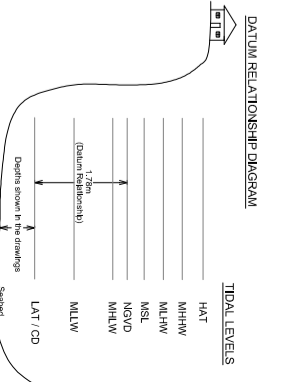


**LEGEND / NOTES :**

- All measurements are in metres.
- Coordinates is in MRSO.
- All levels are based on Bench Mark No. BM 0031 (RL: 3.84m NGVD) (RL: 5.65m CD).
- Chart Datum at Tanjung Gelang is 1.76m Below Mean Higher High Water (MHHW).
- Chart Datum (CD) is 0.00m.
- Mean Sea Level (MSL) is 0.14m.
- Land Survey Datum (MSD) is 0.00m.
- Mean Higher Low Water (MHLW) is -0.21m.
- Mean Lower Low Water (MLLW) is -1.26m.
- Lower Astronomical Tide (LAT) is -1.76m.
- Chart Datum (CD) is -1.76m.

**TIDAL LEVELS AT TANGJUNG GELANG**  
(Established from Royal Malaysian Navy Tide Table 2016)

|  | NSVD (m) | LAT/CD (m) |
|--|----------|------------|
| Highest Astronomical Tide (HAT)                  | 2.08     | 3.84       |
| Mean Higher High Water (MHHW)                    | 1.56     | 3.34       |
| Mean Lower High Water (MLHW)                     | 0.50     | 2.28       |
| Mean Sea Level (MSL)                             | 0.14     | 1.92       |
| Land Survey Datum (MSD)                          | 0.00     | 1.78       |
| Mean Higher Low Water (MHLW)                     | -0.21    | 1.57       |
| Mean Lower Low Water (MLLW)                      | -1.26    | 0.50       |
| Lower Astronomical Tide (LAT) @ Chart Datum (CD) | -1.76    | 0.00       |



**GEODETIC INFORMATION :**

**Geoidetic Data**

- Spheroid : Malayan Revised Everest
- Semi Major Axis : 6 377 304.663 metres
- Semi Minor Axis : 6 356 103.039 metres
- Eccentricity Squared : 0.006 637 846 6392
- Rectangular Flattening (1/f) : 300 801.7

**Origin of Meridian of Reference** : Pulau Pinang State Capital

**Projection** : G. Spherum

**Origin of Meridian of Reference (OMR)** : E 102° 26' 10.24 E

**Latitude of Origin (LO)** : N 05° 42' 39.50 N

**Falset Easting** : 0 m

**Falset Northing** : 0 m

**CLIENT :**

Muhibbah Engineering (M) Bhd  
 Lot 586 & 579, 2nd Mile  
 Jalan Bukit Tigapuluh  
 Jelutong, 11300 Kajang  
 Selangor Darul Ehsan  
 Tel: (603) 3342 4223 Fax: (603) 3342 4227

**PROJECT TITLE :**

**MUHIBBAH KUANTAN MARITIME HUB**

**DRAWING TITLE :**

**HYDROGRAPHIC AND TOPOGRAPHIC SURVEY - CHART DATUM -**

**Checked By:** Mastura  
**Drawn By:** Mastura  
**Approved By:** S/ Lee Cheuk Hock

**Checked By:** Sharfide / Hahid

**SCALE :** 1 : 1000

**Horizontal**

**Vertical**

**Surveyors' Drawing No.:** JPWS/16/P/G/633/006/1  
**Client's Drawing No.:** [Blank]  
**Drawing Date:** 22nd August 2016  
**Report No.:** 918/2016

**Chartered & Licensed Land Surveyors:**

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