

**LEGEND:**

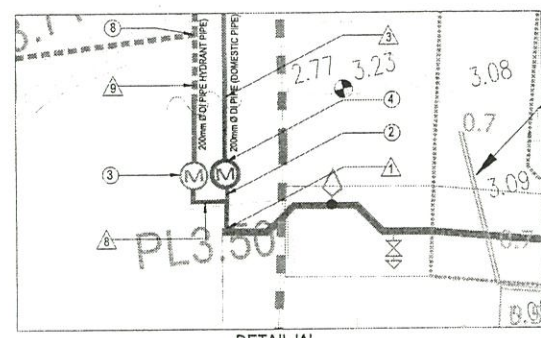
PROPOSED WATER DEMAND = 218,825.00 LPD (44,134.00 GPD)

---	BOUNDARY LINE
---	PROPOSED 200mm Ø (DI) PIPELINE (EXTERNAL INCOMING PIPE)
---	PROPOSED 200mm Ø (DI) PIPELINE (INTERNAL DOMESTIC PIPE)
---	PROPOSED 200mm Ø (DI) PIPELINE (INTERNAL HYDRANT PIPE)
---	PROPOSED 50mm Ø (S.S) PIPE (INTERNAL COMMUNICATION PIPE)
---	EXISTING 300mm Ø PIPE (SATU)
---	EXISTING WATER PIPE
---	EXISTING POWER CABLE
---	EXISTING CELOOM CABLE
---	AIR VALVE (A.V)
---	WASHOUT VALVE (W.O)
---	SLUICE VALVE (S.V)
---	PROPOSED S-BEND
---	PROPOSED BULK METER
---	PROPOSED HYDRANT
---	NODE NO.
---	PIPE NO.
---	PIPE MARKER

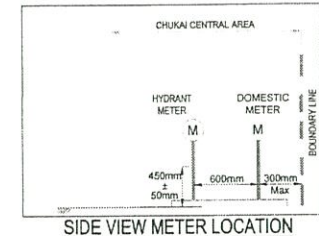
- NOTES:**
- ALL DIMENSIONS SHOWN ARE IN METER UNLESS OTHERWISE STATED.
  - TOPOGRAPHICAL SURVEY WAS EXTRACTED FROM SURVEY NO. KPXT/PP/18/18/04
  - ACTUAL PROPOSED TAPPING POINT LOCATION SHALL BE DETERMINED UPON RECEIVED OF SYARIKAT AIR TERENGGANU (SATU)'S APPROVAL.
  - EXISTING ROAD SHOULDER SHALL BE REINSTATED AS SHOWN IN DETAILS DRAWING.
  - THIS DRAWING MAY BE SUBJECT TO CHANGES AS PER TERMS, CONDITIONS AND / OR APPROVAL OF THE RELEVANT AUTHORITY.
  - THE CONTRACTOR SHALL OBTAIN RELEVANT APPROVAL/PERMITS FROM AUTHORITIES ESPECIALLY FROM SYARIKAT AIR TERENGGANU (SATU) BEFORE CARRIED OUT THE WORKS.
  - THE CONTRACTOR SHALL PROVIDE TEMPORARY TRAFFIC DIVERSION WORKS AS AND WHEN DEEM REQUIRED BY ANY RELEVANT AUTHORITIES E.G. MAJLIS PERBANDARAN KEMAMAN (MPK), SYARIKAT AIR TERENGGANU (SATU), JABATAN KERJA RAYA (JKR), ETC. BEFORE COMMENCEMENT OF THE WORKS.
  - THE CONTRACTOR SHALL MAKE GOOD AND REPAIR (IF DAMAGED) THE EXTERNAL WATER SUPPLY WORKS TO THE SATISFACTION OF THE S.O.
  - THE CONTRACTOR SHALL ARRANGE FOR A JOINT INSPECTION FOR THE APPROVING AUTHORITIES AND THE S.O. TO INSPECT THE EXTERNAL WATER SUPPLY WORKS BEFORE REQUESTING FOR APPROVAL TO COMPLETE THE EXTERNAL WATER SUPPLY WORKS.
  - THE CONTRACTOR SHALL RELOCATE AND/OR PROTECT THE EXISTING UTILITIES IF REQUIRED IN ACCORDANCE WITH THE REQUIREMENTS SPECIFIED IN SPECIFICATIONS AND THE REQUIREMENTS OF UTILITY OWNERS AND LOCAL AUTHORITY JURISDICTIONS.
  - THE CONTRACTOR SHALL COORDINATE WITH LOCAL JURISDICTIONS AND THE UTILITY OWNERS THROUGHOUT THE WORKS AND SHALL DESIGN AND CONSTRUCT THE RELOCATION OF UTILITIES IN CONFLICT WITH THE WORKS.

**SITE COORDINATES**  
4.221811, 103.416855

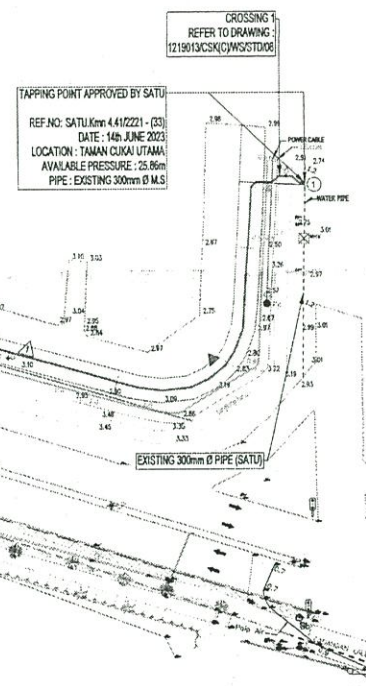
**WATER SUPPLY LAYOUT PLAN**  
SCALE 1:750



**DETAIL 'A'**  
**PLAN VIEW OF BULK METER**  
SCALE 1:200



**SIDE VIEW METER LOCATION**  
SCALE 1:75



TAPPING POINT APPROVED BY SATU  
REF. NO. SATU/KM/441/22/1-(33)  
DATE: 14th JUNE 2023  
LOCATION: TAMAN CUKAI UTAMA  
AVAILABLE PRESSURE: 25.86m  
PIPE: EXISTING 300mm Ø M.S

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF EXISTING OR NEW SERVICES AND/OR UTILITIES SUCH AS WATER SUPPLY, SEWER LINES, ELECTRICITY, SUPPLY TELEPHONE LINES, ETC AND TO MAINTAIN THE SERVICES TO THE LOCAL POPULATION AND TO REMAIN IN PLACE DURING THE COMMENCEMENT OF THE WORKS.
- PROPOSED STEPPED MECHANICAL COUPLING FOR JOINING FROM DUCTILE IRON PIPE FOR JOINING TO PROPOSED STAINLESS STEEL PIPE.
- PROPOSED PIPELINE CONNECTION TO EXISTING SATU'S WATER MAINS BY HOT TAPPING AND LINE STOPPING METHOD.
- UNDERGROUND UTILITY MAPPING DETECTION SURVEY WAS EXTRACTED FROM SURVEY NO. JUR.058/2019/SUKR/CUKAI/UMAP.
- PROVISION OF PRESSURE REDUCING VALVE IS SUBJECT TO SATU'S REQUIREMENT AND APPROVAL.
- CONTRACTOR TO SUBMIT HOT TAPPING IN-LINE STOPPING SHOP DRAWING AND METHOD STATEMENT.
- PILOTING WORKS SHALL BE CARRIED OUT PRIOR TO COMMENCEMENT OF WORKS.
- THE CONTRACTOR SHALL BE REQUIRED TO CARRY OUT SURVEY TO SETTING OUT PROPOSED PIPE ALIGNMENT AND CHECK BE CHECKED AND CONFIRMED BY S.O BEFORE WORK COMMENCED.
- THE EXACT POSITION OF SLUICE VALVES/SCOUR VALVE/AIR VALVE/TEE JUNCTION/HYDRANT/BEND/EGREE OF BEND AND ETC TO BE CONFIRMED ON SITE.
- ALL EXISTING INVERT LEVELS AND GROUND LEVELS WHERE INDICATED SHALL BE CONFIRMED ON SITE.
- REFER TO SATU REQUIREMENT, THE CONTRACTOR SHALL FOLLOW AS LISTED BELOW:  
A) THE PROPOSED PIPE SHALL BE LAY WITH MINIMUM DEPTH OF 1.2M FROM GROUND LEVEL TO SURFACE (CROWN) OF THE PIPE.  
B) INSTALLATION OF NEW WATER PIPE (PIPE RELOCATION, WATER ASSETS (VALVES, CHAMBERS ETC.) ARE REQUIRED TO BE ON THE ROAD SHOULDER AND AUTHORIZED PUBLIC RESERVE.  
C) TO ENSURE THE PROPOSED PIPE ALIGNMENT IS NOT UNDER PERMANENT STRUCTURE.

**WRA SERVICES SDN. BHD.**  
02 JUN 2024  
**RECEIVED**

**LUKISAN PEMBINAAN**

**LUKISAN PEMBINAAN**

**PELANGGAN :**  
KEMENTERIAN PEMBANGUNAN KERAJAAN TEMPATAN  
No.51, Persiaran Perdana, Presint 4, 62100, Putrajaya.  
Tel : 03-8900 8000  
Faks : 03-8911 5557  
**KPKT**

**PEMILIK TANAH :**  
MAJLIS PERBANDARAN KEMAMAN,  
Jalan Air Putih, 24000 Kemaman, Terengganu Darul Iman  
General Line : 09-5567 777  
Tel-Free Line : 1-800-88-7009

**AGENSI PELAKSANA :**  
**JKR**  
JABATAN KERJA RAYA MALAYSIA  
IBU PEJABAT JABATAN KERJA RAYA MALAYSIA

**ARKITEK :**  
**ARKIKRAF SDN. BHD.**  
07-5-16, Bangunan Perdagangan D7, 800 Jalan Sentul, 51000 Kuala Lumpur  
Tel : +603-4050 4466  
Email : info@arkikraf.com  
Website : www.arkikraf.com

**JURUTERA AWAM & STRUKTUR :**  
**PROFESSIONAL ENGINEER**  
CIVIL  
I. ZARINA SHAMAD ALI  
C114770  
MALAYSIA

for Minconsult Sdn. Bhd.  
(Company No. 58525-P)  
**MINCONSULT SDN BHD**  
Minconsult  
Lot 6, Jalan S1A/223, 46100 Petaling Jaya, Selangor, Malaysia.  
TEL : 603 7954 6757 FAX : 603 7954 7373

**JURUTERA MEKANIKAL :**  
**TL**  
(Mechanical & Electrical Consulting Engineers)  
No. 13B, Jalan Medan Pusat 2/U, 3B, Curve Business Park, Seksyen 9, 43200 Bandar Baru Bangi, Selangor Darul Ehsan.  
Tel: 03-89272341, Fax: 03-89274069  
E-mail: emce@tlpnce.com.my

**JURUTERA ELEKTRIK :**  
**WAN HUSIN & ASSOCIATES SDN. BHD.**  
ELECTRICAL, MECHANICAL & CIVIL ENGINEERING CONSULTANTS (SIA) LTD  
NO. 218, 1/F, PLAZA SAKANG SQUARE, JALAN SAKANG 4/2, OFF JALAN SAKANG, 02600 KUALA LUMPUR.  
TEL: 03-4345 8188 FAX: 03-4345 8188  
E-MAIL: wanhusin@wanhusin.com.my  
NO. 207, 1/F, PLAZA TAMAN SERI WANGSA, JALAN SAKANG 4/2, 02600 KUALA LUMPUR.  
TEL: 03-4345 8188 FAX: 03-4345 8188  
E-MAIL: wanhusin@wanhusin.com.my

**JURUKUR BAHAN :**  
**HAI Associates**  
HAH Associates, 42-2, Jalan Wangsa Setia 4, Wangsa Melawati, 53300, Kuala Lumpur, Malaysia.

**PERUNDING (LANDSCAPE) :**  
**W&S**  
IN-SITE DESIGN  
LANDSCAPE ARCHITECTURE, LANDSCAPE ENVIRONMENTAL PLANNING AND URBAN DESIGN  
WONG PAU PAU, JALAN BANGSAR UTAMA 9, BANGSAR 59000 KUALA LUMPUR.  
Tel: (603) 2065 8807 Fax: (603) 2064 1387  
Email: wpaupau@wpaupau.com

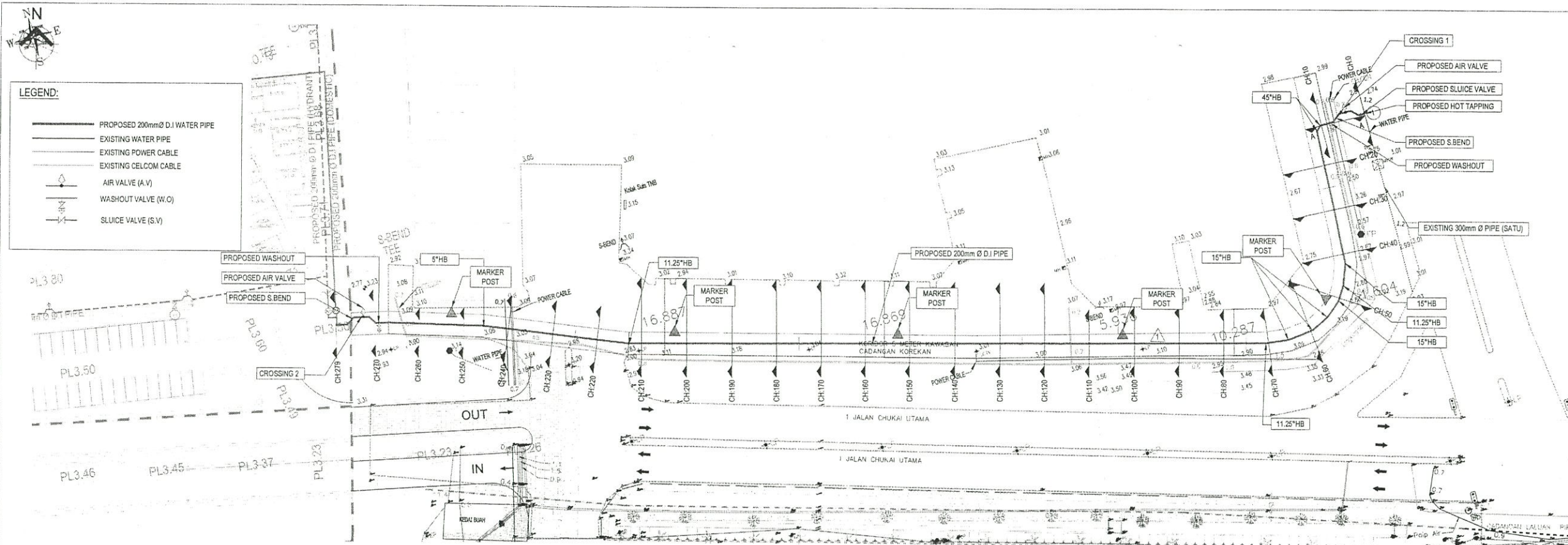
**TAJUK PROJEK :**  
PROJEK PEMBANGUNAN CUKAI SENTRAL KEMAMAN, TERENGGANU

**UNTUK TETUAN :**  
KEMENTERIAN PEMBANGUNAN KERAJAAN TEMPATAN

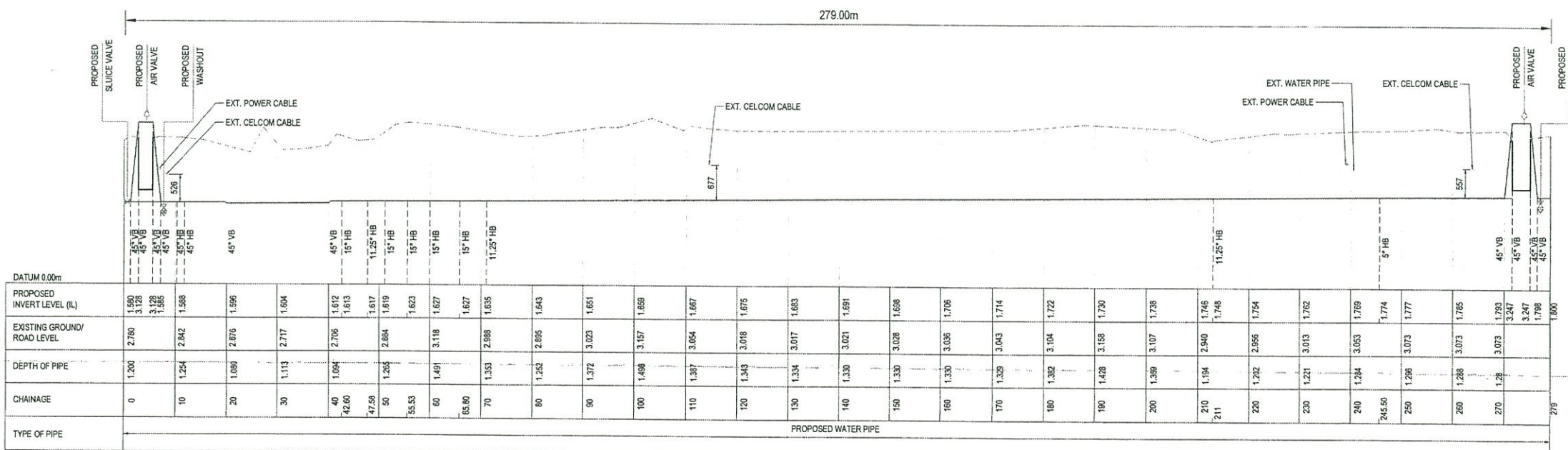
**TAJUK LUKISAN :**  
KEY PLAN, LOCATION PLAN AND WATER RETICULATION LAYOUT PLAN

**NOTA :**  
CONTRACTOR MUST CHECK ALL DIMENSIONS ON SITE. ANY DISCREPANCIES MUST BE REPORTED IMMEDIATELY TO THE ARCHITECT AND ENGINEER BEFORE PROCEEDING.

DIREKA : MZZ	DILULUS : ZMA
DILUKIS : TIN	TARBIH : 06 APRIL 2024
DISEMAK : AHNAF	SKALA : AS SHOWN
NO PROJEK : 1219013	NO LUKISAN : 1219013/13/CSK(C)/WS/LO/01
	REV : C00



LAYOUT PLAN  
SCALE 1 : 500 (A1)



LONGITUDINAL PROFILE OF D.I. WATER PIPE  
FROM CHAINAGE CH. 0 m TO CH. 279m

VERTICAL 1:500  
HORIZONTAL 1:1000

WRA SERVICES SDN. BHD.  
02 JUN 2024  
RECEIVED

LUKISAN PEMBINAAN

LUKISAN PEMBINAAN

PELANGGAN :  
KEMENTERIAN PEMBANGUNAN KERAJAAN TEMPATAN  
No. 51, Persiaran Perdana,  
Presint 4,  
62100, Putrajaya  
Tel: 03-8933 8000  
Faks: 03-8951 5557

PEMILIK TANAH :  
MAJLIS PERBANDARAN KEMAMAN,  
24000 Kemaman,  
Terengganu Darul Iman  
General Line: 09-5527 777  
Tel-Free Line: 1-800-88-7009

AGENS PELAKSANA :  
JKR  
JABATAN KERJA RAYA MALAYSIA  
IBU PEJABAT JABATAN KERJA RAYA MALAYSIA

ARKITEK :  
ARKIKRAF SDN. BHD.  
D7-5-16,  
Bangunan Perdagangan D7,  
800 Jalan Sentul,  
61000 Kuala Lumpur  
Tel: +603-4050 4466  
Email: info@arkikraf.com  
Website: www.arkikraf.com

JURUTERA AWAM & STRUKTUR :  
PROFESSIONAL ENGINEER  
CIVIL  
IR. ZARINA MOHAMMADALI  
C114770  
MALAYSIA

for Minconsult Sdn. Bhd.  
(Company No. 53835-P)  
MINCONSULT SDN BHD  
(S. N. 988-P)  
Lot 6, Jalan 51A/223,  
46100 Petaling Jaya, Selangor, Malaysia.  
TEL: 603 7954 5757 FAX: 603 7954 7373

JURUTERA MEKANIKAL :  
(Mechanical & Electrical Consulting Engineers)  
TL  
110, 135, Jalan Medan Pusat 20,  
3B, Curve Business Park, Seksyen 9,  
43200 Bandar Baru Bangi,  
Selangor Darul Ehsan.  
Tel: 03-89121341, Fax: 03-89274069  
E-mail: emt@tl.com.my

JURUTERA ELEKTRIK :  
WAN HUSIN & ASSOCIATES SDN. BHD.  
DUA & STRUKTUR, MEDAN HAMA,  
BANGSAPETANG, TERENGGANU, MALAYSIA  
NO. 7-41, 1st FLOOR, DAMANSARA SQUARE, JALAN DAMANSARA, 47400, PETALING JAYA, SELANGOR, MALAYSIA  
TEL: 03-4242 8888 FAX: 03-4242 8888  
E-MAIL: wan@wan.com.my

JURUKUR BAHAN :  
HAH Associates  
42-2, Jalan Wangsa Setia 4,  
Wangsa Melawati,  
53300, Kuala Lumpur, Malaysia.

PERUNDING (LANDSKAP) :  
IN-SITE DESIGN  
LANDSCAPE ARCHITECTURE LANDSCAPE  
ENVIRONMENTAL PLANNING AND URBAN DESIGN  
WISMA TRIP, 14, JALAN BANGSAPETANG 11 BANGSAPETANG 56000  
KUALA LUMPUR  
Tel: (603) 2088 8907 Fax: (603) 20641307  
Email: wad@wsp.com

TAJUK PROJEK :  
PROJEK PEMBANGUNAN CUKAI SENTRAL KEMAMAN,  
TERENGGANU

UNTUK TETUAN :  
KEMENTERIAN PEMBANGUNAN KERAJAAN TEMPATAN

TAJUK LUKISAN :  
LONGITUDINAL PROFILE

NOTA:  
CONTRACTOR MUST CHECK ALL DIMENSIONS ON SITE. ANY  
DISCREPANCIES MUST BE REPORTED IMMEDIATELY TO THE ARCHITECT  
AND ENGINEER BEFORE PROCEEDING.

DIREKA : MZZ / DILLALUS : ZMA  
DILUNIS : TIN / TARIKH : 05 APRIL 2024  
DISEMAK : AHNAF / SKALA : AS SHOWN  
NO PROJEK : NO LUKISAN : REV :  
1219013 1219013/13/CSK(C)/WS/LP/01 C00