HC Precast System

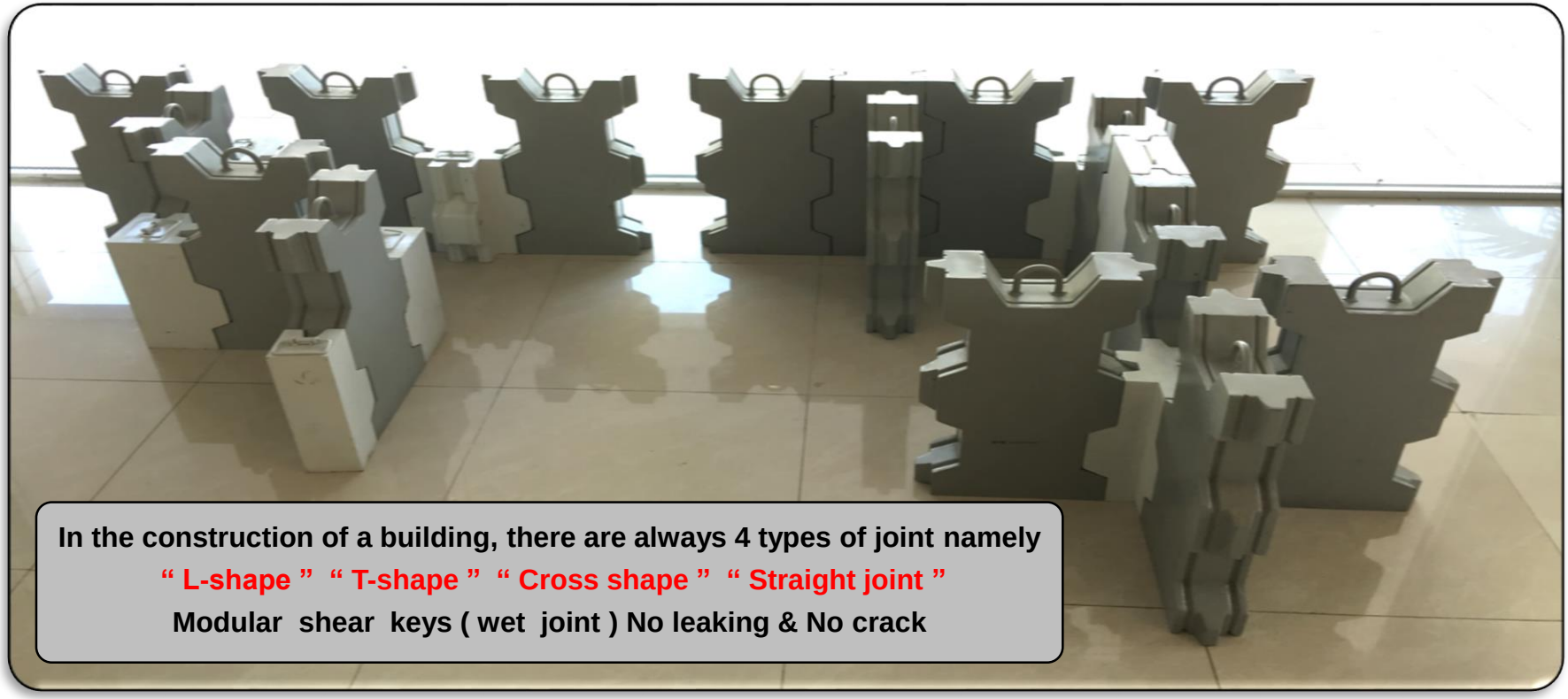
(100 % Malaysia Technology With 6 IPs')

Economical . Eco Friendly . Quality

Vs

Conventional Method

Super Structure (frame & wall) Cost Comparison



In the construction of a building, there are always 4 types of joint namely

" L-shape " " T-shape " " Cross shape " " Straight joint "

Modular shear keys (wet joint) No leaking & No crack

IBS CEAPER THAN CONVENTIONAL

HC Precast System Vs Conventional Method

- **Cost Comparison Super Structure (Frame & Wall)**

  - Single storey semi-D : 1,297 sqft

  A) Wall Height : 3.71 m

  B) Wall Height : 3.31 m

  C) Wall Height : 3.00 m

HC PRECAST SYSTEM SDN BHD
(586697-M)
FAST • FEASIBLE • FLEXIBLE

Office
No. 23B, Jalan Seri Sarawak 20B/KS2, Taman Seri Andalas 41200 Klang, Selangor Darul Ehsan

Factory
Lot 1, Jalan Zurah 8, Pusat Perindustrian Zurah Mukim Rasa, Daerah Hulu Selangor 44200 Rasa, Selangor Darul Ehsan

+603 3325 8995 +603 3319 8994
www.hcprecast.com enquiry@hcprecast.com

HC PRECAST SYSTEM VS COVENTIONAL

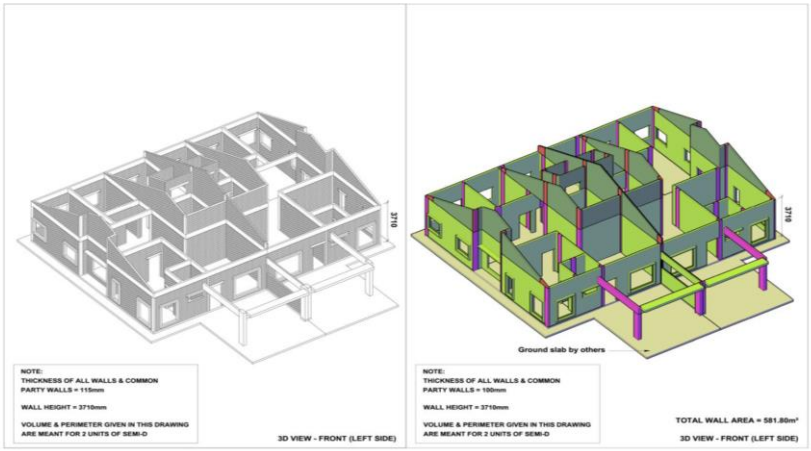
- COST COMPARISON -
(Available Online)

SINGLE STOREY SEMI-D : 1,297 sqft

A - 3.71m Wall Height

B - 3.30m Wall Height

C - 3.00m Wall Height



CONTENTS

(1)

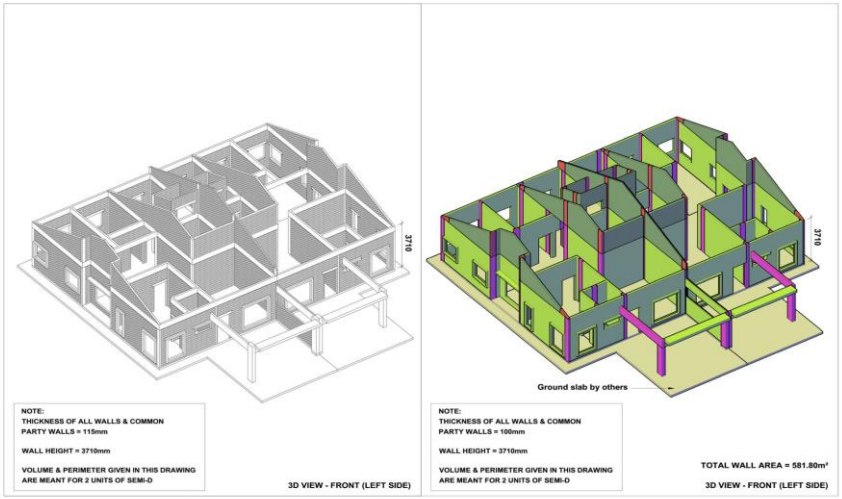
Single Storey Semi-D : 1,297 sqft

A - 3.71m Wall Height

B - 3.30m Wall Height

C - 3.00m Wall Height

Summary :
Cost per sqft GFA for Superstructure (Frame & Wall)



Single Storey Semi-D : 1,297 sqft

Current material rate 2017

Summary : Cost per sqft GFA for Superstructure (Frame & Wall)

HC Precast System Vs Conventional Method

Item	Description	A) Wall Height - 3.71m				B) Wall Height - 3.30m				C) Wall Height - 3.00m			
		Conventional		HC Precast System		Conventional		HC Precast System		Conventional		HC Precast System	
		Page Ref	Amount (RM)	Page Ref	Amount (RM)	Page Ref	Amount (RM)	Page Ref	Amount (RM)	Page Ref	Amount (RM)	Page Ref	Amount (RM)
A	**Superstructure & Wall**	A2	47,485.61	A3	37,205.37	B2	43,081.78	B3	33,427.12	C2	39,496.20	C3	30,664.87
	(Excluding Carporch Column, Beam, Wall & Coping)												
	Amount of Different (RM)				*10,280.24*				*9,654.66*				*8,831.33*
	Percentage of Different (%)				*21.65%*				*22.41%*				*22.36%*
	Gross Floor Area (sqft)				*1,297.00*				*1,297.00*				*1,297.00*
	Cost / sqft GFA (RM/sqft)		***36.61***		***28.69***		***33.22***		***25.77***		***30.45***		***23.64***
B	**Carporch Column, Beam, Wall & Coping**	A4	4,902.01	A4	3,061.40	B4	4,902.01	B4	3,061.40	C4	4,902.01	C4	3,061.40
	Amount of Different (RM)				*1,840.61*				*1,840.61*				*1,840.61*
	Percentage of Different (%)				*37.55%*				*37.55%*				*37.55%*
	Gross Floor Area (sqft)				*1,297.00*				*1,297.00*				*1,297.00*
	Cost / sqft GFA (RM/sqft)		***3.78***		***2.36***		***3.78***		***2.36***		***3.78***		***2.36***
C	**Total (A + B)**		52,387.62		40,266.77		47,983.79		36,488.52		44,398.21		33,726.27
	Amount of Different (RM)				*12,120.85*				*11,495.27*				*10,671.94*
	Percentage of Different (%)				*23.14%*				*23.96%*				*24.04%*
	Gross Floor Area (sqft)				*1,297.00*				*1,297.00*				*1,297.00*
	Cost / sqft GFA (RM/sqft)		***40.39***		***31.05***		***37.00***		***28.13***		***34.23***		***26.00***

(2)

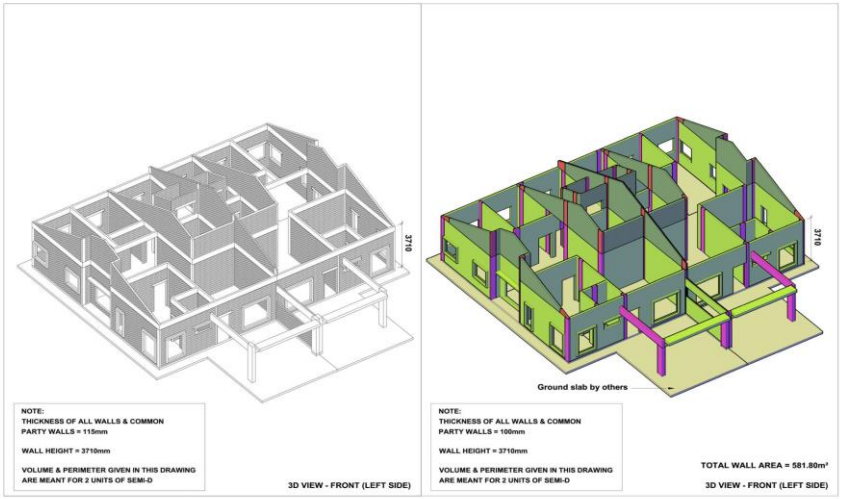
Single Storey Semi-D : 1,297 sqft

A - 3.71m Wall Height

B - 3.30m Wall Height

C - 3.00m Wall Height

Summary :
Cost of Superstructure (Frame & Wall) for 1m2 Wall Area



Single Storey Semi-D : 1,297 sqft

Current material rate 2017

Summary : Cost of Superstructure (Frame & Wall) for 1m2 Wall Area

HC Precast System Vs Conventional Method

Item	Description	Conventional						Item	Description	HC Precast System					
		A) Wall Height - 3.71m		B) Wall Height - 3.30m		C) Wall Height - 3.00m				A) Wall Height - 3.71m		B) Wall Height - 3.30m		C) Wall Height - 3.00m	
		Page Ref	Amount (RM)	Page Ref	Amount (RM)	Page Ref	Amount (RM)			Page Ref	Amount (RM)	Page Ref	Amount (RM)	Page Ref	Amount (RM)
	Summary								**Summary**						
1	Superstructure Frame Work	A6	* 36.10	B6	* 38.82	C6	* 41.25	1	100mm Thick Panel Wall	A6	90.00	B6	90.00	C6	90.00
									(0.10m thick x RM 900/m3)						
2	Cost for carporch column, beam, wall & coping	A6	** 6.33	B6	** 7.05	C6	** 7.69								
								2	Logistic - subject to location	A6	20.00	B6	20.00	C6	20.00
3	114mm Thick Clay Brickwall	A6	60.00	B6	60.00	C6	60.00		(RM 200 / m3 - RM 400 / m3)						
4	230mm Thick Clay Brickwall	A6	-	B6	-	C6	-	3	Skimcoat both sides - by others	A6	17.00	B6	17.00	C6	17.00
5	114mm Thick Cement & Sand Brickwall	A6	-	B6	-	C6	-								
6	230mm Thick Cement & Sand Brickwall	A6	-	B6	-	C6	-								
7	Plastering to wall - both sides	A6	70.00	B6	70.00	C6	70.00								
	Cost for 1m2 Wall		***172.43***		***175.87***		***178.94***		***Cost for 1m2 Wall***		***127.00***		***127.00***		***127.00***
									Amount of Different (RM)		***45.43***		***48.87***		***51.94***
									Percentage of Different (%)		***26.35%***		***27.79%***		***29.03%***

Notes : Conventional

1) * Cost of superstructure frame work to be added for every 1m2 wall area.

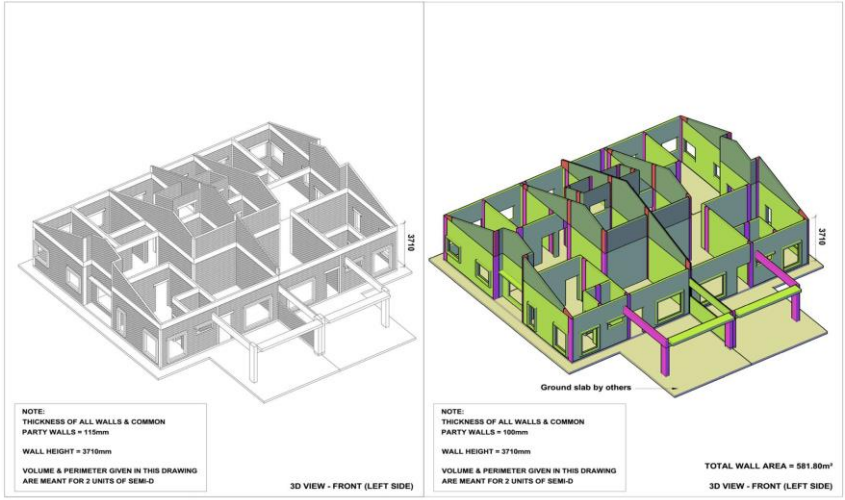
2) ** Cost of carporch column, beam, wall & coping to be added for every 1m2 wall area.

(3)

Cost Comparison Superstructure (Frame & Wall) : Conventional vs HC Precast System

Single Storey Semi-D : 1,297 sqft

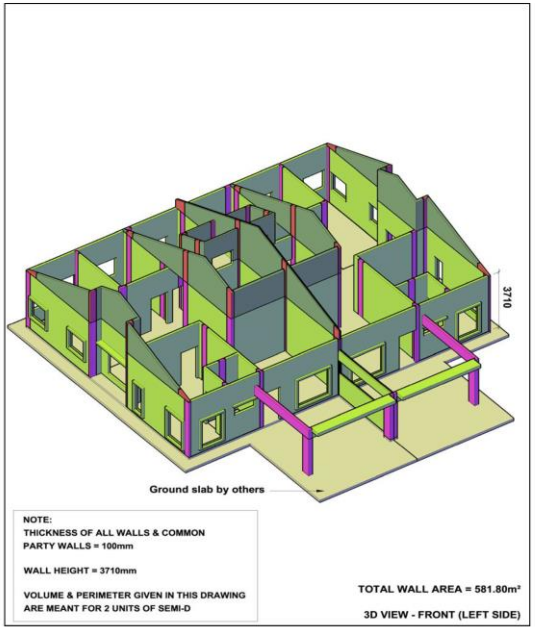
A - 3.71m Wall Height



* Rate can be adjust online at website : www.hcprecast.com

Single Storey Semi-D : 1,297 sqft

A - 3.71m Wall Height



HC Precast System

- Cost saving

1) No preliminaries item
2) No primary undercoat for painting due to smooth skimcoat surface.
3) No rubbish cleaning
4) Shorter construction period
5) Reduce overhead due to shorter construction period
6) Reduce the quantity of cement and screed to receive tiling work
7) M & E Shop drawing produce by HC Precast System without any extra charges.

A) Single Storey Semi-D : 1,297 sqft (3.71m Wall Height)

Contents

A) Single Storey Semi-D : 1,297 sqft (3.71m Wall Height)

Main Contractor Current Supply & Install Rate - November 2017

Current material rate 2017

Item	Description	Unit	Rate (RM)
1	Concrete		
	a) Grade 25	m3	278.00
	b) Grade 30	m3	285.00
	c) Grade 35	m3	292.00
2	Reinforcement		
	a) T10 - T12	kg	3.85
	b) T16 - T32	kg	3.70
3	Formwork	m2	44.00
4	BRC		
	a) A6	m2	10.80
	b) A7	m2	14.30
	c) A8	m2	18.90
	d) A9	m2	20.30
	e) A10	m2	24.50
5	Common Clay Brick		
	a) 115mm Thick	m2	60.00
	b) 230mm Thick	m2	120.00
6	Cement & Sand Brick		
	a) 115mm Thick	m2	44.50
	b) 230mm Thick	m2	89.00
7	Plastering		
	a) Internal	m2	40.00
	b) External	m2	45.00
8	Skimcoat		
	a) Internal	m2	8.50
	b) External	m2	12.50
9	19mm Thick Internal Plastering with Smooth Surface	m2	35.00
	(cement slurry)		
10	19mm Thick Internal Plastering Without Skimcoat	m2	27.50
	(no finish)		
11	19mm Thick External Plastering With Wood Float	m2	40.00
	(without render)		
12	19mm Thick External Plastering Without Finish	m2	27.50
	(to receive render)		
13	Internal Skimcoat	m2	8.50 - 9.90
14	5mm - 16mm Thick External Rendering	m2	15.00
15	Crane		
	a) 20 tonne	trip	800.00 - 900.00
	b) 25 tonne	trip	1,300.00

Conventional Method

A) Single Storey Semi-D : 1,297 sqft (3.71m Wall Height)

Summary of Conventional Superstructure : Frame , Brickwall & Plastering (Taking Off Quantity)

Item	Description	Unit	Qty	Rate (RM)	Amount (RM)	Sub-total (RM)
A	Superstructure Frame Works - Excluding Carporch (Column, Beam & Wall) & Coping					
1	Column					
	1.1 Concrete Grade 25	m3	1.349	278.00	375.02	
	1.2 Formwork	m2	35.450	44.00	1,559.80	
	1.3 Reinforcement	kg	266.995	3.85	1,027.93	
2	Roof Beam					
	2.1 Concrete Grade 25	m3	3.841	278.00	1,067.80	
	2.2 Formwork	m2	81.220	44.00	3,573.68	
	2.3 Reinforcement	kg	381.916	3.85	1,470.38	
3	Water Tank Slab					
	3.1 Concrete Grade 25	m3	0.534	278.00	148.45	
	3.2 Formwork	m2	3.563	44.00	156.77	
	3.3 BRC A7	m2	7.901	14.30	112.98	
4	6mm Bonding ties					
	4.1 Reinforcement	kg	35.166	3.85	135.39	
5	Lintol (100mm x 200mm)	m	29.100	30.00	873.00	
						10,501.20
B	**Architecture Works**					
1	114mm Thick Clay Brick (External Wall)	m2	105.130	60.00	6,307.80	
2	114mm Thick Clay Brick (Internal Wall)	m2	102.610	60.00	6,156.60	
3	230mm Thick Clay Brick (Party Wall)	m2	31.540	120.00	3,784.80	
4	Plastering (Internally & Externally)	m2	591.400	35.00	20,699.00	
5	Dpm	m	72.426	0.50	36.21	
						36,984.41
	Total	**RM**			**47,485.61**	**47,485.61**
	Gross Floor Area (GFA)	**ft2**				**1,297.00**
	Cost / sqft GFA	**RM**				**36.61**

Notes :

1) Sub-total Superstructure Frame Works (RM) = RM 10,501.20

2) Total Wall Area (m2) = 290.90 m2

3) Total Superstructure Frame Works / 1m2 wall area (RM) = RM * 36.10 / m2
(Cost of superstructure frame works required for wall area per m2.)

4) Total Concrete Volume (m3). = 6.306 m3

5) Total Reinforcement Weight (kg). = 707.938 kg

6) Total Reinforcement in 1m3 Concrete (kg/m3) = 112.264 kg / m3

7) Cost of Superstructure per 1m3 concrete = RM 1,665.27 / m3
(RM 10,501.20 / 6.306m3)

8) Wall Height : 3.710m

9) Gross Floor Area (GFA) = 1,297.00 ft2
(Car Porch & Water Tank Slab Area Calculated 50% Only)

HC Precast System Method

A) Single Storey Semi-D : 1,297 sqft (3.71m Wall Height)

Summary of HC Precast System Superstructure : Panel Wall, Wet Joint & Skimcoat (AutoCad 3D drawing)

Item	Description	Unit	Qty	Rate (RM)	Amount (RM)
A	**Superstructure Frame & Panel Wall**				
1	100mm Thick Panel Wall	m3	29.570	900.00	26,613.00
	(without coping, carporch column & beam quantity)				
2	Logistic	m3	29.570	200.00	5,914.00
	(RM 200 / m3 - RM 400 / m3)				
3	Skimcoat both sides - by others	m2	550.396	8.50	4,678.37
	Wall Area				
	= (Overall quantity - water tank slab quantity) / wall thickness				
	= (29.57m3 - 0.48m3) / 0.10m				
	= 290.90 m2				
	Total	**RM**			**37,205.37**
	Gross Floor Area (GFA)	**ft2**			**1,297.00**
	Cost / sqft GFA	**RM**			**28.69**

Notes :

- Cost saving

1) No preliminaries item
2) No primary undercoat for painting due to smooth skimcoat surface.
3) No rubbish cleaning
4) Shorter construction period
5) Reduce overhead due to shorter construction period
6) Reduce the quantity of cement and screed to receive tiling work
7) M & E Shop drawing produce by HC Precast System without any extra charges.

Current material rate 2017

A) Single Storey Semi-D : 1,297 sqft (3.71m Wall Height)

Calculation : Carporch Column, Beam, Wall & Coping

HC Precast System Vs Conventional Method

Conventional						HC Precast System					
Item	Description	Unit	Qty	Rate (RM)	Amount (RM)	Item	Description	Unit	Qty	Rate (RM)	Amount (RM)
1	Formcrete Coping (100mm x 100mm)	m	37.500	40.00	1,500.00	1	Coping (100mm x 100mm)	m3	0.375	1,100.00	412.50
	- RM 30.00/m (material) + RM 10.00/m (labour)										
						2	Coping (300mm x 100mm)	m3	0.080	1,100.00	88.00
2	Formcrete Coping (300mm x 100mm)	m	3.048	60.00	182.88						
	- RM 50.00/m (material) + RM 10.00/m (labour)					3	Carporch column (200mm x 450mm)	m3	0.450	1,100.00	495.00
3	Carporch column (225mm x 450mm)					4	Carporch beam (120mm x 600mm)	m3	1.180	1,100.00	1,298.00
	2.1 Concrete	m3	0.504	278.00	140.11						
	2.2 Formwork	m2	6.720	44.00	295.68	5	Carporch Wall (100mm Thick)	m3	0.260	1,100.00	286.00
	2.3 Reinforcement	kg	57.099	3.85	219.83						
						6	Skimcoat to:				
4	Carporch beam (115mm x 600mm)						6.1 Coping (100mm x 100mm)	m2	24.780	8.50	210.63
	3.1 Concrete	m3	1.180	278.00	328.04		6.2 Coping (300mm x 100mm)	m2	8.176	8.50	69.50
	3.2 Formwork	m2	18.16	44.00	799.04		6.3 Carporch column (200mm x 450mm)	m2	6.469	8.50	54.98
	3.3 Reinforcement	kg	113.54	3.85	437.12		6.4 Carporch beam (120mm x 600mm)	m2	14.574	8.50	123.88
							6.5 Carporch Wall (100mm Thick)	m2	2.695	8.50	22.91
5	115mm thick clay brickwall	m2	2.695	60.00	161.70						
6	Plastering to :										
	6.1 Carporch column (225mm x 450mm)	m2	6.718	35.00	235.12						
	6.2 Carporch beam (115mm x 600mm)	m2	14.519	35.00	508.16						
	6.3 Carporch Wall (115mm thick clay brickwall)	m2	2.695	35.00	94.33						
	Total				**4,902.01**		**Total**				**3,061.40**
	Different of Amount			**RM**	**1,840.61**						
	Wall Area			**m2**	**290.90**		**Wall Area**			**m2**	**290.90**
	Cost for carporch column, beam, wall & coping to be added / m2 (Extra cost to be added to the Cost Comparison Superstructure Frame & Wall - Conventional)			**RM/m2**	** 6.33**						

Notes :

Carporch (Conventional)

1)	Total Concrete Volume (m3).	=	1.684	m3
2)	Total Reinforcement Weight (kg).	=	170.637	kg
3)	Total Reinforcement in 1m3 Concrete (kg/m3)	=	101.328	kg / m3

A) Single Storey Semi-D : 1,297 sqft (3.71m Wall Height)

Current material rate 2017

Summary of Conventinal & HC Precast System

HC Precast System Vs Conventional Method

Conventional				HC Precast System			
Page	Description	Unit	Amount	Page	Description	Unit	Amount
A2	Total Superstructure : Frame, Brickwall & Plastering	RM	47,485.61	A3	Total Superstructure : Panel Wall, Wet Joint & Skimcoat	RM	37,205.37
					Amount of Different		10,280.24
					Percentage of Different		21.65%
	Gross Floor Area (GFA)	ft2	1,297.00		Gross Floor Area (GFA)	ft2	1,297.00
	Cost / sqft GFA	RM	36.61		Cost / sqft GFA	RM	28.69
A4	Total Cost : Carporch Column, Beam, Wall & Coping	RM	4,902.01	A4	Total Cost : Carporch Column, Beam, Wall & Coping	RM	3,061.40
					Amount of Different		1,840.61
					Percentage of Different		37.55%
	Gross Floor Area (GFA)	ft2	1,297.00		Gross Floor Area (GFA)	ft2	1,297.00
	Cost / sqft GFA	RM	3.78		Cost / sqft GFA	RM	2.36
A5	Total A2 + A4	RM	52,387.62	A5	Total A3 + A4	RM	40,266.77
					Amount of Different		12,120.85
					Percentage of Different		23.14%
	Gross Floor Area (GFA)	ft2	1,297.00		Gross Floor Area (GFA)	ft2	1,297.00
	Cost / sqft GFA	RM	40.39		Cost / sqft GFA	RM	31.05

Current material rate 2017

A) Single Storey Semi-D : 1,297 sqft (3.71m Wall Height)

Cost Comparison Superstructure Frame & Wall : Conventional vs HC Precast System for 1m2 Wall Area

HC Precast System Vs Conventional Method

Conventional						HC Precast System					
Item	**Description**	**Unit**	**Qty**	**Rate (RM)**	**Amount (RM)**	**Item**	**Description**	**Unit**	**Qty**	**Rate (RM)**	**Amount (RM)**
1	Superstructure Frame Work	m2	1.00	* 36.10	36.10	1	100mm Thick Panel Wall	m2	1.00	90.00	90.00
							(0.10m thick x RM 900/m3)				
2	Cost for carporch column, beam, wall & coping	m2	1.00	** 6.33	6.33						
						2	Logistic - subject to location	m2	1.00	20.00	20.00
3	114mm Thick Clay Brickwall	m2	1.00	60.00	60.00		(RM 200 / m3 - RM 400 / m3)				
4	230mm Thick Clay Brickwall	m2	1.00		-	3	Skimcoat both sides - by others	m2	2.00	8.50	17.00
5	114mm Thick Cement & Sand Brickwall	m2	1.00		-						
6	230mm Thick Cement & Sand Brickwall	m2	1.00		-						
7	Plastering to wall - both sides	m2	2.00	35.00	70.00						
	Total / m2			**RM**	**172.43**		**Total / m2**			**RM**	**127.00**
							Amount of Different				**45.43**
							Percentage of Different				**26.35%**

Notes : Conventional

1) * Cost of superstructure frame work to be added for every 1m2 wall area.

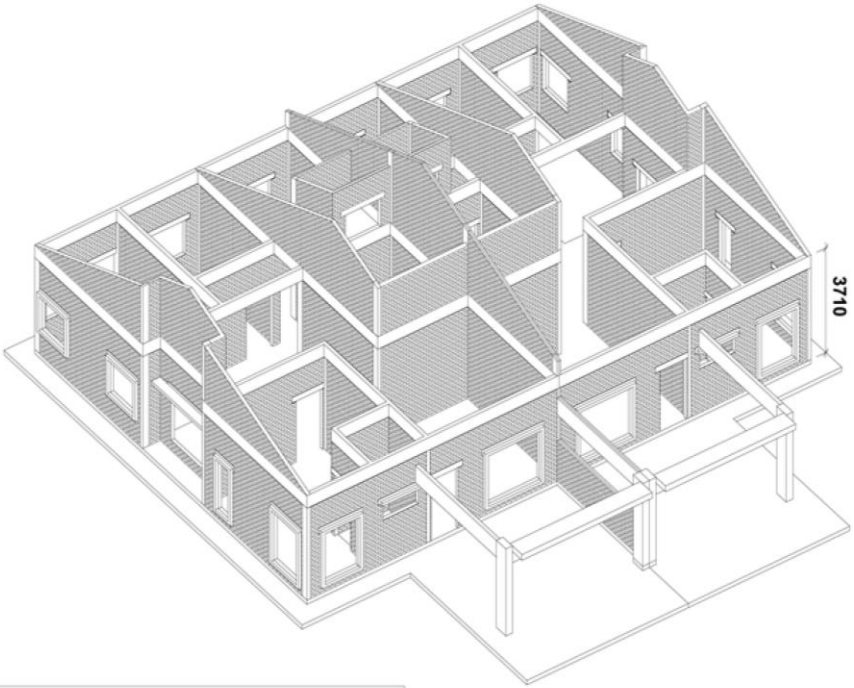
2) ** Cost of carporch column, beam, wall & coping to be added for every 1m2 wall area.

Notes : HC Precast System

- Cost saving

1) No preliminaries item
2) No primary undercoat for painting due to smooth skimcoat surface.
3) No rubbish cleaning
4) Shorter construction period
5) Reduce overhead due to shorter construction period
6) Reduce the quantity of cement and screed to receive tiling work
7) M & E Shop drawing produce by HC Precast System without any extra charges.

Conventional Method

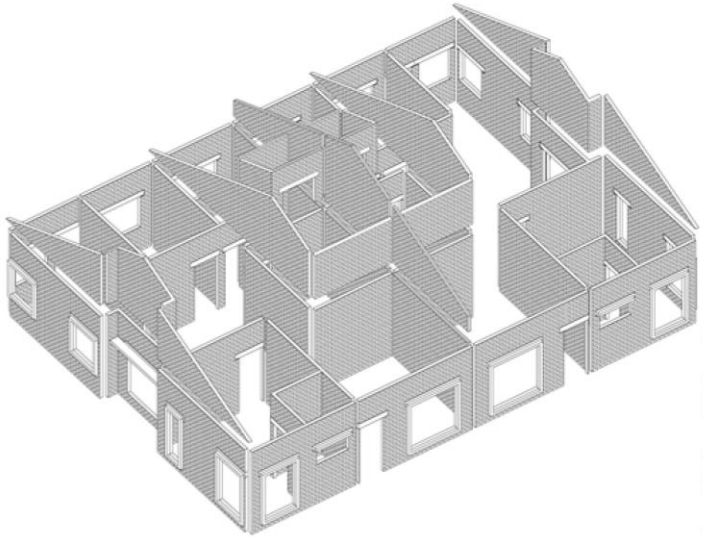


NOTE:
THICKNESS OF ALL WALLS & COMMON PARTY WALLS = 115mm

WALL HEIGHT = 3710mm

VOLUME & PERIMETER GIVEN IN THIS DRAWING ARE MEANT FOR 2 UNITS OF SEMI-D

3D VIEW - FRONT (LEFT SIDE)

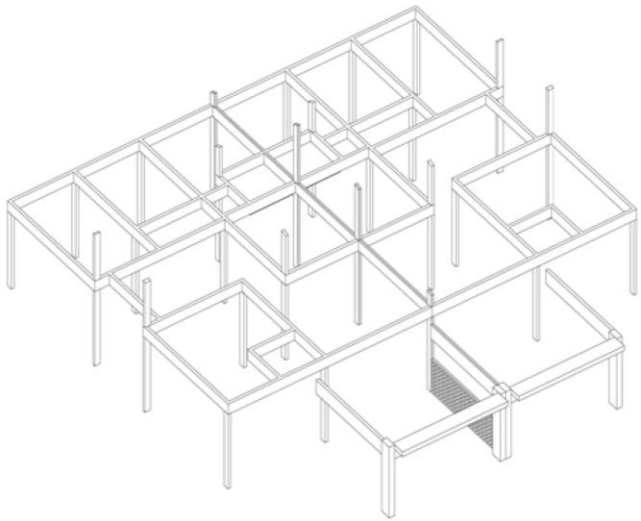


BRICK WALLS
Total area = 480.17m²

WINDOW COPINGS
(Protrude 100mm)
Total length = 82.60m

WINDOW COPING
(Protrude 300mm)
Total length = 11.62m

R.C. LINTELS
Total length = 56.10m



R.C. COLUMNS
Total volume = 2.88m³

R.C. ROOF BEAMS
Total volume = 8.28m³

R.C.WATER TANK SLAB
Total volume = 0.94m³

CAR PORCH STRUCTURE
COLUMNS
Total volume = 1.22m³

BEAMS
Total volume = 2.19m³

BRICK WALLS
Total area = 5.39m²

SYSTEM PROVIDER

HC PRECAST SYSTEM SDN. BHD. (586697-M)
No.23B, Jalan Seri Sarawak 20B/KS2, Taman Seri Andalas,
41200 Klang, Selangor D.E. Tel:03-3323 5999 Fax:03-3323 8993
e-mail:enquiry@hcprecast.com.my, Http:www.hcprecast.com.my

MANUFACTURER

HC MANUFACTURING SDN. BHD. (585570-T)
No.23-1, Jalan Seri Sarawak 20B/KS2, Taman Seri Andalas,
41200 Klang, Selangor D.E.
Tel:03-3323 7999 Fax:03-3323 8993

DRAWN :	KC
DATE :	AUG 2017
CHECKED :	3993
CHK'D :	3993
APP'D :	3993
SCALE :	NTS

CADANGAN SKIM PERUMAHAN YANG MENGANDUNGI:
-18 UNIT RUMAH BERKEMBAR 1 TINGKAT JENIS RB1

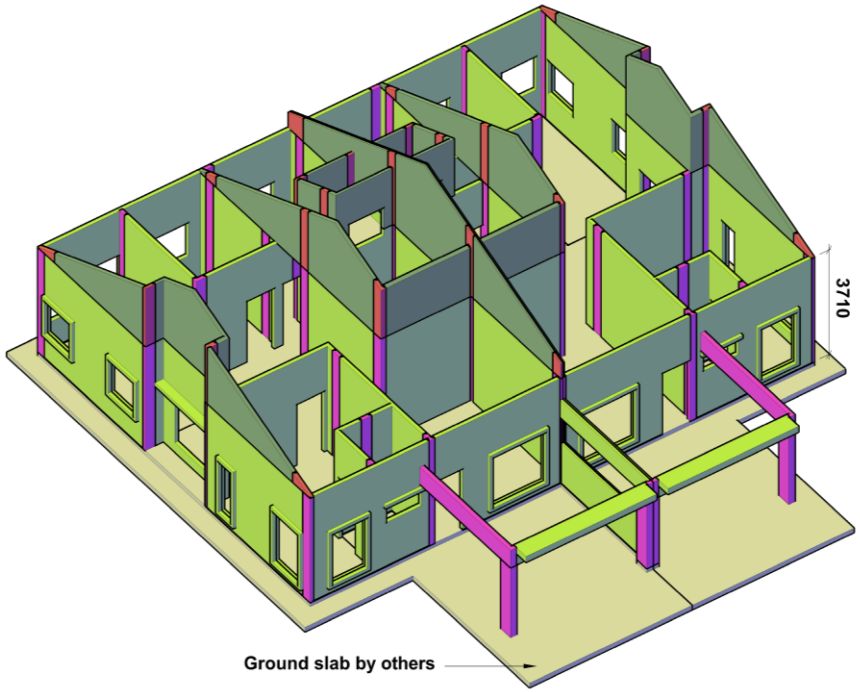
DI ATAS LOT 26114 (PM 4401) & LOT 15331 (PM 1868),
MUKIM JENDERAK, DAERAH TEMERLOH,
PAHANG DARUL MAKMUR.

UNTUK TETUAN:
KIAN MEGAH DEVELOPMENT SDN. BHD.

DRAWING TITLE :
SINGLE STOREY SEMI DETACHED
CONVENTIONAL CONSTRUCTION
3D DRAWING

DRAWING NO : HC/KM/SD/3D-01E REV : --
SYSTEM : -- REV : --

HC Precast System Method



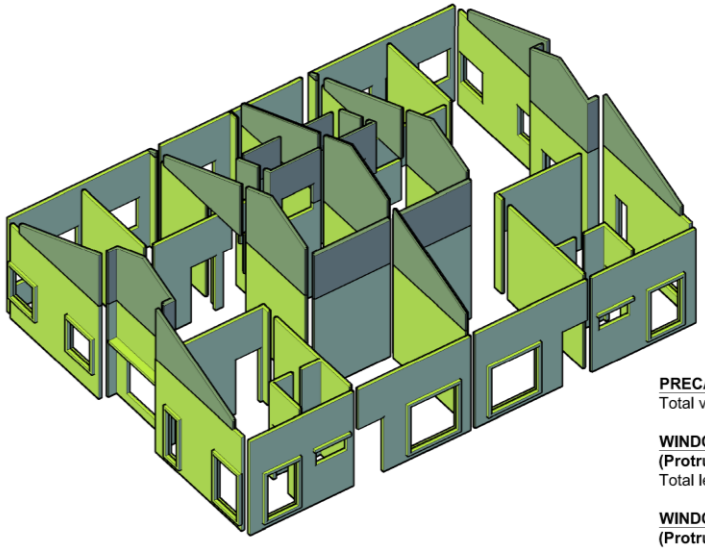
NOTE:
THICKNESS OF ALL WALLS & COMMON PARTY WALLS = 100mm

WALL HEIGHT = 3710mm

VOLUME & PERIMETER GIVEN IN THIS DRAWING ARE MEANT FOR 2 UNITS OF SEMI-D

TOTAL WALL AREA = 581.80m²

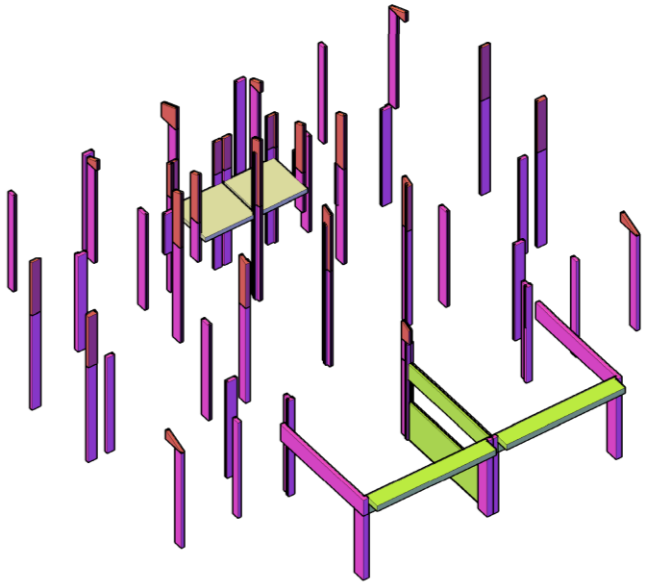
3D VIEW - FRONT (LEFT SIDE)



PRECAST WALL PANELS
Total volume = 52.03m³

WINDOW COPINGS
(Protrude 100mm)
Total length = 82.60m

WINDOW COPING
(Protrude 300mm)
Total length = 11.68m



WET JOINTS
Total volume = 6.14m³

R.C.WATER TANK SLAB
Total volume = 0.96m³

CAR PORCH STRUCTURE
WET JOINTS
Total volume = 0.90m³

BEAMS
Total volume = 2.36m³

PRECAST WALL PANELS
Total volume = 0.52m³

SYSTEM PROVIDER

HC PRECAST SYSTEM SDN. BHD. (586697-M)
No.23B, Jalan Seri Sarawak 20B/KS2, Taman Seri Andalas,
41200 Klang, Selangor D.E. Tel:03-3323 5999 Fax:03-3323 8993
e-mail:enquiry@hcprecast.com.my, Http:www.hcprecast.com.my

MANUFACTURER

HC MANUFACTURING SDN. BHD. (585570-T)
No.23-1, Jalan Seri Sarawak 20B/KS2, Taman Seri Andalas,
41200 Klang, Selangor D.E.
Tel:03-3323 7999 Fax:03-3323 8993

DRAWN :	HC
DATE :	AUG 2017
CHECKED :	3993
EXAM'D :	3993
APPR'D :	3993
SCALE :	NTS

CADANGAN SKIM PERUMAHAN YANG MENGANDUNGI:
-18 UNIT RUMAH BERKEMBAR 1 TINGKAT JENIS RB1

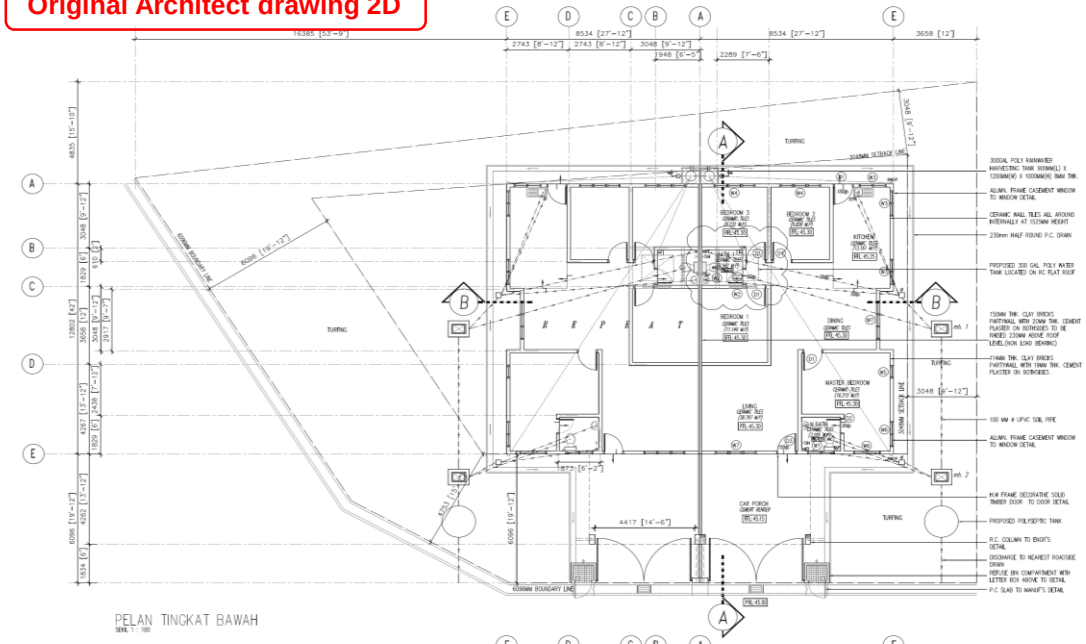
DI ATAS LOT 26114 (PM 4401) & LOT 15331 (PM 1868),
MUKIM JENDERAK, DAERAH TEMERLOH,
PAHANG DARUL MAKMUR.

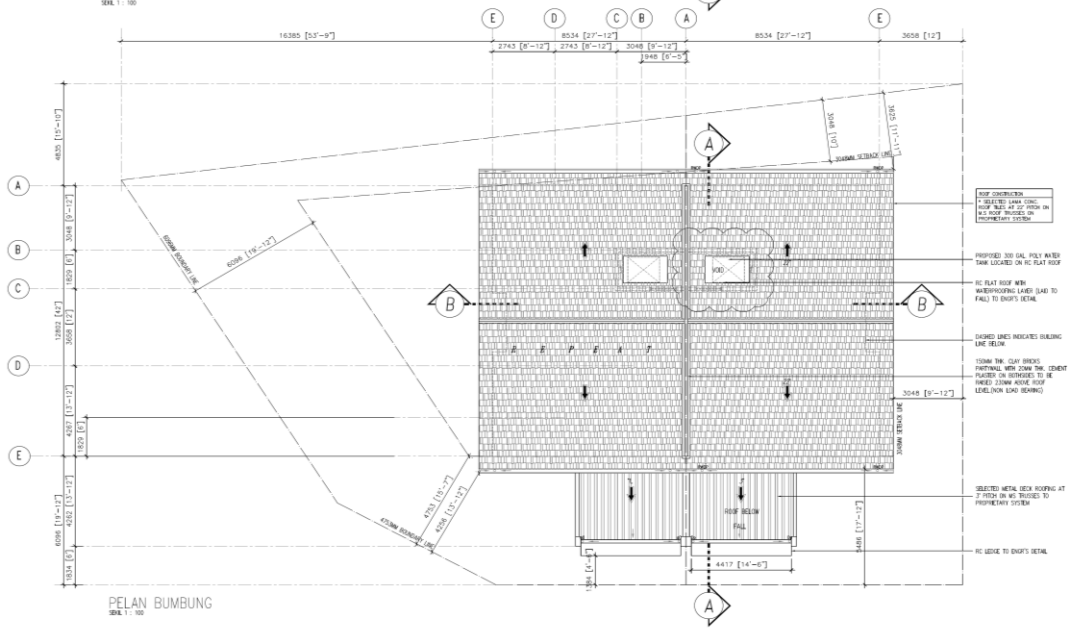
UNTUK TETUAN:
KIAN MEGAH DEVELOPMENT SDN. BHD.

DRAWING TITLE :
SINGLE STOREY SEMI DETACHED
HC PRECAST CONSTRUCTION
3D DRAWING

DRAWING NO : HC/KM/SD/3D-01F
REV : -
SYSTEM : -
REV : -

Original Architect drawing 2D





SANITARY AND PLUMBING SCHEDULE

SYMBOL	SANITARY & PLUMBING SPECIFICATION
S	SINK
SH	SHOWER HEAD
SC	STOP COCK
GV	GATE VALVE
LV	LOCKABLE VALVE
M	METER
TAP	WATER TAP
FT	FLOOR TRAP
GT	GULLY TRAP
MH	MANHOLE
WC	WATER CLOSET
B	BASIN
BT	BOTTLE TRAP

JADUAL TINGKAP

SYMBOL	WINDOW SPECIFICATION	SIZE(WIDTH X HEIGHT)
W1	ALUM. FRAME TOP HUNG WINDOW TO MANUF'S DETAIL	1200mm X 600mm
W2	ALUM. FRAME TOP HUNG WINDOW TO MANUF'S DETAIL	1200mm X 1000mm
W3	ALUM. FRAME CASEMENT WINDOW TO MANUF'S DETAIL	1200mm X 1200mm
W4	ALUM. FRAME CASEMENT WINDOW TO MANUF'S DETAIL	1800mm X 1200mm
W5	ALUMN. FRAME CASEMENT WINDOW WITH FIXED GLASS BELOW TO MANUF'S DETAIL	600mm X 1800mm
W6	ALUMN. FRAME CASEMENT WINDOW WITH FIXED GLASS BELOW TO MANUF'S DETAIL	1200mm X 1800mm
W7	ALUMN. FRAME CASEMENT WINDOW WITH FIXED GLASS BELOW TO MANUF'S DETAIL	1800mm X 1800mm

JADUAL PINTU

SYMBOL	DOOR SPECIFICATION	SIZE(WIDTH X HEIGHT)
D1	W.S. FRAME PLYWOOD FLUSH DOOR TO MANUF'S DETAIL	900mm X 2100mm
D2	W.S. FRAU TIMBER WATERPROOF FLUSH DOOR TO MANUF'S DETAIL	750mm X 2100mm
D3	M.W. FRAME DECORATIVE SOLID TIMBER DOOR TO MANUF'S DETAIL	900mm X 2100mm

VENTILATION & LIGHTING SCHEDULE

LOCATION	AREA (M2)	VENTILATION & LIGHTING REQUIRE	VENTILATION & LIGHTING PROVIDE	MACHANICAL VENTILATION
LIVING & DINING	38.7	10% = 3.87	6.48	–
MASTER BEDROOM	16.2	10% = 1.61	5.40	–
MASTER BATH	3.2	10% = 0.32	0.72	–
BEDROOM 1	11.1	10% = 1.11	1.20	–
BEDROOM 2	9.8	10% = 0.98	2.16	–
BEDROOM 3	9.7	10% = 0.97	2.16	–
BATH 1	3.5	10% = 0.35	1.20	–
KITCHEN	13.1	10% = 1.31	2.88	–

SHEET NO 02 / 03

DILULUSKAN :

PELAN BANGUNAN INI ADALAH TERATUR DAN DIPERSETUJUI OLEH MAJLIS TERTAKLUK KEPADA SYARAT-SYARAT SURAT BIL
( ) DALAM
MPT:
BERTARIKH:
PELAN NO.MPT:

YANG DIPERTUA/ ARKITEK
MAJLIS PERBANDARAN TEMERLOH:

PROJEK
CADANGAN SKIM PERUMAHAN YANG MENGANDUNGI:

-18 YUNIT RUMAH BERKEMBAR 1 TINGKAT JENIS RB1

DI ATAS LOT 26114 (PM 4401) & LOT 15331 (PM 1868), MUKIM JENDERAK, DAERAH TEMERLOH, PAHANG DARUL MAKMUR.

UNTUK TETUAN :-
KIAN MEGAH DEVELOPMENT SDN. BHD. (1039133-M)

CATITAN
THIS DRAWING IS COPY RIGHT.
CONTRACTOR MUST CHECK ALL DIMENSIONS ON SITE. ONLY FIGURED DIMENSIONS ARE TO BE WORKED UPON. DISCREPANCIES MUST BE REPORTED IMMEDIATELY TO THE ARCHITECT BEFORE PROCEEDING.

RUJ	PINDAAN	TARIKH

TANDATANGAN & ALAMAT PEMAJU

CHEAH AH LICK (DIRECTOR) (NO K/P: 560214-05-5281)
KIAN MEGAH DEVELOPMENT SDN.BHD. (1039133-M)
NO.63, JALAN HAJI KASSIM
26400, MENTAKAB,
PAHANG DARUL MAKMUR

TAJUK LUKISAN
- PELAN TINGKAT BAWAH
- PELAN BUMBUNG
- JADUAL TINGKAP
- JADUAL PINTU
- JADUAL PENCAHAYAAN DAN PENGUDARAAN

TANDATANGAN ARKITEK
"Saya memperakui bahawa butir-butir dalam pelan-pelan ini adalah menurut kehendak Undang-Undang Kecil Bangunan Seragam 1984 dan saya setuju menerima tanggungjawab penuh dengan sewajarnya."

LEMBAGA ARKITEK MALAYSIA

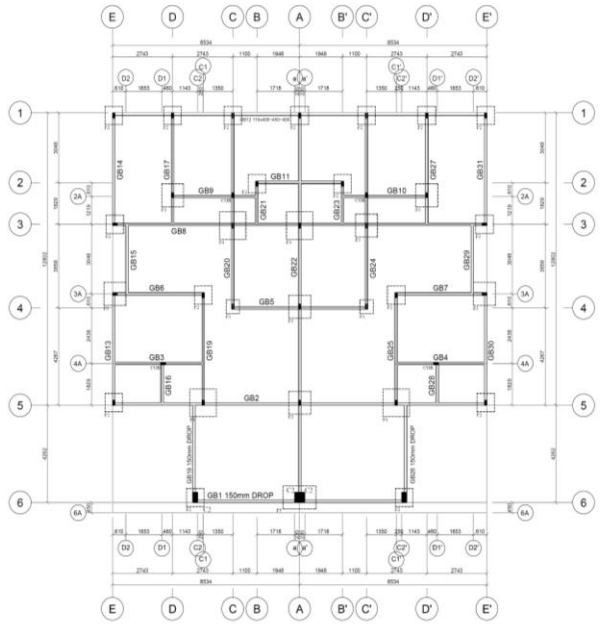
Ar. See Kim Plow
ARKITEK PROFESIONAL
No. Pendaftaran LAM: A/S 97

K P SEE ARCHITECT
7-4-1 BLOCK B MEGAN CORPORATE PARK
JALAN 1/125E DESA PETALING
57100, KUALA LUMPUR
TEL: 03-90583990 FAX: 03-90583997
EMAIL: kpsee.architect@gmail.com

SKEL	1:100
TARIKH	JAN 2016
DILUKIS	NICOLE CHEW
DISEMAK	AR SEE

NO. LUKISAN
S329/BP/RB1/01

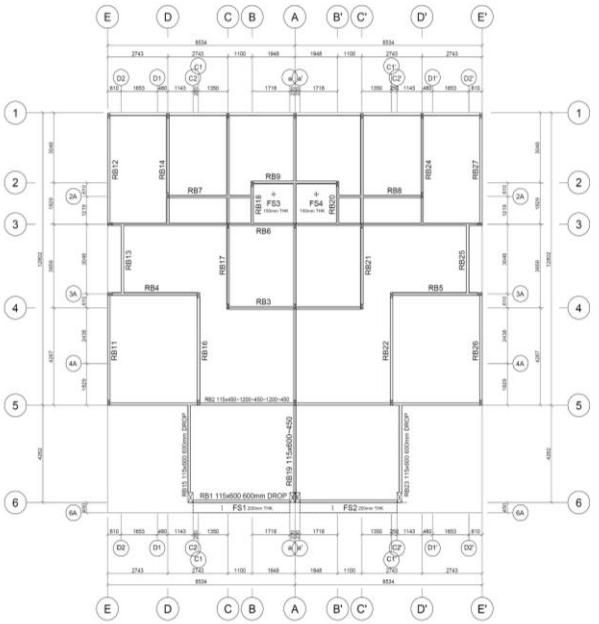
Original C&S drawing



FOOTING, COLUMN & GROUND FLOOR LAYOUT PLAN (0.15m)

SCALE : 1:100

1) ALL BEAMS TO BE 115x450 UNLESS OTHERWISE STATED
2) ALL COLUMNS TO BE C1 (115x225) UNLESS OTHERWISE STATED



ROOF LAYOUT PLAN (3.81m)

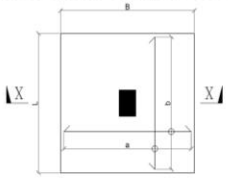
SCALE : 1:100

1) ALL BEAMS TO BE 115x450 UNLESS OTHERWISE STATED
2) ALL SLABS TO BE 150mm THK. UNLESS OTHERWISE STATED
3) WATER PROOF MEMBRANE TO BE PROVIDED AT ROOF SLAB AREA

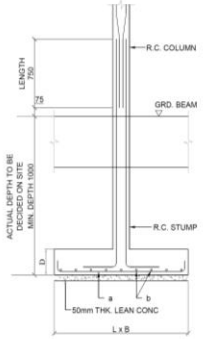
FOOTING SCHEDULE

TYPE	FOOTING SIZES L x B (mm)	DEPTH (mm)	REINFORCEMENTS	
		D	a	b
F1	600 x 600	150	T12-150	T12-150
F2	800 x 800	150	T12-150	T12-150
F3	1000 x 1000	150	T12-150	T12-150
F4	1200 x 1200	200	T12-150	T12-150
F5	1000 x 1500	150	T12-150	T12-150

NOTES :-
1) FOOTING IS BASED ON ASSUMED SOIL BEARING CAPACITY OF 150 kN/m2
2) CONCRETE GRADE FOR FOOTING AND COLUMN STUMP TO BE GRADE 25



TYPICAL FOOTING PLAN



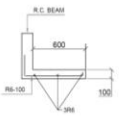
SECTION X-X

ROOF

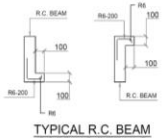
GROUND FLOOR			
SIZES	115 x 225	225 x 450	115 x 225
REINFORCEMENT	4T12	8T12	4T12
LINKS	R6-150	R6-150	R6-150
STUMP			
SIZES	115 x 225	225 x 450	
REINFORCEMENT	4T12	8T12	
LINKS	R6-150	R6-150	
COLUMN TO REFER	C1	C2	COB

COLUMN SCHEDULE

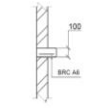
NOTES:



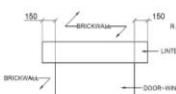
TYPICAL R.C. PENT DETAIL



TYPICAL R.C. BEAM COPPING DETAILS

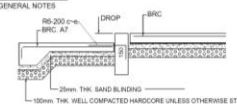


TYPICAL R.C. SILL DETAILS



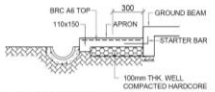
TYPICAL DETAIL OF LINTEL BEAM

NOTE: FOR SIZES OF LINTEL BEAM REFER TO GENERAL NOTES



TYPICAL APRON SLAB DETAIL

SCALE : 1 : 25



P.C. DRAIN & APRON DETAILS

SCALE : 1 : 25

JURUTERA PERUNDING : I hereby certify that these works have been designed by me in accordance with sound engineering practice and that I take full responsibility for the design and proper performance of the same.

DATO' IR. HIANG A LI DSAP, DMSP., SMP., AMP., BCK.,
JURUTERA PERUNDING B.Eng., (Mal), MIEM., P.Eng.
F-83, TINGKAT 1, JALAN TENGKU ISMAIL,
28000 TEMERLOH, PAHANG DARUL MAKMUR.

PROJEK :

CADANGAN PEMBANGUNAN PERUMAHAN YANG MENGANDUNGI 18 UNIT RUMAH BERKEMBAR 1 TINGKAT JENIS RB1 DI ATAS LOT 26114 & LOT 15331, MUKIM JENDERAK, DAERAH TEMERLOH, PAHANG D.M.

UNTUK : KIAN MEGAH DEVELOPMENT S/B

TAJUK :

SINGLE STOREY SEMI-DETACHED HOUSE (RB1)

FOOTING & COLUMN SCHEDULE WITH DETAILS
GROUND FLOOR & ROOF LAYOUT PLAN
TYPICAL SLAB, LINTEL BEAM AND MISC DETAILS

DIREKABENTUK OLEH	AHMAD MUKRI
DILUKIS OLEH	AHMAD MUKRI
SKALA	1 : 100
DISEMAK OLEH	DATO' IR. HIANG A LI
DISEMAK PADA	OGOS 2016

NO.LUKISAN: AHM.RC.008.2016 RB1.1-3

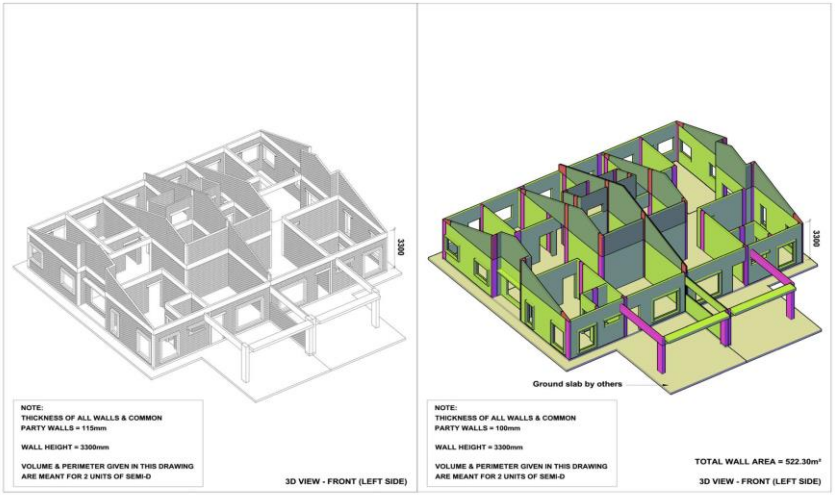
NO. HELAIAN 1

(4)

Cost Comparison Superstructure (Frame & Wall) : Conventional vs HC Precast System

Single Storey Semi-D : 1,297 sqft

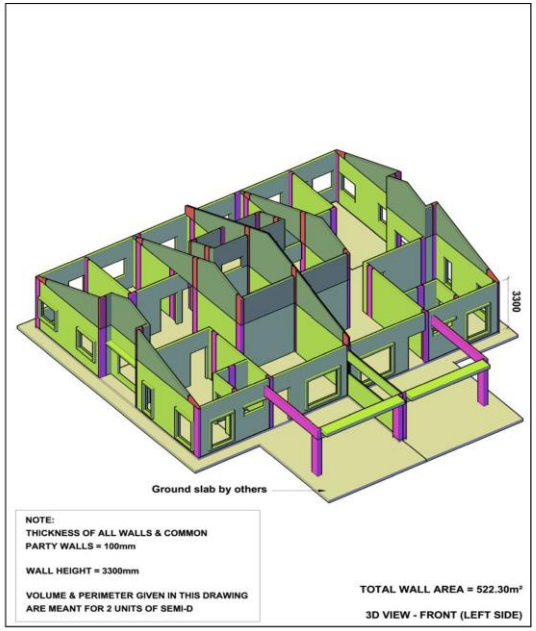
B - 3.30m Wall Height



* Rate can be adjust online at website : www.hcprecast.com

Single Storey Semi-D : 1,297 sqft

B - 3.30m Wall Height



HC Precast System

- Cost saving

1) No preliminaries item
2) No primary undercoat for painting due to smooth skimcoat surface.
3) No rubbish cleaning
4) Shorter construction period
5) Reduce overhead due to shorter construction period
6) Reduce the quantity of cement and screed to receive tiling work
7) M & E Shop drawing produce by HC Precast System without any extra charges.

B) Single Storey Semi-D : 1,297 sqft (3.30m Wall Height)

Contents

B) Single Storey Semi-D : 1,297 sqft (3.30m Wall Height)

Main Contractor Current Supply & Install Rate - November 2017

Current material rate 2017

Item	Description	Unit	Rate (RM)
1	Concrete		
	a) Grade 25	m3	278.00
	b) Grade 30	m3	285.00
	c) Grade 35	m3	292.00
2	Reinforcement		
	a) T10 - T12	kg	3.85
	b) T16 - T32	kg	3.70
3	Formwork	m2	44.00
4	BRC		
	a) A6	m2	10.80
	b) A7	m2	14.30
	c) A8	m2	18.90
	d) A9	m2	20.30
	e) A10	m2	24.50
5	Common Clay Brick		
	a) 115mm Thick	m2	60.00
	b) 230mm Thick	m2	120.00
6	Cement & Sand Brick		
	a) 115mm Thick	m2	44.50
	b) 230mm Thick	m2	89.00
7	Plastering		
	a) Internal	m2	40.00
	b) External	m2	45.00
8	Skimcoat		
	a) Internal	m2	8.50
	b) External	m2	12.50
9	19mm Thick Internal Plastering with Smooth Surface (cement slurry)	m2	35.00
10	19mm Thick Internal Plastering Without Skimcoat (no finish)	m2	27.50
11	19mm Thick External Plastering With Wood Float (without render)	m2	40.00
12	19mm Thick External Plastering Without Finish (to receive render)	m2	27.50
13	Internal Skimcoat	m2	8.50 - 9.90
14	5mm - 16mm Thick External Rendering	m2	15.00
15	Crane		
	a) 20 tonne	trip	800.00 - 900.00
	b) 25 tonne	trip	1,300.00

Conventional Method

B) Single Storey Semi-D : 1,297 sqft (3.30m Wall Height)

Summary of Conventional Superstructure : Frame , Brickwall & Plastering (Taking Off Quantity)

Item	Description	Unit	Qty	Rate (RM)	Amount (RM)	Sub-total (RM)
A	Superstructure Frame Works - Excluding Carporch (Column, Beam & Wall) & Coping					
1	Column					
	1.1 Concrete Grade 25	m3	1.180	278.00	328.04	
	1.2 Formwork	m2	31.010	44.00	1,364.44	
	1.3 Reinforcement	kg	241.536	3.85	929.91	
2	Roof Beam					
	2.1 Concrete Grade 25	m3	3.841	278.00	1,067.80	
	2.2 Formwork	m2	81.220	44.00	3,573.68	
	2.3 Reinforcement	kg	381.916	3.85	1,470.38	
3	Water Tank Slab					
	3.1 Concrete Grade 25	m3	0.534	278.00	148.45	
	3.2 Formwork	m2	3.563	44.00	156.77	
	3.3 BRC A7	m2	7.901	14.30	112.98	
4	6mm Bonding ties					
	4.1 Reinforcement	kg	29.304	3.85	112.82	
5	Lintol (100mm x 200mm)	m	29.100	30.00	873.00	
						10,138.27
B	**Architecture Works**					
1	114mm Thick Clay Brick (External Wall)	m2	92.450	60.00	5,547.00	
2	114mm Thick Clay Brick (Internal Wall)	m2	87.870	60.00	5,272.20	
3	230mm Thick Clay Brick (Party Wall)	m2	28.930	120.00	3,471.60	
4	Plastering (Internally & Externally)	m2	531.900	35.00	18,616.50	
5	Dpm	m	72.426	0.50	36.21	
						32,943.51
	Total	**RM**			**43,081.78**	**43,081.78**
	Gross Floor Area (GFA)	**ft2**				**1,297.00**
	Cost / sqft GFA	**RM**				**33.22**

Notes :

1) Sub-total Superstructure Frame Works (RM) = RM 10,138.27

2) Total Wall Area (m2) = 261.15 m2

3) Total Superstructure Frame Works / 1m2 wall area (RM) = RM * 38.82 / m2
(Cost of superstructure frame works required for wall area per m2.)

4) Total Concrete Volume (m3). = 6.137 m3

5) Total Reinforcement Weight (kg). = 676.617 kg

6) Total Reinforcement in 1m3 Concrete (kg/m3) = 110.252 kg / m3

7) Cost of Superstructure per 1m3 concrete = RM 1,651.99 / m3
(RM 10,138.27 / 6.137 m3)

8) Wall Height : 3.710m

9) Gross Floor Area (GFA) = 1,297.00 ft2
(Car Porch & Water Tank Slab Area Calculated 50% Only)

B) Single Storey Semi-D : 1,297 sqft (3.30m Wall Height)

Summary of HC Precast System Superstructure : Panel Wall, Wet Joint & Skimcoat (AutoCad 3D drawing)

Item	Description	Unit	Qty	Rate (RM)	Amount (RM)
A	**Superstructure Frame & Panel Wall**				
1	100mm Thick Panel Wall	m3	26.595	900.00	23,935.50
	(without coping, carporch column & beam quantity)				
2	Logistic	m3	26.595	200.00	5,319.00
	(RM 200 / m3 - RM 400 / m3)				
3	Skimcoat both sides - by others	m2	490.896	8.50	4,172.62
	Wall Area				
	= (Overall quantity - water tank slab quantity) / wall thickness				
	= (26.595m3 - 0.48m3) / 0.10m				
	= 261.15 m2				
	Total	**RM**			**33,427.12**
	Gross Floor Area (GFA)	**ft2**			**1,297.00**
	Cost / sqft GFA	**RM**			**25.77**

Notes :

- Cost saving

1) No preliminaries item
2) No primary undercoat for painting due to smooth skimcoat surface.
3) No rubbish cleaning
4) Shorter construction period
5) Reduce overhead due to shorter construction period
6) Reduce the quantity of cement and screed to receive tiling work
7) M & E Shop drawing produce by HC Precast System without any extra charges.

B) Single Storey Semi-D : 1,297 sqft (3.30m Wall Height)

Calculation : Carporch Column, Beam, Wall & Coping

Current material rate 2017

HC Precast System Vs Conventional Method

Conventional						HC Precast System					
Item	**Description**	**Unit**	**Qty**	**Rate (RM)**	**Amount (RM)**	**Item**	**Description**	**Unit**	**Qty**	**Rate (RM)**	**Amount (RM)**
1	Formcrete Coping (100mm x 100mm)	m	37.500	40.00	1,500.00	1	Coping (100mm x 100mm)	m3	0.375	1,100.00	412.50
	- RM 30.00/m (material) + RM 10.00/m (labour)										
						2	Coping (300mm x 100mm)	m3	0.080	1,100.00	88.00
2	Formcrete Coping (300mm x 100mm)	m	3.048	60.00	182.88						
	- RM 50.00/m (material) + RM 10.00/m (labour)					3	Carporch column (200mm x 450mm)	m3	0.450	1,100.00	495.00
3	Carporch column (225mm x 450mm)					4	Carporch beam (120mm x 600mm)	m3	1.180	1,100.00	1,298.00
	2.1 Concrete	m3	0.504	278.00	140.11						
	2.2 Formwork	m2	6.720	44.00	295.68	5	Carporch Wall (100mm Thick)	m3	0.260	1,100.00	286.00
	2.3 Reinforcement	kg	57.099	3.85	219.83						
						6	Skimcoat to:				
4	Carporch beam (115mm x 600mm)						6.1 Coping (100mm x 100mm)	m2	24.780	8.50	210.63
	3.1 Concrete	m3	1.180	278.00	328.04		6.2 Coping (300mm x 100mm)	m2	8.176	8.50	69.50
	3.2 Formwork	m2	18.16	44.00	799.04		6.3 Carporch column (200mm x 450mm)	m2	6.469	8.50	54.98
	3.3 Reinforcement	kg	113.54	3.85	437.12		6.4 Carporch beam (120mm x 600mm)	m2	14.574	8.50	123.88
							6.5 Carporch Wall (100mm Thick)	m2	2.695	8.50	22.91
5	115mm thick clay brickwall	m2	2.695	60.00	161.70						
6	Plastering to :										
	6.1 Carporch column (225mm x 450mm)	m2	6.718	35.00	235.12						
	6.2 Carporch beam (115mm x 600mm)	m2	14.519	35.00	508.16						
	6.3 Carporch Wall (115mm thick clay brickwall)	m2	2.695	35.00	94.33						
	Total				**4,902.01**		**Total**				**3,061.40**
	Different of Amount			**RM**	**1,840.61**						
	Wall Area			**m2**	**261.15**		**Wall Area**			**m2**	**261.15**
	Cost for carporch column, beam, wall & coping to be added / m2 (Extra cost to be added to the Cost Comparison Superstructure Frame & Wall - Conventional)			**RM/m2**	** 7.05**						

Notes :

Carporch (Conventional)

1)	Total Concrete Volume (m3).	=	1.684	m3
2)	Total Reinforcement Weight (kg).	=	170.637	kg
3)	Total Reinforcement in 1m3 Concrete (kg/m3)	=	101.328	kg / m3

B) Single Storey Semi-D : 1,297 sqft (3.30m Wall Height)

Current material rate 2017

Summary of Conventinal & HC Precast System

HC Precast System Vs Conventional Method

Conventional				HC Precast System			
Item	Description	Unit	Amount	Item	Description	Unit	Amount
B2	Total Superstructure : Frame, Brickwall & Plastering	RM	43,081.78	B3	Total Superstructure : Panel Wall, Wet Joint & Skimcoat	RM	33,427.12
					Amount of Different		9,654.66
					Percentage of Different		22.41%
	Gross Floor Area (GFA)	ft2	1,297.00		Gross Floor Area (GFA)	ft2	1,297.00
	Cost / sqft GFA	RM	33.22		Cost / sqft GFA	RM	25.77
B4	Total Cost : Carporch Column, Beam, Wall & Coping	RM	4,902.01	B4	Total Cost : Carporch Column, Beam, Wall & Coping	RM	3,061.40
					Amount of Different		1,840.61
					Percentage of Different		37.55%
	Gross Floor Area (GFA)	ft2	1,297.00		Gross Floor Area (GFA)	ft2	1,297.00
	Cost / sqft GFA	RM	3.78		Cost / sqft GFA	RM	2.36
B5	Total B2 + B4	RM	47,983.79	B5	Total B3 + B4	RM	36,488.52
					Amount of Different		11,495.27
					Percentage of Different		23.96%
	Gross Floor Area (GFA)	ft2	1,297.00		Gross Floor Area (GFA)	ft2	1,297.00
	Cost / sqft GFA	RM	37.00		Cost / sqft GFA	RM	28.13

Current material rate 2017

B) Single Storey Semi-D : 1,297 sqft (3.30m Wall Height)

HC Precast System Vs Conventional Method

Cost Comparison Superstructure Frame & Wall : Conventional vs HC Precast System for 1m2 Wall Area

Conventional						HC Precast System					
Item	Description	Unit	Qty	Rate (RM)	Amount (RM)	Item	Description	Unit	Qty	Rate (RM)	Amount (RM)
1	Superstructure Frame Work	m2	1.00	* 38.82	38.82	1	100mm Thick Panel Wall	m2	1.00	90.00	90.00
							(0.10m thick x RM 900/m3)				
2	Cost for carporch column, beam, wall & coping	m2	1.00	** 7.05	7.05						
						2	Logistic	m2	1.00	20.00	20.00
3	114mm Thick Clay Brickwall	m2	1.00	60.00	60.00		(RM 200 / m3 - RM 400 / m3)				
4	230mm Thick Clay Brickwall	m2	1.00		-	3	Skimcoat both sides - by others	m2	2.00	8.50	17.00
5	114mm Thick Cement & Sand Brickwall	m2	1.00		-						
6	230mm Thick Cement & Sand Brickwall	m2	1.00		-						
7	Plastering to wall - both sides	m2	2.00	35.00	70.00						
	Total / m2			**RM**	**175.87**		**Total / m2**			**RM**	**127.00**
							Amount of Different				**48.87**
							Percentage of Different				**27.79%**

Notes : Conventional

1) * Cost of superstructure frame work to be added for every 1m2 wall area.

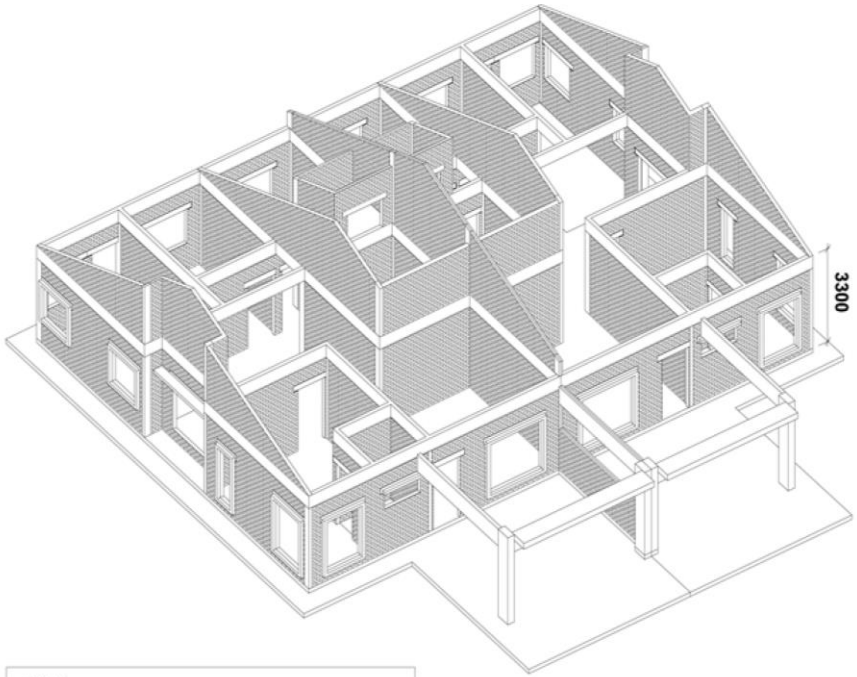
2) ** Cost of carporch column, beam, wall & coping to be added for every 1m2 wall area.

Notes : HC Precast System

- Cost saving

1) No preliminaries item
2) No primary undercoat for painting due to smooth skimcoat surface.
3) No rubbish cleaning
4) Shorter construction period
5) Reduce overhead due to shorter construction period
6) Reduce the quantity of cement and screed to receive tiling work
7) M & E Shop drawing produce by HC Precast System without any extra charges.

Conventional Method

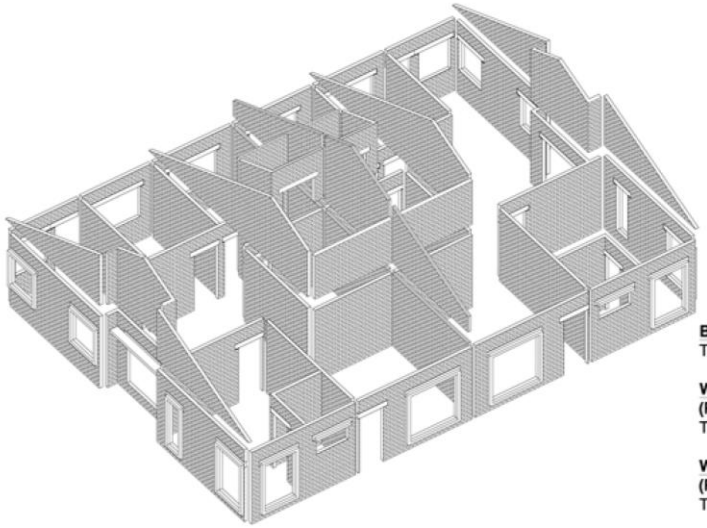


NOTE:
THICKNESS OF ALL WALLS & COMMON PARTY WALLS = 115mm

WALL HEIGHT = 3300mm

VOLUME & PERIMETER GIVEN IN THIS DRAWING ARE MEANT FOR 2 UNITS OF SEMI-D

3D VIEW - FRONT (LEFT SIDE)

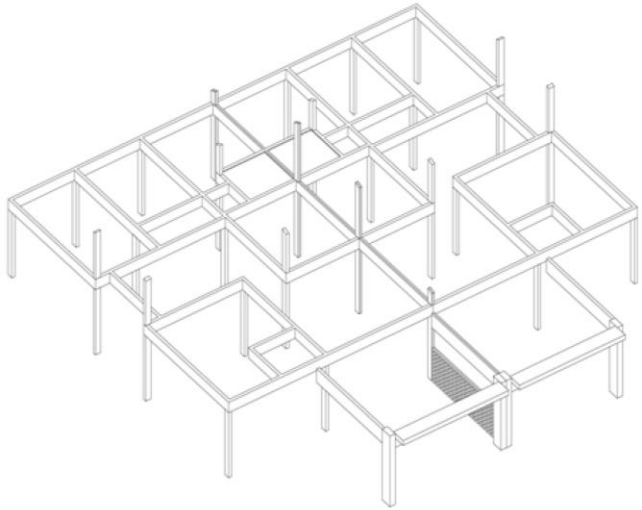


BRICK WALLS
Total area = 422.96m²

WINDOW COPINGS
(Protrude 100mm)
Total length = 82.60m

WINDOW COPING
(Protrude 300mm)
Total length = 11.62m

R.C. LINTELS
Total length = 56.10m



R.C. COLUMNS
Total volume = 2.58m³

R.C. ROOF BEAMS
Total volume = 8.28m³

R.C.WATER TANK SLAB
Total volume = 0.94m³

CAR PORCH STRUCTURE
COLUMNS
Total volume = 1.22m³

BEAMS
Total volume = 2.19m³

BRICK WALLS
Total area = 5.39m²

SYSTEM PROVIDER
HC PRECAST SYSTEM SDN. BHD. (586697-M)
No.23B, Jalan Seri Sarawak 20B/KS2, Taman Seri Andalas, 41200 Klang, Selangor D.E. Tel:03-3323 5999 Fax:03-3323 8993
e-mail:enquiry@hcprecast.com.my, Http:www.hcprecast.com.my

MANUFACTURER
HC MANUFACTURING SDN. BHD. (585570-T)
No.23-1, Jalan Seri Sarawak 20B/KS2, Taman Seri Andalas, 41200 Klang, Selangor D.E.
Tel:03-3323 7999 Fax:03-3323 8993

DRAWN :	KC
DATE :	NOV 2017
CHECKED :	3993
DWN'D :	3993
APPV'D :	3993
SCALE :	NTS

CADANGAN SKIM PERUMAHAN YANG MENGANDUNGI:
-18 UNIT RUMAH BERKEMBAR 1 TINGKAT JENIS RB1

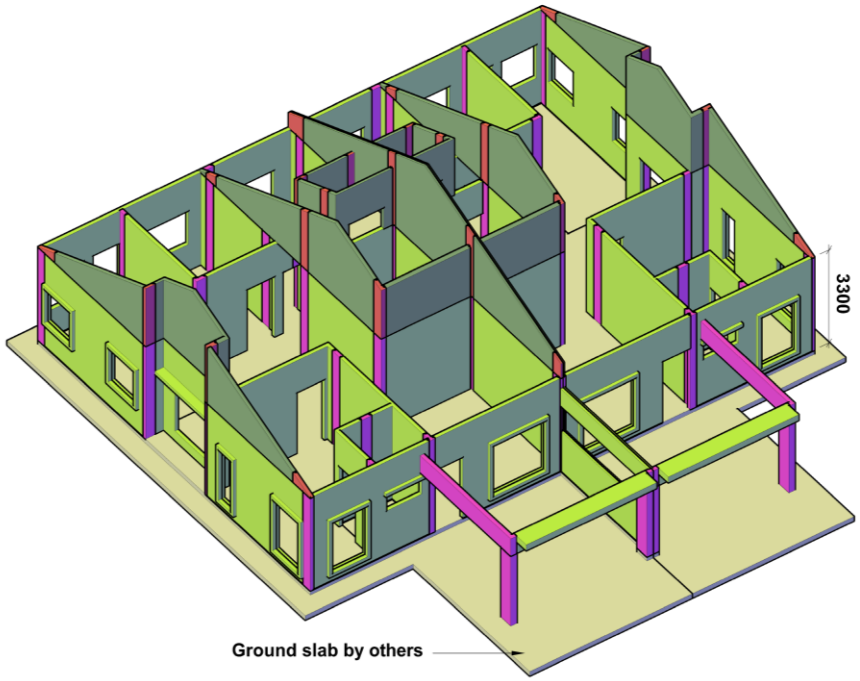
DI ATAS LOT 26114 (PM 4401) & LOT 15331 (PM 1868),
MUKIM JENDERAK, DAERAH TEMERLOH,
PAHANG DARUL MAKMUR.

UNTUK TETUAN:
KIAN MEGAH DEVELOPMENT SDN. BHD.

DRAWING TITLE :
SINGLE STOREY SEMI DETACHED CONVENTIONAL CONSTRUCTION 3D DRAWING

DRAWING NO : HC/KM/SD/3D-01G REV : -
SYSTEM : - REV : -

HC Precast System Method



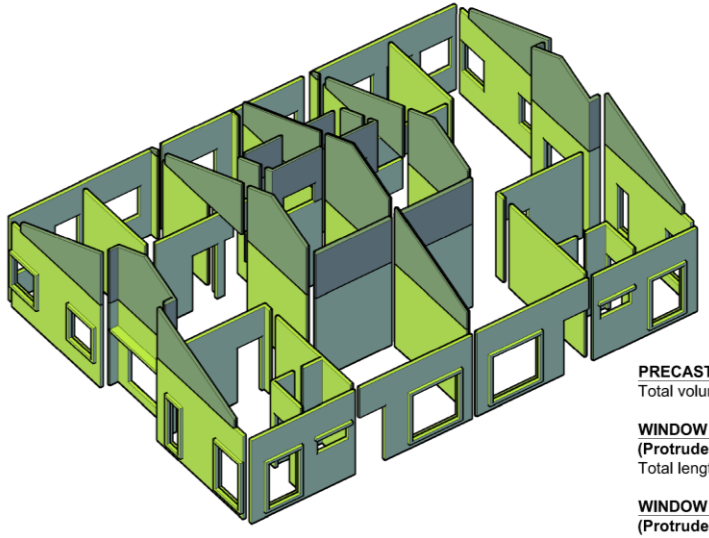
NOTE:
THICKNESS OF ALL WALLS & COMMON PARTY WALLS = 100mm

WALL HEIGHT = 3300mm

VOLUME & PERIMETER GIVEN IN THIS DRAWING ARE MEANT FOR 2 UNITS OF SEMI-D

TOTAL WALL AREA = 522.30m²

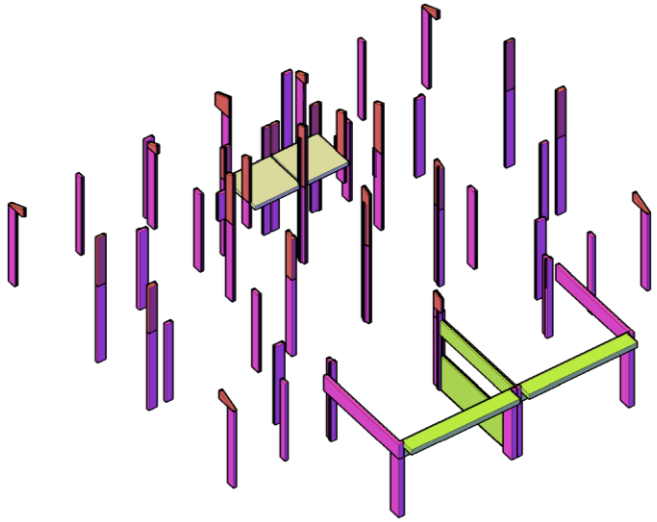
3D VIEW - FRONT (LEFT SIDE)



PRECAST WALL PANELS
Total volume = 46.68m³

WINDOW COPINGS
(Protrude 100mm)
Total length = 82.60m

WINDOW COPING
(Protrude 300mm)
Total length = 11.68m



WET JOINTS
Total volume = 5.55m³

R.C.WATER TANK SLAB
Total volume = 0.96m³

CAR PORCH STRUCTURE
WET JOINTS
Total volume = 0.90m³

BEAMS
Total volume = 2.36m³

PRECAST WALL PANELS
Total volume = 0.52m³

SYSTEM PROVIDER

HC PRECAST SYSTEM SDN. BHD. (586697-M)
No.23B, Jalan Seri Sarawak 20B/KS2, Taman Seri Andalas,
41200 Klang, Selangor D.E. Tel:03-3323 5999 Fax:03-3323 8993
e-mail:enquiry@hcprecast.com.my, Http:www.hcprecast.com.my

MANUFACTURER

HC MANUFACTURING SDN. BHD. (585570-T)
No.23-1, Jalan Seri Sarawak 20B/KS2, Taman Seri Andalas,
41200 Klang, Selangor D.E.
Tel:03-3323 7999 Fax:03-3323 8993

DRAWN :	HC
DATE :	AUG 2017
CHECKED :	3993
EXAM'D :	3993
APPR'D :	3993
SCALE :	NTS

CADANGAN SKIM PERUMAHAN YANG MENGANDUNGI:
-18 UNIT RUMAH BERKEMBAR 1 TINGKAT JENIS RB1

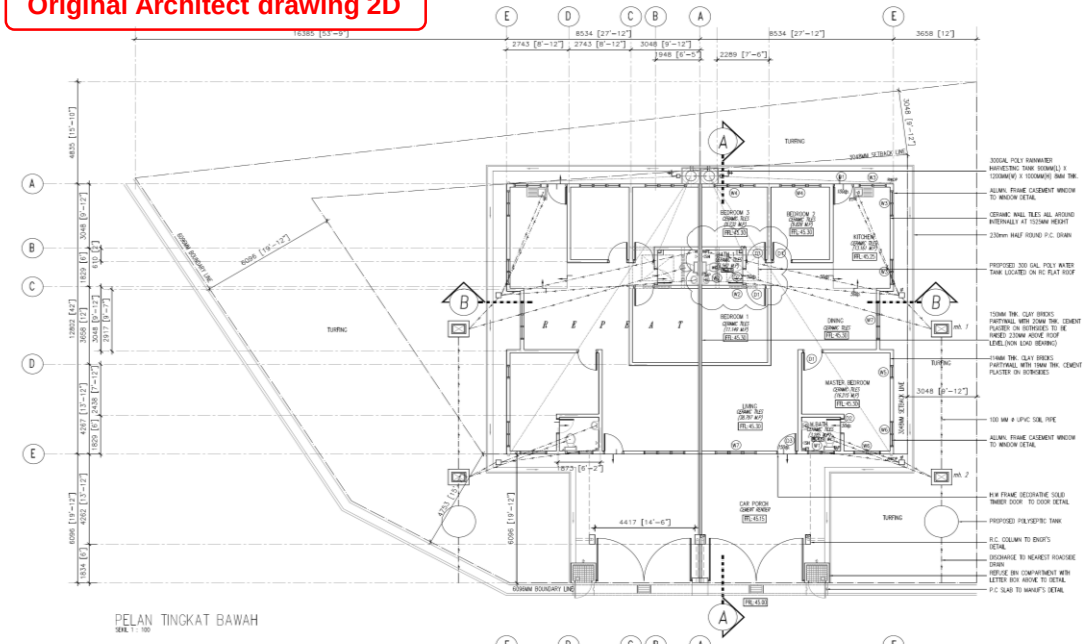
DI ATAS LOT 26114 (PM 4401) & LOT 15331 (PM 1868),
MUKIM JENDERAK, DAERAH TEMERLOH,
PAHANG DARUL MAKMUR.

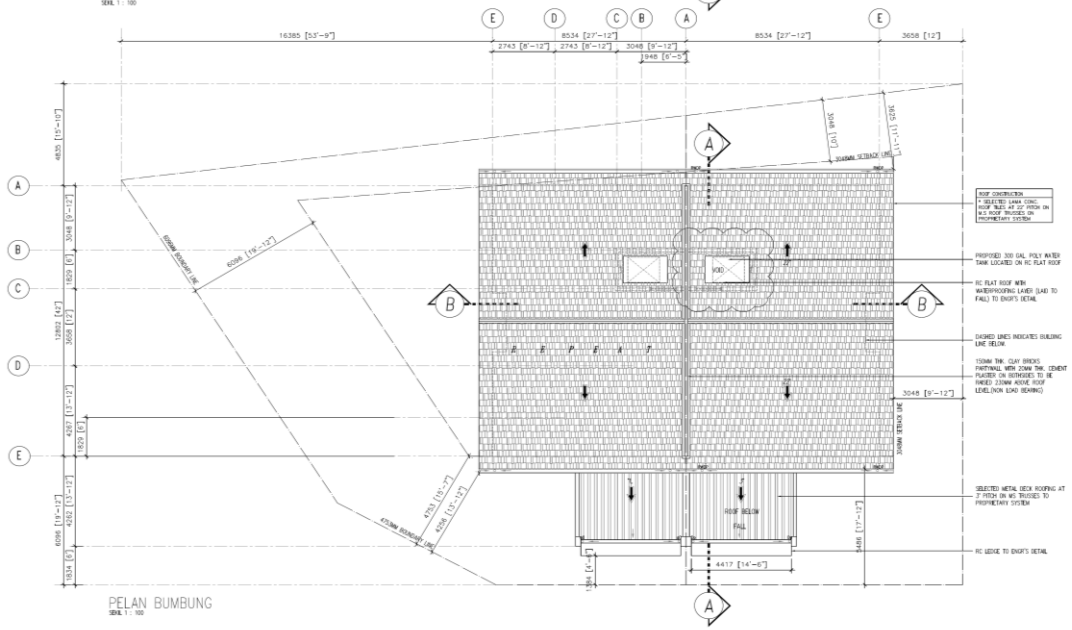
UNTUK TETUAN:
KIAN MEGAH DEVELOPMENT SDN. BHD.

DRAWING TITLE :
SINGLE STOREY SEMI DETACHED
HC PRECAST CONSTRUCTION
3D DRAWING

DRAWING NO :	HC/KM/SD/3D-01H
REV :	-
SYSTEM :	-
REV :	-

Original Architect drawing 2D





SANITARY AND PLUMBING SCHEDULE

SYMBOL	SANITARY & PLUMBING SPECIFICATION
S	SINK
SH	SHOWER HEAD
SC	STOP COCK
GV	GATE VALVE
LV	LOCKABLE VALVE
M	METER
TAP	WATER TAP
FT	FLOOR TRAP
GT	GULLY TRAP
MH	MANHOLE
WC	WATER CLOSET
B	BASIN
BT	BOTTLE TRAP

JADUAL TINGKAP

SYMBOL	WINDOW SPECIFICATION	SIZE(WIDTH X HEIGHT)
W1	ALUM. FRAME TOP HUNG WINDOW TO MANUF'S DETAIL	1200mm X 600mm
W2	ALUM. FRAME TOP HUNG WINDOW TO MANUF'S DETAIL	1200mm X 1000mm
W3	ALUM. FRAME CASEMENT WINDOW TO MANUF'S DETAIL	1200mm X 1200mm
W4	ALUM. FRAME CASEMENT WINDOW TO MANUF'S DETAIL	1800mm X 1200mm
W5	ALUMN. FRAME CASEMENT WINDOW WITH FIXED GLASS BELOW TO MANUF'S DETAIL	600mm X 1800mm
W6	ALUMN. FRAME CASEMENT WINDOW WITH FIXED GLASS BELOW TO MANUF'S DETAIL	1200mm X 1800mm
W7	ALUMN. FRAME CASEMENT WINDOW WITH FIXED GLASS BELOW TO MANUF'S DETAIL	1800mm X 1800mm

JADUAL PINTU

SYMBOL	DOOR SPECIFICATION	SIZE(WIDTH X HEIGHT)
D1	W.S. FRAME PLYWOOD FLUSH DOOR TO MANUF'S DETAIL	900mm X 2100mm
D2	W.S. FRAU TIMBER WATERPROOF FLUSH DOOR TO MANUF'S DETAIL	750mm X 2100mm
D3	M.W. FRAME DECORATIVE SOLID TIMBER DOOR TO MANUF'S DETAIL	900mm X 2100mm

VENTILATION & LIGHTING SCHEDULE

LOCATION	AREA (M2)	VENTILATION & LIGHTING REQUIRE	VENTILATION & LIGHTING PROVIDE	MACHANICAL VENTILATION
LIVING & DINING	38.7	10% = 3.87	6.48	–
MASTER BEDROOM	16.2	10% = 1.61	5.40	–
MASTER BATH	3.2	10% = 0.32	0.72	–
BEDROOM 1	11.1	10% = 1.11	1.20	–
BEDROOM 2	9.8	10% = 0.98	2.16	–
BEDROOM 3	9.7	10% = 0.97	2.16	–
BATH 1	3.5	10% = 0.35	1.20	–
KITCHEN	13.1	10% = 1.31	2.88	–

SHEET NO 02 / 03

DILULUSKAN :

PELAN BANGUNAN INI ADALAH TERATUR DAN DIPERSETUJUI OLEH MAJLIS TERTAKLUK KEPADA SYARAT-SYARAT SURAT BIL
( ) DALAM
MPT:
BERTARIKH:
PELAN NO.MPT:

YANG DIPERTUA/ ARKITEK
MAJLIS PERBANDARAN TEMERLOH:

PROJEK
CADANGAN SKIM PERUMAHAN YANG MENGANDUNGI:

-18 YUNIT RUMAH BERKEMBAR 1 TINGKAT JENIS RB1

DI ATAS LOT 26114 (PM 4401) & LOT 15331 (PM 1868), MUKIM JENDERAK, DAERAH TEMERLOH, PAHANG DARUL MAKMUR.

UNTUK TETUAN :-
KIAN MEGAH DEVELOPMENT SDN. BHD. (1039133-M)

CATITAN
THIS DRAWING IS COPY RIGHT.
CONTRACTOR MUST CHECK ALL DIMENSIONS ON SITE. ONLY FIGURED DIMENSIONS ARE TO BE WORKED UPON. DISCREPANCIES MUST BE REPORTED IMMEDIATELY TO THE ARCHITECT BEFORE PROCEEDING.

RUJ	PINDAAN	TARIKH

TANDATANGAN & ALAMAT PEMAJU

CHEAH AH LICK (DIRECTOR) (NO K/P: 560214-05-5281)
KIAN MEGAH DEVELOPMENT SDN.BHD. (1039133-M)
NO.63, JALAN HAJI KASSIM
26400, MENTAKAB,
PAHANG DARUL MAKMUR

TAJUK LUKISAN
- PELAN TINGKAT BAWAH
- PELAN BUMBUNG
- JADUAL TINGKAP
- JADUAL PINTU
- JADUAL PENCAHAYAAN DAN PENGUDARAAN

TANDATANGAN ARKITEK
"Saya memperakui bahawa butir-butir dalam pelan-pelan ini adalah menurut kehendak Undang-Undang Kecil Bangunan Seragam 1984 dan saya setuju menerima tanggungjawab penuh dengan sewajarnya."

LEMBAGA ARKITEK MALAYSIA

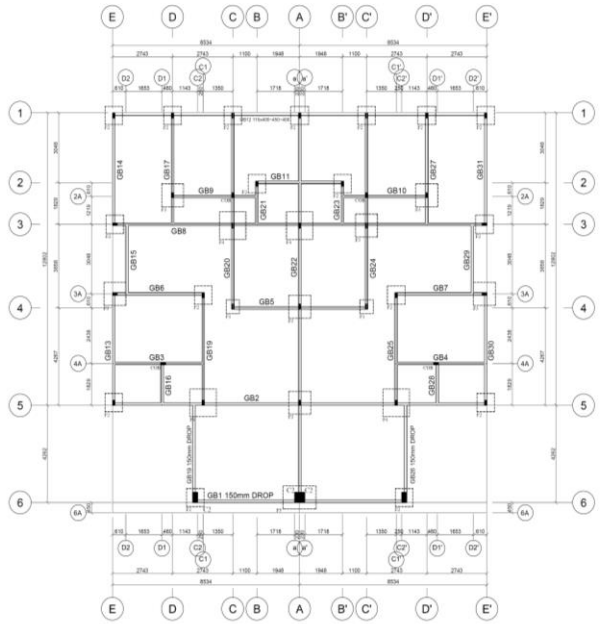
Ar. See Kim Plow
ARKITEK PROFESIONAL
No. Pendaftaran LAM: A/S 97

K P SEE ARCHITECT
7-4-1 BLOCK B MEGAN CORPORATE PARK
JALAN 1/125E DESA PETALING
57100, KUALA LUMPUR
TEL: 03-90583990 FAX: 03-90583997
EMAIL: kpsee.architect@gmail.com

SKEL	1:100
TARIKH	JAN 2016
DILUKIS	NICOLE CHEW
DISEMAK	AR SEE

NO. LUKISAN
S329/BP/RB1/01

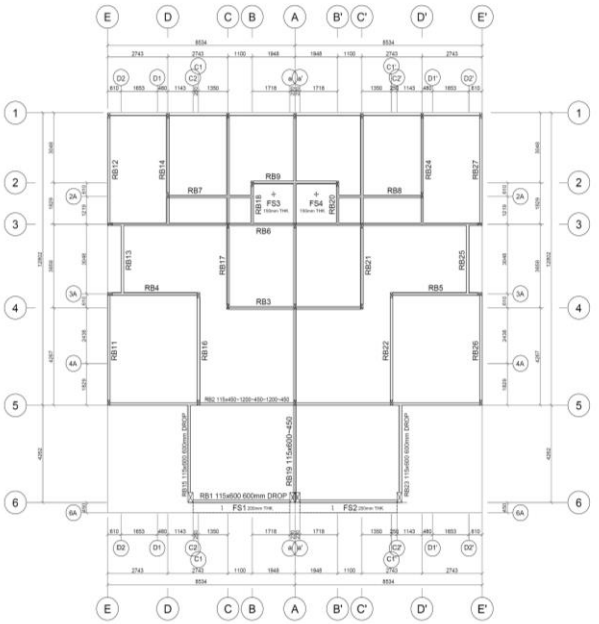
Original C&S drawing



FOOTING, COLUMN & GROUND FLOOR LAYOUT PLAN (0.15m)

SCALE : 1:100

1) ALL BEAMS TO BE 115x450 UNLESS OTHERWISE STATED
2) ALL COLUMNS TO BE C1 (115x225) UNLESS OTHERWISE STATED



ROOF LAYOUT PLAN (3.81m)

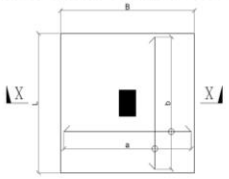
SCALE : 1:100

1) ALL BEAMS TO BE 115x450 UNLESS OTHERWISE STATED
2) ALL SLABS TO BE 150mm THK. UNLESS OTHERWISE STATED
3) WATER PROOF MEMBRANE TO BE PROVIDED AT ROOF SLAB AREA

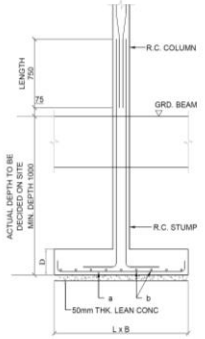
FOOTING SCHEDULE

TYPE	FOOTING SIZES L x B (mm)	DEPTH (mm)	REINFORCEMENTS	
		D	a	b
F1	600 x 600	150	T12-150	T12-150
F2	800 x 800	150	T12-150	T12-150
F3	1000 x 1000	150	T12-150	T12-150
F4	1200 x 1200	200	T12-150	T12-150
F5	1000 x 1500	150	T12-150	T12-150

NOTES :-
1) FOOTING IS BASED ON ASSUMED SOIL BEARING CAPACITY OF 150 kN/m2
2) CONCRETE GRADE FOR FOOTING AND COLUMN STUMP TO BE GRADE 25



TYPICAL FOOTING PLAN



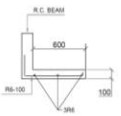
SECTION X-X

ROOF

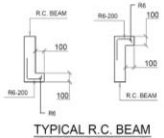
GROUND FLOOR			
SIZES	115 x 225	225 x 450	115 x 225
REINFORCEMENT	4T12	8T12	4T12
LINKS	R6-150	R6-150	R6-150
STUMP			
SIZES	115 x 225	225 x 450	
REINFORCEMENT	4T12	8T12	
LINKS	R6-150	R6-150	
COLUMN TO REFER	C1	C2	COB

COLUMN SCHEDULE

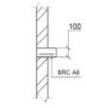
NOTES:



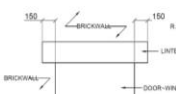
TYPICAL R.C. PENT DETAIL



TYPICAL R.C. BEAM COPPING DETAILS

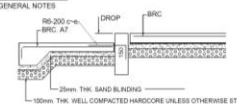


TYPICAL R.C. SILL DETAILS



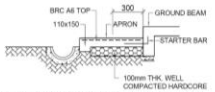
TYPICAL DETAIL OF LINTEL BEAM

NOTE: FOR SIZES OF LINTEL BEAM REFER TO GENERAL NOTES



TYPICAL APRON SLAB DETAIL

SCALE : 1 : 25



P.C. DRAIN & APRON DETAILS

SCALE : 1 : 25

JURUTERA PERUNDING : I hereby certify that these works have been designed by me in accordance with sound engineering practice and that I take full responsibility for the design and proper performance of the same.

DATO' IR. HIANG A LI DSAP, DMSP., SMP., AMP., BCK.,
JURUTERA PERUNDING B.Eng., (Mal), MIEM., P.Eng.
F-83, TINGKAT 1, JALAN TENGKU ISMAIL,
28000 TEMERLOH, PAHANG DARUL MAKMUR.

PROJEK :

CADANGAN PEMBANGUNAN PERUMAHAN YANG MENGANDUNGI 18 UNIT RUMAH BERKEMBAR 1 TINGKAT JENIS RB1 DI ATAS LOT 26114 & LOT 15331, MUKIM JENDERAK, DAERAH TEMERLOH, PAHANG D.M.

UNTUK : KIAN MEGAH DEVELOPMENT S/B

TAJUK :

SINGLE STOREY SEMI-DETACHED HOUSE (RB1)

FOOTING & COLUMN SCHEDULE WITH DETAILS
GROUND FLOOR & ROOF LAYOUT PLAN
TYPICAL SLAB, LINTEL BEAM AND MISC DETAILS

DIREKABENTUK OLEH	AHMAD MUKRI
DILUKIS OLEH	AHMAD MUKRI
SKALA	1 : 100
DISEMAK OLEH	DATO' IR. HIANG A LI
DISEMAK PADA	OGOS 2016

NO.LUKISAN: AHM.RC.008.2016 RB1.1-3

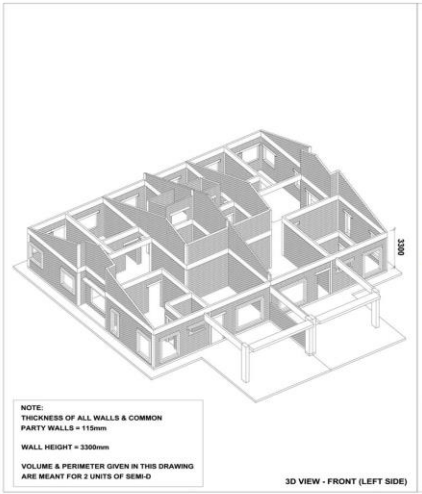
NO. HELAIAN 1

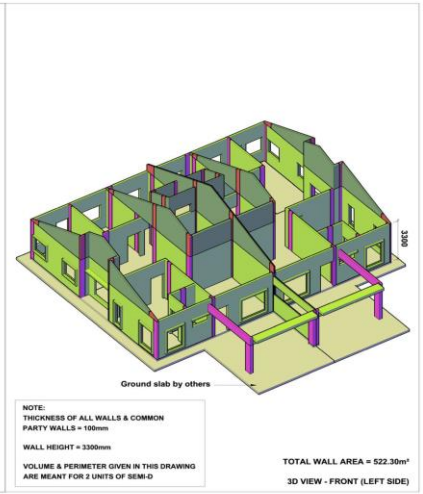
(5)

Cost Comparison Superstructure (Frame & Wall) : Conventional vs HC Precast System

Single Storey Semi-D : 1,297 sqft

C - 3.00m Wall Height

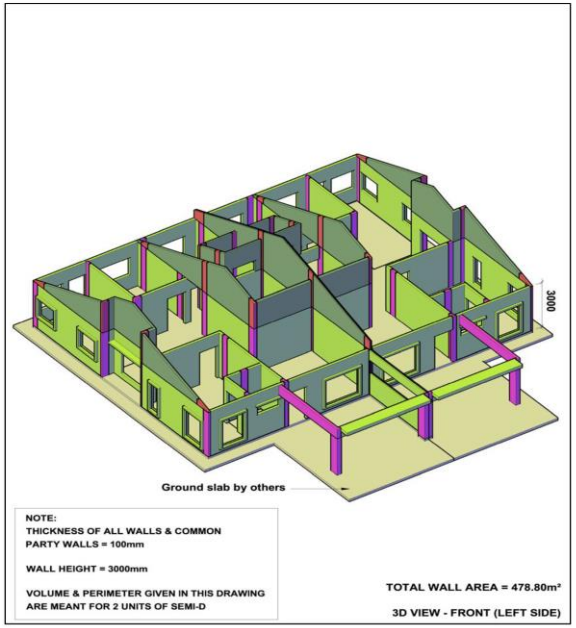




* Rate can be adjust online at website : www.hcprecast.com

Single Storey Semi-D : 1,297 sqft

C - 3.00m Wall Height



HC Precast System

- Cost saving

1) No preliminaries item
2) No primary undercoat for painting due to smooth skimcoat surface.
3) No rubbish cleaning
4) Shorter construction period
5) Reduce overhead due to shorter construction period
6) Reduce the quantity of cement and screed to receive tiling work
7) M & E Shop drawing produce by HC Precast System without any extra charges.

C) Single Storey Semi-D : 1,297 sqft (3.00m Wall Height)

Contents

C) Single Storey Semi-D : 1,297 sqft (3.00m Wall Height)

Main Contractor Current Supply & Install Rate - November 2017

Current material rate 2017

Item	Description	Unit	Rate (RM)
1	Concrete		
	a) Grade 25	m3	278.00
	b) Grade 30	m3	285.00
	c) Grade 35	m3	292.00
2	Reinforcement		
	a) T10 - T12	kg	3.85
	b) T16 - T32	kg	3.70
3	Formwork	m2	44.00
4	BRC		
	a) A6	m2	10.80
	b) A7	m2	14.30
	c) A8	m2	18.90
	d) A9	m2	20.30
	e) A10	m2	24.50
5	Common Clay Brick		
	a) 115mm Thick	m2	60.00
	b) 230mm Thick	m2	120.00
6	Cement & Sand Brick		
	a) 115mm Thick	m2	44.50
	b) 230mm Thick	m2	89.00
7	Plastering		
	a) Internal	m2	40.00
	b) External	m2	45.00
8	Skimcoat		
	a) Internal	m2	8.50
	b) External	m2	12.50
9	19mm Thick Internal Plastering with Smooth Surface (cement slurry)	m2	35.00
10	19mm Thick Internal Plastering Without Skimcoat (no finish)	m2	27.50
11	19mm Thick External Plastering With Wood Float (without render)	m2	40.00
12	19mm Thick External Plastering Without Finish (to receive render)	m2	27.50
13	Internal Skimcoat	m2	8.50 - 9.90
14	5mm - 16mm Thick External Rendering	m2	15.00
15	Crane		
	a) 20 tonne	trip	800.00 - 900.00
	b) 25 tonne	trip	1,300.00

C) Single Storey Semi-D : 1,297 sqft (3.00m Wall Height)

Conventional Method

Summary of Conventional Superstructure : Frame , Brickwall & Plastering (Taking Off Quantity)

Item	Description	Unit	Qty	Rate (RM)	Amount (RM)	Sub-total (RM)
A	Superstructure Frame Works - Excluding Carporch (Column, Beam & Wall) & Coping					
1	Column					
	1.1 Concrete Grade 25	m3	1.056	278.00	293.57	
	1.2 Formwork	m2	27.740	44.00	1,220.56	
	1.3 Reinforcement	kg	219.372	3.85	844.58	
2	Roof Beam					
	2.1 Concrete Grade 25	m3	3.841	278.00	1,067.80	
	2.2 Formwork	m2	81.220	44.00	3,573.68	
	2.3 Reinforcement	kg	381.916	3.85	1,470.38	
3	Water Tank Slab					
	3.1 Concrete Grade 25	m3	0.534	278.00	148.45	
	3.2 Formwork	m2	3.563	44.00	156.77	
	3.3 BRC A7	m2	7.901	14.30	112.98	
4	6mm Bonding ties					
	4.1 Reinforcement	kg	29.304	3.85	112.82	
5	Lintol (100mm x 200mm)	m	29.100	30.00	873.00	
						9,874.59
B	**Architecture Works**					
1	114mm Thick Clay Brick (External Wall)	m2	83.130	60.00	4,987.80	
2	114mm Thick Clay Brick (Internal Wall)	m2	77.040	60.00	4,622.40	
3	230mm Thick Clay Brick (Party Wall)	m2	24.010	120.00	2,881.20	
4	Plastering (Internally & Externally)	m2	488.400	35.00	17,094.00	
5	Dpm	m	72.426	0.50	36.21	
						29,621.61
	Total	**RM**			**39,496.20**	**39,496.20**
	Gross Floor Area (GFA)	**ft2**				**1,297.00**
	Cost / sqft GFA	**RM**				**30.45**

Notes :

1) Sub-total Superstructure Frame Works (RM) = RM 9,874.59

2) Total Wall Area (m2) = 239.40 m2

3) Total Superstructure Frame Works / 1m2 wall area (RM) = RM * 41.25 / m2
(Cost of superstructure frame works required for wall area per m2.)

4) Total Concrete Volume (m3). = 6.013 m3

5) Total Reinforcement Weight (kg). = 654.453 kg

6) Total Reinforcement in 1m3 Concrete (kg/m3) = 108.840 kg / m3

7) Cost of Superstructure per 1m3 concrete = RM 1,642.21 / m3
(RM 9,874.59 / 6.01 m3)

8) Wall Height : 3.710m

9) Gross Floor Area (GFA) = 1,297.00 ft2
(Car Porch & Water Tank Slab Area Calculated 50% Only)

C) Single Storey Semi-D : 1,297 sqft (3.00m Wall Height)

Summary of HC Precast System Superstructure : Panel Wall, Wet Joint & Skimcoat (AutoCad 3D drawing)

Item	Description	Unit	Qty	Rate (RM)	Amount (RM)
A	**Superstructure Frame & Panel Wall**				
1	100mm Thick Panel Wall	m3	24.420	900.00	21,978.00
	(without coping, carporch column & beam quantity)				
2	Logistic	m3	24.420	200.00	4,884.00
	(RM 200 / m3 - RM 400 / m3)				
3	Skimcoat both sides - by others	m2	447.396	8.50	3,802.87
	Wall Area				
	= (Overall quantity - water tank slab quantity) / wall thickness				
	= (24.42m3 - 0.48m3) / 0.10m				
	= 239.40 m2				
	Total	**RM**			**30,664.87**
	Gross Floor Area (GFA)	**ft2**			**1,297.00**
	Cost / sqft GFA	**RM**			**23.64**

Notes :

- Cost saving

1) No preliminaries item
2) No primary undercoat for painting due to smooth skimcoat surface.
3) No rubbish cleaning
4) Shorter construction period
5) Reduce overhead due to shorter construction period
6) Reduce the quantity of cement and screed to receive tiling work
7) M & E Shop drawing produce by HC Precast System without any extra charges.

Current material rate 2017

C) Single Storey Semi-D : 1,297 sqft (3.00m Wall Height)

Calculation : Carporch Column, Beam, Wall & Coping

HC Precast System Vs Conventional Method

Conventional						HC Precast System					
Item	**Description**	**Unit**	**Qty**	**Rate (RM)**	**Amount (RM)**	**Item**	**Description**	**Unit**	**Qty**	**Rate (RM)**	**Amount (RM)**
1	Formcrete Coping (100mm x 100mm)	m	37.500	40.00	1,500.00	1	Coping (100mm x 100mm)	m3	0.375	1,100.00	412.50
	- RM 30.00/m (material) + RM 10.00/m (labour)										
						2	Coping (300mm x 100mm)	m3	0.080	1,100.00	88.00
2	Formcrete Coping (300mm x 100mm)	m	3.048	60.00	182.88						
	- RM 50.00/m (material) + RM 10.00/m (labour)					3	Carporch column (200mm x 450mm)	m3	0.450	1,100.00	495.00
3	Carporch column (225mm x 450mm)					4	Carporch beam (120mm x 600mm)	m3	1.180	1,100.00	1,298.00
	2.1 Concrete	m3	0.504	278.00	140.11						
	2.2 Formwork	m2	6.720	44.00	295.68	5	Carporch Wall (100mm Thick)	m3	0.260	1,100.00	286.00
	2.3 Reinforcement	kg	57.099	3.85	219.83						
						6	Skimcoat to:				
4	Carporch beam (115mm x 600mm)						6.1 Coping (100mm x 100mm)	m2	24.780	8.50	210.63
	3.1 Concrete	m3	1.180	278.00	328.04		6.2 Coping (300mm x 100mm)	m2	8.176	8.50	69.50
	3.2 Formwork	m2	18.16	44.00	799.04		6.3 Carporch column (200mm x 450mm)	m2	6.469	8.50	54.98
	3.3 Reinforcement	kg	113.54	3.85	437.12		6.4 Carporch beam (120mm x 600mm)	m2	14.574	8.50	123.88
							6.5 Carporch Wall (100mm Thick)	m2	2.695	8.50	22.91
5	115mm thick clay brickwall	m2	2.695	60.00	161.70						
6	Plastering to :										
	6.1 Carporch column (225mm x 450mm)	m2	6.718	35.00	235.12						
	6.2 Carporch beam (115mm x 600mm)	m2	14.519	35.00	508.16						
	6.3 Carporch Wall (115mm thick clay brickwall)	m2	2.695	35.00	94.33						
	Total				**4,902.01**		**Total**				**3,061.40**
	Different of Amount			**RM**	**1,840.61**						
	Wall Area			**m2**	**239.40**		**Wall Area**			**m2**	**239.40**
	Cost for carporch column, beam, wall & coping to be added / m2 (Extra cost to be added to the Cost Comparison Superstructure Frame & Wall - Conventional)			**RM/m2**	** 7.69**						

Notes :

Carporch (Conventional)

1)	Total Concrete Volume (m3).	=	1.684	m3
2)	Total Reinforcement Weight (kg).	=	170.637	kg
3)	Total Reinforcement in 1m3 Concrete (kg/m3)	=	101.328	kg / m3

C) Single Storey Semi-D : 1,297 sqft (3.00m Wall Height)

Current material rate 2017

Summary of Conventinal & HC Precast System

HC Precast System Vs Conventional Method

Conventional				HC Precast System			
Page	Description	Unit	Amount	Page	Description	Unit	Amount
C2	Total Superstructure : Frame, Brickwall & Plastering	RM	39,496.20	C3	Total Superstructure : Panel Wall, Wet Joint & Skimcoat	RM	30,664.87
					Amount of Different		8,831.33
					Percentage of Different		22.36%
	Gross Floor Area (GFA)	ft2	1,297.00		Gross Floor Area (GFA)	ft2	1,297.00
	Cost / sqft GFA	RM	30.45		Cost / sqft GFA	RM	23.64
C4	Total Cost : Carporch Column, Beam, Wall & Coping	RM	4,902.01	C4	Total Cost : Carporch Column, Beam, Wall & Coping	RM	3,061.40
					Amount of Different		1,840.61
					Percentage of Different		37.55%
	Gross Floor Area (GFA)	ft2	1,297.00		Gross Floor Area (GFA)	ft2	1,297.00
	Cost / sqft GFA	RM	3.78		Cost / sqft GFA	RM	2.36
C5	Total C2 + C4	RM	44,398.21	C5	Total C3 + C4	RM	33,726.27
					Amount of Different		10,671.94
					Percentage of Different		24.04%
	Gross Floor Area (GFA)	ft2	1,297.00		Gross Floor Area (GFA)	ft2	1,297.00
	Cost / sqft GFA	RM	34.23		Cost / sqft GFA	RM	26.00

Current material rate 2017

C) Single Storey Semi-D : 1,297 sqft (3.00m Wall Height)

Cost Comparison Superstructure Frame & Wall : Conventional vs HC Precast System for 1m2 Wall Area

HC Precast System Vs Conventional Method

Conventional						HC Precast System					
Item	**Description**	**Unit**	**Qty**	**Rate (RM)**	**Amount (RM)**	**Item**	**Description**	**Unit**	**Qty**	**Rate (RM)**	**Amount (RM)**
1	Superstructure Frame Work	m2	1.00	* 41.25	41.25	1	100mm Thick Panel Wall	m2	1.00	90.00	90.00
							(0.10m thick x RM 900/m3)				
2	Cost for carporch column, beam, wall & coping	m2	1.00	** 7.69	7.69						
						2	Logistic	m2	1.00	20.00	20.00
3	114mm Thick Clay Brickwall	m2	1.00	60.00	60.00		(RM 200 / m3 - RM 400 / m3)				
4	230mm Thick Clay Brickwall	m2	1.00		-	3	Skimcoat both sides - by others	m2	2.00	8.50	17.00
5	114mm Thick Cement & Sand Brickwall	m2	1.00		-						
6	230mm Thick Cement & Sand Brickwall	m2	1.00		-						
7	Plastering to wall - both sides	m2	2.00	35.00	70.00						
	Total / m2			**RM**	**178.94**		**Total / m2**			**RM**	**127.00**
							Amount of Different				**51.94**
							Percentage of Different				**29.03%**

Notes : Conventional

1) * Cost of superstructure frame work to be added for every 1m2 wall area.

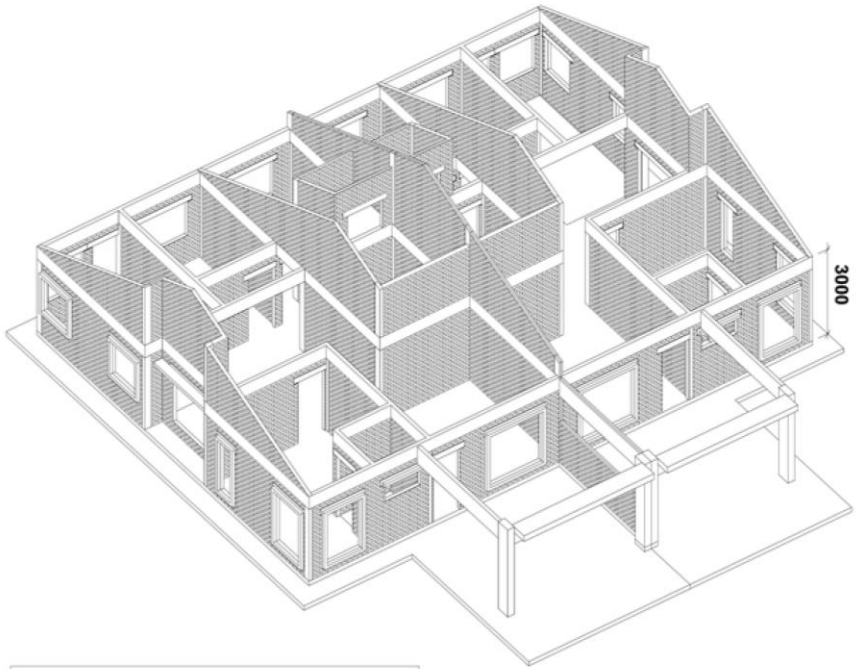
2) ** Cost of carporch column, beam, wall & coping to be added for every 1m2 wall area.

Notes : HC Precast System

- Cost saving

1) No preliminaries item
2) No primary undercoat for painting due to smooth skimcoat surface.
3) No rubbish cleaning
4) Shorter construction period
5) Reduce overhead due to shorter construction period
6) Reduce the quantity of cement and screed to receive tiling work
7) M & E Shop drawing produce by HC Precast System without any extra charges.

Conventional Method

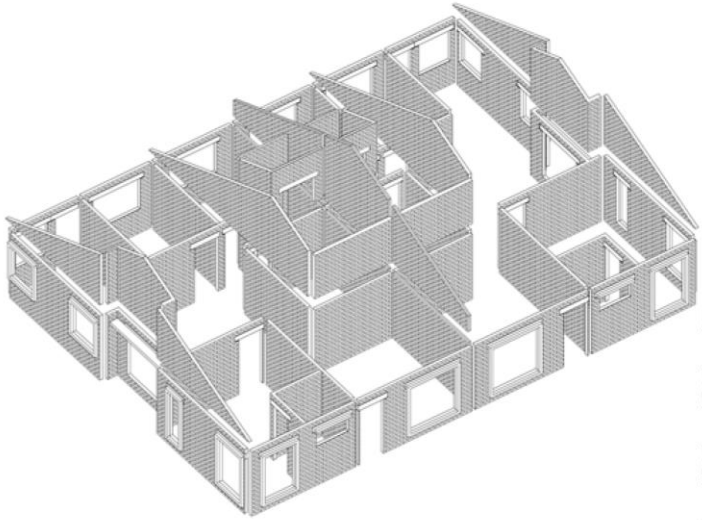


NOTE:
THICKNESS OF ALL WALLS & COMMON PARTY WALLS = 115mm

WALL HEIGHT = 3000mm

VOLUME & PERIMETER GIVEN IN THIS DRAWING ARE MEANT FOR 2 UNITS OF SEMI-D

3D VIEW - FRONT (LEFT SIDE)

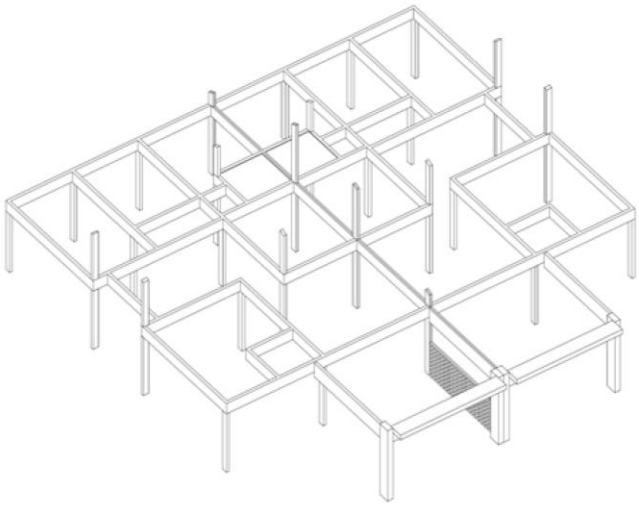


BRICK WALLS
Total area = 381.04m²

WINDOW COPINGS
(Protrude 100mm)
Total length = 82.60m

WINDOW COPING
(Protrude 300mm)
Total length = 11.62m

R.C. LINTELS
Total length = 56.10m



R.C. COLUMNS
Total volume = 2.36m³

R.C. ROOF BEAMS
Total volume = 8.28m³

R.C.WATER TANK SLAB
Total volume = 0.94m³

CAR PORCH STRUCTURE
COLUMNS
Total volume = 1.22m³

BEAMS
Total volume = 2.19m³

BRICK WALLS
Total area = 5.39m²

SYSTEM PROVIDER

HC PRECAST SYSTEM SDN. BHD. (586697-M)
No.23B, Jalan Seri Sarawak 20B/KS2, Taman Seri Andalas,
41200 Klang, Selangor D.E. Tel:03-3323 5999 Fax:03-3323 8993
e-mail:enquiry@hcprecast.com.my, Http:www.hcprecast.com.my

MANUFACTURER

HC MANUFACTURING SDN. BHD. (585570-T)
No.23-1, Jalan Seri Sarawak 20B/KS2, Taman Seri Andalas,
41200 Klang, Selangor D.E.
Tel:03-3323 7999 Fax:03-3323 8993

DRAWN :	HC
DATE :	NOV 2017
CHECKED :	3993
APP'D :	3993
APP'D :	3993
SCALE :	NTS

CADANGAN SKIM PERUMAHAN YANG MENGANDUNGI:
-18 UNIT RUMAH BERKEMBAR 1 TINGKAT JENIS RB1

DI ATAS LOT 26114 (PM 4401) & LOT 15331 (PM 1868),
MUKIM JENDERAK, DAERAH TEMERLOH,
PAHANG DARUL MAKMUR.

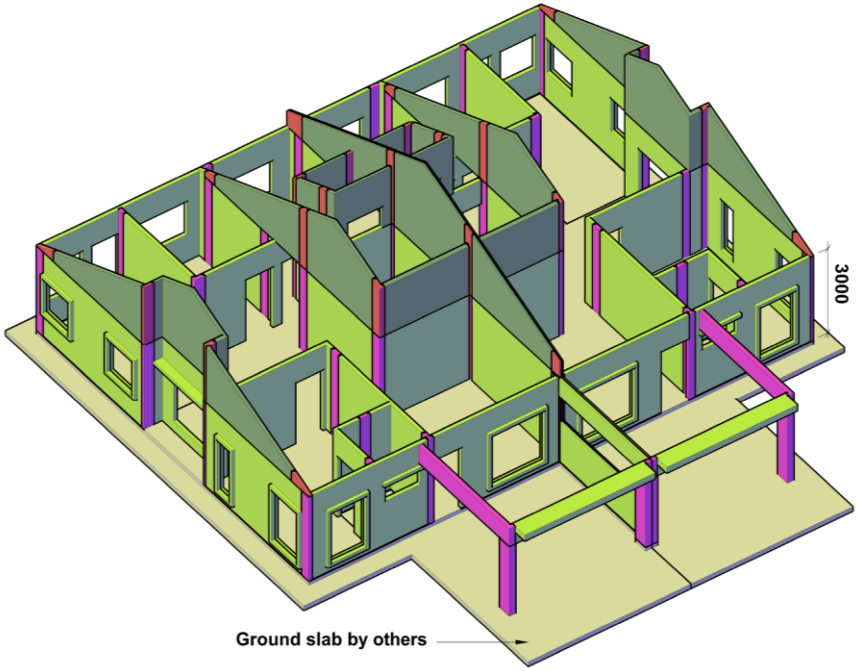
UNTUK TETUAN:
KIAN MEGAH DEVELOPMENT SDN. BHD.

DRAWING TITLE :

SINGLE STOREY SEMI DETACHED
CONVENTIONAL CONSTRUCTION
3D DRAWING

DRAWING NO :	HC/KM/SD/3D-01J
REV :	--
SYSTEM :	--
REV :	--

HC Precast System Method



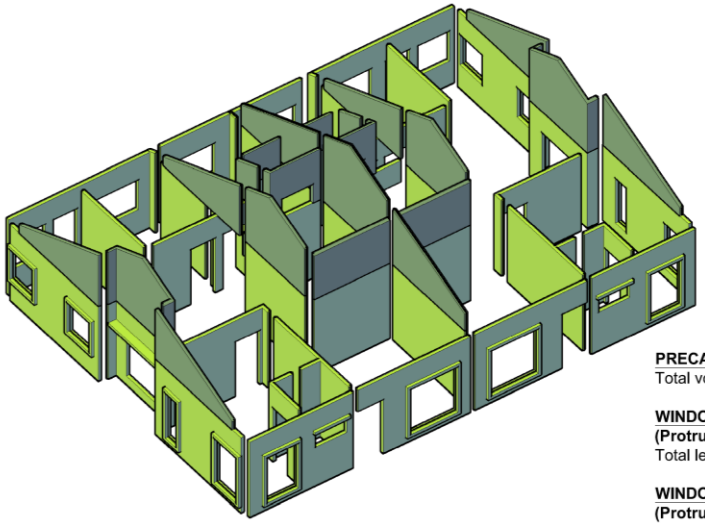
NOTE:
THICKNESS OF ALL WALLS & COMMON PARTY WALLS = 100mm

WALL HEIGHT = 3000mm

VOLUME & PERIMETER GIVEN IN THIS DRAWING ARE MEANT FOR 2 UNITS OF SEMI-D

TOTAL WALL AREA = 478.80m²

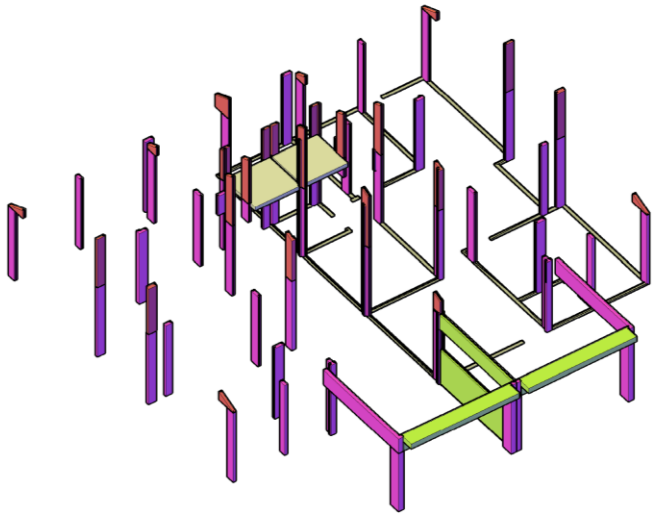
3D VIEW - FRONT (LEFT SIDE)



PRECAST WALL PANELS
Total volume = 42.72m³

WINDOW COPINGS
(Protrude 100mm)
Total length = 82.60m

WINDOW COPING
(Protrude 300mm)
Total length = 11.68m



WET JOINTS
Total volume = 5.16m³

R.C.WATER TANK SLAB
Total volume = 0.96m³

CAR PORCH STRUCTURE
WET JOINTS
Total volume = 0.90m³

BEAMS
Total volume = 2.36m³

PRECAST WALL PANELS
Total volume = 0.52m³

SYSTEM PROVIDER
HC PRECAST SYSTEM SDN. BHD. (586697-M)
No.23B, Jalan Seri Sarawak 20B/KS2, Taman Seri Andalas,
41200 Klang, Selangor D.E. Tel:03-3323 5999 Fax:03-3323 8993
e-mail:enquiry@hcprecast.com.my, Http:www.hcprecast.com.my

MANUFACTURER
HC MANUFACTURING SDN. BHD. (585570-T)
No.23-1, Jalan Seri Sarawak 20B/KS2, Taman Seri Andalas,
41200 Klang, Selangor D.E.
Tel:03-3323 7999 Fax:03-3323 8993

DRAWN :	HC
DATE :	AUG 2017
CHECKED :	3993
EXAM'D :	3993
APPR'D :	3993
SCALE :	NTS

CADANGAN SKIM PERUMAHAN YANG MENGANDUNGI:
-18 UNIT RUMAH BERKEMBAR 1 TINGKAT JENIS RB1

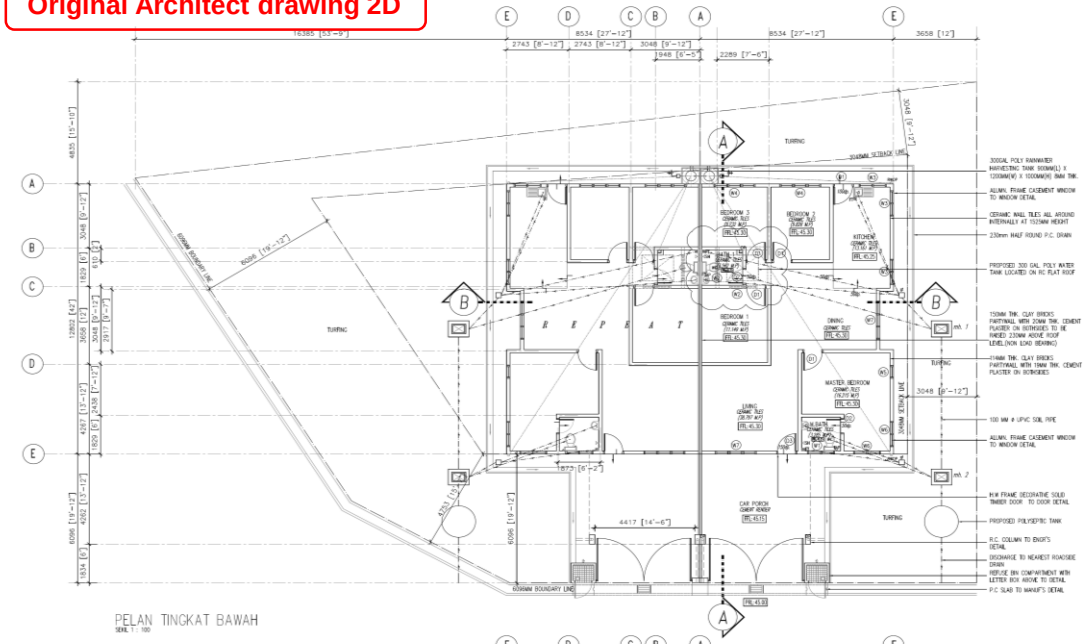
DI ATAS LOT 26114 (PM 4401) & LOT 15331 (PM 1868),
MUKIM JENDERAK, DAERAH TEMERLOH,
PAHANG DARUL MAKMUR.

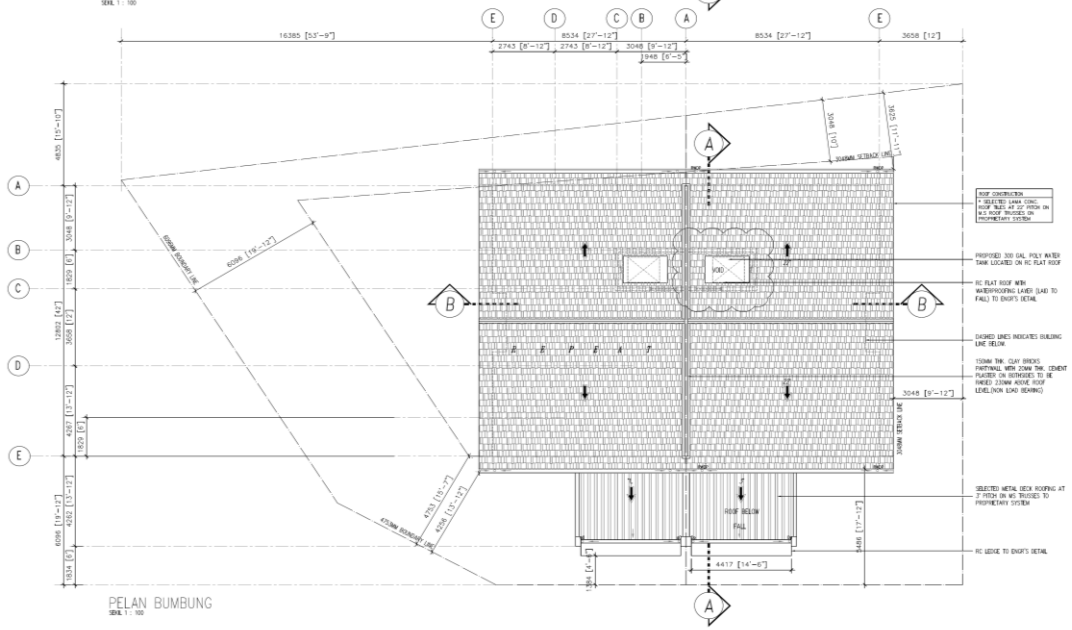
UNTUK TETUAN:
KIAN MEGAH DEVELOPMENT SDN. BHD.

DRAWING TITLE :
SINGLE STOREY SEMI DETACHED
HC PRECAST CONSTRUCTION
3D DRAWING

DRAWING NO :	HC/KM/SD/3D-01K
REV :	-
SYSTEM :	-
REV :	-

Original Architect drawing 2D





SANITARY AND PLUMBING SCHEDULE

SYMBOL	SANITARY & PLUMBING SPECIFICATION
S	SINK
SH	SHOWER HEAD
SC	STOP COCK
GV	GATE VALVE
LV	LOCKABLE VALVE
M	METER
TAP	WATER TAP
FT	FLOOR TRAP
GT	GULLY TRAP
MH	MANHOLE
WC	WATER CLOSET
B	BASIN
BT	BOTTLE TRAP

JADUAL TINGKAP

SYMBOL	WINDOW SPECIFICATION	SIZE(WIDTH X HEIGHT)
W1	ALUM. FRAME TOP HUNG WINDOW TO MANUF'S DETAIL	1200mm X 600mm
W2	ALUM. FRAME TOP HUNG WINDOW TO MANUF'S DETAIL	1200mm X 1000mm
W3	ALUM. FRAME CASEMENT WINDOW TO MANUF'S DETAIL	1200mm X 1200mm
W4	ALUM. FRAME CASEMENT WINDOW TO MANUF'S DETAIL	1800mm X 1200mm
W5	ALUMN. FRAME CASEMENT WINDOW WITH FIXED GLASS BELOW TO MANUF'S DETAIL	600mm X 1800mm
W6	ALUMN. FRAME CASEMENT WINDOW WITH FIXED GLASS BELOW TO MANUF'S DETAIL	1200mm X 1800mm
W7	ALUMN. FRAME CASEMENT WINDOW WITH FIXED GLASS BELOW TO MANUF'S DETAIL	1800mm X 1800mm

JADUAL PINTU

SYMBOL	DOOR SPECIFICATION	SIZE(WIDTH X HEIGHT)
D1	W.S. FRAME PLYWOOD FLUSH DOOR TO MANUF'S DETAIL	900mm X 2100mm
D2	W.S. FRAU TIMBER WATERPROOF FLUSH DOOR TO MANUF'S DETAIL	750mm X 2100mm
D3	M.W. FRAME DECORATIVE SOLID TIMBER DOOR TO MANUF'S DETAIL	900mm X 2100mm

VENTILATION & LIGHTING SCHEDULE

LOCATION	AREA (M2)	VENTILATION & LIGHTING REQUIRE	VENTILATION & LIGHTING PROVIDE	MACHANICAL VENTILATION
LIVING & DINING	38.7	10% = 3.87	6.48	–
MASTER BEDROOM	16.2	10% = 1.61	5.40	–
MASTER BATH	3.2	10% = 0.32	0.72	–
BEDROOM 1	11.1	10% = 1.11	1.20	–
BEDROOM 2	9.8	10% = 0.98	2.16	–
BEDROOM 3	9.7	10% = 0.97	2.16	–
BATH 1	3.5	10% = 0.35	1.20	–
KITCHEN	13.1	10% = 1.31	2.88	–

SHEET NO 02 / 03

DILULUSKAN :

PELAN BANGUNAN INI ADALAH TERATUR DAN DIPERSETUJUI OLEH MAJLIS TERTAKLUK KEPADA SYARAT-SYARAT SURAT BIL
( ) DALAM
MPT:
BERTARIKH:
PELAN NO.MPT:

YANG DIPERTUA/ ARKITEK
MAJLIS PERBANDARAN TEMERLOH:

PROJEK
CADANGAN SKIM PERUMAHAN YANG MENGANDUNGI:

-18 YUNIT RUMAH BERKEMBAR 1 TINGKAT JENIS RB1

DI ATAS LOT 26114 (PM 4401) & LOT 15331 (PM 1868), MUKIM JENDERAK, DAERAH TEMERLOH, PAHANG DARUL MAKMUR.

UNTUK TETUAN :-
KIAN MEGAH DEVELOPMENT SDN. BHD. (1039133-M)

CATITAN
THIS DRAWING IS COPY RIGHT.
CONTRACTOR MUST CHECK ALL DIMENSIONS ON SITE. ONLY FIGURED DIMENSIONS ARE TO BE WORKED UPON. DISCREPANCIES MUST BE REPORTED IMMEDIATELY TO THE ARCHITECT BEFORE PROCEEDING.

RUJ	PINDAAN	TARIKH

TANDATANGAN & ALAMAT PEMAJU

CHEAH AH LICK (DIRECTOR) (NO K/P: 560214-05-5281)
KIAN MEGAH DEVELOPMENT SDN.BHD. (1039133-M)
NO.63, JALAN HAJI KASSIM
26400, MENTAKAB,
PAHANG DARUL MAKMUR

TAJUK LUKISAN
- PELAN TINGKAT BAWAH
- PELAN BUMBUNG
- JADUAL TINGKAP
- JADUAL PINTU
- JADUAL PENCAHAYAAN DAN PENGUDARAAN

TANDATANGAN ARKITEK
"Saya memperakui bahawa butir-butir dalam pelan-pelan ini adalah menurut kehendak Undang-Undang Kecil Bangunan Seragam 1984 dan saya setuju menerima tanggungjawab penuh dengan sewajarnya."

LEMBAGA ARKITEK MALAYSIA

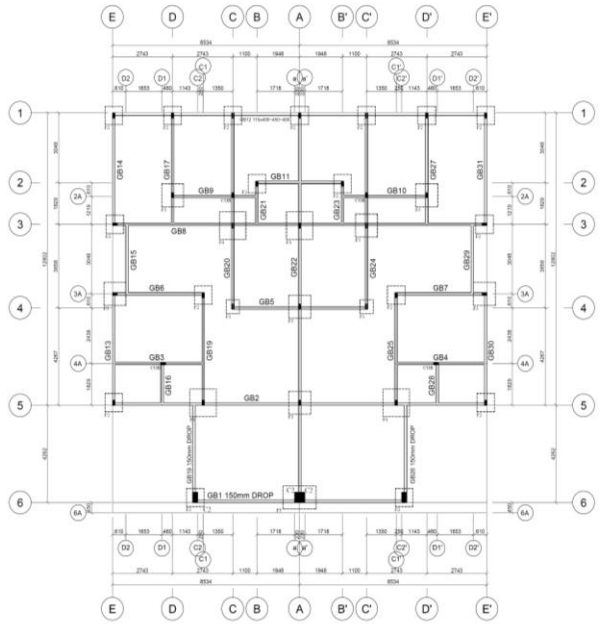
Ar. See Kim Plow
ARKITEK PROFESIONAL
No. Pendaftaran LAM: A/S 97

K P SEE ARCHITECT
7-4-1 BLOCK B MEGAN CORPORATE PARK
JALAN 1/125E DESA PETALING
57100, KUALA LUMPUR
TEL: 03-90583990 FAX: 03-90583997
EMAIL: kpsee.architect@gmail.com

SKEL	1:100
TARIKH	JAN 2016
DILUKIS	NICOLE CHEW
DISEMAK	AR SEE

NO. LUKISAN
S329/BP/RB1/01

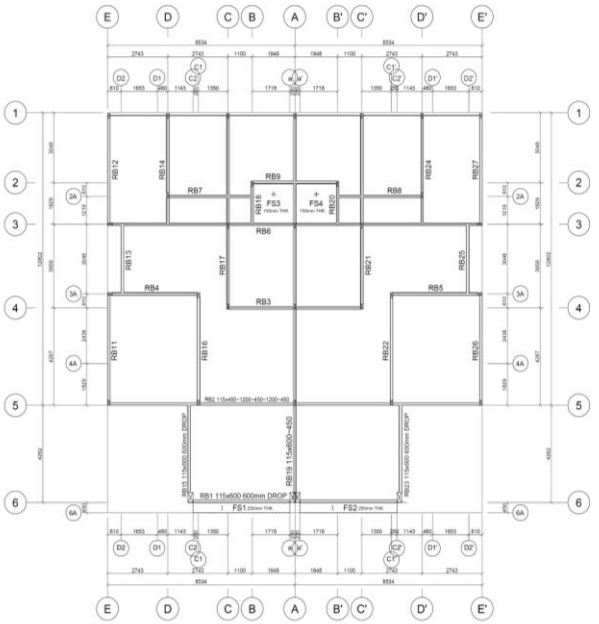
Original C&S drawing



FOOTING, COLUMN & GROUND FLOOR LAYOUT PLAN (0.15m)

SCALE : 1:100

1) ALL BEAMS TO BE 115x450 UNLESS OTHERWISE STATED
2) ALL COLUMNS TO BE C1 (115x225) UNLESS OTHERWISE STATED



ROOF LAYOUT PLAN (3.81m)

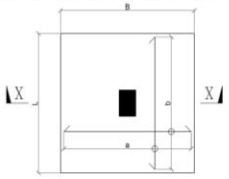
SCALE : 1:100

1) ALL BEAMS TO BE 115x450 UNLESS OTHERWISE STATED
2) ALL SLABS TO BE 150mm THK. UNLESS OTHERWISE STATED
3) WATER PROOF MEMBRANE TO BE PROVIDED AT ROOF SLAB AREA

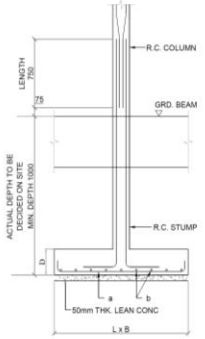
FOOTING SCHEDULE

TYPE	FOOTING SIZES L x B (mm)	DEPTH (mm)	REINFORCEMENTS	
		D	a	b
F1	600 x 600	150	T12-150	T12-150
F2	800 x 800	150	T12-150	T12-150
F3	1000 x 1000	150	T12-150	T12-150
F4	1200 x 1200	200	T12-150	T12-150
F5	1000 x 1500	150	T12-150	T12-150

NOTES :-
1) FOOTING IS BASED ON ASSUMED SOIL BEARING CAPACITY OF 150 kN/m2
2) CONCRETE GRADE FOR FOOTING AND COLUMN STUMP TO BE GRADE 25



TYPICAL FOOTING PLAN



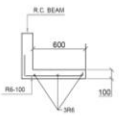
SECTION X-X

ROOF

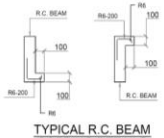
GROUND FLOOR			
SIZES	115 x 225	225 x 450	115 x 225
REINFORCEMENT	4T12	8T12	4T12
LINKS	R6-150	R6-150	R6-150
STUMP			
SIZES	115 x 225	225 x 450	
REINFORCEMENT	4T12	8T12	
LINKS	R6-150	R6-150	
COLUMN TO REFER	C1	C2	COB

COLUMN SCHEDULE

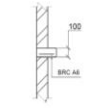
NOTES:



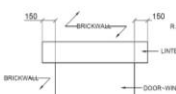
TYPICAL R.C. PENT DETAIL



TYPICAL R.C. BEAM COPPING DETAILS

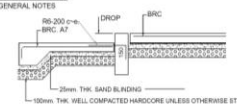


TYPICAL R.C. SILL DETAILS



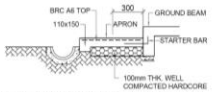
TYPICAL DETAIL OF LINTEL BEAM

NOTE: FOR SIZES OF LINTEL BEAM REFER TO GENERAL NOTES



TYPICAL APRON SLAB DETAIL

SCALE : 1 : 25



P.C. DRAIN & APRON DETAILS

SCALE : 1 : 25

JURUTERA PERUNDING : I hereby certify that these works have been designed by me in accordance with sound engineering practice and that I take full responsibility for the design and proper performance of the same.

DATO' IR. HIANG A LI DSAP, DMSP., SMP., AMP., BCK.,
JURUTERA PERUNDING B.Eng., (Mal), MIEM., P.Eng.
F-83, TINGKAT 1, JALAN TENGKU ISMAIL,
28000 TEMERLOH, PAHANG DARUL MAKMUR.

PROJEK :

CADANGAN PEMBANGUNAN PERUMAHAN YANG MENGANDUNGI 18 UNIT RUMAH BERKEMBAR 1 TINGKAT JENIS RB1 DI ATAS LOT 26114 & LOT 15331, MUKIM JENDERAK, DAERAH TEMERLOH, PAHANG D.M.

UNTUK : KIAN MEGAH DEVELOPMENT S/B

TAJUK :

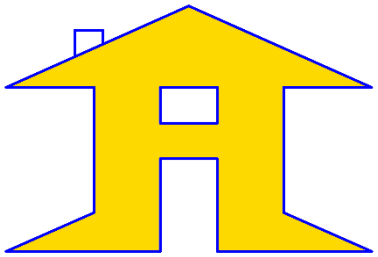
SINGLE STOREY SEMI-DETACHED HOUSE (RB1)

FOOTING & COLUMN SCHEDULE WITH DETAILS
GROUND FLOOR & ROOF LAYOUT PLAN
TYPICAL SLAB, LINTEL BEAM AND MISC DETAILS

DIREKABENTUK OLEH	AHMAD MUKRI
DILUKIS OLEH	AHMAD MUKRI
SKALA	1 : 100
DISEMAK OLEH	DATO' IR. HIANG A LI
DISEMAK PADA	OGOS 2016

NO.LUKISAN: AHM.RC.008.2016 RB1.1-3

NO. HELAIAN 1

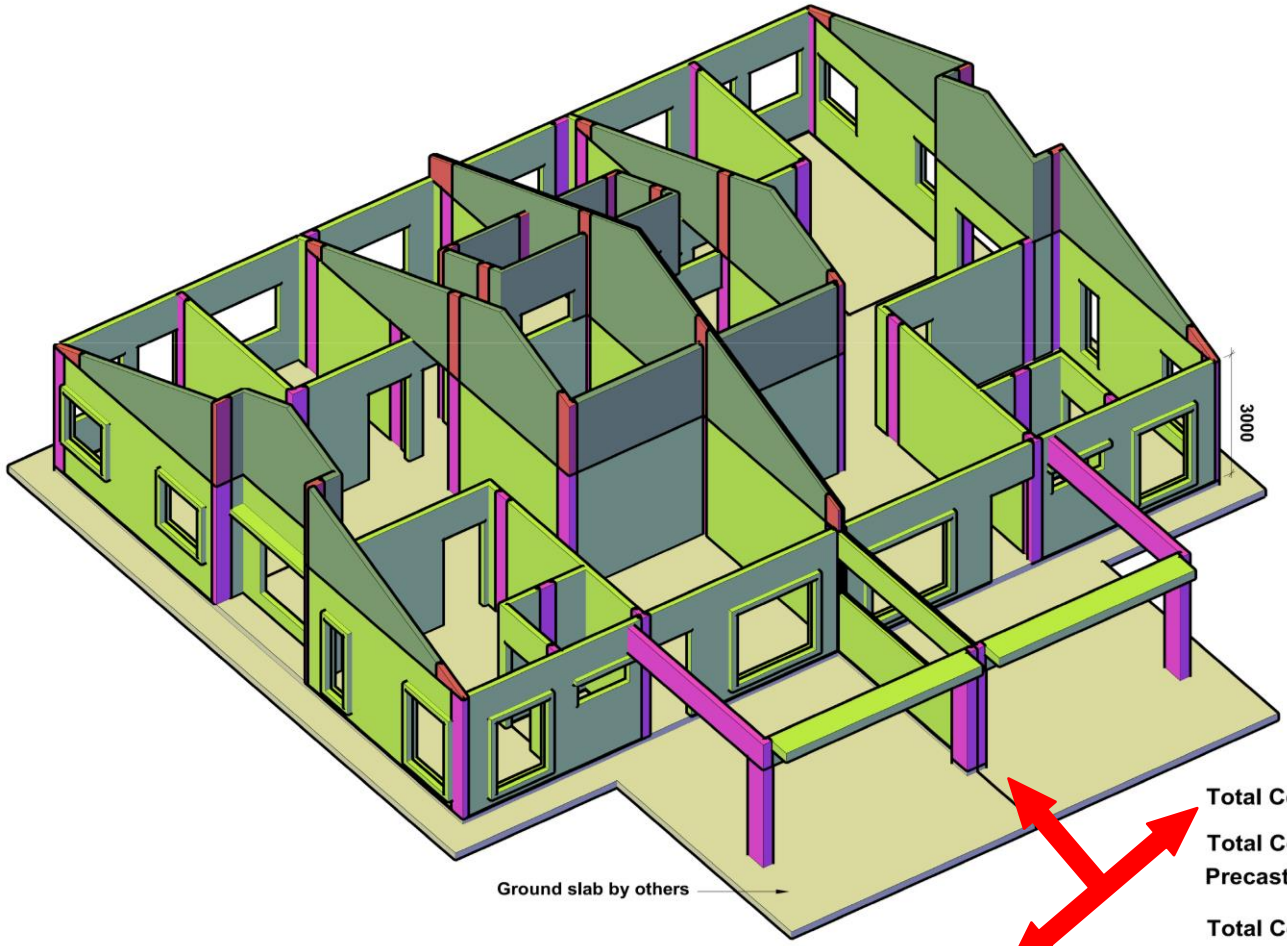


ADDITIONAL

COST SAVING

“ MONEY ”

No Variation Order



1 UNIT SEMI-D

Precast wall panels	: 27 nos.
Precast party walls	: 7 nos.
Precast beams	: 2 nos.
Cast in-situ RC water tank slab	: 1 no.
Cast in-situ wet joints	: 34 nos.
Cast in-situ columns	: 2 nos.
Cast in-situ beam	: 1 no.

Total Concrete Volume = 26.60m³

Total Concrete Volume for Precast Elements (Off-site) = 22.81m³ (86%)

Total Concrete Volume for Cast In-situ Elements (On-Site) = 3.79m³ (14%)

Accurate quantity of elements calculated by 3D AutoCAD software, compared to manual taking off using 2D drawing

3D VIEW - FRONT (LEFT SIDE)

SYSTEM PROVIDER
HC PRECAST SYSTEM SDN. BHD. (586697-M)
No.23B, Jalan Seri Sarawak 20B/KS2, Taman Seri Andalas, 41200 Klang, Selangor D.E. Tel:03-3323 5999 Fax:03-3323 8993
e-mail:enquiry@hcprecast.com.my, Http:www.hcprecast.com.my

MANUFACTURER
HC MANUFACTURING SDN. BHD. (585570-T)
No.23-1, Jalan Seri Sarawak 20B/KS2, Taman Seri Andalas, 41200 Klang, Selangor D.E.
Tel:03-3323 7999 Fax:03-3323 8993

DRAWN :	KC
DATE :	AUG 2017
CHECKED :	3993
EXAM'D :	3993
APPR'D :	3993
SCALE :	NTS

CADANGAN SKIM PERUMAHAN YANG MENGANDUNGI:
-18 UNIT RUMAH BERKEMBAR 1 TINGKAT JENIS RB1

DI ATAS LOT 26114 (PM 4401) & LOT 15331 (PM 1868), MUKIM JENDERAK, DAERAH TEMERLOH, PAHANG DARUL MAKMUR.

UNTUK TETUAN:
KIAN MEGAH DEVELOPMENT SDN. BHD.

DRAWING TITLE :
SINGLE STOREY SEMI DETACHED HC PRECAST CONSTRUCTION 3D DRAWING

DRAWING NO : HC/KM/SD/3D-01K REV : -

SYSTEM : - REV : -

No rubbish cleaning

No rubbish cleaning

No primary undercoat for painting due to smooth skimcoat surface

No leaking & No crack : A 10-year old 2 storey building (without maintenance & touch up) built by precast system and exposed to weather

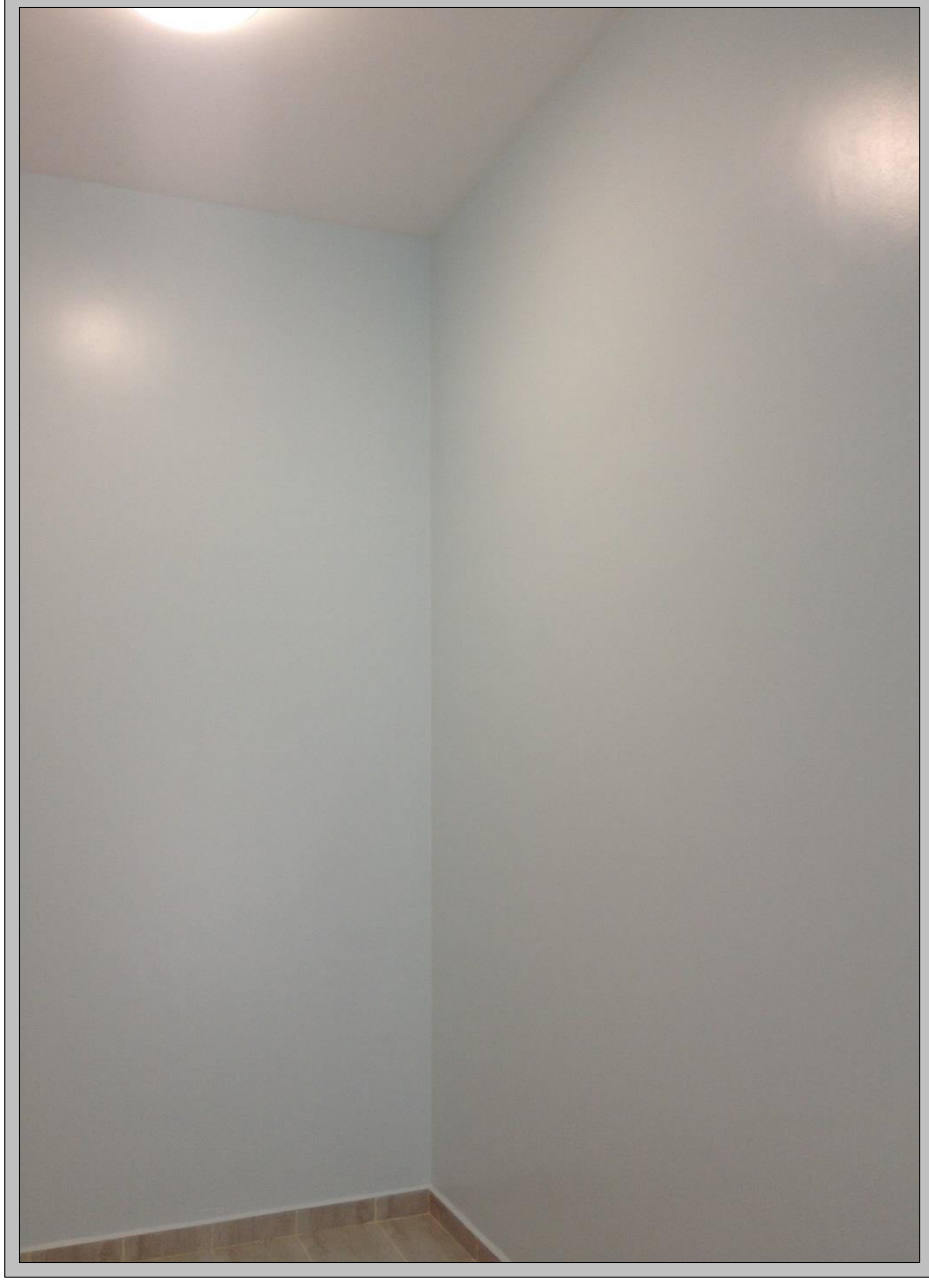
No primary undercoat for painting due to smooth skimcoat surface

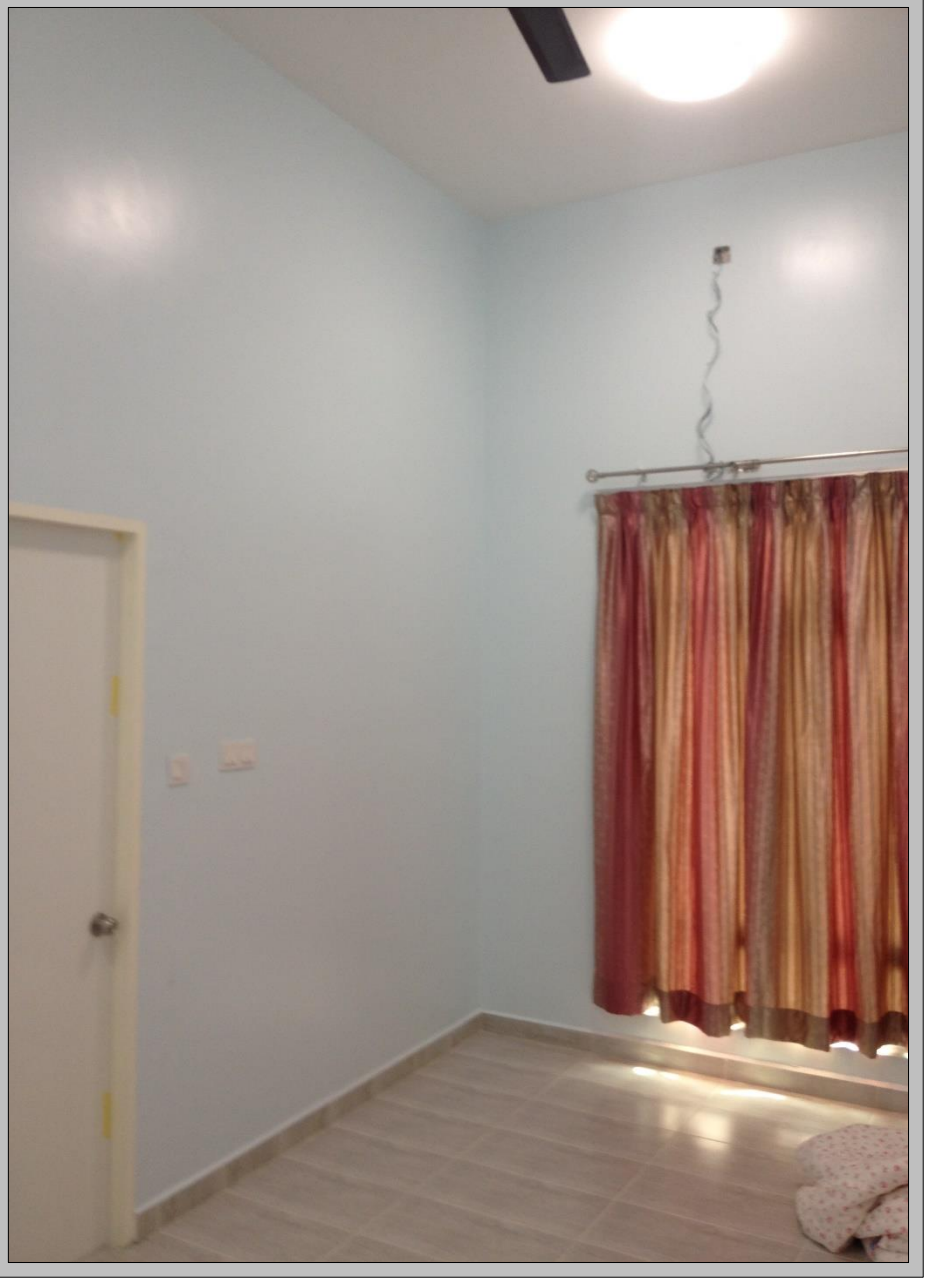
No primary undercoat for painting due to smooth skimcoat surface

No primary undercoat for painting due to smooth skimcoat surface

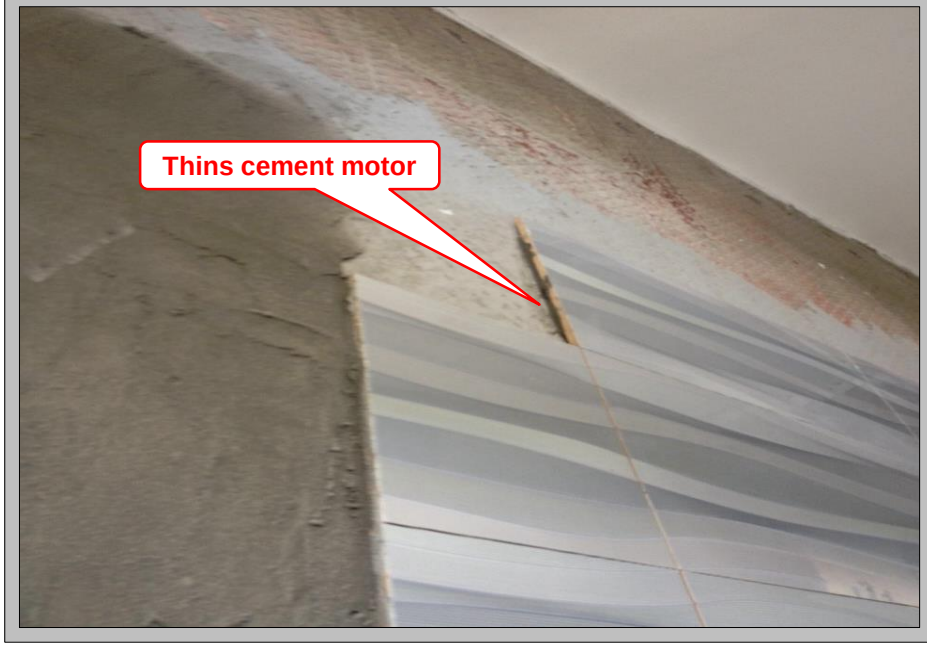
No primary undercoat for painting due to smooth skimcoat surface

No primary undercoat for painting due to smooth skimcoat surface

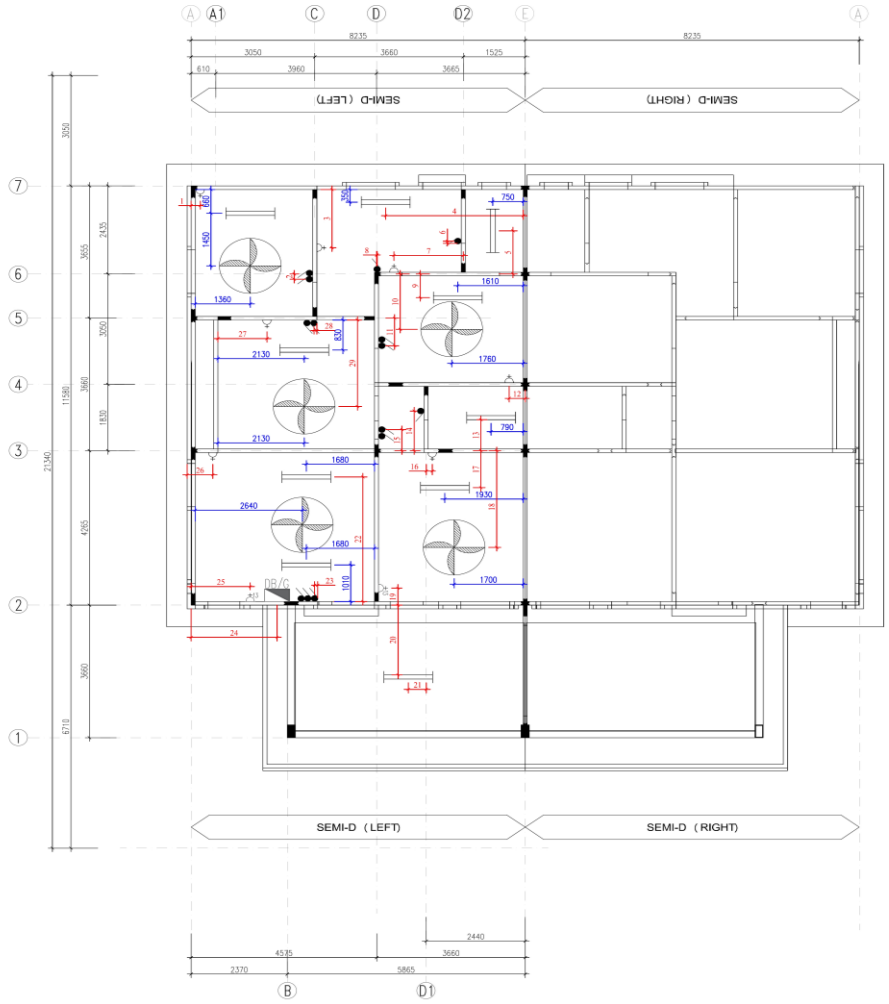




Reduce the quantity of cement and screed to receive tiling work



M & E shop drawing produce by HC Precast System without any extra charges



POSITION OF ELECTRICAL POINTS
(FROM STRUCTURAL LEVEL)

	Distance of Point (mm)	Height of Point (mm)	Confirmation by M&E Consultant
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			

Notes:
1) Distance of Point has been scaled from M&E Consultant drawing.
2) Height of Point from schedule provided by M&E Consultant drawing.
3) M&E Consultant to fill in dimension not stated (?mm)

Confirmed by M&E Consultant

Signature :

Name :

Date :

Dimension for :

1. **Light & Fan point**
2. **Power point**
3. **Switch point**
4. **Tel & MATV point**

to be fill & confirm by consultant

SYSTEM PROVIDER
HC PRECAST SYSTEM SDN. BHD. (586697-M)
No.23B, Jalan Seri Sarawak 20B/KS2, Taman Seri Andalas, 41200 Klang, Selangor D.E. Tel:03-3323 5999 Fax:03-3323 8993
e-mail:enquiry@hcprecast.com.my, Http:www.hcprecast.com.my

MANUFACTURER
HC MANUFACTURING SDN. BHD. (585570-T)
No.23-1, Jalan Seri Sarawak 20B/KS2, Taman Seri Andalas, 41200 Klang, Selangor D.E.
Tel:03-3323 7999 Fax:03-3323 8993

DRAWN :	KC
DATE :	FEB 2018
CHECKED :	3993
EXAM'D :	3993
APPR'D :	3993
SCALE :	NTS

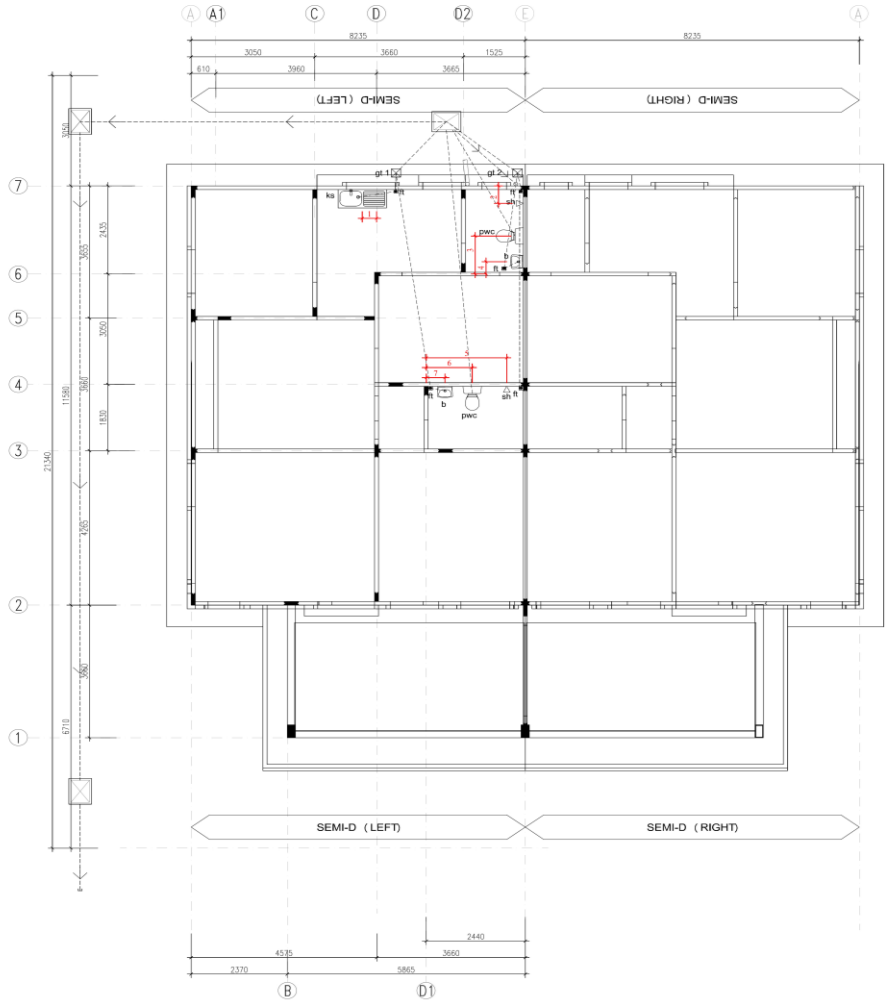
CADANGAN SKIM PERUMAHAN RAKYAT 1 MALAYSIA (PRIMA) BAGI RUMAH BERKEMBAR 1 TINGKAT
DI ATAS TANAH KERAJAAN DI PAMAH KASIH, CHARUK PUTING, MUKIM PERAK, DAERAH TEMERLOH, PAHANG.
UNTUK TETUAN:
BERGAMO DESIGN (M) SDN. BHD.

DRAWING TITLE :
SINGLE STOREY SEMI-D (LEFT UNIT)
SETTING OUT OF ELECTRICAL FIXTURES

DRAWING NO : HC/BD/SD/EL-01 REV : -
SYSTEM : - REV : -

M&E IBS system shop drawing (Subject to client / consultant confirmation)

M & E shop drawing produce by HC Precast System without any extra charges



POSITION OF FITTINGS
(FROM STRUCTURAL LEVEL)

	Distance of fitting (mm)	Height of fitting (mm)	Confirmation by M&E Consultant
1			
2			
3			
4			
5			
6			
7			

Notes:
1) Distance of fitting has been scaled from M&E Consultant drawing.
2) Height of fitting from schedule provided by M&E Consultant drawing.
3) M&E Consultant to fill in dimension not stated (?mm)

Confirmed by M&E Consultant

Signature :

Name :

Date :

Dimension for :

1. Sanitary fitting & plumbing

to be fill & confirm by consultant

SYSTEM PROVIDER
HC PRECAST SYSTEM SDN. BHD. (586697-M)
No.23B, Jalan Seri Sarawak 20B/KS2, Taman Seri Andalas, 41200 Klang, Selangor D.E. Tel:03-3323 5999 Fax:03-3323 8993
e-mail:enquiry@hcprecast.com.my, Http:www.hcprecast.com.my

MANUFACTURER
HC MANUFACTURING SDN. BHD. (585570-T)
No.23-1, Jalan Seri Sarawak 20B/KS2, Taman Seri Andalas, 41200 Klang, Selangor D.E.
Tel:03-3323 7999 Fax:03-3323 8993

DRAWN :	KC
DATE :	FEB 2018
CHECKED :	3993
EXAM'D :	3993
APP'D :	3993
SCALE :	NTS

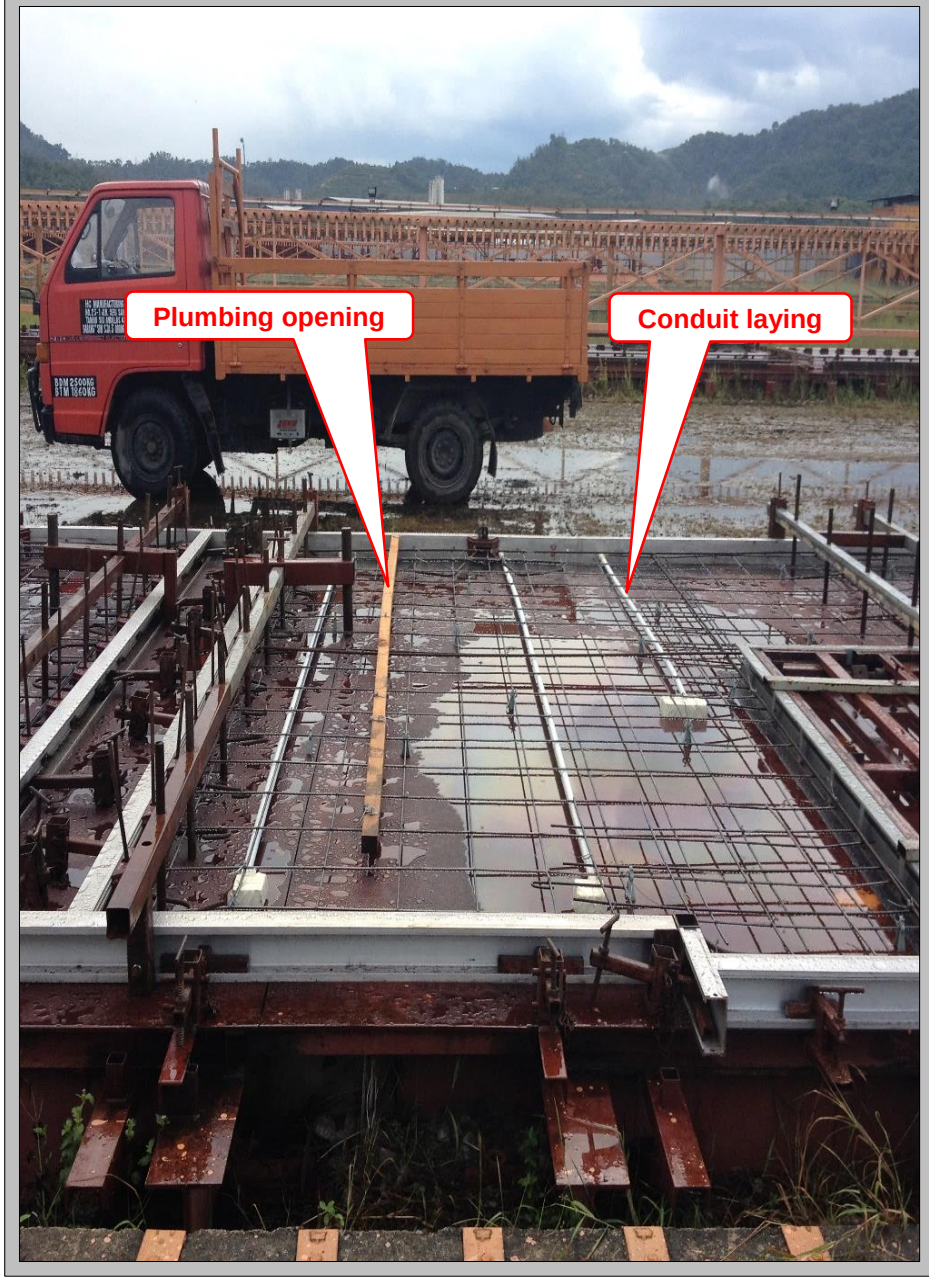
CADANGAN SKIM PERUMAHAN RAKYAT 1 MALAYSIA (PRIMA) BAGI RUMAH BERKEMBAR 1 TINGKAT
DI ATAS TANAH KERAJAAN DI PAMAH KASIH, CHARUK PUTING, MUKIM PERAK, DAERAH TEMERLOH, PAHANG.
UNTUK TETUAN:
BERGAMO DESIGN (M) SDN. BHD.

DRAWING TITLE :
SINGLE STOREY SEMI-D (LEFT UNIT)
SETTING OUT OF SANITARY FITTINGS

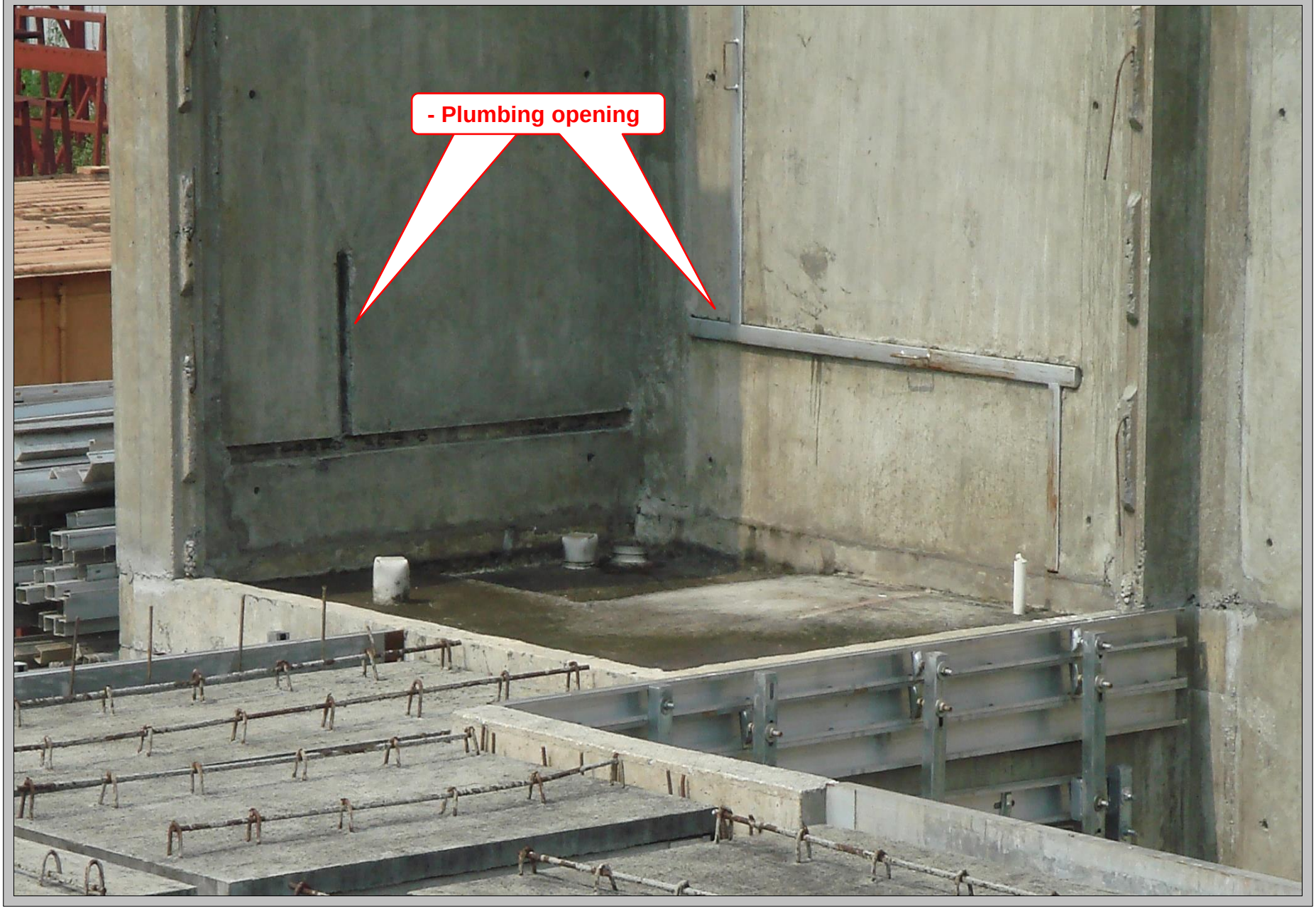
DRAWING NO : HC/BD/SD/SP-01 REV : -
SYSTEM : - REV : -

M&E IBS system shop drawing (Subject to client / consultant confirmation)

No hacking for electrical and plumbing work



No hacking for electrical and plumbing work



No leaking & No crack : A 10-year old 2 storey building (without maintenance & touch up) built by precast system and exposed to weather

Reduce financing, overhead & earlier occupation of house due to shorter construction period

Reduce financing, overhead & earlier occupation of house due to shorter construction period

Reduce financing, overhead & earlier occupation of house due to shorter construction period

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Reduce financing, overhead & earlier occupation of house due to shorter construction period

Reduce financing, overhead & earlier occupation of house due to shorter construction period

Reduce financing, overhead & earlier occupation of house due to shorter construction period

THANK YOU