Section VI. Specifications

May 20, 2019

SIMPLIFIED TECHNICAL SPECIFICATIONS

FOR: REPAIR AND IMPROVEMENT OF PERIMETER FENCE ALONG ALTERNATE ACCESS ROAD, PORT OF ILIGAN,ILIGAN CITY

I. Scope of Work :

The project involves chipping-off existing structures including pavement. Removal and disposal of unnecessary debris including G.I. posts, barbed wires, cylone wires and etc. to be transported to prescribed area. Supply, spread and compact selected fill up to required elevation. This is to include supply and place concrete (3,500)psi accompanied with reinforcing bars. Supply and install also of metal fence w/ barbed wire and installation of 6" thk. CHB accompanied with reinforcements. Painting also of all masonry and steel surfaces with 1-coat primer and 2-coat final paint. Supply and install electrical lightings and wirings and provision of environmental, safety and health program upon execution of project.

II. Materials :

a) Portland Cement – Cement shall be of any brand of Portland Cement conforming to the Standard Specifications for Portland Cement.

b) Aggregates – Aggregates shall be well-graded particles of sand and gravel, washed and conforming to the Standard Specifications for Concrete Aggregates. Maximum sizes of aggregates shall not be larger than 1/5 of the narrowest dimension of sides of the forms nor will be larger than ¾ of the minimum clear spacing between reinforcing bars and in no case shall be larger than two (2) inches in diameter.

c) Steel Materials – All sizes of steel materials for this construction shall be as indicated in the working drawings and conforming to the Standard Specifications of Structural Steel Materials as adapted by the local building authority. All black iron pipes that are used in this construction shall be Ga. No. 40. Welding electrode for steel construction shall be E6011 or E6012 of any well-known and tested brand.

d) Paints – Paints to be used shall be of any brand commercially available and should come from suppliers of good market reputation. Paints shall conform to ASTM Standards for Liquid Paints.

e) Electrical Materials – All electrical materials shall be of any brand that are locally-available and from suppliers of good community standing. All electrical materials and installation shall be in accordance with the provisions of the National Electrical Code and the Local Fire Safety Ordinance and shall be installed under the direct supervision of a licensed electrical practitioner.

III. Designed Strength of Concrete

Concrete for this particular purpose shall develop a minimum 28-day compressive strength of 3,500 psi, unless otherwise indicated in the drawing. Thirty days before the start of the concrete works, the contractor shall submit a design mix and the corresponding test result made on the sample thereof. Sampling and testing shall be in accordance with ASTM standard procedures for sampling and testing for particular design strength.

IV. Concrete Proportioning, Consistency and Mixing for Plastering (if any)

Proportioning of concrete and aggregates shall be as such to produce a concrete mixture which will readily work into the corners and angles of forms and around the reinforcing bars. The combined aggregates shall be of such composition of sizes that when separated on No. 4 US Standard Sieve, the weights of the aggregate passing through the sieve (fine sand) shall not be less than fifty percent (50%) of the total. Use concrete mix 1:2:4 with cement factor of 9 for Iligan-sourced aggregates.

No hand mixing shall be allowed except in case of emergency during pouring operations which shall stop only at the first allowed construction joint.

All concrete to be used shall be machine-mixed at the site. Each batch shall be mixed at the mixer's design speed for at least 1 ½ minutes after all the concrete materials are placed in the mixer. All mixed contents for the first batch shall be thoroughly removed before any succeeding batch is placed. The mixer shall be provided with a device for accurately measuring and controlling the amount of water used in each batch and for automatic recording the number of revolutions of the mixer which is between 14 to 16 rpm.

Hand mixing will be allowed only in case of mixer breakdown, in case it shall stop as soon as pouring for that particular section is completed or at construction joints. Re-tempering or re-mixing of partially hardened concrete with the addition of water will not be permitted.

V. Execution of the Project

Prior to the start of the project, the contractor is required to coordinate with the Engineering Services Division Manager or by his authorized representative to conduct pre-construction survey to determine the actual coverage, measurements, and items for retrieval or disposal as described in the items of work of the project.

Clearing/disposing of unsuitable objects on the project site shall be undertaken first for actual layout purposes. Location of foundations shall be indicated in the working drawings, and actual field conditions shall be considered in the actual layout. Chipping-off and dispose existing concrete pavement to include cutting of concrete portion for columns and beams to be erected. Erection of G.I. pipe columns and metal framed fence

which shall be welded directly to column reinforcement will be checked thoroughly for alignments, plumbness, and levels. The activity can be accomplished accurately and would be an instrument for an effective work plan of activities. It shall commence with precautionary measures and provision of various barricade and safety signs with markings. The installation of reinforcing bars shall be thoroughly checked before pouring of concrete to avoid failure of such activity. After pouring of concrete, an allowable curing of concrete of 14 days shall be provided as a start of concrete setting time.

All painting works shall be done only after the surfaces have been thoroughly derusted, smoothed, cleaned, washed /scrapped from all dirt, oil, and greasy materials. Painting also of all masonry and steel surfaces shall be with 1-coat primer and 2-coat final paint.

All electrical installations shall comply with the latest National Electrical Code and all existing local ordinances, and shall be under the direct responsible supervision of a licensed electrical practitioner. Provide appropriate conduits for all wirings. Actual load test shall be conducted before the acceptance of electrical works.

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