324.64933	559812.18376	164-32-16.3
77+900	1712228.03878	559837.99487	165-17-10.2
78+000	1712131.31814	559863.39401	165-17-10.2
78+100	1712034.59749	559888.79315	165-17-10.2
78+200	1711937.87684	559914.19229	165-17-10.2
78+300	1711841.15619	559939.59143	165-17-10.2
78+400	1711744.45781	559965.07467	164-56-53.5
78+500	1711648.15479	559992.00783	163-48-08.2
78+600	1711552.40966	560020.86154	162-39-22.9
78+700	1711457.26071	560051.62426	161-30-37.6
78+800	1711362.74601	560084.28367	160-21-52.3
78+900	1711268.90335	560118.82672	159-13-07.0
79+000	1711175.77028	560155.23959	158-04-21.7
79+100	1711083.38404	560193.50772	156-55-36.4
79+200	1710991.78158	560233.61579	155-46-51.1
79+300	1710900.99956	560275.54777	154-38-05.8
79+400	1710811.07428	560319.28689	153-29-20.5
79+500	1710722.04170	560364.81564	152-20-35.2
79+600	1710633.93745	560412.11581	151-11-49.9
79+700	1710546.79675	560461.16850	150-03-04.6
79+800	1710460.65447	560511.95407	148-54-19.3
79+900	1710375.54507	560564.45222	147-45-34.0
80+000	1710291.50257	560618.64194	146-36-48.7
80+100	1710208.56061	560674.50157	145-28-03.5
80+200	1710126.75235	560732.00875	144-19-18.2
80+300	1710046.11052	560791.14048	143-10-32.9
80+400	1709966.66738	560851.87312	142-01-47.6
80+500	1709888.45469	560914.18237	140-53-02.3
80+600	1709811.50375	560978.04331	139-44-17.0
80+700	1709735.84533	561043.43039	138-35-31.7
80+800	1709661.50970	561110.31746	137-26-46.4
80+900	1709588.52659	561178.67777	136-18-01.1
81+000	1709516.92519	561248.48397	135-09-15.8
81+100	1709446.73414	561319.70815	134-00-30.5
81+200	1709377.98151	561392.32180	132-51-45.2
81+300	1709310.69481	561466.29590	131-42-59.9
81+400	1709244.90095	561541.60085	130-34-14.6
81+500	1709180.62625	561618.20652	129-25-29.3
81+600	1709117.89641	561696.08228	128-16-44.0
81+700	1709056.35415	561774.90182	127-55-45.9
81+800	1708994.88513	561853.77869	127-55-45.9
81+900	1708933.41611	561932.65555	127-55-45.9
82+000	1708871.94709	562011.53241	127-55-45.9
82+100	1708810.47807	562090.40928	127-55-45.9

82+200	1708749.00905	562169.28614	127-55-45.9
82+300	1708687.54003	562248.16301	127-55-45.9
82+400	1708626.07101	562327.03987	127-55-45.9
82+500	1708564.60199	562405.91673	127-55-45.9
82+600	1708503.13297	562484.79360	127-55-45.9
82+700	1708441.66395	562563.67046	127-55-45.9
82+800	1708380.19493	562642.54732	127-55-45.9
82+900	1708318.72591	562721.42419	127-55-45.9
83+000	1708257.25689	562800.30105	127-55-45.9
83+100	1708195.78787	562879.17791	127-55-45.9
83+200	1708134.31885	562958.05478	127-55-45.9
83+300	1708072.84983	563036.93164	127-55-45.9
83+400	1708011.38081	563115.80851	127-55-45.9
83+500	1707949.91179	563194.68537	127-55-45.9
83+600	1707888.44277	563273.56223	127-55-45.9
83+700	1707826.97375	563352.43910	127-55-45.9
83+800	1707765.50473	563431.31596	127-55-45.9
83+900	1707704.03571	563510.19282	127-55-45.9
84+000	1707642.56669	563589.06969	127-55-45.9
84+100	1707581.09767	563667.94655	127-55-45.9
84+200	1707519.62865	563746.82341	127-55-45.9
84+300	1707458.15963	563825.70028	127-55-45.9
84+400	1707396.69061	563904.57714	127-55-45.9
84+500	1707335.22160	563983.45401	127-55-45.9
84+600	1707273.75258	564062.33087	127-55-45.9
84+700	1707212.28356	564141.20773	127-55-45.9
84+800	1707150.81454	564220.08460	127-55-45.9
84+900	1707089.34552	564298.96146	127-55-45.9
85+000	1707027.87650	564377.83832	127-55-45.9
85+100	1706966.40748	564456.71519	127-55-45.9
85+200	1706904.93846	564535.59205	127-55-45.9
85+300	1706843.46944	564614.46891	127-55-45.9
85+400	1706782.00042	564693.34578	127-55-45.9
85+500	1706720.53140	564772.22264	127-55-45.9
85+600	1706659.06238	564851.09951	127-55-45.9
85+700	1706597.59336	564929.97637	127-55-45.9
85+800	1706536.12434	565008.85323	127-55-45.9
85+900	1706474.65532	565087.73010	127-55-45.9
86+000	1706413.18630	565166.60696	127-55-45.9
86+100	1706351.71728	565245.48382	127-55-45.9
86+200	1706290.24826	565324.36069	127-55-45.9
86+300	1706228.77924	565403.23755	127-55-45.9
86+400	1706167.31022	565482.11441	127-55-45.9
86+500	1706105.84120	565560.99128	127-55-45.9
86+600	1706044.37218	565639.86814	127-55-45.9
86+700	1705982.90316	565718.74501	127-55-45.9

86+800	1705921.43414	565797.62187	127-55-45.9
86+900	1705859.96512	565876.49873	127-55-45.9
87+000	1705798.49610	565955.37560	127-55-45.9
87+100	1705737.02708	566034.25246	127-55-45.9
87+200	1705675.55806	566113.12932	127-55-45.9
87+300	1705614.08904	566192.00619	127-55-45.9
87+400	1705552.62002	566270.88305	127-55-45.9
87+500	1705491.15100	566349.75991	127-55-45.9
87+600	1705429.68198	566428.63678	127-55-45.9
87+700	1705368.21296	566507.51364	127-55-45.9
87+800	1705306.74394	566586.39051	127-55-45.9
87+900	1705245.27493	566665.26737	127-55-45.9
88+000	1705183.80591	566744.14423	127-55-45.9
88+100	1705122.33689	566823.02110	127-55-45.9
88+200	1705060.86787	566901.89796	127-55-45.9
88+300	1704999.39885	566980.77482	127-55-45.9
88+400	1704937.92983	567059.65169	127-55-45.9
88+500	1704876.46081	567138.52855	127-55-45.9
88+600	1704814.99179	567217.40541	127-55-45.9
88+700	1704753.52277	567296.28228	127-55-45.9
88+800	1704692.05375	567375.15914	127-55-45.9
88+900	1704630.58473	567454.03601	127-55-45.9
89+000	1704569.11571	567532.91287	127-55-45.9
89+100	1704507.64669	567611.78973	127-55-45.9
89+200	1704446.17767	567690.66660	127-55-45.9
89+300	1704384.70865	567769.54346	127-55-45.9
89+400	1704323.23963	567848.42032	127-55-45.9
89+500	1704261.77061	567927.29719	127-55-45.9
89+600	1704200.30159	568006.17405	127-55-45.9
89+700	1704138.83257	568085.05091	127-55-45.9
89+800	1704077.36355	568163.92778	127-55-45.9
89+900	1704015.89453	568242.80464	127-55-45.9
90+000	1703954.42551	568321.68151	127-55-45.9
90+100	1703892.95649	568400.55837	127-55-45.9
90+200	1703831.48747	568479.43523	127-55-45.9
90+300	1703770.01845	568558.31210	127-55-45.9
90+400	1703708.54943	568637.18896	127-55-45.9
90+500	1703647.08041	568716.06582	127-55-45.9
90+600	1703585.92849	568795.18766	127-12-14.5
90+700	1703526.26346	568875.43571	126-03-29.2
90+800	1703468.21521	568956.86094	124-54-43.9
90+900	1703411.80697	569039.43078	123-45-58.6
91+000	1703357.06130	569123.11218	122-37-13.3
91+100	1703304.00010	569207.87170	121-28-28.1
91+200	1703252.64458	569293.67541	120-19-42.8
91+300	1703203.01529	569380.48901	119-10-57.5

91+400	1703155.13209	569468.27776	118-02-12.2
91+500	1703109.01412	569557.00656	116-53-26.9
91+600	1703064.67983	569646.63991	115-44-41.6
91+700	1703022.14695	569737.14196	114-35-56.3
91+800	1702981.43250	569828.47651	113-27-11.0
91+900	1702942.55277	569920.60703	112-18-25.7
92+000	1702905.52329	570013.49667	111-09-40.4
92+100	1702870.35889	570107.10827	110-00-55.1
92+200	1702837.07363	570201.40439	108-52-09.8
92+300	1702805.68083	570296.34731	107-43-24.5
92+400	1702776.19303	570391.89906	106-34-39.2
92+500	1702748.62204	570488.02142	105-25-53.9
92+600	1702722.97888	570584.67593	104-17-08.6
92+700	1702699.27381	570681.82394	103-08-23.3
92+800	1702677.51632	570779.42660	101-59-38.0
92+900	1702657.71510	570877.44485	100-50-52.7
93+000	1702639.68561	570975.80543	100-12-31.2
93+100	1702621.96224	571074.22231	100-12-31.2
93+200	1702604.23887	571172.63919	100-12-31.2
93+300	1702586.51549	571271.05606	100-12-31.2
93+400	1702568.79212	571369.47294	100-12-31.2
93+500	1702551.06875	571467.88982	100-12-31.2
93+600	1702533.34538	571566.30670	100-12-31.2
93+700	1702515.62201	571664.72358	100-12-31.2
93+800	1702497.89864	571763.14046	100-12-31.2
93+900	1702480.17527	571861.55734	100-12-31.2
94+000	1702462.45189	571959.97422	100-12-31.2
94+100	1702444.72852	572058.39110	100-12-31.2
94+200	1702427.00515	572156.80798	100-12-31.2
94+300	1702409.28178	572255.22486	100-12-31.2
94+400	1702391.55841	572353.64174	100-12-31.2
94+500	1702373.83504	572452.05861	100-12-31.2
94+600	1702356.11167	572550.47549	100-12-31.2
94+700	1702338.38829	572648.89237	100-12-31.2
94+800	1702320.66492	572747.30925	100-12-31.2
94+900	1702302.94155	572845.72613	100-12-31.2
95+000	1702285.21818	572944.14301	100-12-31.2
95+100	1702267.49481	573042.55989	100-12-31.2
95+200	1702249.77144	573140.97677	100-12-31.2
95+300	1702232.04807	573239.39365	100-12-31.2
95+400	1702214.32469	573337.81053	100-12-31.2
95+500	1702196.60132	573436.22741	100-12-31.2
95+600	1702178.87795	573534.64429	100-12-31.2
95+700	1702161.15458	573633.06116	100-12-31.2
95+800	1702143.43121	573731.47804	100-12-31.2
95+900	1702125.70784	573829.89492	100-12-31.2

96+000	1702107.98446	573928.31180	100-12-31.2
96+100	1702090.26109	574026.72868	100-12-31.2
96+200	1702072.53772	574125.14556	100-12-31.2
96+300	1702054.81435	574223.56244	100-12-31.2
96+400	1702037.09098	574321.97932	100-12-31.2
96+500	1702019.36761	574420.39620	100-12-31.2
96+600	1702001.64424	574518.81308	100-12-31.2
96+700	1701983.57094	574617.16533	100-58-22.5
96+800	1701963.31134	574715.08891	102-24-19.1
96+900	1701940.61023	574812.47546	103-50-15.8
97+000	1701915.48181	574909.26410	105-16-12.4
97+100	1701887.94177	575005.39435	106-42-09.0
97+200	1701858.00734	575100.80614	108-08-05.6
97+300	1701825.69721	575195.43983	109-34-02.2
97+400	1701791.03158	575289.23627	110-59-58.9
97+500	1701754.03212	575382.13686	112-25-55.5
97+600	1701714.72194	575474.08353	113-51-52.1
97+700	1701673.12563	575565.01881	115-17-48.7
97+800	1701629.26916	575654.88588	116-43-45.3
97+900	1701583.17996	575743.62856	118-09-42.0
98+000	1701534.88682	575831.19141	119-35-38.6
98+100	1701484.41994	575917.51969	121-01-35.2
98+200	1701431.81084	576002.55946	122-27-31.8
98+300	1701377.09240	576086.25756	123-53-28.4
98+400	1701320.29883	576168.56169	125-19-25.1
98+500	1701261.46562	576249.42041	126-45-21.7
98+600	1701200.62954	576328.78318	128-11-18.3
98+700	1701137.82860	576406.60041	129-37-14.9
98+800	1701073.10206	576482.82347	131-03-11.5
98+900	1701006.49037	576557.40471	132-29-08.2
99+000	1700938.03515	576630.29753	133-55-04.8
99+100	1700867.77920	576701.45636	135-21-01.4
99+200	1700795.76641	576770.83675	136-46-58.0
99+300	1700722.04180	576838.39532	138-12-54.6
99+400	1700646.65144	576904.08986	139-38-51.3
99+500	1700569.64244	576967.87931	141-04-47.9
99+600	1700491.06294	577029.72380	142-30-44.5
99+700	1700410.96204	577089.58468	143-56-41.1
99+800	1700329.38980	577147.42454	145-22-37.7
99+900	1700246.39721	577203.20724	146-48-34.4
100+000	1700162.03613	577256.89790	148-14-31.0
100+100	1700076.35929	577308.46298	149-40-27.6
100+200	1699989.42023	577357.87025	151-06-24.2
100+300	1699901.27327	577405.08883	152-32-20.8
100+400	1699811.97353	577450.08921	153-58-17.5
100+500	1699721.57679	577492.84327	155-24-14.1

100+600	1699630.13956	577533.32428	156-50-10.7
100+700	1699537.71899	577571.50696	158-16-07.3
100+800	1699444.37283	577607.36742	159-42-03.9
100+900	1699350.15941	577640.88327	161-08-00.6
101+000	1699255.13763	577672.03356	162-33-57.2
101+100	1699159.36687	577700.79882	163-59-53.8
101+200	1699062.90698	577727.16106	165-25-50.4
101+300	1698965.81824	577751.10383	166-51-47.0
101+400	1698868.16133	577772.61214	168-17-43.7
101+500	1698769.99729	577791.67257	169-43-40.3
101+600	1698671.38746	577808.27320	171-09-36.9
101+700	1698572.39347	577822.40365	172-35-33.5
101+800	1698473.07719	577834.05509	174-01-30.1
101+900	1698373.50069	577843.22024	175-27-26.8
102+000	1698273.72621	577849.89338	176-53-23.4
102+100	1698173.81608	577854.07032	178-19-20.0
102+200	1698073.83277	577855.74847	179-45-16.6
102+300	1697973.83869	577854.92995	181-06-53.4
102+400	1697873.85762	577852.98432	181-06-53.4
102+500	1697773.87655	577851.03868	181-06-53.4
102+600	1697673.89548	577849.09305	181-06-53.4
102+700	1697573.91606	577847.10269	183-06-42.1
102+800	1697474.03802	577842.17376	182-32-19.5
102+900	1697374.11569	577838.24384	181-57-56.8
103+000	1697274.15905	577835.31333	181-23-34.2
103+100	1697174.17811	577833.38251	180-49-11.5
103+200	1697074.18286	577832.45158	180-14-48.9
103+300	1696974.18330	577832.52063	179-40-26.2
103+400	1696874.18943	577833.58965	179-06-03.6
103+500	1696774.21125	577835.65855	178-31-41.0
103+600	1696674.25876	577838.72711	177-57-18.3
103+700	1696574.34195	577842.79502	177-22-55.7
103+800	1696474.47082	577847.86188	176-48-33.0
103+900	1696374.65534	577853.92718	176-14-10.4
104+000	1696274.90551	577860.99031	175-39-47.7
104+100	1696175.23130	577869.05058	175-05-25.1
104+200	1696075.64267	577878.10717	174-31-02.4
104+300	1695976.14959	577888.15917	173-56-39.8
104+400	1695876.76200	577899.20558	173-22-17.1
104+500	1695777.48984	577911.24531	172-47-54.5
104+600	1695678.34303	577924.27713	172-13-31.8
104+700	1695579.33151	577938.29976	171-39-09.2
104+800	1695480.46515	577953.31178	171-04-46.5
104+900	1695381.75386	577969.31170	170-30-23.9
105+000	1695283.20750	577986.29792	169-56-01.2
105+100	1695184.83593	578004.26873	169-21-38.6

105+200	1695086.64898	578023.22235	168-47-15.9
105+300	1694988.65647	578043.15687	168-12-53.3
105+400	1694890.86820	578064.07030	167-38-30.6
105+500	1694793.29396	578085.96055	167-04-08.0
105+600	1694695.94349	578108.82544	166-29-45.3
105+700	1694598.82653	578132.66267	165-55-22.7
105+800	1694501.95280	578157.46986	165-21-00.0
105+900	1694405.33198	578183.24453	164-46-37.4
106+000	1694308.97373	578209.98411	164-12-14.7
106+100	1694212.88770	578237.68591	163-37-52.1
106+200	1694117.08348	578266.34717	163-03-29.5
106+300	1694021.57065	578295.96503	162-29-06.8
106+400	1693926.35878	578326.53652	161-54-44.2
106+500	1693831.45738	578358.05858	161-20-21.5
106+600	1693736.87594	578390.52807	160-45-58.9
106+700	1693642.62391	578423.94173	160-11-36.2
106+800	1693548.71073	578458.29622	159-37-13.6
106+900	1693455.14579	578493.58812	159-02-50.9
107+000	1693361.93843	578529.81388	158-28-28.3
107+100	1693269.09799	578566.96989	157-54-05.6
107+200	1693176.63374	578605.05243	157-19-43.0
107+300	1693084.55494	578644.05769	156-45-20.3
107+400	1692992.87079	578683.98178	156-10-57.7
107+500	1692901.59045	578724.82069	155-36-35.0
107+600	1692810.72306	578766.57035	155-02-12.4
107+700	1692720.27771	578809.22659	154-27-49.7
107+800	1692630.26343	578852.78513	153-53-27.1
107+900	1692540.68923	578897.24161	153-19-04.4
108+000	1692451.56406	578942.59161	152-44-41.8
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109+200	1691404.72829	579528.92656	151-36-47.8
109+300	1691316.59458	579576.17497	151-59-42.9
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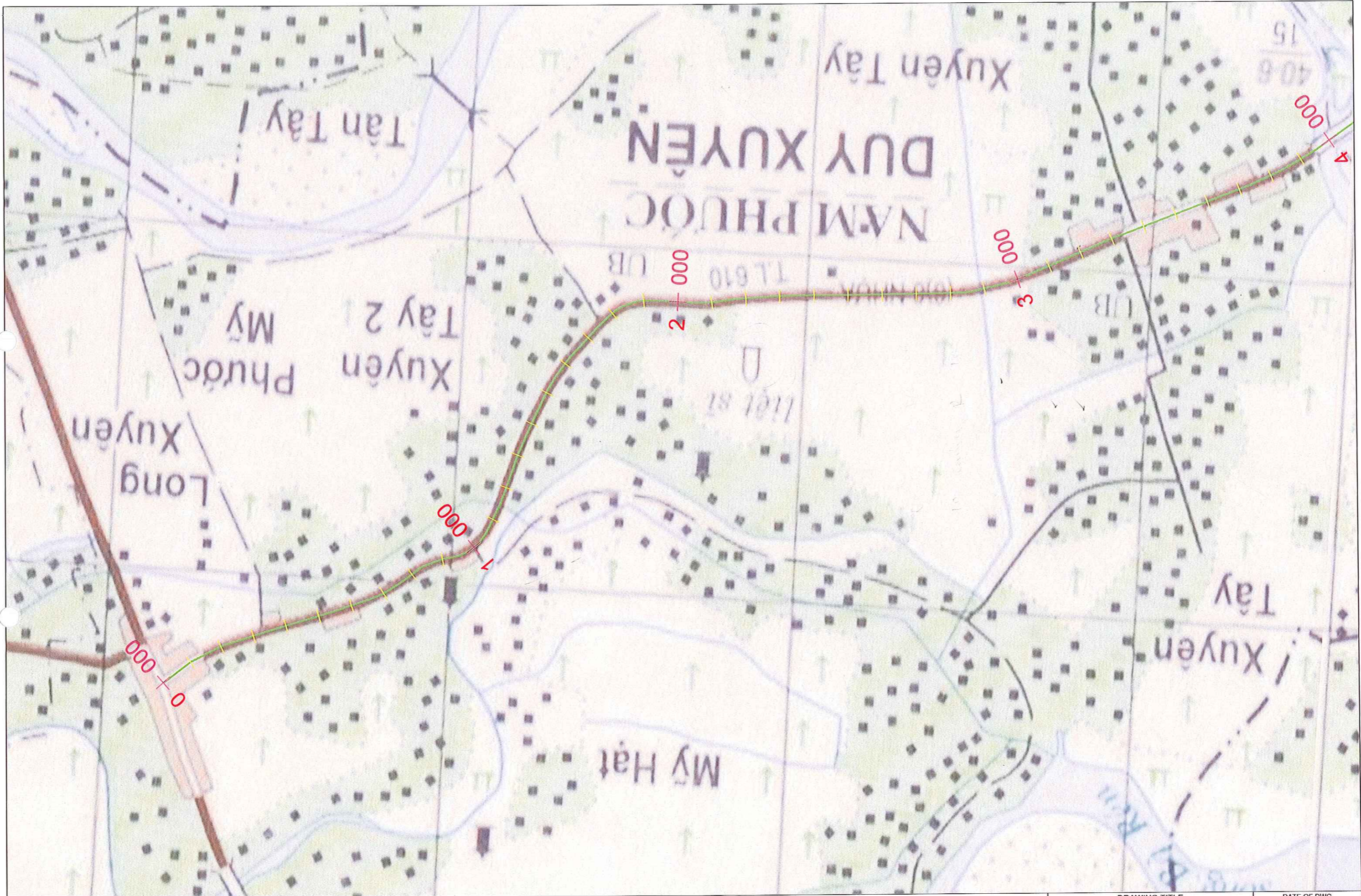
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Appendix-B is provided by map format from the next page.

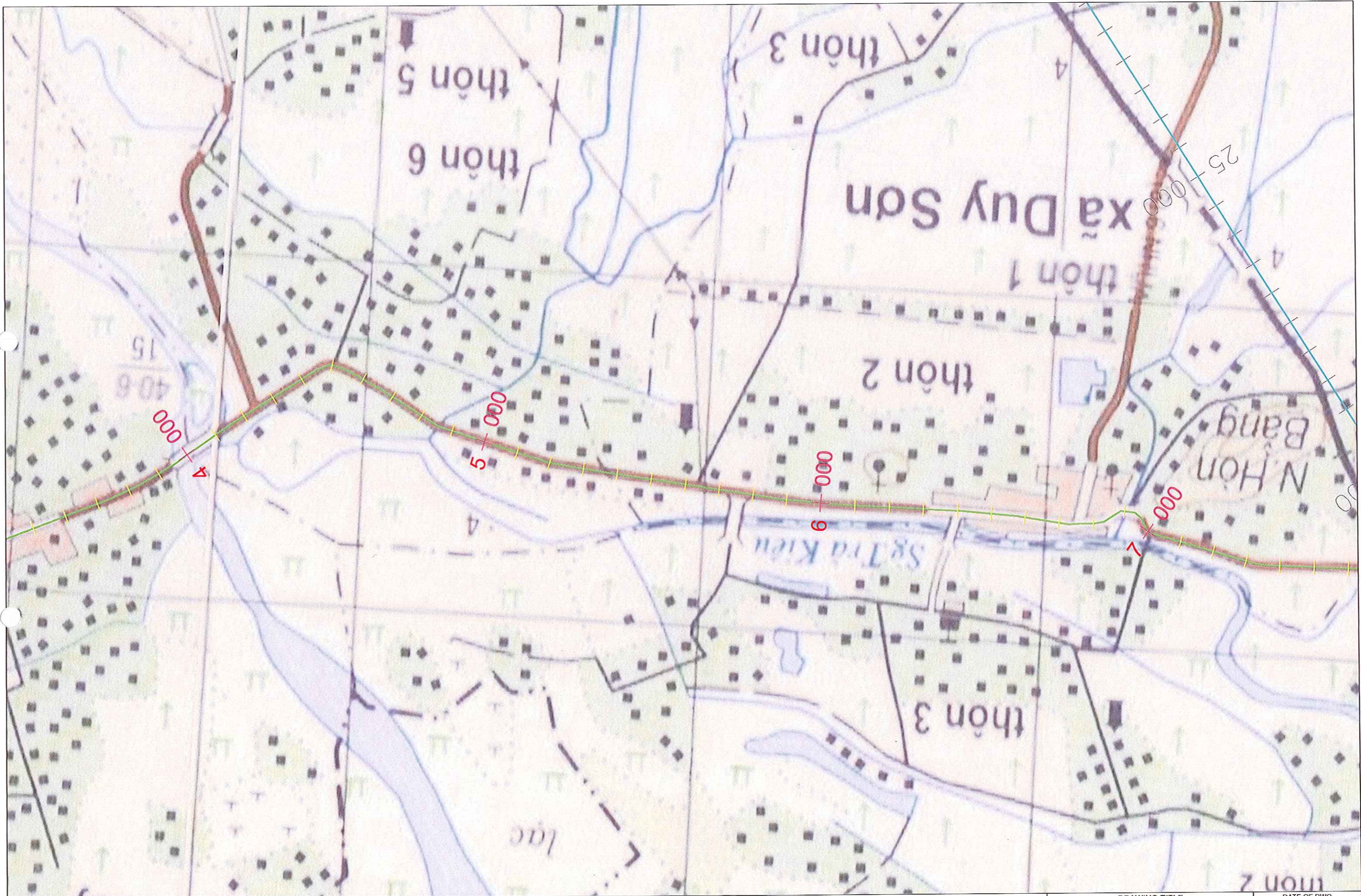


PROJECT NAME:  
 SUPPLEMENTAL FEASIBILITY STUDY FOR  
 EXPRESSWAY DEVELOPMENT DA NANG-QUANG NGAI PROJECT  
 07/08/2008



DRAWING TITLE  
 Linking Road  
 km20+700 TL-610 1/3

DATE OF DWG  
 SCALE  
 AS SHOWN  
 DWG No.

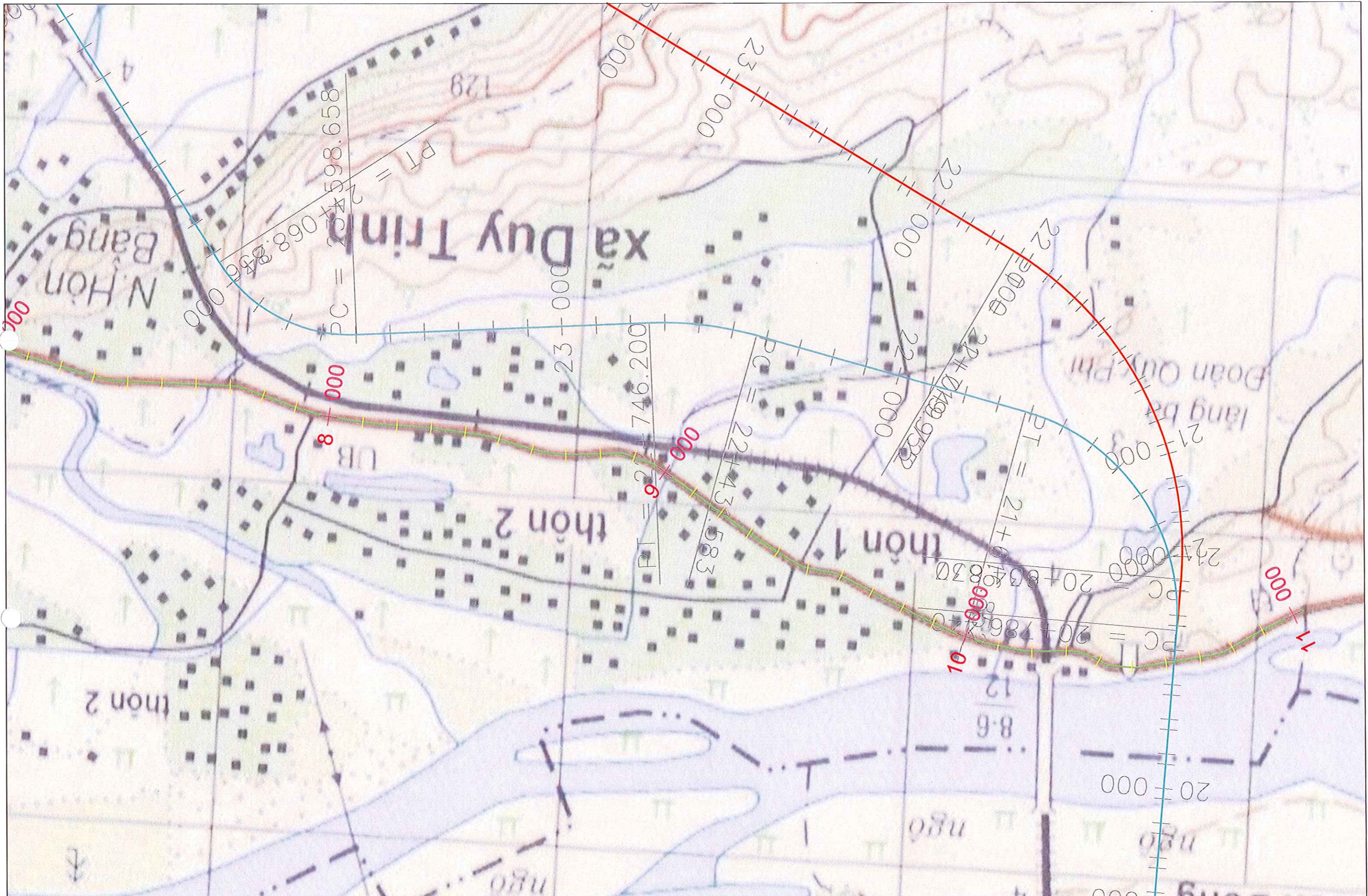


PROJECT NAME:  
 SUPPLEMENTAL FEASIBILITY STUDY FOR  
 EXPRESSWAY DEVELOPMENT DA NANG-QUANG NGAI PROJECT  
 07/08/2008



DRAWING TITLE  
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 km20+700 TL-610 2/3

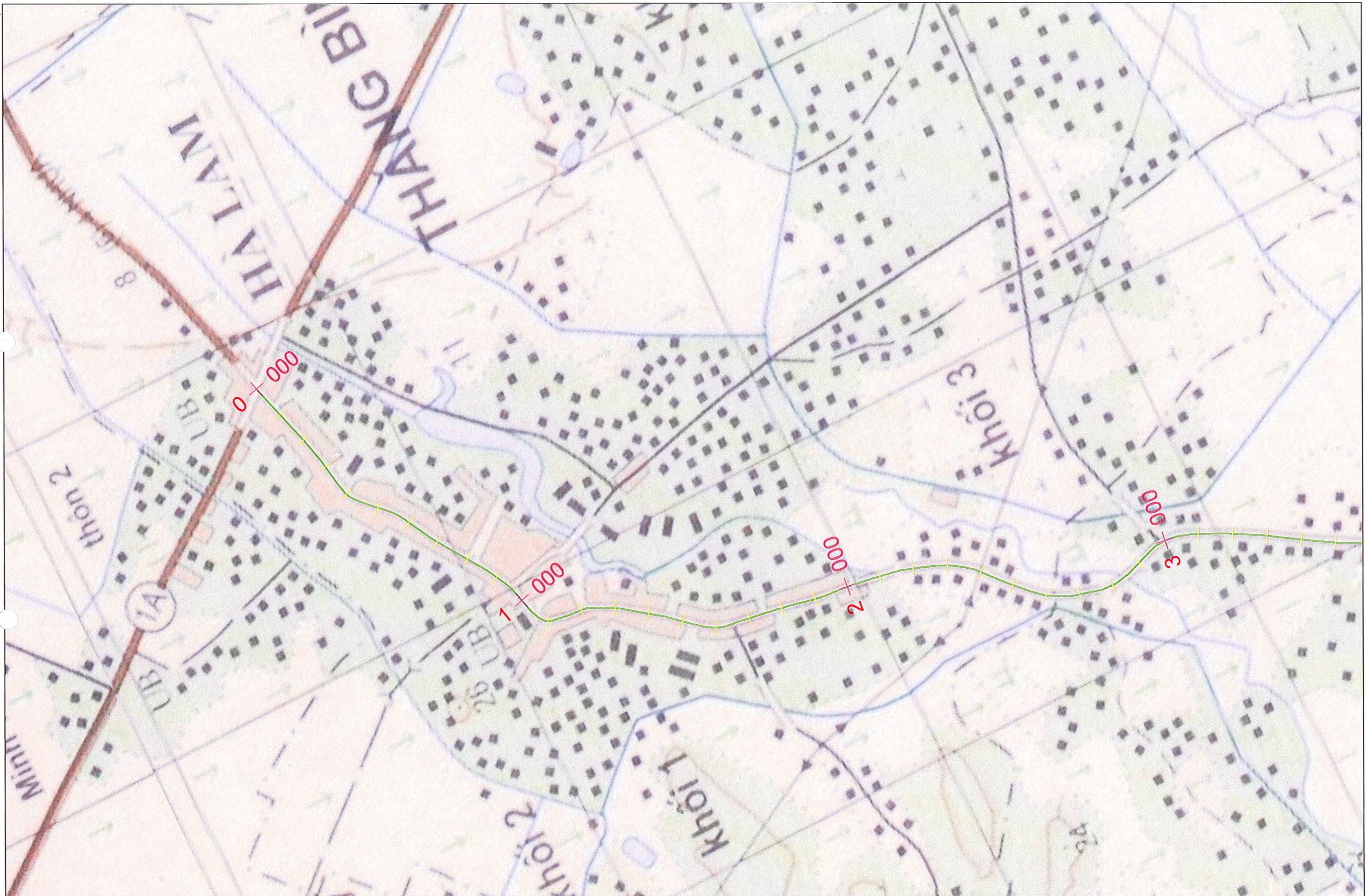
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PROJECT NAME:  
 SUPPLEMENTAL FEASIBILITY STUDY FOR  
 EXPRESSWAY DEVELOPMENT DA NANG-QUANG NGAI PROJECT  
 IN THE SOCIALIST REPUBLIC OF VIETNAM  
 07/08/2008



DRAWING TITLE		DATE OF DWG
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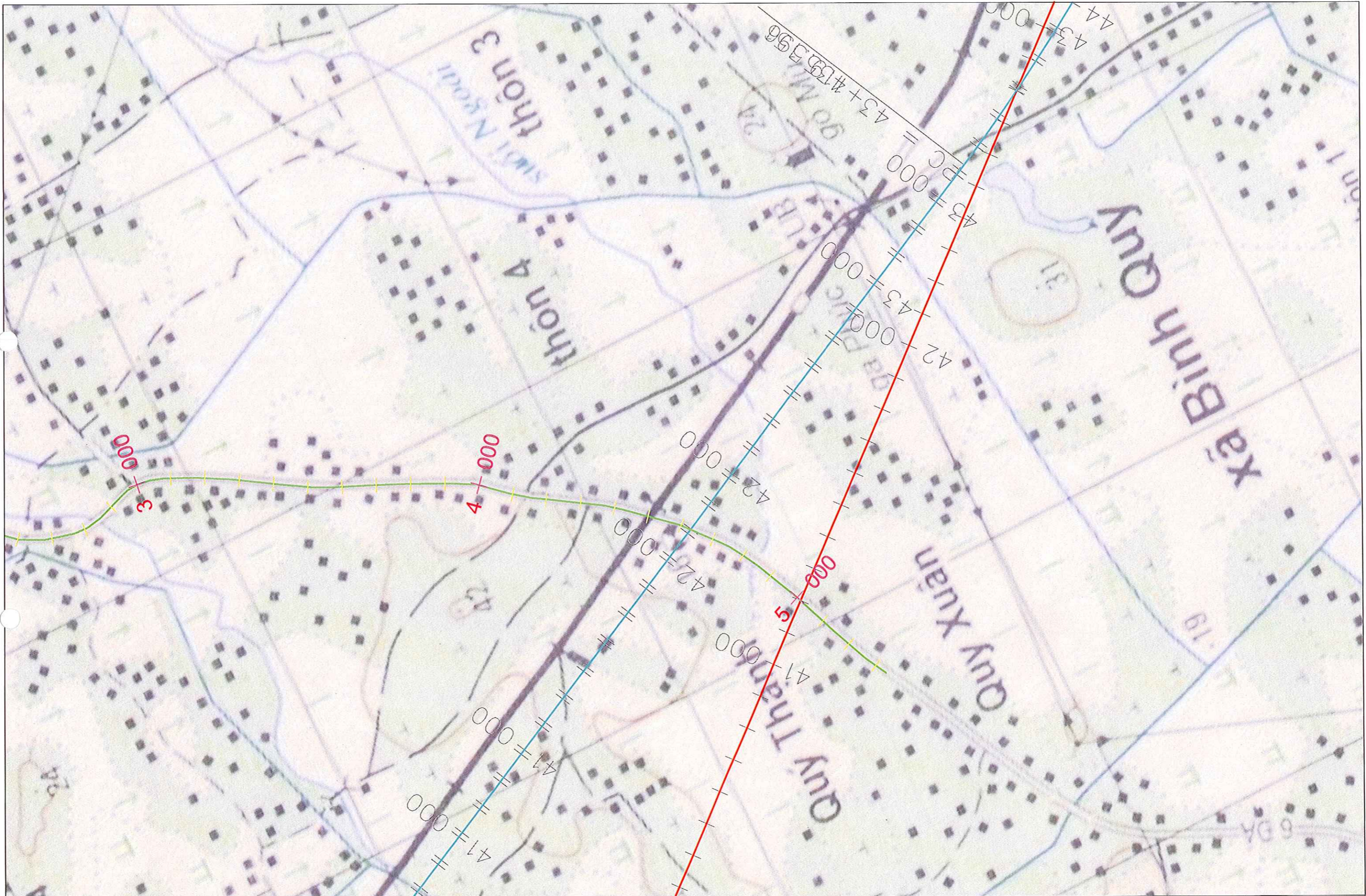


PROJECT NAME:  
 SUPPLEMENTAL FEASIBILITY STUDY FOR  
 EXPRESSWAY DEVELOPMENT DA NANG-QUANG NGAI PROJECT  
 IN THE SOCIALIST REPUBLIC OF VIETNAM  
 07/08/2008

 **NIPPON KOEI CO.,LTD.**

DRAWING TITLE  
 Linking Road  
 km42+000 NH14E 1/2

DATE OF DWG  
 SCALE  
 AS SHOWN  
 DWG No.



PROJECT NAME:  
 SUPPLEMENTAL FEASIBILITY STUDY FOR  
 EXPRESSWAY DEVELOPMENT DA NANG-QUANG NGAI PROJECT  
 IN THE SOCIALIST REPUBLIC OF VIETNAM  
 07/08/2008

 **NIPPON KOEI CO.,LTD.**

87 / 95

DRAWING TITLE  
 Linking Road  
 km42+000 NH14E 2/2

DATE OF DWG

SCALE  
 AS SHOWN  
 DWG No.



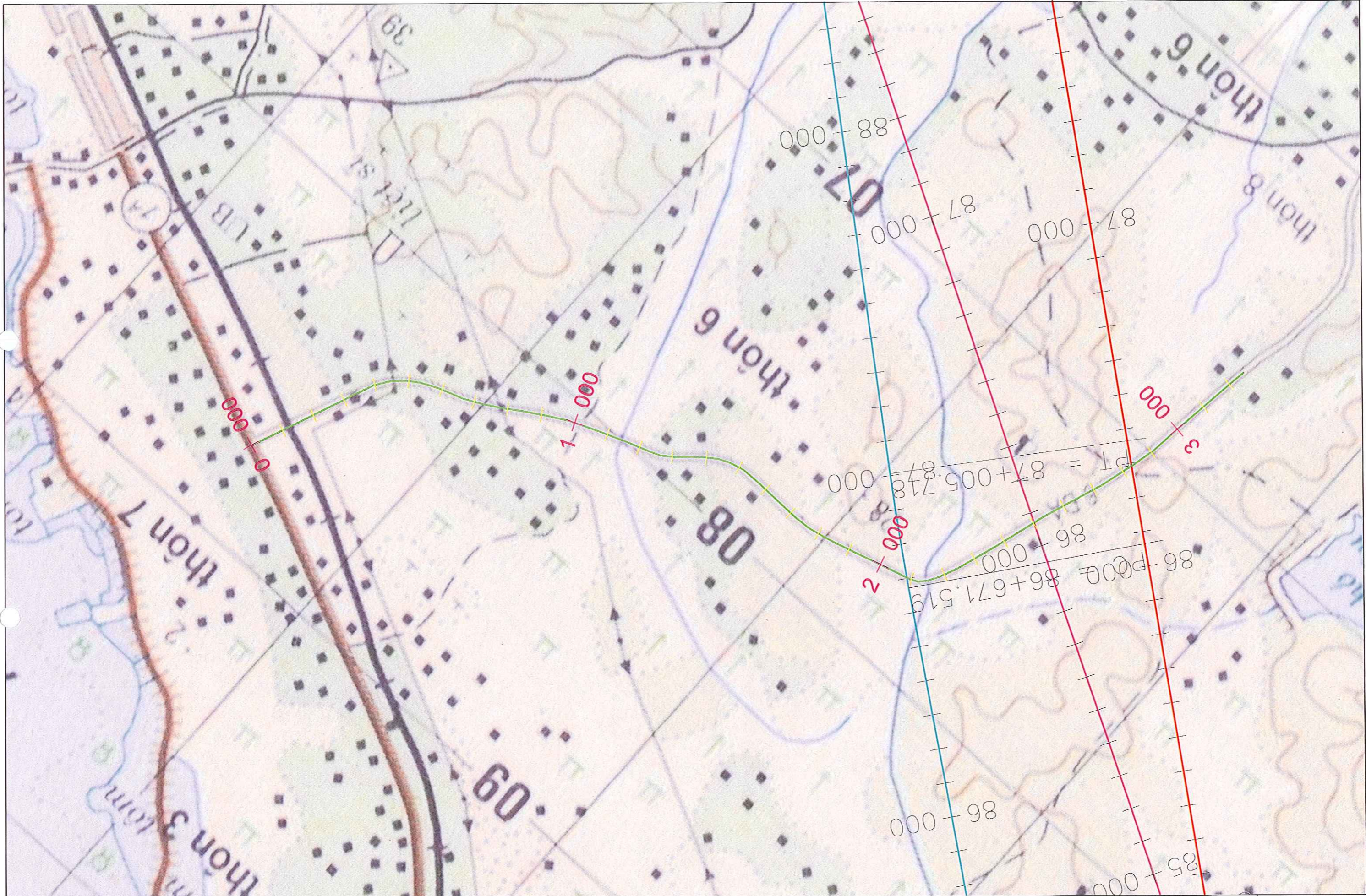


PROJECT NAME:  
 SUPPLEMENTAL FEASIBILITY STUDY FOR  
 EXPRESSWAY DEVELOPMENT DA NANG-QUANG NGAI PROJECT  
 IN THE SOCIALIST REPUBLIC OF VIETNAM  
 07/08/2008

 **NIPPON KOEI CO.,LTD.**

DRAWING TITLE  
 Linking Road  
 km65+000 TL-616 2/2

DATE OF DWG  
 SCALE  
 AS SHOWN  
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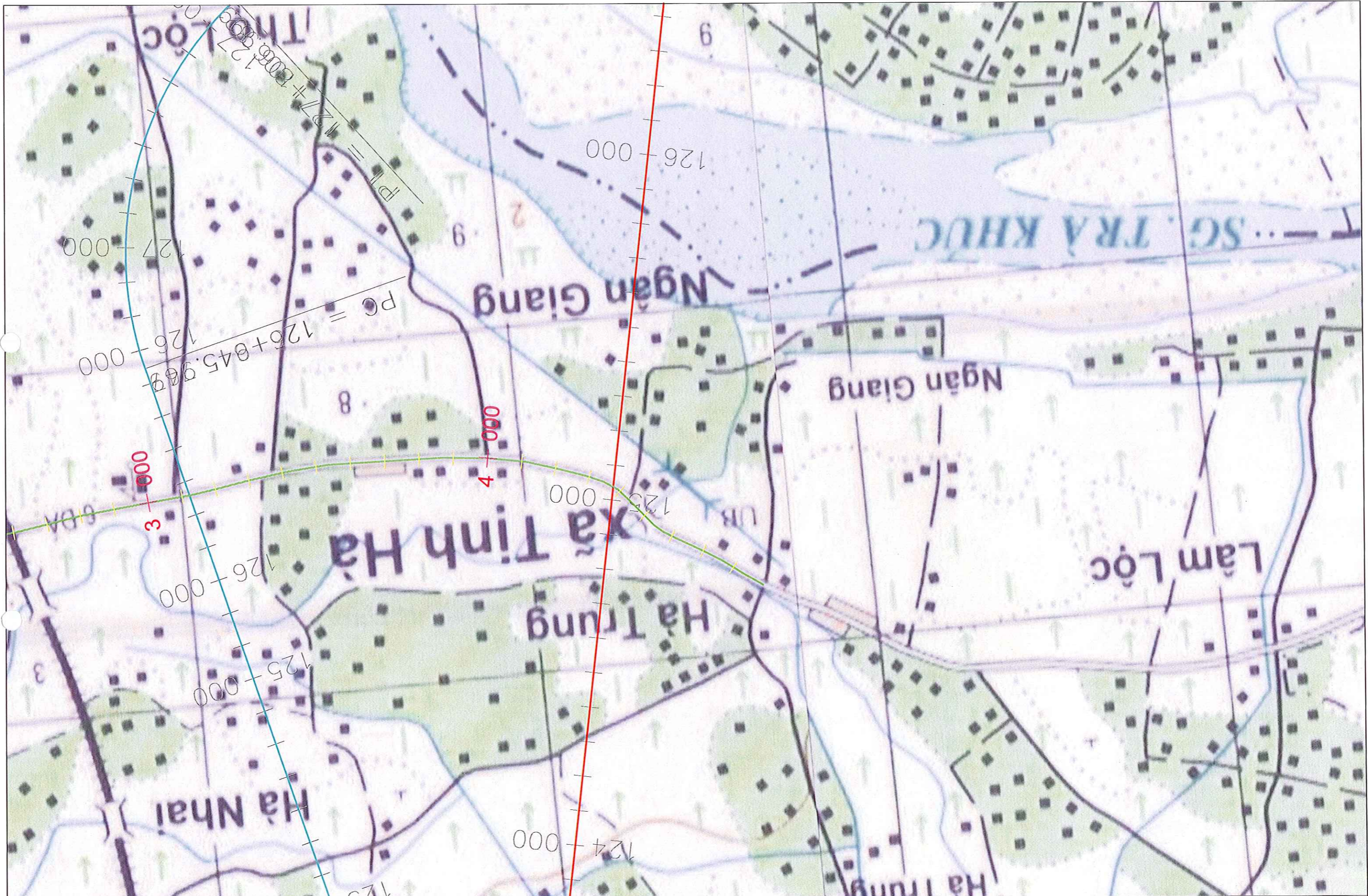
PROJECT NAME:  
 SUPPLEMENTAL FEASIBILITY STUDY FOR  
 EXPRESSWAY DEVELOPMENT DA NANG-QUANG NGAI PROJECT  
 IN THE SOCIALIST REPUBLIC OF VIETNAM  
 07/08/2008



DRAWING TITLE  
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DATE OF DWG  
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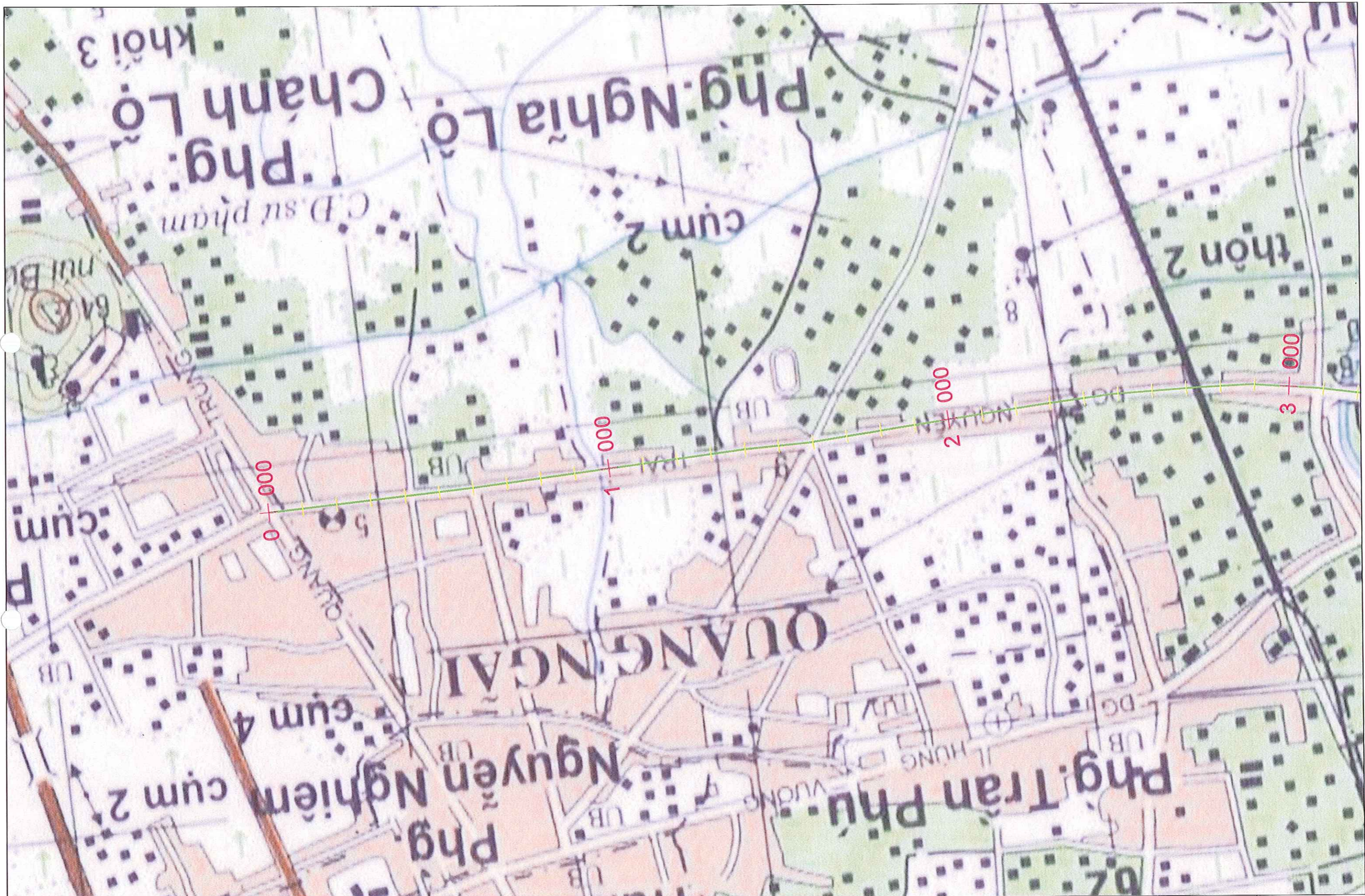


PROJECT NAME:  
 SUPPLEMENTAL FEASIBILITY STUDY FOR  
 EXPRESSWAY DEVELOPMENT DA NANG-QUANG NGAI PROJECT  
 IN THE SOCIALIST REPUBLIC OF VIETNAM  
 07/08/2008



DRAWING TITLE  
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DATE OF DWG  
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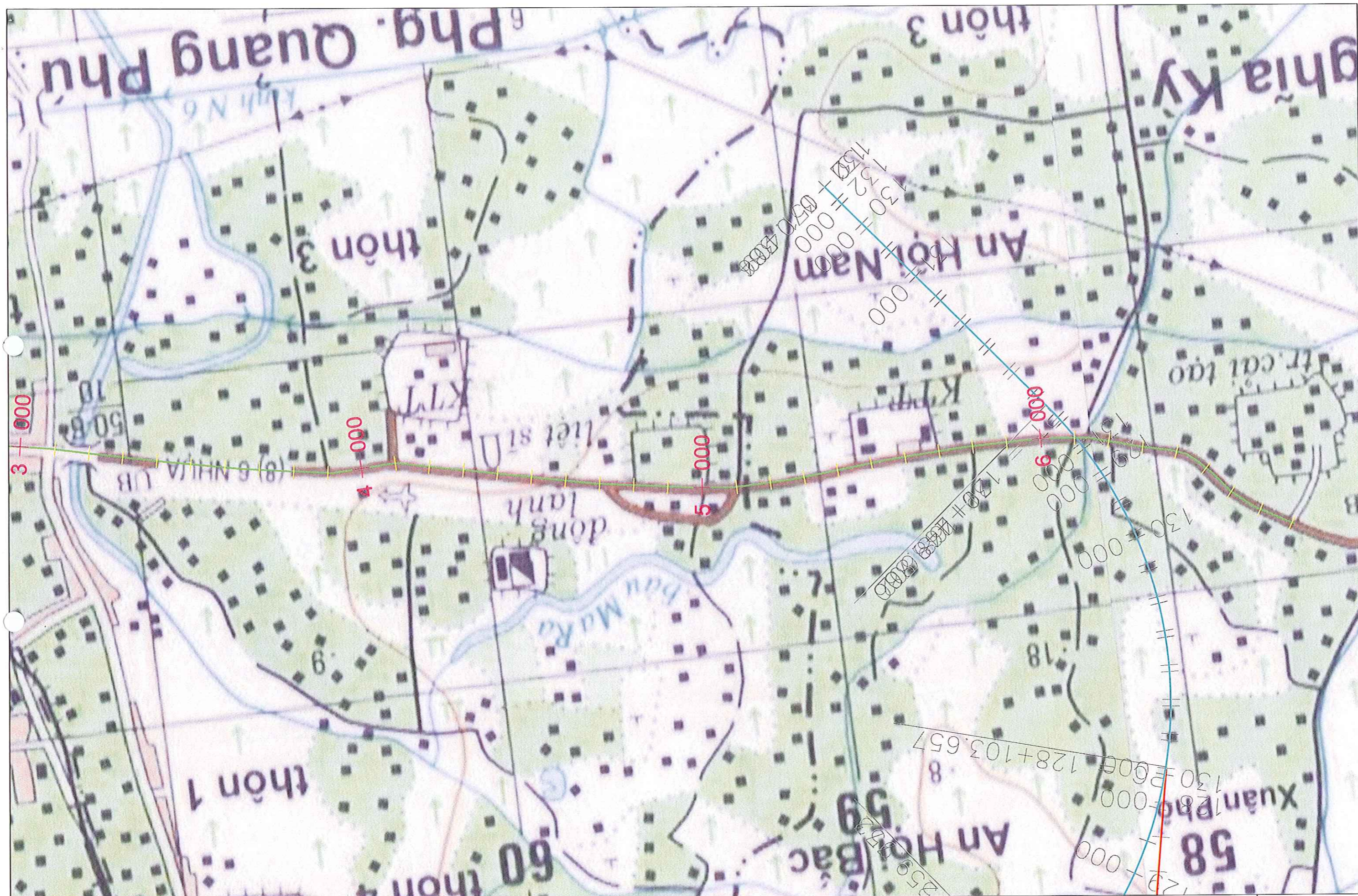


PROJECT NAME:  
 SUPPLEMENTAL FEASIBILITY STUDY FOR  
 EXPRESSWAY DEVELOPMENT DA NANG-QUANG NGAI PROJECT  
 IN THE SOCIALIST REPUBLIC OF VIETNAM  
 07/08/2008



DRAWING TITLE  
 Linking Road  
 km131+000 TL-625 1/2

DATE OF DWG  
 SCALE  
 AS SHOWN  
 DWG No.



PROJECT NAME:  
 SUPPLEMENTAL FEASIBILITY STUDY FOR  
 EXPRESSWAY DEVELOPMENT DA NANG-QUANG NGAI PROJECT  
 IN THE SOCIALIST REPUBLIC OF VIETNAM  
 07/08/2008



DRAWING TITLE		DATE OF DWG
Linking Road		
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GPS06C	1005	1761066.897	519018.804
GPS07C	1006	1760956.645	519015.142
GPS08	1007	1757723.178	519326.012
GPS09C	1008	1754152.995	520153.797
GPS10C	1009	1753543.410	520413.321
GPS11C	1010	1751516.143	520476.850
GPS12C	1011	1750743.587	520434.579
GPS13	1012	1748866.510	524014.989
GPS14	1013	1746596.739	527388.176
GPS15	1014	1742107.579	531753.286
GPS16	1015	1737668.428	536005.458
GPS17	1016	1732842.865	539463.818
GPS18	1017	1729135.051	541238.853
GPS19	1018	1723573.126	544219.719
GPS20C	1019	1739992.482	534460.758
GPS21C	1020	1739872.582	534644.823
GPS22	1021	1718672.625	548030.461
GPS23C	1022	1716939.017	551793.561
GPS24C	1023	1716908.946	552032.603
GPS25	1024	1714823.450	558117.984
GPS26	1025	1710068.020	562065.204
GPS27	1026	1703384.973	571080.348
GPS28	1027	1699710.506	577604.196
GPS29C	1028	1691602.485	580123.542
GPS30C	1029	1691344.439	580194.656
GPS31	1030	1681265.150	581861.777
GPS32C	1031	1674131.002	581921.055
GPS33C	1032	1673649.706	581680.809
GPS34	1033	1706929.221	565734.984
GPS35	1034	1687623.579	581819.768
GPS36C	1035	1670428.869	584341.631
GPS37C	1036	1670364.943	584497.008
GPS38	1037	1670130.473	587650.004