

Province of Rizal

Fel/Fax 8653-2860 urs.bacsecretariat2020@gmail.com

November 15, 2022

Company/	Suppliers Name :				
Address	4				
shortest ti	lease quote your lowest price on the item/s listed below, subject to the Genne of delivery and submit your sealed quotation duly signed by your repre MO, Morong Rizal.	eral Conc sentative	ditions on not later	the last page than Novem	e, stating the ber 22, 2022
	NE		S. GO! Chairperso	ZALES, on, BAC	Ed. D.
2 3 4 5	ALL ENTRIES MUST BE TYPEWRITTEN DELIVERY PERIOD WITHIN CALENDAR DAYS WARRANTY SHALL BE FOR A PERIOD OF SIX (6) MONTHS FOR SUPPLIES & I FROM DATE OF ACCEPTANCE BY THE ENTITY PRICE VALIDITY SHALL BE FOR A PERIOD OF 45 CALENDAR DAYS G-EPS REGISTRATION CERTIFICATE SHALL BE ATTACHED UPON SUBMISSIBIDDERS SHALL SUBMIT ORIGINAL BROCHURES SHOWING CERTIFICATIO	ON OF TI	HE QUOTA	ATION	
ITEM NO.	ITEM & DESCRIPTION	QTY.	UNIT	BID PRICE	TOTAL BID PRICE
1	Aerial Survey and GIS Mapping and Geotechnical Services	1	Lot		Php
	(see attached Terms of Reference)				
	*** nothing follows ***				
	47.G 74.000.000				
	ABC – Php 900,000.00				
Brand and	Model : Delivery Period		= =		
Warranty		; <u> </u>			
A	fter having carefully read and accepted your General Condition, I/We que	ote you o	n the iter	ms at prices	noted above.
	CERTIFICATION retify that I have personally conducted this canvass and cc(s) quoted is/are true & correct and the signature of	Name / S	ignature	_	
	ntative of the company who submitted the quotation(s) Tel. No ine.	Tel. No. / Cell phone No.			
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P.R. No	<u></u>	Date			
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Province of Rizal www.urs.edu.ph



Email Address: ursmain@urs.edu.ph /urs.opmorong@gmail.com Main Campus: URS Tanay Tel. (02) 401-4900; 401-4910; 401-4911; telefax 653-1735

Terms of Reference (ToR) for Aerial Survey and GIS Map Preparation

1. Introduction:

The University of Rizal System obtained a grant from the Commission on Higher Education (CHED) in relation to the development of its Land Use Development and Infrastructure Plan. The project is tantamount to the adherence of the university to the call of the CHED and the national government to render the land and physical assets of the HEIs to be holistically developed in the lens of strategic growth and development. This LUDIP will be in-charge of assessing, identifying and studying across disciplines, envisioning, designing and compiling the efficient use of the university's physical resources as it aims to pursue excellence in its four fold function in instruction, research, extension and production.

In line with RA 11396 otherwise known as "SUCs Land Use Development and Infrastructure Plan (LUDIP), its preparation entails a lot of technical, legal, socio-economic and cultural surveys and studies. The technical surveys and studies consist of land/aerial survey will result in the classification and mapping and infrastructure inventory, status reporting and development planning. With the use of new and relevant technological advancement, a more accurate and convenient way of preparing the maps is already available for use. The project will support the formulation of the Land Use Development and Infrastructure Plan (LUDIP) where GIS/Map preparation is considered as one of the important components of this purpose.

2. Objectives:

The objective of the activity is to develop GIS based Base Map showing details of existing Land use pattern including other associated features and attributes. Proposed maps may be considered to assist in strategic planning, resource utilization management, planning and management of day-to-day operations and most especially for the preparation of the LUDIP.

Specific objectives of ward level activities are:

- Develop GIS based map of URS;
- Implementation of a GIS based system in the URS;
- 3. Other service departments access information to facilitate planning/ investment decisions:
- To develop the Investment Plan with the assistance of the GIS maps of the URS.

Scope of Work:

Among others Morong is one of the rapid growing municipalities of Rizal. Due to location and geographical pattern, the city is immensely vulnerable to disasters particularly to flooding, and earthquake, therefore it needs holistic visions toward preparedness for disasters including planned urbanization, identification of potential features/facilities and assess detail land use

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pattern. For this holistic vision, GPS surveys of URS Morong need to be conducted for the generation of base maps with existing land use pattern.

Working areas:

Whole area covered by URS Morong

3.1 Detailed list of activities:

The activity may consist to development of a detailed maps consisting of the topographic map, micro level land-use, different socio-economic features and utility services using suitable GIS technology. This would involve;

- Reviewing existing situation of URS Morong, collection of all available secondary level data including _____, list of properties in _____.
- Prepare base map of URS by interpreting and digitizing of all existing land use features and prepare different layer of information. (Digitization process shall include vectoriation, symbolization facility, edge matching, topological integrity, and data base linking facility.)
- Generation of scale and detailed base maps with necessary data inputs under different layers such as URS boundaries, URS buildings/build-up area, roads, waterbodies if any, important landmarks, physical features, open spaces, and those that can be used as shelter during disasters, etc.
- Conduct GPS survey and consultations (with URS planners and engineers/staff, administration, disaster management committee for ground trotting and validation of the identified features.
- Conduct participatory survey to collect attribute information associated with identified features and add with the map layers.

4. Data Contents and Specification:

Potential features for base maps shall contain the following:

- URS boundary
- Road network of all types of roads with associated details
- Rivers and drainage systems, including all details of water bodies
- All built up structures such as human settlements, industries, educational, recreational, religious, etc.
- Residential and commercial area
- Utility services such as water supply and water pump, drainage systems, power distribution, power and water control point etc.
- Existing land use/cover, hilly and land slide prone areas
- Vacant space (playground, park, field, community spaces etc.)
- clinic and health centers
- Base map will be prepared on various layers for ease of operation in AUTOCAD or GIS.

Expected Deliverables:

After completion of the assigned jobs deliverables of proposed mapping work shall be:

- i) Color printed copies of each map
- ii) Geodatabase/shape file of all prepared layer and layer in AUTOCAD or GIS format
- iii) Softcopy of all prepared maps in JPEG format.

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Management System ISO 9001:2015

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Timeframe: 6.

Total 45 days after commencement of contract.

- 7. Payment schedule:
- Completion of agreement signing: Invoice claiming 50% of the contract amount will be I. produced.
- Prepare base map completion of GPS survey work for other attributes and submission of II. draft copies of maps: Invoice claiming 40% of the contract amount can be claimed.
- Upon submission of final copies of agreed deliverables: Invoice claiming rest of 10% of the contract amount can be claimed.

Note:

- The individual(s)/organization (s) experienced for developing response plan will be the priority.
- All the tasked are mentioned above should be completed in 60 days (2 months) of the agreement signing.

Submitted by:		
STEVE ST. MILLARE, RENP Engineer	BAC Chairperson	_
Approved by:		
University President		

Qualification Requirement

I. SURVEY AND GIS MAP PREPARATION

Key Pe	rsonnel	Qualification	Similar Experience
	Project Manager	Must be a licensed Environmental Planner / Civil Engineer / Architect	Member of technical working group in crafting Comprehensive Land Use Plan and Comprehensive Development Plan
2.	GIS Mapper / Analyzer	Must have a certificate of Geographic Information Mapping System form accredited government agency	Member of technical working group specialize in GIS Mapping in crafting Comprehensive Land Use Plan and Comprehensive Development Plan
3.	Writer / Analyzer	Must have a knowledge in write- up / change in form of maps to narrative write-up	Member of technical working group specialize in write-up in crafting Comprehensive Land Use Plan and Comprehensive Development Plan
4.	Graphic Designer	Must have a knowledge in graphic design	Member of technical working group specialized in graphic design in crafting Comprehensive Land Use Plan and Comprehensive Development Plan

II GEOTECHNICAL SERVICES

Key Personnel	Qualification	Similar Experience
5. Project Manager	Must be a licensed Civil Engineer / Geotechnical Engineer	Similar Consulting Services 6. Detailed Engineering Designed 7. Laboratory Testing and Analysis Similar Infrastructure Structural Design Land Development Projects
8. Geotechnical Engineer	Must be a licensed Civil Engineer / Geotechnical Engineer	Similar Consulting Services 9. Detailed Engineering Design 10. Laboratory Testing and Analysis 11. Geotechnical Investigation Similar Infrastructure • Structural Design • Land Development Projects
12. Materials Engineer	Must be a licensed Materials Engineer	Similar Consulting Services Detailed Engineering design Laboratory Testing and Analysis Geotechnical Investigation Similar Infrastructure

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TERMS OF REFERENCE CONSULTING SERVICES ON GEOTECHNICAL INVESTIGATION FOR

THE URSM Proposed Building Facilities

1. BACKGROUND AND RATIONALE

The URS intends to engage the services of consultancy firm through subsoil exploration and geotechnical investigation for the construction of URSM building facilities. It is aimed at identifying subsurface soil conditions, characteristics and properties which are located at aforesaid institution. Results are vital for necessary evaluation of geotechnical parameters for analysis design, and construction considerations.

2. SCOPE OF SERVICES

2.1. GENERAL

- 2.1.1. The consultant shall be responsible for conducting subsoil investigation exploration and any necessary geotechnical works identifying subsurface conditions, characteristics and parameters and the preparation and submission of geotechnical reports and documents.
- **2.1.2.** The consultant shall provide all labor, instruments/equipment, materials, supplies, vehicles etc. necessary to perform satisfactorily the investigation works.
- 2.1.3. During the conduct of subsoil investigation, the consultant shall coordinate with the implementing office particularly on the surveys and investigation requirements stipulated in the volume 2C Geological & geotechnical investigations 2016, criteria and standard and applicable provisions of existing laws, codes or Department orders.

2.2. DETAILED EXPLORATION REQUIREMENTS / SPECIFICATIONS

2.2.1. Borehole Location

Before the conduct of Subsurface Soil Exploration Works, the Consultant shall coordinate with the UPFDU for the location of the project are to be conducted at the proposed location - the building facilities or as close as possible if there are obstructions that cannot be removed.

2.2.2. Borehole Depth

To be determined by the technical expert of the consultancy firm engaged (6 holes)

2.2.3. Procedure

Drilling and Sampling

In sand, clay and silt materials, the boreholes shall be advance by the wash boring method in between sampling sections using side discharged chopping bits. Whenever necessary, N-size

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casings shall be utilized. The washed section shall be cleaned thoroughly before each sampling run, assuring that the underlying soil is not disturbed.

Sampling shall be done at one-meter interval from the river bed to hard strata using 5.0m split spoon sampler. In soft cohesive layers, undisturbed samples using thin walled tube samplers shall be obtained hydraulically.

Core drilling shall be carried out by a diamond rotary drill method in gravelly or rock formation. Core samples shall be undertaken whenever solid formations are encountered.

Cores shall be placed in core boxes arranged and labelled in accordance to depth as soon these are extracted from the boreholes.

Drilling and sampling procedures shall comply in accordance with American Society for Testing Material (ASTM).

Equipment

- Drilling Machine

The consultant shall utilize at least two (2) drilling machines and set them up at the project site. The drilling machines shall always be in good working conditions and shall be of such capacity as to maintain satisfactory progress of work.

- Bits

The consultant shall have a sample supply of different types of bits to adapt to varying conditions. Bottom discharge and stepped bits shall also be available.

Core Barrels

Double tube swivel type core barrels in good condition and capable of obtaining maximum core recovery shall be used.

Casing

The consultant shall, at his own expense and responsibility, provide casings as required to ensure the stability of the borehole walls. The casing shall be at least of N-size and shall be in good condition. After every hole is accomplished, casings shall be retrieved.

2.2.4. Handling and Core of Samples

The consultant shall provide all the materials, equipment and labor necessary for preserving samples.

2.2.4.1. Laboratory Testing

The preparation of samples for testing shall be made in accordance with American Association State Highway and Transportation Officials (AASHTO). The following tests shall be made on samples obtained from boring and drilling.

a. Standard Penetration Test (SPT)

The test shall be carried out through ordinary soil encountered to the depths specified above. Standard penetration test shall be performed using 5.0 cm (2.0 in.) outside

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diameter split spoon sampler, driven by a 63.6 kg (140 lbs.) hammer falling 76.0 cm. (30 in.) at 1.5 -meter interval or closer if necessary.

b. Water Level Measurement

The water level shall be measured daily (before and after) whenever encountered in a borehole

c. Laboratory Testing and Analysis

The preparation of samples for testing shall be made in accordance with AASHTO. The following tests shall be made on samples obtained from boring and drilling.

- 1. Visual Identification of Soil
- 2. Index Properties
 - 2.1. Moisture Content
 - 2.2. Specific Gravity
 - 2.3. Sieve Analysis
 - 2.4. Hydrometer Analysis
 - 2.5. Atterberg Limits
 - 2.6. Soil Classification
- 3. Moisture-Density Relation
- 4. Strength Tests
 - 4.1. Triaxial Test
 - 4.2. Direct Shear Test
- 5. Consolidation Test (if soft soils are encountered)
 - 5.1. One-Dimensional Consolidation
 - 5.2. Swell-Potential of Clays
 - 5.3. Collapse Potential of Soils

2.2.4.2. Soil Investigation and Preparation of Report

The Contractor shall prepare the geotechnical report and analysis in three (3) copies and a soft copy stored on a CD to be submitted to URS. The final report shall not be limited to the following:

- I. Introduction
 - a. Project Background
 - b. Project location and site description
- II. Objectives and Scope of Work
- III. Geology and Seismicity
 - a. Regional Geology
 - b. Site Geology
 - c. Seismicity
 - d. Ground Water conditions
 - e. Site Liquefaction Potential
 - f. Material properties and geotechnical parameter
- IV. Field and Laboratory Test
 - a. In-Situ Test (w/ description of test conducted)
 - b. Laboratory Test (w/ description of test conducted)
- V. Evaluation and Findings

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- VI. Conclusions and Foundation Recommendation
- VII. Results of Field Investigation and Laboratory Testing
 - a. subsurface Soil Condition
 - b. Geotechnical Parameters based on Test Results

VIII Reference

- a. List of Figures
- b. List of Tables
- c. Appendix
 - Location map
 - · Geologic map
 - · Borehole Location map
 - · Geologic Cross Sections & Soil Profiles
 - Borehole Logs
 - · Geophysical Data (if conducted)
 - In –Situ Test data
 - Laboratory Test Data
 - Detailed Calculations
 - · Additional Photographs

3. IMPLEMENTATION

3.1. TIMELINESS AND DELIVERABLES

3.1.1. Commencement date and period of implementation

The study shall be completed with the maximum period thirty (30) days commencing from the date of receipt of the Notice to Proceed (NTP)

3.1.2. A recommendation for release of final payment shall be issued upon receipt of the Final Geotechnical Investigation and satisfactory review thereof.

4. QUALIFICATION REQUIREMENTS

The Consulting Firm shall have experience in the conduct of Geotechnical Investigation, Laboratory Testing and analysis composed of the following key experts whose minimum qualifications are stated herein.

4.1. Project Manager/ Team Leader

Must be a licensed Civil Engineer or Geodetic Engineer with at least five (5) years of relevant experience in similar projects

4.2. Geotechnical Engineer

Must be a licensed Civil Engineer specializing in Geotechnical Engineering with at least three (3) years of relevant experience in similar projects

4.3. Materials Engineer

Must be a licensed Civil Engineer with at least two (2) years of relevant experience in similar projects

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5. CRITERIA FOR SELECTION

The prospective Consultancy Firms must have at least five (5) years of relevant experience related to this Terms of Reference and will be rated based on the criteria shown in Annex A (rating table for the short listing of the consulting firms.

Prospective bidders are required to submit the following:

- **5.1.** Copies of Certificate of Project Completion and Acceptance or equivalent certification from their previous related projects within the past five (5) years
- 5.2. Company profile
- 5.3. Curriculum Vitae of the Key Personnel highlighting their relevant work experience

The consulting firm shall be selected using the Quality Cost Based Evaluation (QCBE) procedure under Republic Act (RA) No. 9184 or the government Procurement Reform Act and its Implementing Rules and Regulations (IRR)

6. SOURCE OF FUNDS

(c/o planning)

7. INSTITUTIONAL SETUP/RESPONSIBILITIES

7.1. URS

- **7.1.1.** Shall be the executing agency (representative of Government in the Contract Agreement with the consulting firm)
- 7.1.2. Shall, through the URS Bids and Awards Committee (BAC) be responsible for facilitating the bidding and tendering of the consultancy services in compliance with RA 9184 and its Implementing Rules and Regulations
- **7.1.3.** Shall be responsible for the disbursement of the fund for the service once the contract becomes executed
- 7.1.4. Shall reimburse or pay in behalf of the Consulting Firm for amounts paid on account of all taxes, duties, levies, and other impositions under the laws and regulations of the Philippines or any political subdivision or agency thereof (other than personnel who are citizens or permanent residents of the Philippines). In respect of any payment made to the Consulting Firm in connection with the carrying out of the services
- 7.1.5. Shall be responsible for the preparation and submission of financial reports as required by the Department of Budget and Management DBM and other reportorial requirements regarding the fund administration.
- 7.1.6. Shall be responsible for the contract implementation and management including ensuring the quality of outputs. Further, shall be responsible for the monitoring and evaluation of the progress of the study and approval of reports to ensure delivery of outputs as specified in this Terms of Reference.
- 7.1.7. Shall warrant that the consulting Firm shall have free and unimpeded access to all lands and properties required for the effective execution of services.
- 7.1.8. Shall provide the consulting Firm necessary /available information and also, If available copies of previous related studies.

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- 7.1.9. Shall evaluate request for payment /billings and endorse the same upon determination of the acceptability /correctness/completion of dates and attachments in support to the statement of work accomplished the same
- 7.1.10. Shall improve sanction/legal action agreement consulting firm should there be violation on the terms and condition under the contract
- 7.2. Consulting firm
 - **7.2.1.** Shall be responsible for the consulting services on the conduct of subsoil exploration and soil investigation and the timely delivery of correct/accurate results/outputs
 - 7.2.2. Shall be responsible for the provision of necessary office space, which shall be within close proximity to the site, for their project staff, including the necessary office equipment
 - 7.2.3. Shall shoulder all expenses of the team required in the service, including travel costs and field expenses
 - 7.2.4. Shall not assign nor subcontract any part of the professional engineering services under this TOR to any person or firm except with prior written consent of the Local Government Unit. The approval by the government to the assignment of any part of said services or to the engagement by the consulting firm or sub-contractors to perform any part of the same not relieve of the consulting firm of any obligations under this TOR.
 - 7.2.5. Shall not at any time communicate to any person or entity any information disclosed to them for the purpose of these services, nor shall the consulting firm make public information as to the recommendations formulated in the course of or as a result of the services.
 - 7.2.6. Shall agree that nothing contained herein shall be construed as establishing or creating between the Government and the consulting firm, the relationship of employer and employee or principal and agent, it being understood that the position of the consulting firm and anyone else performing the services is that of an independent contractor
 - 7.2.7. Shall 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 consulting firm shall agree to indemnify, protect and defend at its own expense the government and its agent from and against all actions, claims, and liabilities arising out of acts done by the consulting firm or its staff in the performance of the services, including the use of, or violation of any copyrighted materials, patented invention, article or appliance
 - **7.2.8.** Should be held liable for any inconsistency/ies in the report, analysis and recommendation, which may result to damage or collapse of structures due to faulty design.

8. MODE OF PROCUREMENT AND PROPOSED BUDGET FOR THE CONTRACT

The procurement process for this undertaking shall be executed in accordance with RA 9184 and its IRR.

The proposed budget for the study is 300,000.00 inclusive of all applicable government taxes and charges, professional fees, and other incidental and administrative costs (i.e., transportation expenses, cost of conduct of surveys, FGDs, consultations, and other necessary costs for the project).

The consulting contract shall be a fixed price contract. Any extension of contract time shall not involve any additional cost to the government.

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Submitted by:	
STEVE ST. MILLARE, REnP Technical Working Group	BAC Chairperson
Approved by:	
President University of Rizal System	130

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ANNEX A

Criteria for Short-listing Consulting Firms

Criteria	Points/Weight
APPLICABLE EXPERIENCE	35
 Completed consulting services of size, complexity, and technical specialty comparable to job under consideration, including quality of performance Other completed consulting services related to the job under consideration Known cases of prior performance, including quality of the work conforming to obligations and cost of services 	
QUALIFICATION OF PERSONNEL	40
 Qualification of key personnel that may be assigned to the job 	
JOB CAPACITY	25
 Absorptive capacity to do additional works other than those currently being undertaken 	
Total Score Rank	100

ANNEX B

Key Staff Requirements

1. Person-Month Requirement

Key Staff	No. of Personnel	Maximum Points per Personnel	Weight for Personnel	Weight Total
1. Project Manager	1	60.00%	80.00%	80.00%
2. Geotechnical Engineer	1	6.75%	9.00%	9.00%
3. Materials Engineer	1	8.25%	11.00%	11.00%
Total				100.00%

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Qualification Requirement

Key Staff	Years of relevant experience	Qualification Requirements	Similar Experience
1. Project Manager	5	• Must be a licensed Civil Engineer/ Geotechnical Engineer	Similar Consulting Services a. Detailed Engineering Design b. Laboratory Testing and Analysis c. Geotechnical Investigation Similar Infrastructure a. Structural Design and Build Projects b. Land Development Projects
2. Geotechnical Engineer	3	Must be licensed Civil Engineer/Geotechnical Engineer	Similar Consulting Services a. Detailed Engineering Design b. Laboratory Testing and Analysis c. Geotechnical Investigation Similar Infrastructure a. Structural Design and Build Projects b. Land Development Projects
3. Materials Engineer	2	Must be licensed Materials Engineer	Similar Consulting Services a. Detailed Engineering Design b. Laboratory Testing and Analysis c. Geotechnical Investigation Similar Infrastructure a. Structural Design and Build Projects b. Land Development Projects

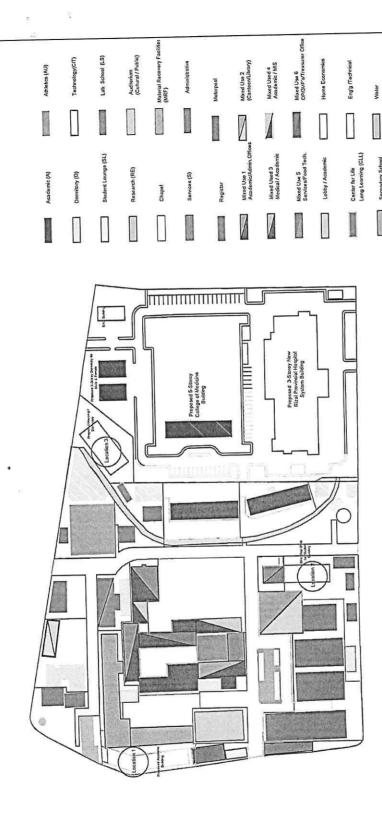
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ANNEX C

Payment Schedule

Payment	Description of Deliverables	% Weight of Contract Amount	
Advance Payment	Mobilization and Demobilization	15	
1 st Payment	Submission of Complete Draft Geotechnical Investigation Report	50	
Final Payment	Submission of Final Geotechnical Investigation Report	35	

Proposed Site Development for URS-Morong " 2031"



SHEET NO.				
APPROVED: SET NO	NANCYT PASCIJAL EGD	DR. NANCY T. PASCUAL, Ed.D. UNPERMITY PRESIDENT		
	DR. MARITES M. RIO, Ph.D	F. DEL LEMON, Ph.D ARMINITATION AND INVINCE		
RECOMMENDING APPROVAL:	DR. ALLAN E. CONDE, Ph.D	DR. RENATO		
YOTED BY:		MARVIN P. AMOIN, Ph.D		
PREPARED BY:		STEVE SJ. MILLARE, RENP		
PROJECT TITLE LOCATION:	LAND USE DEVELOPMENT AND			
	REPUBLIC OF THE PHILIPPINES	JNIVERSITY OF RIZAL SYSTEM VERSITY PHYSICAL FACILITIES & DOUGLOPMENT UNIT	SUMMICHES ST., BROTH, SHORING, MICH.	