DEPARTMENT OF PUBLIC WORKS & HIGHWAYS

TERMS OF REFERENCE
(TOR)

CONSULTING SERVICES FOR THE PRE-FEASIBILITY STUDY OF THE TANAUAN CITY DIVERSION ROAD

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I. INTRODUCTION

The Pre-Feasibility Study of the Proposed **Tanauan City Diversion Road** (hereinafter referred to as the "**Project**") is one of the projects under the Department of Public Works and Highways (DPWH) – Batangas 3rd District Engineering Office, in aiming to develop its pipeline of road network, funded under the General Appropriations Act (GAA) of FY2024, Republic Act (RA) 11975.

The proposed conduct of data gathering and processing, Traffic and Economic Evaluation, Traffic Chapter Report, Economic Evaluation Report and Traceable Programs and Pre-Feasibility study for this project is envisaged to be carried out by local consultant to be outsourced by DPWH Batangas 3rd District Engineering Office (hereinafter referred to as the "**Implementing Office**") with the assistance of DPWH Regional Office IV-A and Project Preparation Division, Planning Service (PPD, PS).

This Terms of Reference (TOR) refers to the services to be undertaken by the **Consultant** for the preparation of the Pre-Feasibility Study for the Proposed Tanauan City Diversion Road.

A. The Proposed Tanauan City Diversion Road

The proposed project is composed of 2.97-km road and Two (2) bridges. The project herein is expected to serve as an alternative route that will divert traffic to and from National Primary Road Manila - Batangas Road and Secondary Road Tanauan – Talisay – Tagaytay Road.It can also help decongest the Entry Exit Point of STAR Tollways Corporation Tanauan City Exit.

The project is also envisioned to boost economic developments on the aforesaid territories of Batangas, which shall connect the nearby economic/agricultural/tourism zones.

LEGEND

PROPOSED TANAUAN CITY DIVERSION ROAD (2.79 km)

ROAD CLASSIFICATION

NATIONAL PRIMARY ROAD (Manila Batangas Road)

STAR Tollways

NATIONAL TERTIARY ROAD (Tanauan-Talisay-Tagaytay Road))

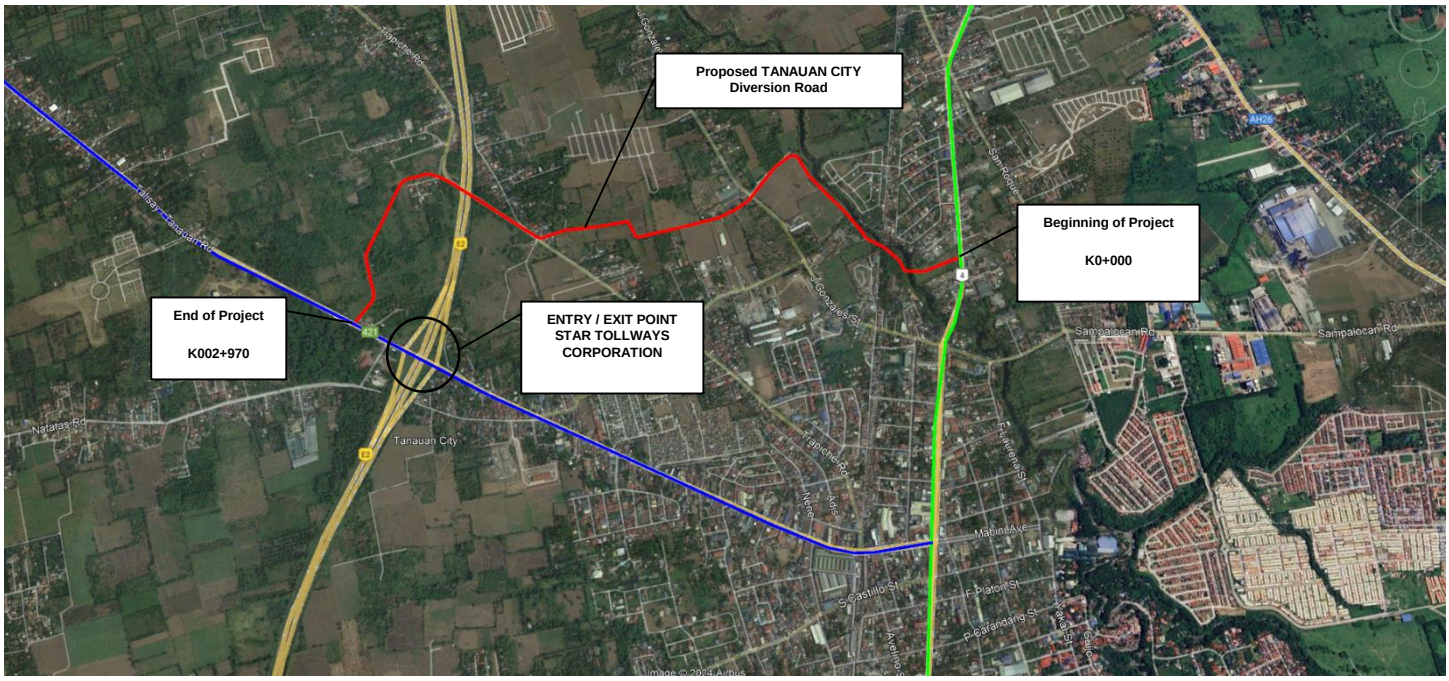

Figure 1. Vicinity Map

Below is the summary of the basic project information, as proposed:

ATTRIBUTES	DESCRIPTION	REMARKS
Project Length	2.97 Km - Road TWO (2) - Bridge	The total project length shall be based on the final alignment determined by the FS
No. of Lanes	Four (4)-lanes	The FS shall determine the appropriate no. of lanes and phasing of the project

B. Study Objectives

The objectives of the consulting services are to:

1. Conduct Pre-feasibility study considering the economic, environmental and social aspects of the project and shall include, but not limited to: Traffic and Development Impact Study, Environmental and Social Impact Assessment.

2. Conduct a Multi-Criteria Analysis (MCA) for three (3) Alignment Options and present it to the Implementing Office during the Kick-Off Meeting.

3. Conduct preliminary surveys which shall include, but not limited to environmental and social impact study.

4. Determine the Net Benefits of the Project to the economic development on the Cities of Tanauan and Sto Tomas, and this Region, and;

5. Determine the Economic Internal Rate of Return (EIRR) and the Socio-economic impact of the proposed project.

II. SCOPE OF CONSULTING SERVICES

A. GENERAL

1. The Consultant shall provide professional services necessary for carrying out the objectives set out in this Terms of Reference (TOR) by conducting the necessary studies, bidding and contract documents, and other requirements stipulated herein for the implementation and construction of the project.

2. The Consultant shall coordinate and report directly to the DPWH Batangas 3rd District Engineering Office – Planning and Design Section to obtain uniformity and cohesiveness in the preparation of related documents consistent with DPWH Design Guidelines, Criteria and Standards (DGCS) 2015 Edition and applicable provisions of existing laws, codes, policies and Department Orders.

3. The Consultant shall establish and maintain proper coordination with the District Office of DPWH, Regional Development Council and concerned Local Government Units (LGU's) for consultation on any project-related issues and concerns.

4. The Consultant shall make sure to document all acitivies with geotagged photographs.

5. The Consultant shall coordinate with this Office prior to their conduct of the activities related to the Environmental and Social aspects of the road project. Environmental and social mitigation measures shall be in accordance with the DPWH Updated Social and Environmental Management System (SEMS) Operations

Manual, 2016 Edition, and related Department Issuances for procedures, rules, and responsibilities of all offices concerned.

6. All electronic files or reports, drawings and other relevant documents shall be turned-over by the consultant to the Implementing Office through the Planning and Design Section (PDS).

B. THE SERVICES

1. Feasibility Study

The Consultant shall prepare a Pre-Feasibility Study and submit to the Planning and Design Section for review/comments and approval. The study shall contain, but not limited to the following:

1.1. Traffic Impact Study

Shall include the assessment of the existing and future traffic condition in the project influence area based on capacity, safety measurements and other relevant factors, comparison of identified alternatives in terms of improvement of network performance, a comprehensive traffic management plan during construction and the corresponding disruption of traffic flow.

Data Collection. The Consultant shall collect, review and examine all existing traffic data and carry-out additional traffic surveys as deemed necessary for the finalization of engineering geometric design strandards for the project, typical road cross-sections and intersections; and pavement design.

1.1.1. The Consultant shall:

a. **Conduct 12-hour Manual Count (MC) Survey** at identified stations for at least two (2) days, consolidated every hour (see Annex 1). Identify major traffic generating sources and subdivide the study area into 'zones' based on the existing land use and future land use and other. The zoning shall conform but not necessarily limited to the existing codes of Department of Interior and Local Government;

b. **Conduct 12-hour Origin – Destination (OD) Survey** on selected stations for at least two (2) days and establish trip patterns based on vehicle type, trip purpose, vehicle occupancy, etc. The Consultant must provide details of the results of the OD Survey in the report together with a concise description of vehicular movement based on the established zones which includes but not limited to: (i) relationship between the generation and attraction of traffic and socio-economic indicators by the established zones; (ii) the competitive and complimentary characteristics in relation to the existing and proposed modes of transport such as rail and air transport routes; and (iii) traffic assignment of volume in the network considering the current and future layout of the network;

c. Use any available traffic forecasting/ network analysis models such as the JICA – STRADA, VISSIM, TRANSPORT, CUBE or its equivalent in the traffic demand forecasting and network analysis. The Consultant shall prepare the necessary data inputs and comprehensively provide all the information required to run the model and clearly illustrate the output needed to evaluate the project;

d. Based on the selected model, compare implementation alternatives and illustrate the resulting volume accumulation and other technical indicators such as vehicle-kilometers, vehicle-hours, congestion level, and transport cost which will serve as basis for the subsequent economic comparison and evaluation;

e. The Consultant shall establish the traffic adjustment factors if there is no available data in DPWH's Road and Traffic Information Application (RTIA) 20km from the project area;

f. The Consultant shall establish the Annual Average Daily Traffic in the relevant road sections for the analysis and evaluation of the project;

g. The Consultant shall analyze and process of all traffic data collected and prepare the required data inputs using the prescribed format in Annex 2. The Consultant shall utilize the survey forms provided in Annex 3, 4 and 5.

Traffic Analysis. Analysis of the present and future traffic flow including the composition of traffic on the Project road shall be undertaken by the Consultant. The Consultant shall establish traffic projections based on demographic characteristics, urban and/or regional production by sector; urban/rural regional economic development forecasts and related resource base, and planned infrastructure development.

The Consultant shall evaluate present traffic conditions and recommend appropriate transport and traffic management system to alleviate the traffic congestions vis-à-vis with construction of new project.

A **Traffic Impact Assessment (TIA)** shall be presented in a clear and logical sequence. It should provide a step-by-step information through the various stages of the process and to the resulting conclusions and recommendations. It shall contain the following information:

- ✓ Show description of the site and study area.
- ✓ Purpose and objectives of the analysis.
- ✓ Determination and identification of the influence area of the proposed project.
- ✓ Description of the existing roadway / transportation conditions including traffic volumes, transit accessibility, accidents, road geometry, transit, bicycle/motorcycle and pedestrian facilities, traffic signals, overall traffic operations and circulation.
- ✓ Identification of traffic congestion, accident and hazard areas and other deficiencies of the transportation system in the study area.
- ✓ Anticipated trip generation and daily peak-hour volumes of the proposed development at full build and at any interim construction phase.
- ✓ Assessment of the change in roadway operating conditions resulting from the road improvement.
- ✓ Evaluation of potential improvement measures needed to mitigate the impact of the project.
- ✓ Recommendations for site access and transportation improvements needed to maintain traffic flow to, from, within and past the site at an acceptable and safe level of service.
- ✓ Improvements to include roadway widening turn lanes, traffic signals, bicycle/motorcycle, pedestrian and transit amenities, safety measures, sight distance, and transportation demand management strategies.

1.2. Development Impact Study shall contain an in-depth analysis of long-term sustained effect of the project or intervention to the different aspects of the lives of the populace. This may include, among others, impacts on people's livelihood and general welfare.

Data Collection. The Consultant shall collect, review and examine all available data and information from previous studies or any relative publications to the project. The Consultant shall also obtain qualitative information through interviews, focus group discussions, questions and surveys.

Data Analysis. Analysis and evaluation of the acquired data shall synthesize the long-term impact of the project to the socio-economic aspects of the project influence area. The Consultant shall establish and/or present information, but not limited to, the following:

- ✓ General Profile of the Project Influence Area (City/Municipality/Province)
- ✓ Poverty Incidence and rate
- ✓ Employment and Non-employment rate
- ✓ Economic Profile of the Project Influence Area (PIA)
- ✓ Demography
- ✓ Population growth and income
- ✓ Comprehensive Land Use / Development Plans; and
- ✓ Summary of findings and/or impacts of the proposed project to the aforesaid aspects.

1.3. Alignment Study

The Consultants shall identify at least **three (3) possible alignments** considering the technical, financial, environmental and social aspects of the project and present to the implementing office for approval and selection of the best alignment.

Analysis. The selection, recommendation and approval of the *best alignment* shall be based on a formulated Comprehensive **Multi-Criteria Analysis (MCA)** which may also include cost, aesthetics, constructability, environmental impact, maintenance, and economic impact.

The Consultant shall submit a separate report of the Multi-Criteria Analysis (MCA) to the implementing office and discuss the selected alignment on the official kick-off meeting, **2-weeks after the issuance of Notice to Proceed (NTP).**

1.4. Economic Data Gathering and Feasibility Analysis

The Consultant shall undertake the following data gathering and socio-economic analysis:

a. Collect data, assess and forecast development trends in population growth and distribution income, extent of urbanization, land use, car/vehicle ownership, transportation related expenditures, employment, poverty, etc. for the project influence area.
b. Assess information on urban, regional and local growth development plans and trends among economic sectors (services, industry, manufacturing, commerce, agriculture, etc.) and how the Project will have impact on these;
c. Assess and calculate economic benefits and impact accruing the infrastructure improvement with the implementation of the Project to include, inter alia, the following:

- ✓ Reduction in road-user transport costs and travel time suitably broken down into normal, diverted and generated traffic components for all vehicle traffic;
- ✓ Improvement in network efficiency (decongestion), capacities and levels of service;
- ✓ Savings, if any, on improvements in road maintenance and repair costs and frequency of interventions; and
- ✓ Reductions in vehicle emissions

d. Assess, qualify and quantify to the extent possible social and other indirect benefits accruing to Government and society at large resulting from the Project;

e. In general, the economic analysis will be performed on a "with project" and "without project" scenarios by the determination of among other things; relevant economic indicators and their consideration as they take affect project implementation. These indicators include, inter-alia, the following for both individual project items on a whole and were necessary, incremental analysis: (i) Internal rate of return; (ii) Net Present Worth; (iii) NPW/Cost; and (iv) Benefit – Cost Ratio;

f. Undertake sensitivity shadow pricing assessments (Foreign Exchange and Labor Cost Components) on derived base cost economic viability indicators based on NEDA Investment Coordinating Committee (ICC) requirements. Shadow prices shall be applied in economic evaluation analysis for both costs and benefits. However, the economic costs, benefits and economic feasibility indicators shall be presented with and without shadow pricing elements. The Consultants shall solely be responsible for these analyses but they should consult with the National Economic and Development Authority (NEDA);

g. Undertake sensitivity assessments of key parameter (traffic growth factors, normal, diverted traffic volumes) of sufficient range and detail to permit rational examination of possible implementation alternatives;

h. Social benefits shall also be defined and qualified to the extent possible and both quantifiable and non-quantifiable benefits will be discussed in the light of their importance to the national economy and socio-economic objectives of the Government, with particular emphasis to the areas influenced by the road.

i. It is envisaged that the consultants will incorporate social benefits (with appropriate weight) in the determination of socio-economic feasibility indicators. However, the economic indicators shall also be shown including efficiency pricing. It is expected of the Consultants that they will provide any in-depth review and evaluation of the relevant information on the methodology used, and its effect on scope, timing and scale of the recommended improvement options in this undertaking.

1.5. Environmental and Social Impact Study

The Consultant shall undertake Environmental Impact Study (EIS) and Social Impact Study to address the key environmental and social issues of the project in accordance with the Department Order 245 series of 2003, DPWH Updated Social and Environmental Management System Operations Manual (December 2016), guideline of Department of Environment and Natural Sources (DENR) and other environmental regulations.

1.5.1. Conduct environmental impact analysis within the Direct Impact Area (considering 1km radius from the project site)/Indirect Impact area (regional wide assessment). Criteria to be considered in the study area must include the ecological diversity of the site and type and scale of the development scheme.

1.5.2. Identify possible policy, legal and administrative requirements within which the environmental assessment is prepared and presented.

1.5.3. Gather secondary baseline information/conditions that define the characteristics of the existing environment and shape projected future conditions, assuming no project is undertaken. Verify the existing site condition and appropriate legible maps coming from the government agencies that would determine the ecological representation of the area.

1.5.4. The baseline information shall cover the four (4) environmental components: *The Land, The Water, The Air/Noise and The People* and should describe most likely but not limited to the environmental settings of the following:

a) Physical Condition
b) Biological Condition
c) Socio-Cultural, Economic and Political Environment
d) Future Environmental Conditions with and without the project

1.5.5. Conduct baseline analysis and identify, predict and evaluate the nature and magnitude of key potential impacts of project activities per phase (Pre-Construction, Construction, Decommissioning, and Maintenance and Operation). The analysis shall permit a comparison of project-induced environmental changes, with other expected environmental changes in the "no-project" scenario. Analysis of potential environmental impacts should include specific discussion of the importance, magnitude and duration of impacts, which can be broken down according to their nature; (1) positive and negative impacts; (2) low, moderate and high; and (3) short- and long-term impacts.

1.5.6. Formulate environmental and social planning actions to address the impacts identified on the project area. The consultant should introduce planning remedial actions through impact avoidance/impact mitigation/ impact compensation. The measures shall be presented in the Environmental Management Plan (EMP) that contains an analysis of the institutional capacity of the existing agency for dealing with the environmental management of the project and a description of proposed remedial measures.

1.5.7. Screen the project based on the Revised Guidelines for Coverage Screening and Standard Requirements of EMB Memorandum Circular 005 July 2014 and EMB Memorandum Circular 2019-03. Confirm the threshold and sensitivity of the project area from the concerned DENR-EMB and other related government agencies. Determine the specific environmental document and prepare such document if the project falls under Category B, C or Category D necessary to secure ECC/CNC and other necessary environmental permits/clearances.

1.5.8. The Consultant shall provide a preliminary discussion of the Environmental and Social Impact Assessment of the project in the Feasibility Study Report/Pre-feasibility Study Report using the prescribed format in Annex A. The said assessment shall be presented as one of the chapters of the FS/Pre-FS report. Further, the Consultant shall also provide a conclusion and recommendation on the assessment.

1.5.9. Should an Initial Environmental Examination Checklist (IEEC)/ Project Description (PD) be required for the application of the Environmental Compliance Certificate (ECC), the scope of the study of the Consultant is to prepare the IEEC/PD which shall be presented and form part of the Annexes of the FS/Pre-FS report.

1.5.10. During the engagement of the Consultant, they shall closely coordinate with the DPWH Environmental and Social Safeguards Division (ESSD), Planning Service who shall monitor the performance and quality of output of the Environmental Specialist in order to achieve the objective of the Study. Furthermore, prior to the submission of the environmental document to the DENR, the document shall be forwarded to the Environmental, Social & ROW Unit – Planning & Design Section for review.

1.5.11. Further, the Consultant shall undertake related activities, and other services deemed necessary as maybe required by the DENR during the review of the environmental document submitted (e.g. IEEC, PD). The Consultant shall make available all data/information, including maps and other documents as maybe required by the DENR-EMB during the review.

1.5.12. Henceforth, the Consultant shall assist and work hand in hand with the Project Proponent regarding the finalization of the IEEC/PD report, submission to the DENR, until the issuance of the ECC/CNC. If ever the alignment passes through the Protected Area designated by DENR, the Consultant shall process and secure PAMB Clearance with the Implementing Office as the proponent.

1.5.13. Social Impact Study

Shall involve the identification of the likely affected persons/families and assets, the extent/ significance of the potential risks such as (or changes in) health and lifestyle, estimated acquisition cost in accordance with Republic Act 10752, and the time table for the implementation of the Right-of-way Action Plan (RAP) including the acquisition. The assessment shall also consider and incorporate gender-specific needs in relation to the project, complying with the Harmonized Gender and Development Guidelines (HGDG) and Gender and Development (GAD) Toolkit, DO 48, series of 2011. For projects that are covered by RA8371 (Indigenous People's Act of 1997), the assessment shall also contain an Indigenous People Action Plan (IPAP), complying with relevant National Commission for Indigenous People (NCIP) administrative orders. The Consultant shall process and secure the Free, Prior and Informed Consent (FPIC) from the NCIP.

1.6. Preliminary Right-of-way Action Plan

The Consultant shall conduct appropriate measures such as surveys and consultations, and prepare Resettlement Action Plans (RAP) in accordance with the DPWH Social and Environmental Management Systems (SEMS) Operation Manual in close coordination with the Environmental, Social and ROW Unit – Planning and Design Section.

2. Design Data Collection

The Consultant shall gather all necessary pertinent data about the project particularly on its topography, which often impose limitations upon location and design, and conduct site inspection on foot, jointly with the Implementing Office.

The Consultant shall conduct design data collection activities to verify and validate the recommendations of the Feasibility Study.

III. IMPLEMENTATION

A. CONTRACT PERIOD

The Consultant's contract period for undertaking the services for the said project shall not be more than **One (1) month,** unless a Time Extension is duly approved by an authority; using the exact calendar days per month. The services shall be implemented in accordance with the indicated Project Work Schedule:

	ACTIVITIES	OUTPUT Percentage	MONTH											
			1				2				3			
			W1	W2	W3	W4	W1	W2	W3	W4	W1	W2	W3	W4
1.0	**PRELIMINARIES**	10.00%												
1.1	Inception Report (Multi-Criteria Analysis of 3-Alignment Options, Procedures, Issues & etc.)													
1.2	Kick-off Meeting													
2.0	**TRAFFIC SURVEY AND EVALUATION**	25.00%												
2.1	Origin-Destination Survey (OD)													
2.2	Manual Count (ITC)													
4.0	**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT**	25.00%												
4.1	Gender and Development (GAD) Survey and Analysis													
4.2	Environmental Impact Assessment (EIA) Survey and Analysis													
4.3	Right of Way Action Plan (RAP) Survey and Analysis													
5.0	**DEVELOPMENT IMPACT ASSESSMENT**	20.00%												
5.1	Socio-Economic Survey and Analysis													
6.0	**DRAFT FINAL REPORT**	10.00%												
7.0	**FINAL REPORT AND COMPLETION**	10.00%												
	TOTAL	100.00%												

B. PROJECT STUDY LOCATION

The location of the study shall be focused on the **Cities of Tanauan and Sto Tomas, Region IV-A**.

C. HUMAN RESOURCES/STAFF RESOURCES REQUIREMENTS AND SCHEDULES

The Consultants shall be composed of qualified staff with experience in the conduct of data gathering for infrastructure feasibility studies including traffic, social, and environmental impact assessment.

The Consultant shall provide the following key staff with its job description and required qualifications prescribed below:

D. REPORTS AND DELIVERABLES

1. The Consultant shall submit promptly all the soft copies of field survey data, plans/drawings, reports, and all other outputs in an appropriate, editable, and traceable formats stored in a Digital Video Disc (DVD) or USB Flash Drive.

The Consultant shall also submit promptly the hard copies of reports and plans/drawings in a paper, per schedule and number of copies indicated as follows:

Position	Job Description	No. of Months	Required Qualifications
Project Manager / Transport Planner	Act as the team leader for the study team and ensure timely and quality delivery of the work specified in this Terms of Reference.	**1.0**	Bachelor's Degree or higher in Civil Engineering and Master's Degree in Transportation/ Structural Engineering or Master's Degree in Urban and Regional Planning. He/she must have a minimum of 10 years of experience in feasibility studies with 5-10 years of experience in pavement design, bridge design, alignment planning, which includes utilities and other possible physical obstructions, and in international codes such as TRL/AASHTO.

<u>Reports</u>

D.1. Inception Report

To be submitted **within the week** after effectivity of the contract, binded in A4 sized Bond paper, in **two (2) hard copies.**

Traffic Engineer/ Modeler	Responsible for traffic analysis, traffic forecasting, traffic growth analysis, transport route planning, intermodal transport analysis, ports and railways.	**0.10**	Registered/Licensed Civil Engineer, with 3-10 years of experience as a Traffic Engineer/Modeler in the conduct of Feasibility Study including Preliminary Engineering Design of any infrastructure Projects.

It will outline a detailed work program and briefly describe the methodology proposed to meet the terms of reference. The report will include the initial findings as well as preliminary layout of the forms to be used for various investigations and calculations, Multi-Criteria Analysis for the three (3)-Alignment options, and proposed Activity-Time Schedule in Bar Chart Form

General Economist	Responsible in research and analyze economic issues, conduct surveys and collect data, interpret and forecast market trends, design policies or make recommendations for solving economic problems. Responsible in analyzing and interpreting data gathered from transport studies, forecasting the impact of new developments, looking at schemes to manage traffic, acting as an expert witness during public inquiries.	**0.10**	Master's Degree or a Ph.D. in economics. He/she must have a strong attention to detail and advanced research skills, must have a strong math skill to analyze data as well. About 5 years of experience relevant in the field.
Environmental Specialist	Responsible for the development of an environmental framework and to formulate of environmental guidelines, environmental standards for safety policies and quality control/monitoring of impact assessment studies and implementation of measures.	**2.0**	Bachelor's degree, or equivalent, with extensive experience on environmental aspect of project preparation and planning, specialization in environmental engineering/ environmental sciences with about 5 years of experience of which 5 years are in environmental impact assessment and baseline studies with rehabilitation action planning in road sector projects. Must have experience in preparing environmental management plans for road projects.

Discussions on Project Background and Description, Objectives, Scope of Work and Survey Methodologies shall also be included and presented in the following;

i. Project Background
ii. Project Description
iii. Objectives

GAD Specialist	Responsible for conducting assessment and facilitate meetings with the key stakeholders and community members to identify measures to improve inclusiveness, especially for women, within the project scope.	**0.10**	Bachelor's Degree in Sociology/ Humanities/ Political Science / Any Related Courses with 3-10 years of experience as GAD Specialist in the conduct of Feasibility Study of any infrastructure Projects or any experience in Gender Analysis and concerns.

i. Scope of Work
ii. Alternative-Alignments Assessment
    1. Presentation of Three (3) Alignment Options
    2. Multi-Criteria Analysis
    3. Recommendation
iii. Proposed Work Program
iv. Survey Methodologies
v. S-CURVE/Manning/Activity Schedule (A3 Sized paper)
vi. Company Profile

D.2. Progress Report

To be submitted together with the request for progress billing, binded in A4 sized Bond paper, in **two (2) hard copies.**

The Progress report shall contain the following:

1. Overall Accomplishment report
    a. Narrative Report of the activities conducted
    b. Percentage Per Planned
    c. Percentage Per Actual
    d. Positive/Negative Slippage
    e. Summary of Findings, Issues/concerns/problems
2. Updated S-CURVE/Manning/Activity Schedule (A3 Sized paper)
3. Documentation (Geotagged Photographs with date) for every activity during the implementation.

<u>Deliverables</u>

D.3. DRAFT FINAL REPORT

The draft final report of the whole study shall be submitted **(1.0) month** prior to the conclusion of the contract in **two (2) hard copies**. The report shall provide details of the Consultant's findings and recommendations based on the scope of work outlined in the Terms of Reference. It shall include all relevant information which supports the conclusions in sufficient detail to enable the calculations to be verified and allow re-calculation with modification of the key assumption without the need for supplementary data.

The DRAFT Final Report shall present the following Volumes:

BOOK TITLE	CONTENTS OUTLINE
MAIN TEXT – Feasibility Report (Volume 1)	See Annex 7
Environmental Impact Assessment (EIA) and Social Mitigations Report (Volume 2)	See Annex 9

Geotechnical Plan & Geotechnical Investigation Report (Volume 3)	See Annex 11
Preliminary Right-of-way Action Plan (RAP) (Volume 4)	See Annex 8
Preliminary Engineering Designs (Volume 5)	See Annex 10
Annexes (*if necessary)*	Shall Contain Survey Documentations, Data, and any other relative documents.

D.4. FINAL REPORT

Should be submitted not later than thirty (30) days upon receipt of comments on the draft final report from the proponent, incorporating all appropriate revisions. **The Consultant shall prepare the final report using specifications of contents in the Draft Final Report**, submitted to the implementing office in **four (4) copies** for approval and acceptance.

E. MODE OF PAYMENT

Payment to the consultant shall be accumulated with the deliverables and reports, scheduled as follows;

PAYMENT SCHEDULE		PERCENTAGE	DELIVERABLE/REMARKS
1.	Mobilization	15%	Upon submission of Inception Report
2.	Progress Billing	20% or above (to be based on the percentage accomplished on the submitted progress report)	Upon submission of Progress Report
3.	Final Billing	100% or based on the submitted output	Upon completion and acceptance of the Final Report

Note: Subject to usual accounting Procedures.

F. INSTITUTIONAL ARRANGEMENT

F.1. The Implementing Office (DPWH-Batangas 3rd District Engineering Office);

F.1.1. Disburse the fund for the conduct of the Feasibility Study (FS) once the contract is executed;

F.1.2 Implement and manage the contract, as well as ensuring the quality of output, the monitoring and evaluation of the progress of the study and approval of reports to ensure delivery of outputs as specified in this TOR;

F.1.3. Provide assistance in the coordination with other concerned agencies/entities in the conduct of the study, such as securing the required permit(s) from the Protected Area Management Board (PAMB) – Department of Environment and Natural Resources (DENR) for the conduct of activities and entry into the Protected area, among others;

F.1.4. Provide reasonable technical assistance to personnel of the Consultant with respect to incidents related to the conduct of the study;

F.1.5. Provide, upon the request of the Consultant, available information/data and also if available, copies of previous related studies subject to the execution of the Confidentiality and Non-Disclosure Agreement (CNDA), if necessary;

F.1.6. Coordinate with the Planning Section – Planning and Design Division of DPWH Regional Office XIII regarding all the activities relating to the conduct of the study, included but not limited to the implementation timelines, submission of deliverables, notice of meetings, etc. Should the need arise, consult with the PPD-PS in the implementation of the study;

F.2. The Consultant;

F.2.1 Conduct the study and deliver on time the results/outputs as indicated in this Terms of Reference (TOR);

F.2.2. Provide the necessary office equipment (i.e., computer, printers, office supplies, etc.) for the conduct of the study. All equipment stated as "purchase" such as Laptop, Desktop Computer with UPS, GPS, and Smartphones, must be purchased and shall be transferred to the Government by the end of the project;

F.2.2.1 Technical Specifications for the Desktop Computer are as follows:

- Processor & Chipset: Core-i7 (11^{th} Gen), 8-cores and 64-bit or its equivalent
- Internal Memory: 32 GB DDR4
- Storage: 1TB 7200RPM HDD + 256GB SSD
- Display and Graphics: 24-inch Diagonal Full-High-Definition Wide Screen LED Display (same brand as CPU); 6GB dedicated graphics memory
- Audio: Integrated Sound Card with internal speaker
- Expansion Slots: 4 slots on-board, at least 1 PCI Express slot
- IO Ports: 6 USB (2 front, 4 rear atleast 1 type-C), VGA, Audio, HDMI/Display Port, Ethernet (RJ-45)
- Network Interface: Integrated Gigabit Ethernet
- Casing: 3 to 4 Bays for Hard Disk Drive (HDD) and Optical Disk Drive(ODD)
- Operating System: Licensed OEM Windows 11 Professional 64-bit with media installer, must be activated with Microsoft prior to delivery
- Keyboard, Mouse, Webcam: 2MP FHD, Headset with Microphone with noice cancellation feature, power supply, and power and VGA cables.

F.2.2.2 Technical Specifications for the Laptop Computer are as follows:

- Processor & Chipset: Core-i7 (11th Gen), 8-cores and 64-bit or its equivalent
- Internal Memory: 32 GB DDR4
- Storage: 1TB SSD
- Display and Graphics: 15.6-inch Diagonal Full-High-Definition Wide Screen LED Display; 6GB dedicated graphics memory
- Audio: Integrated high definition audio support, integrated stereo speakers and integrated digital microphone
- Webcam: Integrated widescreen HD
- IO Ports: 3 USB (atleast 1 type-C), HDMI/Display Port, Headphone/Micrphone Jack.
- Network Interface: Bluetooth, and wireless LAN (auto detecting and autosensing)
- Weight: not more than 2.5kg / 5.5lbs
- Operating System: Licensed OEM Windows 11 Professional 64-bit with media installer, must be activated with Microsoft prior to delivery.
- Mouse: Optical with mouse pad (same brand as the laptop)
- Carry Case: Manufacturer's Standard
- Headset: Headset with Microphone (1-meter cable length, with noise cancellation feature, audio jack/usb connections type, must be compatible with the offered laptop.

F.2.2.3 Technical Specifications for the Smartphone are as follows:

- At least 8GB of RAM
- At least 128GB of internal storage
- At least 4000mAh battery
- Runs on Android 11

F.2.3. Shoulder all expenses required in the conduct of the study, including travel and lodging costs of detailed Government personnel during field visits, except for their salaries;

F.2.4. Carry out the services with sound engineering theories and practices to ensure that the final works will provide the most economical and feasible development for the study;

F.2.5. Accept full responsibility for the consulting services to be performed under this TOR for which the Consultant is liable to DPWH;

Perform the work in efficient and diligent manner and shall use its best effort to keep reimbursable costs down to the possible minimum without impairing the quality of services rendered;

F.2.7. Comply with, and strictly observe any laws regarding workmen's health and safety, workmen's welfare, compensation for injuries, minimum wage, hours of labor and other labor laws;

F.2.8. Keep Accurate and Systematic records and accounts in respect of the services in such form and detail as is customary and sufficient to establish accurately that the costs and expenditures under this TOR have been duly incurred;

F.2.9. Permit the duly authorized personnel/representatives of the Government from time to time to inspect records and accounts as well as audit the same;

F.2.10. Not allowed to sign nor sub-contract any part of the professional engineering services under this TOR to any person or firm, except with prior written consent. The approval by the Government to the assignment of any part of said services or to the engagement by the Consultant of sub-contractors to perform any part of the same shall not relieve the Consultant of any obligations under this TOR;

F.2.11. During the term of the contract and after its termination, the Consultant and any entity affiliated with the Consultant, as well as any Sub-consultant and any entity affiliated with such Sub-consultant, shall be disqualified from providing goods, works, or consulting services for any project resulting from or closely related to the contract other than the services and any continuation thereof provided there is no current or future conflict;

F.2.13. Prohibit fulltime foreign staff during his assignment under this TOR to engage, directly or indirectly, either his name or through the Consultant, in any business or professional activities in the Philippines other than the performance of his duties or assignment under this TOR;

F.2.14. Not allowed, at any time, to communicate to any person or entity any information disclosed to them for the purpose of this serves, nor shall the Consultant make public any information as to the recommendations formulated in the course of or as a result of the services, except with prior consent;

F.2.15. Agree that nothing contained herein shall be construed as establishing or creating between the Government and the Consultant, the relationship of employer and employee or principal and agent, it being understood that the position of the Consultant and anyone else performing the services is that of an independent contractor;

F.2.16. Hold the Government free from any and all liabilities, suits, actions, demands, or damages arising from death or injuries to persons or properties, or any loss resulting from or caused by said personnel incident to or in connection with the services under this TOR. The Consultant shall agree to indemnify, protect and defend at its own expense the Government and its agents from and against all actions, claims and liabilities arising out of facts done by the Consultant or its staff in the performance of the services, including the use of, or violation of any copyrighted materials, patented invention, article or appliance; and

F.2.17. Provide on-the-job capacity building/technology transfer to the Government's personnel detailed to the project.

G. OWNERSHIP OF THE OUTPUTS/REPORTS/DOCUMENTS

All submitted outputs/reports/documents under this contract, including but not limited to tracings, as-planned drawings, estimate, digital information, computer model and data, specifications, investigations and studies completed or partially completed, inspection logs and photographs shall be the property of the DPWH and the use of these data for other purposes shall require written consent from the Department. Copyrights will be governed by existing laws, rules and regulations.

Attachments:

Annex 1: Locations of traffic survey stations at Proposed Tanauan City Diversion Road
Annex 2: Summarized/processed traffic survey data sheet
Annex 3: Intersection Traffic Count Survey Sheet/Form
Annex 4: Traffic Survey Data Sheets/Forms (O-D Survey)
Annex 5: Traffic Survey Data Sheets/Forms (Travel Time Survey)
Annex 6: Traffic Survey Methodologies
Annex 7: Proposed Preliminary RAP Report Outline
Annex 8: Proposed Environmental and Social Impact Assessment Outline

PREPARED BY:

VINCENT JOSEPH L. ALDAY

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APPROVED BY:

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Office of the Assistant District Engineer

BAC Chairperson