PROJECT: INSTALLATION OF REFLECTORIZED THERMOPLASTIC PAVEMENT MARKINGS

LOCATION: MEZ I, IBO, LAPULAPU CITY, CEBU

I. PROJECT INFORMATION

A. BACKGROUND

The Philippine Economic Zone Authority (PEZA), through the approved allocation fund for infrastructure projects for 2024 intends to utilize the sum of THREE MILLION TWO HUNDRED SIXTY-TWO THOUSAND FOUR HUNDRED FIFTY-TWO PESOS and SEVENTEEN CENTAVOS *(₱ 3,262,452.17)* being the approved budget of the Contract (ABC) for the Procurement and Implementation of INSTALLATION OF REFLECTORIZED THERMOPLASTIC PAVEMENT MARKINGS Project

B. DESCRIPTION

PEZA has recognized the safety of our locators, Pedestrians and motorists. It is envisioned by PEZA to implement a development plan of a clear and effective system of pavement markings that is essential in road safety and traffic management and is vital in the management and administration of the Mactan Economic Zone.

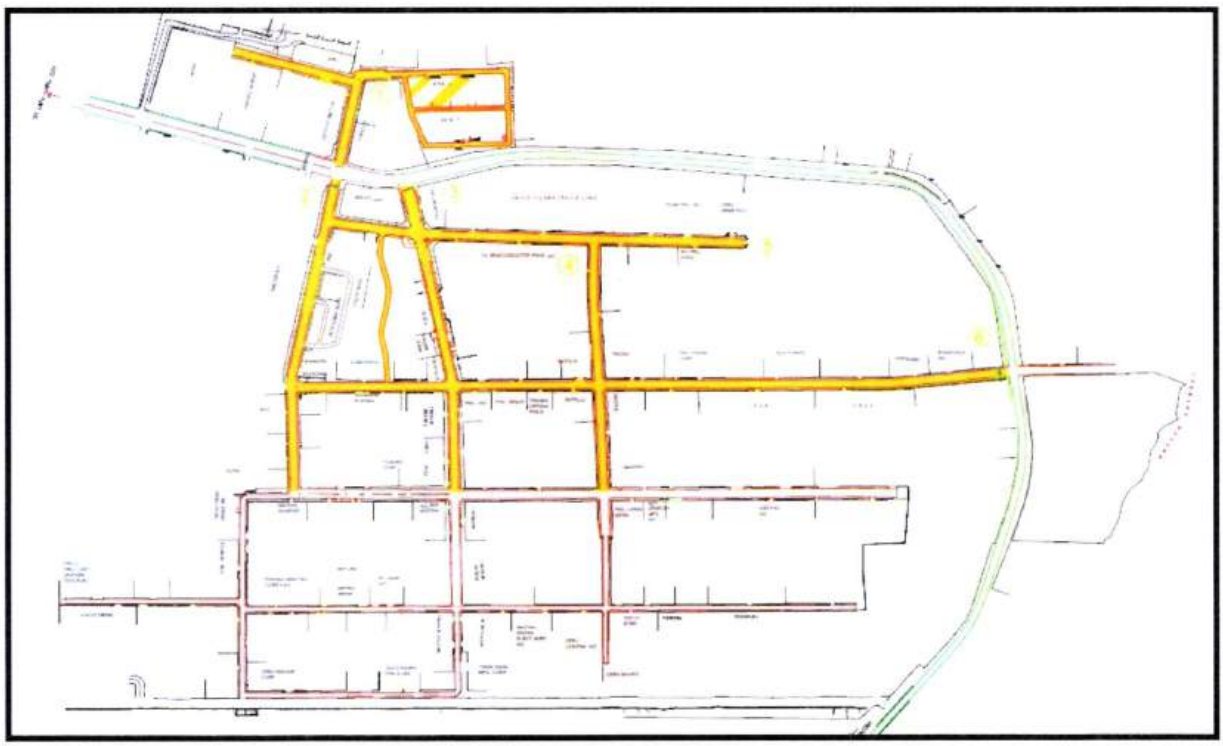


Fig. A – Identified areas for Reflectorized Thermosplastic Application (in yellow mark).

II. GENERAL REQUIREMENTS

A. Scope

The Contractor shall furnish all necessary materials, Labor, equipment and other faciltities for the satisfactory completion of the project in accordance to the specifications and set standards.

B. Mobilization / Demobilization

- Mobilization shall include transportation to the site of contractor's materials, equipment, employees and furnishings.

- Demobilization shall include removal from the site of contractor's materials and equipment. Demobilization includes clean-up of the site after completion of the contract work, this includes hauling and disposal of construction debris / furnishings, Removal of temporary shelters, and Pullout of personnel.

B. Temporary Facilities

The Contractor shall provide a temporary shelter for its materials and equipment, location of which shall be duly approved by PEZA. but shall not be permitted to erect temporary buildings or structures inside the zone.

C. Construction Safety and Health

- The contractor shall submit appropriate Construction Safety and Health Program (CSHP) in accordance with DOLE D.O. no. 13, series of 1998, and shall be enforced at all times.

- The contractor shall provide appropriate personal protective equipment (PPE) at its own expense and shall be in conformance and shall not be less than the quantity indicated in Program of Works.

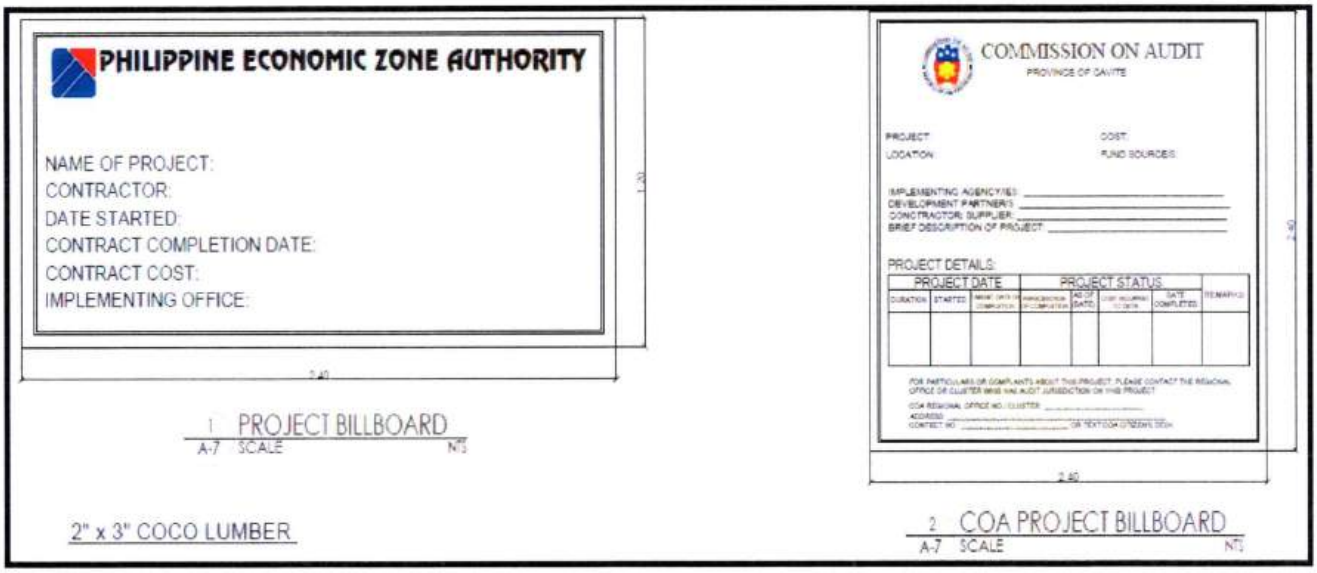
- The Contractor shall provide barricades and Safety Signages to advice the workers and the public of the hazards existing in the worksite.

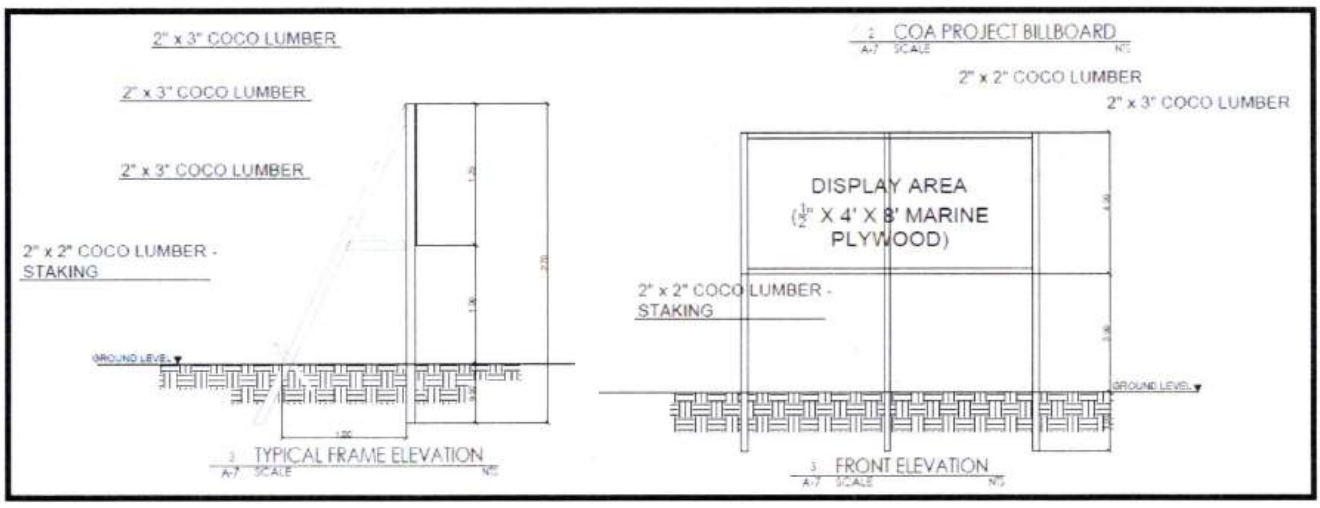
- The Contractor shall provide welfare facilities to its employees. Adequate supply of safe drinking water; Adequate sanitary and washing facilities and other facilities.

D. Project Billboard

a. The contractor shall install one (1) billboard in projects site measuring 1200mmx2400mm.

b. The contractor shall also install one (1) billboard as per COA circular no. 2013-004.





E. Traffic Management

- The Contractor shall protect pedestrians, vehicles and other traffic adjacent to the working area against damage or disfigurement by construction equipment, tools and materials or by spatters, splashes and smirches or paint or other construction materials and during the course of the work, provide and maintain adequate signs and signals for warning and guidance of traffic.

III. SPECIFICATIONS

REFLECTORIZED THERMOPLASTIC

A. Materials / Equipment

a. Materials and Equipment shall conform to the required specifications and requirements indicated in the design and Construction Plan and DPWH Standard Specification for Item 612 - Reflective Thermoplastic Stripping Materials (Solid Form) with Performance Requirements

b. Manufacturer's certifications, complete with its specification and testing reports shall be forwarded to the Procuring Agency. Certificates shall be signed by the manufacturer's authorized official.

c. Testing of materials, if necessary, such as Paints, Beads and other materials. shall be at the expense of the Contractor. The materials subject to testing shall not be allowed to be incorporated into the work until tests or certifications have been presented.

B. Application Properties

a. The thermoplastic material shall readily extrude at a temperature of 211 ± 7°C, from approved equipment to produce a line with a minimum thickness of 3.2 mm which shall be continuous and uniform in shape having clear and sharp dimensions.

b. The material shall not exude fumes which are toxic, obnoxious or injurious to persons or property when heated during application.

c. The rate of application and size of glass beads for drop-on method shall be at the option of the manufacturer/applicator, provided that all the performance requirements are met.

d. The applied thermoplastic pavement markings shall have a minimum of two (2) years of longevity/durability.

C. Application Method

a. Preparation of Road Surface :

The materials should be applied only on the surface which is clean and dry. It shall not be laid into loose detritus, mud or similar extraneous matter, or over an old paint markings, or over an old thermoplastic marking which is faulty. In the case of smooth, polished surface stones such as smooth concrete, old asphalt surfacing with smooth polished surface stones and/or where the method of application of the manufacturer of the thermoplastic materials shall be recommended, and with the approval of the Engineer.

b. Preparation of Road Surface for Construction Joints:

Asphalt road construction joints – road surface shall be cleaned first using blower to remove dust and other foreign objects prior to the application of asphalt sealant to road centerlines on the asphalt roads.

Pavement construction joints – construction joints at road centerlines along South Avenue and parts of East and Rotary Avenue shall be applied with asphalt sealant preceding to the application of primer.

c. Preparation of Thermoplastic Materials:

The materials shall be melted in accordance with the manufacturer's instruction in a heater fitted with a mechanical stirrer to give a smooth consistency to the thermoplastic and such the local overheating shall be avoided. The temperature of the mass shall be within the range specified by the manufacturer and shall on no account be allowed to exceed the maximum temperature stated by the manufacturer. The molten material shall be used as expeditiously as possible and for thermoplastics which have natural resin binders or otherwise sensitive to prolong heating the materials shall not bemaintained in a molten condition for more than 4 hours.

d. Laying:

Center lines, lane lines and edges lines shall be applied by approved mechanical means and shall be laid in regular alignment. Other
markings may be applied by hand-screed, hand propelled machine or by self-propelled machine. After transfer to the laying apparatus the materials shall be maintained within the temperature ranges specified by the manufacturer and stirred to maintain the right consistency for laying.

e. Re-use of Thermoplastic Materials:

at the end of the day's as much as possible the material remaining in the heater and /or laying apparatus shall be removed. This may be broken and used again provided that the maximum heating temperature has not been exceeded and that the total time during which it is a molten condition.

HUMPS

a. Methodology:

Unless otherwise specified herein, the specification to be used in this project will be the latest and current DPWH Standards Specifications for Public Works and Highways ("Blue Book"). In particular, Volume II of the Blue Book shall be used if the Contract pertains to Highways, Bridges, and Airports. Volume III of the Blue Book shall be used if the Contract pertains to Buildings, Flood Control and Drainage, or Water Supply. The Blue Book incorporates standards of the American Association of State Highway and Transportation Officials (AASHTO), American Society for Testing and Materials (ASTM), and American Concrete Institute (ACI), among others, pertaining to construction.

PCC Humps (Unreinforced) 0.33m thk 3,500 psi @ 7 Days This item shall consist of the constructing the concrete humps in accordance with the plans/drawings or as directed by the Engineer.

b. Site Preparation:

- Use Concrete Cutter (14" blade) to cut the specific width and length of the existing
concrete pavement as specified in the plans/drawings or as specified/directed by
the Engineer.

- For the breaking, use a Backhoe with Pavement Breaker.

- Aggregate Base Course – the same as indicated in the DPWH Bluebook for Aggregate Base Course.

– Compaction – use a Plate Compactor (5hp) to compact the base course, must attain 100% degree of compaction.

c. Concreting:

the same as indicated in the DPWH Bluebook for Portland Cement Concrete Pavement (PCCP). The concrete humps shall have 3,500 psi compressive strength @ 7 days. Dimensions will be indicated in the plans/drawings or as specified/directed by the Engineer.

IV. GENERAL CONDIITONS OF THE CONTRACT

A. Major Obligations of the Contractor:

- The Contractor shall supply labor, tools, materials and equipment necessary for the completion of the project.

- The Contractor shall conduct preliminary Project Evaluation, Review Detailed Survey of Roads.

- The Contractor shall secure necessary permits prior to commencement of the project.

- The Contractor shall undertake the Construction of the Project in accordance with the approved Construction Drawings and Specifications, and the scope of work as specified in the contract.

- The Contractor shall provide Progress Report, information / updates for any development or deviation and corrections in a regular basis or as agreed, to Engineering and Maintenance Division.

- The Contractor shall correct defective materials or workmanship - materials which are defective or have been applied in an unsatisfactory manner or to incorrect dimensions or in a wrong location shall be removed, the road pavement shall be made good and materials replaced, reconstructed and/or properly located, all at the Contractor's expense.

- The Contractor shall be liable for any loss, damage or injury due directly through its personnel's fault or negligence. The Contractor shall assume responsibility from any liability arising thereof.

- The Contractor shall assume full responsibility for the repairs/damages, safety and protection of its personnel and third parties from the commencement of the project until its final acceptance including its warranty period. As specified in Section 62. Warranty, IRR of R.A. 9184.

B. Major Obligations of Philippine Economic Zone Authority (PEZA)

- PEZA shall supervise, monitor and control the implementation and progress of the project.

- PEZA shall constitute an Inspectorate team which shall be responsible in assisting the EMD in recommending appropriate measures and improvements, when necessary, as well as to make preliminary inspection, submit a punch-list to the contractor and recommend the acceptance of the project for the approval of the concerned PEZA official.

- Pay the contractor for the supply of materials, labor and equipment for the project.

C. Payment Schedule

- PEZA shall allow the contractor an advance mobilization fee upon the written request of the contractor. Mobilization fee shall not exceed 15% of the total contract price.

- The Contractor may submit a request for a progress payment based on the percentage of work accomplished, supported by the progress report and Work Accomplished.

D. Liquidated Damages

- Failure to comply with the terms and conditions of the contract will result to corresponding fees and penalties. As indicated in Section 68. Liquidated Damages, IRR of R.A. 9184.

E. Pre-Termination of Contract

- The contract for the project, INSTALLATION OF REFLECTORIZED THERMOPLASTIC PAVEMENT MARKINGS maybe pre-terminated upon any violation of the contracts terms. In-case of pre-termination, the Contractor shall be notified.

V. Project Implementation / Construction Phase

Workers Barracks – The Contractor shall provide off-site accommodations/Barracks for workers at his own expense. The Contractor to provide Service vehicle to convey its employees/workers in and out of worksite.

Water and Electricity – As needed, The Contractor shall install temporary power and water connection and shall shoulder the amount based on the actual usage.

Progress Report – The Contractor shall prepare weekly, Monthly accomplishment reports supported with Charts, Graphs, Images to monitor actual progress.

Material & Equipment Pullouts – all outgoing Materials and Equipment, from the zone shall be subject to inspection and approval of EMD and Zone Police Unit (ZPU).

Material handling/Storage – PEZA Shall identify a staging area for retention and storage of construction materials and other affected facilities. Materials shall be properly stored and managed in an orderly manner.

Waste Disposal – Construction, hazardous and Residual waste shall be segregated and disposed properly. All waste for pullout and exit from the zone shall be subject to inspection of the Environment Health and Safety Division (EHSD), Engineering and Maintenance Division (EMD) and Zone Police Unit (ZPU).

VI. Implementation Schedule

- The Contractor shall implement a Construction implementation schedule and the construction project shall be completed within Sixty Calendar Days (60 CD) from the date of receipt of Notice to Proceed (NTP).

VII. Eligibility Critera for Bidders

- The requirements of eligibility of bidders shall adopt to the provisions of Eligibility Requirements of Section 23 – Eligibility of requirements, of the IRR of RA 9184 (Government Procurement Reform Act) and in the instructions to Bidders.

- The bidder must have an experience on Reflectorized Thermoplastic Application or other similar pavement application projects within the last Ten (10) years.

VIII. Contractors key Personnel

The key professionals and the respective qualifications of the key Personnel shall be as follows:

a. Project Manager - The Project Manager shall have at least Five (5) years experience in project management and project implementation.

b. Site Engineer - The Site Engineer must be duly-licensed Civil Engineer with at least Five (5) years experience in project supervision and implementation.

c. Foreman - The Foreman must have at least Three (3) years experience in onsite coordination, day-to-day work delivery/accomplishment.

d. Safety Engineer / Officer - The Safety Engineer / Officer must have the required trainings/certificates and must have at least five (5) years experience as a Safety Engineer / Officer.

e. First Aider – First Aider must have the required training/certificates and must have at least three (3) years experience as a first aider.

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