



# Republika ng Pilipinas Lungsod Quezon

**BIDS AND AWARDS COMMITTEE FOR INFRASTRUCTURE & CONSULTANCY**

2<sup>nd</sup> Floor, Finance Building, Procurement Department, Quezon City Hall Complex, Elliptical Road, Quezon City



September 30, 2021

## Request for Quotation/ Proposal

No.	Project No.	Project Name	Location	Amount	Duration Cal. Days	Source Fund
<b><u>Parks - Small A</u></b>						
1	21-001 SV	Proposed Rehabilitation of Welcome Arc at Manresa Park	Manresa	247,536.00	30	Engineering Department
<b><u>Buildings – Small A</u></b>						
2	21-002 SV	Proposed Rehabilitation of Reception Area at Various Health Center (District 2)	Various Barangays	341,124.74	30	OCM-20% CDF
3	21-003 SV	Proposed Temporary Enclosure for Crematory Machine at Baesa Crematorium	Baesa	594,910.45	30	Engineering Department-SB No. 1
4	21-004 SV	Proposed Rehabilitation of Reception Area at Various Health Center (District 3)	Various Barangays	632,587.24	30	OCM-20% CDF
5	21-005 SV	Proposed Rehabilitation of Material Recovery Facility at Third Floor (Roof Deck)	Mariana	789,657.49	60	Engineering Department-SB No. 1
6	21-006 SV	Proposed Rehabilitation of Reception Area at Various Health Center (District 1)	Various Barangays	809,220.13	30	OCM-20% CDF
7	21-007 SV	Proposed Rehabilitation of Reception Area at Various Health Center (District 6)	Various Barangays	851,009.93	30	OCM-20% CDF
8	21-008 SV	Proposed Rehabilitation of Multi-Purpose Hall at Bagumbuhay	Bagumbuhay	908,267.19	60	Engineering Department-SB No. 1
9	21-009 SV	Proposed Rehabilitation of Reception Area at Various Health Center (District 4)	Various Barangays	953,997.37	30	OCM-20% CDF
10	21-010 SV	Proposed Rehabilitation of Tennis Court at Villa Orion Union	West Fairview	995,610.53	60	Engineering Department-SB No. 1
<b><u>Roads – Small B</u></b>						
11	21-011SV	Proposed Rehabilitation of Steel Bridge at Tacloban Street	Alicia and Bahay Toro	695,189.25	90	Engineering Department
<b><u>Roads – Small B</u></b>						
12	21-012 SV	Proposed Rehabilitation (Surface Improvement) of Halcon Street at Amparo Subdivision	Nagkaisang Nayon	897,220.87	10	Engineering Department
13	21-013 SV	Proposed Rehabilitation of Road and Drainage at Balimbing Street	Veterans Village	971,164.95	60	OCM-20% CDF



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The Quezon City Government through its Bids and Awards Committee – Infra and Consultancy undertake an Small Value Procurement in accordance with **Section 53.9 of the Revised Implementing Rules and Regulations of Republic Act No. 9184.**

Please quote your best offer for the project/s described above, subject to the Terms and Conditions provided. Submit your proposal/price quotation duly signed by you or your duly authorized representative not later than **5 October 2021** on or before **10:00 A.M.**, Philippine Standard Time, together with the following documents:

1. PhilGEPS Platinum Certificate
2. DTI or SEC Registration Certificate
3. Mayor's Permit
4. Tax Clearance
5. PCAB License (Bidders with valid Philippine Contractors Accreditation Board (PCAB)
6. Audited Financial Statements
7. Net Financial Contracting Capacity (NFCC)
8. List of Key Construction Personnel to be assign for the project
9. List of Major Equipment to be used for the Project
10. Duly Notarized Affidavit of Undertaking of Key Personnel and Equipment
11. Income/Business Tax Returns
12. Omnibus Sworn Statement prescribed by the Government Procurement Policy Board (GPPB) duly notarized with attached Secretary's Certificate (*If a partnership, corporation, cooperative, or joint venture*). The authorized representative as identified in the Omnibus Sworn Statement shall be the signatory in the proposal/price quotation form.

Opening of Quotations/Proposals will be on **5 October 2021** at exactly **11:00 A.M.**

in a **SEALED LONG BROWN ENVELOPE** shall:

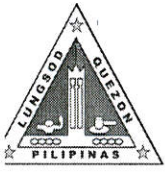
- 1 Contain the Name of Project of the contract to be quoted in capital letters;
- 2 Bear the name and address of the Contractor in capital letters;
- 3 Be addressed to the Procuring Entity's BAC.

Name of Project: **IN CAPITAL LETTERS**

**Quezon City Local Government  
BIDS AND AWARDS COMMITTEE (INFRA & CONSULTANCY)  
2/F Procurement Department, Finance Building  
Quezon City Hall Compound**

For any clarification you may contact us at 89884242 loc. 8505/8709.

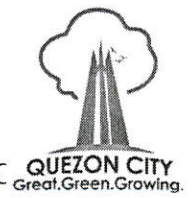
**ATTY. MARK DALE DIAMOND P. PERRAL**  
Chairman, BAC Infra and Consultancy



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**BIDS AND AWARDS COMMITTEE FOR INFRASTRUCTURE & CONSULTANCY**

2<sup>nd</sup> Floor, Finance Building, Procurement Department, Quezon City Hall Complex, Elliptical Road, Quezon City



## *TERMS AND CONDITIONS*

1. Contractor shall **provide correct and accurate** information required in this form.
2. Price quotation/proposal must be valid for a period of thirty (30) calendar days from the date of submission.
3. Price quotation/proposal, to be denominated in Philippine Peso shall include all taxes, duties and/or levies payable.
4. Quotation/Proposal **exceeding** the Approved Budget for the Contract (ABC) shall be **rejected**.
5. Award of contract shall be made to the lowest quotation/proposal (for infra) which complies with the minimum technical specifications and other terms and conditions stated herein.
6. Any interlineations, erasures or overwriting shall be valid only if they are signed or initialed by the contractor or his/her duly authorized representative/s.
7. The Engineering Department shall have the right to inspect and monitor the construction projects
8. Non-submission of eligibility documents shall mean disqualification of Quotation/Proposal.
9. Liquidated damages equivalent to one tenth (1/10) of one percent (1%) of the cost of the unperformed portion for every day of delay, Engineering Department shall rescind the contract once the cumulative amount of liquidated damages reaches ten percent (10%) of the amount of the contract, without prejudice to other courses of action and remedies open to it.
10. Failure to follow these instructions will disqualify your entire quotation/proposal.

**ATTY. MARK DALE DIAMOND P. PERRAL**

Chairman, BAC Infra and Consultancy



Republika ng Pilipinas  
Lungsod ng Quezon  
**CITY ENGINEERING DEPARTMENT**

5th, 6th, 7th, Floors, QC Civic Center Building "B"  
Telephone Nos. 988-4242 Local 8538



Project Name : **PROPOSED REHABILITATION OF ROAD AND DRAINAGE AT BALIMBING ST.**  
Location : **BARANGAY VETERANS VILLAGE, DISTRICT 1, QUEZON CITY**

### LIST OF MANPOWER

	Manpower	No.
1	<b>Project Manager</b>	1
2	<b>Project Engineer</b>	1
3	<b>Materials Engineer</b>	1
4	<b>Safety Practitioner/Officer</b>	Refer to DOLE Requirements
5	<b>Surveyor</b>	As needed
6	<b>Surveyor Assistant</b>	As needed
7	<b>Procurement Officer</b>	1
8	<b>Equipment Operator</b>	7
9	<b>Equipment Assistant</b>	4
10	<b>General Foreman</b>	1
11	<b>Laborer</b>	2

Prepared by:

*nh*  
**WEENDRA CABELTES**  
Planning and Programming Division

Checked by:

*Jr*  
**ENGR. JOCELYN A. NAONG**  
Planning and Programming Division



Republika ng Pilipinas  
Lungsod ng Quezon  
**CITY ENGINEERING DEPARTMENT**

5th, 6th, 7th, Floors, QC Civic Center Building "B"  
Telephone Nos. 988-4242 Local 8538



Project Name : **PROPOSED REHABILITATION OF ROAD AND DRAINAGE AT BALIMBING ST.**  
Location : **BARANGAY VETERANS VILLAGE, DISTRICT 1, QUEZON CITY**

### LIST OF EQUIPMENT

	NAME OF EQUIPMENT	NO. OF UNIT
1	<b>Jackhammer</b>	1
2	<b>Water Truck</b>	1
3	<b>Concrete Vibrator</b>	1
4	<b>Concrete Mixer (2-Bagger)</b>	1
5	<b>Plate Compactor</b>	1
6	<b>Elf Truck</b>	1

Prepared by:

*W. Cabeltes*  
**WEENDRA CABELTES**  
Planning and Programming Division

Checked by:

*J. Naong*  
**ENGR. JOCELYN A. NAONG**  
Planning and Programming Division



REPLUBLIKA NG PILIPINAS  
LUNGSOD QUEZON  
**CITY ENGINEERING DEPARTMENT**  
5<sup>TH</sup> 6<sup>TH</sup> 7<sup>TH</sup> Floors, QC Civic Center Building "B"  
Telephone Nos. 8988-4242 Local 8538



NAME OF PROJECT : **PROPOSED REHABILITATION OF ROAD AND DRAINAGE AT BALIMBING ST.**

LOCATION : **BARANGAY VETERANS VILLAGE, DISTRICT 1, QUEZON CITY**

## TECHNICAL SPECIFICATIONS

### GENERAL NOTES:

1. The above-mentioned project is subject to the Standards Specifications listed herein where applicable.
2. **STANDARD SPECIFICATIONS**  
All works shall comply with DPWH STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES 2013 Edition supplemental specification pertaining to this project and provision of the contract.
3. **DIMENSIONS**  
Unless otherwise specified, all dimensions which include stationing, distances between control points and elevations are measured in meters.
4. **ALIGNMENT AND GRADE**  
No alteration or change in alignment and grade shall be made unless existing field condition so warrant and only upon the written order by the Engineer-In-charge and approved by the proper authority concerned.
5. **REMOVAL OF EXISTING STRUCTURES AND OBSTRUCTIONS**
  - a. Existing structures affected in this project shall be done with the required tools and equipment. All debris shall be immediately disposed.
  - b. Portion of existing utilities such as MWSS Pipelines, PLDT Posts, MERALCO Posts, etc. that may cause obstructions to the construction of this project shall be relocated by the entity or owner concerned. Extreme precaution shall be exercised, damaged thereof shall be the account of the contractor.
6. **SUB-GRADE, SUB BASE AND BASE.**
  - a. Unsuitable sub-grade material shall be excavated below the ground surface to the required width and depth. The area to be excavated shall be backfilled with approved material.
  - b. No embankment material shall be placed until the foundation is stable.
  - c. All aggregate sub-base and base course shall be spread, laid and compacted in accordance with the required thickness and proposed elevation.
7. **CONCRETE AND CONCRETE PAVEMENT**
  - a. All concrete to be used in this project shall be Class "A" unless otherwise indicated.
  - b. No Admixtures or additives will be allowed for all concrete works without prior approval by the City Engineer or his duly representative.
  - c. Traffic shall be required to reduced speed when passing the vicinity of the newly laid concrete pavement until such time that it has obtained the required strength.
8. **ASPHALT PAVEMENT**
  - a. Prepared or Existing Base shall be thoroughly cleaned and free from dirt by utilizing a push broom as required. Emulsified asphalt (SS1) shall be used and spread evenly on the surface prepared by utilizing an asphalt distributor as required.
  - b. Asphalt Plant Hot Mix shall be laid evenly by utilizing an asphalt paver to a thickness as required in the plan or program of work.

**9. REINFORCING STEEL BARS**

Reinforcing steel shall conform to AASHTO M31 (ASTM615), Grade 40 for Bars 16 mm. diameter and smaller (40,000 psi),  $f_y = 275$  MPa, and for Bars greater than 16 mm Diam., Grade 60 (60,000 psi)  $f_y = 414$  MPa.

**10. DRAINAGE**

- a. Exact location, slope, outfalls and invert elevation of drainage structures shall be checked in the field by the Engineer-In-Charge, minor adjustment maybe made by the approval of the Engineer to suit actual field condition.
- b. Existing drainage structures or part thereof removed by the contractor that are still serviceable shall be turned over to the Government and shall be deposited at a place within the project site designated by the Engineer-In-Charge without any extra compensation. Extreme precaution shall be exercised by the contractor not to damage these materials during the removal and handling.

**11. CONSTRUCTION STAKES**

- a. The contractor will be responsible for the true and proper setting out of the work or improvement and for correctness of position, level slope and continuous profile grade in road work. He will set construction stakes, establishing lines, slope and continuous profile work and other line and benchmark for bridge work.

Grade in road protective and necessary structures and appurtenances culvert work, as are deemed necessary from the reference date to be furnished by the Engineer-In-Charge in writing.

- b. The checking of construction stakes by the Engineer-In-Charge shall not in any way relieve the contractor of his responsibility for the correctness thereof and the contractor shall carefully protect preserve all benchmark, pegs and other things used in setting out of the work.

**ITEM 104 – REMOVAL OF EXISTING STRUCTURES****DESCRIPTION**

This Item shall consist of the removal wholly or in part, and satisfactory disposal of all buildings, fences, structures, old pavements, abandoned pipe lines, and any other obstructions which are not designated or permitted to remain, except for the obstructions to be removed and disposed off under other items in the Contract. It shall also include the salvaging of designated materials and backfilling the resulting trenches, holes, and pits.

**ITEM 105 – ROADWAY EXCAVATION****DESCRIPTION**

Roadway excavation will include excavation and grading for roadways, parking areas, intersections, approaches, slope rounding, benching, waterways and ditches; removal of unsuitable material from the roadbed and beneath embankment areas; and excavating selected material found in the roadway as ordered by the Engineer for specific use in the improvement.

**ITEM 106 – EXCAVATION FOR STRUCTURES****DESCRIPTION**

This item shall consist of the necessary excavation for reinforced concrete pipes, lined canal, box culverts and other structures not otherwise provided for in the Specifications. Except as otherwise provided for pipe culverts, the backfilling of completed structures and the disposal of all excavated materials shall be in accordance with this specification and in reasonably close conformity with the Plans or as established by the Engineer-In-Charge. This Item shall include necessary diverting of live streams, bailing, pumping, draining, sheeting, bracing, and the necessary construction of cribs and cofferdams, and furnishing the materials therefore, and the subsequent removal of cribs and cofferdams and the placing of all necessary backfill. It shall also include the furnishing and placing of approved foundation fill material to replace unsuitable material encountered below the foundation elevation of structures.

## ITEM 200 – AGGREGATE BASE COURSE

### DESCRIPTION

This Item shall consist of furnishing, placing and compacting an aggregate base course on a prepared subgrade/subbase in accordance with this Specification and the lines, grades, thickness and typical cross-sections shown on the Plans, or as established by the Engineer-In-charge.

### MATERIAL REQUIREMENTS

Aggregate for base course shall consist of hard, durable particles or fragments of crushed stone, crushed slag or crushed or natural gravel and filler of natural or crushed sand or other finely divided mineral matter. The composite material shall be free from vegetable matter and lumps or balls of clay, and shall be of such nature that it can be compacted readily to form a firm, stable base. In some areas where the conventional base course materials are scarce or non-available, the use of 40% weathered limestone blended with 60% crushed stones or gravel shall be allowed, provided that the blended materials meet the requirements of this Item. The base course material shall conform to Table 201.1, whichever is called for in the Bill of Quantities.

Table 201.1 – Grading Requirements

Sieve Designation		Mass Percent Passing	
Standard, mm	Alternate US Standard	Grading A	Grading B
50	2"	100	
37.5	1 – ½"	-	100
25	1"	60 – 85	-
19	¾"	-	60 – 85
12.5	½"	35 – 85	-
4.75	No. 4	20 - 50	30 – 55
0.425	No. 40	5 – 20 0 -	8 – 25 2
0.075	No. 200	12	- 14

The fraction passing the 0.075 mm (No. 200) sieve shall not be greater than 0.66 (two thirds) of the fraction passing the 0.425 mm (No. 40) sieve. The fraction passing the 0.425 mm (No. 40) sieve shall have a liquid limit not greater than 25 and plasticity index not greater than 6 as determined by AASHTO T 89 and T 90, respectively. The coarse portion, retained on a 2.00 mm (No. 10) sieve shall have a mass percent of wear not exceeding 50 by the Los Angeles Abrasion test determined by AASHTO T 96. The material passing the 19 mm (¾ inch) sieve shall have a soaked CBR value of not less than 80% as determined by AASHTO T 193. The CBR value shall be obtained at the maximum dry density (MDD) as determined by AASHTO T 180, Method D. If filler, in addition to that naturally present, is necessary for meeting the grading requirements or for satisfactory bonding, it shall be uniformly blended with the base course material on the road or in a pug mill unless otherwise specified or approved. Filler shall be taken from sources approved by the Engineer, shall be free from hard lumps and shall not contain more than 15 percent of material retained on the 4.75 mm (No. 4) sieve.

## ITEM 316 – PORTLAND CEMENT CONCRETE PAVEMENT

### DESCRIPTION

This Item shall consist of pavement of Portland Cement Concrete, with or without reinforcement, constructed on the prepared base in accordance with this Specification and in conformity with lines, grades, thickness and typical cross-section shown on the Plans. Compressive strength for concrete mix to be used shall not be less than 4,000 psi.

### MATERIAL REQUIREMENTS

#### PORTLAND CEMENT

It shall conform to the applicable requirements of Item 700, Hydraulic Cement. Only Type I Portland Cement shall be used unless otherwise provided for in the Special Provisions. Different brands or the same brands from different mills shall not be mixed nor shall they be used alternately unless the mix is approved by the Engineer. However, the use of Portland Pozzolana Cement Type IP meeting the



requirements of AASHTO M 240/ASTM C 695, Specifications for Blended Hydraulic Cement shall be allowed, provided that trial mixes shall be done and that the mixes meet the concrete strength requirements, the AASHTO/ASTM provisions pertinent to the use of Portland Pozzolana Type IP shall be adopted. Cement which for any reason, has become partially set or which contains lumps of caked cement shall be rejected. Samples of cement shall be obtained in accordance with AASHTO T 127.

#### FINE AGGREGATES

It shall consist of natural sand, stone screenings or other inert materials with similar characteristics, or combinations thereof, having hard, strong and durable particles. Fine aggregate from different sources of supply shall not be mixed or stored in the same pile nor used alternately in the same class of concrete without the approval of the Engineer.

It shall not contain more than three (3) mass percent of material passing the 0.075 mm (No. 200 sieve) by washing nor more than one (1) mass percent each of clay lumps or shale. The use of beach sand will not be allowed without the approval of the Engineer.

If the fine aggregate is subjected to five (5) cycles of the sodium sulfate soundness test, the weighted loss shall not exceed 10 mass percent.

The fine aggregate shall be free from injurious amounts of organic impurities. If subjected to the colorimetric test for organic impurities and a color darker than the standard is produced, it shall be rejected. However, when tested for the effect of organic impurities of strength of mortar by AASHTO T 71, the fine aggregate may be used if the relative strength at 7 and 28 days is not less than 95 mass percent.

The fine aggregate shall be well-graded from coarse to fine and shall conform to Table 311.1

Table 311.1 – Grading Requirements for Fine Aggregate

Sieve Designation	Mass Percent Passing
9.5 mm (3/8 in.)	100
4.75 mm (No. 4)	95 – 100
2.36 mm (No. 8)	-
1.18 mm (No. 16)	45 – 80
0.600 mm (No. 30)	-
0.300 mm (No. 50)	5 – 30
0.150 mm (No. 100)	10

#### COARSE AGGREGATES

It shall consist of crushed stone, gravel, blast furnace slag, or other approved inert materials of similar characteristics, or combinations thereof, having hard, strong, durable pieces and free from any adherent coatings.

It shall contain not more than one (1) mass percent of material passing the 0.075 mm (No. 200) sieve, not more than 0.25 mass percent of clay lumps, nor more than 3.5 mass percent of soft fragments.

If the coarse aggregate is subjected to five (5) cycles of the sodium sulfate soundness test, the weighted loss shall not exceed 12 mass percent.

It shall have a mass percent of wear not exceeding 40 when tested by AASHTO T 96.

If the slag is used, its density shall not be less than 1120 kg/m<sup>3</sup> (70 lb./cu. ft.). The gradation of the coarse aggregate shall conform to Table 311.2.

Only one grading specification shall be used from any one source.

Table 311.2 – Grading Requirements for Coarse Aggregate

Sieve Designation		Mass Percent Passing		
Standard (mm)	Alternate U.S. Standard	Grading A	Grading B	Grading C
75	3 in.	100	-	-
63	2 – ½ in.	90 – 100	100	100
50	2 in.	- 90 – 100	95 – 100 37.5	1 – ½ in.
	25 – 60	35 – 70	-	

25	1 in.	- 0 – 15	35 – 70 19.0	¾ in.
	0 – 10	- -		
12.5	½ in.	0 – 5	0-5	10 – 30
4.75	No. 4	-	-	0 – 5

#### *WATER*

Water used in mixing, curing or other designated application shall be reasonably clean and free of oil, salt, acid, alkali, grass or other substances injurious to the finished product. Water will be tested in accordance with and shall meet the requirements of Item 714, Water. Water which is drinkable may be used without test. Where the source of water is shallow, the intake shall be so enclosed as to exclude silt, mud, grass or other foreign materials.

#### *REINFORCING STEEL*

It shall conform to the requirements of Item 404, Reinforcing Steel. Dowels and tie bars shall conform to the requirements of AASHTO M 31 or M 42, except that rail steel shall not be used for tie bars that are to be bent and straightened during construction. Tie bars shall be deformed bars. Dowels shall be plain round bars. Before delivery to the site of work, one-half of the length of each dowel shall be painted with one coat of approved lead or tar paint. The sleeves for dowel bars shall be metal of approved design to cover 50 mm (2 inches), plus or minus 5 mm (1/4 inch) of the dowel, with a closed end, and with a suitable stop to hold the end of the sleeve at least 25 mm (1 inch) from the end of the dowel. Sleeves shall be of such design that they do not collapse during construction.

#### *JOINT FILLERS*

Poured joint fillers shall be mixed asphalt and mineral or rubber filler conforming to the applicable requirements of Item 705, Joint Materials.

Preformed joint filler shall conform to the applicable requirements of Item 705. It shall be punched to admit the dowels where called for in the Plans. The filler for each joint shall be furnished in a single piece for the full depth and width required for the joint.

#### *ADMIXTURES*

Air-entraining admixture shall conform to the requirements of AASHTO M 154. Chemical admixtures, if specified or permitted, shall conform to the requirements of AASHTO M 194. Fly Ash, if specified or permitted as a mineral admixture and as 20% partial replacement of Portland Cement in concrete mix shall conform to the requirements of ASTM C 618. Admixture should be added only to the concrete mix to produce some desired modifications to the properties of concrete where necessary, but not as partial replacement of cement.

#### *CURING MATERIALS*

Curing materials shall conform to the following requirements as specified;

- a) Burlap cloth - AASHTO M 182
  - b) Liquid membrane forming compounds - AASHTO M 148
  - c) Sheeting (film) materials - AASHTO M 171
- Cotton mats and water-proof paper can be used.

#### *CALCIUM CHLORIDE/CALCIUM NITRATE*

It shall conform to AASHTO M 144, if specified or permitted by the Engineer-in-charge, as accelerator.

#### *STORAGE OF CEMENT AND AGGREGATE*

All cement shall be stored, immediately upon delivery at the Site, in weatherproof building which will protect the cement from dampness. The floor shall be raised from the ground. The buildings shall be placed in locations approved by the Engineer. Provisions for storage shall be ample, and the shipments of cement as received shall be separately stored in such a manner as to allow the earliest deliveries to be used first and to provide easy access for identification and inspection of each shipment. Storage buildings shall have capacity for storage of a sufficient quantity of cement to allow sampling at least twelve (12) days before the cement is to be used. Bulk cement, if used, shall be transferred to elevated air tight and weatherproof bins. Stored cement shall meet the test requirements at any time after storage when retest is ordered by the Engineer-in-charge. At the time of use, all cement shall be free-flowing and free of lumps. The handling and storing of concrete aggregates shall be such as to prevent segregation or the inclusion of foreign materials. The Engineer may require that aggregates be stored on separate platforms at satisfactory locations. In order to secure greater uniformity of concrete mix, the Engineer may require that the coarse aggregate be separated into two or more sizes. Different sizes of aggregate shall be stored in separate bins or in separate stockpiles sufficiently removed from

each other to prevent the material at the edges of the piles from becoming intermixed.

#### *PROPORTIONING, CONSISTENCY AND STRENGTH OF CONCRETE*

The Contractor shall prepare the design mix based on the absolute volume method as outlined in the American Concrete Institute (ACI) Standard 211.1, "Recommended Practice for Selecting Proportions for Normal and Heavyweight Concrete". It is the intent of this Specification to require at least 364 kg of cement per cubic meter of concrete to meet the minimum strength requirements. The Engineer shall determine from laboratory tests of the materials to be used, the cement content and the proportions of aggregate and water that will produce workable concrete having a slump of between 40 and 75 mm (1-1/2 and 3 inches) if not vibrated or between 10 and 40 mm (1/2 and 1-1/2 inches) if vibrated, and a flexural strength of not less than 3.8 MPa (550 psi) when tested by the third-point method or 4.5 MPa (650 psi) when tested by the mid-point method at fourteen (14) days in accordance with AASHTO T97 and T177, respectively; or a compressive strength of 24.1 MPa (3500 psi) for cores taken at fourteen (14) days and tested in accordance with AASHTO T24. Slump shall be determined using AASHTO T 119. The designer shall consider the use of lean concrete (econocrete) mixtures using local materials or specifically modified conventional concrete mixes in base course and in the lower course composite, monolithic concrete pavements using a minimum of 75 mm (3 inches) of conventional concrete as the surface course. The mix design shall be submitted to the Engineer for approval and shall be accompanied with certified test data from an approved laboratory demonstrating the adequacy of the mix design. A change in the source of materials during the progress of work may necessitate a new design mix.

#### **ITEM SPL 2 – CHB LINED CANAL DESCRIPTION**

This item shall consist of construction of lined canal in accordance with the Standard Specification for Public Works and Highways and in reasonably close conformity with the lines and grades shown on the plans or as established by the Engineer-In-Charge.

#### **MATERIAL REQUIREMENTS**

Concrete for these structures shall meet the requirements of Item 405, Structural Concrete. Other materials shall meet the following specifications:

#### *CORRUGATED METAL UNITS*

The units shall conform to Plan dimensions and the metal to AASHTO M 36. Bituminous coating, when specified, shall conform to ASTM D 1187, Asphalt-base Emulsion for use as Protective Coating for Metal.

Sewer and manhole brick (Made from clay or shale)	AASHTO M 91
Building brick (Solid masonry units made from clay or shale)	AASHTO M 114

#### *JOINT MORTAR*

Unless otherwise indicated on the Plans, joints mortar shall be composed of one part Portland Cement and two parts fine aggregate by volume to which hydrated lime has been added in an amount equal to 10 percent of the cement by weight. All materials for mortar shall meet the requirements of Item 405, Structural Concrete.

#### *FRAMES, GRATINGS, COVERS AND LADDER RUNGS*

Metal units shall conform to the plan dimensions and to the following specification requirements for the designated materials. Metal gratings and covers which are to rest on frames shall bear on them evenly. They shall be assembled before shipment and so marked that the same pieces may be reassembled readily in the same position when installed. Inaccuracy of bearings shall be corrected by machining, if necessary. A frame and a grating or cover to be used with it shall constitute one pair.

All castings shall be uniformly coated with asphalt-based emulsion meeting the requirements of ASTM D 1187, Asphalt-base Emulsion for use as Protective Coating for Metal. Samples of the material in casting shall be taken during the casting of the units and shall be separate casting poured from the same material as the casting they represent.

Gray iron casting	AASHTO M 105
Mild to medium-strength carbon steel castings for general application	AASHTO M 103
Structural steel	AASHTO M 183
Galvanizing, where specified for these units, shall conform to the requirements of	AASHTO M 111
Reinforcing Steel	AASHTO M 31

#### *PRE-CAST CONCRETE UNITS*

These units shall be cast in substantial permanent steel forms. Structural concrete used shall attain a minimum 28-day compressive strength of 20.682 MPa (3000 psi). The pre-cast units shall be cured in accordance with AASHTO M 171. Water absorption of individual cores taken from such units shall not exceed 7 percent. Additional reinforcement shall be provided as necessary to provide for handling of the pre-cast units. A sufficient number of cylinders shall be cast from the concrete for each unit permit compression tests at 7, 14 and 28 days, and to allow for at least 3 cylinders for each test. If the strength requirement is met at 7 or 14 days, the units shall be certified for use 14 days from the date of casting. If the strength is not met at 28 days, all units made from that batch or load will be rejected. Cracks in units, honeycombed or patched areas in excess of 2,000 square millimeters, excessive water absorption and failure to meet strength requirements shall be the causes for rejection. Pre-cast reinforced concrete manhole risers and tops shall conform to the requirements of AASHTO M 199. The plants will be inspected periodically for compliance with specified manufacturing methods, and material samples will be obtained for laboratory testing for compliance with material quality requirements. This may be the basis for acceptance of manufacturing lots as the quality. All materials shall be subjected to inspection for acceptance as to condition at the latest practicable time the Engineer has the opportunity to check for compliance prior to or during incorporation of materials into the work.

#### **ITEM SPL5 – TAPPING DRAINAGE** DESCRIPTION

This item shall consist of tapping of affected drainage systems of houses and other building structures within the road-right-of-way in conformity with the Standard Specifications for Public Works and Highways and on location as shown on the plans.

#### MATERIAL REQUIREMENTS

##### *JOINT MORTAR*

Joint mortar for concrete pipes shall consist of one-part, by volume of Portland Cement and two-parts of approved sand with water as necessary to obtain the required consistency. Mortar shall be used within 30 minutes after its preparation

##### *PORTLAND CEMENT*

It shall conform to the applicable requirements of AASHTO M 85, Hydraulic Cement. Only Type I Portland Cement shall be used unless otherwise provided for in the Special Provisions. Different brands or the same brands from different mills shall not be mixed nor shall they be used alternately unless the mix is approved by the Engineer-in-charge. Cement which for any reason, has become partially set or which contains lumps of caked cement shall be rejected. Cement salvaged from the discarded or used bags shall not be used. Samples of cement shall be obtained in accordance with AASHTO T 127.

##### *FINE AGGREGATES*

It shall consist of natural sand, stone screenings or other inert materials with similar characteristics, or combinations thereof, having hard, strong and durable particles. Fine aggregate from different sources of supply shall not be mixed or stored in the same pile nor used alternately in the same class of concrete without the approval of the Engineer.

It shall not contain more than three (3) mass percent of material passing the 0.075 mm (No. 200 sieve) by washing nor more than one (1) mass percent each of clay lumps or shale. The use of beach sand will not be allowed without the approval of the Engineer.

If the fine aggregate is subjected to five (5) cycles of the sodium sulfate soundness test, the weighted loss shall not exceed 10 mass percent.

The fine aggregate shall be free from injurious amounts of organic impurities. If subjected to the colorimetric test for organic impurities and a color darker than the standard is produced, it shall be rejected. However, when tested for the effect of organic impurities of strength of mortar by AASHTO T 71, the fine aggregate may be used if the relative strength at 7 and 28 days is not less than 95 mass percent.

The fine aggregate shall be well-graded from coarse to fine and shall conform to Table 311.1

Table 311.1 – Grading Requirements for Fine Aggregate

Sieve Designation	Mass Percent Passing
9.5 mm (3/8 in.)	100
4.75 mm (No. 4)	95 – 100
2.36 mm (No. 8)	-
1.18 mm (No. 16)	45 – 80
0.600 mm (No. 30)	-
0.300 mm (No. 50)	5 – 30
0.150 mm (No. 100)	10

#### **ITEM SPL 6 – NAWASA LEAK / 20 Meters**

##### **DESCRIPTION**

This item shall consist of repair of any MWSS/NAWASA lines that would be affected in excavation of roadway in accordance with the MWSS Standard Specification.

Based on MWSS MATERIAL REQUIREMENTS

#### **ITEM SPL 7 – BILLBOARD**

##### **DESCRIPTION**

This item shall consist of installation of Billboards on locations as established by the Engineer-In-Charge in conformity with the standard size, design, layout and dimension as shown in the Plans.

##### **MATERIAL REQUIREMENTS**

Based on the standard design approved by and material requirement of the implementing agency.

#### **ITEM SPL 8 – CONCRETE CURB**

##### **DESCRIPTION**

This item shall consist of the construction of concrete curb made of concrete in accordance with the Standard Specifications for Public Works and Highways at the location and in conformity with the lines, grades, dimensions and design shown on the Plans or as required by the Engineer-In-Charge. Compressive strength for concrete mix to be used shall not be less than 4,000 psi.

##### **MATERIAL REQUIREMENTS**

##### *MATERIAL FOR BED COURSE*

Bed course materials as shown on the Plans shall consist of cinders, sand, slag, gravel, crushed stone, or other approved porous material of such grading that all the particles will pass through 12.5 mm (1/2 inch) sieve.

##### *CONCRETE*

Concrete shall be of the class indicated on the Plans and shall conform to the requirements of Item 405, Structural Concrete.

##### *EXPANSION JOINT FILLER*

Expansion joint filler shall conform to the requirements of AASHTO M 153/joint materials.

**CEMENT MORTAR**

Cement mortar shall consist of one part of Portland cement and two parts of fine aggregates with water added as necessary to obtain the required consistency. The mortar shall be used within 30 minutes of preparation.

**BONDING COMPOUND**

Where bonding compound is used, it shall conform to AASHTO M 200.

**FORMS**

Forms shall be of wood or metal as approved by the Engineer and shall extend to the full depth of the concrete. All forms shall be straight, free from warps and of adequate strength to resist distortion.

**ITEM SPL 10a/10b – THERMOPLASTIC MARKINGS (WHITE/YELLOW)****MATERIAL REQUIREMENTS**

Reflectorized thermoplastic pavement material shall be homogeneously composed of pigment, filler, resins, and glass reflectorizing spheres.

The thermoplastic materials shall be available to both white and yellow.

Glass Beads (Pre-mix) shall be uncoated and shall comply with the following requirements:

Refractive Index, min. – 1.5

Spheres Percent, min. – 90

Gradation:

Sieve, mm	Mass Percent Passing
0.850	100
0.600	75 – 95
0.425	-
0.300	15 – 35
0.180	-
0.150	0 – 5

**ITEM SPL 12 CONSTRUCTION SAFETY AND HEALTH****DESCRIPTION**

This item shall include necessary provision of construction safety and health gear such as safety vest, Safety helmet, First Aid Kit, Safety Boots and Gloves. All materials delivered and utilized for the project shall be turned-over to the Implementing agency after the completion of the project.

**MATERIAL REQUIREMENTS**

Based on the standard design and specifications approved by and material requirement of the implementing agency.

**ITEM SPL 13 STEEL BARRIER (RENTAL)****DESCRIPTION**

This item shall consist of installation of steel barriers on locations as established by the Engineer-In-Charge in conformity with the Standard size, design, layout and dimension as shown in the Plans.

**MATERIAL REQUIREMENTS**

Based on the standard design approved by and material requirement of the implementing agency.

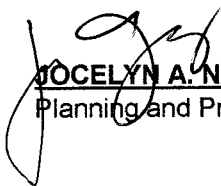
**NOTES:**

All other item of works not covered by this listed TECHNICAL SPECIFICATIONS shall be ISSUED with supplemental specifications by the Implementing Agency based on the Program of Work and Approved Plan(s) for the proposed project.

PREPARED BY:

  
**WEENDRA CABELTES**  
Planning and Programming Division

CHECKED BY:

  
**JOCelyn A. NAONG**  
Planning and Programming Division

**PROJECT TITLE** : PROPOSED REHABILITATION OF ROAD AND DRAINAGE AT  
**BALIMBING STREET**  
**LOCATION** : Barangay Veterans Village, District 1, Quezon City  
**PROJECT NO.** : 21 - 013 SV  
**DURATION** : Sixty (60) Calendar Days

***BREAKDOWN OF COST***

ITEM NO.	WORK DESCRIPTION AND SCOPE OF WORKS	DIRECT COST	INDIRECT COST	AMOUNT
I	GENERAL REQUIREMENTS	P	P	P
II	SITE WORKS			
III	CIVIL / STRUCTURAL WORKS			

**TOTAL COST P** \_\_\_\_\_

LUMP SUM BID IN WORDS : \_\_\_\_\_  
 \_\_\_\_\_

Contractor : \_\_\_\_\_



**BILL OF QUANTITIES**  
(Road Construction/Rehabilitation Project)

**PROJECT TITLE** : PROPOSED REHABILITATION OF ROAD AND DRAINAGE AT  
BALIMBING STREET

**LOCATION** : Barangay Veterans Village, District 1, Quezon City

**PROJECT NO.** : 21 - 013 SV

**DURATION** : Sixty (60) Calendar Days

Road Details:

NAME	TYPE	LENGTH	RROW/WIDTH	LIMITS
Basilan Street	Concrete	46 M	4 M	DANGAY STREET TO ANAHAW STREET

Scope of Works:

- 1 General Requirements including billboard, construction safety and health and steel barrier (rental).
- 2 Excavation for structures and roadway excavation.
- 3 Construction of drainage system (3 layer CHB lined canal with cover), leak repair for water system, tapping of drainage system, concrete curb, concreting of pavement and provision of thermoplastic lane markings.

ITEM NO.	WORK DESCRIPTION AND SCOPE OF WORKS	QTY	UNIT	UNIT COST	AMOUNT
<b>I</b>	<b>GENERAL REQUIREMENTS</b>				
SPL7	Billboard	2	pc	P	P
SPL12	Construction Safety and Health	1	unit		
SPL13	Steel Barrier (rental)	12	set		
				<b>DIRECT COST I</b>	<b>P</b>
<b>II</b>	<b>SITE WORKS</b>				
A.	Demolition Works / Removal of Existing				
104b	Removal of Existing Asphalt Pavement	184	sq.m.	P	P
104c	Removal of Existing Concrete Pavement	184	sq.m.		
B.	Earthworks				
105	Excavation (Roadway)	19	cu.m.		
106c	Excavation (Solid Rock Adobe)	11	cu.m.		
C.	Waterline System				
SPL6	Leak Repair every 20 meters	3	set		
D.	Drainage System				
SPL5	Tapping Drainage	5	set		
				<b>DIRECT COST II</b>	<b>P</b>
<b>III</b>	<b>CIVIL / STRUCTURAL WORKS</b>				
A.	Base Preparation				
200	Aggregate Base Course	19	cu.m.	P	P
B.	Concreting of Pavement				
316f	P.C.C.P., 0.20m. thk., 550 F, 7 days	171	sq.m.		
C.	Concreting of Sidewalks, Curbs and Gutter				
SPL8	Concrete Curb	92	l.m.		
D.	Construction of Lined Canal and Interceptor				
SPL2b	CHB Lined Canal with Cover (3-layers)	46	l.m.		
E.	Painting Works				

ITEM NO.	WORK DESCRIPTION AND SCOPE OF WORKS	QTY	UNIT	UNIT COST	AMOUNT
SPL10a	Thermoplastic Markings	14	sq.m.		
				<b>DIRECT COST III</b>	<b>P</b>
<b>TOTAL DIRECT COST P</b> Overhead, Contingencies and Miscellaneous Expenses (OCM) Profit VAT					
<b>TOTAL ESTIMATED COST P</b>					

TABLE OF CONTENTS

**CW-1**

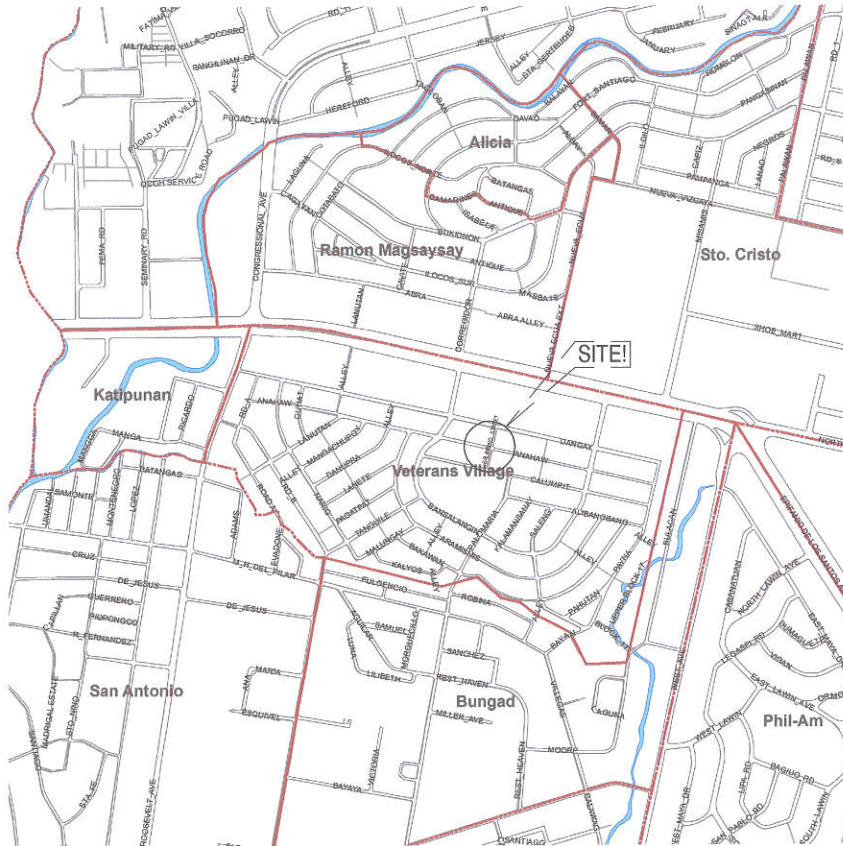
VICINITY MAP  
LOCATION MAP

**CW-2**

ROADWAY ALLEY PLAN  
THERMO PLASTIC LINE MARKING PLAN  
CROSS SECTION OF ROAD & LINED CANAL  
DET. OF LINED CANAL COVER

**CW-3**

STEEL BARRICADE DETAIL  
THERMO PLASTIC DETAIL  
THERMO PLASTIC SECTION



**1 VICINITY MAP**

NTS.

**2 LOCATION MAP**

NTS.



Republika ng Pilipinas  
Lungsod ng Quezon  
**CITY ENGINEERING DEPARTMENT**

PROJECT TITLE :

**PROPOSED REHABILITATION OF ROAD AND DRAINAGE AT BALIMBING ST. BETWEEN DANGAY & ANAHAW ST.**

BARANGAY VETERANS VILLAGE, DISTRICT 1, QUEZON CITY

DRAWN BY : mmm

DATE : JAN 8, 2021

CHECKED BY :

REVISION NO.:

SUBMITTED BY :

*[Signature]*  
**ENGR. LEO S. DEL ROSARIO**  
HEAD, PLANNING & PROGRAMMING DIVISION

RECOMMENDING APPROVAL :

*[Signature]*  
**ENGR. ISAGANI R. VERZOSA, JR.**  
OIC, CITY ENGINEERING DEPARTMENT

APPROVED BY :

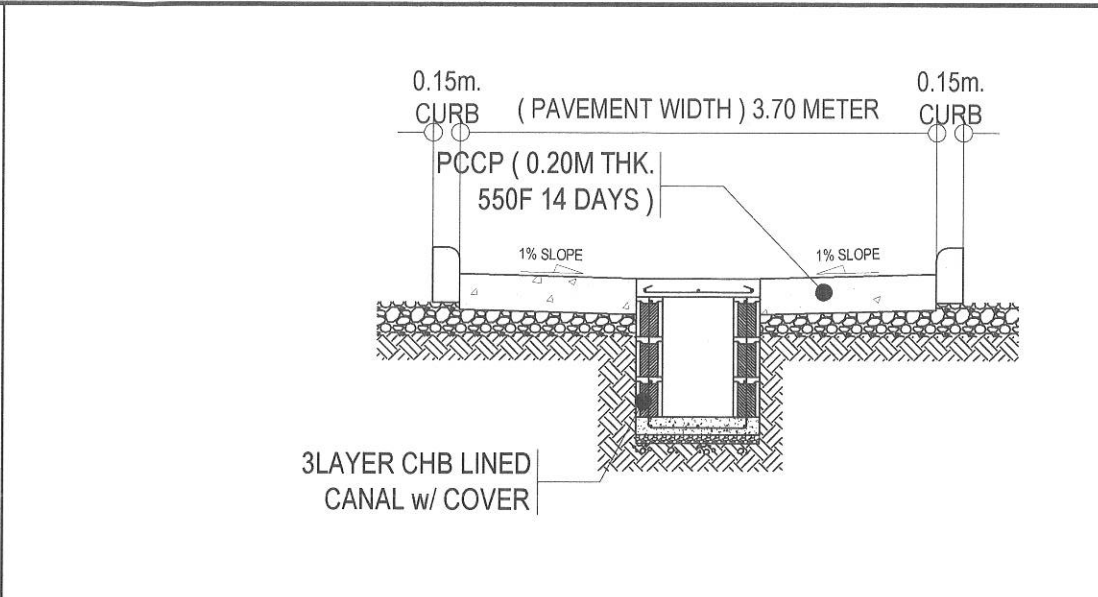
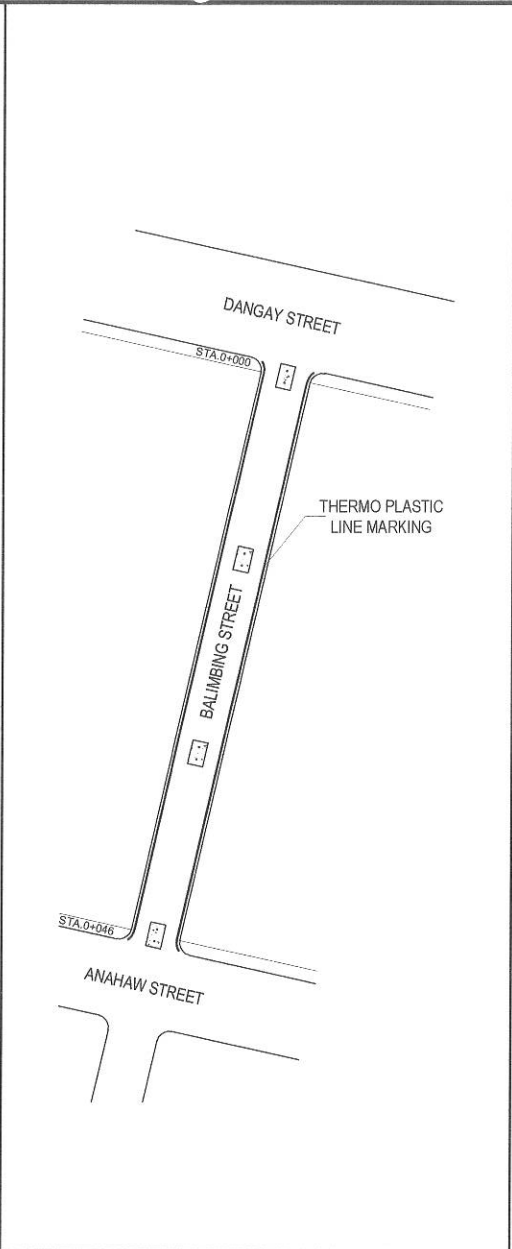
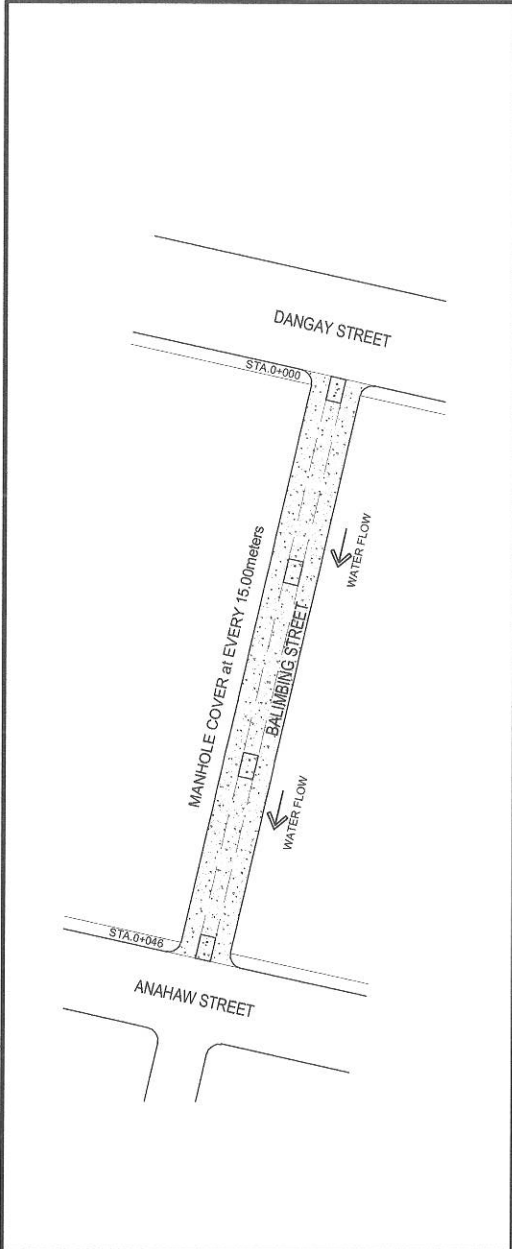
*[Signature]*  
**HON. MA. JOSEFINA G. BELMONTE**  
CITY MAYOR, QUEZON CITY

SHEET CONTENT

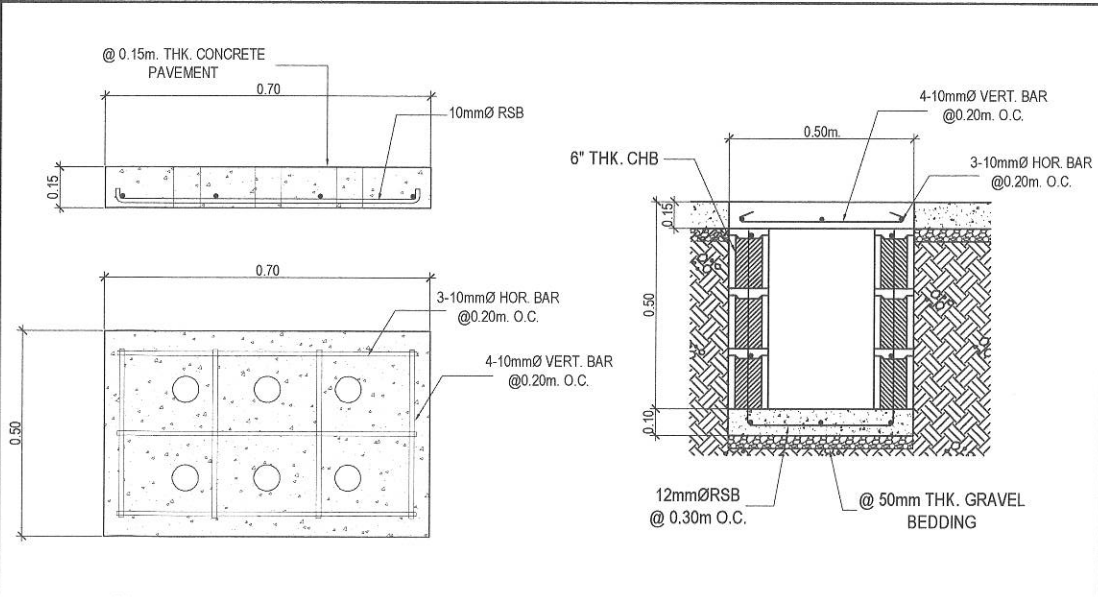
VICINITY MAP  
LOCATION MAP

SHEET NO.

**CW**  
**1 3**



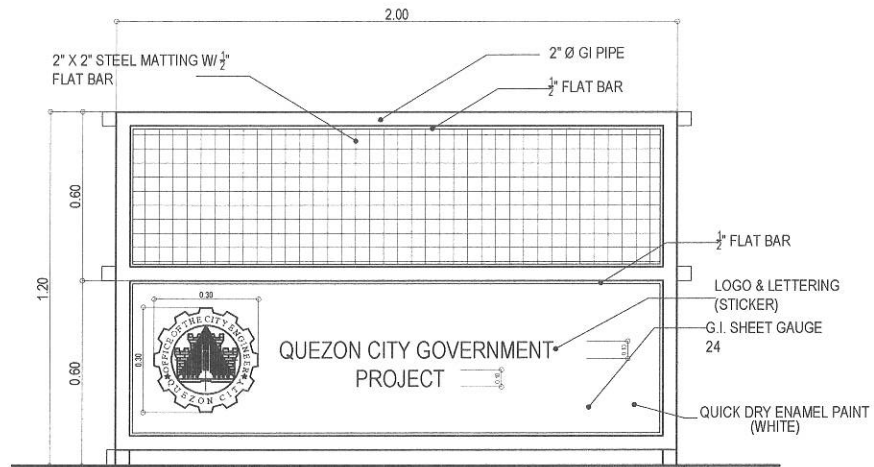
**2 CROSS SECTION OF ROAD & LINED CANAL** NTS.



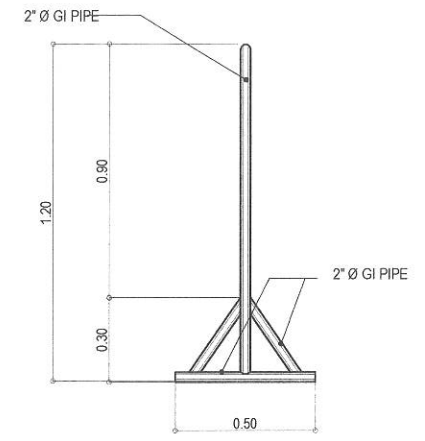
**1 ROADWAY ALLEY PLAN/THERMO PLASTIC LINE MARKING PLAN** NTS.

**3 DETAIL OF LINED CANAL COVER at EVERY 15.00 meters**

<p>Republika ng Pilipinas Lungsod ng Quezon <b>CITY ENGINEERING DEPARTMENT</b></p>	PROJECT TITLE :	DRAWN BY : mm	SUBMITTED BY :	RECOMMENDING APPROVAL :	APPROVED BY :	SHEET CONTENT	SHEET NO.
	<b>PROPOSED REHABILITATION OF ROAD AND DRAINAGE AT BALIMBING ST. BETWEEN DANGAY &amp; ANAHAW ST.</b>	DATE : JAN. 8, 2021	<p>ENGR. LED S. DEL ROSARIO HEAD, PLANNING &amp; PROGRAMMING DIVISION</p>	<p>ENGR. ISAGANI R. VERZOSA, JR. OIC, CITY ENGINEERING DEPARTMENT</p>	<p>HON. MA. JOSEFINA G. BELMONTE CITY MAYOR, QUEZON CITY</p>	ROADWAY ALLEY PLAN THERMO PLASTIC LINE MARKING PLAN DET. OF LINED CANAL	
		CHECKED BY :					
	BARANGAY VETERANS VILLAGE, DISTRICT 1, QUEZON CITY						



FRONT VIEW

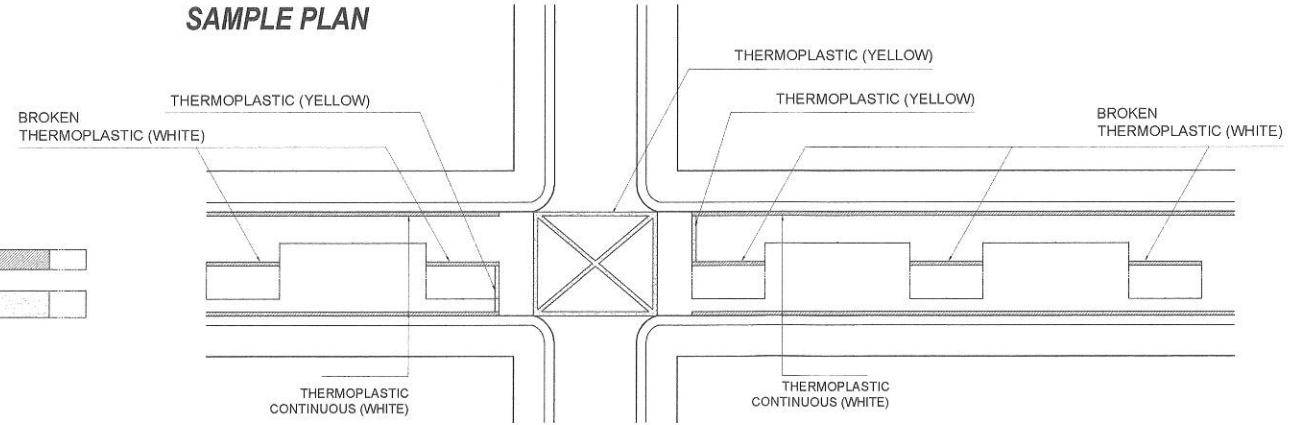


SIDE VIEW

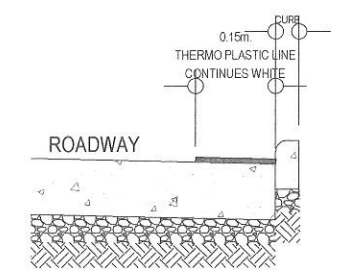
1 STEEL BARRICADE DETAIL

NTS.

SAMPLE PLAN



NOTE:  
 THERMOPLASTIC (WHITE)  
 THERMOPLASTIC (YELLOW)



THERMO PLASTIC SECTION

2 THERMO PLASTIC DETAIL

NTS.



Republika ng Pilipinas  
 Lungsod ng Quezon  
 CITY ENGINEERING DEPARTMENT

PROJECT TITLE :	DRAWN BY : mm	SUBMITTED BY :	RECOMMENDING APPROVAL :	APPROVED BY :	SHEET CONTENT	SHEET NO.
PROPOSED REHABILITATION OF ROAD AND DRAINAGE AT BALIMBING ST. BETWEEN DANGAY & ANAHAW ST.	DATE : JAN. 8, 2021				STEEL BARRICADE DETAIL THERMO PLASTIC DETAIL THERMO PLASTIC SECTION	
	CHECKED BY :					
BARANGAY VETERANS VILLAGE, DISTRICT 1, QUEZON CITY	REVISION NO.:					