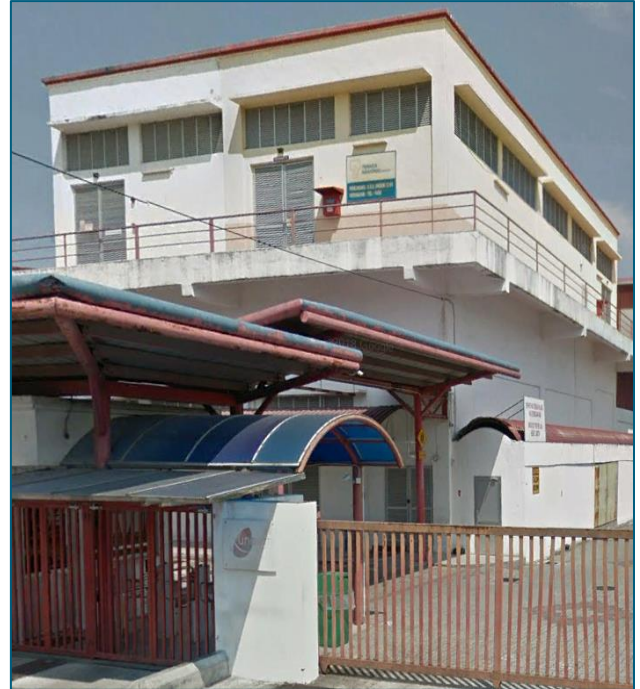


# TECHNICAL PROPOSAL



PMU JALAN GOPENG 7L5

LAT/LONG: 4.551966° E 101.116146°



SSU UNISEM 2L5

LAT/LONG: N 4.524156° E 101.126398°

CIVIL INFRASTRUCTURE AND FIBRE OPTIC CABLING SYSTEM

PROJECT NAME : INSTALL NEW FIBRE FROM PMU JALAN GOPENG 7L5 TO SSU INISEM 2L5  
REGION : NORTHERN  
SITE / LINK : PMU JALAN GOPENG 7L5 TO SSU UNISEM 2L5

## Table of Content

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- Section 2 : Proposed Manhole Coordinates
- Section 3 : OSP and ISP Routing Plan
- Section 4 : Straight Line Drawing
- Section 5 : OSP and ISP Snapshot/Photo
- Section 6 : Work Schedule

**Section 1: SAMPLE BILL OF QUANTITY PMU JALAN GOPENG 7L5 TO SSU UNISEM 2L5**

NO	PU ID NO	DESCRIPTION	UNIT OF MEASURE	WORK ODER REQUEST	NORMAL RATE (RM)	PRICE (RM)
1	F.2.48	Mobilisation Cost - Central	Each			
2	F.2.47	Site Survey	Per site			
4	C.1.1	Supply and install of 50mm GI Pipe Class C	Meter			
5	C.6.1	Processing Fee to authority/or building owner	Per site			
6	C.6.5	Utility Mapping	Meter			
7	C.6.7	Supply and install of Plastic Slab	Meter			
8	C.5.13	Mobilisation and Demobilisation of HDD Equipment	Each			
9	C.5.11	Horizontal Direct Drilling (HDD) 1 Way	Meter			
10	C.5.12	Horizontal Direct Drilling (HDD) 2 Wa	Meter			
11	C.5.1	Excavation and Backfill Work	Meter <sup>3</sup>			
12	C.5.6	Cut and permanent reinstatement (Tarmac)	Meter <sup>2</sup>			
13	C.2.1	Supply and install of JRC7 manhole c/w	Each			
14	F.2.10	Installation of cable in duct	Meter			
15	F.3.4	Supply and install of 40mm PVC sheathed flexible Corrugated and armoured conduit	Meter			
16	F.1.35	Supply of optical patch tray (48core)-LSH(E2000)/APC	Each			
17	F.1.40	Supply of 42U Optical Distribution Panel (Close Rack)	Each			
18	F.2.24	Optical Fibre Termination from 25 core up to 48 cores on Optical patch tray	Each			
19	F.2.28	Testing of optical fibre cable End to End for 25 to 48core	Each			
20	F.3.6	Supply and install of stainless steel fibre optic cable tagging	Each			
21	T.1	Transportation of Materials from regional of headquarter store to site using 1 Ton / 3 Ton lor	Each			
22	C.4.6	Hacking and resurfacing of wall	Each			
23	C.1.12	Supply and install minimum 40mm HDPE pipe	Meter			
24	F.1.9	Supply of joint closure (2way) with braket	Each			
25	F.2.19	Straight jointing and install of splice closure for underground install from 25 core up to 48	Each			
26	CP.1.1	EC Competent person e) 132kV	Per Day			
TOTAL						

### Section 1: OSP Summary

Item	Description Activity	Qty	Unit
	Overall OSP Proposed Civil Infra. Design Distance		
1	Horizontal Directional Drilling 1 Way	5903	m
2	Horizontal Directional Drilling 2 Way		
3	Trenching in Carriageway		
4	Trenching in Grass Verge	20	m
5	Supply & Install GI 50mm	45	m
6	Supply & Install Manhole JRC7	32	Each
ISP Cable length from PMU Jalan Gopeng to SSU Unisem		6500	m

### 3rd Parties Dependencies

Item	Parties Involve
Building Owners	PMU Jalan Gopeng
Building Owners	SSU Unisem

### Other Highlights/Remarks

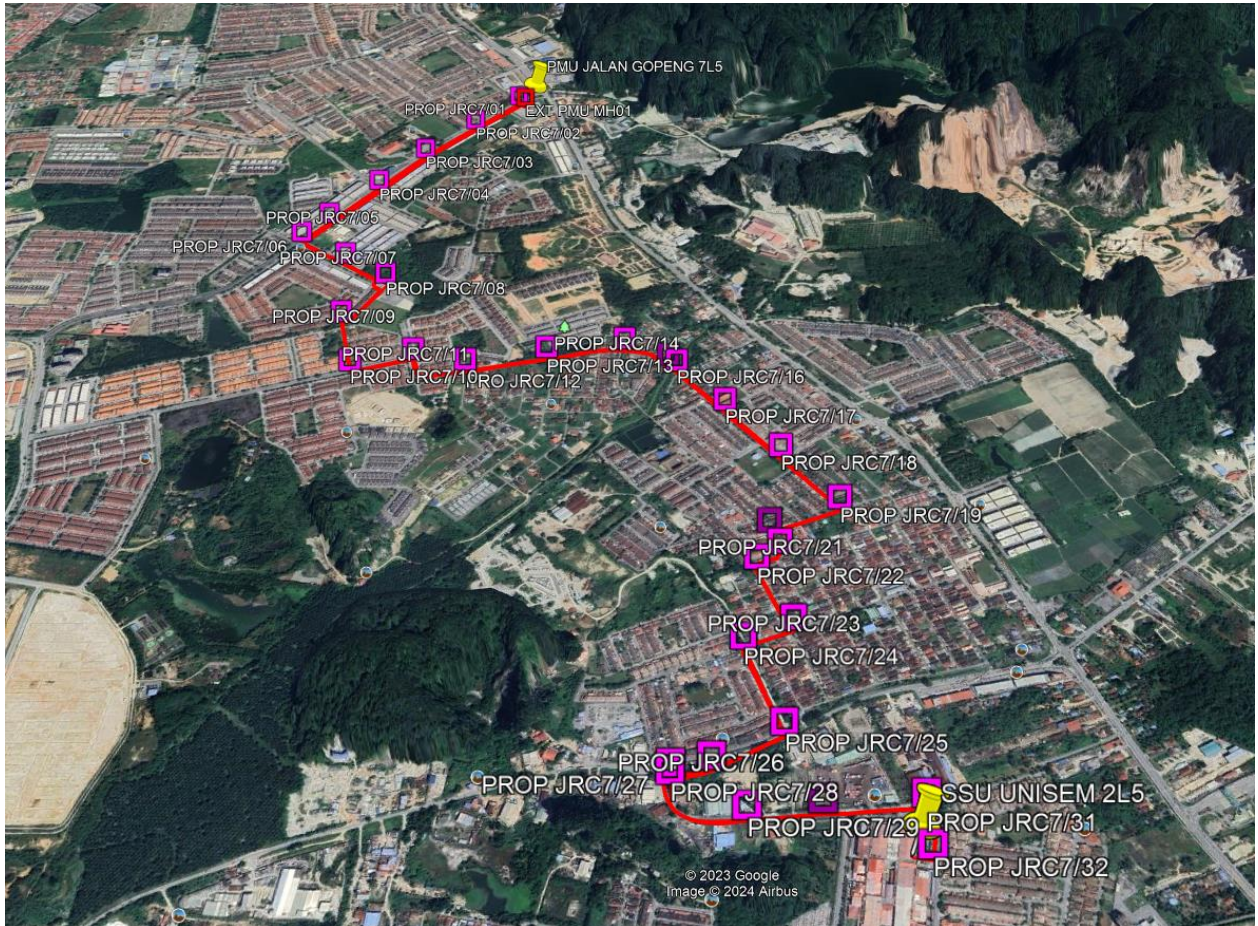
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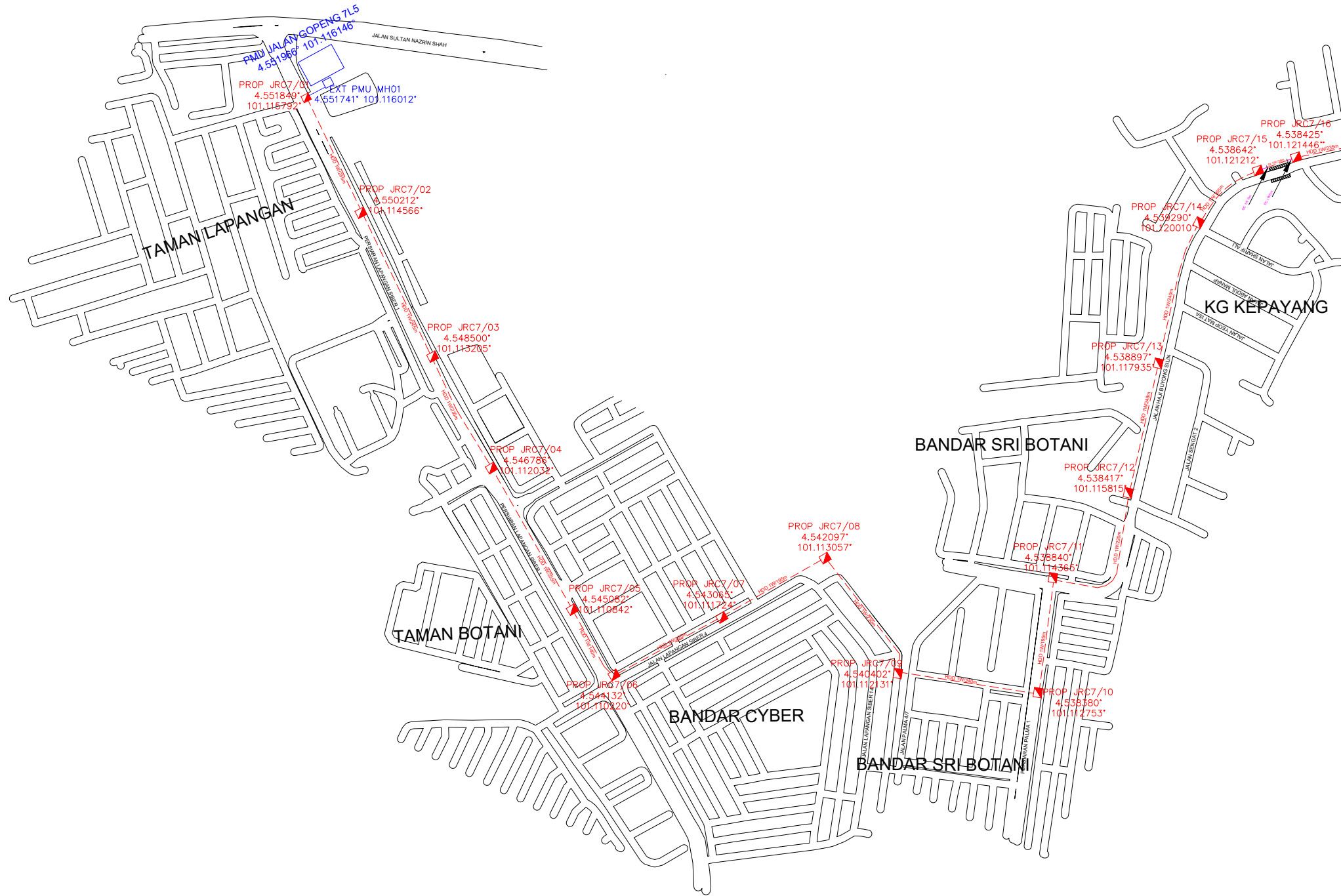
## Section 2: Proposed Manhole Coordinates


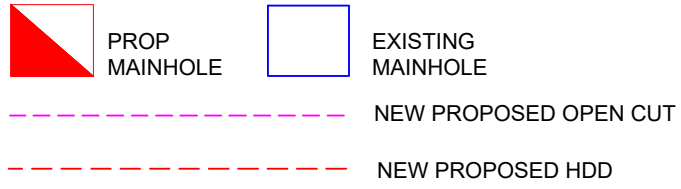
No	Manhole No.	Latitude	Longitude
1	PMU JALAN GOPENG 7L5	4.551966°	101.116146°
2	EXT PMU MH01	4.551741°	101.116012°
3	PROP JRC7/01	4.551849°	101.115792°
4	PROP JRC7/02	4.550212°	101.114566°
5	PROP JRC7/03	4.548500°	101.113205°
6	PROP JRC7/04	4.546786°	101.112032°
7	PROP JRC7/05	4.545082°	101.110842°
8	PROP JRC7/06	4.544132°	101.110220°
9	PROP JRC7/07	4.543065°	101.111724°
10	PROP JRC7/08	4.542097°	101.113057°
11	PROP JRC7/09	4.540402°	101.112131°
12	PROP JRC7/10	4.538380°	101.112753°
13	PROP JRC7/11	4.538840°	101.114365°
14	PROP JRC7/12	4.538417°	101.115815°
15	PROP JRC7/13	4.538897°	101.117935°
16	PROP JRC7/14	4.539290°	101.120010°
17	PROP JRC7/15	4.538642°	101.121212°
18	PROP JRC7/16	4.538461°	101.121414°
19	PROP JRC7/17	4.536850°	101.122736°
20	PROP JRC7/18	4.535136°	101.124135°
21	PROP JRC7/19	4.533353°	101.125509°
22	PROP JRC7/20	4.532604°	101.123805°
23	PROP JRC7/21	4.531941°	101.124036°
24	PROP JRC7/22	4.531449°	101.123488°
25	PROP JRC7/23	4.529680°	101.124284°
26	PROP JRC7/24	4.529149°	101.123165°
27	PROP JRC7/25	4.526933°	101.124007°
28	PROP JRC7/26	4.526113°	101.122503°
29	PROP JRC7/27	4.525938°	101.121676°
30	PROP JRC7/28	4.525765°	101.121666°
31	PROP JRC7/29	4.524969°	101.123215°
32	PROP JRC7/30	4.525121°	101.124724°
33	PROP JRC7/31	4.525243°	101.126789°

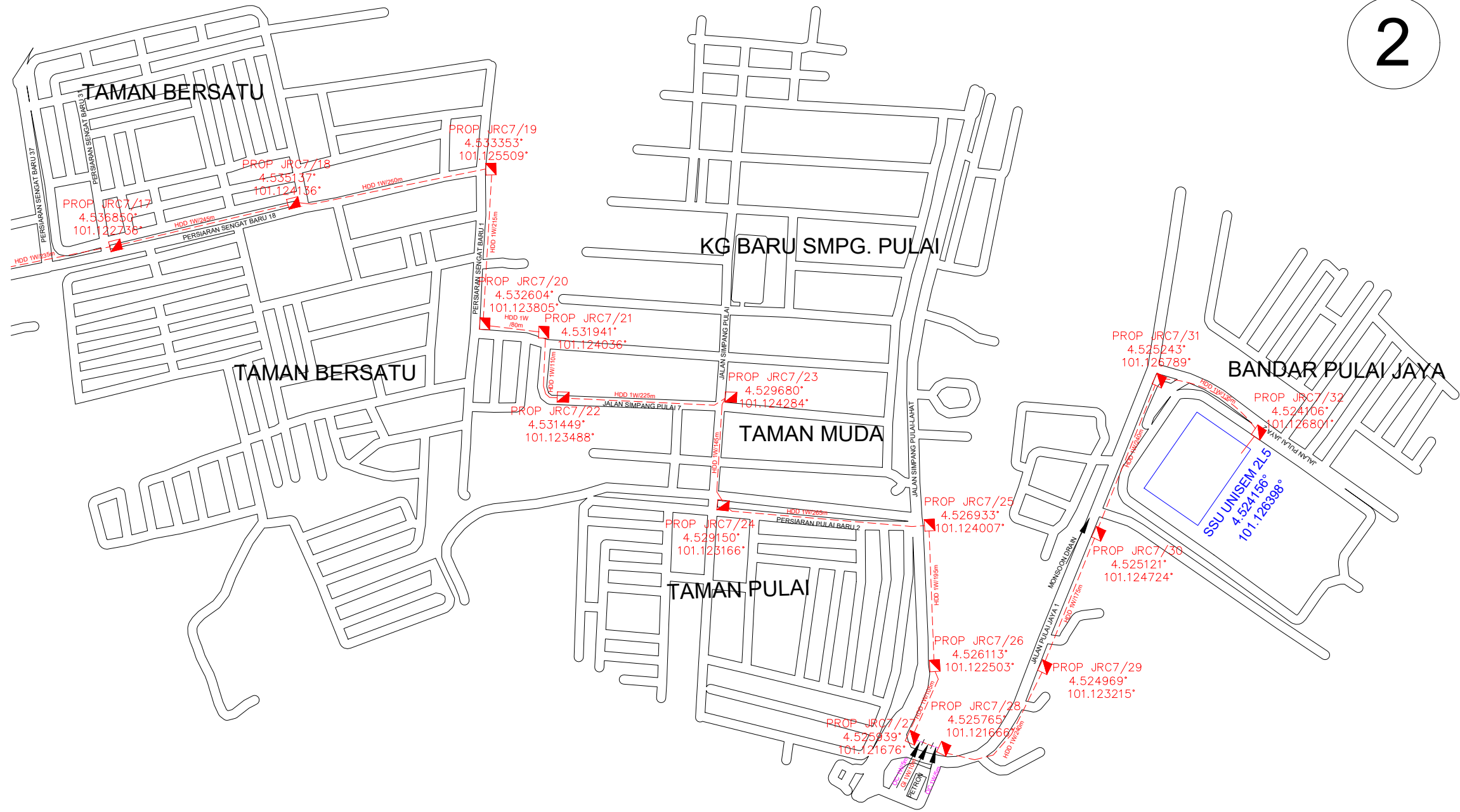
34	PROP JRC7/32	4.524106°	101.126801°
35	SSU UNISEM 2L5	4.524156°	101.126398°






### Section 3: OSP & ISP Routing Plan (Overall Routing)






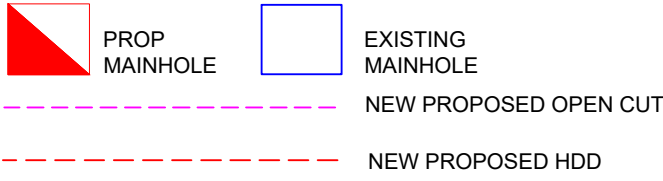
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	Total Distance	5968m	Revision No : Submission Date:		Checked By :		LOA Reference No./Contract No. :	
Total Length of Duct (KM) :								
Total Distance (GG) :	32 Units	Ammended By :		Approved By :		Drawing Title : FIBER OPTIC FROM PMU GPRD 7L5 TO SSU UNISEM 2L5		
Total No. of Manhole :								
Total No. of Handhole :		Total No. of Street Cabinet (e.g. CCC, FEDB)				Drawing No :		
Total No. of Pole :								
								



	Management Information		Project Owner : TNB-IT Sdn Bhd Level 27, Bangunan Dua Sentral No.8, Jalan Tun Sambanthan 50470, Kuala Lumpur	Prepared By (Contractor) :	Northern	Exchange Area:	
	Total Distance	5968m				PMU JALAN GOPENG 7L5 TO SSU UNISEM 2L5	NTS
Total Length of Duct (KM) :			Revision No : Submission Date:	Checked By :	LOA Reference No./Contract No. :		
Total Distance (GG) :		32 Units					
Total No. of Manhole :			Ammended By :	Approved By :	Drawing Title :		
Total No. of Handhole :					FIBER OPTIC FROM PMU GPRD 7L5 TO SSU UNISEM 2L5		
Total No. of Pole :					Drawing No. :		
Management Information		Total No. of Street Cabinet (e.g. CCC, FEDB)					
 PROP MAINHOLE	 EXISTING MAINHOLE						
 NEW PROPOSED OPEN CUT							
 NEW PROPOSED HDD							

PMU GOPENG ROAD  
(GPRD)



	<b>Management Information</b>		<b>Project Owner :</b> TNB-IT Sdn Bhd Level 27, Bangunan Dua Sentral No.8, Jalan Tun Sambanthan 50470, Kuala Lumpur		<b>Prepared By (Contractor) :</b>		<b>Exchange Area:</b> Northern PMU JALAN GOPENG 7L5 TO SSU UNISEM 2L5		NTS		
	Total Distance : 5968m Total Length of Duct (KM) :		Revision No : Submission Date:		Checked By :		LOA Reference No./Contract No. :				
Total Distance (GG) : Total No. of Manhole : Total No. of Handhole :		32 Units		Ammended By :		Approved By :		Drawing Title : FIBER OPTIC FROM PMU GPRD 7L5 TO SSU UNISEM 2L5			
Total No. of Pole :		<b>Management Information</b>		Total No. of Street Cabinet (e.g. CCC, FEDB)		Drawing No :					
											

Section 5: OSP Snapshot/Photo



PROP JRC7/01 AT JALAN PESIARAN SIBER 1 (ROADSIDE)



PROP JRC7/02 AT JALAN PESIARAN SIBER 1 (ROADSIDE)



PROP JRC7/03 AT JALAN PESIARAN SIBER 1 (ROADSIDE)



PROP JRC7/04 AT JALAN PESIARAN SIBER 1 (ROADSIDE)



PROP JRC7/05 AT JALAN PESIARAN SIBER 1 (ROADSIDE)



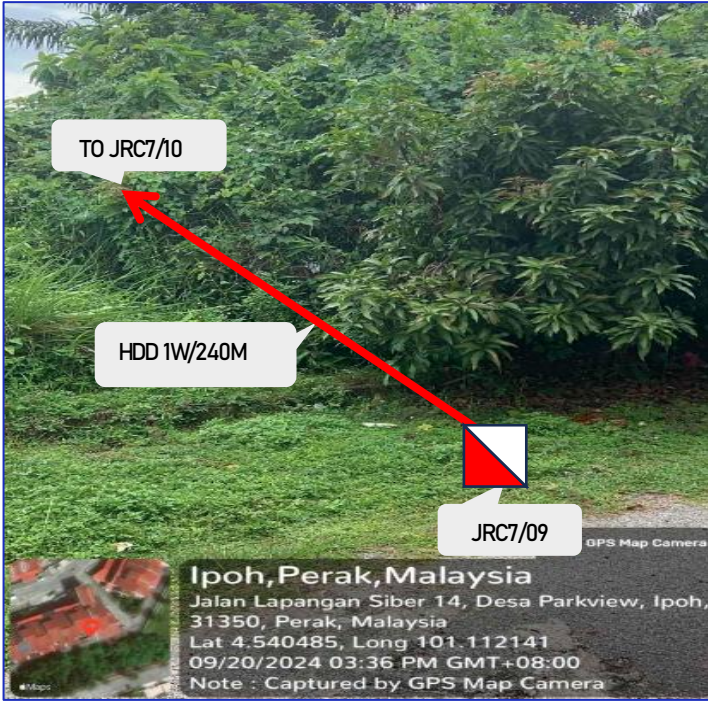
PROP JRC7/06 AT JLN LAPANGAN SIBER 4 (ROADSIDE)



PROP JRC7/07 AT JLN LAPANGAN SIBER 4 (ROADSIDE)



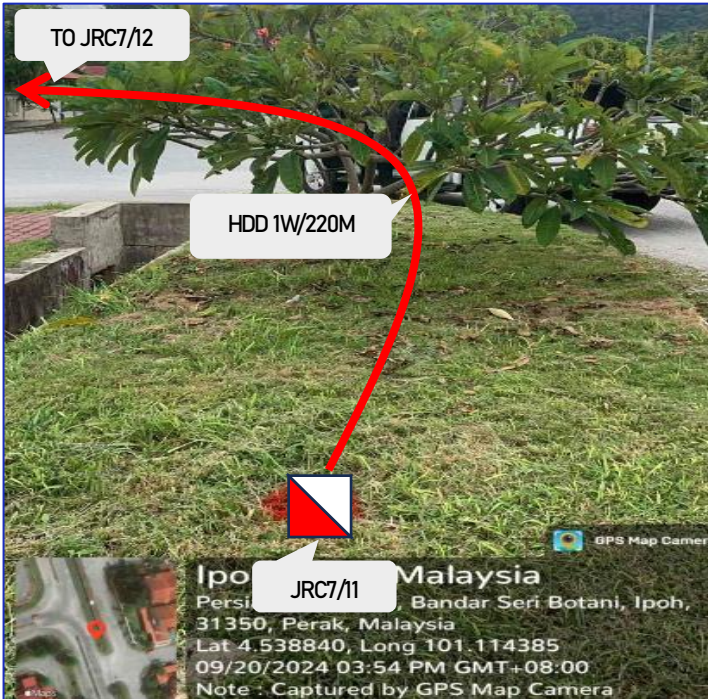
PROP JRC7/08 AT JLN LAPANGAN SIBER 4 (ROADSIDE)



PROP JRC7/09 AT JLN LAPANGAN SIBER 14 (BACKLANE)



PROP JRC7/10 AT JLN PESIARAN PALMA 1 (ROADSIDE)



PROP JRC7/11 AT JLN PESIARAN PALMA 1 (ROADSIDE)



PROP JRC7/12 AT JLN HAJI BUYONG SILIN (ROADSIDE)



PROP JRC7/13 AT JLN HAJI BUYONG SILIN (ROADSIDE)



PROP JRC7/14 AT JLN HAJI BUYONG SILIN (ROADSIDE)



PROP JRC7/15 AT JLN HAJI BUYONG SILIN (ROADSIDE)



PROP CABLE ROUTING VIA GI FOR RIVER CROSSING



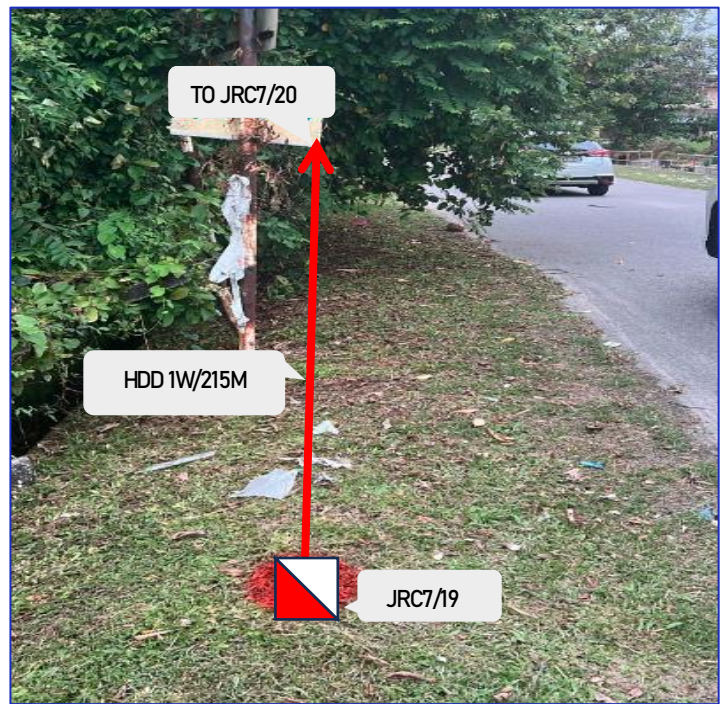
PROP JRC7/16 AT JLN HAJI BUYONG SILIN (ROADSIDE)



PROP JRC7/17 AT JLN PESIARAN SENGAT BARU 18 (ROADSIDE)



PROP JRC7/18 AT JLN PESIARAN SENGAT BARU 18 (ROADSIDE)



PROP JRC7/19 AT JLN PESIARAN SENGAT BARU 1



PROP JRC7/20 AT LORONG SIMPANG PULAI 11 (ROADSIDE)



PROP JRC7/21 AT LORONG SIMPANG PULAI 11 (ROADSIDE)



PROP JRC7/22 AT JALAN SIMPANG PULAI 7 (ROADSIDE)



PROP JRC7/23 AT JALAN SIMPANG PULAI 7 (ROADSIDE)



PROP JRC7/24 AT PESIARAN PULAI BARU 2 (ROADSIDE)



PROP JRC7/25 AT JLN SIMPANG PULAI-LAHAT (ROADSIDE)



PROP JRC7/26 AT JLN SIMPANG PULAI-LAHAT (ROADSIDE)



PROP JRC7/27 AT JLN SIMPANG PULAI-LAHAT (ROADSIDE)



PROP CABLE ROUTING VIA GI FOR RIVER CROSSING



PROP JRC7/28 AT JALAN PULAI JAYA 1 (ROADSIDE)



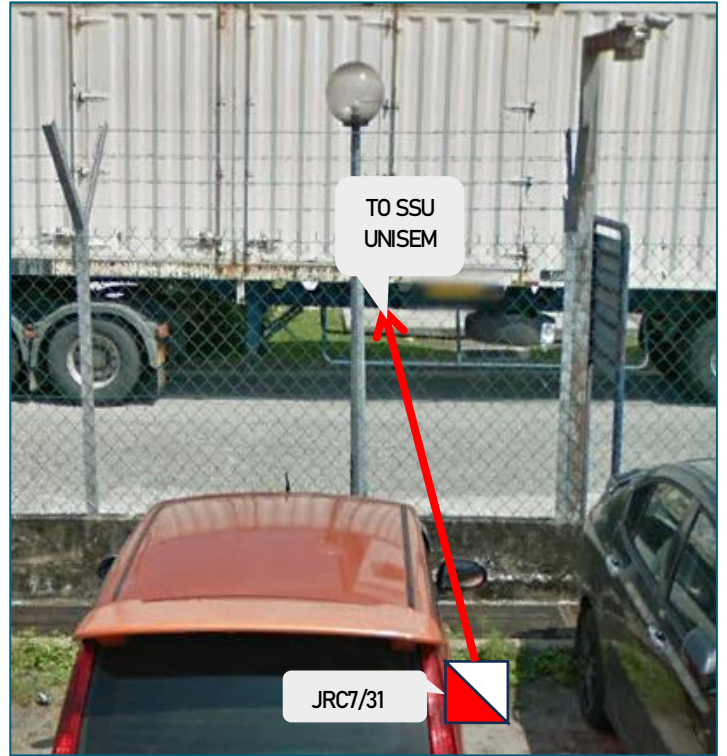
PROP JRC7/29 AT JALAN PULAI JAYA 1 (ROADSIDE)



PROP JRC7/30 AT JALAN PULAI JAYA 1 (ROADSIDE)



PROP JRC7/31 AT JALAN PULAI JAYA 2 (ROADSIDE)



PROP JRC7/32 AT JALAN PULAI JAYA 2 (ROADSIDE)



Layout for PMU Jalan Gopeng 7L5

ISP ROUTE IN PMU JALAN GOPENG 7L5





Layout for SSU Unisem 2L5

ISP ROUTE IN SSU UNISEM 2L5

