OPERATIONS SHEET

Location: SELETAR WEST LINK / YISHUN AVE 1 Int. No: 1705

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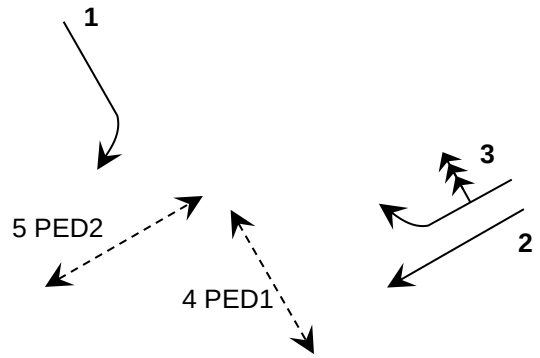
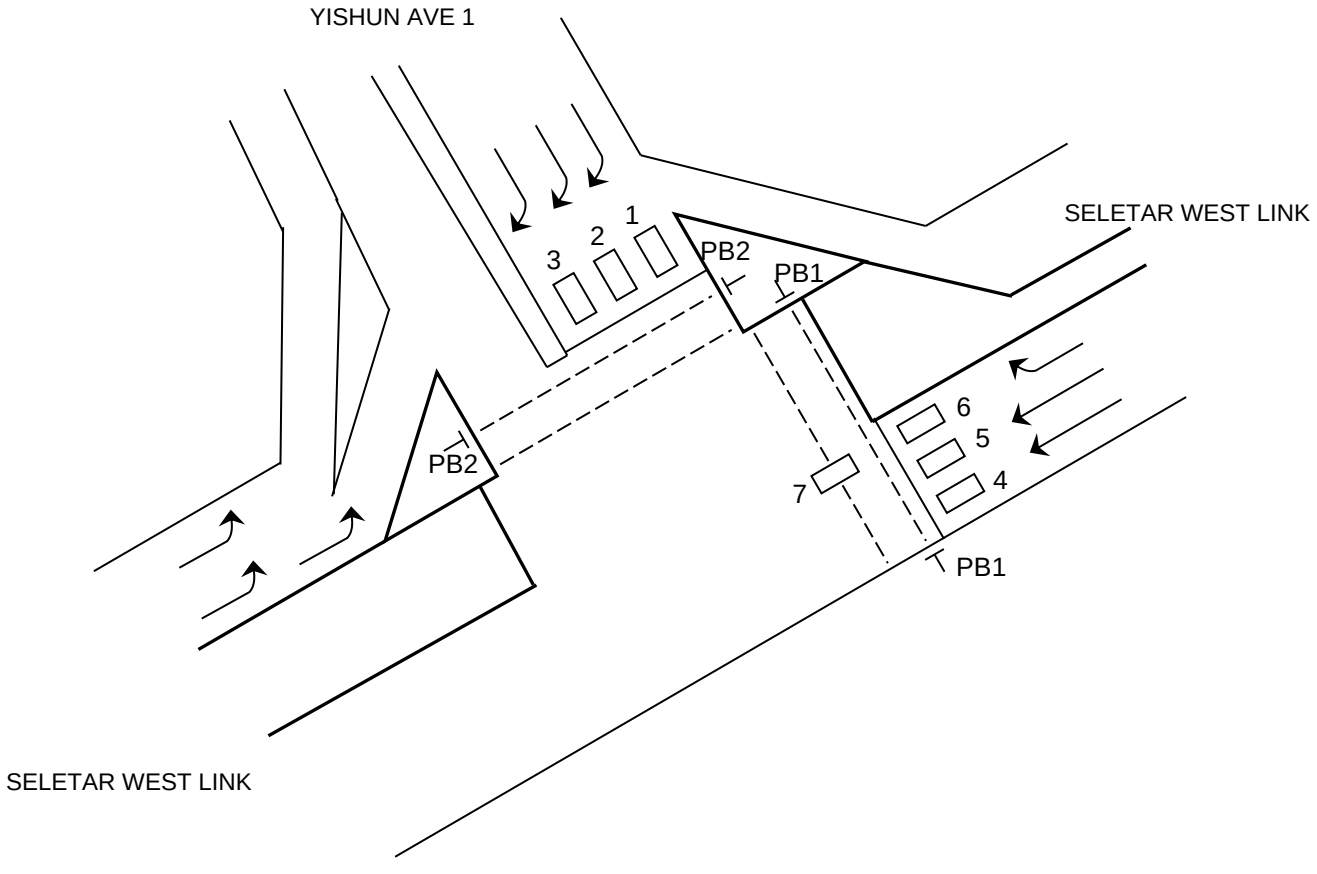
GOMS: 20241226-0719

DE188 – Stage 1
1. Change in layout
2. Change phasing (4-phase to 3-phase)
3. Re-arrange SGs
4. Re-arrange Loops
5. Re-arrange PBs





REMARKS

Location: SELETAR WEST LINK / YISHUN AVE 1 Int. No: 1705

☑ If phase change switch is equal or more than TSM15, controller is to send out MSS15 flag

☐ If phase _____ is not introduced, SG _____ will flash for 3 seconds (TSM 14) in All-Red.

☐ If phase _____ is not introduced, SG _____ will flash for 3 seconds (TSM 14) in All-Red.

☑ B, C phase(s) is/are demand dependent.

☑ A phase(s) is/are placed on permanent demand in all Modes.

☑ PED 1 is introduced when Push Button PB1 is activated.

☑ PED 2 is introduced when Push Button PB2 is activated.

☐ PED _____ is introduced when Push Button _____ is activated.

☐ PED _____ is introduced when Push Button _____ is activated.

☐ Detector loop(s) _____ is/are presence-timed lock call for _____ phase.

☐ During _____ phase, disable detector loop(s) _____ call for _____ phase.

☐ During _____ phase, after the lock call timer has expired (more than TSM _____), detector loop(s) _____ will cancel demand for B phase.

☐ During _____ phase, after the lock call timer has expired (more than TSM _____), detector loop(s) _____ will cancel demand for _____ phase.

☐ Left Turn Green Arrow SG _____

1. It is introduced in _____ phase.
2. SG _____ terminates with SG/Phase _____ with green arrow flashing for 3 seconds.

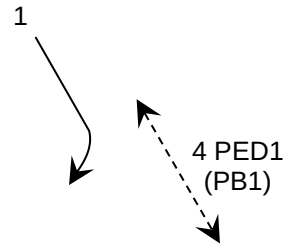
☐ Left Turn Green Arrow SG _____

1. It is introduced in _____ phase.
2. SG _____ terminates with SG/Phase _____ with green arrow flashing for 3 seconds.

PHASING DIAGRAM

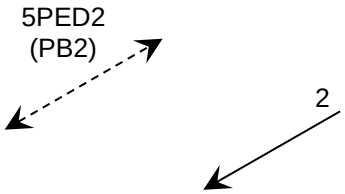
Location: SELETAR WEST LINK / YISHUN AVE 1 Int. No: 1705

A



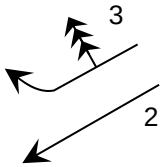
PHASE	PROHIBITED PHASE CHANGES TO	REVERSION ON MAXIMUM	MAXIMUM V. I. G. ON MAXIMUN
A			
B			
C			
D			
E			
F			
G			

B



1. B phase is called by PB2 only
2. PED2 is Auto release PED
3. If PED2 is introduced,
   B phase Min GRN = TSM22 = 27 Sec

C



V. A. Sequence: _____

DETECTOR FUNCTION

Location: SELETAR WEST LINK / YISHUN AVE 1 Int. No: 1705

DETECTOR NO	CALL PHASE	LOCKING	NON LOCKING	SET VIG ON PHASE	EXTEND PHASE	SPECIAL	DETECTOR ALARMS			PLAN REFERENCE
							FAULT SIMULATION			
							CALL & EXTEND	CALL ONLY	DISABLE	
1	A	✓			A		✓			
2	A	✓			A		✓			
3	A	✓			A		✓			
4	C	✓			C		✓			
5	C	✓			C		✓			
6	C	✓			C		✓			
7	C	✓			C		✓			
8										
9										
10										
11										
12										
13										
14										
15						Phase Change Switch			✓	
16						Police Control Switch			✓	
PB1	A	✓				PED 1		✓		
PB2	B	✓				PED 2		✓		
PB3										
PB4										

APPROACH TIMING

Location: SELETAR WEST LINK / YISHUN AVE 1 Int. No: 1705

APPROACH	EXTENDING DETECTORS	SIGNAL GROUP	COMMENTS
A1	1	1	
A2	2	1	
A3	3	1	
A4			
B1			
B2			
B3			
B4			
C1	4	3	
C2	5	3	
C3	6	3	
C4	7	3	
D1			
D2			
D3			
D4			
E1			
E2			
E3			
E4			
F1			
F2			
F3			
F4			
G1			
G2			
G3			
G4			

NOTE: MAXIMUM NUMBER OF APPROACHES IS 16

INTERGREEN, PEDESTRIAN TIMES AND SPECIAL FUNCTIONS

Location: SELETAR WEST LINK / YISHUN AVE 1 Int. No: 1705

PHASE	CLEARANCE MOVEMENT	CLEARANCE DISTANCE	INTERGREEN		
			AMBER	RED	TOTAL
A			3	4	7
B			3	3	6
C			3	3	6
D					
E					
F					
G					

PED NO.	PHASE	WALK		CLEARANCE TIME	
		DISTANCE (m)	GREEN TIME	1	2
1	A	31	6	31	
2	B	21	6	21	
3					
4					
5					
6					
7					

Pedestrian Walking Speed: 1.0 m/sec

SPECIAL FACILITIES

SIGNAL GROUP	HOUR	MINUTE	SECOND	FUNCTION

PRE-EMPTION

SIGNAL GROUP	PHASE	FUNCTION	REMARKS

CONTROLLER TIMESETTING

Location: SELETAR WEST LINK / YISHUN AVE 1 Int. No: 1705

SPECIAL MOVEMENT (S. M.) TIME

	S. M. INTERVAL	1	2	3	4	5	6	7	8
MINIMUM GREEN	1								
AMBER	2								
RED	3								
GAP	4								
HEADWAY	5								
WASTE	6								
MAXIMUM	7								
SIGNAL GROUP									
DETECTORS									

PRESENCE (RANGE 0 –5)

DET. NO	PRESENCE TIME	DET. NO	PRESENCE TIME
1	Sec	13	Sec
2	Sec	14	Sec
3	Sec	15	Sec
4	Sec	16	Sec
5	Sec	17	Sec
6	Sec	18	Sec
7	Sec	19	Sec
8	Sec	20	Sec
9	Sec	21	Sec
10	Sec	22	Sec
11	Sec	23	Sec
12	Sec	24	Sec

ALTERNATE TIME SETTING (RANGE 0-200)

ALT. NO	TIME	ALT. NO	TIME
1		17	
2		18	
3		19	
4		20	*5 Sec
5		21	
6		22 B Min GRN	27 Sec
7		23	
8		24	
9		25	
10		26	
11		27	
12		28	
13		29	
14		30	
15	50 Sec	31	
16		32	

***Note:** During start-up of controller, there will be a 5 seconds All Red (TSM20)

CONTROLLER TIMESETTING

Location: SELETAR WEST LINK / YISHUN AVE 1 Int. No: 1705

	PHASE	A	B	C	D	E	F	G	H	
	INTERVAL	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**Range**
RED/YELLOW	1									0 – 5
LATE START	2									0 – 20
MINIMUM GREEN	3	10	6	7						5 – 20
INCREMENT	4									0 – 5
MAX. V. I. G.	5									0 – 40
MAX. EXT. GREEN	6	40	0	33						0 – 150
EARLY CUT-OFF	7									0 – 20
AMBER	8	3	3	3						3 – 7
ALL RED	9	6	6	6						0 – 15
SPECIAL ALL RED	10	4	3	3						0 – 15
GAP 1	11	3		3						0 –10
GAP 2	12	3		3						0 –10
GAP 3	13	0		3						0 –10
GAP 4	14			3						0 –10
HEADWAY 1	15	1.2		1.2						0 – 5
HEADWAY 2	16	1.2		1.2						0 – 5
HEADWAY 3	17	1.2		1.2						0 – 5
HEADWAY 4	18			1.2						0 – 5
WASTE 1	19	7		7						0 – 50
WASTE 2	20	7		7						0 – 50
WASTE 3	21	7		7						0 – 50
WASTE 4	22			7						0 – 50
MAXIMUM 1	23									0 – 150
MAXIMUM 2	24									0 – 150
MAXIMUM 3	25									0 – 150
MAXIMUM 4	26									0 – 150

Maximum V. A. Cycle Time: _____

☑ Use Special All Red if going from A phase to B phase

☑ Use Special All Red if going from B phase to C phase

☑ Use Special All Red if going from C phase to A phase

☑ Use Special All Red if going from _____ phase to _____ phase

	PEDESTRIAN NO.	1	2	3	4	5	6	7	8	
	INTERVAL	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**Range**
DELAY	1									0 – 20
WALK	2	6	6							0 – 40
CLEARANCE 1	3	31	21							0 – 40
CLEARANCE 2	4									0 – 10
PAC		7	7							

CO-ORDINATION DATA

Location: SELETAR WEST LINK / YISHUN AVE 1 Int. No: 1705

MASTERLINK & FLEXILINK SPECIAL FLAGS

SIGNAL	FUNCTION
Y− FLEXI	CONTINUOUS
Y− MASTER	AUTO CALL PUSH BUTTON PED 1, 2
Y+ FLEXI	
Z− FLEXI	AUTO CALL PUSH BUTTON PED 1
Z− MASTER	
Z+ FLEXI	
Z+ MASTER	
R− FLEXI	PHASE RELEASE PULSE
R+ FLEXI	C PHASE RELEASE PULSE
Q− FLEXI	A PHASE RELEASE PULSE
Q+ FLEXI	PHASE RELEASE PULSE
Z1 MASTER	
Z MASTER	
Z MASTER	
Z MASTER	

LOOK AHEADS AND RELEASES

Phase Sequence 1		
PHASE	**LOOK AHEAD**	**RELEASE**
A	NO	Q-
B	NO	Auto
C	Yes to A	R+
D		
E		
F		
G		

Phase Sequence 2		
PHASE	**LOOK AHEAD**	**RELEASE**
A		
B		
C		
D		
E		
F		
G		

The following phases can be inhibited in Flexilink by omitting the call pulses in the plan data _____

NO	PHASE SEQUENCE
1 (No Z−)	A B C
2 (Z−)	

GLIDE INTERSECTION DATA

Location: SELETAR WEST LINK / YISHUN AVE 1 Int. No: 1705

Note: The data shown on this page should be entered when the intersection is first placed on line. This data is not necessarily used for Master Link operation.

SLOT 133 = 3, 4, 2	E.g. x, y, z. x = No of Phases y = No of Split Plans z = No of PEDs
INT = 1705	
VC =	
CS =	
COM =	
PK =	
S# =	
LM = MF	**Note:** Always LM = F initially
RMN =	
DCL =	
VOLS = 1 – 7	
VP# =	
AT = 7	
BT = 6	
CT = 6	
DT =	
ET =	
FT =	
GT =	

Date:	Date:
PP1 = 0, 0 ^A	PP1 =
PP2 = 0, 0 ^A	PP2 =
PP3 = 0, 0 ^A	PP3 =
PP4 = 0, 0 ^A	PP4 =

Variation Parameter (VP)

VP1 =	VP8 =	VP15 =	VP22 =	VP29 =
VP2 =	VP9 =	VP16 =	VP23 =	VP30 =
VP3 =	VP10 =	VP17 =	VP24 =	VP31 =
VP4 =	VP11 =	VP18 =	VP25 =	VP32 =
VP5 =	VP12 =	VP19 =	VP26 =	VP33 =
VP6 =	VP13 =	VP20 =	VP27 =	VP34 =
VP7 =	VP14 =	VP21 =	VP28 =	VP35 =

W1 = - 40		
W1T = 38	P–	
W2 = 6		
W2T = 27	P–	P+
W3 =		
W3T =	P–	P+

W4 =		
W4T =	P–	P+
W5 =		
W5T =	P–	P+
W6 =		
W6T =	P–	P+

SPLIT PLANS

	SF / FEATURES	1	2	3	4
A	PDTG B	< 0 >	< 0 >	< 0 >	< 0 >
B	C	33s	33s	33s	33s
C	A	30	22	18	26
D					
E					
F					
G					

SF / FEATURES	5	6	7	8

PLAN DATA

Location: SELETAR WEST LINK / YISHUN AVE 1 Int. No: 1705

PLAN

		1	2	3	4	5	6	7	8	9	10
0	**CL**	124	114		124	104	114	114			
1	**A**	0	0		0	0	0	0			
2	**B**	60	54		60	46	54	54			
3	**C**	94	88		94	80	88	88			
4	**D**										
5	**E**										
6	**F**										
7	**G**										
8	**R−**										
9	**R+**	C	C		C	C	C	C			
10	**Y−**	C	C		C	C	C	C			
11	**Y+**										
12	**Z−**										
13	**Z+**										
14	**Q−**	50	44		50	36	44	44			
15	**Q+**										
16	**XSF (9-16)***										
17	**XSF (1-8)***										

* A digit hexadecimal number which signifies which XSF bits are used; e.g. AO signifies bits 14 & 16 are set.

PLAN SCHEDULE

CODE	HOUR	MINUTE	PLAN
8	0	0	5
8	6	30	1
8	9	0	7
8	12	0	2
8	17	0	4
8	21	0	6
8	23	0	5
7	0	0	5
7	7	0	1
7	9	0	7

CODE	HOUR	MINUTE	PLAN
7	12	0	4
7	15	0	2
7	21	0	6
7	23	0	5
1	0	0	5
1	7	0	7
1	9	0	7
1	14	0	2
1	21	0	6
1	23	0	5

Pedestrian and Vehicle Signal Groups Interlock Table

Location: SELETAR WEST LINK / YISHUN AVE 1 Int. No: 1705

	Phase A	Phase B	Phase C	Phase D	Phase E	Phase F	Phase G
SG 1	GAR	RED	RED				
SG 2	RED	SGAR	SGAR				
SG 3	RED	RED	GAR				
SG 4	WALK	DON'T	DON'T				
SG 5	DON'T	WALK	DON'T				
SG 6							
SG 7							
SG 8							
SG 9							
SG 10							
SG 11							
SG 12							
SG 13							
SG 14							
SG 15							
SG 16							

Legend:

GAR	Green, Amber, Red
GEAR	Green, Amber, Red (With ECO)
RED	Red
SGRN	Special Green
SOFF	Special Off
WALK	PED Walk, Clearance 1 and Clearance 2
SWALK	Special PED Walk, Clearance 1 and Clearance 2
DON'T	PED Red

Appendix A

Signal Groups Conflict Matrix

Location: SELETAR WEST LINK / YISHUN AVE 1 Int. No: 1705

SG	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1		X	X		X											
2	X			X												
3	X			X	X											
4		X	X													
5	X		X													
6																
7																
8																
9																
10																
11																
12																
13																
14																
15																
16																