



**DEPARTMENT OF BUILDING
UNIVERSITI TEKNOLOGI MARA
(PERAK)**

**THE PROCESS FOR OBTAINING THE SEWERAGE WORKS
APPLICATION (SWA) APPROVAL AND SEWERAGE WORKS
COMPLETION (SWC) APPROVAL**

Prepared by:

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UNIVERSITI TEKNOLOGI MARA
(PERAK)**

DECEMBER 2018

It is recommended that this practical training report provided

by

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2016454728

entitled

**The Process for Obtaining the Sewerage Works Application (SWA) Approval and
Sewerage Works Completion (SWC) Approval**

be accepted in partial fulfillment of the requirements for obtaining the Diploma in Building.

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FACULTY OF ARCHITECTURE, PLANNING AND SURVEYING
UNIVERSITI TEKNOLOGI MARA
(PERAK)**

DECEMBER 2018

STUDENT'S DECLARATION

I hereby declare that this report is my own work, except for extract and summaries for which the original references are stated herein, prepared during a practical training session that I underwent at Perunding Setiamaju Sdn. Bhd. for a duration of 14 weeks starting from 3 September 2018 and ended on 7 December 2018. It is submitted as one of the prerequisite requirements of DBG307 and accepted as a partial fulfillment of the requirements for obtaining the Diploma in Building.

Name : Mohd Mustafa Bin Abdul Malik

UiTM ID No : 2016454728

Date : 18 December 2018

ACKNOWLEDGEMENT

Alhamdulillah, thanks the Almighty Allah for protecting me, Mohd Mustafa Bin Abdul Malik from the harmful and unwanted accidents during the industrial training. I have successfully completed an industrial training session at company Perunding Setiamaju Sdn. Bhd. for 1 semester from 3 September 2018 till 7 December 2018.

First and foremost, I would like to extend my gratitude to all the staff at company Perunding Setiamaju Sdn. Bhd. especially to Cik Rihah Binti Sulaiman as my supervisor. Thanks Cik Rihah for accepting me to undergo industrial training at company Perunding Setiamaju Sdn. Bhd. and for the guidance, advice and help rendered throughout the period of training program. The internship opportunity I had with Perunding Setiamaju Sdn. Bhd, was a great chance for me in learning and get experience work with construction company. I am so grateful for having chance to meet so many wonderful persons who full of their experience in construction who led me through this internship period.

I would also like to thanks all UiTM lecturers that have taught and nurtured me in becoming a better student and person. I would also like to extend my deepest appreciation to the lecturers who are directly involved during my training period such as my Report Supervisor, En. Zulkifli Bin Abdul Halim who always response and give advices to complete this report. Thanks En. Zulkifli for helping me to choose the best title of this report and for checking the mistake of this report, so I can settle this report perfectly. Thanks En. Muhammad Naim Bin Mahyuddin as my Practical Training Coordinator who always get involved with all of practical students to complete this industrial training program smoothly. I would also like to thank Dr. Dzulkarnaen Bin Ismail as a Program Coordinator for your responsibility and your hard work to handle this program.

Last but not least, my special thanks to my beloved parents for their sacrifices over the years. Not to forget the financial aid that was given to me so that I able to undergo this industrial training healthy and I able to finish this report by using their financial aid. Also, thanks to my classmate who always help me when I need them and for their supportive comment and advices.

Thank you.

ABSTRACT

Sewerage systems are one of the most important infrastructures in construction of residential, industrial or commercial project as it determines the quality of life enjoyed by a community. This report will discuss about the process for obtaining the Sewerage Works Application (SWA) approval and Sewerage Works Completion (SWC) approval. This report was conducted for project 'Proposed Construction of 1 Unit 2 Storey Bungalow on Lot 212228, Taman Peranginan Lembah Meru, Jelapang, Mukim Hulu Kinta, District of Kinta, 30020 Ipoh, Perak Darul Ridzuan'. The objective of this report is to identify the procedure that should be followed for obtaining the Sewerage Work Application (SWA) approval and Sewerage Work Completion (SWC) approval. The interview session has been made with the civil & structure engineer who's a competent person. The main finding from the interview session was that there are several requirements and specifications from Suruhanjaya Perkhidmatan Air Negara (SPAN) that need to be complied with for approval. If the competent persons do not follow the requirements and specifications from SPAN, the application for SWA approval and SWC approval will not be approved.

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CHAPTER 1 : INTRODUCTION

Sewerage is a planned system of sewers in a particular Authority's district, through which sewage is collected and removed to a disposal works (Chopra, 1994). Sewer is a pipe or conduit, generally closed, but normally not flowing full for carrying sewage or other waste liquids. Sewers are underground pipes or conduits which carry the sewage to a point of discharge or disposal. The sewer line can have various types of cross-sections (Jain & Sharma, 1991). Sewerage system can be divided into 2 systems. Firstly, a separate system which is sanitary sewage and storm water are collected separately, conveyed separately and disposed off separately. Secondly, a combined system which is both sanitary sewage and storm water are collected into the same pipe. It is best suited to areas, where rainfall is evenly distributed throughout the year (Reddy, 2008).

Sewage is the discharge from all types of sanitary appliances, including medical and industrial as well as domestic, collected into drains which are connected usually to a public sewer, or occasionally to a private septic tank for disposal (Chopra, 1994). Fresh sewage is either grey or light yellow in colour but stale sewage is dark brown in colour. Fresh sewage has inoffensive, mild earthy odour or even odourless but septic sewage produces odours because of ammonia, hydrogen sulphide, methane, carbon disulphide, indol and skatol (Reddy, 2008). The sewage may be treated or may not be treated before final disposal. Accordingly, there are various methods of sewage disposal as classified below: (1) Land irrigation disposal, (2) Dilution and purification, (3) Oxidation ponds, (4) Oxidation ditch (Jain & Sharma, 1991).

Disposal of sewage by dilution is the method to discharge the sewage into a stream or a large body of water such as lake or sea. The discharge of untreated sewage in water course pollutes the water, affecting quality and public health. The permissible limits of the constituents of sewage effluents discharged into inland surface water are laid down in IS: 4764-1973 (Vazirani & Chandola, 1996).

The other way to dispose the sewage can be made by disposing it into the septic tank. Septic tanks are constructed below ground level. These are usually designed so that waste water takes at least 24 hours to pass through them. These need to be cleaned every 1 to 4 years to remove accumulation of sludge. As far as possible they should be located along the exterior of the wall of building. (Meo & Mehta, 1992).

Advantages of septic tanks are they can be constructed easily, very little attention and skilled attendance is required, the effluent can be disposed of easily, without much trouble and the cost is quite small and within the reach of private householders (Punmia & Jain, 1996). There are many type of septic tanks, however, the aim of this is to discuss about the process to get approval of using septic tank as sewerage infrastructure for a bungalow.

1.1 Scope of Study

This report provides information regarding implementation of the process to obtain the Sewerage Works Application (SWA) approval and Sewerage Works Completion (SWC) approval for project 'Proposed Construction of 1 Unit 2 Storey Bungalow on Lot 212228, Taman Peranginan Lembah Meru, Jelapang, Mukim Hulu Kinta, District of Kinta, 30020 Ipoh, Perak Darul Ridzuan'. This process involves the element of planning and design specifications associated with sewerage system and consists of two closely related processes:

- i. Submission of documents based on the checklist provided by Indah Water Konsortium (IWK).
- ii. Payment procedure for FI fee and KWSMP contribution.

1.2 Objectives

1.2.1 Aim

To obtain the Sewerage Works Application (SWA) approval and Sewerage Works Completion (SWC) approval for project 'Proposed Construction of 1 Unit 2 Storey Bungalow on Lot 212228, Taman Peranginan Lembah Meru, Jelapang, Mukim Hulu Kinta, District of Kinta, 30020 Ipoh, Perak Darul Ridzuan'.

1.2.2 Objectives

- i. To identify the documents to be submitted for Sewerage Works Application (SWA) approval.
- ii. To investigate the procedure for obtaining Sewerage Works Completion (SWC) approval.

1.3 Method of Study

1.3.1 Primary Data

i. Interview

Interview sessions with the Civil & Structure Engineer who is in charge for sewerage system were done. The interviews took place in the office of the company Perunding Setiamaju Sdn. Bhd. The interview session was about 2 hours. The questions that have been prepared is crucially needed in order to gain all the information beforehand. Most of the information is recorded by writing short notes and the other information is obtained in the form of softcopy such as for drawing plan and photos.

ii. Observation

Upon reaching the site, observation has been made to see the septic tank used for sewerage system. Half an hour has been spent just for walking around the site, inspecting the type of septic tank used and the position of septic tank installed. Information was obtained by observing, taking pictures and jotting down all the important information.

iii. Document reviews

During the interview sessions with Civil & Structure Engineer, the documents such construction drawing, company profile, progress report and the pictures of sewerage system were obtained in the form of a softcopy.

1.3.2 Secondary Data

The main reason for doing a literature review is to study and find out information regarding the sewerage system on the types of system used and how to choose the most suitable one based on the type of the buildings through relevant books, articles and thesis at Tun Razak Library, Ipoh, Perak and UiTM Seri Iskandar library, Perak.

CHAPTER 2: COMPANY BACKGROUND

2.1 Introduction of Company

Perunding Setiamaju Sdn. Bhd. is established on February 2007, is a consulting engineering firm of two directors and nine committed capable employees. The directors for this company are Ir. Zulkifli Bin Ibrahim and Ir. Loh Ban Ho. The company registration number is 761435 H.

This company is located at 53, Jalan Bandar Timah, 30000 Ipoh, Perak. There are 2 contact numbers which are and . The fax number is . The email for this company is psetiamaju @gmail.com.

The Company supplies consulting services in civil, transportation, environmental and structural design. It is the company's business to provide consistent, effective and efficient facility designs on time, and on budget, to satisfied clients. The other services from this company are the preparation of tender document, preparation of the progress reports and settlement of claim, financial control, payment certificates and statement of accounts. The mission of this company is to provide the most accurate, efficient and timely consultation services for the clients and to place the needs of the clients first and profit by helping them achieve success with their projects from conception through construction.

2.3 Organization Chart

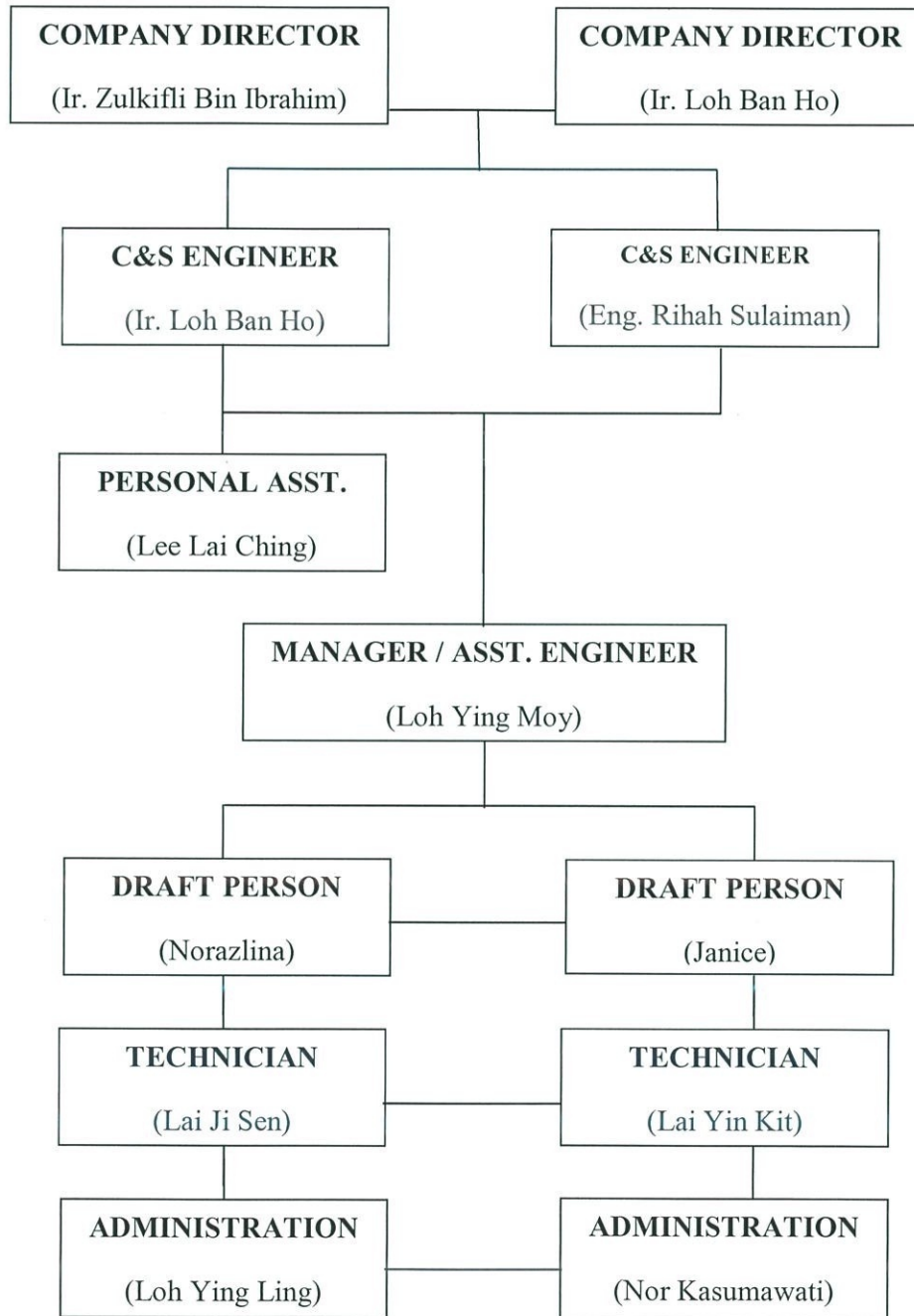


Figure 1: Perunding Setiamaju Sdn. Bhd. Organization Chart

Source: Perunding Setiamaju Company Profile

2.4 List of Projects

2.4.1 Completed Projects

Table 1: List of Perunding Setiamaju Sdn. Bhd. Completed Projects

No.	Project Name	Government / Private	Client	Start Date	Completed Date
1.	Proposed Modifications and Internal Renovations from Existing 2 Storey Shophouses to Hotel Budget Over Lot 635S and Part of 634S at Jalan Bandar Timah, Mukim Hulu Kinta, Ipoh, Perak Darul Ridzuan	Private	Mineral Hauling Sdn. Bhd. Loh Ban Ho & Sons Sdn. Bhd.	17 March 2016	3 May 2017
2.	Proposed Construction of 1 Unit 2 ½ Storey Bungalow on Lot 170378, Persiaran Bukit Meru 2, Meru Heights, Mukim Hulu Kinta, District of Kinta, Ipoh, Perak Darul Ridzuan	Private	Kinta Castle Builders Sdn. Bhd.	20 July 2014	1 Jan 2016
3.	Proposed Amendments and Additional 6 Units of Existing 2 Storey Shop Offices will be the Hotel (30 Rooms on the Upper Floor of the Lot 149352 – Lot 149357, 2 Rooms as well as the Hotel Lobby on the Ground Floor of the Lot 149354 and Parking Lot on the Ground Floor Lot 149354 & Lot 149355) at Jalan Lahat Bharu 4, Lahat, Mukim Hulu Kinta, District of Kinta, Perak Darul Ridzuan.	Private	Kinta Castle Builders Sdn. Bhd.	22 Nov. 2016	10 Jan. 2018
4.	Proposed Construction of 1 Unit 2 Storey Bungalow on Lot 212228, Taman Peranginan Lembah Meru, Jelapang, Mukim Hulu Kinta, District of Kinta, 30020 Ipoh, Perak Darul Ridzuan	Private	Loh Ban Ho & Sons Sdn. Bhd.	5 Oct. 2015	23 Dec. 2017

2.4.2 On-going Projects

Table 2: List of Perunding Setiamaju Sdn. Bhd. On-going Projects

No.	Project Name	Government / Private	Client	Start Date
1.	Proposed Construction of 2 Units 3 Storey Shop Office (Plot 1 & 3) on the Lot 13437, Jalan Datoh, Ipoh Mukim Hulu Kinta, Daerah Kinta, Perak.	Private	Kinta Castle Builders Sdn. Bhd	7 March 2017
2.	Proposed Construction of Housing Scheme That Contains: PHASE 1: -29 Unit 2 ½ Storey Terrace (PT25358-PT25372 & PT25388-PT25401) -6 Unit 2 ½ Storey Semi-D (PT25337-PT25342) -1 Unit Electrical Substations (PT25402) PHASE 2: -11 Unit 2 Storey Shop Office (PT25326-PT25336) -30 Unit 2 ½ Storey Terrace (PT25343-PT25357 & PT25373-PT25387) on Lot 1152, Mukim Durian Sebatang, Daerah Hilir Perak, Perak Darul Ridzuan	Private	Harpson Sdn. Bhd.	18 Sept. 2018
3.	Proposed Construction of 3 Unit 4 Storey Shop Office (Plot 5-7)-Phase 2 and 1 Unit 3 Storey Shop Office (Plot 8)-Phase 1; on Lot 13437, Jalan Datoh Ipoh, Mukim Hulu Kinta, Daerah Kinta, Perak	Private	Kinta Castle Builders Sdn. Bhd.	1 March 2018
4.	Proposed Construction of Jalan Bharu from Jalan Tanjung Rambutan (A13) to Laluan Persekutuan FT001, District of Kinta, Perak Darul Ridzuan	Government	Jabatan Kerja Raya Negeri Perak	1 Jan. 2018

CHAPTER 3: CASE STUDY

The project witnessed during the practical training session was the Proposed Construction of 1 Unit 2 Storey Bungalow on Lot 212228, Taman Peranginan Lembah Meru, Jelapang, Mukim Hulu Kinta, District of Kinta, 30020 Ipoh, Perak Darul Ridzuan. Total cost of the construction project is RM 477,340.00. This project began on the 5th October 2015 and completed on 23th December 2017.

There are several parties involved in this project. They are Loh Ban Ho & Sons Sdn. Bhd. as the client, Kuee Architects, Perunding Setiamaju Sdn. Bhd. as the C&S Engineer, Kee Ming Electrical Sdn. Bhd., Chong Nam Father & Sons Construction Sdn. Bhd. as the contractor and Sukat Bina Rakan as the Surveyor.

Table 3: List of Consultant Involve

Client	Loh Ban Ho & Sons Sdn. Bhd.	53 Jalan Bandar Timah 30000 Ipoh Perak Darul Ridzuan
Architect	Kuee Architects	284A, Jalan Gopeng 31350 Ipoh, Perak
Civil & Structure Engineer	Perunding Setiamaju Sdn. Bhd.	53, Jalan Bandar Timah, 30000 Ipoh, Perak
Mechanical & Electrical Engineer	Kee Ming Electrical Sdn. Bhd.	195, Jalan Chung Ah Ming, 30000 Ipoh, Perak Darul Ridzuan.
Contractor	Choong Nam Father & Sons Construction Sdn Bhd	54-1 (Tingkat Atas), Jalan Ng Weng Hup Taman Pertama 30100 Ipoh Perak Darul Ridzuan
Surveyor	Sukat Bina Rakan,	No. 55, Jalan Lee Kwee Foh, Taman Canning, 31400 Ipoh, Perak

The proposed site was at Meru Valley, 30020, Ipoh, Perak Darul Ridzuan. The proposed development is a 1-unit bungalow on Lot 212228. It covers an area of 0.13 ha. The surrounding area has already been developed. This site was near the Meru Valley Resort and Meru Valley Golf & Country Club. The location in the figure 2 below shows the place where 1 unit 2 storey bungalow has been built.

For this case study, the focus is on the type of sewerage infrastructure used for 1-unit bungalow. A septic tank was chosen as the sewerage system at this site.

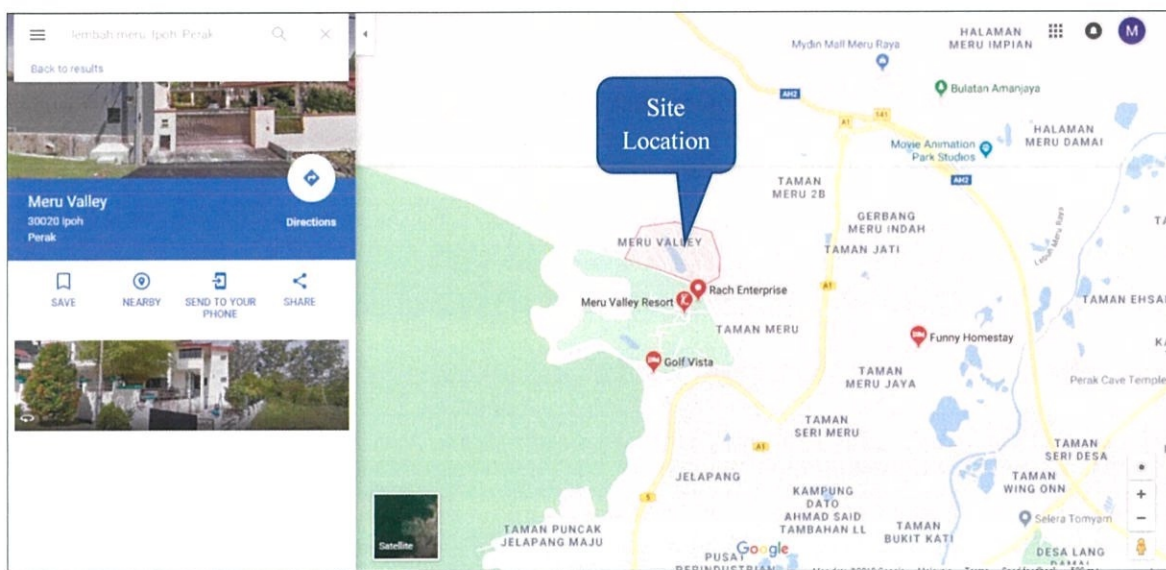


Figure 2: Site location

3.1 The Process for Obtaining Sewerage Works Application (SWA) approval

3.1.1 New Modeling Approval Processes

‘Garis Panduan Industri Pembentungan Malaysia Jilid II: Prosedur Kerja-Kerja Pembentungan Edisi Khas’ is provided to explain the new model plan to review approval procedures and specifications of sewerage works. It is a continuous improvement initiative by the Suruhanjaya Perkhidmatan Air Negara (SPAN) in streamlining the service delivery system to be more efficient and effective.

Under this new model, the approval procedure adopted is based on categorical risk levels, whether the risk is low, medium or high depending on the type of sewerage infrastructure built.

3.1.2 Scope and Criteria

New model approval procedures under the Low Risk category are specific to:

- i. Permitted development of the use of **septic tanks**.
- ii. Make **connection** from chamber / manhole of a premise to existing sewerage system and do not involve the need for a new network / sewer pipe network.
- iii. The development of a single premise with a population equivalent between 31 PE to 150 PE using **(Small Sewage Treatment System - SSTS)**

Low risk approval procedures involve only two (2) processes:

Table 4: Process of (Sewerage Works Application - SWA) and (Sewerage Works Completion - SWC)

Process	Procedure
1	<p>Application for (Sewerage Works Application - SWA)</p> <ul style="list-style-type: none"> • Incorporating design elements and design specification shape. • Declaration of compliance with all condition the requirements outlined by the competent person. • Design approval by the certification agency is the principle of acceptance based on declaration of compliance certificate by a competent person referring to requirements and specifications which has been set by SPAN.
2	<p>Notice of (Sewerage Works Completion - SWC)</p> <ul style="list-style-type: none"> • Declaration by competent persons that construction works of the sewerage infrastructure has been completed by adhering to the planning plan and design specifications that have been approved.

3.1.3 Application for (Sewerage Work Application – SWA)

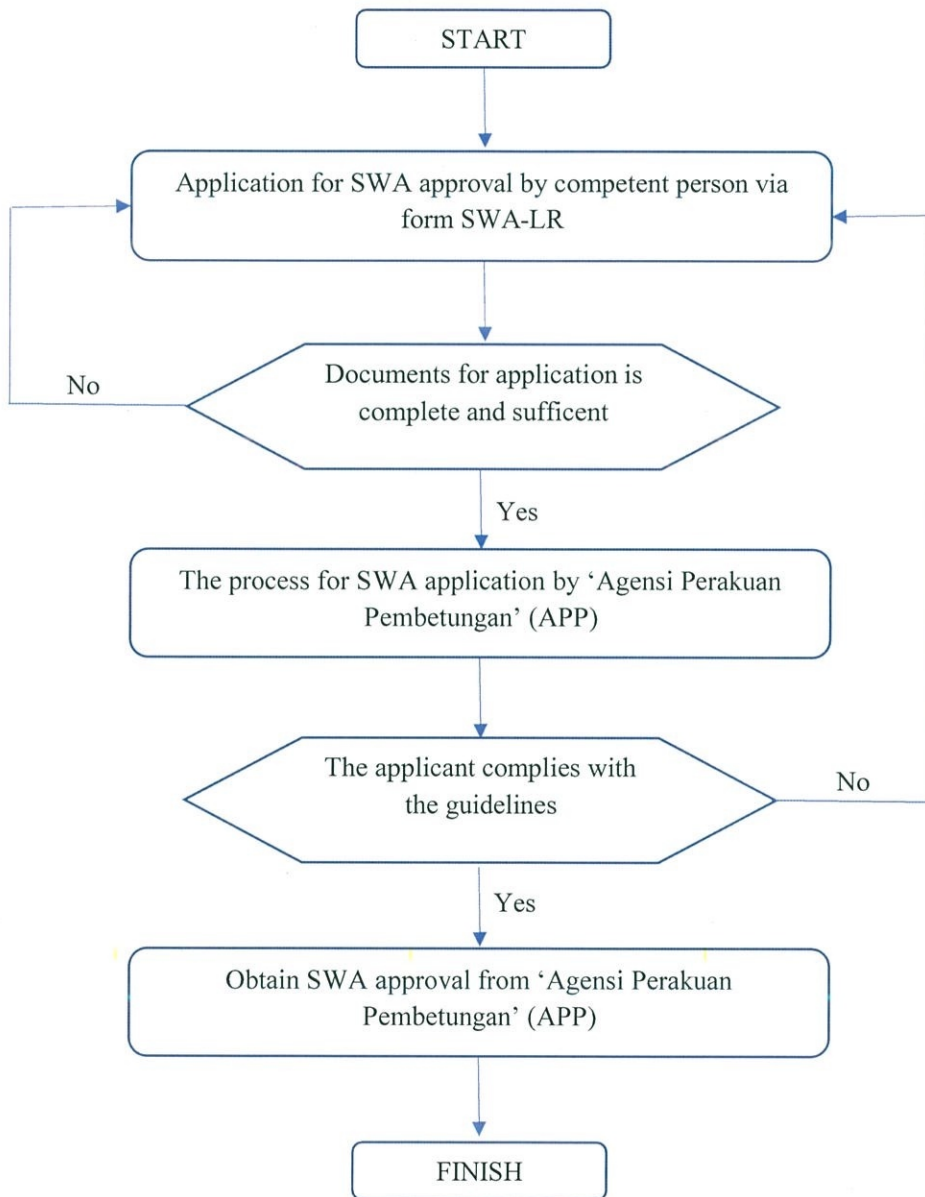


Figure 3: Flow chart for obtaining Sewerage Works Application (SWA) approval

Table 5: Procedure for Application (Sewerage Works Application – SWA)

Procedure	Application for (Sewerage Works Application - SWA)
I) General Matter	Including elements of planning, design specifications and work permits.
II) Documentation Requirements	<p><u>FORM</u> Form SWA-LR</p> <p><u>DOCUMENTS</u> a) Accompanying letter from OSC (if through OSC) or accompanying letter from a competent person. b) Engineering Report (development over 150 PE). c) Engineering Summary (development up to 150 PE).</p> <p><u>PLAN</u> a) Sewerage Layout Plan. b) Design Details Plan.</p> <p><u>KWSMP</u> Contribution fees to the ‘Kumpulan Wang Sumbangan Modal Pembetulan’ (KWSMP) refers to the Peraturan-Peraturan Industri Perkhidmatan Air (Kumpulan Wang Sumbangan Modal Pembetulan) 2011 for Septic Tank and Small Sewage Treatment System (SSTS).</p>
III) FI Processing	<p><u>FI</u> a) FI fees refer to Table 1. b) Must be settled upon submission of the application.</p>
IV) Processing Time	Processing time by ‘Agensi Perakuan Pembetulan’ APP is <u>14 calendar days</u>

Procedure	Application for (Sewerage Works Application - SWA)
V) Comment	a) 'Agensi Perakuan Pembetulan' APP may issue a comment so that the amendment is made to the application submitted. b) The competent person shall re-submit the application within 6 months of the date of issue of the comment notifications from APP. Failure to do so is considered as a new application.
VI) Approval	a) APP will issue a letter of approval together with the relevant terms. b) Valid period for approval is 2 years from the date of approval. c) Construction work shall be completed within the approval period. d) Any further application of approval time is required to be submitted to APP 3 months prior to expiration of initial approval.

I) General Matter

II) Documentation Requirement

Application documents should be submitted to the **Agensi Perakuan Pembetulan (APP)** appointed by the Suruhanjaya Perkhidmatan Air Negara (SPAN) that is:

- i. Indah Water Konsortium Sdn. Bhd. is for all states in Peninsular Malaysia (except for Kelantan) and Wilayah Persekutuan Kuala Lumpur, Labuan and Putrajaya; and
- ii. Majaari Services Sdn. Bhd. is for Kelantan state.

This checklist is provided by Indah Water Konsortium Sdn. Bhd. to the Perunding Setiamaju Sdn. Bhd. as the competent person. Perunding Setiamaju Sdn, Bhd. need to submit all of the documents required based on the checklist below to get approval. Perunding Setiamaju Sdn. Bhd. has submitted all of these documents on 26 November 2015.

Rujukan tuan:	IWK/C/PK.01/2015/106
Rujukan kami:	IP2030/KA/15/LBH/IWK
Tarikh:	26 Nov. 2015

Indah Water Konsortium Sdn. Bhd.
 Agensi Perakuan Pembetungan (Negeri Perak)
 A-3A-3, A-3A-4, A-3A-5 & A-3A-6, Blok A
 Greentown Square
 Jalan Dato' Seri Ahmad Said
 30450 Ipoh
 Perak Darul Ridzuan

Tuan,

**CADANGAN MEMBINA 1 UNIT RUMAH BANGLO 2 TINGKAT DI ATAS LOT 212228,
 TAMAN PERANGINAN LEMBAH MERU JELAPANG, MUKIM HULU KINTA, DAERAH KINTA, PERAK DARUL
 RIDZUAN UNTUK TETUAN LOH BAN HO & SONS SDN. BHD.**
 - Permohonan Kelulusan Kerja Pembetungan (SWA-LR / IST)

Merujuk kepada perkara tersebut di atas, dengan segala hormatnya kami mengemukakan dokumen-dokumen berikut untuk pertimbangan dan tindakan tuan selanjutnya: -

1.	Sijil Pengiktirafan Sebagai Orang Yang Berkelayakan.....	Satu (1) salinan
2.	'Banker Cheque' (RM 150)	Satu (1) salinan
3.	'Sewerage Capital Contribution' SCC Checklist (RM 600)	Dua (2) salinan
4.	'SCC' Form K-2.....	Dua (2) salinan
5.	Senarai Semakan Untuk Kelulusan Kebenaran Merancang (Form PDC1a)	Satu (1) salinan
6.	Borang SWA-LR yang lengkap.....	Dua (2) salinan
7.	Laporan Kejuruteraan	Dua (2) salinan
8.	Pelan Rekabentuk	Tiga (3) salinan

Sekian, terima kasih.

Yang benar,

.....
Pengarah
 Ir. Loh Ban Ho
 SPAN QP 0627

s.k. Tetuan Loh Ban Ho & Sons Sdn. Bhd.
 (Pelan no: LBH/167/IST//1 OF 1)
 LBH/rihah

Figure 4: Checklist of documents needed to be submitted for SWA Approval

1. Certificate of Recognition as a Qualified Person

This certificate shows that Ir. Loh Ban Ho of Perunding Setiamaju Sdn. Bhd. is recognized as a qualified person under Section 47(7) Akta Industri Perkhidmatan Air (IPA 2006) [Akta 655].

AN
SURUHANJAYA PERKHIDMATAN AIR NEGARA
(NATIONAL WATER SERVICES COMMISSION)
Aras Bawah & Aras Satu
Prima Avenue, Blok 3510
Jalan Teknokrat 6,
63000 Cyberjaya
Selangor Darul Ehsan, Malaysia

Telefon :
Faks :
Laman Web : www.span.gov.my

Ruj. Tuan:
Ruj. Kami: SPAN/KPA/700-4/7/3kl2(≅ 2)
Tarikh: 11 Mei 2009
(Sila nyatakan rujukan apabila menjawab surat ini)

SEGERA DENGAN FAKS

(650)
Ir Loh Ban Ho
Perunding Setiamaju Sdn Bhd
No 53, Jalan Bandar Timah
30000 Ipoh,
Perak

Tel:
Faks:

Tuan,

PENGIKTIRAFAN 'ORANG YANG BERKELAYAKAN (QUALIFIED PERSON)' DI BAWAH SEKSYEN 47(7) AKTA INDUSTRI PERKHIDMATAN AIR (IPA 2006)[AKTA 655]

Dengan segala hormatnya saya merujuk kepada perkara di atas.

2. Sukacita dimaklumkan bahawa tuan telah diiktiraf oleh Suruhanjaya ini sebagai 'orang yang berkeelayakan' di bawah seksyen 47 Akta Industri Perkhidmatan Air 2006 berkuatkuasa mulai 10hb Februari 2009. Sila tuan rujuk laman web kami www.span.gov.my untuk butiran lanjut berhubung kelulusan ini. Sijil dan syarat-syarat akan dikemukakan kepada pihak tuan kemudian.

Sekian, terima kasih.

b.p **Ketua Pegawai Eksekutif**
Suruhanjaya Perkhidmatan Air Negara (SPAN)
Malaysia

Qualified Person

Figure 5: Certificate of recognition as a Qualified Person

2. Banker's Cheque (RM 150)

This banker's cheque is for FI fees that need to be paid by Perunding Setiamaju Sdn. Bhd. based on the type of infrastructure used and the amount of Population Equivalent (PE). The infrastructure used for sewerage system is a septic tank and the amount of PE is 5 PE for a bungalow. The fees amount is RM 150, can be referred from Table 1, (FI Processing).

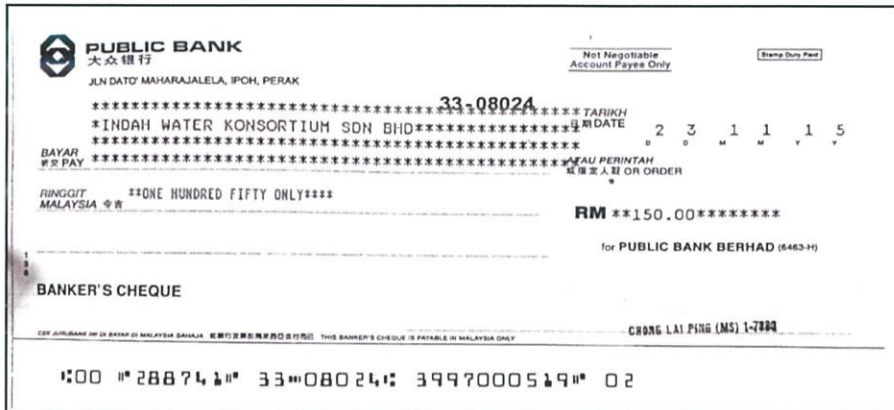


Figure 6: Banker's cheque (RM 150) for FI fees

3. 'Sewerage Capital Contribution' SCC Checklist (RM 600)

This banker's cheque is for contribution fees to the 'Kumpulan Wang Sumbangan Modal Pembetulan' (KWSMP), calculated based on the amount of PE which is RM 120/ PE. The amount of PE is 5PE for a bungalow. So, the total of contribution fees is RM 600.

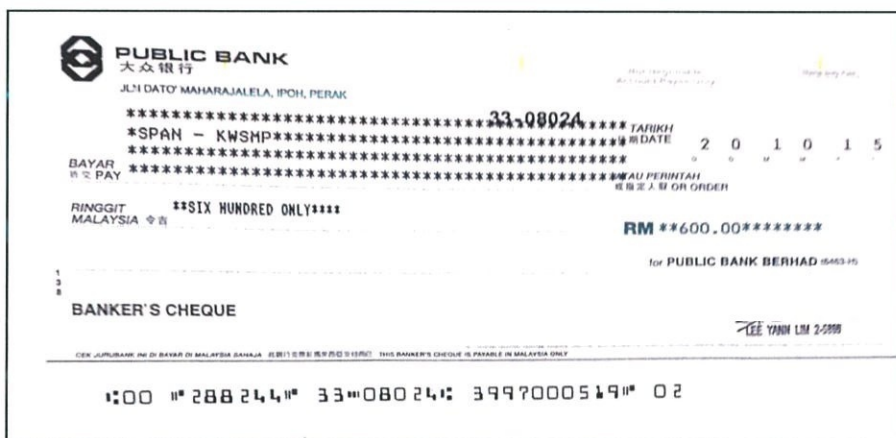


Figure 7: Banker's cheque (RM 600) for contribution fees to the (KWSMP)

SCC Checklist

**SURUHANJAYA PERKHIDMATAN AIR NEGARA (SPAN)
SEWERAGE CAPITAL CONTRIBUTION (SCC)**

TITLE OF DEVELOPMENT (To specify phase development, if relevant):

CONTRIBUTION CATEGORY:

CATEGORY	CONTRIBUTION RATE	Please Tick (✓)
(A) Connect to public sewer	1.00% of property value/ selling price 1.00% of contract cost (government project only)	
(B) Septic Tank	RM 120 / PE	/
(C) *Sewage Treatment Works	RM 5 / PE	
(D) Specific Building	Low costs residential building : RM 1000 / project	
	Government school or gov. aided school : RM 1000 / project	
	Place of worship : RM 100 / project	
	Community building : RM 100 / building	
	Charitable building : RM 100 / building	

* Constructs Sewage Treatment Works without sludge processing facility or standby power generator or both

DOCUMENTS REQUIRED :	For SPAN use only
1. Bank Draft or Gov. Cheque paid to SPAN-KWSMP <i>(please stated the details of Bank Draft or Gov. Cheque below)</i> a. Amount: RM 600 b. # Bank Draft / Gov. Cheque No.: PBB : 188144 c. Date of issuance: 13/04/2015	
2. Form : * [SCC FORM K-1 for Category A / SCC FORM K-2 for Category B,C,D]	

* Delete whichever inapplicable

Signature	Company Stamp: No. 53, Jalan Bandar Timah 30000 Ipoh, Perak.
Name : LEE LAI PING	
I/C No:	Designation:
Contact No:	

FOR

OFFICE USE :

Accept: Reject: Remarks:

File reference no. :

SCC Checklist

RM 600 is the amount of contribution fees for KWSMP

Figure 8: 'Sewerage Capital Contribution ' SCC Checklist (RM 600)

4. 'SCC' Form K-2

This SCC Form K-2 consists of six sections. All sections shall to be fill up except for Section (3) if not relevant. Section (5) is a table of Contribution Detail and Section (6) is a declaration by the project owner or whoever been authorized by the developer.

1. This SCC FORM K-2

DECLARATION ON SCC CONTRIBUTION DETAILS BASED ON FIXED RATE (SEPTIC TANK, SEWAGE TREATMENT WORKS WITHOUT SLUDGE PROCESSING FACILITY OR STANDBY POWER GENERATOR) AND / OR SPECIFIC BUILDING

Important Notes:

1. This SCC FORM K-2 consists of six sections. All sections shall to be fill up except for section (3) if not relevant.
2. For section (5) Table of Contribution Detail, please use separate sheet if required. Please affix rubber stamp of the Company, date and initials of the Owner/Authorized Person on each sheet.
3. For section (6) Declaration, the declaration need to initial by the project owner or whoever been authorized by the developer.

(1) TITLE OF PROJECT / DEVELOPMENT (to specify phase development, if relevant)
 CADANGAN MEMBINA 1 UNIT RUMAH BANGLO 2 TINGKAT DIATAS LOT 212228, TAMAN PERANGINAN LEMBAH MERU, JELAPANG, MUKIM HULU KINTA, DAERAH KINTA, PERAK DARUL RIDZUAN UNTUK TETUAN LOH BAN HO & SONS SDN. BHD

(2) NAME OF PROJECT OWNER / DEVELOPER
 LOH BAN HO & SONS SDN. BHD

(3) COMPANY NO.
 782690-H

(4) CONTRIBUTION CATEGORY (Please tick ✓ whichever relevant)		
Category	Contribution Rate	Tick (✓)
B Septic Tank	RM 120 / Population Equivalent (PE)	<input checked="" type="checkbox"/>
C *Sewage Treatment Equivalent	RM 5 / Population Equivalent (PE)	<input type="checkbox"/>
D Specific Building	D1. Low costs residential building : RM 1000 / project	<input type="checkbox"/>
	D2. Government school or government aided school : RM 1000 / project	<input type="checkbox"/>
	D3. Place of worship : RM 100 / project	<input type="checkbox"/>
	D4. Community Building : RM 100 / building	<input type="checkbox"/>
	D5. Charitable building : RM 100 / building	<input type="checkbox"/>

* Construct STW whiout sludge processing facility or standby power generator or both

Figure 9: 'SCC' Form K-2, Section 1 – Section 4

SCCK2000006000
 on 15-04-2015 04:45:43

(5) TABLE OF CONTRIBUTION DETAIL

No.	(a) Category [B / C / D]	(b) Type of Development ¹	(c) No. of Unit / Building / Project	(d)		(f) SCC Amount ³ (RM)
				PE/ Unit	Total PE	
1	B - Septic Tank	Residential	1	5	5	600.00
Total Amount (RM)						600.00

- ¹ Type of development: Residential / Commercial / Industrial / Specific Building (D1 / D2 / D3 / D4) / others - please specify
- ² Type of Development : Residential / Commercial / Industrial / others - please specify
- ³ Category B and C : [Total PE x RM120 or RMS]
 Category D : [(c) x (rate for D1 / D2 / D3 / D4)]

Section 5

SCCK2000005999
 on 20-04-2015 04:28:36

(6) Declaration

We hereby certify that the details stipulated in section (5) Table of Contribution Detail in SCC Form K-2 above are true, complete and accurate.

In the event of any discrepancy in the calculation of fixed rate of septic tank, sewage treatment works without sludge processing facility or sanitary power generator and/or specific building in section (5) Table of Contribution Detail in SCC Form K-2 resulting in insufficient amount paid hereunder with reference to Water Services Industry (Sewerage Capital Contribution Fund) Regulation 2011, I/We hereby undertake to immediately pay all sums still due and payable upon being notified to do so.

I/We hereby undertake to furnish the relevant documents and evidences for the information declared in section (5) Table of Contribution Detail in SCC Form K-2 within seven (7) days of Commission's request.

I/We fully aware and acknowledge that I/We am/are subjected to Section 130 Water Services Industry Act 2006 (Act 655) where enforcement action can be taken by the Commission if the documents, information or details as provided in section (5) Table of Contribution Detail in SCC Form K-2 of this form is false or misleading.

Signature of Owner/Authorized Person

Name (in block letters): **LEE LAI FUNG**

I/C or Passport No: **750907-08-5708**

Date: **21/4/2015**

IMPORTANT NOTES:

- 1. This SCC Form shall be submitted to Certifying Agencies appointed by SPAN (MJK / MSSB) together with SCC Checklist and SCC payment in the form of Bank Draft / Bankers Cheque / Government Cheque made payable to "SPAN-KWISMP".
- 2. SPAN is not liable for any inaccuracies occurred in the usage of this calculator. The users are advised to verify all the information and data provided prior to official submission to the Certifying Agencies.

Section 6

Figure 10: 'SCC' Form K-2, Section 5 and Section 6

5. Checklist for Sewerage Works Planning Approval (Form PDC1a)

This checklist is divided into (1.0) submission documents, (2.0) submission plans, (3.0) special submission requirements, (4.0) plans format, (5.0) layout plan and (6.0) engineering report. This checklist shall be fill up by a competent person from Perunding Setiamaju Sdn. Bhd.

Checklists
Form PDC 1a

Checklist for Sewerage Works Planning Approval

File No: IWK /C/ PK.01/2015/106	Sewerage Works		Submitted	Date:
	OK	NC	Proposal	Reviewer's
1.0 Submission documents				
1.1 Form SSA/PDC 1 for planning application	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
1.2 Catchment strategy report <i>(for permanent STP/schemed development)</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
1.3 Engineering report <i>(for development > 150 PE)</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
1.4 Land details <i>Land Title (type), lot no. district/mukim, Land area of project (under Form PDC/1)</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
2.0 Submission plans				
2.1 Layout plan of whole development <i>For development > 150 PE</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
2.1.1 <i>A plan showing how each house is to be connected with any existing or proposed sewer.</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
2.1.2 <i>The position and course of all surface water channels or drains</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
2.1.3 <i>The name of street adjoining the premises and the scale of the plan</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
2.2 Key Plan and Location Plan <i>Location plan shall be clear, showing identifiable, adjacent areas, main roads and other landmarks. Project area to be colour in red.</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
2.3 Effluent discharges point <i>Location of the effluent receiving stream.</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
3.0 Special submission requirements				
3.1 Development > 50 hectares <i>A Development Environmental Impact Assessment (EIA) has to be approved by DOE.</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		

**Checklist Form
PDC 1a**

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Form PDC 1a /Page 1 of 3

Figure 11: Checklist for Sewerage Works Planning Approval (Form PDC 1a, Page 1)

File No: IWK-C-PK-01/2015-106	Sewerage Works		Submitted Proposal	Date Reviewer's
	OK	NC		
4.0 Plans Format				
4.1 Paper size <i>All plans to be submitted to the DGSS should be prepared on normal sizes of paper A1 or A2 and should have a title block approved by the approving authority. All plans shall be folded to A4 size. All documents to be in A4.</i>	<input type="checkbox"/> Y	<input type="checkbox"/>		
4.2 Format details <i>Format details shall include the following:</i>				
4.2.1 Plans shall show the north point, date and bear the signature of the Developer/Owner, and consulting Engineer/Architect/Planner.	<input type="checkbox"/> Y	<input type="checkbox"/>		
4.2.2 Notes & abbreviation use shall be shown in footnotes.	<input type="checkbox"/> Y	<input type="checkbox"/>		
4.2.3 The title block shall be positioned at the bottom right-hand corner bearing the title of the development, drawing title, name and address of the Developer/Owner and the Qualified Person.	<input type="checkbox"/> Y	<input type="checkbox"/>		
4.2.4 A space be reserved in the top right hand corner for SSD approval stamp.	<input type="checkbox"/> Y	<input type="checkbox"/>		
5.0 Layout plan				
5.1 Lot boundaries and numbers <i>The boundary shall be demarcated on the drawing.</i>	<input type="checkbox"/> Y	<input type="checkbox"/>		
5.2 Ground levels of housing lots & roads <i>All data specified shall be according to the Survey Ordinance.</i>	<input type="checkbox"/> Y	<input type="checkbox"/>		
5.3 Reticalation & utilities details <i>Details shall include the following:</i>				
5.3.1 Drainage systems, water supply lines, streets or other structures and as far as can be established.	<input type="checkbox"/> Y	<input type="checkbox"/>		
5.3.2 The location & depth of utilities that will affect or be affected by the proposed sewerage system. Also their invert levels and sizes must be stated.	<input type="checkbox"/>	<input type="checkbox"/>		
5.3.3 The sewer reticalation must also be shown on the same plan to show sewer location relative to these structures.	<input type="checkbox"/> Y	<input type="checkbox"/>		
6.0 Engineering report				
6.1 Land information <i>Information shall include the following:</i>				
6.1.1 Land lot number & site location	<input type="checkbox"/> Y	<input type="checkbox"/>		

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Form PDC 1a Page 2 of 3

File No: IWK-C-PK-01/2015-106	Sewerage Works		Submitted Proposal	Date Reviewer's
	OK	NC		
6.1.2 Land area (hectare) & topography of project area.	<input type="checkbox"/> Y	<input type="checkbox"/>		
6.1.3 Topography of surrounding neighbourhood lots. Specify any existing STPs or network. Include details of all sewerage systems in site or proposed in the adjacent area.	<input type="checkbox"/> Y	<input type="checkbox"/>		
6.1.4 Water bodies (streams/rivers) that pass through project area including the name and class of the receiving water.	<input type="checkbox"/> Y	<input type="checkbox"/>		
6.1.5 Existing land use of project and adjacent areas, description of future land use of adjacent area, if such information is available.	<input type="checkbox"/>	<input type="checkbox"/>		
6.1.6 Information on ground water levels and use of ground water information project area.	<input type="checkbox"/>	<input type="checkbox"/>		
6.2 Project description <i>A description of the project proposal shall include:</i>				
6.2.1 Type of development - various types of houses/buildings and their numbers.	<input type="checkbox"/> Y	<input type="checkbox"/>		
6.2.2 An outline on the derivation of the wastewater generation from the proposed project based on criteria in MS122 and Guidelines for Developers Vol 3 & 4.	<input type="checkbox"/> Y	<input type="checkbox"/>		
6.3 Sewerage proposal <i>The sewerage proposal shall include:</i>				
6.3.1 A brief description of the proposal. For permanent STPs, identify and evaluate all sewerage options, including NPS and non-cost factors and provide a brief description of the preferred or selected option.	<input type="checkbox"/>	<input type="checkbox"/>		
6.3.2 An outline description of the proposed sewerage network. Show breakdown and calculation.	<input type="checkbox"/> Y	<input type="checkbox"/>		
6.3.3 An outline of the reasons for the selection of the proposed sites for construction of any pumping stations.	<input type="checkbox"/>	<input type="checkbox"/>		
6.3.4 The proposal for connection to the public sewer include a study on the capacity of the existing sewer and the STP.	<input type="checkbox"/>	<input type="checkbox"/>		
6.3.5 The report must bear the signature of the Engineer preparing the design as well as the report.	<input type="checkbox"/> Y	<input type="checkbox"/>		
6.3.6 The report must bear a suitable title, date, names of owner & consultant and have a proper cover & binding.	<input type="checkbox"/> Y	<input type="checkbox"/>		
6.3.7 The sizing criteria, land area & buffer zone requirements for the proposed STP shall be based on per Guidelines for Developers Vol II.	<input type="checkbox"/> Y	<input type="checkbox"/>		

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Form PDC 1a Page 3 of 3

Figure 12: Checklist for Sewerage Works Planning Approval (Form PDC 1a, Page 1 and 2)

6. Form SWA-LR

Form SWA-LR is divided into several sections which are Section 1-A, Section 1-B and Section 1-C for general information. Section 2-A is a declaration by an owner or a developer, Section 2-B is a declaration by a competent person for sewerage planning scope, Section 2-C is a declaration by a competent person for sewerage design (process or hydraulic) and Section 2-D is a declaration by competent person for sewerage design (civil and structure). This form is really important because it required a declaration from every party to get approval from Indah Water Konsortium Sdn. Bhd. as Agensi Perakuan Pembetulan (APP).

SWA-LR Form

SURUHANJAYA PERKHIDMATAN AIR NEGARA (SPAN)
Sewerage Works Application (SWA-LR)

PART 1: GENERAL INFORMATION

SECTION 1-A : DEVELOPER/OWNER PARTICULARS	
Name of Developer/Owner	TETUAN LOH BAN HO & SONS SDN. BHD.
Company address	NO. 53, JALAN BANDAR TIMAH, 30000 IPOH PERAK DARUL RIDZUAN
Telephone No	:
Fax No	:
Email address	:

SECTION 1-B : PROJECT/DEVELOPMENT INFORMATION	
*Title of Project/Development	CADANGAN MEMBINA 1 UNIT RUMAH BANGLO 2 TINGKAT DIATAS LOT 212228, TAMAN PERANGINAN LEMBAH MERU, JELAPANG, MUKIM HULU KINTA, DAERAH KINTA, PERAK DARUL RIDZUAN UNTUK TETUAN LOH BAN HO & SONS SDN .BHD.
Mukim / Section	MUKIM HULU KINTA
District	DAERAH KINTA
State	PERAK DARUL RIDZUAN
Population Equivalent (PE)	5 PE

*Title of development shall as per DO's approval

SECTION 1-C : SEWERAGE WORKS INFORMATION (please tick (✓) where relevant)							
Types of infrastructure	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">Connection (to asset no. _____)</td> <td style="width: 20%; text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>Septic Tank</td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> <tr> <td>Small Sewage Treatment System (SSTS)</td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> </table>	Connection (to asset no. _____)	<input type="checkbox"/>	Septic Tank	<input checked="" type="checkbox"/>	Small Sewage Treatment System (SSTS)	<input type="checkbox"/>
Connection (to asset no. _____)	<input type="checkbox"/>						
Septic Tank	<input checked="" type="checkbox"/>						
Small Sewage Treatment System (SSTS)	<input type="checkbox"/>						

SURUHANJAYA PERKHIDMATAN AIR NEGARA (SPAN)
Sewerage Works Application (SWA-LR)

**SWA-LR
Form**

Figure 13: SWA-LR Form, Section 1-A - Section 1-C

Section 2-A

SWA-LR Form

PART 2: DECLARATION

SECTION 2-A: DECLARATION BY OWNER / DEVELOPER

I hereby declare that the information given are complete, true and accurate and this project/development shall be carried out in strict compliance with the Water Services Industry Act 2006 and its subsidiary legislations. I accept full responsibility to ensure all relevant works shall be completed accordingly.

Signature

Name of Owner / Authorized Person: **LEE LAI PING**

IC No. / Passport No.:

Designation:

Lee Lai Ping & Sons Sdn. Bhd.
No. 53, Jalan Bandar Timah
30000 Ipoh, Perak.

Company Stamp
(with address and company registration no.)

* Company stamp only applicable for developer

Section 2-B

SWA-LR Form

PART 2: DECLARATION

SECTION 2-B: DECLARATION BY COMPETENT PERSON FOR SEWERAGE PLANNING SCOPE

I hereby declare and confirm the planning scope for works related to sewerage as in the engineering report/project brief (Ref. no. ...) for development stipulated in Section 1-B are complete, true, accurate and in compliance with Water Services Industry Act 2006 and its subsidiary legislations and requirements of other regulatory agencies.

Signature & Endorsement

Name: **IR. LOH BAN HO**

IC No.:

Company Name: **PERUNDING SETIAMAJU SDN. BHD.**

Company Address: **NO. 53, JALAN BANDAR TIMAH, 30000 IPOH, PERAK DARUL RIDZUAN.**

Company Registration No.: **761435-H**

Telephone No.:

Fax No.:

E-mail Address:

Professional Body Registration No.: **10552**



Company Stamp

* Mandatory to fill in Project Brief reference no. by Competent Person

Section 2-C

SWA-LR Form

PART 2: DECLARATION

SECTION 2-C: DECLARATION BY COMPETENT PERSON FOR SEWERAGE DESIGN (PROCESS/HYDRAULIC)

I hereby confirm the sewerage infrastructure as mentioned in Section 1-C have been designed in accordance to relevant Malaysian Sewerage Industry Guidelines, Standards and/or Technical Specification recognized by the Commission and in compliance with Water Services Industry Act 2006 and its subsidiary legislations and the requirements of other relevant regulatory agencies. I shall take full responsibility for the process and hydraulic design and performance of the same.

Signature & Endorsement

Name: **IR. LOH BAN HO**

IC No.:

Company Name: **PERUNDING SETIAMAJU SDN. BHD.**

Company Address: **NO. 53, JALAN BANDAR TIMAH, 30000 IPOH, PERAK DARUL RIDZUAN.**

Company Registration No.: **761435-H**

Telephone No.:

Fax No.:

E-mail Address:

Professional Body Registration No.: **10552**



Company Stamp

Section 2-D

SWA-LR Form

PART 2: DECLARATION

SECTION 2-D: DECLARATION BY COMPETENT PERSON FOR SEWERAGE DESIGN (CIVIL AND STRUCTURE)

I hereby confirm the civil and structure works are designed in accordance to sound engineering practice and relevant Malaysian Sewerage Industry Guidelines, Standards and/or Technical Specification recognized by the Commission and in compliance with Water Services Industry Act 2006 and its subsidiary legislations and the requirements of other relevant regulatory agencies. I shall take full responsibility for the civil and structure design and performance of the same.

Signature & Endorsement

Name: **IR. LOH BAN HO**

IC No.:

Company Name: **PERUNDING SETIAMAJU SDN. BHD.**

Company Address: **NO. 53, JALAN BANDAR TIMAH, 30000 IPOH, PERAK DARUL RIDZUAN.**

Company Registration No.: **761435-H**

Telephone No.:

Fax No.:

E-mail Address:

Professional Body Registration No.: **10552**



Company Stamp

Figure 14: SWA-LR Form, Section 2-A - Section 2-D

7. Engineering Report

**LAPORAN
KEJURUTERAAN**

UNTUK

**CADANGAN MEMBINA 1 UNIT RUMAH BANGLO 2
TINGKAT DI ATAS LOT 21228, TAMAN PERANGINAN
LEMBAH MERU, JELAPANG, MUKIM HULU KINTA,
DAERAH KINTA, PERAK DARUL RIDZUAN**

UNTUK TETUAN

LOH BAN HO & SONS SDN. BHD.



Perunding Setiamaju Sdn Bhd (761435-H)

53 Jalan Bandar Timah,

30000 Ipoh,

Perak Darul Ridzuan.

Email : psetiamaju@gmail.com

Figure 15: Front Page for Engineering Report

1.0 Introduction

This application is for Planning Approval (SSA / PDC / 1) and Perunding Setiamaju Sdn. Bhd. has been appointed as a consultant engineer to prepare engineering reports to meet the requirements of the (Malaysia Sewerage Industry Guidelines Volume 2, 3rd Edition - Sewerage Works Procedures) Suruhanjaya Perkhidmatan Air Negara, SPAN.

The proposed development is a development housing schemes on Lot 212228. It covers an area of 0.13 Ha. The surrounding area has already been developed. This site was near with Meru Valley Resort and Meru Valley Golf & Country Club.

2.0 Proposed Development

The proposed development for the proposed site is for housing development which is a bungalow. Table 2.1 below shows in more detail the types of proposed development:

Table 2.1: Recommended Types of Development

NO.	TYPE OF DEVELOPMENT	UNIT	AREA (Ha)
HOUSING			
1.	Bungalow	1	0.13
TOTAL AMOUNT		1	0.13

Figure 16: Engineering Report (Introduction and Proposed Development)

3.0 Total Population Equivalent (PE)

Given the proposed development is for housing development, major waste water is coming from domestic waste. Any estimate of waste water from this proposed site is based on the criteria given in **MS 1228: Perkara 3.2. Rekabentuk Kadaralir Purata = 225 liters per person**. Based on **Table 1.1 – SPAN, Malaysian Sewerage Industry Guidelines, Sewerage Works Procedures, Volume 4, 3rd Edition**, the total Population Equivalent for the proposed development is **5PE**. Detailed estimates for this Population Equivalent are as shown in Table 3.1 below. To determine PE for this development proposal, please refer to the PE Calculation Schedule in Table 5.1 of this report.

Table 3.1: Estimates Population Equivalent

NO.	TYPE OF DEVELOPMENT	UNIT	PE/Unit	TOTAL (PE)
1.	Bungalow	1	5PE/Unit	5
Total Amount				5

4.0 Proposed Sewerage System

Based on **Table 1.1 - SPAN Malaysian Sewerage Industry Guidelines, Sewerage Works Procedures, Volume 4, 3rd Edition**, Population Equivalent for the proposed development are **5 PE**. Since the amount of PE for this development proposal is less than 150 PE, the individual septic tanks was recommended to be used for this proposed site.

Figure 17: Engineering Report Total (PE) and Proposed Sewerage System

5.0 PE Calculation Schedule

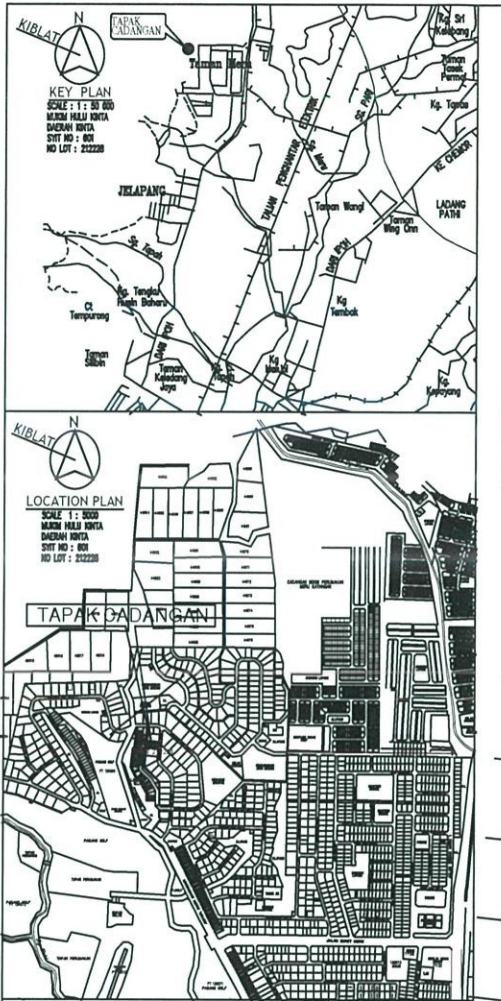
The calculation of Population Equivalent served by the completed development in accordance with MS 1228 and guidelines published by DGSS area as follows:

Table 5.1: Calculation of Population Equivalent (PE) for Contribution

NO	TYPE OF PREMISES/ ESTABLISHMENT	RECOMMENDED PE/Unit Quantity	UNIT (NO)	PE
1	Residential	5 per unit	1 units	5
2	Commercial	3 per 100m.sq	m.sq	
3	Community Facilities	3 per 100 m.sq	m.sq	
4	Market (Wet Type)	3 per stall	Stalls	
5	Market (Dry Type)	1 per stall	Stalls	
6	Hawker's Centre	3 per 100 m.sq	m.sq	
7	Surau, Religious Place, Church	0.2 per person	Persons	
8	School & Educational Institutions:			
	Day School/Institution	0.2 per student	Students	
	Fully Residential	1 per student	Students	
	Partial Residential	0.2 per non residential student 1 per residential student	Students Students	
9	Hospitals	4 per bed	Beds	
10	Bus Terminal	4 per bus bay	Bays	
11	Taxi Terminal	4 per taxi bay	Bays	
12	Stadium	0.2 per person	Person	
13	Public Toilet	15 per toilet	Toilets	
14	Airport	0.2 per passenger bay	Passenger Bays	
15	Factory	0.3 per employee	Employee	
16	Laundry	10 per machine	Machine	
17	Prison	1 per person	Persons	
18	Golf Course	20 per hole	Holes	
19	Hotel	4 per room	Rooms	
20	Petrol Station	15 per toilet	Toilets	
21	Swimming Pool/ Sports Complex	0.5 per person	Persons	
TOTAL PE				5

Figure 18: Engineering Report (PE Calculation Schedule)

8. Design Plan



IWK/C/PK.01/2015/106

PROJECT:

CADANGAN MEMBINA 1 UNIT RUMAH BANGLO
2 TINGKAT DI ATAS LOT 212228,
TAMAN PERANGINAN LEMBAH MERU
JELAPANG, MUKIM HULU KINTA, DAERAH
KINTA, PERAK DARUL RIDZUAN

UNTUK TETUAN LOH BAN HO & SONS SDN.
BHD.

DESCRIPTION:

KEY PLAN, LOCATION PLAN AND LAYOUT PLAN

OWNER'S SIGNATURE:

.....
LOH BAN HO & SONS SDN. BHD. (NO. STK: 70000-1)
LEE LAI PING
IC NO.:
NO.63, JALAN BANDAR TIMAH,
30000 IPOH
PERAK DARUL RIDZUAN

ENGINEER'S SIGNATURE

I hereby certify that the details are in
accordance with the Town Board Enactment
and By-Laws and Accept full responsibility
for the design and the supervision of the works.

.....
IR. LOH BAN HO
B.Eng (Civil) Home Univ of Leeds (UK)
P.Eng. MEM, MHE, MGR, ASKAN Eng.
AFPC Eng. Cert Highway Eng.



PERUNDING SETIAMAJU SDN. BHD.
63, Jalan Bandar Timah, 30000 Ipoh,
Perak, Darul Ridzuan.

DIREKA : ENK	UKURAN : 1:200
DILUKIS : ENK	TARIKH : NOV. 2015
DISEMAK : VERNY LOH	NO. LUKISAN :
DILUKISKAN : IR. LOH BAN HO	LBH /167/IST/1 OF 1

III) FI Processing

The figure below shows the amount of FI fees need to be paid by Perunding Setiamaju Sdn. Bhd. to Indah Water Konsortium Sdn. Bhd. FI fees should be referred from Table 1 as this table is provided by Suruhanjaya Perkhidmatan Air Negara (SPAN). The fees needed to be paid is RM150 for a septic tank for the proposed project bungalow with a Population Equivalent (PE) of 5PE.

JADUAL 1

FI

JENIS SISTEM (Saiz Pembangunan)	PERMOHONAN KELULUSAN KERJA PEMBETUNGAN (SWA)	NOTIS PERAKUAN SIAP KERJA PEMBETUNGAN (SWC)
TANGKI SEPTIK		
Sehingga 5 PE	150	
6 PE - 150 PE	350	
Melebihi 150 PE	600	
SAMBUNGAN		
Sehingga 10 PE	200	
11 PE - 150 PE	420	600
151 PE - 500 PE	770	600
501 PE - 2,000 PE	1070	1200
Melebihi 2,000 PE	1170	1400
SISTEM RAWATAN KUMBAHAN KECIL (SSTS)		
Sehingga 150 PE	670	600

RM 150 is
for a Septic
Tank (5PE)

Figure 19: Table 1, FI Fees

IV) Processing Time


It just takes about 12 days to get SWA approval from Indah Water Konsortium Sdn. Bhd.

V) Comment

There is no comment from Indah Water Konsortium Sdn. Bhd. as Agensi Perakuan Pembetulan (APP). So, the documentation requirements were sufficient and complete and the design of sewerage system was accepted.

VI) Approval

The application for Sewerage Works Application-SWA has been approved. Indah Water Konsortium Sdn. Bhd. has already sent a letter of approval to Perunding Setiajaya Sdn. Bhd. on **8 December 2015**.



**AGENCI PERAKUAN
• PEMBETUNGAN**
(AGENCI PERAKUAN)
(Divisi dan Subdivisi Perkhidmatan Air Negara - AP/PJ-02/12007) Ciri No. 13207

Rujukan Tuan : LBH/167/IST
Rujukan Kami : IWK/C/PK.01/15/106
Tarikh : 03-Dis-2015

PERUNDING SETIAMAJU SDN BHD
53 Jalan Bandar Timah
30000 Ipoh
Perak Darul Ridzuan

Tuan,

SURAT KELULUSAN KERJA PEMBETUNGAN

TAJUK PEMBANGUNAN : CADANGAN MEMBINA 1 UNIT RUMAH BANGLO 2 TINGKAT DI ATAS LOT 212228, TAMAN PERANGINAN LEMBAH MERU JELAPANG, MUKIM HULU KINTA, DAERAH MUKIM HULU KINTA, DAERAH KINTA, PERAK DARUL RIDZUAN

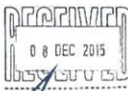
INFRASTRUKTUR PEMBETUNGAN : RISIKO RENDAH BAGI TANGKI SEPTIK INDIVIDU (IST)

Merujuk kepada perkara di atas dan permohonan bagi kelulusan kerja pembedungan oleh pihak tuan yang telah diterima oleh pihak kami pada 26-Nov-2015 adalah berkaitan.

Sukacita dimaklumkan merujuk kepada pengesahan pihak tuan ke atas laporan kejuruteraan/ ringkasan projek dan pelan-pelan yang berkaitan, dengan ini pihak agensi **MELULUSKAN** permohonan kerja pembedungan seperti mana butiran di atas tertakluk kepada syarat-syarat seperti mana di dalam **Lampiran A**.

Sekian, terima kasih.

Yang benar,



Lampiran A

: IWK/C/PK.01/15/106
: 03-Dis-2015

AN MEMBINA 1 UNIT RUMAH BANGLO 2 TINGKAT DI ATAS LOT 212228, PERANGINAN LEMBAH MERU JELAPANG, MUKIM HULU KINTA, DAERAH PERAK DARUL RIDZUAN
SURAT KELULUSAN PERMOHONAN KERJA PEMBETUNGAN (SWA)

SARAT-SYARAT DASAR

- Kelulusan ini adalah tertakluk kepada Akta Industri Perkhidmatan Air 2006 (Akta E55) dan perundangan subsidiarinya serta sah untuk tempoh dua (2) tahun daripada tarikh surat kelulusan ini dikeluarkan.
- Kerja-kerja infrastruktur pembedungan yang berkaitan perlu mematuhi laporan kejuruteraan / ringkasan projek yang bernombor rujukan IWK/C/PK.01/15/106 dan pelan bernombor : LBH/167/IST/1 OF 2 & LBH/167/IST/2 OF 2 yang telah diluluskan bagi jumlah penduduk setara 5 PE.
- Bagi kerja-kerja sambungan ke paip pembedungan awam sedia ada, notis penyambungan kepada pemegang lesen (operator) perlu dikemukakan dalam tempoh 4 hari bekerja sebelum sambungan tersebut dibuat.
- Mana-mana pembangunan yang tertakluk kepada peruntukan di bawah Peraturan-Peraturan Industri Perkhidmatan Air (Kumpulan Wang Sumbangan Modal Pembedungan) 2011 dikehendaki untuk menyumbang mengikut kadar yang ditetapkan dalam Peraturan Sumbangan tersebut hendaklah dibuat ke atas nama "SPAN-IKWSP".

SARAT-SYARAT TAMBAHAN

- Bagi sambungan tunggal, pembangunan ini akan disambungkan ke loji pengolahan kumbahan/stesen pam sedia ada (No. Aset _assetno)
- Bagi pembangunan yang menggunakan tangki septik, projek ini perlu disambung ke sistem pembedungan awam apabila ia disediakan pada masa akan datang dan kos penyambungan akan dibiayai oleh pemaju/pemilik.
- Kerja-kerja operasi dan penyelenggaraan tangki septik dan sistem rawatan kumbahan kecil (SSTS) serta kerja-kerja sampingan adalah dibawah tanggungjawab pemilik, penghuni atau perbadanan pengurusan.
- Bagi pembangunan yang menggunakan sistem rawatan kumbahan kecil, pemaju dikehendaki mengemukakan perakuan penerimaan permohonan Lesen Kelas daripada Suruhanjaya Perkhidmatan Air Negara (SPAN) bersama-sama dokumen lain yang berkaitan semasa di peringkat permohonan SWC. Pemaju perlu memastikan surat pengesahan siap kerja pembedungan yang dikeluarkan oleh Agensi Perakuan Pembedungan dikemukakan kepada SPAN dalam tempoh 3 bulan daripada tarikh permohonan Lesen Kelas. Kegagalan berbuat demikian akan menyebabkan permohonan Lesen Kelas oleh pemaju dianggap terbatil dengan serta-merta.

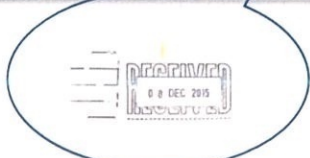


Figure 20: Approval Letter from Indah Water Konsortium Sdn. Bhd.

3.2 The Process for Obtaining Sewerage Works Completion (SWC) Approval

3.2.1 Application for (Sewerage Works Completion - SWC)

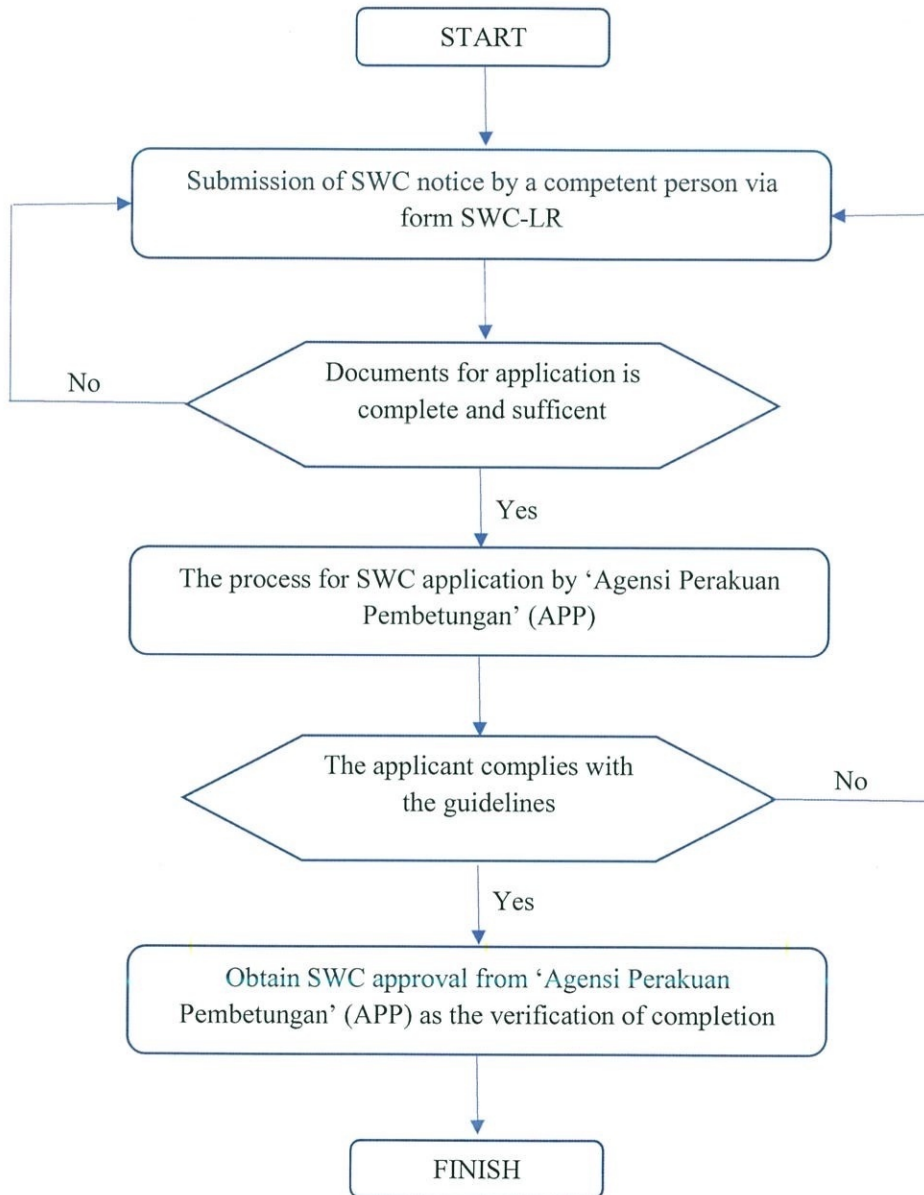


Figure 21: Flow chart for obtaining Sewerage Works Completion (SWC) approval

Table 6: Procedure for Application (Sewerage Works Completion-SWC)

Procedure	Application for (Sewerage Works Application - SWA)
I) General Matter	Declaration by competent person based on planning plan and design specifications have been approved.
II) Documentation Requirements	<p><u>FORM</u> Form SWC-LR</p> <p><u>DOCUMENTS</u> a) Accompanying letter from OSC (if through OSC) or accompanying letter from a competent person b) Copy of SPAN Permit. c) Buyer's name (billing).</p> <p><u>PLAN</u> a) As-Built Plan (layout).</p> <p><u>KWSMP</u> Contribution fees to the 'Kumpulan Wang Sumbangan Modal Pembetulan' (KWSMP) refers to the Peraturan-Peraturan Industri Perkhidmatan Air (Kumpulan Wang Sumbangan Modal Pembetulan) 2011 for Connection.</p>
III) FI Processing	<p><u>FI (Whichever is Relevant)</u> a) FI fees refer to Table 1. b) Must be settled upon submission of the application.</p>
IV) Processing Time	Processing time by APP is <u>7 calendar days.</u>
V) Approval	Letter of completion sewerage work by 'Agensi Perakuan Pembetulan APP.

I) General Matter

II) Documentation Requirements

This checklist shows the documents should be submitted by a competent person, Perunding Setiamaju Sdn. Bhd. to get approval that sewerage system has been complete installed. Indah Water Konsortium Sdn. Bhd. will give SWC approval letter if these requirements complete and sufficient. All of this document had been sent on 28 November 2017.



	Perunding Setiamaju Sdn Bhd (761435-11) 53, Jalan Bandar Timah, 30000 Ipoh, Perak Darul Ridzuan.
Rujukan tuan: IWK/CPK.01/2015/106	LBH 167/sw
Rujukan kami: LBH167/IST/SWC/01	File Copy.
Tarikh:	
Indah Water Konsortium Sdn. Bhd. Agensi Perakuan Pembetungan (Negeri Perak) A-3A-3, A-3A-4, A-3A-5 & A-3A-6, Blok A Greentown Square Jalan Dato' Seri Ahmad Said 30450 Ipoh Perak Darul Ridzuan	
Tuan,	
CADANGAN MEMBINA 1 UNIT RUMAH BANGLO 2 TINGKAT DI ATAS LOT 212228, TAMAN PERANGINAN LEMBAH MERU JELAPANG, MUKIM HULU KINTA, DAERAH KINTA, PERAK DARUL RIDZUAN UNTUK TETUAN LOH BAN HO & SONS SDN. BHD.	
- Sewerage Works Completion (SWC-LR / IST) - Surat Sokongan Untuk Pengeluaran Sijil Perakuan Siap Dan Pematuhan (CCC)	
Merujuk kepada perkara tersebut di atas, dengan segala hormatnya kami mengemukakan dokumen-dokumen berikut untuk pertimbangan dan tindakan tuan selanjutnya. -	
1. Sijil Pengiktirafan Sebagai Orang Yang Berkelayakan.....	Satu (1) salinan
2. Borang SWC-LR	Satu (1) naskah
3. Surat kelulusan Kerja-kerja Pembetungan (SWA)	Satu (1) salinan
4. Lesen Kontraktor (Permit SPAN)	Satu (1) salinan
5. 'Certificate Of Compliance'	Satu (1) salinan
6. Pelan siapbina berserta dengan satu (1) keping CD 'soft copy'	Empat (4) perenggu
Sekian, terima kasih.	
	
s k Tetuan Loh Ban Ho & Sons Sdn. Bhd. (Pelan no. : LBH167/IST/ASB/1 OF 2 - 2 OF 2) LBH/rihah	

Figure 22: Checklist for (Sewerage Works Completion-SWC) Approval

1. Certificate of Recognition as a Qualified Person

This certificate shows that Ir Loh Ban Ho of Perunding Setiamaju Sdn. Bhd. is recognized as a qualified person under Section 47(7) Akta Industri Perkhidmatan Air (IPA 2006) [Akta 655].

PK FAX 83179330 SPAN 0001-0001

SURUHANJAYA PERKHIDMATAN AIR NEGARA
(NATIONAL WATER SERVICES COMMISSION)
Aras Bawah & Aras satu,
Prima Avenue 7, Blok 3510,
Jalan Teknokrat 6, 63000 Cyberjaya
SELANGOR DARUL HIASAN

Telefon :
Faks :
Laman Web : www.span.gov.my

Ruj Kami: SPAN/KPA.700 4/7/3 KLT 7 (#1)
Tarikh : 13 Februari 2016

IR LOH BAN HO
PERUNDING SETIAMAJU SDN BHD
53, JALAN BANDAR TIMAH,
30000 IPOH,
PERAK DARUL RIDZUAN.
Fax: 05 255 6989

Tuan,

PENGIKTIRAFAN SEBAGAI 'ORANG YANG BERKELAYAKAN' (QUALIFIED PERSON) DI BAWAH SEKSYEN 47(7) AKTA INDUSTRI PERKHIDMATAN AIR (IPA 2006) [Akta 655].
-Penggantian Sijil Asal

Dengan segala hormatnya saya merujuk kepada perkara di atas dan surat tuan bertarikh 26 Januari 2016 adalah berkaitan

2. Sukacita dimaklumkan bahawa tuan telah diktraf oleh Suruhanjaya ini sebagai 'Orang Yang Berkelayakan' di bawah Seksyen 47 Akta Industri Perkhidmatan Air 2006 (Akta 655) berkuatkuasa mulai Mei 2009 didalam bidang seperti berikut:

Nama Syarikat	:	PERUNDING SETIAMAJU SDN BHD
Disiplin	:	CIVIL
No SPAN QP	:	0627
Sub Kod	:	W1, W2, W5, W7, S1, S2, S5 & S7
BEM / BAM No	:	10552

3. Sehubungan itu, adalah menjadi tanggungjawab 'Orang Yang Berkelayakan' untuk mematuhi Akta Industri Perkhidmatan Air (Akta 655) dan sentiasa mengemaskinkan alamat/maklumat QP serta mengikut perkembangan Garis Panduan, Kaedah-kaedah dan Peraturan Industri Perkhidmatan Air dari semasa ke semasa. Kegagalan pihak tuan mematuhi syarat-syarat di atas boleh menyebabkan pengiktrafan tuan sebagai 'Orang Yang Berkelayakan' itu ditarik balik oleh SPAN.

Sekian, terima kasih.

Yang benar,

Qualified Person

Figure 23: Certificate of Recognition as a Qualified Person

2. Form SWC-LR

These forms provided to inform the general information at Section 1-A and Section 1-B. Also, it is provided to get a declaration from the owner at Section 2-A, declaration from a competent person at Section 2-B and declaration from the permit holder at Section 2-C. Section 2-C is a declaration from the person who provide and install the septic tank at the proposed project. The septic tank used for this project is type JH 2.

**SWC-LR
Form**

Section 2-A

SWC-LR Form

SURUHANJAYA PERKHIDMATAN AIR NEGARA (SPAN)
Sewerage Works Application (SWC-LR)

PART 1 : GENERAL INFORMATION

SECTION 1-A : PROJECT/DEVELOPMENT INFORMATION

*Title of Project/Development (To specify phase development, if relevant)	CADANGAN MEMBINA 1 UNIT RUMAH BANGLO 2 TINGKAT DI ATAS LOT 212228, TAMAN PERANGINAN LEMBAH MERU JELAPANG, MUKIM HULU KINTA, DAERAH KINTA, PERAK DARUL RIDZUAN UNTUK TETUAN LOH BAN HO & SONS SDN. BHD.
Population Equivalent (PE)	5 PE

SECTION 1-B : SEWERAGE WORKS INFORMATION (please tick (✓) where relevant)

Types of infrastructure	Connection to asset no. _____		
	Septic Tank	<input checked="" type="checkbox"/>	
	Small Sewage Treatment System (SSTS)	<input type="checkbox"/>	

SURUHANJAYA PERKHIDMATAN AIR NEGARA (SPAN)
Sewerage Works Application (SWC-LR) 1/4

SWC-LR Form

SECTION 2-A : DECLARATION BY OWNER/DEVELOPER

I hereby declare that the relevant sewerage works in this development has been completed in strict compliance with the Water Services Industry Act 2005, its subsidiary legislations and conditions as stipulated and imposed by the Commission

Signature	Company Stamp
Name of Owner/Authorized Person	LEE LAI PING
IC No. / Passport No.	
Designation	
Company Name	TETUAN LOH BAN HO & SONS SDN. BHD.
Company Address	NO. 53, JALAN BANDAR TIMAH, 30300 IPOH, PERAK DARUL RIDZUAN
Company Registration No	782690-H
Telephone No	
Fax No	

SURUHANJAYA PERKHIDMATAN AIR NEGARA (SPAN)
Sewerage Works Application (SWC-LR) 2/4

Figure 24: SWC-LR Form, Page 1 and Page 2

Section 2-B

Section 2-C

SECTION 2-B : DECLARATION BY COMPETENT PERSON		SECTION 2-C : DECLARATION BY PERMIT HOLDER	
<p>DECLARATION</p> <p>SWC-LR Form</p> <p>SECTION 2-B : DECLARATION BY COMPETENT PERSON</p> <p>I hereby declare and confirm that the sewerage works under my supervision has been constructed and completed in accordance to SWA approval issued on 03.12.2015 (Ref. no. WK/C/CPK.01/2015/105) and relevant Malaysian Sewerage Industry Guidelines, Standards and/or Technical Specification recognized by the Commission and in compliance with Water Services Industry Act 2006 and its subsidiary legislations and requirements of other regulatory agencies.</p>		<p>DECLARATION</p> <p>SWC-LR FORM</p> <p>SECTION 2-C : DECLARATION BY PERMIT HOLDER</p> <p>I hereby declare and confirm that the sewerage works has been constructed and completed in accordance to SWA approval issued on _____ (Ref. no. _____) and relevant Malaysian Sewerage Industry Guidelines, Standards and/or Technical Specification recognized by the Commission and in compliance with Water Services Industry Act 2006 and its subsidiary legislations and requirements of other relevant regulatory agencies.</p>	
<p>Signature & Endorsement</p> <p>Name : Ir. LOH BAN HO</p> <p>I/C No. :</p> <p>Company Name : PERUNDING SETIAMAJU SDN. BHD.</p> <p>Company Address : NO. JALAN BANDAR TIMAH, 30000 IPOH, PERAK DARUL RIDZUAN.</p> <p>Company Registration No : 761435-H</p> <p>Telephone No. :</p> <p>Fax No. :</p> <p>E-mail Address : psetiamaju@gmail.com</p> <p>Professional Body Registration No : C110652/ SPAN QP 0627</p>		<p>Signature</p> <p>Name : CHUAH CHIN JOO</p> <p>I/C No. :</p> <p>Company Name : JH FIBREGLASS INDUSTRIES SDN. BHD.</p> <p>Company Address : LOT 66007, BERCHAM INDUSTRIAL, KAMPONG BERCHAM, IPOH, PERAK DARUL RIDZUAN</p> <p>Type of permit : C4</p> <p>Permit No. : SPAN/EKS(PT)900-2C/1/01/175</p> <p>Telephone No. :</p> <p>Fax No. :</p> <p>E-mail Address : jhmanufactur@gmail.com</p>	
<p>SURUHJAJAYA PERKHIDMATAN AIR NEGARA (SPAN)</p> <p>Sewerage Works Completion (SWC-LR)</p> <p>3/4</p>		<p>SURUHJAJAYA PERKHIDMATAN AIR NEGARA (SPAN)</p> <p>Sewerage Works Completion (SWC-LR)</p> <p>4/4</p>	

Figure 25: SWC-LR From, Page 3 and Page 4

3. Approval Letter for Sewerage Works (SWA)

This SWA approval letter should be submitted to obtain another approval letter for Sewerage Works Completion (SWC).

SWA
Approval
Letter

AGENCI PERAKUAN PEMBETUNGAN
(NEGERI PERAK)
(Berkuatkuasa Bersejarah Perkhidmatan Air Negara - AP/N) 06/2007
Cat No: 1087

Rujukan Tuan : LBH/167/ST
Rujukan Kami : IWK/CPK.01/15/106
Tarikh : 03 Dis 2015

PERUNDING SETIAMAJU SDN BHD
53 Jalan Bandar Timah
30000 Ipoh
Perak Darul Ridzuan

Tuan,

SURAT KELULUSAN KERJA PEMBETUNGAN

TAJUK PEMBANGUNAN : CADANGAN MEMBINA 1 UNIT RUMAH BANGLO 2 TINGKAT DI ATAS LOT 212228, TAMAN PERANGAN LEMBAH MERU JELAPANG, MUKIM HULU KINTA, DAERAH KINTA, PERAK DARUL RIDZUAN

INFRASTRUKTUR PEMBETUNGAN : RISIKO RENDAH BAGI TANGKI SEPTIK INDIVIDU (ISTI)

Merujuk kepada perkara di atas dan permohonan bagi kelulusan kerja pembetulan oleh pihak tuan yang telah diterima oleh pihak kami pada 26 Nov 2015 adalah berkaitan.

Sukacita dimaklumkan merujuk kepada pengesahan pihak tuan ke atas laporan kejuruteraan / ringkasan projek dan pelan pelan yang berkaitan, dengan ini pihak agensi **MELULUSKAN** permohonan kerja pembetulan seperti mana butiran di atas tertakluk kepada syarat-syarat seperti mana di dalam **Lampiran A**.

Sekian, terima kasih.
Yang benar,

Lampiran A
: IWK/CPK.01/15/106
: 03-DIS-2015

JAN MEMBINA 1 UNIT RUMAH BANGLO 2 TINGKAT DI ATAS LOT 212228, PERANGAN LEMBAH MERU JELAPANG, MUKIM HULU KINTA, DAERAH PERAK DARUL RIDZUAN

SURAT KELULUSAN PERMOHONAN KERJA PEMBETUNGAN (SWA)

SYARAT-SYARAT DASAR

1. Kelulusan ini adalah tertakluk kepada Akta Industri Perkhidmatan Air 2006 (Akta 656) dan perundangan subsidarinya serta sah untuk tempoh dua (2) tahun daripada tarikh surat kelulusan ini dikeluarkan.
2. Kerja-kerja infrastruktur pembetulan yang berkaitan perlu mematuhi laporan kejuruteraan / ringkasan projek yang bernombor rujukan IWK/CPK.01/15/106 dan pelan bernombor : LBH/167/IST/1 OF 2 & LBH/167/IST/2 OF 2 yang telah diluluskan bagi jumlah penduduk setara 5 PE.
3. Bagi kerja-kerja sambungan ke paip pembetung awam sedia ada, notis penyambungan kepada pemegang lesen (operator) perlu dikemukakan dalam tempoh 4 hari bekerja sebelum sambungan tersebut dibuat.
4. Mana-mana pembangunan yang tertakluk kepada peruntukan di bawah Peraturan-Peraturan Industri Perkhidmatan Air (Kumpulan Wang Sumbangan Modal Pembetulan) 2011 dikehendaki untuk menyumbang mengikut kadar yang ditetapkan dalam Peraturan Sumbangan tersebut hendaklah dibuat ke atas nama "SPAN-KWSPM".

SYARAT-SYARAT TAMBAHAN

5. Bagi sambungan tunggal, pembangunan ini akan disambungkan ke loji pengolahan kumbahan/ stesen pam sedia ada (No. Aset: _assetno)
6. Bagi pembangunan yang menggunakan tangki septik, projek ini perlu disambung ke sistem pembetulan awam apabila ia disediakan pada masa akan datang dan kos penyambungan akan dibayar oleh pemaju/pemilik.
7. Kerja-kerja operasi dan penyelenggaraan tangki septik dan sistem rawatan kumbahan kecil (SSTS) serta kerja-kerja sampingan adalah dibawah tanggungjawab pemilik, penghuni atau perbadanan pengurusan.
8. Bagi pembangunan yang menggunakan sistem rawatan kumbahan kecil, pemaju dikehendaki mengemukakan perakuan penerimaan permohonan Lesen Kelas daripada Suruhannya Perkhidmatan Air Negara (SPAN) bersama-sama dokumen lain yang berkaitan semasa di peringkat permohonan SWC Pemaju perlu memastikan surat pengesahan siap kerja pembetulan yang dikeluarkan oleh Agensi Perakuan Pembetulan dikemukakan kepada SPAN dalam tempoh 3 bulan daripada tarikh permohonan Lesen Kelas. Kegagalan berbuat demikian akan menyebabkan permohonan Lesen Kelas oleh pemaju dianggap tertatal dengan serta-merta

4, Jalan, Bukit, Gombak, 50500, Kuala Lumpur, Malaysia. Tel: 03-2614187 / 2614196 • Fax: 03-2614301 • E-Letter: Help: help@iwk.com.my
INDAH WATER KONSORTIUM SDN BHD (a.k.a. IWK) Berhad (a.k.a. IWK) Berhad

Figure 26: (Sewerage Works Application-SWA) Approval Letter

4. Contractor license (Permit SPAN)

The contractor who provide and install the septic tank was J.H. Fibreglass Industries Sdn. Bhd. The contractor gets this permit from SPAN, so they are qualified to do sewerage works like installing septic tanks.

JADUAL KETIGA		ASAL
<i>[subkaedah 5(2)/subrule 5(2)]</i>		66680
AKTA INDUSTRI PERKHIDMATAN AIR 2006 <i>WATER SERVICES INDUSTRY ACT 2006</i>		
KADAH-KAEDAH INDUSTRI PERKHIDMATAN AIR (PERMIT) 2007 <i>WATER SERVICES INDUSTRY (PERMIT) RULES 2007</i>		
PERMIT IPA JENIS A/B/C/D/E* <i>IPA TYPE A/B/C/D/E* PERMIT</i>		
No. Permit: <i>Permit Number:</i>	SPAN/EKS(PTV800-2C/1/07)/175	
Nama pemegang permit: <i>Name of permit holder:</i>	J.H. FIBREGLASS INDUSTRIES SDN. BHD.	
Alamat pemegang permit: <i>Address of permit holder:</i>	LOT: 66007, BERCHAM INDUSTRIAL, KAMPONG BERCHAM, 31400 IPOH, PERAK DARUL RIDZUAN	
Tujuan permit: <i>Purpose of Permit:</i>	PERMIT IPA JENIS C4 (PEMBETUNGAN)	
Negeri atau negeri-negeri di mana kerja-kerja boleh dilaksanakan <i>State or states in which the works may be carried out:</i> SEMENANJUNG MALAYSIA, WILAYAH-WILAYAH PERSEKUTUAN PUTRAJAYA DAN LABUAN		
Permit sah dari: <i>Permit is valid from:</i>	20 JULAI 2016	
sehingga: <i>to</i>	19 JULAI 2018	
Permit tertakluk kepada terma dan syarat yang dilampirkan <i>Permit subject to terms and conditions as attached.</i>		
Bi Permit: <i>Permit fee:</i>	RM 400.00	
Suruhanjaya Perkhidmatan Air Negara		
Resit No: <i>Receipt No.</i>	051960	
Tarikh *pengeluaran/pembaharuan: <i>Date of *issuance/renewal</i>	20 JULAI 2016	
<small>*kolong yang tidak terpakai *over value applicable</small>		

Figure 27: Permit SPAN

The type of septic tank used for Proposed Construction and Completion of 1 Unit 2 Storey Bungalow on Lot 212228, Taman Peranginan Lembah Meru, Jelapang, Mukim Hulu Kinta, District of Kinta, 30020 Ipoh, Perak Darul Ridzuan is type JH 2. Figure 23 below shows the type of septic tank used. Loh Ban Ho & Sons Sdn. Bhd. was the owner of this bungalow had chosen this type of septic tank for his bungalow.

JH MANUFACTURING SDN. BHD. (11254536) Office No 126A, Jalan Tasek Timur, Taman Tasek Indra, 31400 Ipoh, Perak Tel 05-5466037, 5451928 Fax 05-5471959 Factory Lot 66007, Bercham Industrial, Kampung Bercham, 31400 Ipoh, Perak	
No. Kami : PK/2017/184 Tarikh : 05/10/2017 No. Pelan yang diluluskan : _____	No. D.O. : _____ No. INV : _____
KEPADA SESIAPA YANG BERKENAAN TUAN, PER : SISTEM PELUPLUSAN DAN PERAWATAN NAJIS JH2 MOOEL : JH2 JUMLAH UNIT : 1 UNIT	
Dengan segala hormatnya, adalah dimaklumkan bahawa kami adalah pembekal sistem peluplusan dan perawatan najis JH yang tersebut di atas kepada :	
Nama Pembeli : LOH BAN HO & SONS SDN BHD.	
Tapak Projek : CADANGAN MEMBINA 1 UNIT 2 TINGKAT BANGLO DI ATAS 212228 TAMAN PERANGINAN LEMBAH MERU, JELAPANG, 30020 IPOH PERAK DARUL RIDZUAN	
Perkhidmatan kami adalah seperti berikut:-	
<ol style="list-style-type: none"> 1. Pengawasan secara percuma semasa operasi pemasangan. (Jika Diperlukan) 2. Gerenti selama 5 tahun terhadap barangan yang dilaikan mulai dari tarikh penerimaan barangan keluaran kami ditapak. 3. Tempoh penyelenggaraan percuma selama 12 bulan mulai dari tarikh Sijil Kediaman (O.C.) diperolehi. 4. Bantuan teknik dan rekabentuk yang percuma terhadap barangan keluaran kami. 	
Sekian Terima Kasih.	





Figure 28: Type of Septic Tank

5. Certificate of Compliance

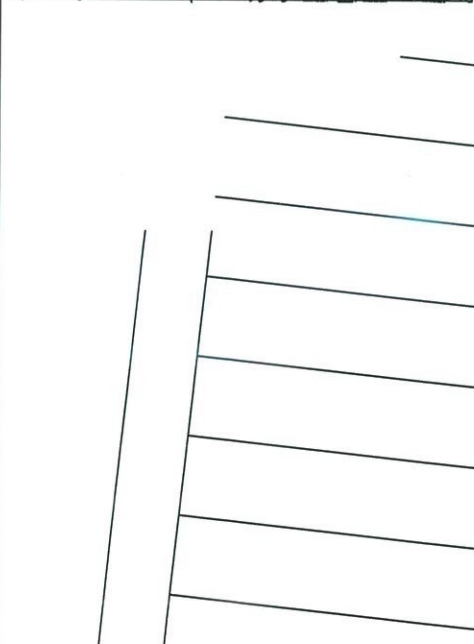
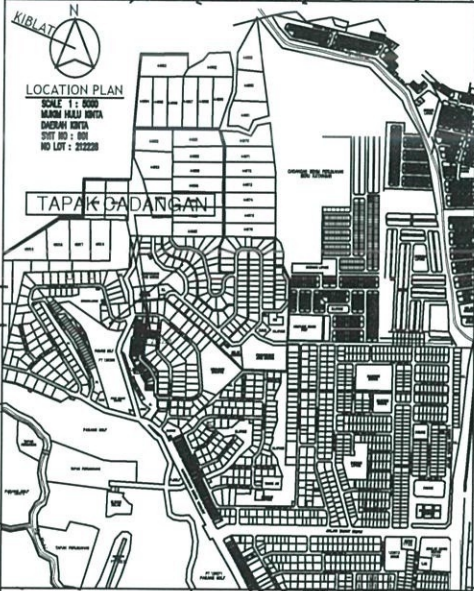
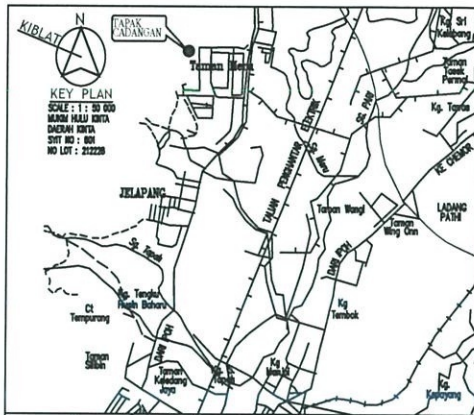
This certificate is provided to confirm the septic tank type JH 2 has been installed in compliance to the approved sewerage planning and approved design and Water Services Industries (Planning, Design and Construction of Sewerage System and Septic Tank) Rules 2013 and all condition imposed by the Commission / Sewerage Certifying Agency.

WATER SERVICES INDUSTRY ACT 2006	
WATER SERVICES INDUSTRY (PLANNING, DESIGN AND CONSTRUCTION OF SEWERAGE SYSTEM AND SEPTIC TANK) RULES 2013	
CERTIFICATE OF COMPLIANCE	
Project Title :	CADANGAN MEMBINA 1 UNIT RUMAH BANGLO 2 TINGKAT DI ATAS LOT 212228, TAMAN PERANGINAN LEMBAH MERU JELAPANG, MUKIM HULU KINTA, DAERAH KINTA, PERAK DARUL RIDZUAN UNTUK TETUAN LOH BAN HO & SONS SDN. BHD.
I, <u>Ir. LOH BAN HO</u> (PE NO: <u>C110552</u>), hereby confirm that the stated sewerage works:	
<u>INDIVIDUAL SEPTIC TANK GWS MODEL JH-2</u>	
has been constructed in compliance to the approved sewerage planning and approved design and Water Services Industry (Planning, Design and Construction of Sewerage System and Septic Tank) Rules 2013 and all conditions imposed by the Commission / Sewerage Certifying Agency.	
I certify that the stated sewerage works are fit to be taken over and operated by <u>INDAH WATER KONSORTIUM SDN BHD</u>	
Name of Competent Person (in block letters) :	Ir. LOH BAN HO
I.C. No. :	
Address :	PERUNDING SETIAMAJU SDN. BHD. NO.53, JALAN BANDAR TIMAH, 30000 IPOH PERAK DARUL RIDZUAN
Telephone No. :	
Fax No. :	
E-mail Address :	psetiamaju@gmail.com
SPAN Registration No. :	SPAN QP 0627

Certificate of Compliance

Figure 29: Certificate of Compliance

6.0 As-Built Plan



IWK/C/PK.01/2015/106

AS-BUILT DRAWING

PROJECT:

CADANGAN MEMBINA 1 UNIT RUMAH BANGLO
 2 TINGKAT DI ATAS LOT 212228,
 TAMAN PERANGINAN LEMBAH MERU
 JELAPANG, MUKIM HULU KINTA, DAERAH
 KINTA, PERAK DARUL RIDZUAN

UNTUK TETUAN LOH BAN HO & SONS SDN.
 BHD.

DESCRIPTION:

KEY PLAN, LOCATION PLAN AND LAYOUT PLAN

OWNER'S SIGNATURE:

LOH BAN HO & SONS SDN. BHD. (NO. STK: 78899-B)
 LEE LAI PING
 IC NO.:
 NO.63, JALAN BANDAR TIMAH,
 30000 IPOH
 PERAK DARUL RIDZUAN

ENGINEER'S SIGNATURE

I hereby certify that the details are in
 accordance with the Town Board Enactment
 and By-Laws and Accept full responsibility
 for the design and the supervision of the works.

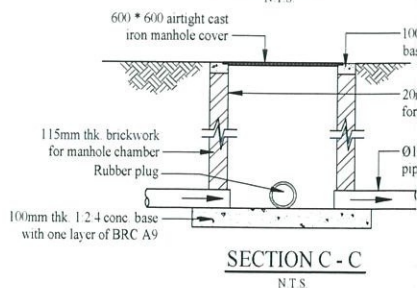
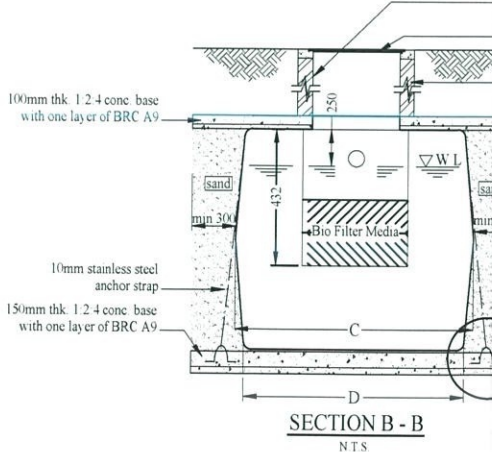
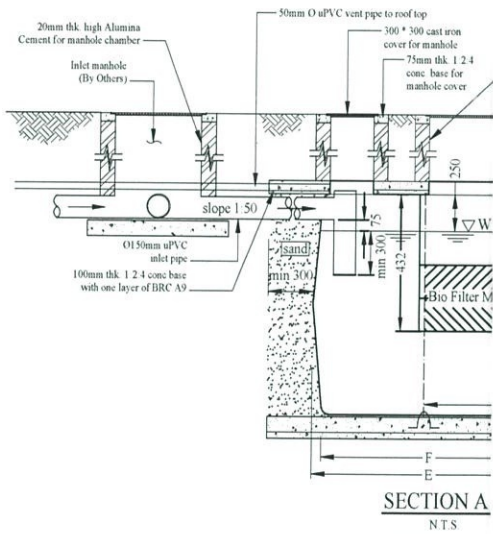
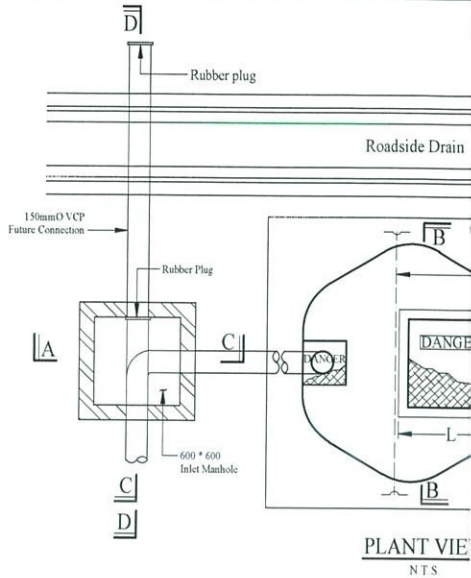
IR. LOH BAN HO
 B.Eng (Civil) Univ of Leeds (UK)
 P.Eng, MEM. MINT. MEG. Int. Eng.
 AMIAN Eng. AFEC Eng. Cert Highway Eng.



PERUNDING SETIAMAJU SDN. BHD.
 63, Jalan Bandar Timah, 30000 Ipoh,
 Perak, Darul Ridzuan.

DISEKA : REH	UKURAN : 1:500
DILUKIS : REH	TARIKH : NOV. 2015 / APR. 2017
DISEMAK : VERNY LOH	NO. LUKSIAN :
DILULUSKAN : IR. LOH BAN HO	LBH167/ST/ASB/1 OF 2

6.1 As- Built Plan



IWK/C/PK.01/2015/106

AS-BUILT DRAWING

PROJECT:

CADANGAN MEMBINA 1 UNIT RUMAH BANGLO
2 TINGKAT DI ATAS LOT 212228,
TAMAN PERANGINAN LEMBAH MERU
JELAPANG, MUKIM HULU KINTA, DAERAH
KINTA, PERAK DARUL RIDZUAN

UNTUK TETUAN LOH BAN HO & SONS SDN.
BHD.

DESCRIPTION:

PLAN AND SECTION OF 'JH' SEWAGE TREATMENT
SYSTEM MODEL JH-2

OWNER'S SIGNATURE:

LOH BAN HO & SONS SDN. BHD. (NO. STR. 788888-11)
LEE LAI PING
IC NO.:
NO.63, JALAN BANDAR TIMAH,
30000 IPOH
PERAK DARUL RIDZUAN

ENGINEER'S SIGNATURE

I hereby certify that the details are in
accordance with the Town Board Enactment
and By-Laws and Accept full responsibility
for the design and the supervision of the works.

IR. LOH BAN HO
B.Eng (Civil) Hons Univ of Leeds (UK)
P.Eng. MEM. MERT, MQ. Int. Eng.
ASEAN Eng. APIC Eng. Cert Highway Eng.



PERUNDING SETLAMAJU SDN. BHD.
63, Jalan Bandar Timah, 30000 Ipoh,
Perak, Darul Ridzuan.

DIREKA : BHH

UKURAN : 1:750

DILUKIS : BHH

TARIKH : OCT 2016 / APR. 2017

DISEMAK : VINCENT LOH

NO. LUKISAN :

DILAJUKAN : IR. LOH BAN HO

LBH167/IST/ASB/2 OF 2

III) FI Processing

FI fees does not need to be paid since it was paid during application for SWA approval.

IV) Processing Time

It takes 2 days to get approval from Agensi Perakuan Pembetulan (APP). The application for SWC approval had been sent on 28 November 2017. Perunding Setiamaju Sdn. Bhd. obtained SWC approval from Indah Water Konsortium Sdn. Bhd. on 30 November 2017.

V) Approval

Sewerage Works Completion (SWC) has been approved by Indah Water Konsortium Sdn. Bhd. on 30 November 2017. So, the sewerage system for the project 'Proposed Construction and Completion of 1 Unit 2 Storey Bungalow on Lot 212228, Taman Peranginan Lembah Meru, Jelapang, Mukim Hulu Kinta, District of Kinta, 30020 Ipoh, Perak Darul Ridzuan' is safe and secure.

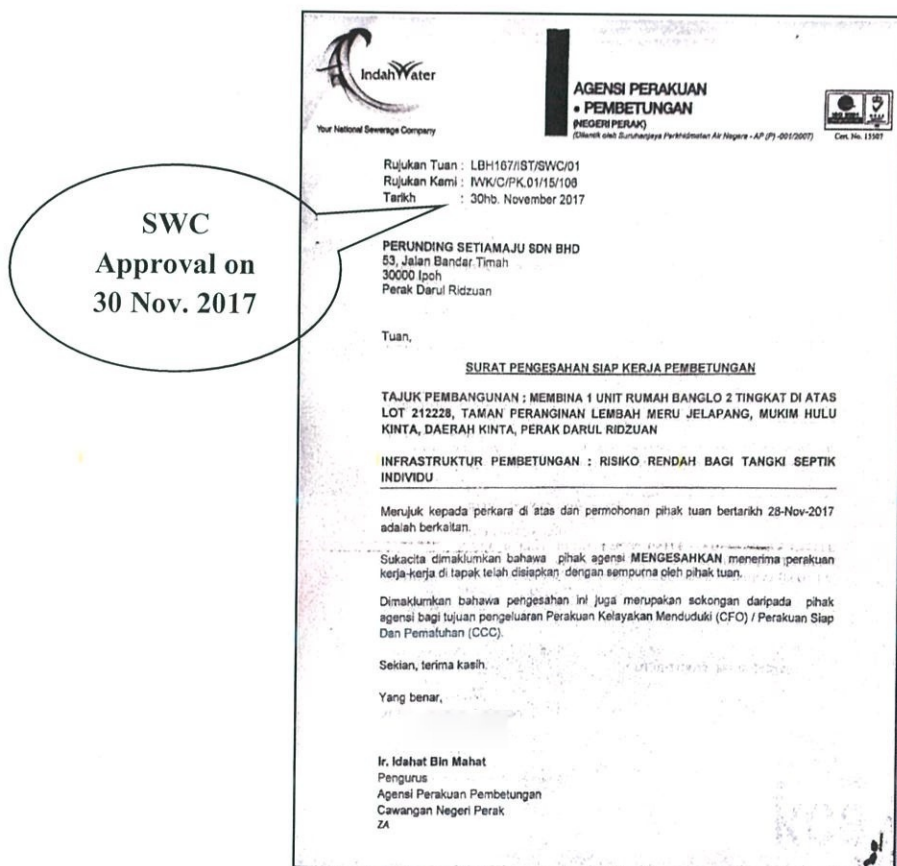


Figure 30: Sewerage Works Completion (SWC) Approval Letter

CHAPTER 4: CONCLUSIONS

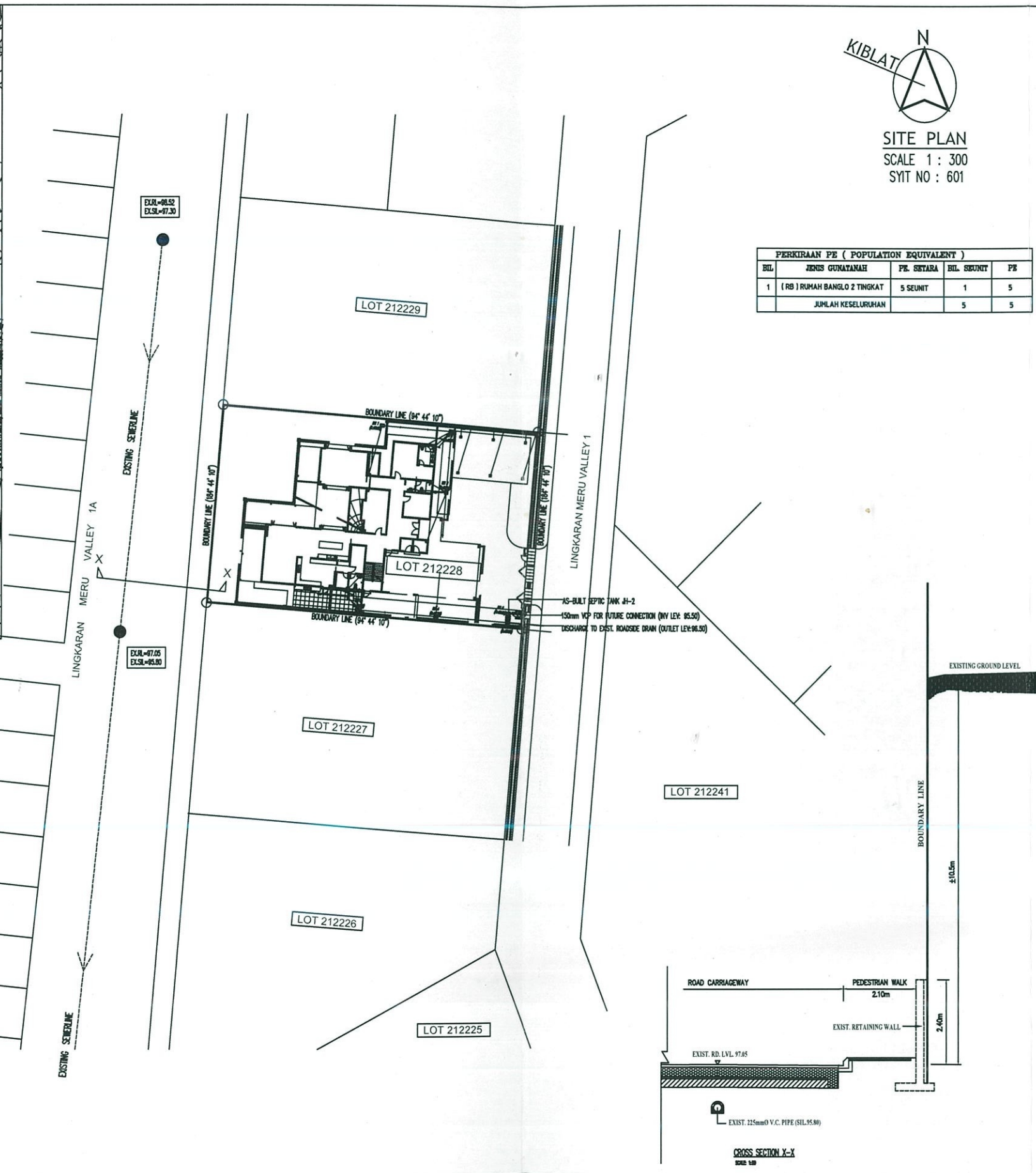
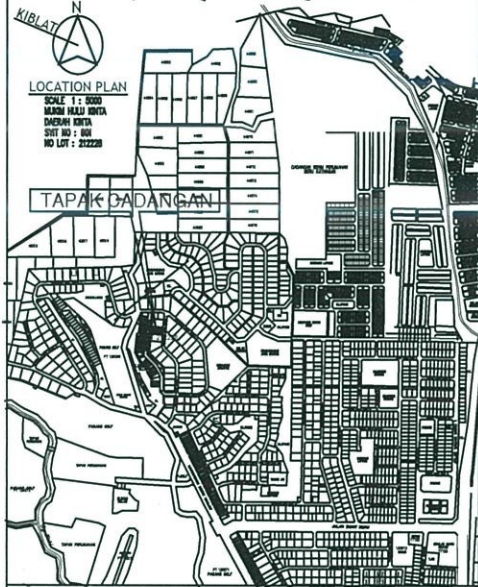
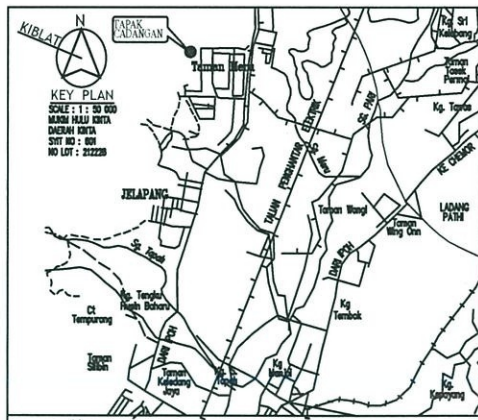
In conclusion, Sewerage Works Application (SWA) is an application to get approval from Agensi Perakuan Pembetulan (APP). It contains the declaration of compliance with all conditions of requirements by APP. Also, competent persons will prepare the design of sewerage system referring to the requirements and specifications which has been set by Suruhanjaya Perkhidmatan Air Negara (SPAN). If competent persons do not follow the requirements from SPAN, this application will not be approved.

Sewerage Works Completion (SWC) is also an application to get approval from APP. This application is a declaration by a competent person that construction works of the sewerage infrastructure has been completed by adhering to the planning plan and design specifications that have been approved.

REFERENCES

1. Chopra, U.B.(1994) "Basic Facts On Civil Engineering". New Delhi (India)
2. Reddy, Dr. P. Jaya Rami (2008) "Civil Engineering (Objective Type)". Kurnool
3. Meo, G.S. and Mehta, Kapil (1992) "Civil Engineering 1000 Questions & Answers". India
4. Vazirani, V N and Chandola, S P (1996) "Concise Handbook of Civil Engineering". New Delhi
5. Jain, Er. V K and Sharma, Dr. H R (1991) "Dictionary of Civil Engineering". New Delhi
6. Punmia, Dr. B C and Jain, Dr. Arun Kumar (1996) "Environmental Engineering-II, Waste Water Engineering". India

6.0 As-Built Plan



IWK/C/PK.01/2015/106

AS-BUILT DRAWING

PROJECT:
CADANGAN MEMBINA 1 UNIT RUMAH BANGLO 2 TINGKAT DI ATAS LOT 212228, TAMAN PERANGANIN LEMBAH MERU JELAPANG, MUKIM HULU KINTA, DAERAH KINTA, PERAK DARUL RIDZUAN
UNTUK TETUAN LOH BAN HO & SONS SDN. BHD.

DESCRIPTION:
KEY PLAN, LOCATION PLAN AND LAYOUT PLAN

OWNER'S SIGNATURE:

LOH BAN HO & SONS SDN. BHD. (NO. STY: 708000-10)
LEE LAI PING
IC NO.:
NO.53, JALAN BANDAR TIMAH,
30000 IPOH
PERAK DARUL RIDZUAN

ENGINEER'S SIGNATURE
I hereby certify that the details are in accordance with the Town Board Enactment and By-Laws and Accept full responsibility for the design and the supervision of the works.

IR. LOH BAN HO
B.Eng (Civil) Hons Univ of Leeds (UK)
P.Eng, M.Eng, M.Eng, M.Eng, Int. Eng.
ASMAN Eng, AFPC Eng, Cert Highway Eng.

PERUNDING SETIAMAJU SDN. BHD.
53, Jalan Bandar Timah, 30000 Ipoh,
Perak, Darul Ridzuan.
TEL:

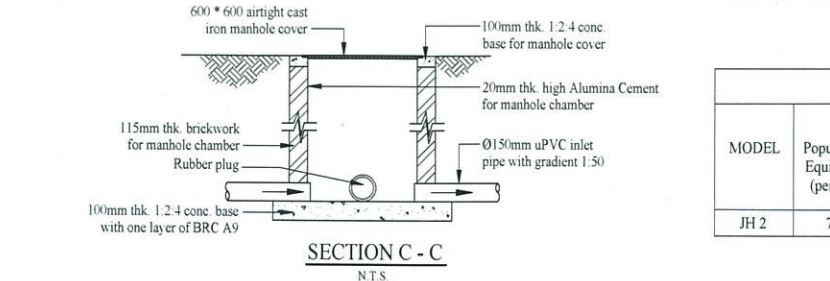
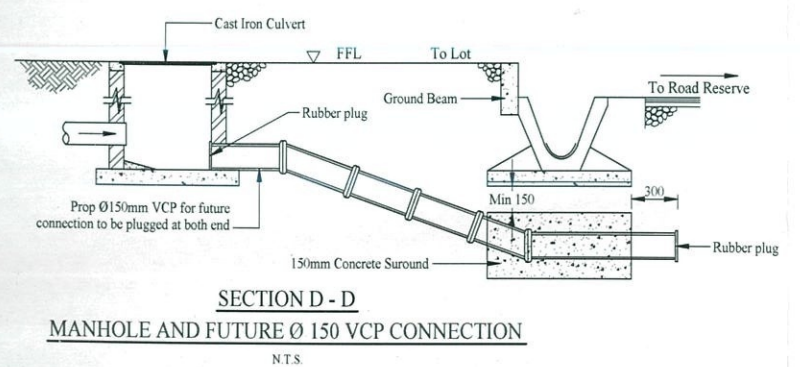
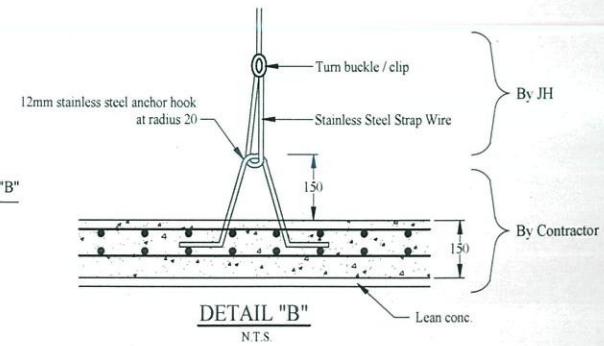
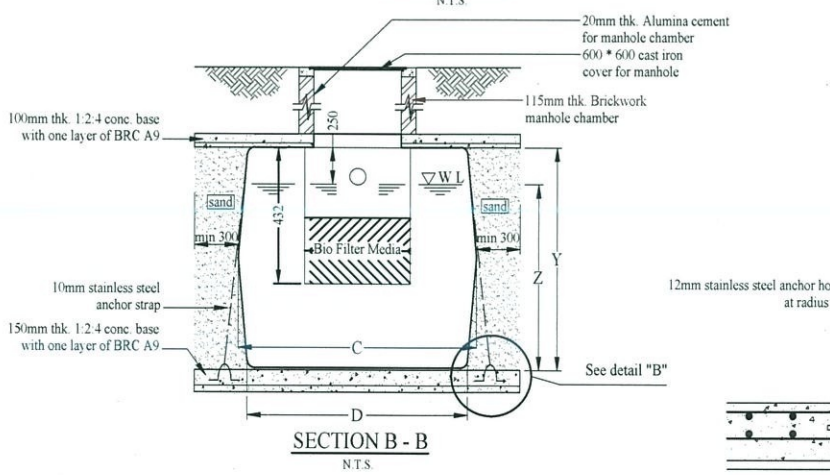
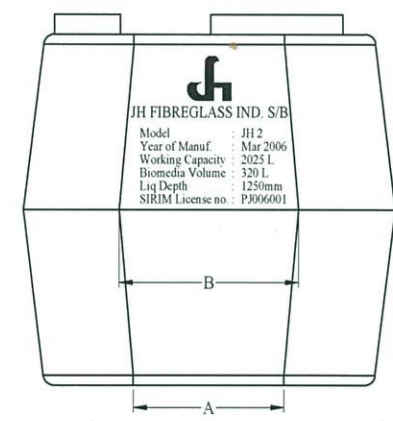
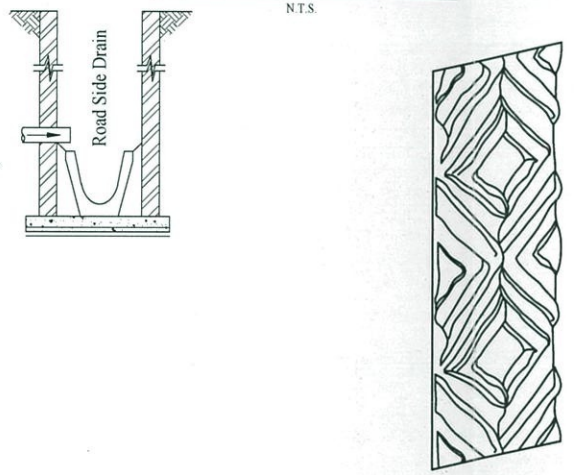
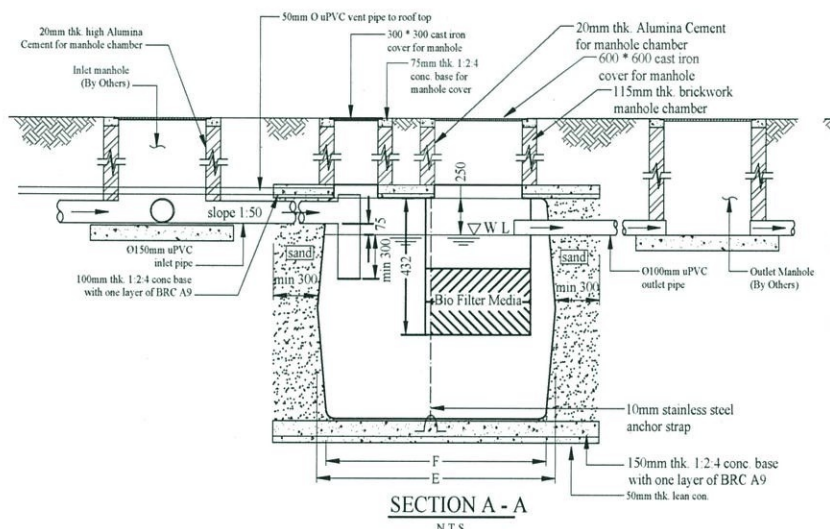
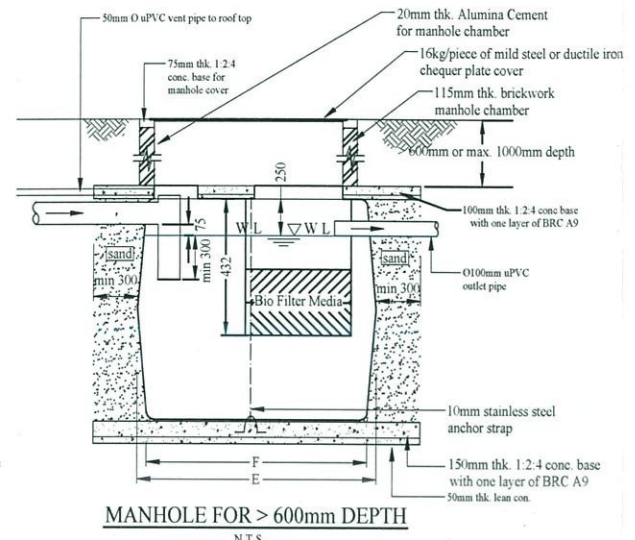
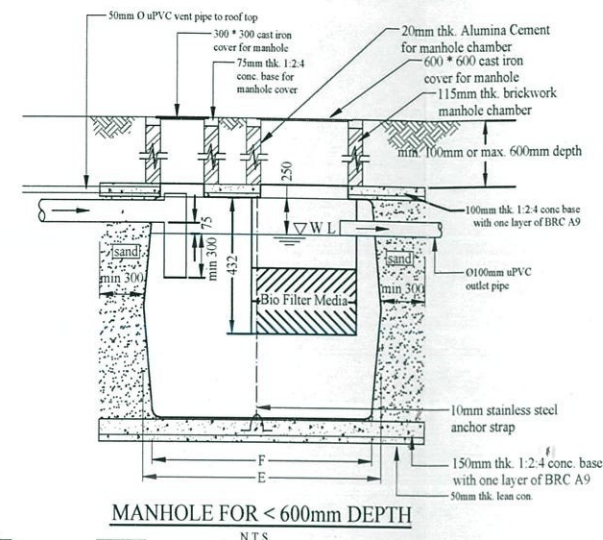
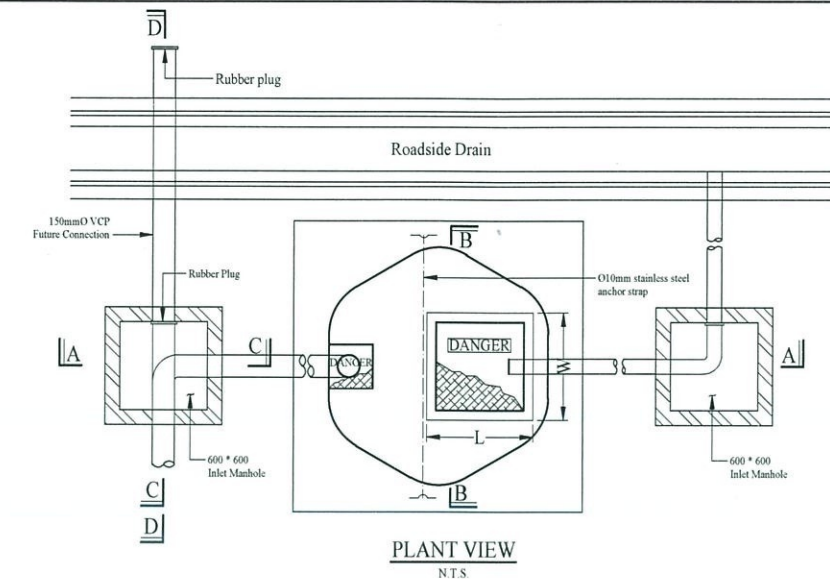
DIREKTA : ENH	UKURAN : 1:500
DIVULS : ENH	TARIKH : NOV. 2015 / APR. 2017
DISEKAL : VERNON LOH	NO. LUKSAS :
DIAJUKKAN : IR. LOH BAN HO	LBH167/IST/ASB/1 OF 2

6.1 As- Built Plan

JH FIBREGLASS IND, SDN. BHD.
 Lot 66007, Bercham Industrial,
 Kampong Bercham
 31400, IPOH, Perak
 Tel:
 Fax:

IWK/C/PK.01/2015/106

AS-BUILT DRAWING



D A T A

MODEL	Population Equivalen (person)	Maximum Flowrate (l/d)	Average tank Diameter Y (mm)	Overall tank Depth Y (mm)	Liquid Depth Z (mm)	Provide Liquid Volume (l)	Minimum Detention Time (hrs)	SEDIMENTATION COMPARTMENT						FILTER COMPARTMENT			
								A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	Overflow Rate (m ³ /m ² .d)	Length L (mm)	Breadth W (mm)	Biomedia Volume (l)
JH 2	7	1800	1540	1500	1250	2025	27	665	790	1580	1330	1500	1250	2.1	760	760	320

PROJECT:
 CADANGAN MEMBINA 1 UNIT RUMAH BANGLO
 2 TINGKAT DI ATAS LOT 212228,
 TAMAN PERANGINAN LEMBAH MERU
 JELAPANG, MUKIM HULU KINTA, DAERAH
 KINTA, PERAK DARUL RIDZUAN
 UNTUK TETUAN LOH BAN HO & SONS SDN.
 BHD.

DESCRIPTION:
 PLAN AND SECTION OF 'JH' SEWAGE TREATMENT
 SYSTEM MODEL JH-2

OWNER'S SIGNATURE:
 LOH BAN HO & SONS SDN. BHD. (NO. STK: 70800-2)
 LEE LAI PING
 IC NO.:
 NO.63, JALAN BANDAR TIMAH,
 30000 IPOH
 PERAK DARUL RIDZUAN

ENGINEER'S SIGNATURE:
 I hereby certify that the details are in accordance with the Town Board Enactment and By-Laws and Accept full responsibility for the design and the supervision of the works.
 DR. LOH BAN HO
 B.Eng (Civil) Essex Univ of Leeds (UK)
 P.Eng. MEM. MIEE, MIE, Inst. Eng.
 ASSAN Eng. APSC Eng. Cert Highway Eng.

PERUNDING SETIAMAJU SDN. BHD.
 68, Jalan Bendera Timah, 30000 Ipoh,
 Perak, Darul Ridzuan.
 TEL:

DIREKA : REKH	UKURAN : 1:750
DUNJUS : REKH	TARIKH : OCT 2015 / APR. 2017
DISEMAK : VERNON LOH	NO. LUKISAN :
DILUJUSKAN : DR. LOH BAN HO	LBH167/IST/ASB/2 OF 2