PROJECT : **PROPOSED SEWER PIPE LINE REHABILITATION ALONG 5TH STREET AND CONSTRUCTION OF LIFT STATIONS 1 AND 2 IN MEZ**

LOCATION : MACTAN ECONOMIC ZONE, LAPU-LAPU CITY

Date :

| SCOPES OF WORK | |
|---|---|
| | ***SEWERAGE SYSTEM*** |
| **I.** | ***GENERAL REQUIREMENTS*** |
| **I.A** | **Facilities for the Engineer (Testing Materials)** |
| **II.** | ***REMOVAL AND RESTORATION WORKS*** |
| **II.A** | **DEMOLITION AND REMOVAL WORKS** |
| 1 | Removal of Exisitng Concrete Sidewalk (affected by construction of sewer lines) |
| 2 | Removal of Existing Concrete Pavement (affected by construction of sewer lines) |
| 3 | Disposal of Debris (Removed Concrete Sidewalk and Asphalt Concrete) |
| | |
| **II.B** | **RESTORATION WORKS** |
| | **Scopes of Work** |
| 1 | Subgrade Preparation |
| 2 | Aggregate Subbbase Course |
| 3 | Gravel Bedding (along sidewalk) |
| 4 | Aggregate Base Course |
| 5 | Concrete Sidewalk, Plain, 100 mm thk. |
| 6 | Concrete Pavement (Road Crossing) |
| 7 | Bituminous Concrete Srface Course, Hot Laid, 100mm |
| 8 | Bituminous Prime Coat |
| 9 | Bituminous Tack Coat |
| | |
| **III** | **SEWER PIPE LINES** |
| **III.A** | |
| 1 | Sewer Pipes Excavation (Sewer Lines) |
| | a. Hard Rock Excavation |
| | b. Ordinary Soil Excavation |
| 2 | Placing Backfill Materials (Sewer Lines) |
| 3 | Foundation Fill, Sand Bedding (Sewer Lines) |
| 4 | Disposal of Excess Materials (Sewer Lines) |
| 5 | Concrete, Encasement (includes formworks) |
| 6 | Reinforcing steel, Encasement |
| 7 | Sewer Pipes, Polyethelene Pipes, 400mm dia., (PE 80) SDR 33 |
| 8 | Sewer Force Main, Polyethelene Pipe, 300mm Dia, PE 80 SDR 13.6 ( includes accessories) |
| | |
| **IV.** | **SEWER MANHOLES** |
| | |
| 1 | Structure Excavation (Sewer Manholes) |
| 2 | Structural Backfill (Sewer Manholes) |
| 3 | Disposal Excess Materials (Sewer Manholes) |
| 4 | Lean Concrete (Sewer Manholes) |
| 5 | SMH, Ave. Depth = 1.67m (includes precast reinforced tapered chamber, precast reinforced concrete chamber rings, reinforced mass concrete surround, cast in place reinforced manhole base, and ladder rung) |
| 6 | Sewer Manhole Frames and Cover, 600mm Dia |
| **V.** | **SEWAGE LIFT STATIONS** |
| | |
| **V.A** | **SEWAGE LIFT STATION #2 (W-1 = 3.0M, W-2= 2.50M, L-1 = 6.0M, L-2 = 3.60M, D= 4.78M** |
| | |
| 1 | 1000mm x 1000mm Clear Opening (Access Door) with cover and Frame |
| 2 | 1000mm x 750mm Clear Opening (Access Door) with cover and Frame |
| 3 | Access Manhole Cover, 6mm thk. Galvanized Checkered Steel Plate with Safety Hasp and Padlock with 2 units hinge welded to steel plate (600mm x 600mm) |
| 4 | Ladder Rung, 20mm Dia. Galvanized Steel x 1400 mm |
| 5 | Emergency Overflow Pipe, 450mm Dia, PE80, SDR 13.6 |
| 6 | Gate Valve, 200mm Dia. |
| 7 | Check Valve, 200mm Dia. |
| 8 | Air Vent, 150mm Dia., includes 2- 90 deg. G.I. Elbow, Bolted Flange and Stainless Steel Wire Mesh insect Screen |
| 9 | Polyethelene Pipe, PE 80, SDR 13.6, Delivery Pipe, 200mm |
| 10 | Offset Pipe Clamp (50mm x 10mm thick Galvanized Flat Bar with 12mm & 15mm Dia. Steel Connection Bolts) |
| 11 | Pipe Support (50mm Dia G.I pPipe, Sch. 40 Pipe, with angle bar support, Ubolt, 10mm thick Base Plate with 4-15 mm Dia Expansion Shield Bolt) |
| 12 | Collar Plate, 6mm thick |

| | |
|---|---|
| 13 | Polyethelene PE 80, Elbow, 90 Degree, 200mm Dia. |
| 14 | Polyethelene PE 80 Tee, 200 mm Dia. |
| 15 | Electrical Works (Power Supply for tapping Point - Lift Station No. 2), Including Lamp Post |
| | **SUBMERSIBLE NON-CLOG SEWAGE PUMP** |
| 16 | Submersible Non-Clog Sewage Pump complete with controller and accessories, 2 units on duty, 1 unit-standby, capacity = 750 GPM, TDH = 35 feet, 10 HP, 440V, 60 cycles, Phase 3, 1765 RPM (located at LS #2) |
| | |
| **V.B** | **SEWAGE LIFT STATION #6 ( W-1 = 3.0m, W-2 = 2.5m, L-1 = 6.0m, L-2 = 3.60m, D= 5.33m** |
| 02301 (1) | Structure Excavation (LS#6) |
| 1 | Structural Backfill (LS #6) |
| 2 | Lean Concrete (LS#6) |
| 3 | Reinforcing Steel (LS#6) |
| 4 | Structural Concrete, 3500 psi, includes formworks (LS#6) |
| 5 | Disposal of excess materials (Lift Station |
| 6 | 1000mm x 1000mm Clear Opening (Access Door) with cover and Frame |
| 7 | 1000mm x 750mm Clear Opening (Access Door) with cover and Frame |
| 8 | Access Manhole Cover, 6mm thk. Galvanized Checkered Steel Plate with Safety Hasp and Padlock with 2 units hinge welded to steel plate (600mm x 600mm) |
| 9 | Ladder Rung, 20mm Dia. Galvanized Steel x 1400 mm |
| 10 | Emergency Overflow Pipe, 450mm Dia, PE80, SDR 13.6 |
| 11 | Gate Valve, 200mm Dia. |
| 12 | Check Valve, 200mm Dia. |
| 13 | Air Vent, 150mm Dia., includes 2- 90 deg. G.I. Elbow, Bolted Flange and Stainless Steel Wire Mesh insect Screen |
| 14 | Polyethelene Pipe, PE 80, SDR 13.6, Delivery Pipe, 200mm |
| 15 | Offset Pipe Clamp (50mm x 10mm thick Galvanized Flat Bar with 12mm & 15mm Dia. Steel Connection Bolts) |
| 16 | Pipe Support (50mm Dia G.I pPipe, Sch. 40 Pipe, with angle bar support, Ubolt, 10mm thick Base Plate with 4-15 mm Dia Expansion Shield Bolt) |
| 17 | Collar Plate, 6mm thick |
| 18 | Polyethelene PE 80, Elbow, 90 Degree, 200mm Dia. |
| 19 | Polyethelene PE 80 Tee, 200 mm Dia. |
| 20 | Electrical Works (Power Supply for tapping Point - Lift Station No. 6), Including Lamp Post |
| | **SUBMERSIBLE NON-CLOG SEWAGE PUMP** |
| 21 | Submersible Non-Clog Sewage Pump complete with controller and accessories, 2 units on duty, 1 unit-standby, capacity = 800 GPM, TDH = 35 feet, 15 HP, 440V, 60 cycles, Phase 3, 1761 RPM (located at LS #6) |
| | |

Prepared :

**LOUIE EVANS E. ESOTO**
*Division Chief II, EMD*

*Reference:*
MEZ Master Drainage (Storm and Sewer) System/Design
prepared by ***TCGI Engineers***