



## **TERMS OF REFERENCE FOR PARCELLARY SURVEY**

Name of Project: Parcellary Survey and Monumenting of National Roads, PILI-TIGAON-ALBAY BDRY. ROAD, K0454+(-1044)-K0472+084; IRIGA CITY-SAGRADA-SAN RAMON-HANAWAN ROAD K0491+(-781)-K0494+067; NAGA CITY BDRY-CAMALIGAN FISHING PORT ROAD, K0441+(-529)-K0443+730, Camarines Sur 3rd LD

### **I. INTRODUCTION**

#### **A. BACKGROUND**

The Government of the Republic of the Philippines, thru the Department of Public Works and Highways (DPWH), intends to engage the services of Local Consultancy Firms for the conduct of a Parcellary Survey of affected lots within the road right of way in order to ensure expeditious implementation of road and bridge widening projects along national roads within Camarines Sur 3<sup>rd</sup> LD.

#### **B. OBJECTIVE**

The objective of the services is to identify affected lots within the Road Right-of-Way (RROW) limits, as indicated in the detailed road design plans approved by the DPWH Secretary or his authorized representative and segregate the affected lots for the purpose of registering them in favor of the Government.

#### **C. PROJECT SCOPE OF WORK**

The proposed project which is the parcellary survey of PILI-TIGAON-ALBAY BDRY. ROAD, K0454+(-1044)-K0472+084; IRIGA CITY-SAGRADA-SAN RAMON-HANAWAN ROAD K0491+(-781)-K0494+067; NAGA CITY BDRY-CAMALIGAN FISHING PORT ROAD, K0441+(-529)-K0443+730 has total estimated length of 26.18 km.

### **II. SCOPE OF SERVICES**

#### **A. GENERAL**

- 2.1** The Consultant shall coordinate with the Land Management Services (LMS), Department of Environment and Natural Resources (DENR), DPWH-Implementing Office and Regional/District Offices concerned on the RROW acquisition. The services shall be provided in accordance with the improved Infrastructure Right-of-Way (ROW) Procedural Manual, DPWH Department Order (DO) No. 24, series of 2007 – Amended Omnibus levels of Authorities of Officials of the Department of Public Works and Highways, and other related Department issuances on procedures, rules, and responsibilities of all offices concerned.
- 2.2** The Consultant/Geodetic Engineer/Survey Contractor (Geodetic Engineering Partnership or Sole Proprietorship Firm) shall provide all labor, instruments/equipment like Global Positioning System and Electronic Total Stations, calibrated by the DENR LMS, materials, supplies, vehicles, and other facilities necessary to perform satisfactorily the survey works herein required, viz:

##### **2.2.1 Detailed Survey and Mapping Requirements**

The detailed survey works shall be undertaken in accordance with the common surveying and mapping requirements and specifications stipulated in the Manual for Land Survey in the Philippines (Land Administrative Order No. 4 of the Bureau of Lands); Executive Order No. 4, adopting the Philippine Reference System of 1992 as the Standard Reference System for Survey in the Philippines; and the DPWH Design Guidelines, Criteria and Standards, Volume I, Part I, Surveys and Investigations, that include but are not limited to the following:

a. Establishment of Horizontal Ground Controls

Establishment of horizontal ground controls based on the Philippine Plane Coordinate System or the Philippines Transverse Mercator Grid and/or Executive Order No. 45 (Adopting the Philippine Reference System of 1992 as the Standard Reference System for Survey in the Philippines).

b. Traverse Survey based on the Second Order Accuracy

c. Research Work of Affected Lots/Real Properties

In the research work for cadastral maps and technical descriptions of affected lots, the names of affected landowners, if any, within the RROW must be taken from the corresponding Municipal, City or Provincial Assessor's Office. The following data shall be gathered relative to the parcellary survey.

i. From the Assessor's Office

- Tax declaration of Real Property
- Tax Map to determine the owner and address
- Land Classification

ii. From the Affected Landowners

- Tax declaration of Real Property
- Copy of the Transfer Certificate of Title (TCT)
- Tax Clearance
- Pictures taken by the Consultant/Geodetic Engineer

iii. From the Registry of Deeds

- Certified copy of the Transfer Certificate of Title (TCT)

iv. From the Land Management Services (LMS)

- Cadastral Map
- Technical Description of Lot
- Lot Plan in standard LMS Form

v. From the Department of Agrarian Reform

- Areas subject to Land Reform or vast estate landholdings, where there is voluntary offer to sell (VOS) by owners

vi. From the National Commission for Indigenous People

- Areas of ancestral domain (Map)

vii. From the Department of National Defense (DND)

- Maps showing areas of Military Reservation

viii. From the Department of Environment and Natural Resources, DENR

- Protected Areas (maps) from the Protected Areas Management Bureau (PAMB)



The Consultant/Geodetic Engineer shall exhaust all possible measures to obtain all necessary data in the lands to be acquired. Lands with no available data shall be clearly mentioned/specified in the report for further research during the acquisition stage.

d. Closed Traverse and/or Closed Loop

Traverse and/or loop stations must start and end on recovered previously established horizontal ground controls of higher order and follow approximately the course of the boundaries of the affected properties.

e. Angular and Linear Errors of Closures

Angular and linear errors of closures must be in accordance with the specifications and requirements of the Manual for Land Surveys in the Philippines (Land Administrative Order No. 4).

f. Monumenting/Placing of Permanent Reference Points

- Lot Monuments

Standard cylindrical monuments used in defining and marking corners shall be made of concrete (mixture 1:2:3) at least 15 cm in diameter by 40 cm in depth and must be set 35 cm in the ground at the corners of lots within the RROW. The top shall be centered by a galvanized iron spike or by a conical hole not exceeding 20 millimeters in diameter and not less than 10 millimeters in depth to define the corner to which measurement shall be made.

## **2.3 Survey Operations and Submittal of Parcellary Survey Plans/Returns**

The computations, plotting/downloading and preparation of survey plans shall be done in accordance with survey requirements and specifications of the DENR/LMS and DPWH Guidelines, Criteria and Standards, Volume I, Part I, Surveys and Investigations.

The Plan (A-2 size mylar) shall consist of the following:

- a. Cover Sheet.
- b. Location Plan showing the adjoining Towns, Municipalities/Barangays, vicinity map, general notes, direction of meridian, technical description of all controlling points, legend/symbols, index map.
- c. Plotted in grid coordinate system.
- d. Right-of-way limit.
- e. Match line stationing in every sheet of plan.
- f. Name of Municipalities/Barangay/Sitio to be traversed/ affected.
- g. Technical descriptions of monuments/reference points.
- h. Land classification (residential, agricultural, commercial, industrial).
- i. Stationing at every 100 meters interval.
- j. All corners shall be indicated by small circle with their respective number description.
- k. Name, license number, date and place of issuance, signature and seal of Geodetic Engineer.
- l. Date of survey.
- m. Waiver drafted in every sheet of plans.
- n. Name of signatories/approving officials in every sheet of plan;
- o. Indicate per sheet in tabular form the following.
  - Name of claimant/s or owner/s of lots with corresponding lot no. and lot areas (remaining and affected) in sq. meter.
  - Technical description and tie lines of all lots affected by the ROW.
  - Names of affected lot owners, the area of lot affected and area of lot remaining.
- p. Other Related Documents

- Lot data computation of affected lots,  
The lot data computation that shall delineate the affected area from the mother lot shall be prepared on prescribed LMB Forms.
- Miscellaneous Data,

This shall include all research materials and documents pertaining to the affected lots such as certified true copies of OCT/TCT, technical description of the lot, tax declaration of real property and approved subdivision plans in LMS Form.

Likewise, the following must be incorporated in the plan:

1. The boundaries of the affected properties in full black ink lines heavier than those of adjoining properties. Permanent walls along boundaries shall be shown by conventional method;
2. The traverse and stations from which side shots were taken shall be plotted as dotted lines;
3. The relative positions of adjoining surveyed properties and the names of all adjoining owners indicated in the dotted lines, the boundaries between them and all important improvements (for right-of-way plan);
4. The corners shall be indicated by small circles two (2) millimeters in diameter with their respective description noted;
5. The boundary lies with corresponding bearings and distances shall be indicated in black ink or tabulated on the plan when these are numerous to be drawn or shown clearly along or near the boundary lines. Lot description shall be prepared;
6. In general, the lot numbers, corner numbers and description, note, title, etc. shall be drawn parallel to the horizontal axis of the plans;
7. The line and lot data computations, in PRS92 and local coordinate systems, shall be included in the data submission.

## **2.4 Subdivision Plans**

The proposed subdivision plans shall be prepared in accordance with the requirements of the LMS, DENR, together with other documents to be approved by the said agency to be used for land registration purposes. This plan shall be complied together with the computation of the technical descriptions of the lot.

The subdivision plans shall be signed/certified for conformity by the DPWH-Head of the Implementing Office or Regional Director /District Engineer concerned prior to submission to the LMS, DENR for approval, if applicable.

## **2.5 Approval of Parcellary Survey Plans**

The parcellary plans including the copy of the subdivision plans and other related documents shall be submitted by the DPWH-Implementing Office to the Bureau of Design (Foreign-Assisted Projects) and/or Regional and District Offices (Locally-Funded Projects) for approval per DO 24, series of 2007- Amended Omnibus Levels of Authorities of Officials of the DPWH.

The review and approval of the Parcellary Survey Plans by DPWH do not relieve the Surveys Consultant/Geodetic Engineer from the responsibility for the accuracy of the survey works and installation of right-of-way and lot monuments.



The approved parcellary and subdivision plans together with an electronic file shall be submitted to the DPWH-Implementing Office for safekeeping, copy furnished Bureau of Design and Regional/District and other concerned Offices.

**III. IMPLEMENTATION**

**A. STAFFING**

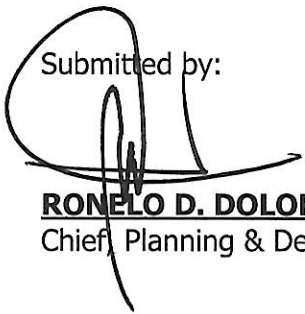
The following experts/professionals and their members shall be required to carry out the Consulting Services for the road section/project and should have appropriate educational degree, relevant training and adequate years of experience in parcellary survey:

| List of Staff                                    | <u>Parcellary Survey and Monumenting of National Roads, PILI-TIGAON-ALBAY BDRY. ROAD, K0454+(-1044)-K0472+084; IRIGA CITY-SAGRADA-SAN RAMON-HANAWAN ROAD K0491+(-781)-K0494+067; NAGA CITY BDRY-CAMALIGAN FISHING PORT ROAD, K0441+(-529)-K0443+730, Camarines Sur 3rd LD</u> |            |
|--|---|------------|
|  | No. of Staff  | Man-months |
| 1. Project Manager                               | 1   | 3          |
| 2. Sr. Geodetic Engineer                         | 1   | 3          |
| 3. Jr. Geodetic Engineer                         | 1   | 3          |
| 4. Team Leader                                   | 2   | 6          |
| 5. Sr. Survey CAD/GIS Operator                   | 2   | 2          |
| 6. Geodetic Engineering Technician/Instrumentman | 3   | 5          |
| 7. CAD/GIS Operator                              | 2   | 2          |
| 8. Survey Researcher                             | 3   | 1.5        |
| 9. Geodetic Engineering Aide                     | 3   | 5.5        |
| 10. Driver                                       | 2   | 4          |
| 11. Laborer                                      | 6   | 6          |

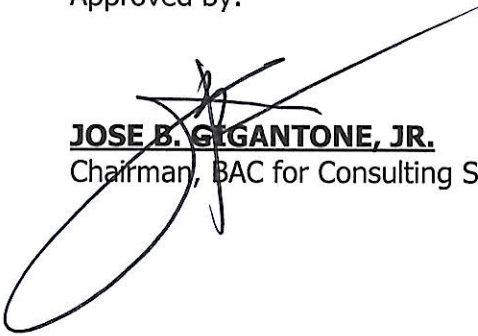
**B. CONTRACT PERIOD**

The Consultant’s contract period for undertaking the parcellary survey and the preparation of parcellary survey plans of the aforecited project shall not be more than **90 Calendar Days** and the Consultant shall commence work within seven (7) days after receipt of Notice to Proceed.

Submitted by:

  
**RONELO D. DOLOR**  
Chief, Planning & Design Section

Approved by:

  
**JOSE B. GIGANTONE, JR.**  
Chairman, BAC for Consulting Services