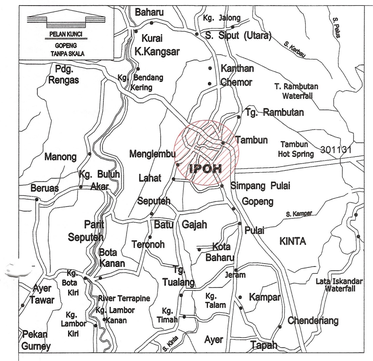
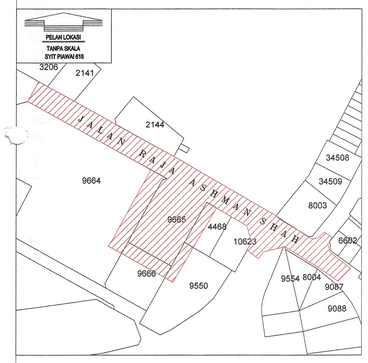
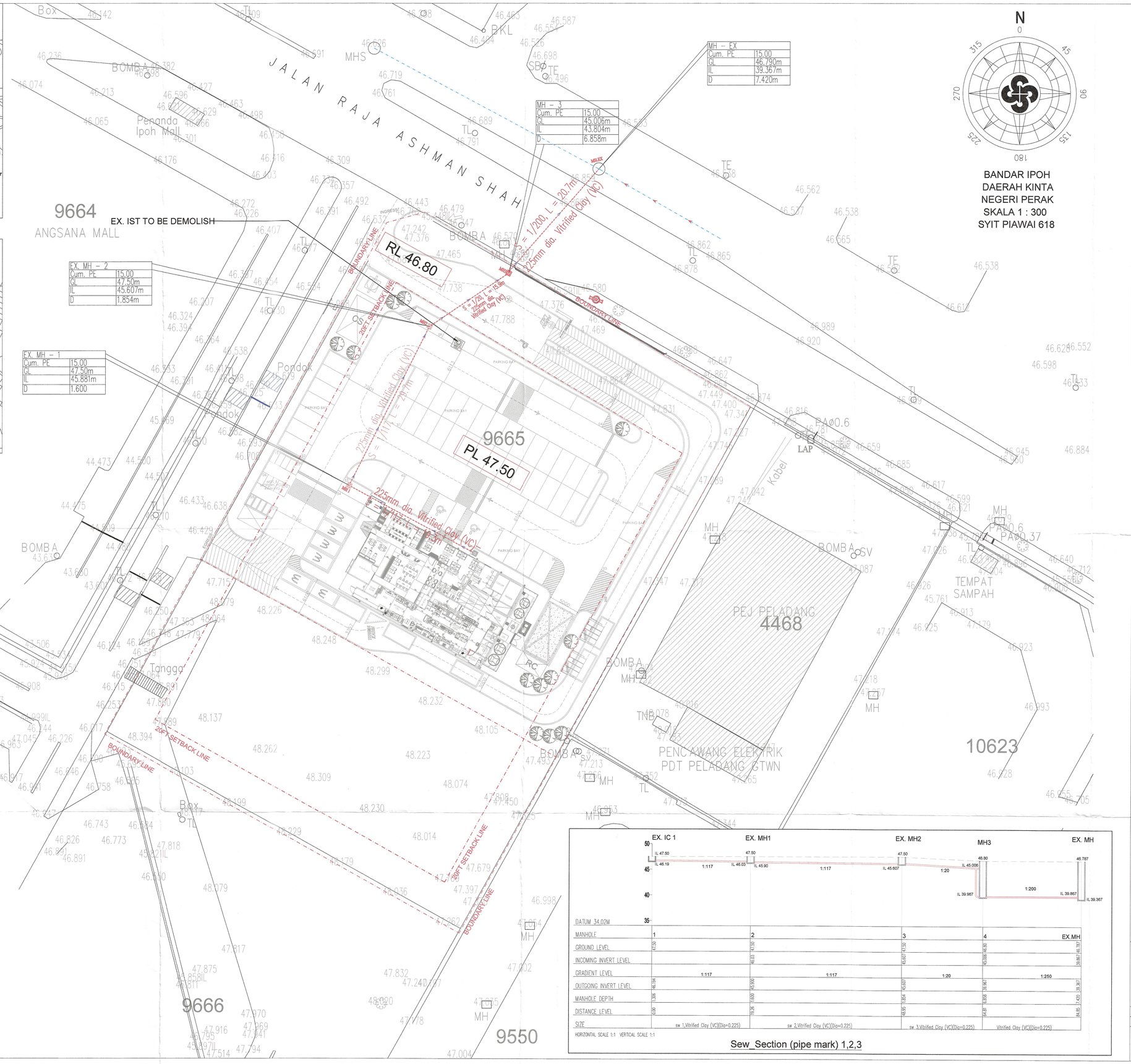






BANDAR IPOH
DAERAH KINTA
NEGERI PERAK
SKALA 1 : 300
SYIT PIAWAI 618

INDAH WATER KONSORTIUM SDN. BHD.
AGENSI PERAKUAN - PEMBETUNGAN (dilantik oleh SPAN)

PELAN-PELAN UNTUK MEMBINA
REKABENTUK SISTEM PEMBETUNGAN
ADALAH

DILULUSKAN

BERDASARKAN KEPADA PENGESAHAN/TANDATANGAN JURUTERA PROFESIONAL BERKAIAN DAN TERTAKLUK KEPADA SYARAT-SYARAT BIL: 01 bingga 16
DI DALAM FAIL IWK/C/ 9601/23/0066

I) KELULUSAN ASAL
II) PINDAAN PERTAMA
III) PINDAAN KEDUA

Pengurus
Agensi Perakuan - Pembetungan
Perak Daril Ridzuan
(dilantik oleh SPAN)
Tarikh: 11/03/26

KELULUSAN INI TIDAK TERMASUK REKABENTUK STRUKTUR KEJURUTERAAN

RUJ.	TARIKH	PINDAAN

PEMILIK TANAH:

UDA HOLDINGS BERHAD
WISMA SBBU, JALAN PADI MAHSURI 12,
BANDAR BARU UDA,
81200 JOHOR BAHRU,
JOHOR DARUL TAKZIM

MOHAMAD BIN JAMBAN
No. K/P.: 780215-01-7657
Surat Kuasa Wakil : PB 675 / 2016 27/11/2016
Pej. Pendaftar Tanah W.P. Kuala Lumpur

PEMAJU/PENYEWA:

GERBANG ALAF RESTAURANTS SDN. BHD.
LEVEL 6, BANGUNAN TH,
DAMANSARA UPTOWN 3,
No. 3, JALAN SS21/39,
47400 PETALING JAYA,
SELANGOR DARUL EHSAN

KAMARUDDIN BIN DJUDO
No. K/P.: 791203-12-5887
Head Of Development

Jurutera sivil & struktur:

SS PERUNDING
Consulting Civil & Structural Engineers
136 SUP
NO 7-2B, JALAN BOLING PADANG G13/G, SEKSYEN 13,
40100 SHAH ALAM SELANGOR DARUL EHSAN
Tel: 03-55116212 Fax: 03-55116213

PROFESSIONAL ENGINEER
WITH PRACTISING CERTIFICATE
CIVIL
Ir. SAFARI B. HASSAN
C19433
MALAYSIA

I hereby certify that these works have been carried out in accordance with sound engineering practice and I take full responsibility for the design and proper of the same

Tajuk projek:

CADANGAN MEMBINA SEBUAH RESTORAN PANDU LALU SATU TINGKAT DI ATAS SEBAHAGIAN LOT 9665N (PN 314967), JALAN RAJA ASHMAN SHAH, BANDAR IPOH (U), DAERAH KINTA, PERAK DARUL RIDZUAN.

UNTUK :
GERBANG ALAF RESTAURANTS SDN. BHD.

Tajuk lukisan:

SEWERAGE LAYOUT PLAN

DATUM 34.02M					
MANHOLE	1	2	3	4	EX.MH
GROUND LEVEL	47.50	47.50	47.50	46.90	46.787
INCOMING INVERT LEVEL		46.03	45.607	45.006	39.867
GRADIENT LEVEL	1:117	1:117	1:20	1:250	
OUTGOING INVERT LEVEL	46.194	45.900	45.607	39.987	39.367
MANHOLE DEPTH	1.306	1.600	1.894	6.858	7.420
DISTANCE LEVEL	0.00	19.26	46.95	84.81	84.95
SIZE	sw 1,Vitrified Clay (VC)(Dia=0.225)	sw 2,Vitrified Clay (VC)(Dia=0.225)	sw 3,Vitrified Clay (VC)(Dia=0.225)	Vitrified Clay (VC)(Dia=0.225)	

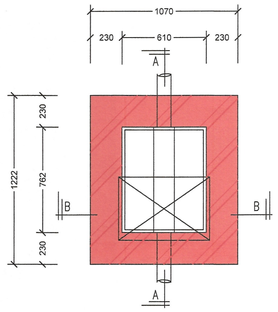
HORIZONTAL SCALE 1:1 VERTICAL SCALE 1:1

Sew_Section (pipe mark) 1,2,3

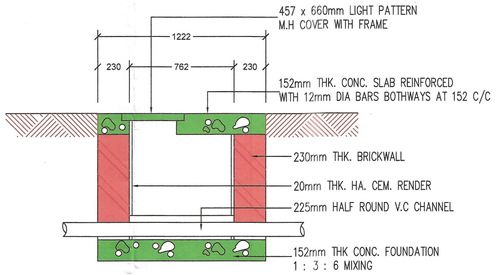
Dilukis	Direka Oleh	Disemak Oleh	Tarikh	Skala
Jetry	HH	SHB	NOV. 2022	1:300

Rujukan Pelan

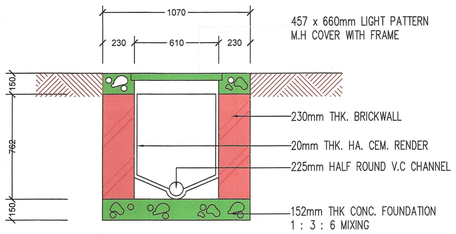
SS/2235/MCD/GT/CS/01



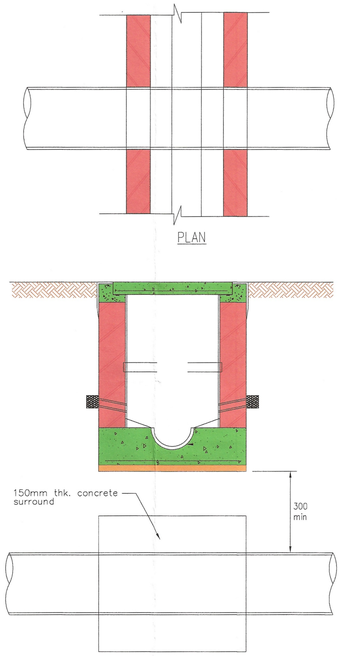
DETAIL OF INSPECTION CHAMBER



SECTION B–B



SECTION A–A



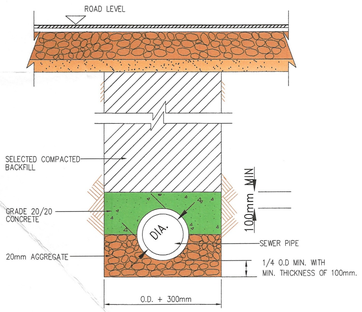
TYPICAL DETAIL OF PIPE ENCASEMENT BELOW DRAIN

NOTES :–

1. ALL DIMENSIONS ARE IN MILLIMETER UNLESS OTHERWISE STATED.
2. POSITION OF ACCESS MANHOLE COVER AND CENTRE OF DRAIN SHALL BE DETERMINED ON SITE.
3. ALL MANHOLE COVERS AND FRAME SHALL BE OF HEAVY DUTY TYPE COMPLY WITH EN 124 CLASS D 400/BS 497.
4. MANHOLE COVER AND FRAME MUST COMPLY WITH THE SPECIFICATION AND MANUFACTURED BY A MANUFACTURER APPROVED BY THE SEWERAGE SERVICES DEPARTMENT.
5. O.D IMPLIES OUTER DIAMETER OF PIPE.
6. FOR FILLING OF TRENCHES ALONG/ACROSS CARRIAGEWAY, BACKFILL MATERIAL SHALL BE SAND FROM AN APPROVED SOURCE.
7. TOTAL WEIGHT FOR HEAVY DUTY COVER AND FRAMES IS 75KG.

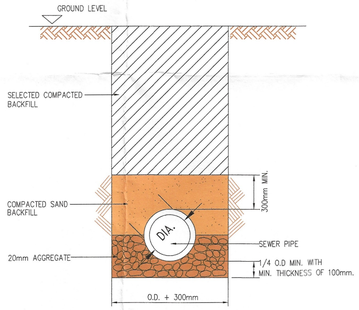
TABLE 1

PIPE SIZE (mm)	MINIMUM CRUSHING STRENGTH (kn/m²)
225	28
300	34
375	38



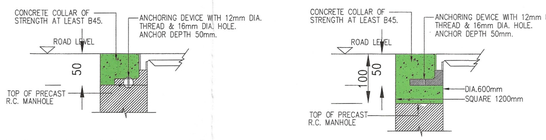
PIPE EMBEDDED IN CAREFULLY COMPACTED 20mm AGGREGATE EXTENDING HALFWAY UP TO THE SIDE OF THE PIPE. THE REMAINDER SIDE FILLS AND TOP WITH MONOLITHIC GRADE 20/20 CONCRETE

CLASS 'A' BEDDING (UNDER ROAD)



PIPE EMBEDDED IN CAREFULLY COMPACTED 20mm AGGREGATE EXTENDING HALFWAY UP TO THE SIDE OF THE PIPE. THE REMAINDER SIDE FILLS AND TOP WITH SAND BACKFILL

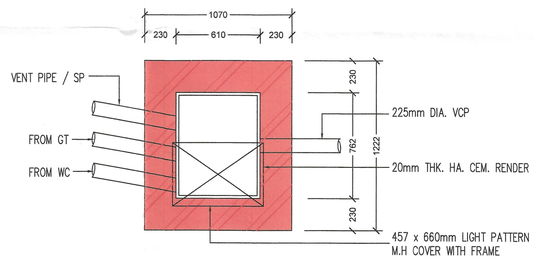
CLASS 'B' BEDDING (UNDER NORMAL GROUND)



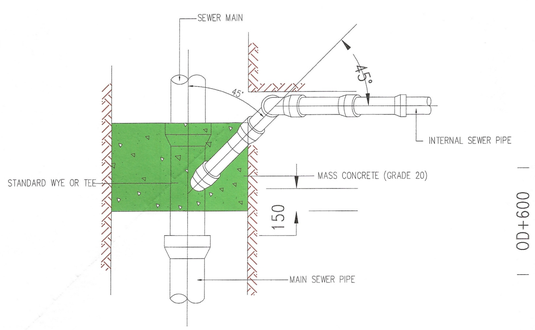
INSTALLATION WITH ANCHORING DEVICE AND CONCRETE COLLAR

INSTALLATION WITH CONCRETE COLLAR

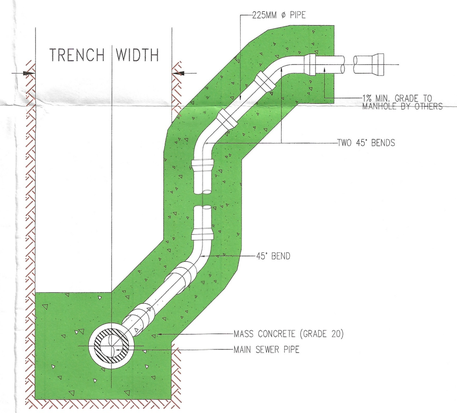
TYPICAL CONNECTION OF INSPECTION CHAMBER COVER



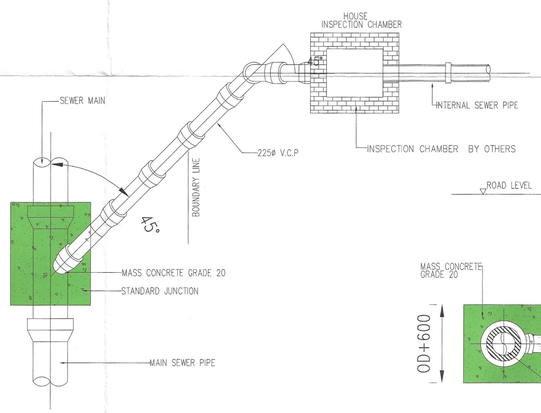
INSPECTION CHAMBER



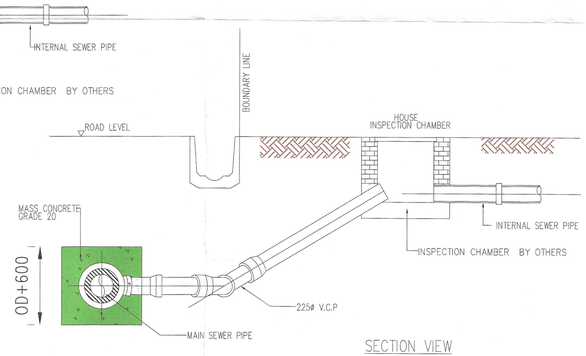
PLAN



SECTION VIEW
DEEP CUT LATERAL SERVICE CONNECTION



PLAN



SECTION VIEW
SHALLOW JUNCTION CONNECTION

INDAH WATER KONSORTIUM SDN. BHD.
AGENSI PERAKUAN - PEMBETUNGAN (dilantik oleh SPAN)
PELAN-PELAN UNTUK MEMBINA
REKABENTUK SISTEM PEMBETUNGAN
ADALAH
DILULUSKAN
BERASASKAN KEPADA PENGESAHAN/TANDATANGAN
JURUTERA PROFESIONAL BERKEBUAN DAN TERTAKLUK
KEPADA SYARAT-SYARAT BIL. 01 hingga 16
DI DALAM FAIL IWK/C/ PU01/23/0066
I) KELULUSAN ASAL
II) PINDAAN PERTAMA
III) PINDAAN KEDUA
Pengurus
Agensi Perakuan - Pembetungan
Pentk Darat Kiktuan
(dilantik oleh SPAN)
Tarikh: 4/03/26
KELULUSAN INI TIDAK TERMASUK
REKABENTUK STRUKTUR KEJURUTERAAN

RUJ.	TARIKH	PINDAAN

PEMILIK TANAH:
UDA HOLDINGS BERHAD
WISMA SBBU, JALAN PADI MAHSURI 12,
BANDAR BARU UDA,
81200 JOHOR BAHRU,
JOHOR DARUL TAKZIM
SUHAIMI BIN JAMIRAN
No. K/P: 780721-05-7857
Surat Kuasa Wakil : PD 675 / 2016 27/11/2016
Pej. Pendaftar Tanah W.P. Kuala Lumpur

PEMAJU/PENYEWA:
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LEVEL 6, BANGUNAN TH,
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47400 PETALING JAYA,
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KAMARUDDIN BIN DJUDO
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138 BP
NO 7-2B, JALAN BOLING PADANG G13/G, SEKSYEN 13,
40100 SHAH ALAM SELANGOR DARUL EHSAN
Tel. 03-55116212 Fax. 03-55116213
PROFESSIONAL ENGINEER WITH PRACTISING CERTIFICATE
CIVIL
Ir. SAFARI B. HASSAN
C19433
I hereby certify that these works have been designed by me accordance with sound engineering practice and take full responsibility for the design and proper of the same

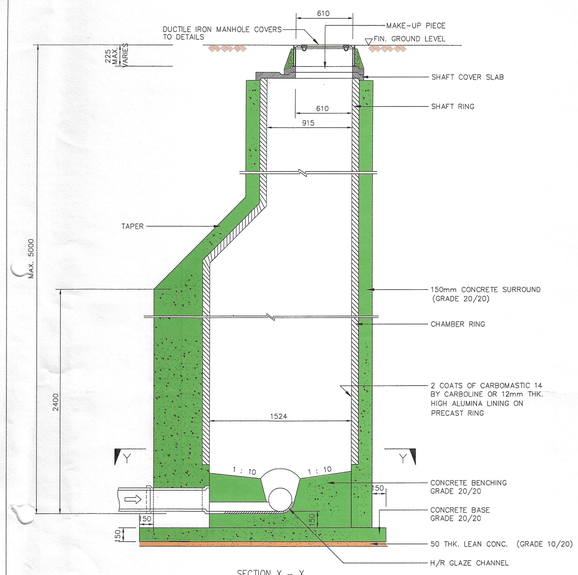
Tajuk projek:
CADANGAN MEMBINA SEBUAH RESTORAN PANDU LALU SATU TINGKAT DI ATAS SEBAHAGIAN LOT 9665N (PN 314967), JALAN RAJA ASHMAN SHAH, BANDAR IPOH (U), DAERAH KINTA, PERAK DARUL RIDZUAN.

UNTUK :
GERBANG ALAF RESTAURANTS SDN. BHD.

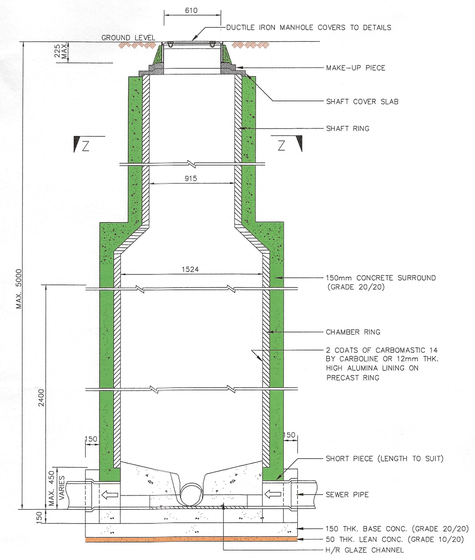
Tajuk lukisan:
DETAILS OF PIPE BEDDING AND INSPECTION CHAMBER DETAIL

Dilukis	Direka Oleh	Disemak Oleh	Tarikh	Skala
Jefry	HH	SHB	NOV. 2022	1:150

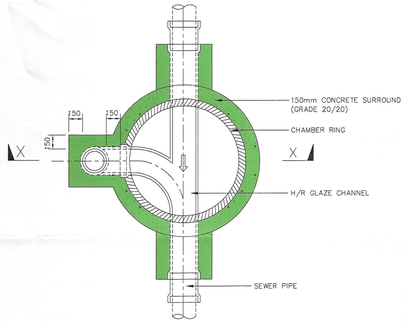
Rujukan Pelan
SS/2235/MCD/GT/CS/02



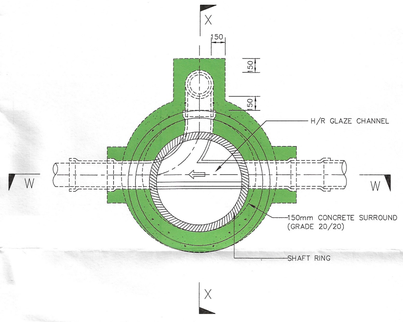
SECTION X – X
SCALE ; 1 : 20



SECTION W – W
SCALE ; 1 : 20

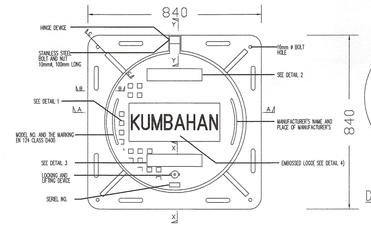


SECTIONAL PLAN Y – Y
SCALE ; 1 : 20



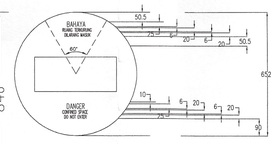
SECTIONAL PLAN W – W
SCALE ; 1 : 20

DETAILS OF MANHOLE TYPE 'B'
(FOR MEDIUM MANHOLE)

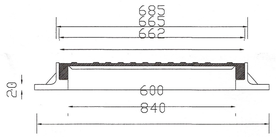


PLAN

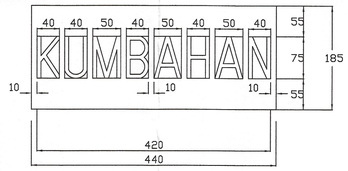
TYPICAL DETAILS OF HEAVY DUTY
D.I MANHOLE COVER AND FRAME



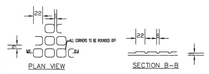
DETAIL 2 & 3 : EMBOSSED DESIGN
SCALE N.T.S



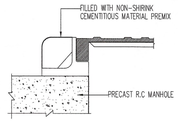
TYPICAL SECTION OF HEAVY DUTY
D.I MANHOLE COVER AND FRAME
SCALE N.T.S



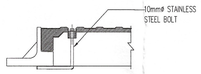
DETAIL 4 : EMBOSSED LOGO
SCALE N.T.S



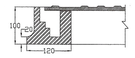
DETAIL 1
(TYPICAL SURFACE DETAIL)



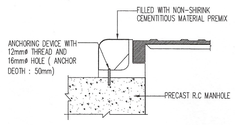
SECTION B–B



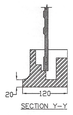
SECTION X–X : TYPICAL LOCKING DEVICE



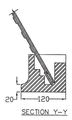
SECTION Y–Y : TYPICAL HINGE



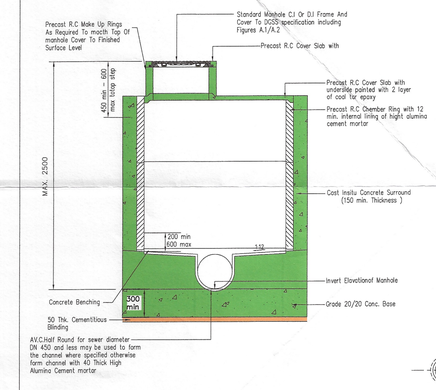
SECTION C–C



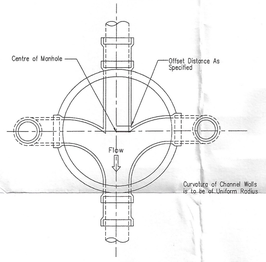
COVER HINGED OPEN AT 90°



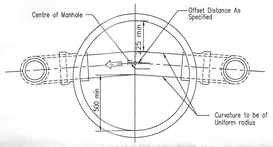
COVER HINGED OPEN AT MINIMUM 100°



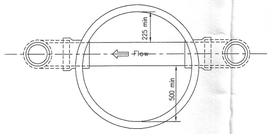
STANDART SHALLOW PRECAST CONCRETE MANHOLE
(Ground level to top of benching <2.5 meters)



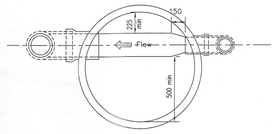
THREE INCOMING SEWERS



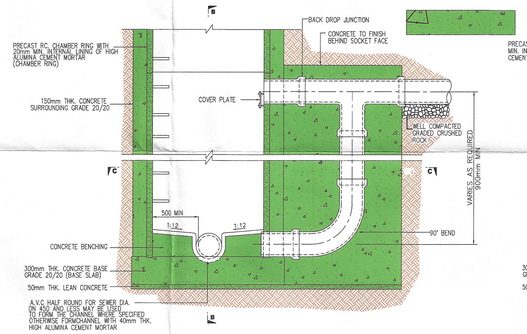
DIRECTION CHANGE



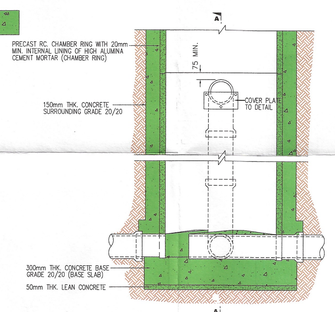
STRAIGHT THROUGH



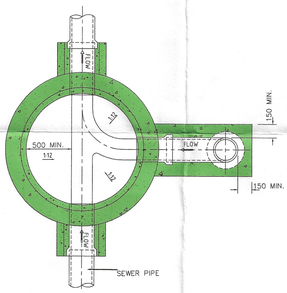
DIAMETER CHANGE



SECTION A – A



SECTION B – B



SECTION C – C

TYPE B (i): TYPICAL DETAIL OF EXTERNAL DROP MANHOLE DEPTH EXCEEDING 900mm
SCALE 1:20

INDAH WATER KONSORTIUM SDN. BHD.
AGENSI PERAKUAN - PEMBETUNGAN (dilantik oleh SPAN)

PELAN-PELAN UNTUK MEMBINA REKABENTUK SISTEM PEMBETUNGAN ADALAH

DILULUSKAN

BERDASARKAN KEPADA PENGESAHAN/TANDATANGAN JURUTERA PROFESIONAL BERKEBERAN DAN TERTAKLUK KEPADA SYARAT-SYARAT BIL.: 01/ hingga 10
DI DALAM FAIL IWK/C/ PK01/23/0066

I) KELULUSAN ASAL
II) PINDAAN PERTAMA
III) PINDAAN KEDUA

Pengerusi
Agensi Perakuan - Pembetungan
Perak Darul Ridzuan
(dilantik oleh SPAN)
Tarikh 11/03/26

KELULUSAN INI TIDAK TERMASUK REKABENTUK STRUKTUR KEJURUTERAAN

RUJ.	TARIKH	PINDAAN

PEMILIK TANAH:

UDA HOLDINGS BERHAD
WISMA SBBU, JALAN PADI MAHSURI 12,
BANDAR BARU UDA,
81200 JOHOR BAHRU,
JOHOR DARUL TAKZIM

MOHD ROSMAN JAMIAN
No. K/P.: 700721-01-7037
Surat Kuasa Wakil : PD 675 / 2016 27/11/2016
Pej. Pendaftar Tanah W.P. Kuala Lumpur

PEMAJU/PENYEWA:

GERBANG ALAF RESTAURANTS SDN. BHD.
LEVEL 6, BANGUNAN TH,
DAMANSARA UPTOWN 3,
No. 3, JALAN SS21/39,
47400 PETALING JAYA,
SELANGOR DARUL EHSAN

KAMARUDDIN BIN DUJODO
No. K/P.: 791203-12-5887
Head Of Development

Jurutera sivil & struktur:

SS PERUNDING
Consulting Civil & Structural Engineers
ISO 9001

NO 7-2B, JALAN BOLING PADANG C13/G, SEKSYEN 13,
40100 SHAH ALAM SELANGOR DARUL EHSAN
Tel. 03-55116212 Fax. 03-55116213

PROFF. IR. SAFARI B HASSAN
CIVIL
C19433
MALAYSIA

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

Tajuk projek:

CADANGAN MEMBINA SEBUAH RESTORAN PANDU LALU SATU TINGKAT DI ATAS SEBAHAGIAN LOT 9665N (PN 314967), JALAN RAJA ASHMAN SHAH, BANDAR IPOH (U), DAERAH KINTA, PERAK DARUL RIDZUAN.

UNTUK :

GERBANG ALAF RESTAURANTS SDN. BHD.

Tajuk lukisan:

MANHOLE DETAILS
MANHOLE COVER DETAIL

Dilukis	Direka Oleh	Disemak Oleh	Tarikh	Skala
Jefry	HH	SHB	NOV. 2022	NTS

Rujukan Pelan

SS/2235/MCD/GT/CS/03