

**JUA19/029/TS/BM: TOPOGRAPHICAL & HYDROGRAPHICAL SURVEYS FOR SEWERAGE TREATMENT POND LAMBAK KANAN, SIMPANG 184 JALAN 77, RPN LAMBAK KANAN**

**1.0 Location**

The areas to be surveyed as indicated in attached location maps. The area is Kolam Rawatan Kumbahan Lambak Kanan.

The survey covers on either side of simpang road to the site and whole site within the existing perimeter fence. Entry to the areas are limited to PWD Sewerage Section personnel and appointed-contractor only and wearing of appropriate personnel equipment is required. The site is developed area and easily accessible.

**2.0 Scope of Works**

The scope of works for the survey is as follows:-

- i) Carry out topographical survey for the areas indicated in the map, clearly identifying and locating all existing features, natural and man-made, boundaries of land ownership, buildings, water pipes and service routes, lamp columns, waterways in particular location of existing manholes, chambers, weirs of the existing ponds along their cover levels and inverts wherever possible;
- ii) Carry out hydrographical survey to identify levels of water, silt/sludge and whole or partly submerged structures of the ponds;
- iii) Produce 3-D drawings in AutoCAD format to represent surveyed ponds including 5.0m interval cross-sections of each ponds, longitudinal sections and volume of water and solids in each ponds;
- iv) Survey a corridor of 10.0m on either side of existing roads;
- v) Contours shall be at 1.0m intervals. Variations in the contour intervals at steep slopes etc are to be determined on site and emphasised on drawings;
- vi) All spot heights shall be carried out in a grid pattern of 10m unless variations in slopes and gradients require a closer spacing;
- vii) The Brunei State Datum shall be reference datum for all the spot heights and contours;
- viii) The survey shall be plotted on the Borneo Rectified Skew Orthomorphic Projection and the grid shall be based on the Borneo Rectified Orthomorphic Grid (Metric);
- ix) Survey plans to be produced at 1:500 scales;
- x) Key plan 1: 2500 scale.
- v) Two (2) sets of A1 and A3 size of survey plans to be submitted together with one (1) set of digital copy, clearly labelled, compatible with AutoCAD 2010 or higher.

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**Duration**

**The job MUST be completed in 2 weeks.** The **validity period** of the tender / quotation for the survey works is twelve months. All tender and quotation document shall be stamp and sign by the Licensed Land Surveyor.

**CONDITIONS OF CONTRACTS**

1. The Surveyor General shall authorize the contractor to commence work, once the signing of the contract document.

2. Time of completion of works

For,

*"..... a penalty of 15 per cent of contract price divided by the contract duration in weeks shall be levied against the contractor for each week "*.

3. Extension of time for completion

For,

Due to unavoidable circumstances, the contractor is entitling to an extension of time provided that an explanation with visual reports shall be forwarded to Surveyor General *two weeks (2) before the contract expires*. Any extension applied less than the stated time (**two weeks**) will not be entertained. The Surveyor General shall determine the amount of such extension and such additional payment the Surveyor General is not bound to take into account any extra additional work or other special circumstances.

4. *A 5% service charged from total amount of project awarded shall be paid to Survey Department for checking and verifying of work.*

5. Final payment shall be made to the Contractor upon completion and verification by the Surveyor General.