

Environmental Monitoring Report

Annual Report (June to December 2018)
June 2019

SRI: Second Integrated Road Investment Program Tranche 1

Prepared by the Road Development Authority, Ministry of Highways and Road Development and Petroleum Resources Development for the Government of Sri Lanka and the Asian Development Bank.

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**DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MINISTRY OF HIGHWAYS AND ROAD DEVELOPMENT
AND PETROLEUM RESOURCES DEVELOPMENT
ROAD DEVELOPMENT AUTHORITY**



LOAN No. 3579 / 3580 - SRI: SECOND INTEGRATED ROAD INVESTMENT PROGRAMME

Consulting Services for Project Implementation including Construction Supervision, Contract Management and other Implementation activities in Uva Province (PIC 06)

**Annual Environmental Compliance
Monitoring Report
June to December - 2018**



**Prepared by:
Pyunghwa Engineering Consultants Ltd
in Joint Venture with
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(Pvt) Ltd**



**Submitted to:
Road Development Authority
Ministry of Highways and Road Development
and Petroleum Resources Development**

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ABBREVIATIONS

ADB	Asian Development Bank
AIDS	Acquired Immunodeficiency Syndrome
ARE	Assistant Resident Engineer
CEA	Central Environmental Authority
CRCs	Conventional Road Contracts
CSD	Context Sensitive Design
DE	Design Engineer
DPM	Deputy Project Manager
EARF	Environmental Assessment And Review Framework
ECOP	Environmental Code Of Practice
EMAP	Environmental Management Action Plan
EMC	Environmental Monitoring Checklist
EMP	Environmental Management Plan
ES	Environmental Specialist
ESDD	Environmental & Social Development Division
ESO	Environmental Safeguard Officer
ESSO	Environmental And Social Safeguard Officer
FFPO	Fauna & Flora Protection Ordinance
GAP	Gender Action Plan
GIS	Geographical Information System
GND	Grama Niladari Division
GoSL	Government Of Sri Lanka
GRM	Grievance Redress Mechanism
HIV	Human Immunodeficiency Virus
IA	Implementation Agency
IEE	Initial Environmental Examination
iRoad (Uva)	Integrated Road Investment Programme Southern Province
LARP	Land Acquisition And Resettlement Plan
ME	Material Engineer
MoMD&E	Ministry Of Mahaweli Development And Environment
MFF	Multi-Tranche Financing Facility
MoHRD&PRD	Ministry Of Highways And Road Development And Petroleum Resources Development

NEA	National Environmental Act
OPRC	Output & Performance Based Road Contracts
PAA	Project Approving Agency
PE	Project Engineer
PIC	Project Implementation Consultants
PIU	Project Implementation Unit
PLE	Planning Engineer
PM	Project Manager
PPT	Power Point Presentation
PRDA	Provincial Road Development Authority
PS	Pradeshiya Sabha
RDA	Road Development Authority
RE	Resident Engineer
RF	Resettlement Framework
RRDSE	Rural Road Design & Safety Engineer
RSA	Road Safety Audits
SE	Site Engineer
SGRS	Social Gender Resettlement Specialist
SLRM	Sri Lanka Resident Mission
SO	Safety Officer
SPS	Safeguard Policy Statement
TBA	To Be Announced
TL	Team Leader
TLO	Team Leader Office
TO	Technical Officer
TOR	Terms Of Reference

1.0 Introduction

1.1 Scope of the Report

1. This is the first Annual Environmental Compliance Monitoring Report covering the period of 20th of June 2018 to 31st December 2018. While providing a brief introduction to the project, contract packages, and progress of all the packages till 31st of December 2018, main focus of the report is to include summaries and details of Compliance with Environment Safeguard Requirements, Monitoring of Environmental Compliance at Field Level, Issues Observed and Status of Compliance, and Programs and Activities to Enhance Environment.

1.2 Background of the Project

1.2.1 Second Integrated Road Investment Programme (iRoad 2)

2. The majority of Sri Lanka's population live in rural and peri-urban areas. The poor condition of the transport infrastructure in rural areas has hampered economic development, as well as restricting access to health and education facilities, and limiting access to vital markets for procuring basic requirements as well as selling produce.

3. In order to address these issues, the Government of Sri Lanka (GoSL) is implementing the Integrated Road Investment Programme (iRoad) through the Road Development Authority (RDA) in Southern, Sabaragamuwa, Central, North Central, North Western Provinces and Kalutara district in Western Province. The programme intends to stimulate economic growth and enhance the quality of life and welfare in rural areas by improving transport connectivity between rural communities and socioeconomic centers. Improvements comprise bringing selected roads to an all-weather standard through the rehabilitation and upgrading of existing carriageways and associated drainage works. Based on the progress and achievements of the ongoing iRoad programme, the GoSL initiated the Second iRoad programme covering the provinces of Uva, Eastern, Northern and Western, approximately around 3,650 km of roads shall be improved under iRoad 2 programme.

4. Funding for the programme is provided through the ADB's Multi-Tranche Financing Facility (MFF) which provides loans up to an aggregate amount of USD 800 million. Counterpart funding of USD 106 million is provided by the GoSL for feasibility studies, engineering, tax and duties, and part of the contingency.

1.3 iRoad Programme 2 – Uva Province

5. Uva iRoad programme is the first project which has started civil works under iRoad 2 programme. The 973.37 km of rural roads and 72.90 km of national roads covering the districts of Badulla and Monaragala have been packaged in to Eight Contract Packages in Badulla and Seven Contract packages in Monaragala district resulting in a total of fifteen Contract Packages in Uva Province.

6. The fifteen (15) Conventional Road Constructions (CRCs) in Badulla and Monaragala Districts are listed in Table 1 and 2. The local roads have been identified as Provincial Road Development Authority (PRDA) or Pradeshiya Sabha (PS)/Municipal Councils Roads and the national roads as RDA Roads.

Table 1 - Contracts Summary Badulla District

Cont. No	Accepted Contract Amount	Awarded	Contractor	Road Length (km)				
				National	Rural / Provincial			TOTAL
				RDA	PRDD	PS	UC	
BA-01	2,055,897,217	09/04/18	NEM Construction	0	19.76	38.12	0	57.88
BA-02	2,262,823,158	09/04/18	Komuthi-HCM JV	11.8	7.07	60.99	0	79.86
BA-03	2,458,963,395	09/04/18	CML-MTD Construction	0	20.62	61.05	1.86	83.53
BA-04	2,118,733,738	09/04/18	CNTIC-RDCE JV	0	3.94	61.52	0	65.46
BA-05	2,504,966,968	09/04/18	CNTIC-RDCE JV	0	41.44	36.55	0	77.99
BA-06	2,345,800,424	09/04/18	CML-MTD Construction	26.5	33.36	3.14	0	63
BA-07	2,461,426,008	09/04/18	CML-MTD Construction	9.1	20.778	39.07	0	68.948
BA-08	1,847,725,581	09/04/18	Tissa Builders	13.8	36.45	9.76	0.81	60.82
TOTAL	18,056,336,489			61.20	183.42	310.20	2.67	557.49

Table 2 - Contracts Summary Monagarala District

Cont. No	Accepted Contract Amount	Awarded	Contractor	Road Length (km)				
				National	Rural / Provincial			TOTAL
				RDA	PRDD	PS	UC	
MO-01	2,241,235,656	09/04/18	AMSK Construction	0	49.54	14.22	0	63.76
MO-02	1,891,879,867	09/04/18	Tudawe Brothers	0	34.21	29.08	0	63.29
MO-03	2,201,476,830	09/04/18	MAGA Engineering	0	9.14	60.88	0	70.02
MO-04	2,274,491,010	09/04/18	CML-MTD Construction	11.7	17.24	36.84	0	65.78
MO-05	2,504,966,968	09/04/18	Tudawe Brothers	0	49.81	14.34	0	64.15
MO-06	2,713,444,633	09/04/18	Hovael Construction	0	59.03	37.95	0	96.98
MO-07	1,858,087,457	09/04/18	Tudawe Brothers	0	49.63	15.17	0	64.8
TOTAL	15,685,582,421			11.7	268.6	208.48	0	488.78

1.3.1 Objectives and Outline of the Project in Uva Province

7. iRoad 2 Programme in Uva Province includes following components:
 - a) Improvement of 973.37 km of rural access roads to all weather standards and 72.90 km of RDA roads, and maintained for a period of five years, under fifteen CRC.
 - b) Capacity development: This includes building the capacity of road agencies, including Ministry of Highways and Road Development and Petroleum Resources Development (MoHRD&PRD), RDA and provincial and local road agencies, on road asset management, project management, and contract administration.

1.4 Project implementation arrangements in Uva Province

8. The Executing Agency (EA) of the Integrated Road Investment Programme is the Ministry of Highways and Road Development and Petroleum Resources Development which is in charge of the overall coordination of project implementation and interagency coordination. Consultant recruitment and procurement of works for CRCs is carried out by the RDA as the designated Implementing Agency.

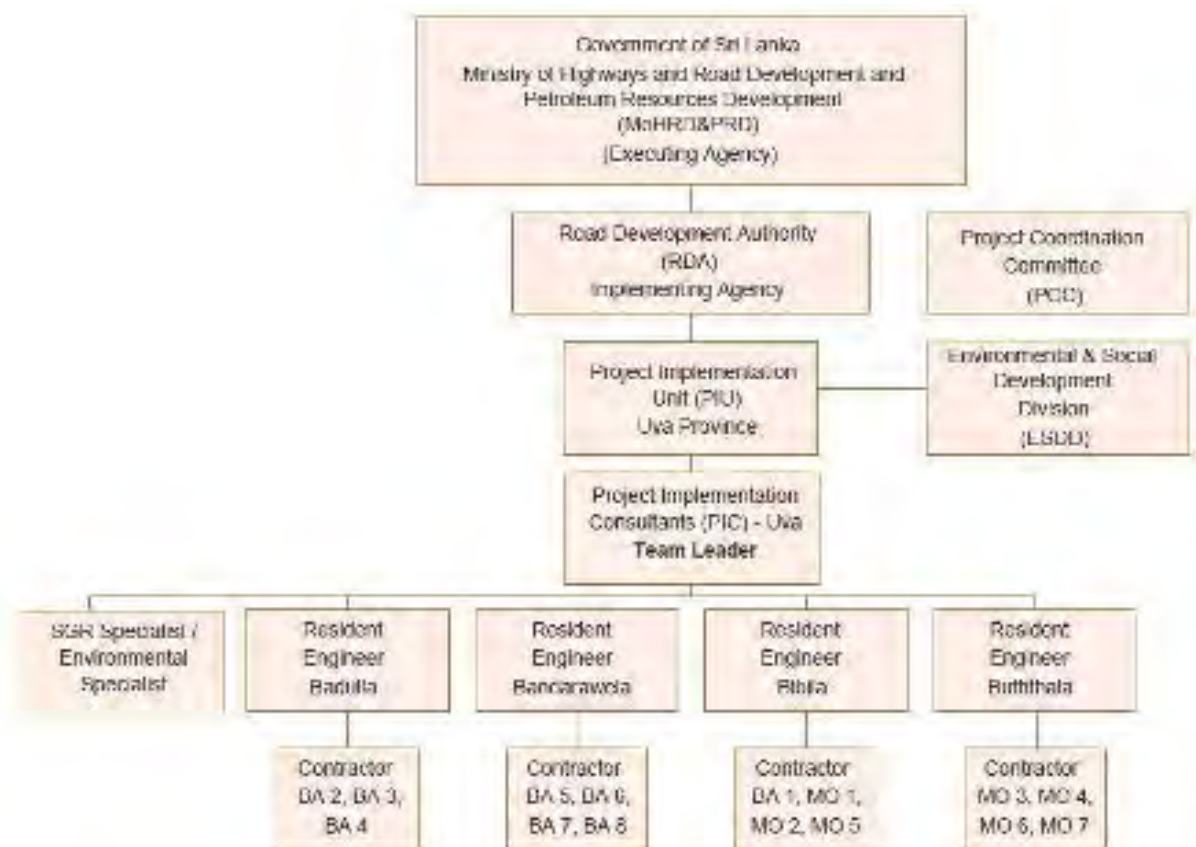


Figure 1 - Project Implementation Arrangements of Uva Province

1.5 Scope of the Project - iRoad 2 Uva



Figure 2 - Project Location Map

9. The Project comprises the upgrading and rehabilitation of 72.90 km of National roads (coming under RDA), 461.84 km of Provincial Government Roads administered by the Provincial Roads Development Department (PRDD) and 511.53 km of Local Government Roads consisting of 507.70 km Pradeshiya Sabha and 3.83 km of Urban Council (Badulla MC). The Project roads to be improved are located within two Districts of Badulla and Monaragala in Uva Province.

Table 3- iRoad 2 Uva Programme Scope

District \ Type	National		Rural			Total Length (km)
	RDA	PRDD	Pradeshiya Sabha	Urban Council	Sub-Total	
Badulla	61.20	193.24	299.22	3.83	496.29	557.49
Monaragala	11.70	268.60	208.48	-	477.08	488.78
Total Length (km)	72.90	461.84	507.70	3.83	973.37	1046.3 (as per the original contract)

1.6 Appointment of Civil Works Contractors

10. In April, 2018, 15 Conventional Road Construction (CRC) contracts with a total value of LKR 33,741,918,913 were awarded by the RDA for the rehabilitation and upgrading of the rural road network in Uva province. 8 contracts totaling LKR 18,056,336,492 in value were awarded for works in Badulla district and 7 in Monaragala totaling LKR 15,685,582,421. Packages details included in Table 1 and 2.

11. The scope and location of the proposed contract works are given below. The works contracts all include a design phase and a post-construction maintenance period varying from 3 years for the rural roads to 5 years for the national roads.

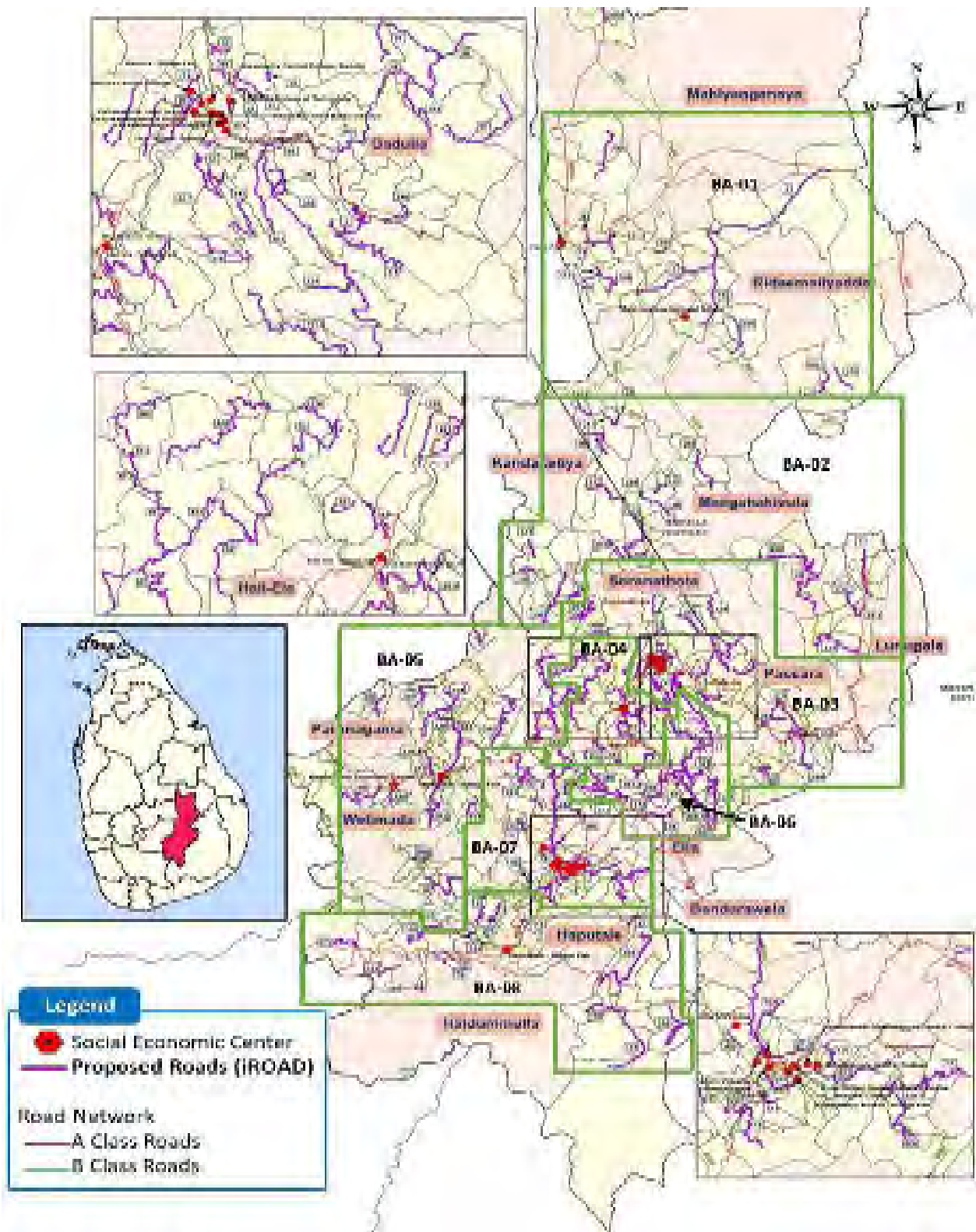


Figure 3 - Location of Civil Works Contracts Badulla District

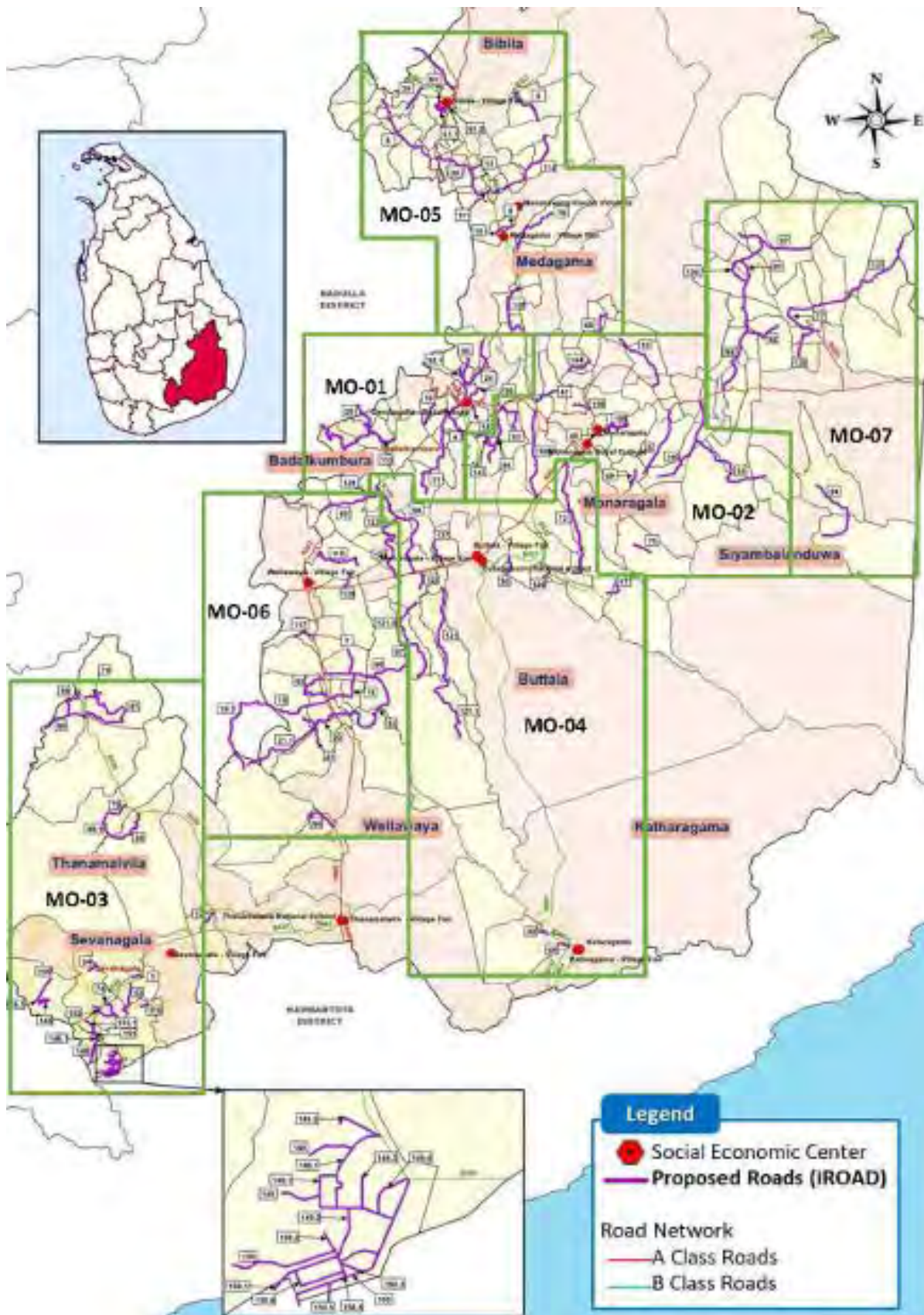


Figure 4 - Location of Civil Works Contracts Monaragala District

1.7 Project Implementation Unit (PIU)

12. Project Implementation Unit (PIU) of RDA is established under Project Director Uva Province (PD – Uva) assisted by the key staff of PIU including Senior Engineer, two Project Engineers, Accountant, Internal Auditor, and the Environmental and Social Safeguard team (Senior Social Safeguard Officer, Senior Environmental Safeguard Officer, Social Officer and Environmental Officer).

1.8 Project Implementation Consultant (PIC)

13. In order to assist the supervision and administration of the CRC contracts, the RDA has appointed the Joint Venture of Pyunghwa Engineering Consultants of Korea and Consulting Engineers and Architects of Sri Lanka (the PEC-CEA JV) as the Project Implementation Consultant (PIC) for the iRoad 2 programme in Uva province on 20 June, 2018.

1.9 Roles and Responsibilities of PIU, PIC, and Contractors

Table 4 - Roles and Responsibilities as per the EARF, 2017 (iRoad 2)

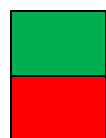
iRoad Participant	General Role and Responsibility
iRoad PIU	<ul style="list-style-type: none"> Project and Safeguard Management Approval of all variations of contracts for consulting services and civil works
Advisory Consultants Individual Consultants	<ul style="list-style-type: none"> Facilitating PIU in areas requiring special expertise to achieve the programme objective e.g. Contract Management, Procurement, Information Technology, Institutional Strengthening, Capacity Development and Road Safety.
SAPE Team	<ul style="list-style-type: none"> Feasibility study, safeguard documents, and level-2 designs Community consultation along project roads
PIC (CRC)	<ul style="list-style-type: none"> Reviewing and confirming the design and scope of works when the contractors apply the level-2 designs to the roads under Conventional Road Contract packages Construction supervision of Conventional Road Contract packages Supervision of post-construction maintenance work in Conventional Road Contract packages Monitoring safeguard activities Providing on-the-job training to the PIU, EA, IA, and provincial and local road agencies in project management and contract administration.
Contractors	<ul style="list-style-type: none"> Detailed design based on the level-2 design for Conventional Road Contract packages, or the conceptual design for the road management contract packages Deliver the physical works as required in the Conventional Road Contract, or the level of services as required in the road management contract. For the road management contract packages, the work requires various asset management tasks. Implementing safeguard requirements in the contract.

1.10 Summary of Submissions & Approvals and Environmental Activities

14. Table 6 represents a summary of submissions, approval status and Environmental activities.

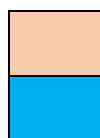
Table 5 - Summary of Submissions, Approval & Environmental & Social Activities as at 31st December 2018

No	Description	BA-01	BA-02	BA-03	BA-04	BA-05	BA-06	BA-07	BA-08	MO-01	MO-02	MO-03	MO-04	MO-05	MO-06	MO-07
1	Programme & S Curves															
2	Project Quality plan															
3	Initial SSEMP															
4	Safety, Health & Traffic Plan															
5	Method of Statements															
6	GRC Meetings	DS Level														
		GND Level														
7	Complain Register															
8	Complain Boxes															
9	Crack Survey															
10	Gender Action Plan Data File															
11	Transact Walk Records															
12	Booklet Information															
13	EMC Reports															
14	Disposal Yards/Material Yard															
15	Safety Training Data File															



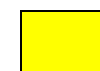
Submitted & Approved/Completed

Not Submitted/Not Available



Submitted & Under Review

Partially Completed



Resubmission

2.0 Civil Works Progress

15. Progress to the end of December, 2018, of the 15 civil works contracts is presented below. Progress on current activities of survey, investigation, design and structures is presented in tabular form. Any current issues and concerns are also presented.

2.1 Contract Package BA-01

Contractor	:	NEM Construction (Pvt) Ltd
Accepted Contract Amount	:	LKR 2,055,897,217
Date of Award	:	9 April 2018
Commencement Date	:	20 July 2018
No. of Roads to be Upgraded	:	14
Total Length of Road Upgrading	:	57.88 Km
Amount Certified to 31/12/18	:	LKR 207,185,035.74 (with advance)

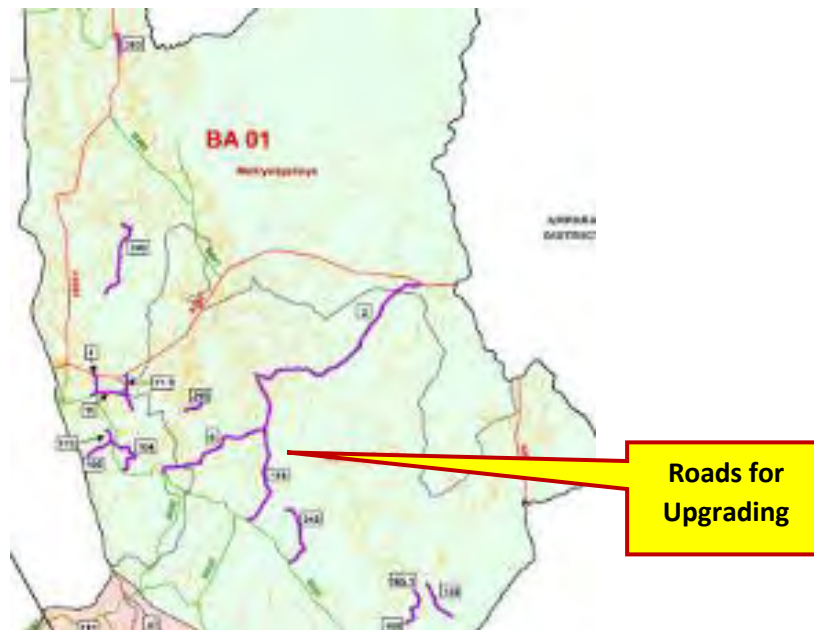


Figure 5 - Map of Package BA-01

2.1.1 Programme and Progress

The Contractor's summary programme up to 31st December 2018 on survey and design are shown on the following pages.

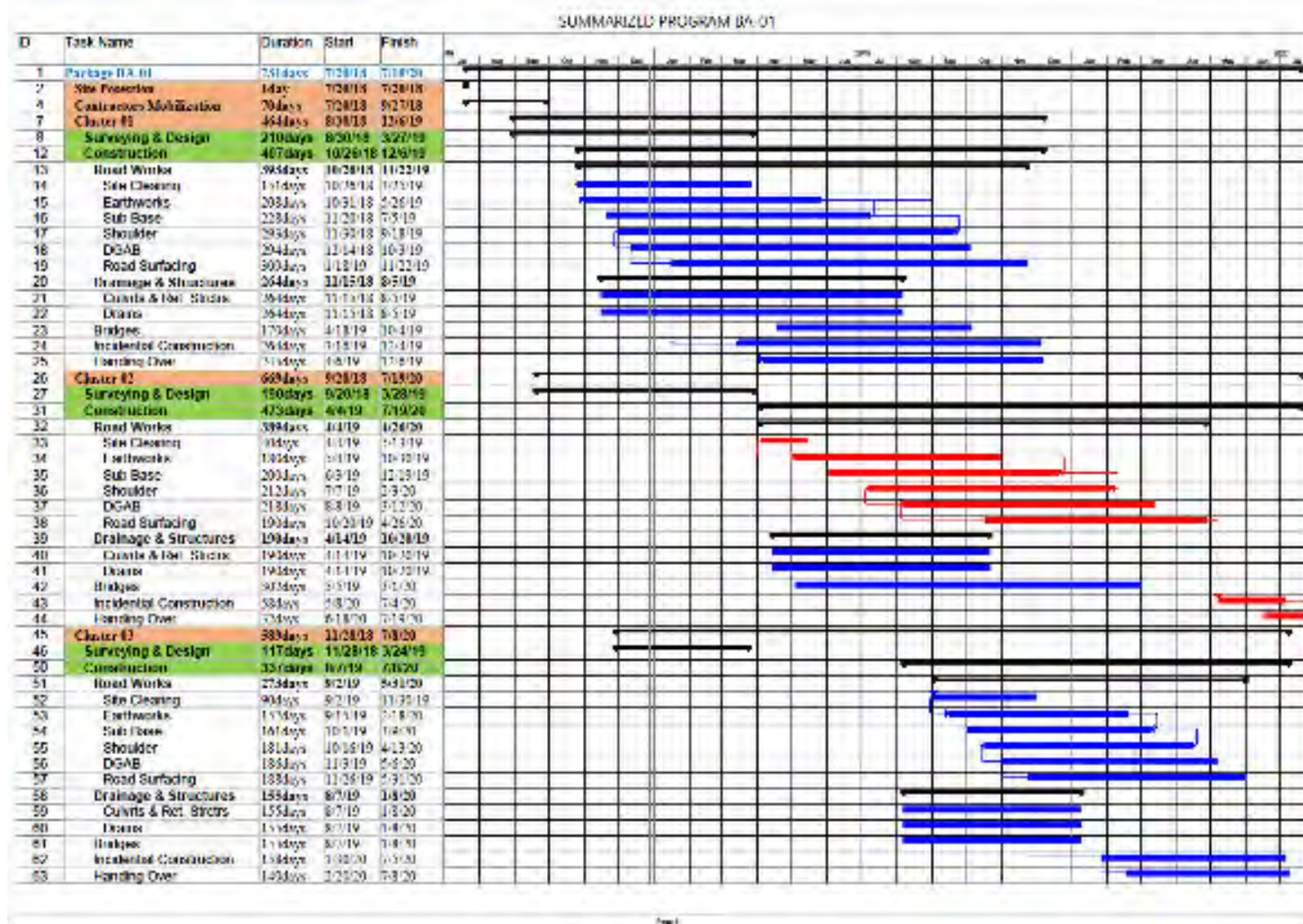


Figure 6 - Contract BA-01 Summary Programme

Table 6 - Contract BA-01 Survey, Geotech, & Design Progress

Item No	Description of work	Total Length / Km	Completed Length / Km	% Completion
1	Topo Survey	58.0	57.88	100%
2	Initial Cross Section	58.0	12.39	21%
3	HA Design	58.0	45.88	79%
4	VA Design	58.0	11.76	20%
5	Design Cross section	58.0	5.74	10%
6	Soil Investigation	58.0	57.23	99%
7	Pavement Design	58.0	36.32	63%

2.2 Contract Package BA-02

Contractor	:	Komuthi-HCM Engineering JV
Accepted Contract Amount	:	LKR 2,262,823,158
Date of Award	:	9 April 2018
Commencement Date	:	20 July 2018
No. of Roads to be Upgraded	:	20
Total Length of Road Upgrading	:	79.86 Km
Amount Certified to 31/12/18	:	LKR 26,622,855

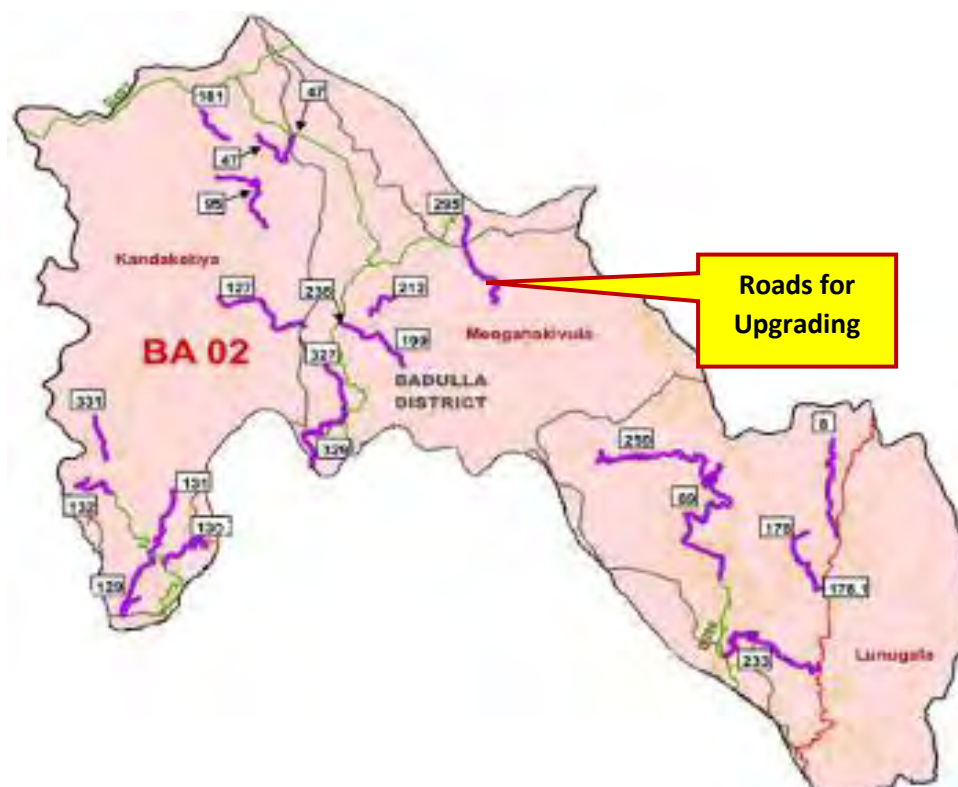


Figure 7 - Map of BA-02 Package

2.2.1 Programme and Progress

The Contractor's summary programme up to 31st December 2018 on survey and design are shown on the following pages.

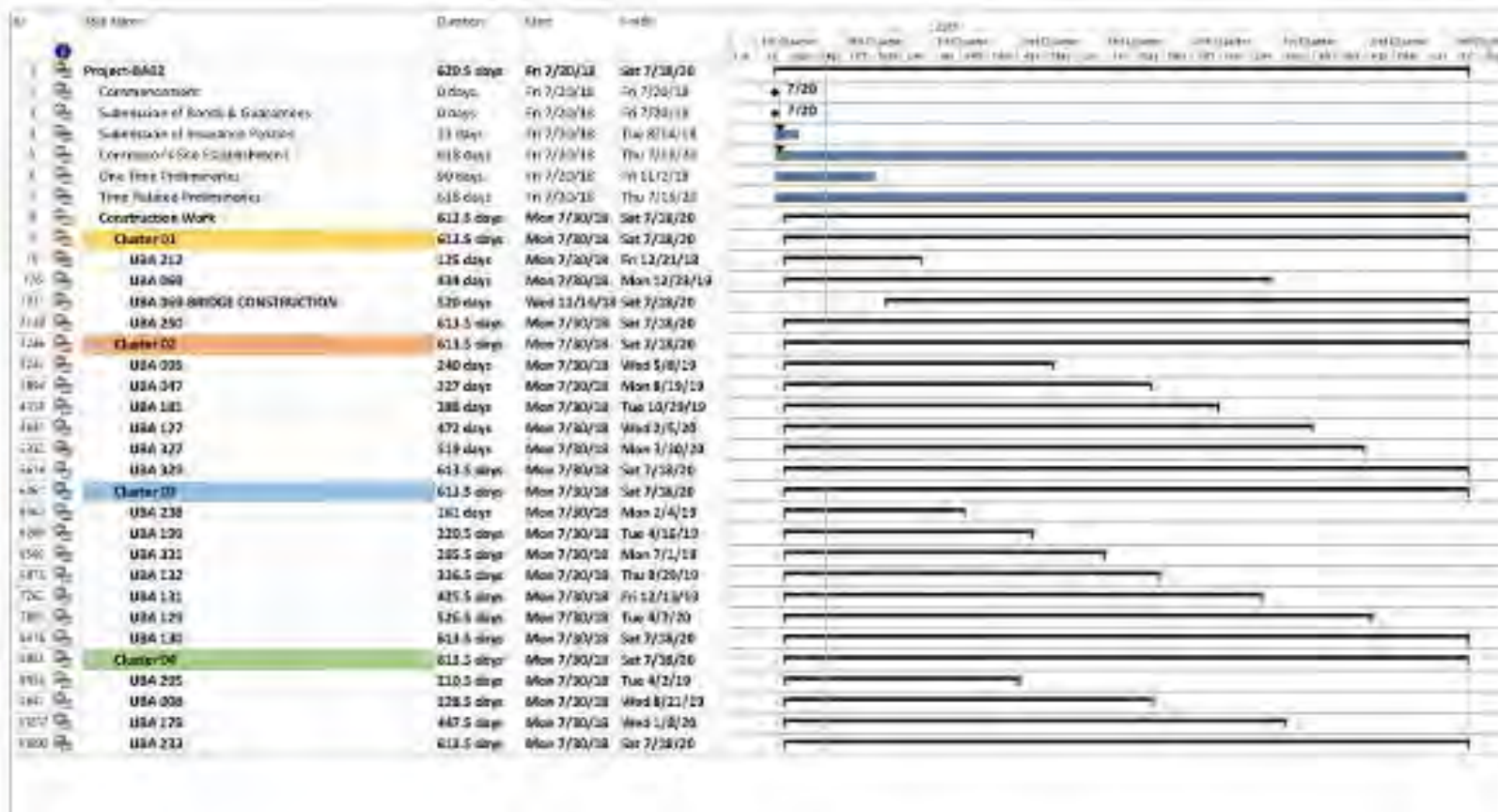


Figure 8 - Contract BA-02 Summary Programme

Table 7 - Contract BA-02 Survey, Geotech, & Design Progress

Item No	Description of work	Total Length / Km	Completed Length / Km	% Completion
1	Topo Survey	79.9	56.33	71%
2	Initial Cross Section	79.9	19.42	24%
3	HA Design	79.9	48.82	61%
4	VA Design	79.9	5.27	7%
5	Design Cross section	79.9	2.69	3%
6	Soil Investigation	79.9	39.20	49%
7	Pavement Design	79.9	16.77	21%

2.3 Contract Package BA-03

Contractor	:	CML-MTD Construction Ltd
Accepted Contract Amount	:	LKR 2,458,963,395
Date of Award	:	9 April 2018
Commencement Date	:	20 July 2018
No. of Roads to be Upgraded	:	36
Total Length of Road Upgrading	:	79.45 Km
Amount Certified to 31/12/18	:	LKR 235,116,669.95 (with advance)

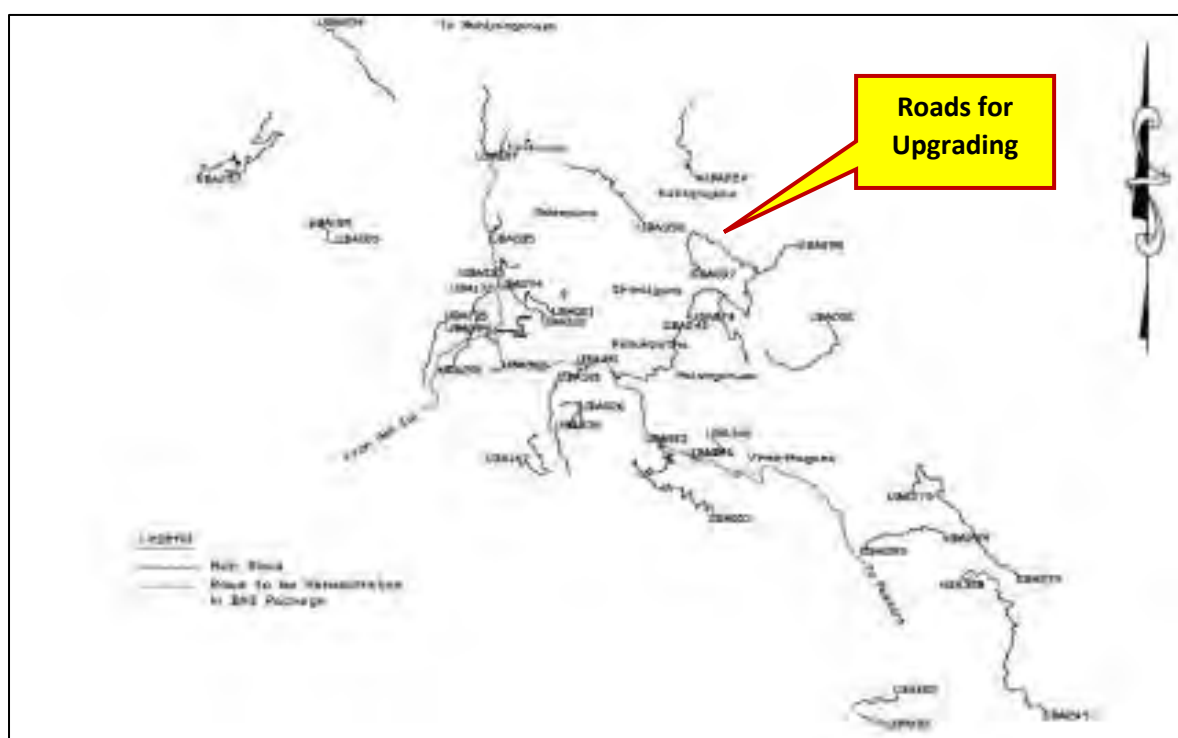
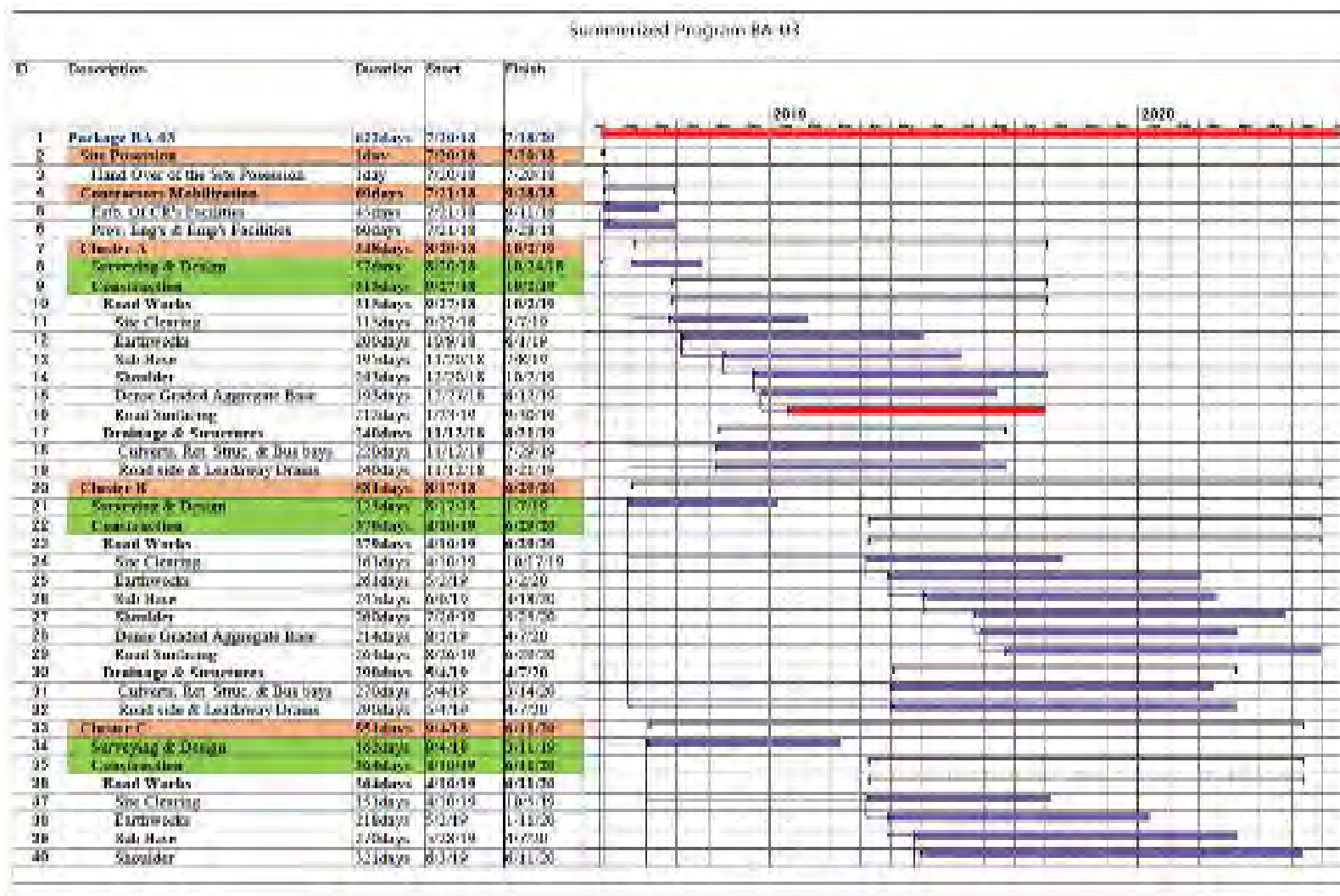


Figure 9 - Map of BA-03 Package

2.3.1 Programme and Progress

The Contractor's summary programme up to 31st December 2018 on survey and design are shown on the following pages.



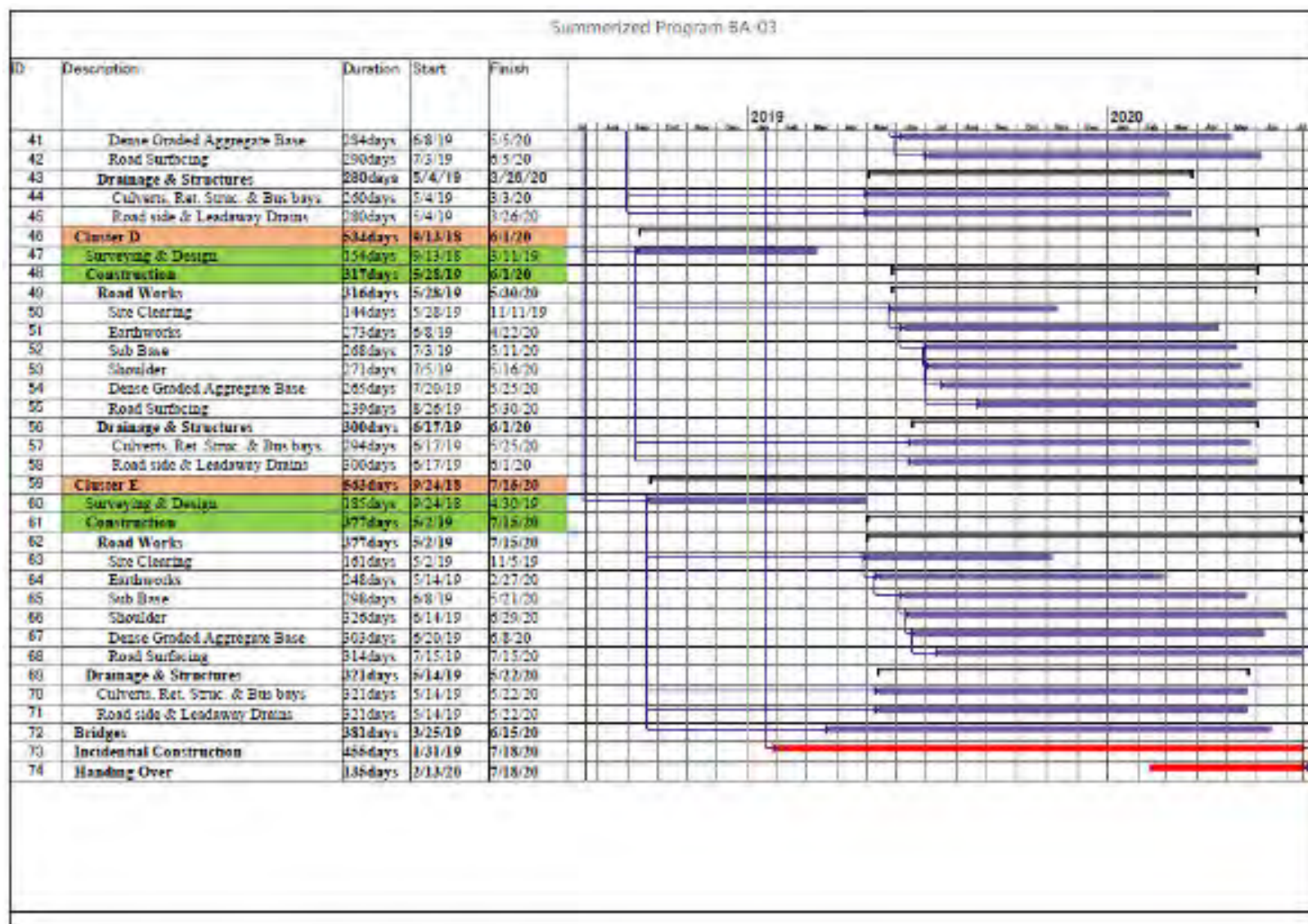


Figure 10 - Contract BA-03 Summary Programme

Table 8 - Contract BA-03 Survey, Geotech, & Design Progress

Item No	Description of work	Total Length / Km (No of Roads 36)	Completed Length / Km	% Completion
1	Topo Survey	79.5	39.37	50%
2	Initial Cross Section	79.5	9.90	12%
3	HA Design	79.5	27.26	34%
4	VA Design	79.5	2.15	3%
5	Design Cross section	79.5	0.56	1%
6	Soil Investigation	79.5	77.0	97%
7	Pavement Design	79.5	25.25	32%

2.4 Contract Package BA-04

Contractor	:	CNTIC-RDCE JV
Accepted Contract Amount	:	LKR 2,118,733,738
Date of Award	:	9 April 2018
Commencement Date	:	20 July 2018
No. of Roads to be Upgraded	:	20
Total Length of Road Upgrading	:	65.46 Km
Amount Certified to 31/12/18	:	LKR 215,779,452.04(with advance)

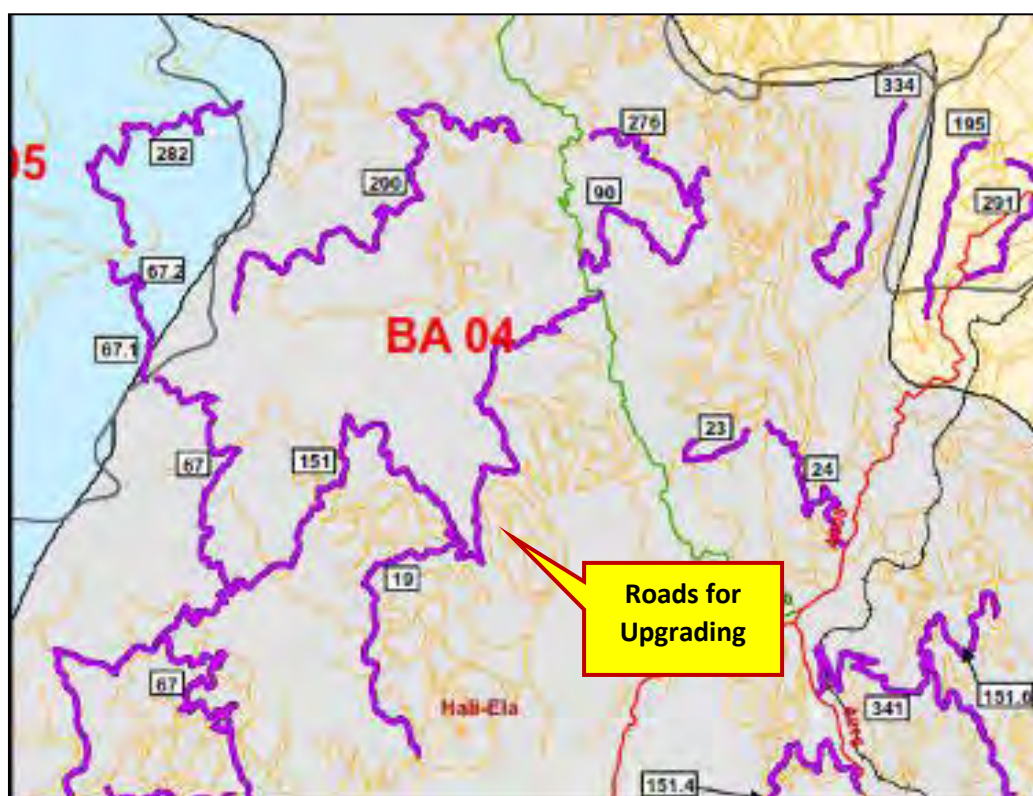
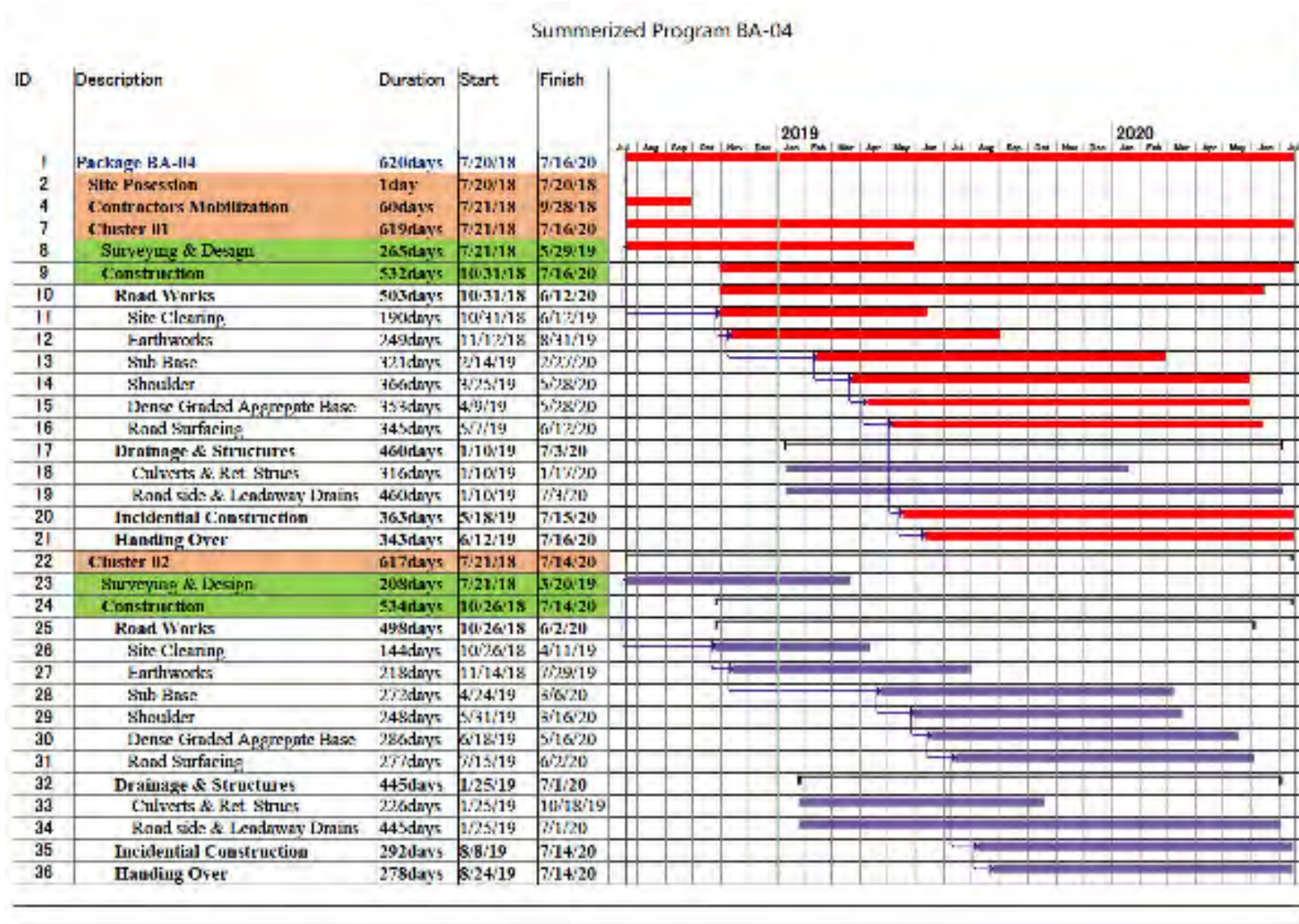


Figure 11 - Map of BA-04 Package

2.4.1 Programme and Progress

The Contractor's summary programme up to 31st December 2018 on survey and design are shown on the following pages.



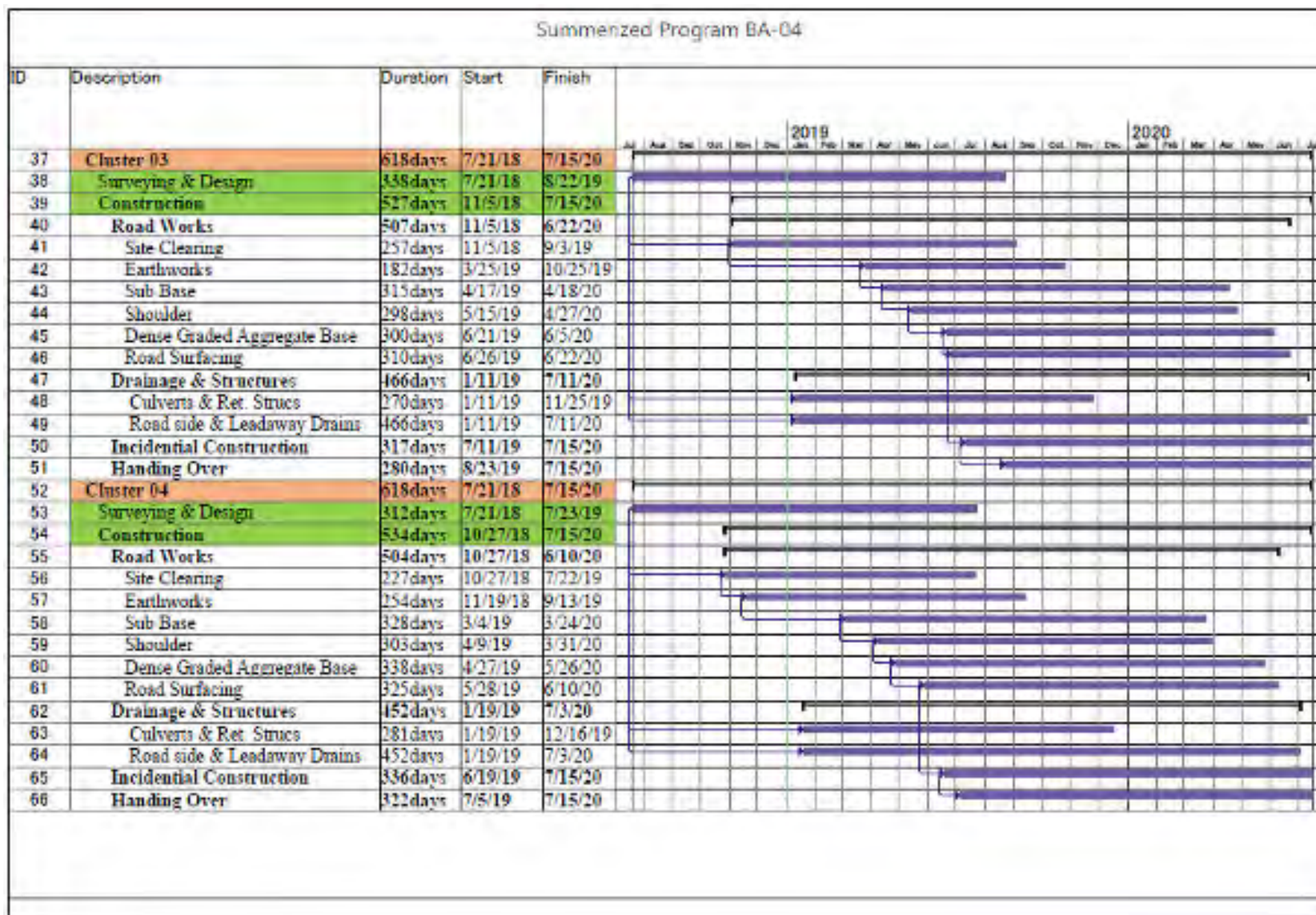


Figure 12 - Contract BA-04 Summary Programme

Table 9 - Contract BA-04 Survey, Geotech, & Design Progress

Item No	Description of work	Total Length / Km (No of Roads 20)	Completed Length / Km	% Completion
1	Topo Survey	65.5	26.03	40%
2	Initial Cross Section	65.5	7.16	11%
3	HA Design	65.5	12.03	18%
4	VA Design	65.5	2.21	3%
5	Design Cross section	65.5	0.00	0%
6	Soil Investigation	65.5	62.52	96%
7	Pavement Design	65.5	21.95	34%

2.5 Contract Package BA-05

Contractor	:	CNTIC-RDCE JV
Accepted Contract Amount	:	LKR 2,504,966,968
Date of Award	:	9 April 2018
Commencement Date	:	20 July 2018
No. of Roads to be Upgraded	:	17
Total Length of Road Upgrading	:	79.3 Km
Amount Certified to 31/12/18	:	LKR 254,171,488.35 (with advance)

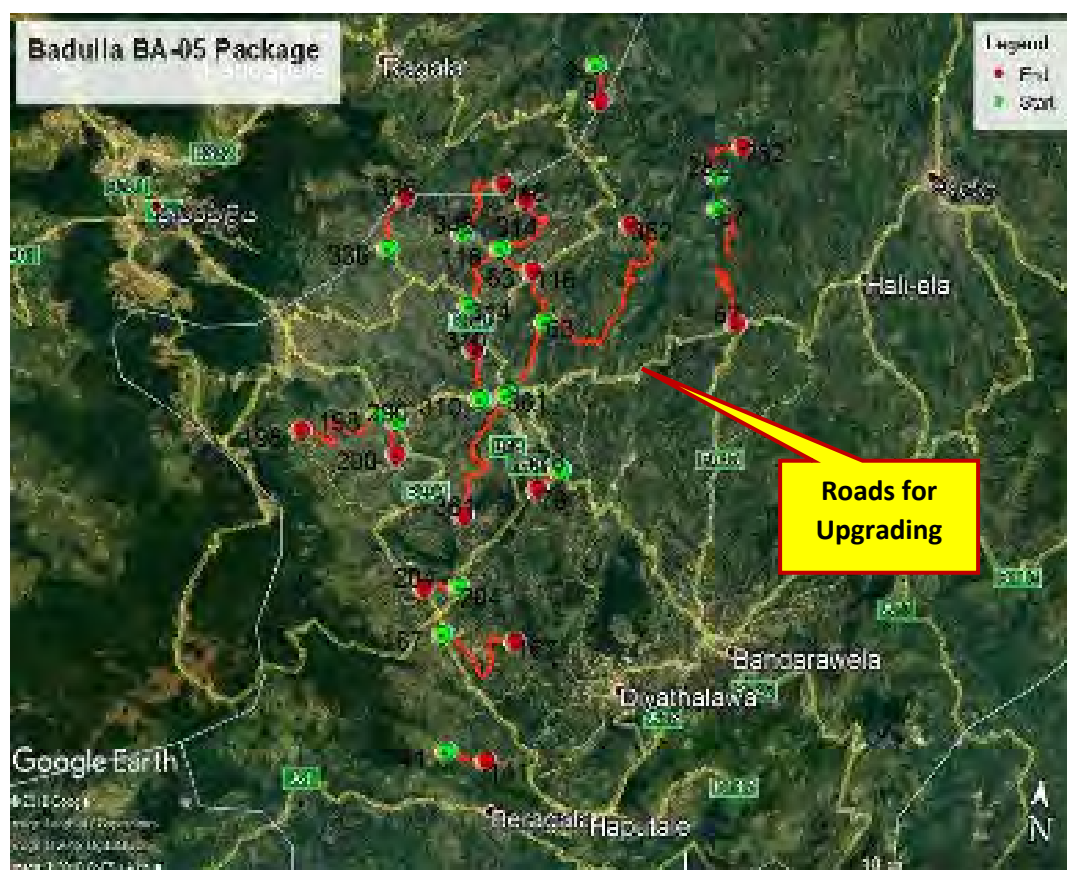


Figure 13 - Map of BA-05 Package

2.5.1 Programme and Progress

The Contractor's summary programme up to 31st December 2018 on survey and design are shown on the following pages.



Figure 14 - Contract BA-05 Summary Programme

Table 10 - Contract BA-05 Survey, Geotech, & Design Progress

Item No	Description of work	Total Length / km (No of Roads 17)	Completed Length / km	% Completion
1	Topo Survey	79.3	40.17	51%
2	Initial Cross Section	79.3	8.60	11%
3	HA Design	79.3	21.70	27%
4	VA Design	79.3	12.50	16%
5	Design Cross section	79.3	3.20	4%
6	Soil Investigation	79.3	68.15	86%
7	Pavement Design	79.3	49.23	62%

2.6 Contract Package BA-06

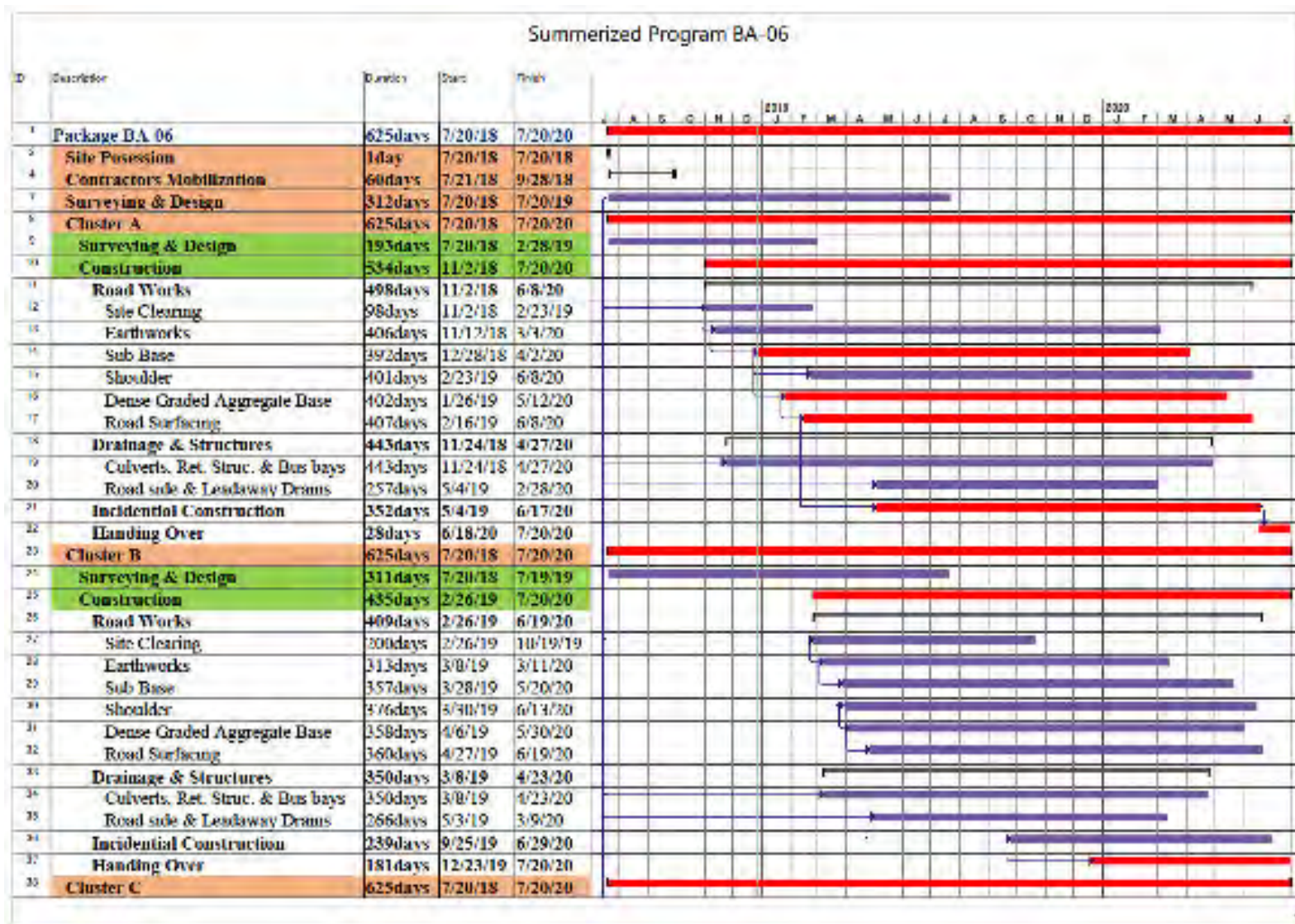
Contractor	:	CML-MTD Construction Ltd
Accepted Contract Amount	:	LKR 2,345,800,425
Date of Award	:	9 April 2018
Commencement Date	:	20 July 2018
No. of Roads to be Upgraded	:	11
Total Length of Road Upgrading	:	63.00 Km
Amount Certified to 31/12/18	:	LKR 222,418,293.9 (with advance)



Figure 15 - Map of BA-06 Package

2.6.1 Programme and Progress

The Contractor's summary programme up to 31st December 2018 on survey and design are shown on the following pages.



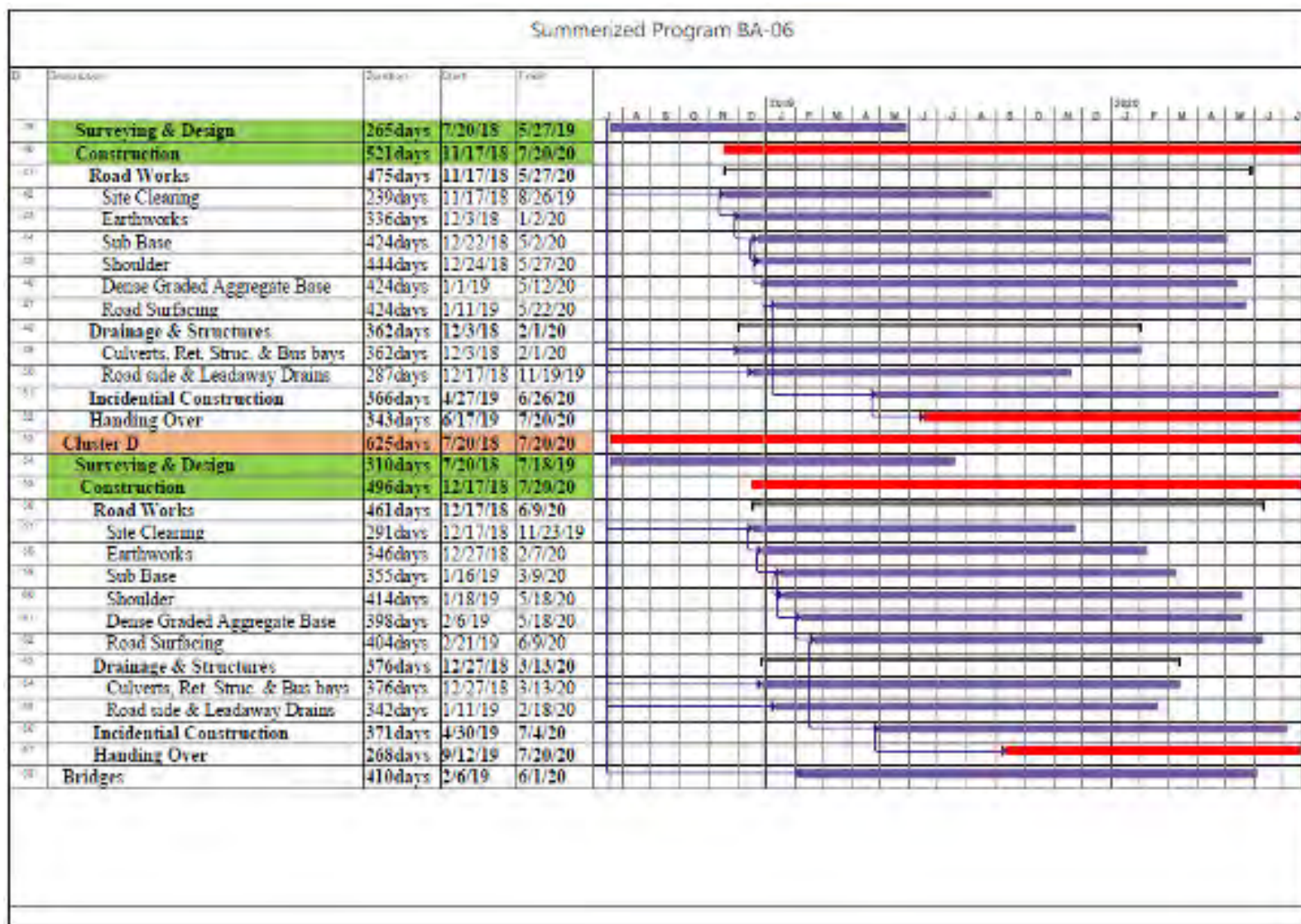


Figure 16 - Contract BA-06 Summary Programme

Table 11 - Contract BA-06 Survey, Geotech, & Design Progress

Item No	Description of work	Total Length / Km (No of Roads 11)	Completed Length / Km	% Completion
1	Topo Survey	63.0	19.54	31%
2	Initial Cross Section	63.0	8.17	13%
3	HA Design	63.0	15.04	24%
4	VA Design	63.0	6.00	10%
5	Design Cross section	63.0	4.00	6%
6	Soil Investigation	63.0	53.41	85%
7	Pavement Design	63.0	35.42	56%

2.7 Contract Package BA-07

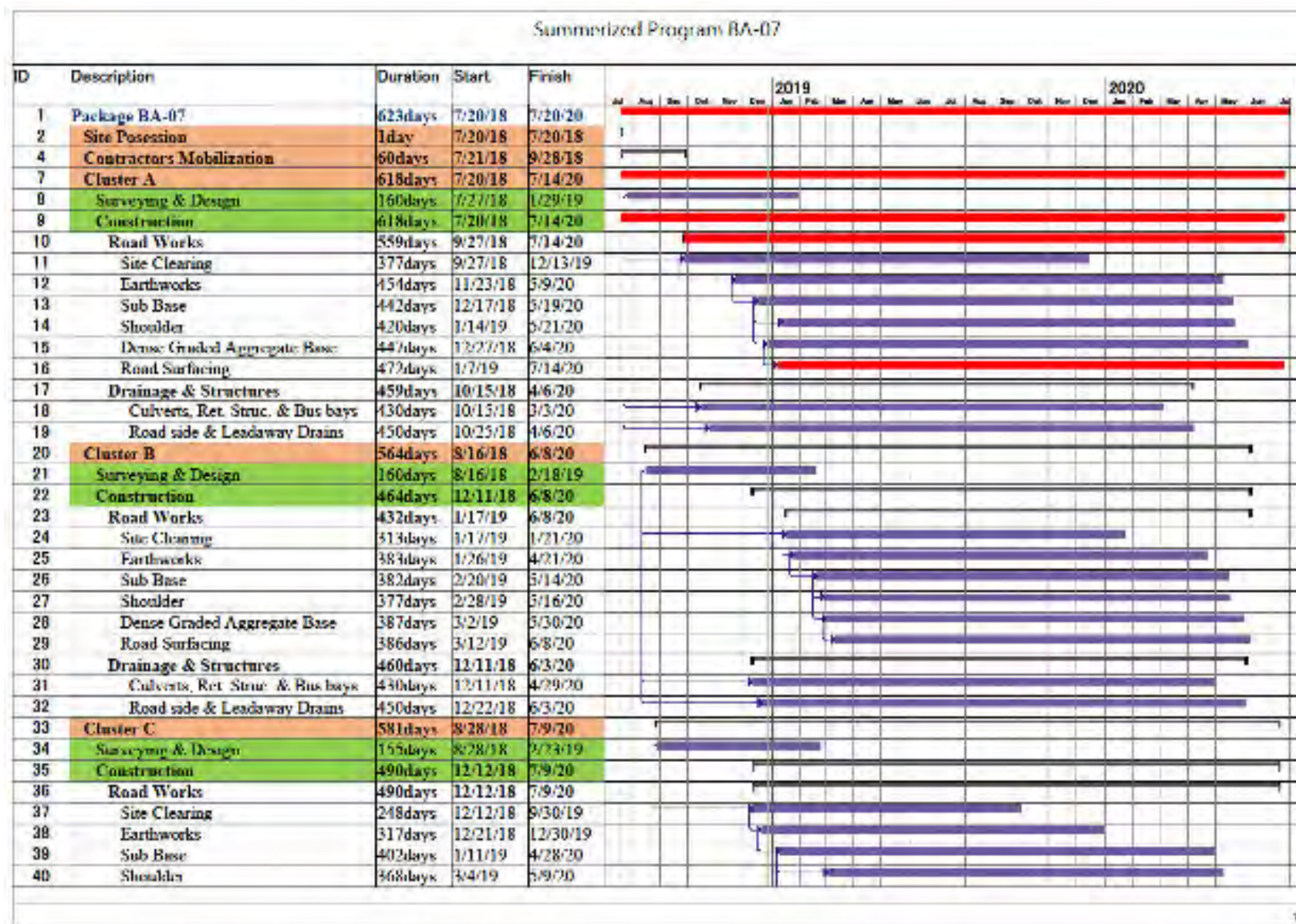
Contractor	:	CML-MTD Construction Ltd
Accepted Contract Amount	:	LKR 2,461,426,008
Date of Award	:	9 April 2018
Commencement Date	:	20 July 2018
No. of Roads to be Upgraded	:	17
Total Length of Road Upgrading	:	69.8 Km
Amount Certified to 31/12/18	:	LKR 238,922,505.38 (with advance)



Figure 17 - Map of BA-07 Package

2.7.1 Programme and Progress

16. The Contractor's summary programme up to 31st December 2018 on survey and design are shown on the following pages.



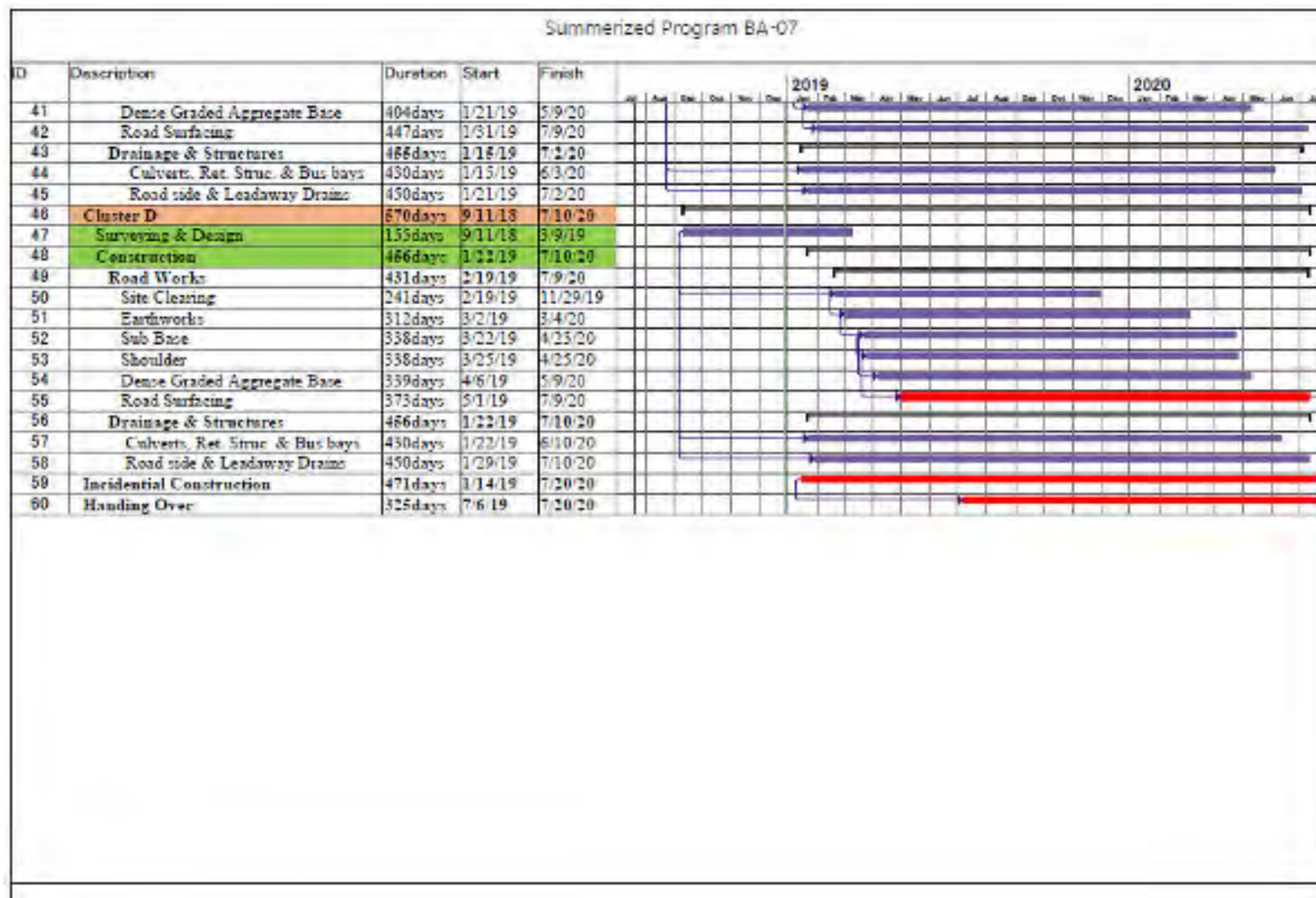


Figure 18 - Contract BA-07 Summary Programme

Table 12 - Contract BA-07 Survey, Geotech, & Design Progress

Item No	Description of work	Total Length / Km (No of Roads 17)	Completed Length / Km	% Completion
1	Topo Survey	69.8	33.39	48%
2	Initial Cross Section	69.8	10.79	15%
3	HA Design	69.8	33.18	48%
4	VA Design	69.8	10.79	15%
5	Design Cross section	69.8	4.00	6%
6	Soil Investigation	69.8	68.91	99%
7	Pavement Design	69.8	39.69	57%

2.8 Contract Package BA-08

Contractor	:	Tissa-PND JV
Accepted Contract Amount	:	LKR 1,847,725,581.60
Date of Award	:	9 April 2018
Commencement Date	:	20 July 2018
No. of Roads to be Upgraded	:	18
Total Length of Road Upgrading	:	60.79 Km
Amount Certified to 31/12/18	:	LKR 173,711,445.3 (with advance)

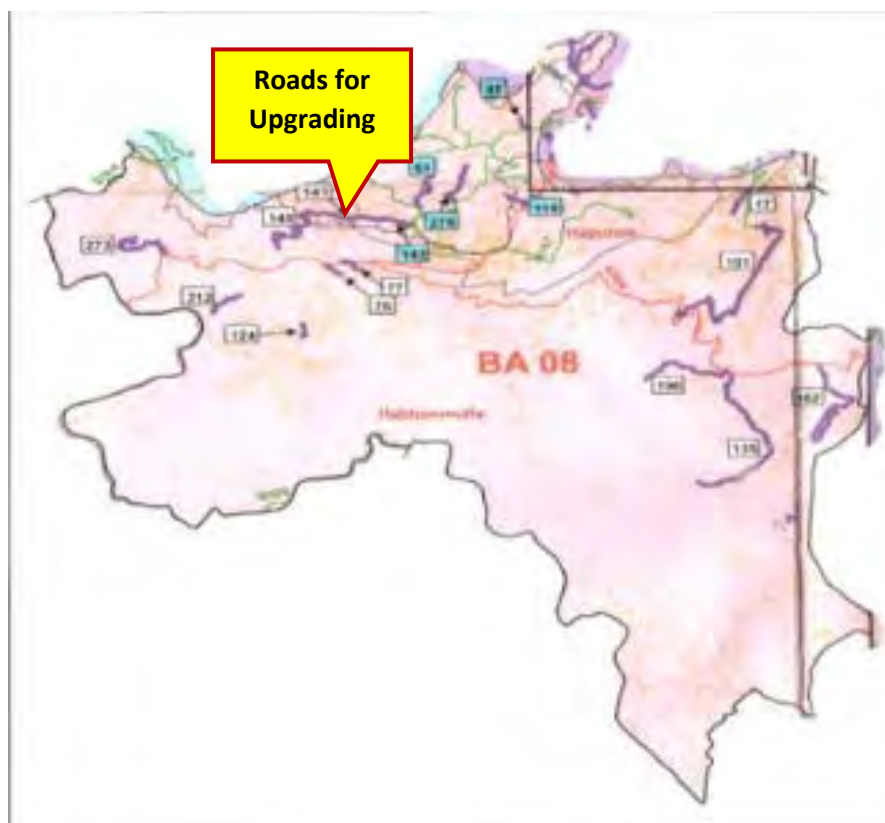


Figure 19 - Map of BA-08 Package

2.8.1 Programme and Progress

The Contractor's summary programme up to 31st December 2018 on survey and design are shown on the following pages.

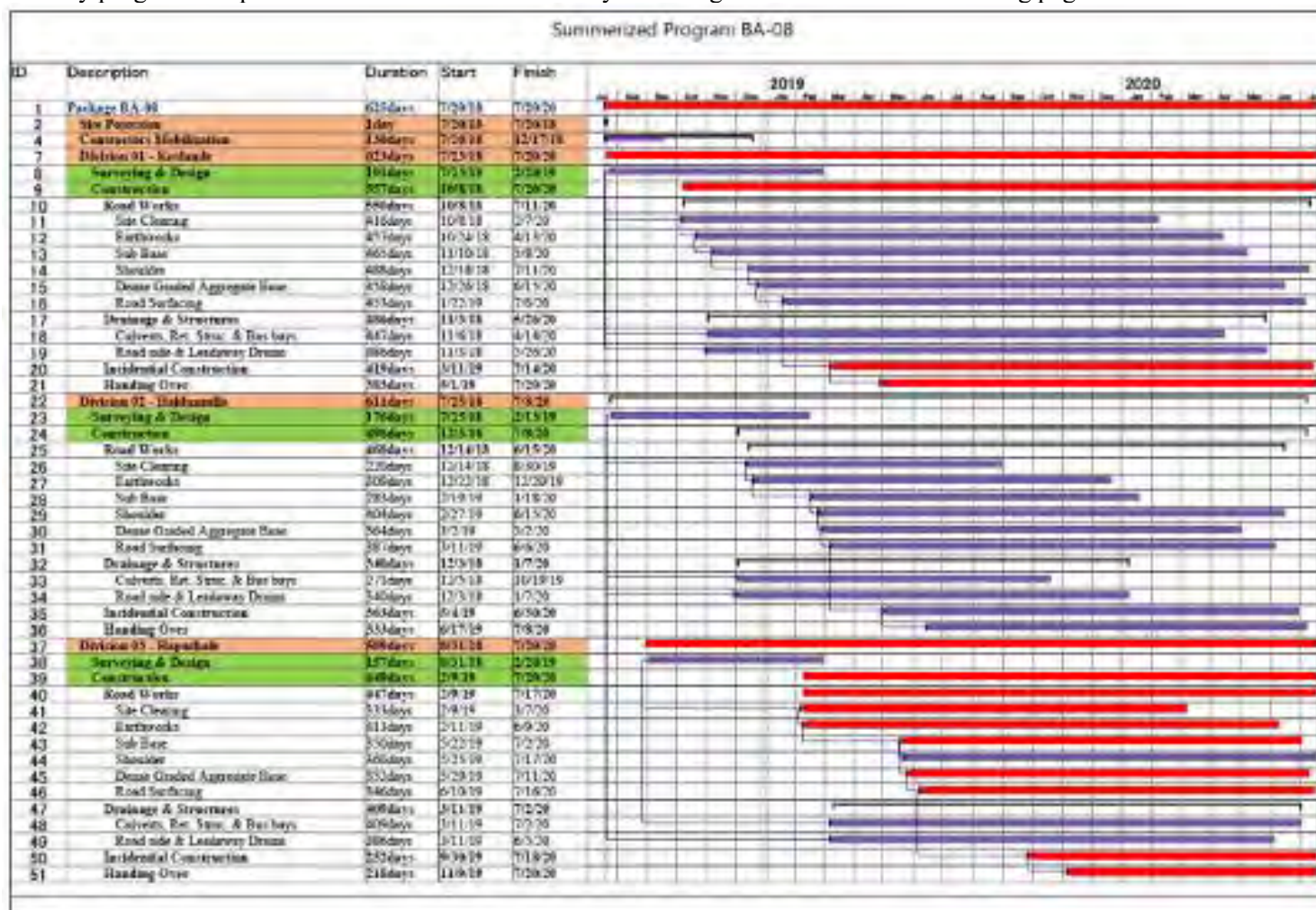


Figure 20 - Contract BA-08 Summary Programme

Table 13 - Contract BA-08 Survey, Geotech, & Design Progress

Item No	Description of work	Total Length / Km (No of Roads 18)	Completed Length / Km	% Completion
1	Topo Survey	60.8	36.71	60%
2	Initial Cross Section	60.8	13.08	22%
3	HA Design	60.8	13.08	22%
4	VA Design	60.8	4.53	7%
5	Design Cross section	60.8	2.25	4%
6	Soil Investigation	60.8	32.05	53%
7	Pavement Design	60.8	15.80	26%

2.9 Contract Package MO-01

Contractor	:	AMSK-CGGC JV
Accepted Contract Amount	:	LKR 2,241,235,656
Date of Award	:	9 April 2018
Commencement Date	:	20 July 2018
No. of Roads to be Upgraded	:	10
Total Length of Road Upgrading	:	63.76 Km
Amount Certified to 31/12/18	:	LKR 362,685,516.13 (with Advance)

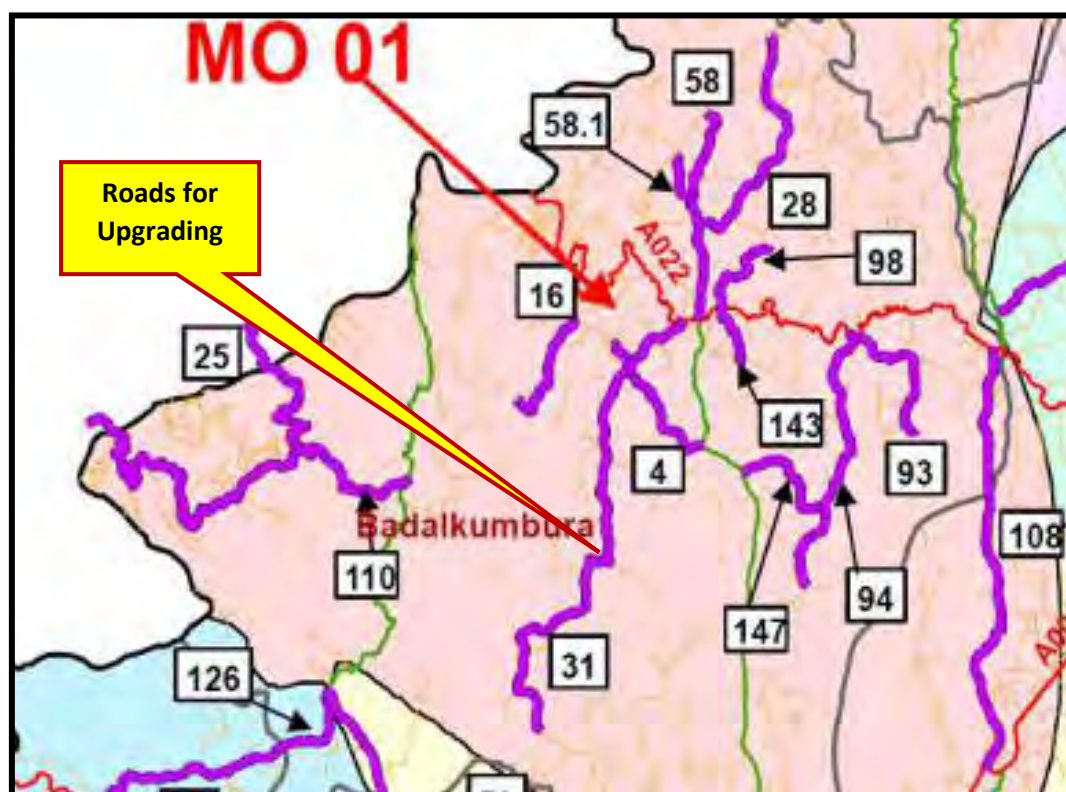
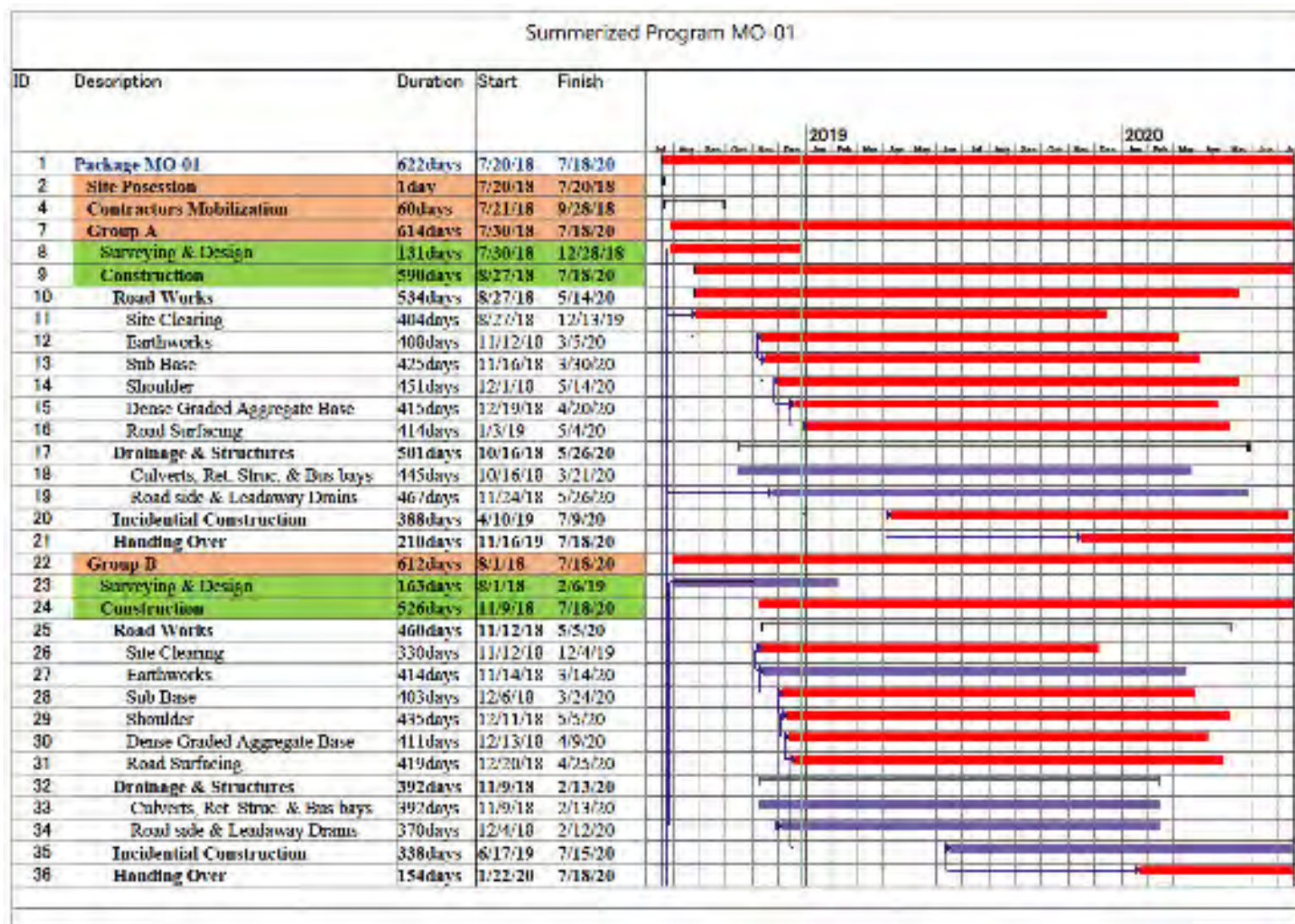


Figure 21 - Map of MO-01 Package

2.9.1 Programme and Progress

The Contractor's summary programme up to 31st December 2018 on survey and design are shown on the following pages.



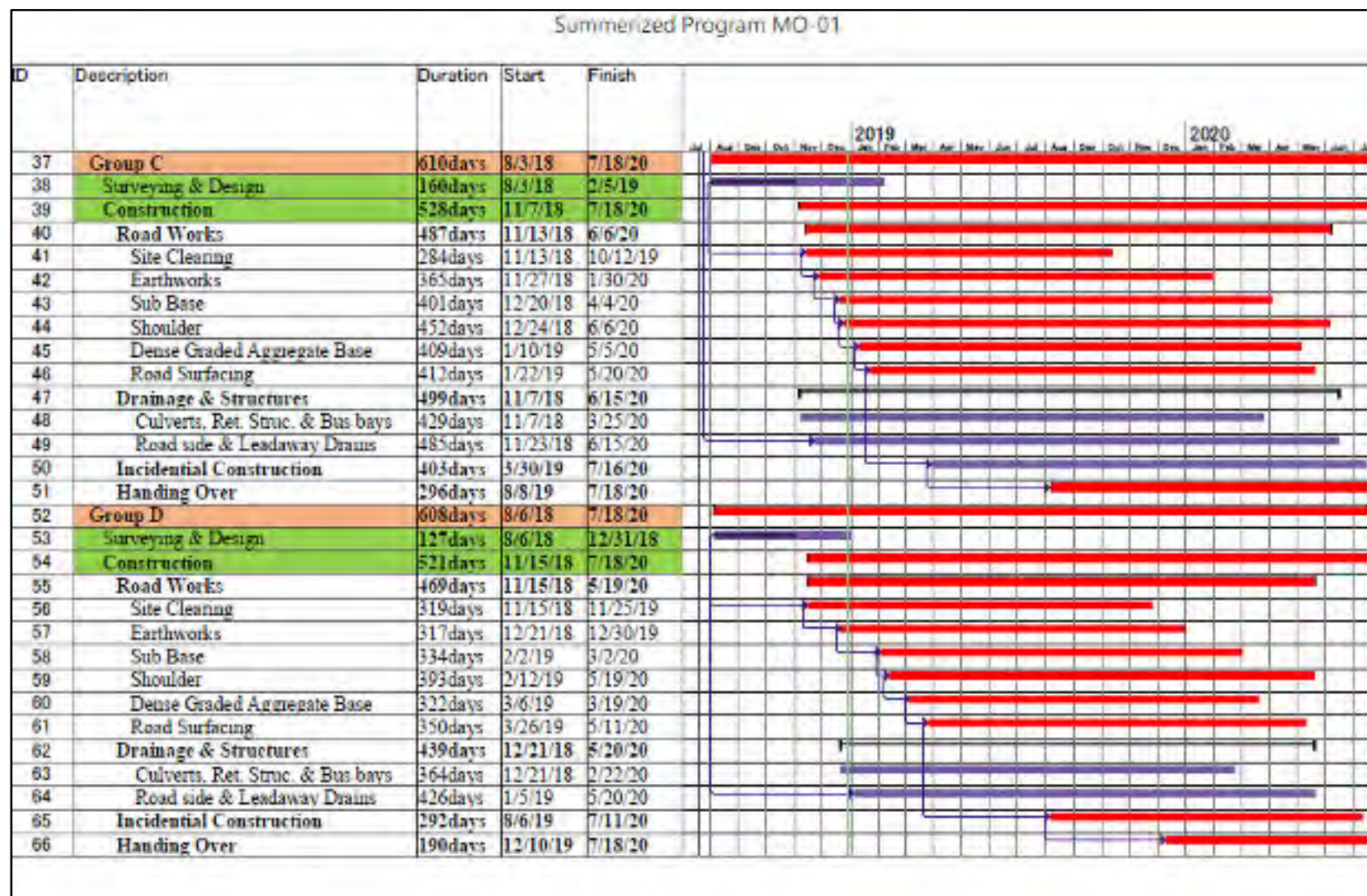


Figure 22 - Contract MO-01 Summary Programme

Table 14 - Contract MO-01 Survey, Geotech, & Design Progress

Item No	Description of work	Total Length / Km (No of Roads 10)	Completed Length / Km	% Completion
1	Topo Survey	63.8	42.55	67%
2	Initial Cross Section	63.8	17.40	27%
3	HA Design	63.8	15.14	24%
4	VA Design	63.8	8.93	14%
5	Design Cross section	63.8	3.55	6%
6	Soil Investigation	63.8	56.01	88%
7	Pavement Design	63.8	22.55	35%

2.10 Contract Package MO-02

Contractor	:	Tudawe Brothers (Pvt) Ltd
Accepted Contract Amount	:	LKR 1,891,879,866.96
Date of Award	:	9 April 2018
Commencement Date	:	20 July 2018
No. of Roads to be Upgraded	:	14
Total Length of Road	:	63.50 Km
Upgrading		
Amount Certified to 31/12/18	:	LKR 238,618,615.16 (with Advance)

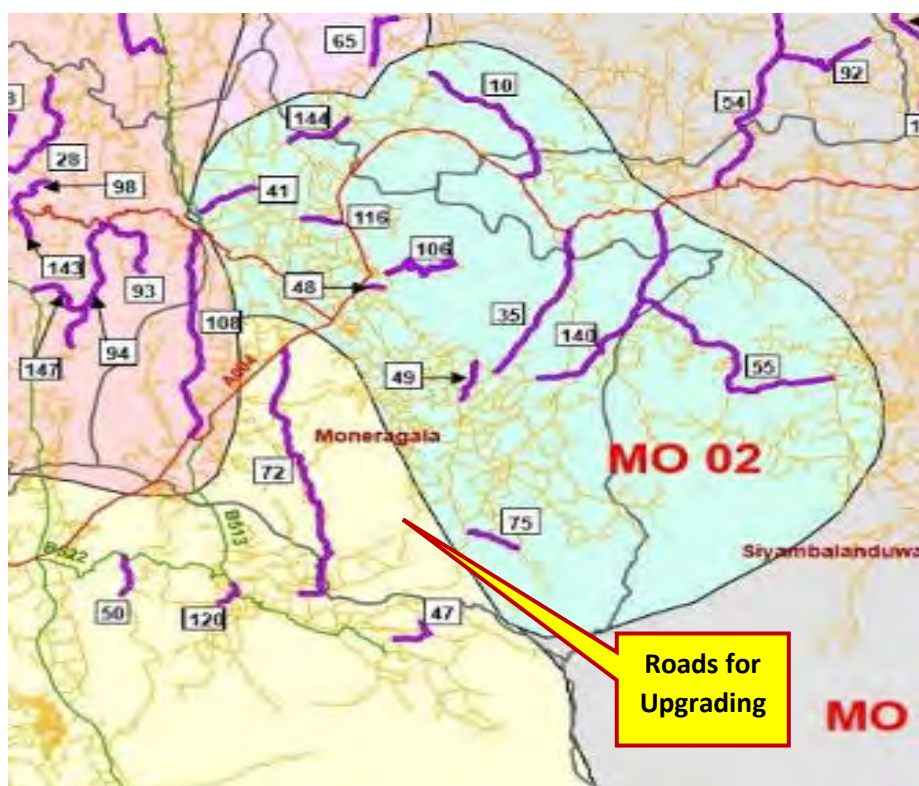
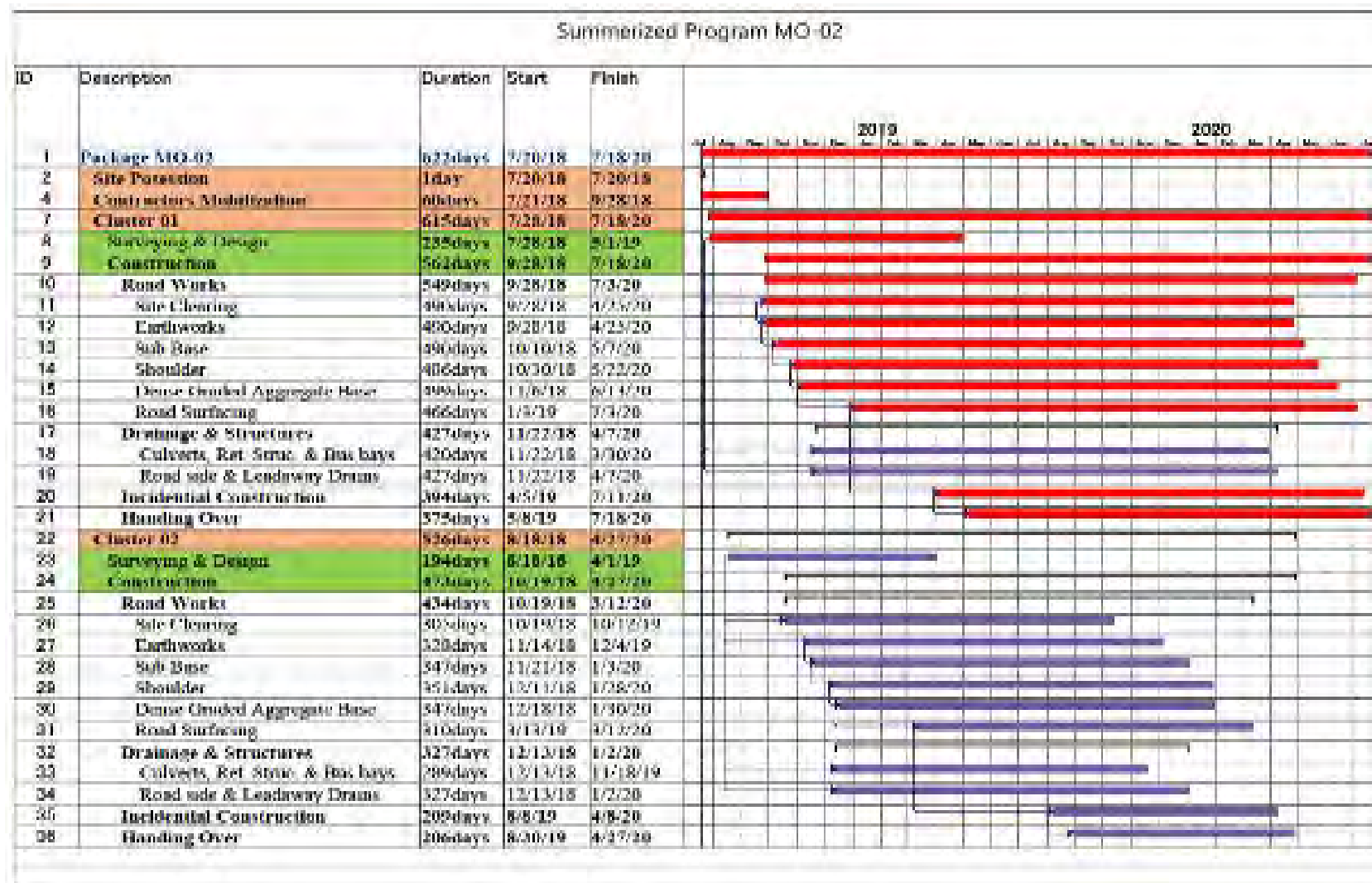


Figure 23 - Map of MO-02 Package

2.10.1 Programme and Progress

The Contractor's summary programme up to 31st December 2018 on survey and design are shown on the following pages.



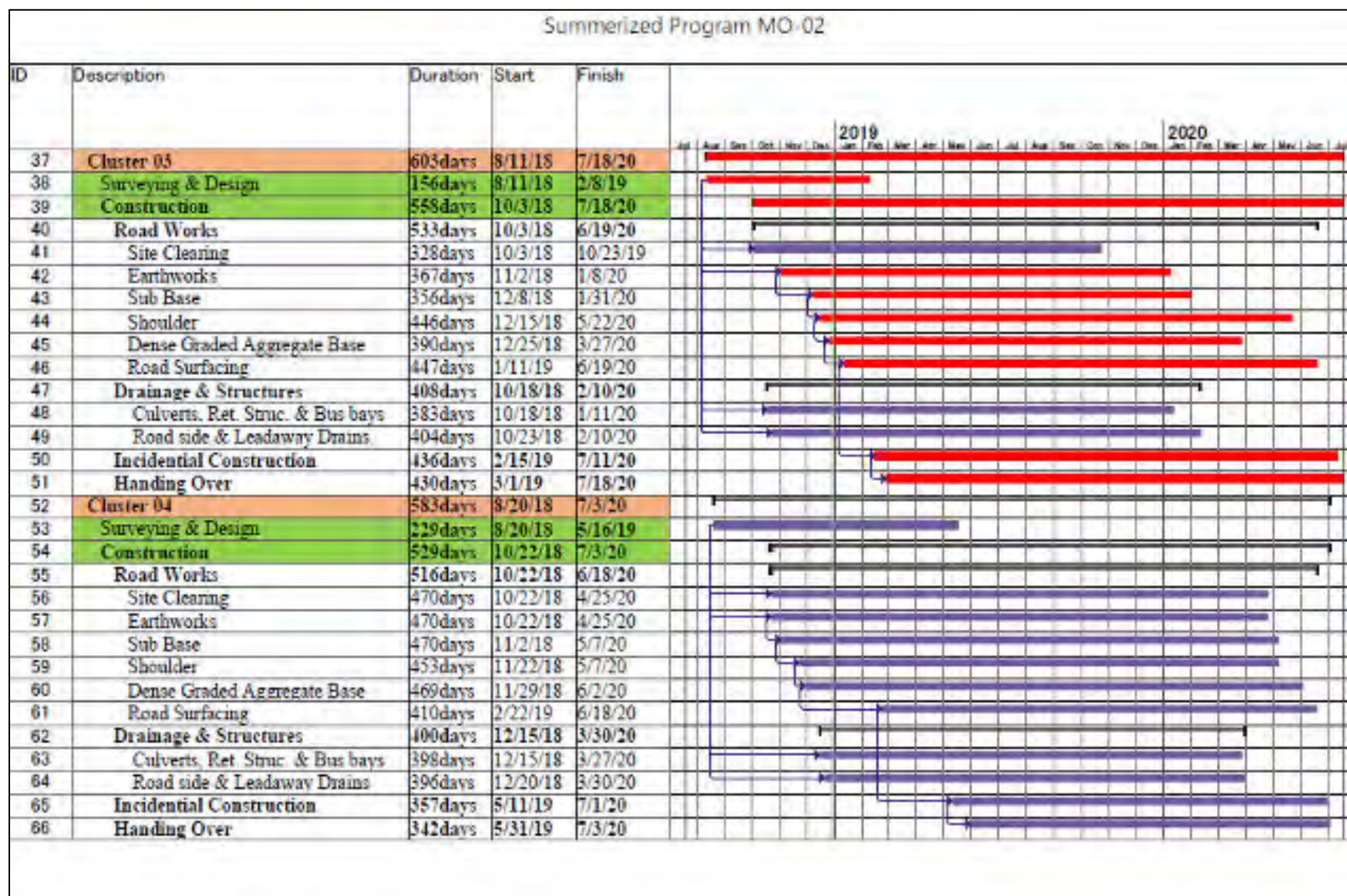


Figure 24 - Contract MO-02 Summary Programme

Table 15 - Contract MO-02 Survey, Geotech, & Design Progress

Item No	Description of work	Total Length / Km (No of Roads 14)	Completed Length / Km	% Completion
1	Topo Survey	63.46	62.05	98%
2	Initial Cross Section	63.46	16.81	26%
3	HA Design	63.46	17.42	27%
4	VA Design	63.46	15.24	24%
5	Design Cross section	63.46	9.36	15%
6	Soil Investigation	63.46	55.26	87%
7	Pavement Design	63.46	22.49	35%

2.11 Contract Package MO-03

Contractor	:	MAGA Engineering (Pvt.) Ltd
Accepted Contract Amount	:	LKR 2,201,476,829.52
Date of Award	:	9 April 2018
Commencement Date	:	20 July 2018
No. of Roads to be Upgraded	:	21
Total Length of Road Upgrading	:	69.46 Km
Amount Certified to 31/12/18	:	LKR 505,808,067.86 (with Advance)

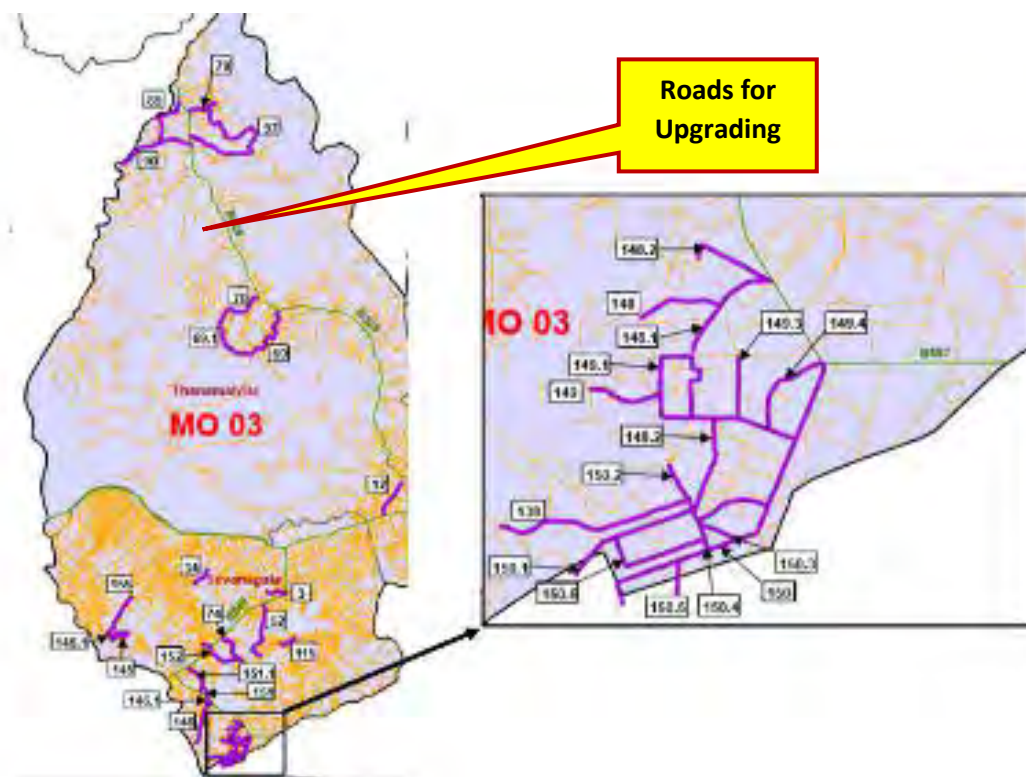


Figure 25 - Map of MO-03 Package

2.11.1 Programme and Progress

The Contractor's summary programme up to 31st December 2018 on survey and design are shown on the following pages.

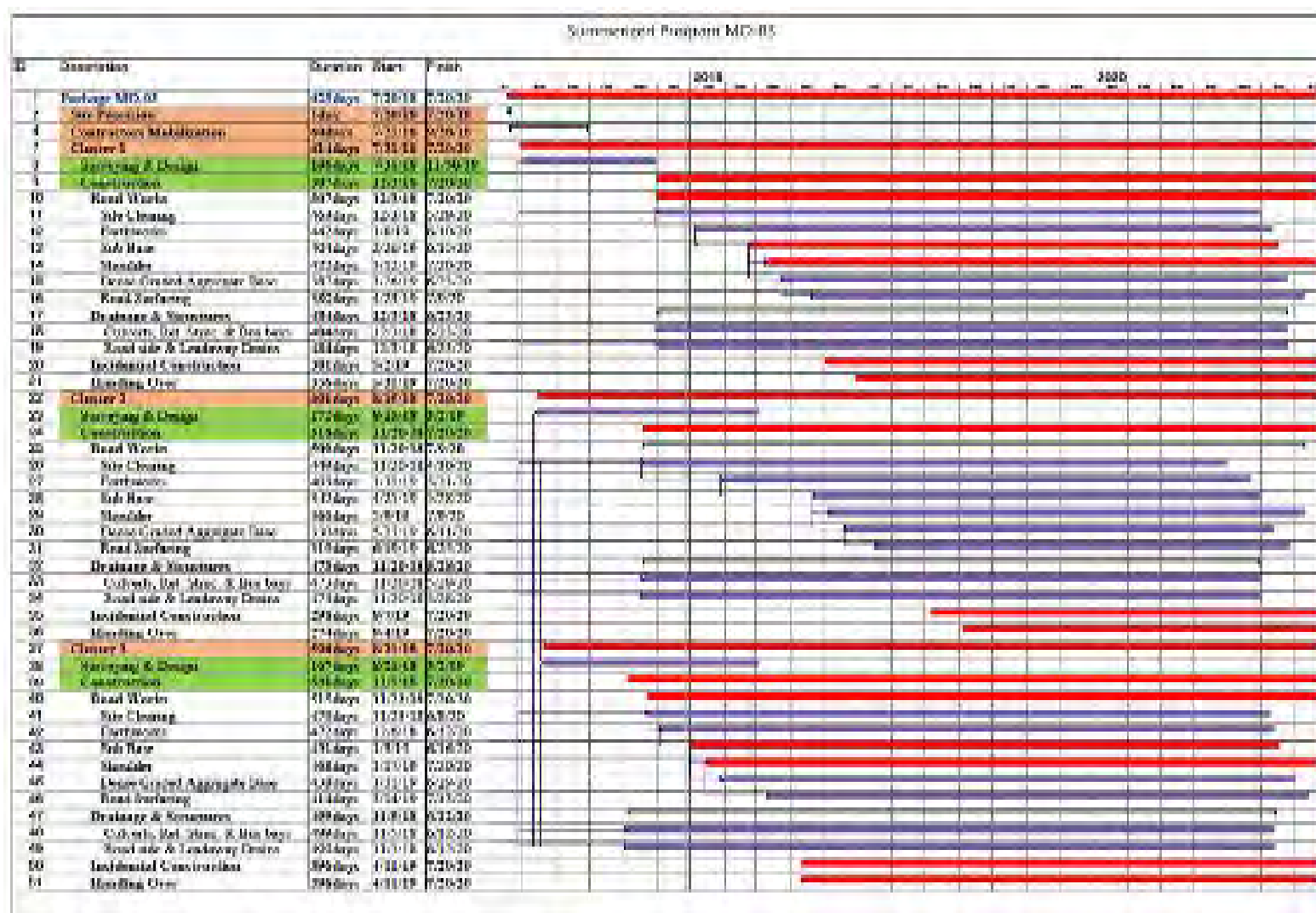


Figure 26 - Contract MO-03 Summary Programme

Table 16 - Contract MO-03 Survey, Geotech, & Design Progress

Item No	Description of work	Total Length / Km(No of Roads 21)	Completed Length / Km	% Completion
1	Topo Survey	69.46	69.46	100%
2	Initial Cross Section	69.46	69.46	100%
3	HA Design	69.46	69.46	100%
4	VA Design	69.46	69.46	100%
5	Design Cross section	69.46	10.10	15%
6	Soil Investigation	69.46	69.44	100%
7	Pavement Design	69.46	69.44	100%

2.12 Contract Package MO-04

Contractor	:	CML-MTD Construction Ltd
Accepted Contract Amount	:	LKR 2,274,491,009.64
Date of Award	:	9 April 2018
Commencement Date	:	20 July 2018
No. of Roads to be Upgraded	:	12
Total Length of Road Upgrading	:	65.78 Km
Amount Certified to 31/12/18	:	LKR 243,339,065.9 (with Advance)

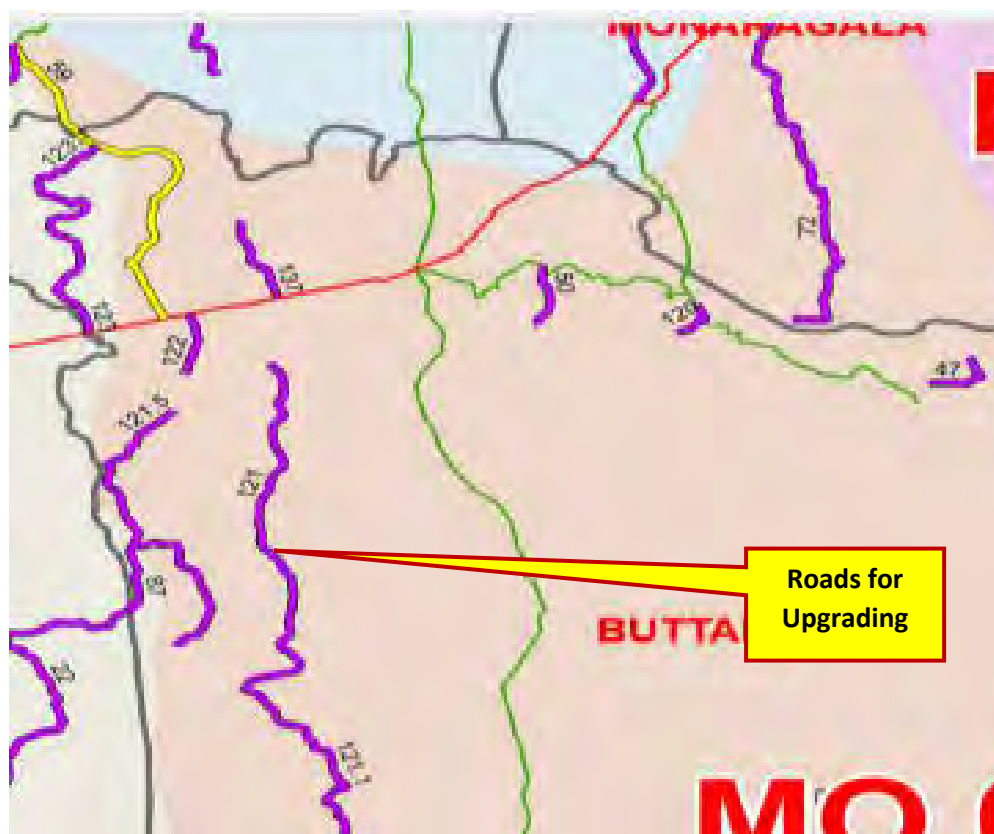
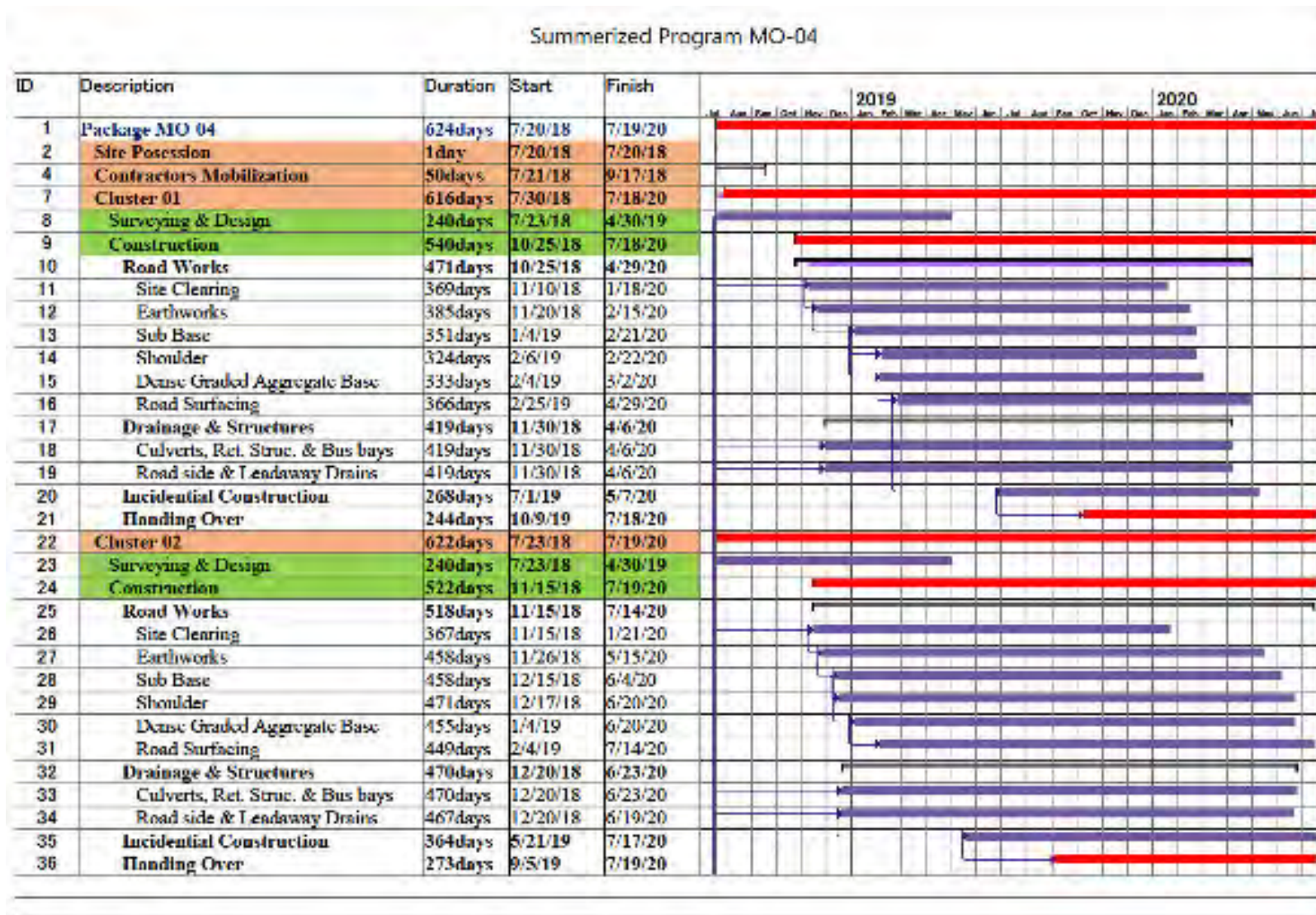


Figure 27 - Map of MO-04 Package

2.12.1 Programme and Progress

The Contractor's summary programme up to 31st December 2018 on survey and design are shown on the following pages.



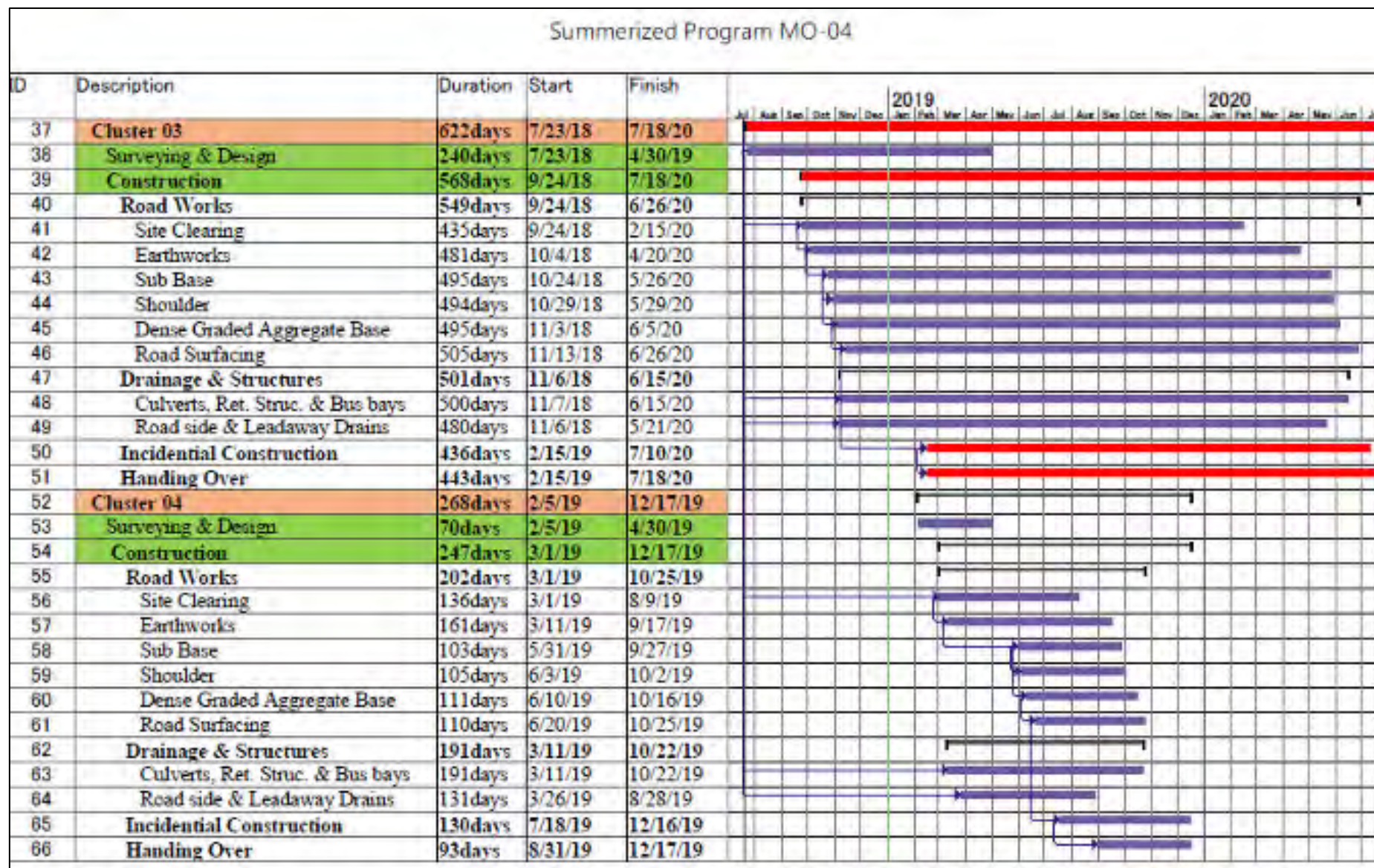


Figure 28 - Contract MO-04 Summary Programme

Table 17 - Contract MO-04 Survey, Geotech, & Design Progress

Item No	Description of work	Total Length / Km (No of Roads 12)	Completed Length / Km	% Completion
1	Topo Survey	65.78	38.08	58%
2	Initial Cross Section	65.78	13.25	20%
3	HA Design	65.78	21.48	33%
4	VA Design	65.78	10.15	15%
5	Design Cross section	65.78	3.95	6%
6	Soil Investigation	65.78	55.46	84%
7	Pavement Design	65.78	37.24	57%

2.13 Contract Package MO-05

Contractor	:	Tudawe Brothers (Pvt.) Ltd
Accepted Contract Amount	:	LKR 2,056,797,645
Date of Award	:	9 April 2018
Commencement Date	:	20 July 2018
No. of Roads to be Upgraded	:	14
Total Length of Road Upgrading	:	64.33 Km
Amount Certified to 31/12/18	:	LKR 222,177,523.72 (with Advance)

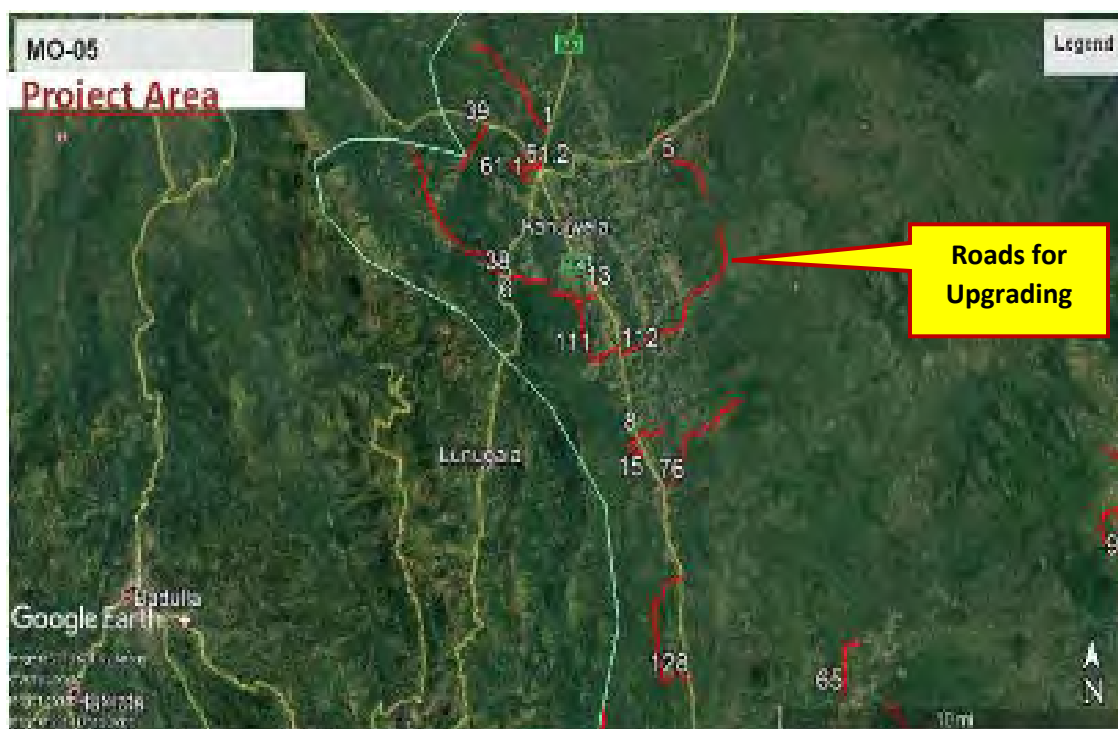
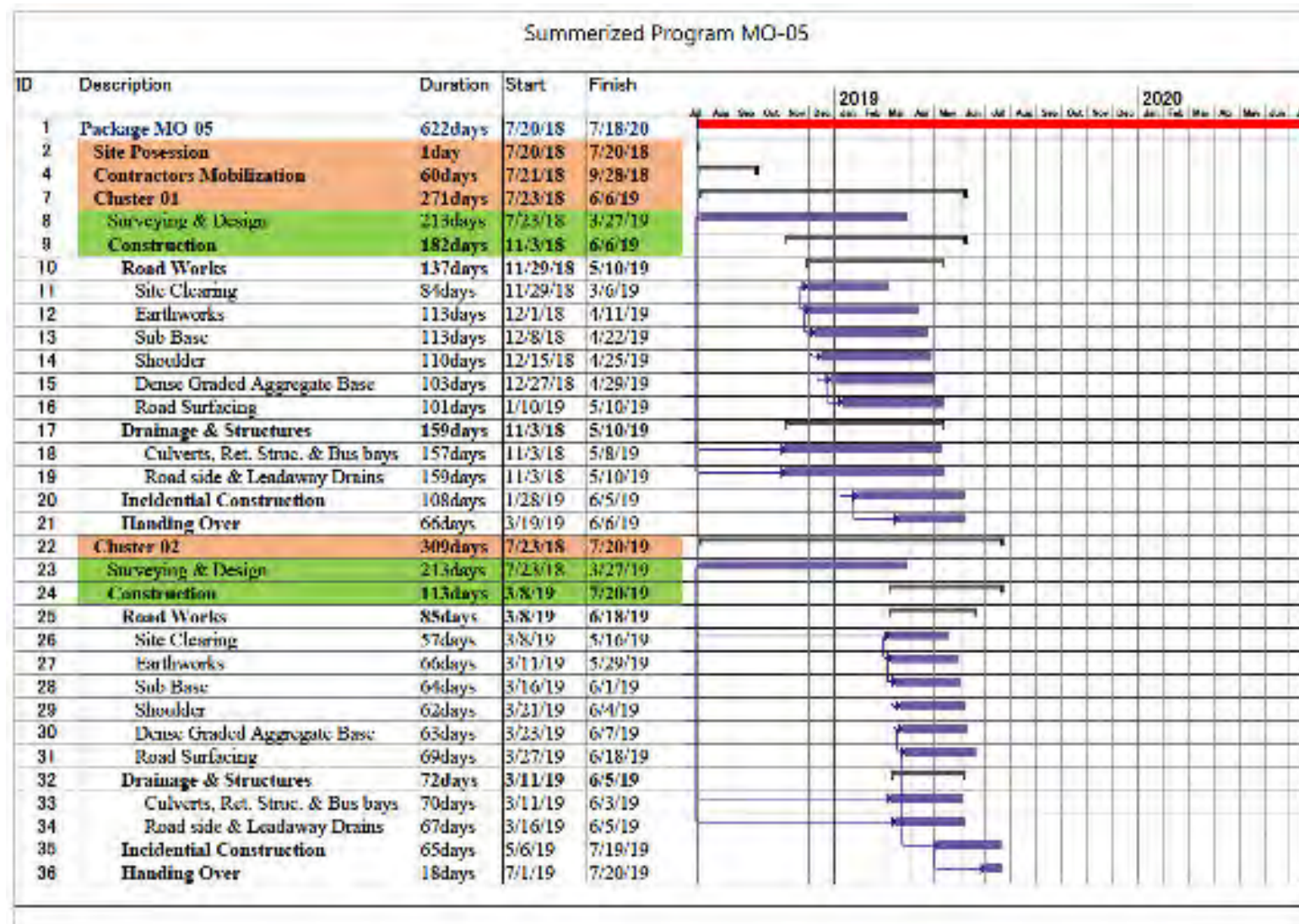


Figure 29 - Map of Package MO - 05

2.13.1 Programme and Progress

The Contractor's summary programme up to 31st December 2018 on survey and design are shown on the following pages



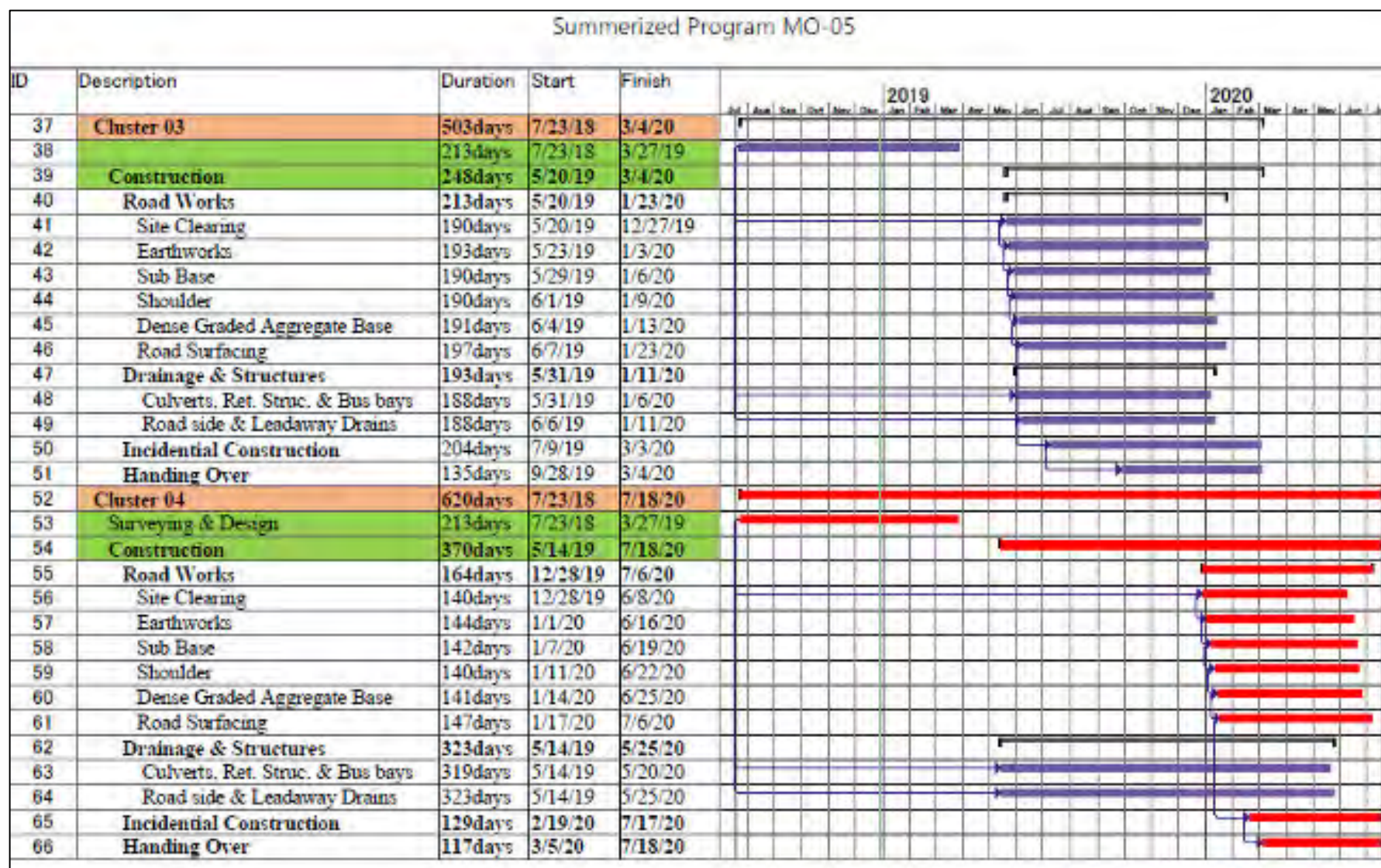


Figure 30 - Contract MO-05 Summary Programme

Table 18 - Contract MO-05 Survey, Geotech, & Design Progress

Item No	Description of work	Total Length / Km (No of Roads 14)	Completed Length / Km	% Completion
1	Topo Survey	64.33	54.05	84%
2	Initial Cross Section	64.33	19.93	31%
3	HA Design	64.33	39.85	62%
4	VA Design	64.33	8.69	14%
5	Design Cross section	64.33	1.50	0.52%
6	Soil Investigation	64.33	46.46	72%
7	Pavement Design	64.33	27.33	42%

2.14 Contract Package MO-06

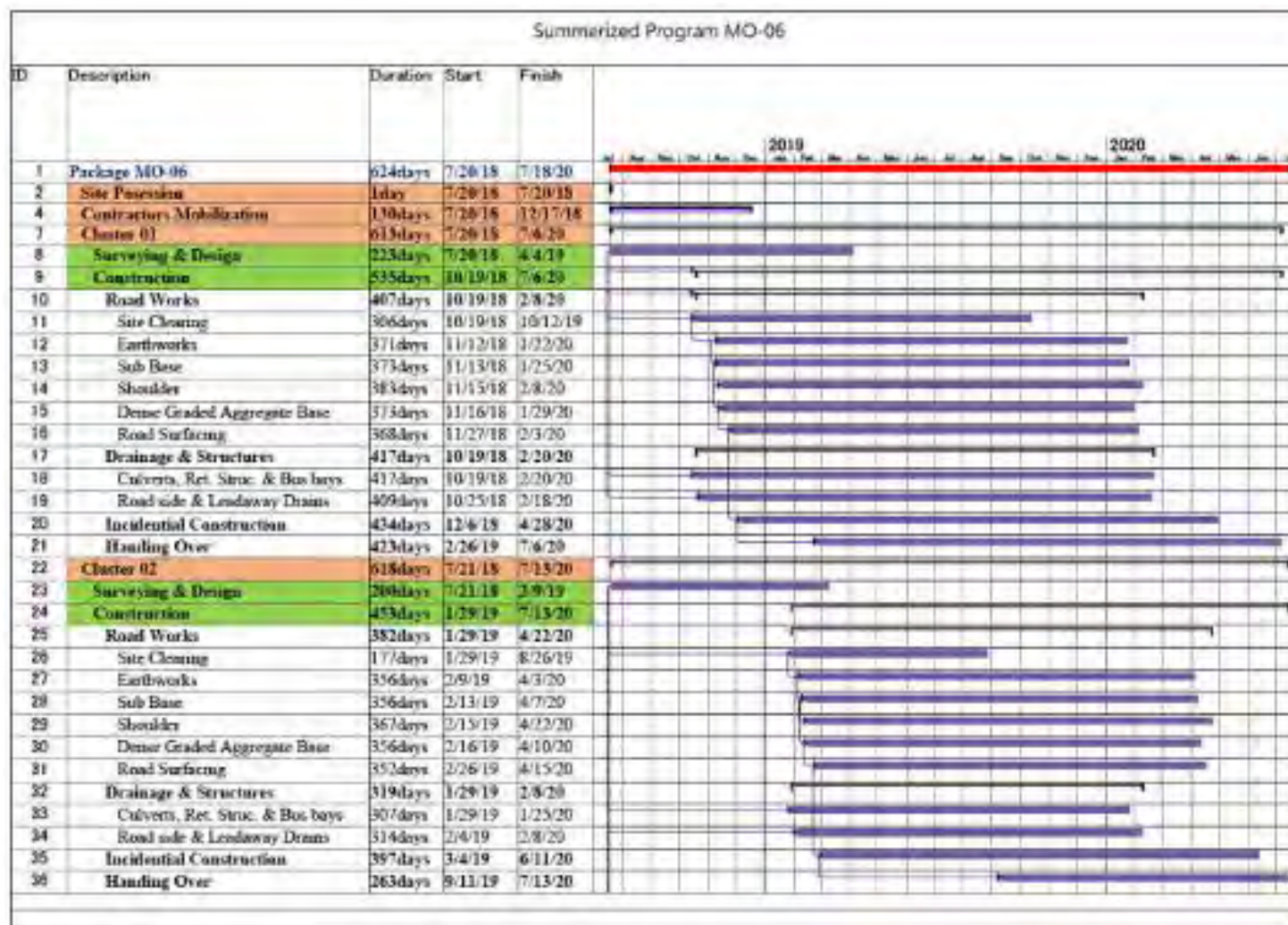
Contractor	:	Hovael Construction (Pvt.) Ltd
Accepted Contract Amount	:	LKR 2,713,444,633.17
Date of Award	:	9 April 2018
Commencement Date	:	20 July 2018
No. of Roads to be Upgraded	:	16
Total Length of Road Upgrading	:	97.28 Km
Amount Certified to 31/12/18	:	LKR 323,752,879.86 (with Advance)



Figure 31 - Map of MO-06 Package

2.14.1 Programme and Progress

The Contractor's summary programme up to 31st December 2018 on survey and design are shown on the following pages.



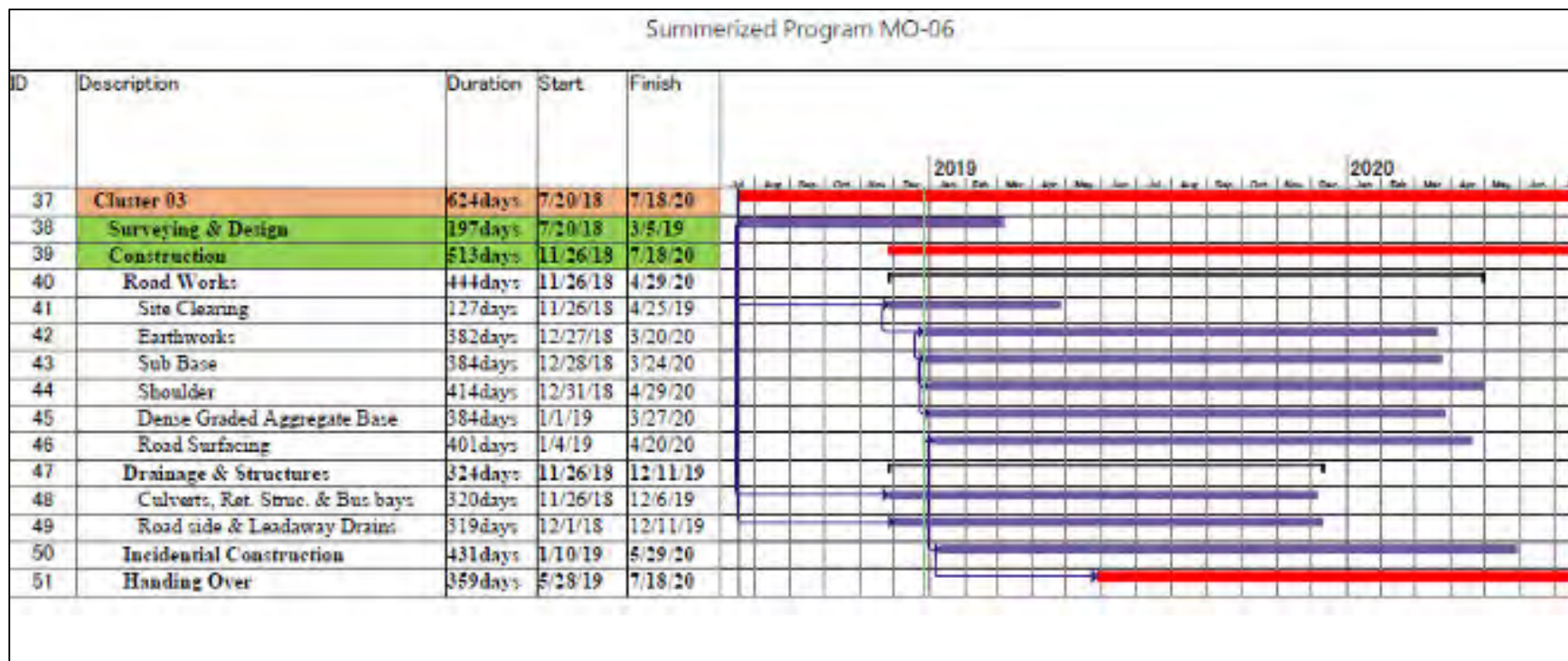


Figure 32 - Contract MO-06 Summary Programme

Table 19 - Contract MO-06 Survey, Geotech, & Design Progress

Item No	Description of work	Total Length / Km (No of Roads 16)	Completed Length / Km	% Completion
1	Topo Survey	97.3	85.37	88%
2	Initial Cross Section	97.3	15.62	16%
3	HA Design	97.3	44.28	46%
4	VA Design	97.3	15.62	16%
5	Design Cross section	97.3	5.00	5%
6	Soil Investigation	97.3	96.98	100%
7	Pavement Design	97.3	71.99	74%

2.15 Contract Package MO-07

Contractor	:	Tudawe Brothers (Pvt.) Ltd
Accepted Contract Amount	:	LKR 1,858,087,457.19
Date of Award	:	9 April 2018
Commencement Date	:	20 July 2018
No. of Roads to be Upgraded	:	9
Total Length of Road Upgrading	:	64.80 Km
Amount Certified to 31/12/18	:	LKR 183,171,717.82 (with Advance)



Figure 33 - Map of Package MO-07

2.15.1 Programme and Progress

The Contractor's summary programme up to 31st December 2018 on survey and design are shown on the following pages.

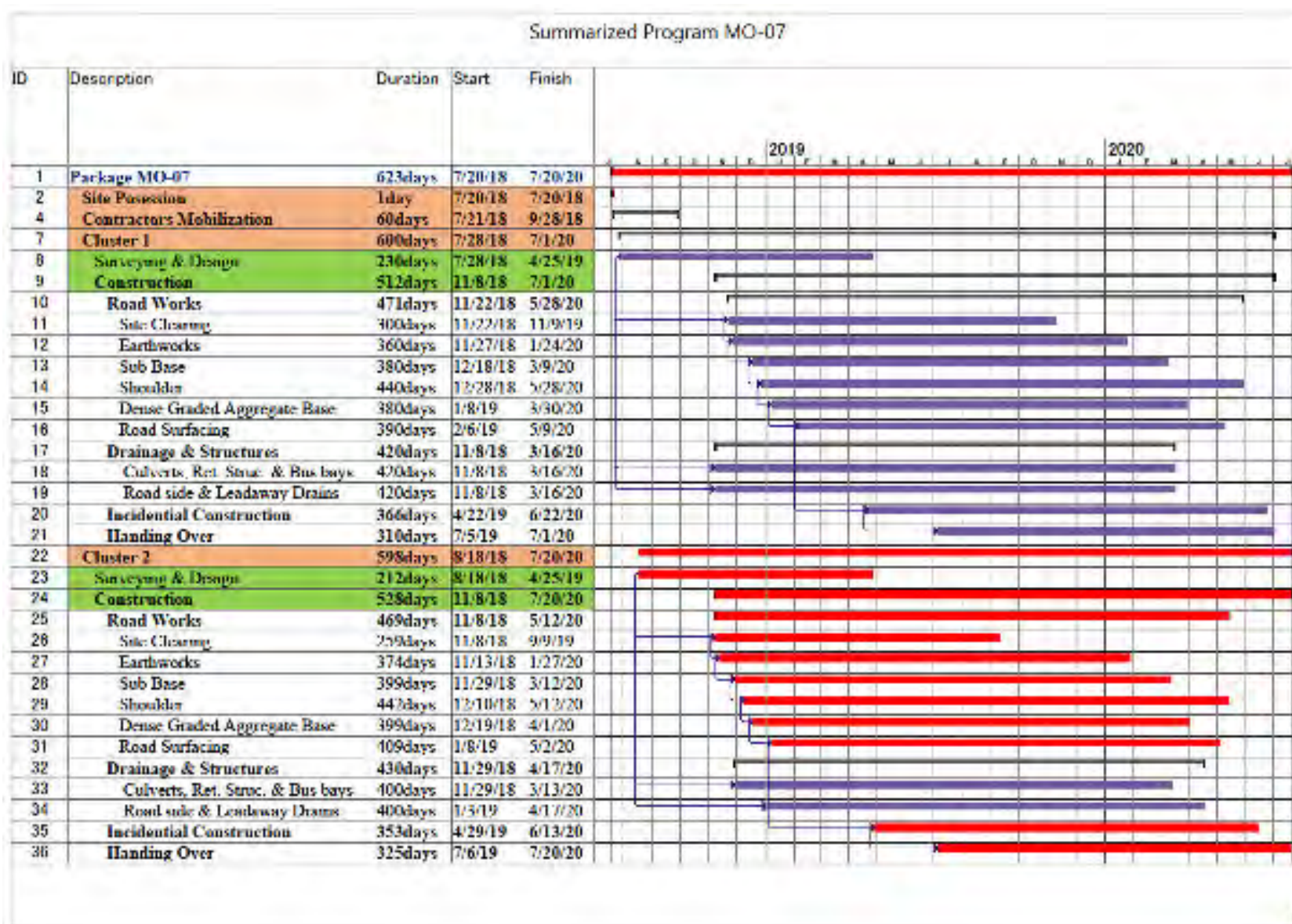


Figure 34 - Contract MO-07 Summary Programme

Table 20 - Contract MO-07 Survey, Geotech, & Design Progress

Item No	Description of work	Total Length / Km (No of Roads 9)	Completed Length / Km	% Completion
1	Topo Survey	64.8	64.80	100%
2	Initial Cross Section	64.8	18.72	29%
3	HA Design	64.8	29.78	46%
4	VA Design	64.8	7.57	12%
5	Design Cross section	64.8	7.57	12%
6	Soil Investigation	64.8	37.99	59%
7	Pavement Design	64.8	15.18	23%

3.0 Compliance with Environment Safeguard Requirements

3.1 Environmental Safeguard Compliances

17. Environmental safeguard is one of the major compulsory components of the iRoad 2 (Uva) programme and the EARF has been prepared to guide selection, screening, categorization, impact assessments, project implementation and monitoring of environment safeguards according to requirements of the GoSL as well as the ADB Safeguard Policy Statement (SPS 2009) for succeeding tranches and their project roads under the investment programme. Following requirements must be fulfilled in the as the part of the project;

Table 21 - Compliance with Environmental Safeguard Requirement as per EARF

Item/Section/ Schedule	Description	Status of Compliance
A. Legal Framework of GoSL on Environment Safeguards	24. The scope of iRoad 2 includes rehabilitation and upgrading of existing PS, PRDA and RDA roads with no widening of the existing Right of Way. According to the Gazette Extra-ordinary No. 772/22 of 24th June 1993 and subsequent amendments, all rehabilitation works for existing highways and roads do not fall within the category of Prescribed Projects. Hence, it is likely that the project roads under the investment programme will not be required to prepare an IEE or EIA for securing an environmental clearance from the CEA. However, RDA shall submit a BIQ for each province considered under iRoad 2, including information on the scope of project with the list of roads to be rehabilitated and improved. Based on this information, RDA shall obtain a clearance from CEA (as done during iRoad) with any conditions or guidelines	RDA has obtained the CEA concurrence.
	27. Specific approvals/clearances, permits and licenses that need to be obtained for the proposed programme are out lined under table 3. These approvals/clearances, permits and licenses are based on the laws and regulations under the NEA, CCA, FaFPA and other Acts and regulations listed in table 2.	All Contractor are obtained necessary license & permits. (refer table 41-55)
III. Anticipated environment impacts	41. Most of the adverse impacts will be occurring during the construction stage of the investment program. Pollution of local environment in the form of air pollution, water pollution, generation of noise and vibration, soil erosion, slope failures and landslides, generation of solid waste, loss of vegetation and aesthetic beauty, damages to irrigation and drainage canals are some of the key issues leading to adverse environment impacts. Worker force safety, safety of public and vehicles; conflicts between residents of an area and worker force are some of the social issues that would arise during the construction stage.	All contracts prepared & submitted SSEMAPs and Health Safety & Traffic Management plans and approved by PIC. EMCs are being submitted to the PIC for review and approvals. Close supervision and periodic awareness are carried out by PIU & PIC.
	44. The concept of “Context Sensitive Design” or CSD shall be used from design stage to identify specific design requirement with respect to the physical, ecological and social environment through which a candidate road is located. The concept of CSD is a very useful tool in developing designs that are sustainable in nature and acceptable to public. CSD allows roadway design decisions to better balance economic, social and environmental objectives.	Refer Annexure 2 for details CSD applications.

3.2 Environment safeguards with compliance respect to Facility Administration Manual (FAM)

Table 22 - Compliance with Environmental Safeguard Requirement in FAM

Item/ Section/ Schedule	Description	Status of Compliance
FAM ToR 24 (i)	Categorization. Ensure that the Project is complying with requirements stipulated in Environmental Assessment Review Framework (EARF), Resettlement Framework (RF), and Indigenous Peoples Planning Framework (IPPF) developed for the project based on ADB's Safeguard Policy Statement (2009) and conditions / guidelines stipulated by Central Environmental Authority.	Contractors are advised to SSEMAP according to the guidelines given in the EARF EMCs are being preparing for all roads separately at the stages of Pre-Constructions, 25%, 50%, 75%, 100% of the physical progress and annually in maintenance period (refer table 26-40).
FAM ToR 24 (vii)	Assist IA in establishing a Grievance Redress Mechanism and in its proper functioning and management	94% of GRCs established at DS level and 29% of GND level GRCs have established up to 31 st December 2018. 02 DS level GRCs and 349 of GND level GRCs to be established.
FAM ToR 24 (ix)	Carryout the following duties related environmental safeguard: (a) ensure that all the environmental mitigation measures (as outlined in Initial Environmental Examination Report / IEER) required to be implemented are incorporated in the Contract documents; (b) ensure that the Contractor prepares Site Specific Environmental Management Action Plans (SSEMAP) and approving the SSEMAP before commencement of construction work; (c) supervise and monitor the implementation of SSEMAP; and (d) in the event of occurrence of any unexpected environmental impacts, coordinate with the Contractor and Employer to ensure that necessary mitigation measures are implemented; (e) provide technical advice to the Contractors;	(a) Environmental mitigations were considered and adopt to the SSEMAPs. (b) Initial SSEMAP approved by the PIC and contractors are being updating the SSEMAPs as addendum to the initial SSEMAPs and obtain approval from PIC before commence the physical activities. (c) PIC supervisions are carried out according to the accepted SSEMAPs. (d) Joint inspections are carried out with the PIU, PIC & the Contractor to ensure all mitigatory measures are implemented in the ground.

Item/ Section/ Schedule	Description	Status of Compliance
	<p>(f) prepare periodic monitoring reports monthly (as part of Monthly Progress report) and annually and submit to IA; and</p> <p>(g) facilitate grievance redress in the case of environmental related issues.</p>	<p>(e) Consultation and training programs held in monthly basis and given the technical assistances to the contractors.</p> <p>(f) Monthly Environmental and Social Reports are submitted to the PIC and forwarded to the PIU.</p>

4.0 Monitoring of Environmental Compliance at Field Level

4.1 PIU and PIC Actions to Comply Environmental Safeguards

18. Project Director of Uva Province iRoad 2 (PD – Uva) leads the PIU environmental and social safeguard team includes Senior Social Safeguard Officer (SSSO), Social Safeguard Officer (SSO), and Environmental Safeguard Officer (ESO). PIU team monitors environmental safeguards in the field level and management of the contract. PD – Uva participated in site inspections to ensure that PIC and contractors are implementing EARF and contractual requirements in the contract document. On behalf of the project, PIU environmental and social safeguard team communicates relevant issues and gets necessary clearances from the external agencies such as Department of Wildlife Conservation, Department of Forestry, Central Environmental Authority, Timber Cooperation, Divisional Secretariats and other government agencies to confirm smooth operation of the project.

19. Team Leader (TL) of PIC leads the PIC team with the support of Environmental Specialist and Social Gender Resettlement (SGR) Specialist to assure that the key and non-key staff of the project comply environmental safeguards. And, the PIC team assures that contractors are complying the required safeguards as well. The TL has strongly emphasized on implementing environmental safeguards on site and instruct all the contractors to adhere site work to the guidelines given in EARF and EMAP of the contract document. The TL highlighted all environmental, social, and safety aspects during every progress meeting. The Environmental Specialist reviewed all SSEMAPs submitted by the contractors and approved Resident Engineers. Environmental Monitoring Checklist (EMC) reviewed by the Environmental Specialist in cluster wise submissions.

4.2 Staffing of Environment and Safety Officers

Tables 23, 24 & 25 show the recruited environment and safety officers of PIU, PIC and each contractor packages.

Table 23 - Details of the staffing and training conducted for the PIU and PIC.

Institution	Full Name	Designation	Mobilize Date	# Awareness Programmes Participated (workshops, special meetings reg. environment safeguards)
RDA-PD Office	Mr. T. Jasdeepan	Senior Social Safeguard Officer	30.07.2018	4
	Ms. W. D. R. D. D. K. Wasala	Social Safeguard Officer	25.10.2018	0
	Mr. P. G. E. N. Wijayarathna	Environmental Safeguard Officer	28.08.2018	4
PIC-TL office	Mr. Malaka Paranamanna	Environmental Specialist	24.08.2018	4
	Mr. D. A. D. Ranjith	Social/Gender/Resettlement Specialist	18.09.2018	2

Institution	Full Name	Designation	Mobilize Date	# Awareness Programmes Participated (workshops, special meetings reg. environment safeguards)
PIC RE 2 Office	Mr. J. R. V. Roshan	Environmental and Social Officer	02.11.2018	1
	Mr. Wasantha Dissanayake	Environmental and Social Officer	06.08.2018	4
PIC-RE 3 Office	Ms. Mihiri Madushani	Environmental and Social Officer	10.10.2018	2
	Mr. Chinthaka Wijethunga	Environmental and Social Officer	10.09.2018	3
PIC- RE 4 Office	Mr. Sanjeewa Sirisena	Environmental and Social Officer	24.08.2018	3

Table 24 - Details of the staffing and training conducted for the contractors – Badulla Packages.

Contract Package	Officer's Name	Designation	Mobilize Date	# Awareness Programs Participated (workshops and special meetings reg. environment safeguards)
BA 01	Mr. S. D. N. Madhushanka	ESSO	01.09.2018	4
	TBA	ESSO	-	-
BA 02	Ms. Dumeshi Ellawidana	ESSO	17.08.2018	4
	TBA	ESSO	-	-
BA 03	Mr. Chathuranga Hathnagoda	ESSO	24.09.2018	3
	TBA	ESSO	-	-
BA 04	Ms. Rangani Manathunga	ESSO	02.07.2018	4
	Ms. W. A. D. P. Wijerathna	ESSO	08.08.2018	4
BA 05	Ms. P. W. C. D. Weerathunga	ESSO	02.07.2018	4
	Ms. H. G. T. Jayamini	ESSO	24.07.2018	4

Contract Package	Officer's Name	Designation	Mobilize Date	# Awareness Programs Participated (workshops and special meetings reg. environment safeguards)
BA 06	Ms. N. A. G. N. Dias	ESSO	13.08.2018	4
	TBA	ESSO	-	-
BA 07	Ms. Achira Gunarathna	ESSO	07.08.2018	4
	TBA	ESSO	-	-
BA 08	Mr. B. Samantha	ESSO	01.06.2018	4
	TBA	ESSO	-	-

*Environmental and Social Safeguard Officer - ESSO

Table 25 - Details of the staffing and training conducted for the contractors – Monaragala Packages.

Contract Package	Officer's Name	Designation	Mobilize Date	# Awareness Programs Participated (workshops and special meetings reg. environment safeguards)
MO 01	Mr. Samith Indika Maddumage	ESSO	04.06.2018	4
	TBA	ESSO	-	-
MO 02	Mr. Mangala Perera	ESSO	01.07.2018	4
	Mr. Chathura Dasanayake	ESSO	01.07.2018	4
MO 03	Mr. Mahesh Mudannayaka	ESSO	24.07.2018	4
	Ms. Maheshika Edirisinghe	ESSO	27.09.2018	3
MO 04	Ms. M.H. Inusha Dilmani	ESSO	27.08.2018	3
	TBA	ESSO	-	-
MO 05	Mr. Kelum Samaradiwakara	ESSO	15.10.2018	2
	TBA	ESSO	-	-

Contract Package	Officer's Name	Designation	Mobilize Date	# Awareness Programs Participated (workshops and special meetings reg. environment safeguards)
MO 06	Mr. Pubundu Tharanga	ESSO	02.07.2018	4
	TBA	ESSO	-	-
MO 07	Mr. Prasanna Gunasekara	ESSO	06.08.2018	4
	Ms. Malsha Sulakshani	ESSO	06.09.2018	4

*Environmental and Social Safeguard Officer - ESSO

4.3 Review and Approval of SSEMAP

20. General format for Site Specific Environmental Management Action Plan (SSEMAP) was distributed among contactors according to the EMAP included in the contract document. After receiving the drafted SSEMAP reports, comments and reviews were given by PIC Environmental Specialist (ES). Initial SSEMAP reports were approved by PIC/ ES for construction activities and SSEMAP will be updated road/cluster wise before commencing the physical activities (Table 26 to 40).

21. Section 5.0 - Issues Observed and Status of Compliance of the report (pg. 91 – 94) describe SSEMAP compliances till 31st of December 2018. EMCs (preconstruction and during constructions) use as a tool to monitor compliance of SSEMAP.

22. PIC – 06 assessment on environmental compliances are summarized in Effectiveness column in table 58 from page 91 to 94.

4.4 Preparing of Environmental Monitoring Checklist (EMC)

23. EMCs are being prepared for each road in pre-construction stage for all contract packages. Construction stage EMCs will be prepared according to the physical progress in four segments, which will be for 25%, 50%, 75% and 100% for road length exceeds 3km and roads which are less than 3km EMCs will be prepared for 50% and 100% of the physical progress. EMCs for pre-construction stage are updated in following tables (Table 26 - 40). EMCs for maintenance period will be prepared for each road in annual basis.

24. SSEMAPs and EMCs are being prepared by the Contractors according to the master programme based on the clusters and priority roads. Before preparing the Preconstruction Environmental Monitoring Checklist contractor has to complete design works to get the details to EMC. This situation creates difficulties to the contractor's ESSOs to complete Preconstruction EMCs and road wise SSEMAPs. However, all contractors are submitting EMCs and SSEMAPs before starting the physical works. Submitted documents are complied required details which are given in the contract document.

Table 26 - Badulla Package 1 (BA-01) SSEMAP and EMC Summary

Serial No.	Code	Road Name	Road Category	Length (km)	SSEMAP	EMC Pre-Con
1	UBA104	Mapakadawewa 20th mile post Junction to 50 Acres Road	PS	3.06	1	1
2	UBA105	Mapakadawewa 20th Mile post Jc. to Paharagammana Road	PRDD	1.81	1	1
3	UBA113	Paharagammana Road (Bodiya) to Senanigama School Road	PS	0.87	1	1
Total				57.88	3	3

Table 27 - Badulla Package 2 (BA-02) SSEMAP and EMC Summary

Serial No.	Code	Road Name	Road Category	Length (km)	SSEMAP	EMC Pre-Con
1	UBA095	Kandeketiya Badulu Oya Junction to Thennagammanaya Road	PS	4.14	1	1
2	UBA212	Komarika Galkada Road	PS	1.69	1	1
3	UBA238	Makulgolla Welan Landa Road	PS	1.83	1	1
4	UBA295	Polgaha Arawa Main Road	PS	4.42	1	1
Total				79.86	4	4

Table 28 - Badulla Package 3 (BA-03) SSEMAP and EMC Summary

Serial No.	Code	Road Name	Road Category	Length (km)	SSEMAP	EMC Pre-Con
1	UBA301	Rilpola- Kalugalpitiya Road	PRDD	2.88	1	0
2	UBA026	Approach road to Badulla Weeriyapura Bishop's road	PS	0.50	1	1
3	UBA356	Weeryapura Main Road Sec.i	PS	1.55	1	0
Total				83.53	3	1

Table 29 - Badulla Package 4 (BA-04) SSEMAP and EMC Summary

Serial No.	Code	Road Name	Road Category	Length (km)	SSEMAP	EMC Pre-Con
1	UBA 151.vii	Hali Ela Outer Circular Road Sec.vii	PRDD	3.97	1	1
2	UBA316	Silpolagama Road to Unagolla Road	PRDD	2.21	1	1
3	UBA341	Unagolla to Hali-Ela Road	PRDD	2.99	1	1
Total				65.46	3	3

Table 30 - Badulla Package 5 (BA-05) SSEMAP and EMC Summary

Serial No.	Code	Road Name	Road Category	Length (km)	SSEMAP	EMC Pre-Con
1	UBA116	Sapugollagama to nahakadiya via Telembuwela Road	PS	1.95	1	0
2	UBA290	Pelwinna Road (From Pelwinna Junction)	PS	1.38	1	1
3	UBA314	Senanayaka Jc. to Kirawanagama, Galketiya Mankada Road	PRDD	7.76	1	0
4	UBA361	Welimada-Kerandimulla Road	PRDD	7.16	1	1
5	UBA362	Welimada-Yahalagaha Arawa Imbulgashinna Rahupola Road	PRDD	14.08	1	1
Total				77.99	5	3

Table 31 - Badulla Package 6 (BA-06) SSEMAP and EMC Summary

Serial No.	Code	Road Name	Road Category	Length (km)	SSEMAP	EMC Pre-Con
1	UBA081	Demodara-Baddegama-Springwelly -Rockhill to Badulla	RDA	22.00	1	1
2	UBA084	Ella to 3rd Mile post (Ella Passara Road via Balleketuwa)	RDA	4.50	0	1
3	UBA088	HalpeJunction to Maduragama via Demodara Bogaha Jc.	PRDD	3.36	0	1
4	UBA137	Gawarakele-Nahawila-Hindagala Road	PRDD	6.55	0	1
5	UBA258	Nawelagama Baddearawa Road Sec.i & ii	PRDD	7.06	0	1
6	UBA297	Pupula Temple Road	PS	1.85	0	1
Total				63.00	1	6

Table 32 - Badulla Package 7 (BA-07) SSEMAP and EMC Summary

Serial No.	Code	Road Name	Road Category	Length (km)	SSEMAP	EMC Pre-Con
1	UBA242	Maligatenna to Bandarawela main Road	RDA	9.10	1	1
2	UBA271	North Kebillewela-Bindunuwewa Road	PRDD	2.82	0	1
3	UBA223	Kurukudegama Post Office to Warakadanda Pitakadura Road	PS	1.68	0	1
4	UBA391	Mahathanna Bypass Road	PS	0.91	0	1
Total				68.95	1	4

Table 33 - Badulla Package 8 (BA-08) SSEMAP and EMC Summary

Serial No.	Code	Road Name	Road Category	Length (km)	SSEMAP	EMC Pre-Con
1	UBA076	Badulla-Colombo main road to Bathgoda Okwel Road	PS	1.19	1	1
2	UBA077	Badulla-Colombo Road to Bathgoda Ranwanguhawa Road	PS	1.04	1	1
3	UBA312	Seelathenna Madola Road	PRDD	1.84	1	1
4	UBA061	Diyathalawa, Welanhinna, Walgahawela Road	RDA	2.50	0	0
Total				60.82	3	3

Table 34 - Monaragala Package 1 (MO -01) SSEMAP and EMC Summary

Serial No.	Code	Road Name	Road Category	Length (km)	SSEMAP	EMC Pre-Con
1	UMO016	Alupotha Junction to Kalugaha Wadiya Road	PS	2.92	0	1
2	UMO031	Balakumbura-Bogahapelassa (Lunugala Janapadaya) Road	PRDD	12.18	1	1
3	UMO098	Maligathanna Road	PS	2.26	1	0
4	UMO143	11 Kanuwa, Madugahapitiya Road	PS	1.44	1	0
Total				63.76	3	2

Table 35 - Monaragala Package 2 (MO -02) SSEMAP and EMC Summary

Serial No.	Code	Road Name	Road Category	Length (km)	SSEMAP	EMC Pre-Con
1	UMO094	Madukotan Arawa Tuntala Athlaamulla Road	PRDD	6.39	0	1
2	UMO147	Madukotan Arawa Helathunthala Punsisigama Junction Road	PS	2.71	1	1
Total				63.29	1	2

Table 36 - Monaragala Package 3 (MO -03) SSEMAP and EMC Summary

Serial No.	Code	Road Name	Road Category	Length (km)	SSEMAP	EMC Pre-Con
1	UMO138	Hathporuwe polajunction to Somadevi School Road	PRDD	3.32	1	1
2	UMO150	Mahagama Saliya Mawatha Sec.i to vii	PRDD	4.42	1	1
3	UMO155	Thalapatha ginigala Road	PRDD	2.81	1	1
4	UMO003	1st Lane, Bogaha Junction	PS	1.23	1	1
5	UMO052	Diwlana to Kiriibbanara	PRDD	3.71	1	1
6	UMO145	Dalukkatiya watarawuma Road Sec.i & ii	PRDD	2.66	1	1
7	UMO079	Kandiyapita-Bogaswewa junction to Diulana	PS	1.86	1	1
8	UMO090	Laginagala-Damwelodaya Road	PRDD	4.58	1	1
Total				70.02	8	8

Table 37 - Monaragala Package 4 (MO -04) SSEMAP and EMC Summary

Serial No.	Code	Road Name	Road Category	Length (km)	SSEMAP	EMC Pre-Con
1	UMO120	Okkampitiya Dabeyaya	PRDD	1.37	0	1
2	UMO121.i	Old Buththala Junction to Kukurampoala Junction Sec i	PS	10.53	1	1
3	UMO121.ii	Old Buththala Junction to Kukurampoala Junction Sec ii	PS	8.07	1	1
4	UMO121.vi	Old Buththala Junction to Kukurampoala Junction Sec vi	PS	10.15	1	1
5	UMO122	Palwatta Co-operative via Gonagodalla-Kukurampola Road	PS	1.95	1	1
6	UMO137	Unawatuna,Pasal Mawatha, Lunugala janapadaya	PS	2.81	0	1
7	UMO059	From Pelwatta Junction to Passara Road	RDA	11.70	1	1
8	UMO072	Horambawa-Suduwathura aara-Galtemandiya Road	PRDD	13.06	0	1
Total				65.78	5	8

Table 38 - Monaragala Package 5 (MO -05) SSEMAP and EMC Summary

Serial No.	Code	Road Name	Road Category	Length (km)	SSEMAP	EMC Pre-Con
1	UMO005	5th Mile Post to Thithhawalkiula	PRDD	4.26	1	1
2	UMO039	Bibila Watta Road	PS	2.96	1	1
Total				64.15	2	2

Table 39 - Monaragala Package 6 (MO -06) SSEMAP and EMC Summary

Serial No.	Code	Road Name	Road Category	Length (km)	SSEMAP	EMC Pre-Con
1	UMO011	Handapanagala School to Randenigodayaya	PS	4.57	0	1
2	UMO020	Athiliwawa- D.S. Gama Road	PRDD	4.18	1	1
3	UMO021	Athiliwawa Junction to D.S.Gama Sec.i & ii	PRDD	10.66	0	1
4	UMO022	Athiliwawa-Mahaaragama Ulkanda-Hadapanagala Road	PRDD	11.65	0	1
Total				96.98	1	4

Table 40 - Monaragala Package 7 (MO -07) SSEMAP and EMC Summary

Serial No.	Code	Road Name	Road Category	Length (km)	SSEMAP	EMC Pre-Con
1	UMO077	Kandauda Panguwe 6 mile post Kongaspitiya	PRDD	7.57	1	1
Total				64.80	1	1

4.5 Summary of License and approvals for materials

25. License and permits obtained by the contractors according to the table 3 in EARF for iRoad - 2 programme are summarized below. These licenses and approvals have been submitted to PIC for concurrence.

Table 41 - Summary of License and approvals for materials (July to December 2018) - BA - 01
(EPL: Environmental Protection License, TL: Trade License, IML: Industrial Mining License)

Type of Plant	Location	EPL		EPL No	TL		IML (GSMB)		IML No	Operated by
		From	To		From	To	From	To		
Crusher Plant	Kovilyaya, Mahiyanganaya	18/12/2018	17/12/2019	06721(R5)	2018/01/01	2018/12/31	NR	NR	NR	Own
Burrow Pit	Process of obtaining license in progress									Supplier
Quarry 01	Kowilyahaya, Mahiianganaya	Process of obtaining renewal license in progress		11260(R1)F1	2018/01/01	2018/12/31	Process of obtaining renewal license in progress		IML/B/HO/6524/LR/3	Supplier
Quarry 02	Madayaya	Process of obtaining renewal license in progress		05378(R3)	2018/01/01	2018/12/31	Process of obtaining renewal license in progress		IML/B/HO/5454/LR/3	Supplier
Asphalt Plant	Kovilyaya, Mahiyanganaya	18/12/2018	17/12/2019	06722(R5)	2018/01/01	2018/12/31	NR	NR	NR	Own
Batching Plant	Supplier- Tokyo supper Reddy mix									

Table 42 - Summary of License and approvals for materials (July to December 2018) - BA – 02

(EPL: Environmental Protection License, TL: Trade License, IML: Industrial Mining License)

Type of Plant	Location	EPL		EPL No	TL		IML (GSMB)		IML No	Operated by
		From	To		From	To	From	To		
Ready mix concrete (Installation in progress)	16th Mile Post, Meegahakiula	10/12/2018	10/12/2019	UPO/BD/07/02/46/2018	01/01/2018	31/12/2018	NR	NR	NR	Own
ABC (Crusher)	Alikadura Reeppayaya, Medayaya	24/05/2018	30/10/2018	04751(R5)F3	27/09/2018	31/12/2018	NR	NR	NR	Own
Asphalt	Alikadura Reeppayaya, Medayaya	24/05/2018	30/10/2018	04752(R5)F3	27/09/2018	31/12/2018	NR	NR	NR	Own
Burrow pit	Pimbura ulpatha, Aluthgedara.	Process of obtaining license in progress								Supplier

Table 43 - Summary of License and approvals for materials (July to December 2018) - BA – 03

(EPL: Environmental Protection License, TL: Trade License, IML: Industrial Mining License)

Type of Plant	Location	EPL		EPL No	TL		IML (GSMB)		IML No	Operated by
		From	To		From	To	From	To		
Crusher Plant	Kingswood Group, Sirimewan Jayasekara, ½, Railway Station Road, Hali-Ela	08/08/2018	7/8/2019	02988 (R6) F1	31/12/2018	24/05/2018	23/11/2018	IML/A/HO/2 918/LR/6	08/08/2018	Supplier
Quarry	Kingswood Group, Hali Ela	05/04/2018	4/4/2019	15214(R0)	31/12/2018	NR	NR	NR	NR	Supplier
Asphalt Plant	Sooriyawewa	Process of obtaining renewal license in progress								Supplier
Concrete Batching Plant	Thudawa Brothers Hali-ela	Process of obtaining renewal license in progress								Supplier

Table 44 - Summary of License and approvals for materials (July to December 2018) - BA – 04

(EPL: Environmental Protection License, TL: Trade License, IML: Industrial Mining License)

Type of Plant	Location	EPL		EPL No	TL	IML (GSMB)		IML No	Operated by
		From	To		Validity	From	To		
Quarry	S.A.Nihal Senewirathna Queenstown Estate Alugolla HaliEla	3/24/2018	23/03/2019	02661(R6)	2018	3/4/2018	2/4/2019	IML/B/HO/2 326/LR/7	Supplier
Crusher Plant	Nimsara Metel Industry D.M.R.U.Dissa nayake No.12 Gangabada Road Badulla)	15/12/2017	16/12/2018	03555(R5)	2018	NR	NR	NR	Supplier
Asphalt plant	Land selection in progress								-
Borrow pit	Unagolla Estate, Field No 10, 84/A Unagolla GN Division, Silpolagama	GS&MB approval given through a letter.							Own
Concrete batching plant	Land selection in progress								Own

Table 45 - Summary of License and approvals for materials (July to December 2018) - BA – 05

(EPL: Environmental Protection License, TL: Trade License, IML: Industrial Mining License)

Type of Plant	Location	EPL		EPL No	TL Validity	IML (GSMB)		IML No	Operated by
		From	To			From	To		
Quarry	P.L.P Construction, Dikkapitiya	21/03/2018	20/03/2019	05970 (R5)	31/12/2018	03/05/2018	27/03/2019	IML/B/HO/6861/LR/05	Supplier
Crusher	P.L.P Construction, Dikkapitiya	5/2/2018	04/02/2019	10433 (R0)	31/12/2018	NR	NR	NR	Supplier
Batching Plant	Orient Construction, Nuwara Eliya	17/02/2018	16/02/2019	06892 (R4)	31/12/2018	NR	NR	NR	Supplier
Asphalt Plant	Access Engineering, Mailapitiya	16/06/2018	15/06/2019	12774 (R2)	31/12/2018	NR	NR	NR	Supplier

Table 46 - Summary of License and approvals for materials (July to December 2018) - BA – 06

(EPL: Environmental Protection License, TL: Trade License, IML: Industrial Mining License)

Type of Plant	Location	EPL		EPL No	TL Validity	IML (GSMB)		IML No	Operated by
		From	To			From	To		
Quarry	Kingswood Group, Hali Ela	08/08/2018	7/8/2019	02988 (R6) F1	31/12/2018	24/05/2018	23/11/2018	IML/A/HO/2918/LR/6	Supplier
Crusher Plant	Kingswood Group, Hali Ela	05/04/2018	4/4/2019	15214 (R0)	31/12/2018	NR	NR	NR	Supplier
Concrete Batching Plant	Tudawe Brothers, Hali Ela	Process of obtaining renewal license in progress			31/12/2018	NA	NA	NR	Supplier
Concrete Batching Plant	Kithmina Batching Plant, Bandarawela	23/05/2018	22/05/2019	12727 (R2)	31/12/2018	NR	NR	NR	Supplier

Table 47 - Summary of License and approvals for materials (July to December 2018) - BA - 07

(EPL: Environmental Protection License, TL: Trade License, IML: Industrial Mining License)

Type of Plant	Location	EPL		EPL No	TL Validity	IML (GSMB)		IML No	Operated by
		From	To			From	To		
Quarry	Kingswood Hali-ela	08/08/2018	7/8/2019	02988 (R6) F1	31/12/2018	24/05/2018	23/11/2018	IML/A/HO/2918 /LR/6	Supplier
Crusher Plant	Kingswood Group, Hali Ela	05/04/2018	4/4/2019	15214(R0)	31/12/2018	NR	NR	NR	Supplier
Asphalt Plant	CML-MTD Mirijjaviala	Process of obtaining renewal license in progress			31/12/2018	NR	NR	NR	Own
Asphalt Plant	Kithmini, Balangoda	05/02/2018	04/02/2018	06819(R4)	31/12/2018	NR	NR	NR	Supplier
Concrete Batching Plant	Kithmina Batching Plant, Bandarawela	23/05/2018	22/05/2019	12727 (R2)	31/12/2018	NR	NR	NR	Supplier
Concrete Batching Plant	Tudawe Brothers, Hali Ela	Process of obtaining renewal license in progress			31/12/2018	NR	NR	NR	Supplier

Table 48 - Summary of License and approvals for materials (July to December 2018) - BA - 08

(EPL: Environmental Protection License, TL: Trade License, IML: Industrial Mining License)

Type of Plant	Location	EPL		EPL No	TL		IML (GSMB)		IML No	Operated by
		From	To		From	To	From	To		
Metal Quarry	BNC	16/11/2018	15/11/2019	15991(R6)	Valid till 31/12/2018		13/06/2018	31/12/2018	IML/B/HO/11881	Supplier
Crusher	BNC	29/11/2017	28/11/2018	02674(R9)	25/05/2018	31/12/2018	NR	NR	NR	Supplier
Asphalt plant	KITHMINA	5/2/2018	4/2/2019	06813 (R3)	23/01/2018	31/12/2018	NR	NR	NR	Supplier
Borrow pit	Hadapanagla, Borrow pit	7/11/2018	31/06/2019	14206(R1)	7/11/2018	31/12/2018	7/11/2018	31/06/2019	IML/B/HO/12451	Supplier

Table 49 - Summary of License and approvals for materials (July to December 2018) - MO – 01

(EPL: Environmental Protection License, TL: Trade License, IML: Industrial Mining License)

Type of Plant	Location	EPL		EPLNo	TL		IML (GSMB)		IML No	Operated by
		From	To		From	To	From	To		
ABC (quarry)	D/Bandula Dias, Bibile	2018/07/01	2018/12/31	12343 (R1) F1	31/12/2018		2018/01/11	2019/01/10	IML/B/HO/9043/LR/1	Supplier
ABC (crusher)	D/M/Punchi banda, Buttala	2018/09/03	2019/09/03	10686 (R3) F1	31/12/2018		NR	NR	NR	Supplier
Ready mix concrete	D/M/P/ Holdings, Buttala	2018/09/28	2019/09/27	15854 (R0)	31/12/2018		NR	NR	NR	Supplier
Asphalt	AMSK Constructio ns(pvt)Ltd, Yalkumbura	Process of obtaining license in progress								Own
Borrow pit	K/M/Ruwan Karunadasa, Lunugala colony	27/12/2019		DO/MG /08/03/E C/06/20 15	31/12/2018		28/12/2018	27/12/2019	IML/B/HO/1051 2/LR/1	Supplier

Table 50 - Summary of License and approvals for materials (July to December 2018) - MO – 02

(EPL: Environmental Protection License, TL: Trade License, IML: Industrial Mining License)

Type of Plant	Location	EPL Validity	EPL No	TL	IML (GSMB)	IML No	Operated by
				Validity	Validity		
Quarry	Madagama	21/01/2019	UVB00672 (R0)	31/12/2018	1/31/2019	IML/B/HO/9159/LR/1	Supplier
Crusher Plant	Pitakumbura, Bibila	25/08/2019	06379 (R5)	31/12/2018	NR	NR	Own
Asphalt Plant	Pitakumbura, Bibila	21/01/2019	06378(R5)	31/12/2018	NR	NR	Own
Concrete Batching Plant	Bibila	26/11/2019	06618(R4)	31/12/2018	NR	NR	Own

Table 51 - Summary of License and approvals for materials (July to December 2018) - MO – 03

(EPL: Environmental Protection License, TL: Trade License, IML: Industrial Mining License)

Type of Plant	Location	EPL		EPL, No/ER	TL		IML (GSMB)		IML No	Operated by
		From	To		From	To	From	To		
Quarry	Ridiyagama	1/4/2018	31/03/2019	14903 (R1)	5/1/2018	31/12/2018	8/5/2018	21/02/2019	IML/B/HO/11130/LR/1	Supplier
Crusher	Ridiyagama	21/09/2018	20/09/2019	15539 (R0)	4/1/2018	31/12/2018	NR	NR	NR	Supplier
Asphalt plant	Balangoda	5/2/2018	4/2/2019	06813 (R4)	23/01/2018	31/12/2018	NR	NR	NR	Supplier
Asphalt plant	Beliaththa	22/01/2018	21/01/2019	15532 (R0)	1/1/2018	31/12/2018	NR	NR	NR	Own
Batching Plant	Embilipitiya	16/07/2018	15/07/2019		5/1/2018	31/12/2018	NR	NR	NR	Supplier
Borrow pit	Sewanagala	ER Obtained		DO/MG/08/03/EC/34/2017	N/A	N/A	28/09/2018	27/09/2019	IML/A/HO/11459	Supplier

Table 52 - Summary of License and approvals for materials (July to December 2018) - MO – 04

(EPL: Environmental Protection License, TL: Trade License, IML: Industrial Mining License)

Type of Plant	Location	EPL		EPL No	TL		IML (GSMB)		IML No	Operated by
		From	To		From	To	From	To		
Quarry	Akkara 50, Yudaganawa, Buththala	24/12/2017	23/12/2018	CEA A 93655	1/1/2018	31/12/2018	29/03/2018	28/03/2019	ML/B/HO/8 895/LR/2	Supplier
Quarry	Akkara 50, Yudaganawa, Buththala	6/12/2017	5/12/2018	CEA A 76898	1/1/2018	31/12/2019	17/10/2017	16/10/2018	IML/B/HO/ 8304/LR/2	Supplier
Crusher plant	Akkara 50, Yudaganawa, Buththala	24/12/2017	23/12/2018	CEA A 76845	1/3/2018	31/12/2020	NR	NR	NR	Supplier
Asphalt plants	Kaluwara Wewa road, Bolhinda, Koggalla, Thelavilla	10/08/2018	09/08/2018	07039 (R3) Renewal serial no: 112430	1/1/2018	2018/12/31	NR	NR	NR	Own
Concrete Batching Plant	Akkara 50, Yudaganawa, Buththala	28/09/2018	27/09/2019	CEA A 93687	31/10/2018	30/10/2019	NR	NR	NR	Supplier

Table 53 - Summary of License and approvals for materials (July to December 2018) - MO – 05

(EPL: Environmental Protection License, TL: Trade License, IML: Industrial Mining License)

Type of Plant	Location	EPL	EPL No	TL	IML (GSMB)	IML No	Operated by
		Validity		Validity	Validity		
Quarry	Madagama	21/01/2019	UVB00672 (R0)	31/12/2018	31/01/2019	IML/B/HO/9159/LR/1	Supplier
Crusher Plant	Pitakubura, Bibila	25/08/2019	06379 (R5)	31/12/2018	NR	NR	Own
Asphalt Plant	Pitakubura, Bibila	25/08/2019	06378(R5)	31/12/2018	NR	NR	Own
Concrete Batching Plant	Bibila	26/11/2018	06618(R4)	31/12/2019	NR	NR	Own
		26/11/2019	06618(R5)				

Table 54 - Summary of License and approvals for materials (July to December 2018) - MO – 06

(EPL: Environmental Protection License, TL: Trade License, IML: Industrial Mining License)

Type of Plant	Location	EPL/ER		EPL No	TL		IML (GSMB)		IML No	Operated by
		From	To		From	To	From	To		
Metal Quarries	Wellawaya	1/7/2018	31/12/2018	06585(R3)	20/03/2018	31/12/2018	28/09/2018	31/12/2018	IML/B/HO/5824/LR/4	Supplier
ABC Crusher	Wellawaya	1/10/2018	30/09/2019	15913(R0)	31/12/2018		NR	NR	NR	Own
Asphalt Plant	Wellawaya	Installation in process								Own
Concrete batching plant	Athiliwewa	Land selected								Own
Borrow Pits	Mahaaragama	DO/MG/08/03/EC/27/2018			7/11/2018	31/12/2018	7/11/2018	17/07/2019	IML/B/HO/12453	Supplier
	Thelulla	DO/MG/08/03/EC/25/2018			7/11/2018	31/12/2018	22/10/2018	19/07/2019	IML/B/HO/12381	Supplier
	Ulkanda	DO/MG/08/03/EC/28/2018			7/11/2018	31/12/2018	7/11/2018	31/07/2019	IML/B/HO/12451	Supplier

Table 55 - Summary of License and approvals for materials (July to December 2018) - MO - 07

(EPL: Environmental Protection License, TL: Trade License, IML: Industrial Mining License)

Type of Plant	Location	EPL Validity	EPL No	TL Validity	IML (GSMB) Validity	IML No	Operated by
Quarry	Madagama	21/01/2019	UVB00672 (R0)	31/12/2018	31/01/2019	IML/B/HO/9159/LR/1	Supplier
Crusher Plant	Pitakumbura, Bibila	25/08/2019	06379 (R5)	31/12/2018	NR	NR	Own
Asphalt Plant	Pitakumbura, Bibila	25/08/2019	06378(R4)	31/12/2018	NR	NR	Own
Concrete Batching Plant	Bibila	26/11/2019	06378(R4)	31/12/2018	NR	NR	Own
Borrow pit	Samanala bedda, Kandaupanguwa	Process of obtaining license in progress			17/12/2019	IML/B/HO/8473/LR2	Supplier



Figure 35 - BA-01 Asphalt Plant



Figure 36 - BA-01 Crusher Plant



Figure 37 - MO-06 Crusher Plant

4.6 Context Sensitive Design (CSD) Applications

26. The Context Sensitive Design (CSD) concept was successfully practiced in Southern, Central, Sabaragamuwa, North Western, and North Central Provinces and Kalutara District. As a result of the concept success, it is introduced to the iRoad 2 (Uva) programme and incorporated to the Uva iRoad programme.

27. There have been awareness programs and field level trainings on CSD to develop the knowledge and skills related to field level application of the PIU and PIC staff. Field trainings on CSD applications were conducted by Mr. Saranga Gajasinghe and Mr. Malaka Wijesinghe on 18th September 2018 in BA – 03 and BA – 08 packages and 20th September 2018 in MO – 01 and MO – 02 packages for PIU and PIC staff including design and construction engineers. Along with that, two training sessions were conducted by Mr. Gajasinghe and Mr. Wijesinghe on 19th and 21st September 2018 in Badulla and Monaragala for all staff of PIU, PIC, and Contractors.



Figure 38 – Field training conducted by Mr. Gajasinghe in BA – 08 Package



Figure 39 – Landslide area on UMO 110 – MO – 01 Package identified to be constructed a retaining wall previously



Figure 40 – During the field training, identified culvert to improve the culvert in by road and introduced concrete drains to prevent landslide on figure 39

28. During the field trainings, Mr. Gajasinghe and Mr. Wijesinghe were able to illustrate CSD applications through site examples. For instance, field training at BA – 08 package was helpful for PIU and PIC staff to identify the importance of introducing hard shoulders with concrete drainages to prevent soil erosion instead of using a soft shoulder at UBA 273 due to the existing environmental conditions. It will also be useful to construct the road with existing corridor without land donations. Figure 39 exemplify another field lesson learnt during the training conducted by Mr. Gajasinghe at road UMO 110, MO – 01 Package. During the inspection at UMO 110, first the team identified to construct a retaining wall in the landslide prone area shown in figure 39 and later through the continued inspection along the site, it was identified that instead of a retaining wall, repairing the existing culvert (figure 40) and introducing concrete drains (less than 50 m) above the landslide area would be effective to prevent the future landslides.

29. Further, PIU and PIC staff was able to apply CSD applications during the designing work of each package by incorporating PIC and contractors' findings and public requests. As per the findings and public requests, design changes were made to the original designs of the roads. One of the applications was made by the ES and ESO of MO – 06 is to shift the centerline to save a tree adjacent to UMO 20 as shown in figure 41. Likewise, there have been several applications and Annex 02 summarizes the applications of CSD in each package.



Figure 41 - Saved tree at UMO 20 (2+650 LHS) – MO – 06 Package

4.7 Standard Environmental Monitoring Plan

30. Environmental baseline data are being collected to establish environmental baseline according to the standard environmental monitoring plan given in the contract document. Environmental monitoring will be carried out in design stage (environmental baseline data establishment), construction stage, and operational stage. Air quality, water quality, and noise level testing will be carried out in compliance with methods given in the National Air Quality Standards of Sri Lanka, National Water Quality Standards of Sri Lanka, and National Environmental Noise Control Regulations of Sri Lanka.

4.7.1 Ambient air quality

31. According to the contract document Volume III, Standard Environmental Monitoring Plan for Rural and National Roads, following parameters will be tested: TSPM, PM10, NO2, CO, SO2, Pb in 24 hours.

4.7.2 Water Quality

32. According to the contract document Volume III, Standard Environmental Monitoring Plan for Rural and National Roads, following parameters will be tested: Electric conductivity, BOD, pH, DO, TSS, Oil and Grease, Pb, Ecoli.

4.7.3 Noise Level

33. According to the contract document Volume III, Standard Environmental Monitoring Plan for Rural and National Roads, noise level will be tested using dB level in three times per day.

34. Locations to collect environmental baseline data have been finalized for each contract package (as shown in Table 56). Sampling at these locations have been scheduled for the first quarter of year 2019. Monitoring will be carried out according to the site requirement with PIU and PIC instruction and Supervision.

Table 56 - Environmental Baseline Data Collection Locations

SN	Package	Water Quality Testing Location	Ambient Air Quality Testing Location	Noise Quality Testing Location	Remarks
1	BA - 01	Nagadeepa Tank	Mahiyangan Town (stating point of UBA 004)	In front of Bandaranayake Central College, Mapakadawewa.	To be conducted
2	BA - 02	UBA 212	Asphalt Plant, Medayaya	Asphalt Plant, Medayaya	To be conducted
3	BA - 03	UBA 147	General Hospital Badulla	General Hospital Badulla	To be conducted
4	BA - 04	UBA 054, 2+800 LHS, 2+810 LHS, 3+200 LHS	Rookathenna tea factory (UBA 151.V, 4+120 LHS)	Rookathenna tea factory (UBA 151.V, 4+120 LHS)	To be conducted
5	BA - 05	Uma oya Upstream – UBA 361 starting point near Welimada Town, Uma oya Downstream – Near Welimada Muslim School	UBA 361 starting point near Welimada Town	UBA 361 starting point near Welimada Town	To be conducted
6	BA - 06	Badulu oya near BA 6 Office	Demodara Station, Ella Third Mile Post starting point	Demodara Station, Ella Third Mile Post starting point	To be conducted
7	BA - 07	Mahathenna Bypass - road ID 391 0+385 RHS maligathenna to Bandarawela main road - Road ID UBA 242 6+485 RHS	Bandarawela Hospital UBA 242 1+000 LHS, Maliththa Central College UBA 242 8+570 LHS	Bandarawela Hospital UBA 242 1+000 LHS	To be conducted

SN	Package	Water Quality Testing Location	Ambient Air Quality Testing Location	Noise Quality Testing Location	Remarks
8	BA - 08	UBA 196 Kelipanawela Road	Koslanda town, starting point - Koslanda - Punagala Road	Koslanda town, starting point - Koslanda - Punagala Road	To be conducted
9	MO - 01	To be mentioend	Namunukula Town, starting point Namunukula Miyanakadura Road (Rd no. 110 Chainage 0+000)	Namunukula Town, starting point Namunukula Miyanakadura Road (Rd no. 110 Chainage 0+000)	To be conducted
10	MO - 02	UMO 106 Jilone Road (four samples) Water Intake 3+600 LHS and Water Treatment Plant 1+300 RHS	UMO 116 Near by Sirigala Hospital to Magandanamulla Road 0+000	UMO 116 Near by Sirigala Hospital to Magandanamulla Road 0+000	To be conducted
11	MO - 03	Malakadura aara in road ID UMO89 location to be specified	Hathporuwa Markert Junction, Starting point of Cluster 02 (UMO138, UMO148, UMO150, UMO149)	Somadevi School 0+968 RHS (UMO138)	To be conducted
12	MO - 04	Pelwatta Passara Road (UMO 059) at 27+260 (RHS), Old Burutha junction to Kukurampola junction road (UMO 121.i) at 7+061 (LHS)	Pelawatta Junction	Dutugemunu School	To be conducted
13	MO - 05	To be mentioend	Asphalt plant (Contractor has done by their own cost)	Asphalt plant (Contractor has done by their own cost)	To be conducted
14	MO - 06	To be mentioend	Quality - 2+650 Road ID 21 (Sec. ii) Close to Kalukanda reserve forest	0+000, Road ID 20 - Atiliwewa junction	To be conducted
15	MO - 07	Dombagahawela Dematabedda - Maria Arawa Road (MO 54) Heda Oya Cause Way 3+120	Nearby Village Market (MO 57) 0+018	Nearby Pallewela Secondary School (MO 57) 0+840	To be conducted

4.8 Establishment of Public Awareness Mechanism and Grievances Redress Mechanism (GRM)

35. Communications between the implementing agency, implementing consultant, and other stakeholders such as government agencies, community of the area, local authorities, etc. were identified as a key component of the social and environmental safeguard during the project design stage, construction stage, and maintenance stage.

36. Public awareness mechanism established by the project implementing agency and project implementing consultants according to the RF and EARF. Public awareness was created through discussions, notices, complaint boxes, GRCs and public meetings, and public consultations. Establishing the GRCs at Grama Niladhari and Divisional Secretary levels is done on a progressive basis following the contractors work programme.

37. Sixteen number of Divisional Secretariate Level GRCs were established in Badulla District and one GRC to be formed. Eighteen number of Divisional Secretariate Level GRCs were established in Monaragala District and one GRC to be formed. Fifty four Grama Niladhari Level GRCs were formed in Badulla district and two hundred and fourty five to be established. In Monaragala District, eighty seven Grama Niladhari Level GRCs were formed and hundred and four to be established.



Figure 42 - Public consultations during the transect walk – MO 06



Figure 43 - Public consultations during the transect walk – MO 02 Package

4.8.1 Public awareness

38. The public awareness meeting was conducted by the PIU to aware all divisional secretaries in Badulla and Monaragala Districts and utility agencies (Electricity Board, NWSDB, and Sri Lanka Telecom) on 10th August 2018. Section 4.9.1 discussed more about the community awareness done through GRM and GRCs and table 57 summarizes the conducted GRC meetings so far.



Figure 44 - PIU, PIC, and other utility agencies attending the public awareness session

39. Public notices developed in local languages (Sinhala and Tamil) were displayed at community-attracted places in the project area. The main purpose of the notice was to create awareness among communities on the project, understand to how best the community can involve in project activities and how to make complains, suggestions, grievances and requests to the project. The public notice brought the key information about the project and contact numbers of relevant officers of the project whom to be contacted regarding social and environment issues.



Figure 45 - Notice published at BA - 08 Package



Figure 46 - Complaint box placed at BA - 08 Package

4.8.2 Channels of receiving public Grievances

40. A system of channels has been established to receive public suggestions, requests, complaints and grievances by the project. These include the system of placing complaint boxes, obtaining information through post, through telephone calls and the newly established online system using the mobile application developed by RDA. The public was clearly informed that they could follow any of the following channels in submitting their grievance to the project.

41. Contractors are provide complaint boxes in each road location of complaint boxes suggested and agreed by the GRC members. Public notices displayed and contact numbers included in the notices. During the GRC villages were addressed by PIU and PIC staff detail description of the project delivered to the villages and request, suggstions were encountered to the designs made by GRC members and villagers. Refreshing transect walk conducted after GRC meeting. Complaint registers maintain by the contractors and SGRS and ES of PIC – 06 periodically review the complaint register. All contractors summary of complaints, suggesions, and requests are included to the monthly Environmental and Social Progress Report.



Figure 47 - Public awareness were conducted during the GN level GRC UBA 199
– BA 02 Package

4.8.3 Complaints & suggestion

42. Availability of complain & suggestion box at the site has been identified as one of the effective methods to share views of communities prior to the designing stage. Complaint & suggestion boxes were installed at Contractor's site offices in all Contract packages and public are expected to put their written grievances in to the Complaint & Suggestion box. Complains and suggestions will be collected from the box at the end of each day. Environmental related complaitns were dust emission, water stagnation, and soil erosions. These issues were addressed by the contractors and ESSOs of PIC – 06 were closely supervised and reported to the ES.

4.8.4 Office of the Divisional Secretary

43. Divisional Secretary (DS) is the Government administrative officer at Divisional Level. DS also plays the role of chairperson of Grievance Redress Committee (GRC) established under the project at Divisional Secretary level (DSD)). A public notice also displayed at each GND offices in the project area.

44. In addition to the above channels, all the field staff of the project are instructed to accept public grievances and hand them over to the Project Engineer (PE), Environment Officer (EO), Social Safeguard Officer (SSO) on the same day or in failing which the following day for further action.

4.8.5 Office of Grama Niladari (GN)

45. Grama Niladari is the Government Administrative Officer at Grama Niladari Division (GND). GN also plays the role of the Chairman of the Grievance Redress Committee (GRC) established under the project at GND level. A public notice also displayed at each GND offices in the project area.

4.9 Consultation, Information Disclosure and Grievance Redress Mechanism

46. The public consultation and information disclosure are an important part of the environmental safeguard requirements under ADB SPS (2009). In addition, the NEA of GoSL also considers stakeholder engagement as a key element for successful management of environmental impacts.

47. Meaningful public consultations held early on and continuously throughout the project development stage to allow the incorporation of relevant views of the stakeholders in the final project road design, mitigation measures, implementation issues, and enhance the distribution of benefits. Stakeholders included project beneficiaries, local affected people, government bodies, and non-governmental organizations. The consultations must encourage participation of women and vulnerable groups (Handicapped people, senior citizens, schoolchildren) and engage as many stakeholders as possible.

4.9.1 Grievance Redress Mechanism

48. Grievance Redress Mechanism (GRM) is an arrangement for receiving, evaluating and facilitating the resolution of affected person's requests, complaints, suggestions and grievances on social and environmental performances of the project. Affected persons need a trusted way to voice and resolve project related concerns.

49. Grievance Redress Committees (GRCs) are being established at all GNDs in the project area with the objective of finding solutions for the grievances. Similarly, DSD level GRCs are also being formed to address grievances which cannot be solved in GND GRC. The details of GRC establishment are included in paragraph 37 up to 31st December 2018.

50. Composition of GND level GRC members were Grama Niladari of the area (Chairman), Representative of PIU (Secretary), Representative of Supervision Consultant (Member), Representative of Contractor (Member), A community member/religious leader (Member), and Woman representative from the local community (Member).

51. Composition of DSD Level GRC members are Divisional Secretary of the area (Chairman), Representative of PIU (Secretary), Grama Niladari (Member), Representative of Supervision Consultant (Member), Representative of Contractor (Member), Representative of a social organization (NGO/CBO) of the area (Member), a community member/religious leader (Member) and Woman representative from the local community (Member).

52. To make the GRM process gender responsive the GRC include at least one female member to represent the local community women. Further, when grievances or complaints submitted to the GRC, female complainers treated equally and necessary measures are taken to address the grievance in the best way possible.

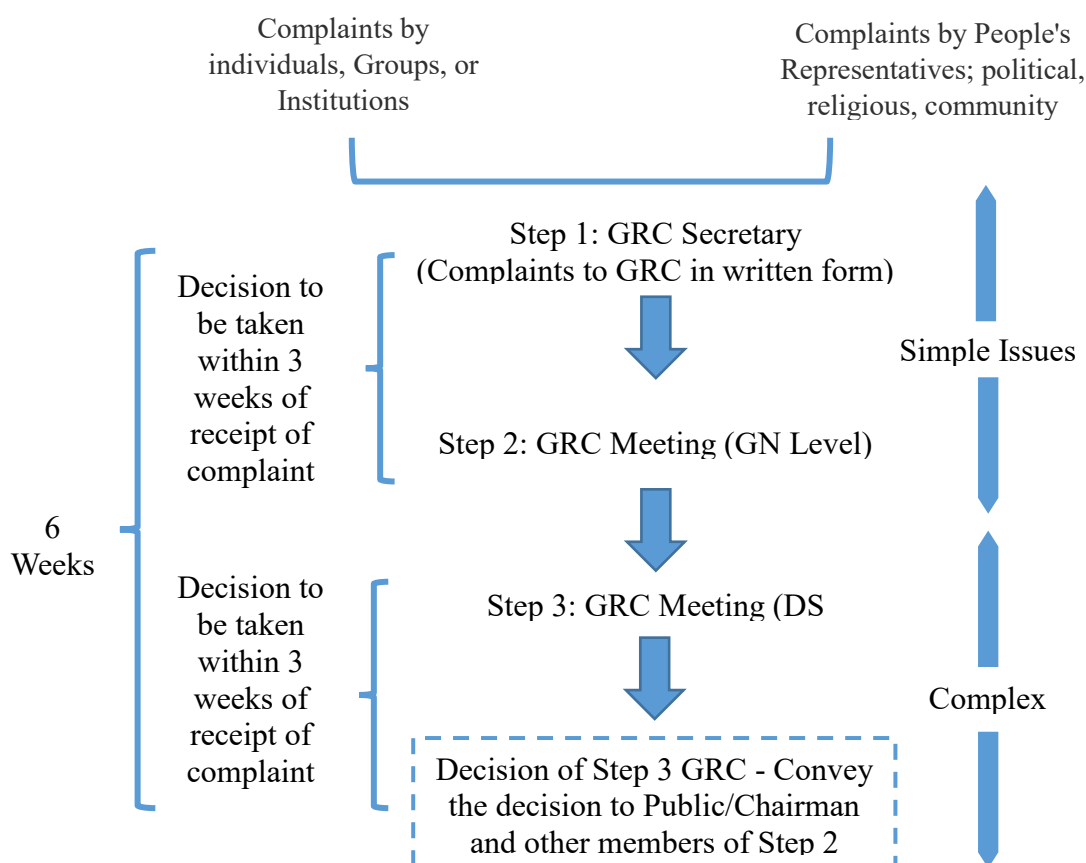


Figure 48 - The flow chart shows of the GRM process adapted in to the iRoad (Uva)

4.10 Maintenance of Records for Public Grievances

53. Maintenance of relevant records considered as a prime requirement. All the received complaints/suggestions are registered at the Project Manager's office of the Contractors.

54. It was evident that this mechanism was very effective and shown better results. All the grievances received were classified according to the nature. Annexure 03 summarizes the details related to grievances categories and number of grievances received per category.

55. Grievances from the affected people on social and environmental issues during project implementation addressed mainly through the existing local administrative system. Depending on the nature and significance of the grievances or complaints, grievances addressed at three levels. The first is at the grass roots level where complaints are directly received and addressed by the contractor, PIC or PIU representative on site.

56. During the reporting period, there have been 141 GRCs formed in GN level whereas 34 GRCs formed in DS level. 2 DS level GRCs and 349 GN level GRCs are to be formed.

57. Grievances, which were simple but still, cannot be addressed at the grass roots level addressed at the GND level. More complex grievances, which cannot be addressed at the GND level, addressed at the DSD level. The contractor and PIC – 06 resolved 120 grievances out of 177. Most of the grievances are requests or suggestions. All settled grievances were resolved in grassroot level and did not elevate to the GND or DSD GRC. Summary of complaints are included in Annexure 03.

Table 57 - Establishment of Grievance Redress Committees (GRCs) at Divisional Secretariat & Grama Niladhari Division Levels (Up to 31st of December 2018)

District	Package	Total No. of DSDs	DSD level		Total No. of GNDs	GND level	
			Established	To be Established		Established	To be Established
Badulla	BA 01	02	02	-	29	06	23
	BA 02	03	03	-	37	07	30
	BA 03	03	02	01	62	02	60
	BA 04	01	01	-	30	03	27
	BA 05	02	02	-	45	14	31
	BA 06	02	02	-	34	14	20
	BA 07	02	02	-	36	06	30
	BA 08	02	02	-	26	02	24
Sub Total		17	16	01	299	54	245
Monaragala	MO 01	02	02		29	17	12
	MO 02	04	04	-	25	11	14
	MO 03	02	02	-	24	14	10
	MO 04	03	02	01	21	08	13
	MO 05	03	03	-	31	09	22
	MO 06	03	03	-	37	16	21
	MO 07	02	02	-	24	12	12
Sub Total		19	18	01	191	87	104
Grand Total		36	34	02	490	141	349



Figure 49 - GRC formation in GN Level – BA – 04 Package

4.11 Environmental Monitoring Structure and Site Inspections

58. Senior Social Safeguard Officer, Social Safeguard Officer, and Environmental Safeguard Officer of PIU, Environmental Specialist, SGR Specialist, Environmental and Social Safeguard Officers of PIC and Environmental and Social Safeguard Officers and Safety Officers from contractors have conducted periodic site inspections, consultations, and public awareness in each contract package.

59. Senior Social Safeguard Officer, Social Safeguard Officer, and Environmental Safeguard Officer of PIU conducted stakeholder awareness and regular inspections in each contract package. Environmental Specialist and SGR Specialist of PIC assisted the PIU staff.

60. To ensure the application of SSEMAP and EMC on site and observe the compliance of environmental and social safeguards, field level ESSOs will conduct daily inspections.



Figure 50 - UBA 341 (BA – 04 Package) Road Inspection conducted by PIU, PIC, and Contractor. Project Director highlighted the importance of protecting roadside trees and instructed the contractor to save the tree near the roadside.

5.0 Issues Observed and Status of Compliance

Table 58 - Issues observed and mitigated September to December 2018

Construction Activity	Impact	Location (Road ID and package)	Mitigation measure/s proposed in the SSEMAP	Mitigation measure/s adopted	Monitoring indicator	Recommendations by PIC	Effectiveness
Roadside vegetation clearing	Soil erosion, sedimentation, damage and displacement of native flora and fauna.	All construction started roads specially Badulla District (BA 02, BA, 03, BA 05, BA 06, BA 07)	Minimize tree removing & replanting trees 1:3 ratio for removing, spreading water as required & removal of debris by manual, Reuse of soil as possible, design changes of the road works.	Minimized of clearing vegetation, proposed environmentally friendly designs, fauna and flora translocation, established of nurseries for very important plants, planting activities.	Demarcation of important areas regarding fauna and flora, number of plants relocated and replanted.	Daily monitoring of environmental sensitive sites by field level ESOs - PIC, design changes accordance with design engineers and the community representatives, discussion at GRC regarding land donations where the roads are narrow for road construction.	Contactors have given information to PIC regarding important fauna and flora locations and protected such areas as much as possible. Locations to be identified for replanting. Refer Table 58.

Construction Activity	Impact	Location (Road ID and package)	Mitigation measure/s proposed in the SSEMAP	Mitigation measure/s adopted	Monitoring indicator	Recommendations by PIC	Effectiveness
Extraction of materials (Gravel, metal, sand, etc.)	Vegetation damaged, dust generation, sedimentation, earth slips.	For all BA packages & MO01 Package Special attention to BA 08 Package in Haldumulla DS division & Haputhale DS division.	Maintain adequate slope and stepwise berm cut to use to prevent earth slips and soil erosion. Introduce silt traps and adequate drainage system to prevent soil erosions. Turfing will be used to prevent soil erosion.	Top soil of burrow areas and any other productive stripped to a specified depth of 150mm and only the required quantity stored as stockpiles, during dry season, water bowsters were deployed for watering to dust-suspension as required. Maintained adequate slope and stepwise berm cut to stabilize the embankment. Contractors were advised to establish silt traps and adequate drainage to minimize soil erosion and prevent sedimentation nearby lands.	Pre-identification of important vegetation types. Demarcation of soil extraction and cutting areas. Photographic monitoring of erosion and earth slip prone areas.	Daily monitoring of the sensitive and problematic sites. Redevelopment plan/restoration plan to be submit to the engineer before land handing over. Obtain no objection letter from the landowner and approval from PIC before project handing over.	Monitoring process underway.

Construction Activity	Impact	Location (Road ID and package)	Mitigation measure/s proposed in the SSEMAP	Mitigation measure/s adopted	Monitoring indicator	Recommendations by PIC	Effectiveness
Roadway and rock excavation	Generation of dust, excavated material disposal, embankment collapsing, fly rocks, public nuisance	BA packages and MO 01	Water spraying for dust suspension. Dispose excavated materials in approved disposal sites. Maintained adequate slope and stepwise berm cut to stabilize the embankment. Use control blasting methods to prevent fly rocks. Use traffic controllers to minimize the traffic congestion. Reuse excavated gravel materials as much as possible	Water spraying for dust suspension. Daily road cleaning after excavations. Material reuse for construction activities such as backfilling and sub-base construction. Dispose excavated materials in approved disposal sites. Maintained adequate slope and stepwise berm cut to stabilize the embankment. Use control blasting methods to prevent fly rocks. Use traffic controllers to minimize the traffic congestion.	Public complains, monitoring reports, contractors' health and safety records, public consultations, public complaints related to the house cracks.	Daily monitoring of the sensitive and problematic sites. Deploy qualified mining engineer to conduct rock blasting. Control blasting methods recommended implementing to minimize fly rocks. Use chemical blasting method as alternative to the conventional blasting. Crack survey complete before commencing the physical activities. Deploy traffic controllers and full-time safety officer. Keep construction site clean and tidy. Use approved disposal sites to dispose refused materials.	No or less dust observed at site. Minimize property damages. Minimize traffic congestion. Minimize or avoid public nuisance. Construction site will be safer to the workers and public.

Construction Activity	Impact	Location (Road ID and package)	Mitigation measure/s proposed in the SSEMAP	Mitigation measure/s adopted	Monitoring indicator	Recommendations by PIC	Effectiveness
Construction of concrete structures	Soil erosion and dumping of excavated materials adjoining the excavated area	MO – 01, MO – 05, and BA – 02	Use approved disposal sites to dispose the unsuitable materials. Stockpile reusable excavated materials in approved disposal site.	Commence the concrete work immediate after the excavation. Dispose all excavated unsuitable material in approved disposal sites.	No siltation appears in downstream and low lands. Minimum impact of dust emissions during the dry weather.	Cover excavated materials (suitable and unsuitable) until dispose or stockpiling in approved sites. Adopt temporary toe wall to prevent soil erosion.	No soil erosion and siltation observed in cut area or low lands.



Figure 51 - Water spraying for dust suspension at construction site – MO 06 Package



Figure 52 - Covering transport materials to avoid dust emission – MO - 02



Figure 53 - Covered stock pile to avoid wind erosion – MO 03 Package



Figure 54 - Restored disposal site – MO 06 Package



Figure 55 - Stock pile yard – MO 03 Package



Figure 56 - Traffic controlling – BA 01 Package

6.0 Programs and Activities to Enhance Environment

6.1 Tree planting programs

61. Tree Planting Programmes will be conducted to mitigate the environmental impacts due to removal of trees during the constructions. Land selections will be carried out by the Contractor with consultations of the PIC, mainly focused on public places such as schools, libraries and community grounds, etc. Planted trees were maintained by the schoolchildren and the public under the supervision of contractor's Environmental officer. All plants were tagged for monitoring purpose; this was monitored by the PIC, Environmental Specialist.

62. One tree-planting programme was conducted during the period by BA 07 (CML - MTD) package at Maliththa Central Collage, Maliththa and "Sanasuma" Elders Home, Amunudowe. Eighty-five saplings were planted in the programme, with consultations of PIC. Table 62 summarizes the status of tree removal and re-planting for each package. It should be noted that most contractors have scheduled the tree planting programmes towards the end of their civil works, i.e. towards the end of construction works.

Table 59 - Status of tree removal and re-planting in each contractor package

Contract Package	No. of Trees Removed	No. of Trees to be Re-planted	No. of tree planting programmes (Date)	No. of trees planted
Badulla district				
BA 01	1	3		-
BA 02	35	105		-
BA 03	11	33		-
BA 04	4	12		-
BA 05	No trees removed	-		-
BA 06	1	3		-
BA 07	12	36	1 (29-11-2018)	85
BA 08	No trees removed	-		-
Total	64	192		85
Monaragala district				
MO 01	75	225		-
MO 02	154	462		-
MO 03	1	3		-
MO 04	11	33		-
MO 05	0	0		-
MO 06	3	9		-
MO 07	1	3		-
Total	245	735		-



Figure 57 - Tree planting programme at Maliththa School conducted by BA - 07 Package on 29 November 2018



Figure 58 - Tree planting programme conducted at “Sanasuma” Elders Home, Amunudowe on 29th November 2018

6.2 In-house training

Table 60 – Details of in-house training conducted during the reporting period

SN	Date	Venue	Conducted By	Participants	Description
1	20/08/2018	"Udanee" Reception Hall Bandarawela	PIC & PIU Safeguard Team	PIU, PIC and Contractor's staff	o Training/Awareness on Environment and Social Safeguard Management
2	19/09/2018	"Udanee" Reception Hall Bandarawela	CSD Specialist -ADB ESDD - RDA	PIU, PIC and Contractor's staff was	o Training/Awareness on Environment and Social Safeguard Management and implementation of concept of CSD
3	21/09/2018	"Capital" Reception Hall Nakkala Monaragala	CSD Specialist -ADB ESDD - RDA	PIU, PIC and Contractor's staff was	o Training/Awareness on Environment and Social Safeguard Management and implementation of concept of CSD
4	03/10/2018	Team Leader's Office Bandarawela	Environmental Specialist -PIC	Moneragala District Environmental & Social Safeguard Officers & Safety Officers	o Submission of SSEMAP o Management of Disposal Sites o Environmental Clearance o Safety Management o Using of PPE o Issues at sites
5	13/10/2018	Team Leader's Office Bandarawela	Environmental Specialist -PIC, SGR Specialist - PIC	Badulla District Environmental & Social Safeguard Officers & Safety Officers	o Submission of SSEMAP o Management of Disposal Sites o Environmental Clearance o Safety Management o Using of PPE o Issues at sites

SN	Date	Venue	Conducted By	Participants	Description
6	26/11/2018	Resident Engineer's Office Bandarawela	Environmental Specialist -PIC, SGR Specialist - PIC, SSS Officer -RDA and EO - RDA	Badulla District Environmental & Social Safeguard Officers & Safety Officers	<ul style="list-style-type: none"> o Planning of Environment & Social Activities o Progress Presentations done by Eos o Site Safety Improvements & Issues o Social, Gender & Resettlement Improvements & Issues o Environmental Activities Improvements & Issues o Tree Planting & Other Social Activities o Online monitoring system
7	04/12/2018	Construction Engineers office (MO 06) at Ethiliwewa	Environmental Specialist -PIC, SGR Specialist - PIC, SSS Officer -RDA and EO - RDA	Badulla District Environmental & Social Safeguard Officers & Safety Officers	<ul style="list-style-type: none"> o Planning of Environment & Social Activities o Progress Presentations done by Eos o Site Safety Improvements & Issues o Social, Gender & Resettlement Improvements & Issues o Environmental Activities Improvements & Issues o Tree Planting & Other Social Activities o Online monitoring system



Figure 59 - Mr. S. Gajasinghe conducting Training Programme on 19.09.2018



Figure 60 - Mr. M. Wijesinghe conducting Training Programme on 19.09.2018



Figure 60 - Mr. S. Gajasinghe conducting Training Programme on 21.09.2018



Figure 62 - Mr. M. Wijesinghe conducting Training Programme on 21.09.2018



Figure 63 - Training Programme on 07.12.2018



Figure 64 - Training Programme on 04.12.2018

6.3 Proposed Awareness Programmes schedule 2019

63. Road safety training programmes for school children and teachers to be conducted by the PIC according to Appendix C, p.152, FAM, 2017 (iRoad 2). The PIC decided to include environmental awareness session in same programme to aware the school children regarding current environmental issues. Target audience varies from grade 1 to 11 and school teachers and parents would be included in when and where it is possible.

Table 61 – Schedule of Environmental Awareness Programmes

Contract Package	Proposed Month	Topics to be discuss
BA 01	June 2019	Water resources & it's protection Climate Change
BA 02	March 2019	Forest Fires & Water Scarcity
BA 03	August 2019	Forest Fires & Water Scarcity
BA 04	May 2019	Land Slides Climate Change
BA 05	July 2019	Forest Fires & Water Scarcity
BA 06	March 2019	Forest Fires & Water Scarcity
BA 07	February 2019	Land Slides Climate Change
BA 08	April 2019	Land Slides Climate Change
MO 01	May 2019	Water resources & it's protection Climate Change
MO 02	February 2019	Land Slides Climate Change
MO 03	February 209	Water resources & it's protection Climate Change
MO 04	July 2019	Water resources & it's protection Climate Change
MO 05	August 2019	Water resources & it's protection Climate Change
MO 06	January 2019	Water resources & it's protection Climate Change
MO 07	June 2019	Water resources & it's protection Climate Change

7.0 Conclusion and recommendations

64. iRoad 2 Programme in Uva province, include 15 Conventional Road Contracts, which are distributed in Badulla and Monaragala Districts of Uva Province, Sri Lanka. iRoad 2 in Uva province is the first programme which has started civil works in Second iRoad Programme. The CSD concept is being successfully practiced in iRoad 2 (Uva).

65. Environmental safeguard is a major component of the iRoad 2 (Uva) which is in compliance with Sri Lankan legislations and ADB safeguard policies (SPS 2009). Regular monitoring of environmental conditions and requirements of iRoad 2 (Uva) enable to keep the programme in line with environmental safeguards compliance as indicated in the FAM, EARF and IEER for the programme. Education and awareness programs are being conducted to all stakeholders to protect existing environment and its unique characteristics and mitigate harmful impacts due to road construction activities or operational activities.

66. Uva – iRoad Programme is adhering to the EMAP of the contract document which is signed by the contractors and the RDA and EARF prepared by the RDA. All contractors were aware by CSD Specialist of ADB and ESDD staff of RDA during the early stage of the project. PIU has conducted awareness programmes to build the capacity related to environmental safeguards of all contractors' ESOs.

67. All the contractors submitted initial SSEMAPs. The contractors ensure to update cluster/road wise SSEMAPs continuously. They comply the requirements of EMAP and EARF to ensure the environmental safeguards and its protection up to a satisfactory level. PD, TL, and safeguard team of PIU and PIC continuously guide the contractors and PIC engineering staff to protect the existing environment.

68. Following recommendations are given to keep up the quality and assurance of the environmental safeguard of iRoad 2 (Uva):

- Regular monitoring of the road construction sites that the contractors are compliance with approved Cluster/Road specific SSEMAPs.
- Education and awareness programs to public on environment safeguard.
- Record keeping and reporting of environmental related activities.
- Dissemination of the knowledge.
- In-house training programs regarding environment safeguard will be conducted to the staff.
- Education awareness programme for school children recommended to continue.
- Changed designs appropriate to the site conditions will be able to conserve roadside environment.
- Record keeping such as SSEMAPs' and EMCs' will be helpful to monitor environmental conservation progress in each road. This will be useful to take critical decisions.

69. This report contains the environmental compliances during period of 20th June 2018 to 31st December 2018. PIU, PIC and the all Contractors (CRCs) are aligning to the aspects of environmental safeguard including in IEE, EARF, RF and Contract Agreement. Next Annual Environmental Compliance Monitoring Report will be prepared to the period of 1st January 2019 to 31st December 2019.

Annexures

Annexure 1: Key PIC Staff Mobilized as at 31 December 2018

No	Position	Name	Mobilization	Duty Station
Key Experts				
International				
KI-01	Team Leader / Chief Resident Engineer	Paul Cox-Martin	11/07/18	Bandarawela
KI-02	FIDIC Contract & Claim Specialist	James T. Withington	To be mobilized	
National				
KN-01	Deputy Team Leader	P. Vidyaratna	29/10/18	TLO
KN-02	Resident Engineer 1	Anura Wijetunga	29/10/18	Badulla
KN-03	Resident Engineer - 2	Viraj Ekanayake	01/12/18	Bandarawela
KN-04	Resident Engineer 3	R.A.P. Wijewardena	14/08/18	Bibila
KN-05	Resident Engineer 4	R.A.P. Rubasinghe	20/08/18	Buttala
KN-06	Rural Road Design and Safety Engineer 1	H.M.W.D. Herath	01/09/18	Badulla & Bandarawela
KN-07	Rural Road Design and Safety Engineer 2	P.M. Vipulagama	01/09/18	Bibile & Buttala
KN-08	Rural Road Design and Safety Engineer 3	To be mobilized		TLO
KN-09	Structural Engineer - 1	W D R N Perera	15/07/18	TLO
KN-10	Structural Engineer - 2	To be mobilized		TLO
KN-11	Material Engineer - 1	N M Nawarathna	15/07/18	Bandarawela
KN-12	Material Engineer - 2	K K Lal Ranaweera	13/08/18	Badulla
KN-13	Material Engineer - 3	K L Gamini	15/10/18	Bibile
KN-14	Material Engineer - 4	G D S Ranasinghe	16/08/18	Buttala
KN-15	Quantity Surveyor - 1	W M S Wickramasinghe	15/10/18	Badulla
KN-16	Quantity Surveyor - 2	P.W.C.K. Dayaratne	13/09/18	Bandarawela
KN-17	Quantity Surveyor - 3	K. Amarasinghe	29/10/18	Bibile
KN-18	Quantity Surveyor - 4	K H Ajith Kumara	01/10/18	Buttala
KN-19	Environmental Specialist	Malaka Paranamanna	24/08/18	TLO
KN-20	Social / Gender / Resettlement Specialist	D A D Ranjith	18/09/18	TLO
KN-21	Contract & Claims Engineer	To be mobilized		TLO
KN-22	Assistant Resident Engineer 1	R M D C K Jayasekara	02/07/18	Badulla
KN-23	Assistant Resident Engineer 2	Nandana wijesuriya	17/12/18	Bandarawela
KN-24	Assistant Resident Engineer 3	A M S K Senavirathna	06/12/18	Bibile
KN-25	Assistant Resident Engineer 4	P G D L Gunawardana	01/09/18	Buttala

* Currently in an acting capacity

Annexure 2: CSD application as per PIC and Contractor findings and Public Requests

SN	Package	Road ID	Name of the Road	Request	Request made by	Changes made	Status of Satisfaction
1	BA - 01	UBA 113	Paharagammana Road (Bodiya) to Senanigama School Road	Parking improvement in front of Senanigama primary school	Principal	0+835 - 0+855 LHS location enhancing the parking area and introducing rumble strips. Demarcating the road crossing area using white lines.	Design in progress
2	BA - 02	UBA 295	Polagaharawa Main Road	New Culvert	Transect Walk People	2+410 - New culvert under construction	Satisfied - Construction in progress
3	BA - 02	UBA 295	Polagaharawa Main Road	New Culvert	Transect Walk People	2+680 - New culvert under construction	Satisfied - Construction in progress
4	BA - 02	UBA 295	Polagaharawa Main Road	New Culvert	Transect Walk People	3+600 - New culvert under construction	Satisfied - Construction in progress
5	BA - 04	UBA 054	Dematawalhinna Via Dalukhinna Road	Protect the water spring at LHS of the road UBA 054, 2+800	Transect walk participant	Shift the center line toward the RHS and Build-up a retaining wall to protect the spring at LHS at 2+800, Protect the spring by introducing a proper concrete structure	Design in progress

SN	Package	Road ID	Name of the Road	Request	Request made by	Changes made	Status of Satisfaction
6	BA - 04	UBA 316	Silpolagama to Unagolla Road	Request to avoid the water flow across the road	Transect walk participant	Build up a cross drain at 0+320	Design in progress
7	BA - 05	UBA 361	Welimada - Kerandimulla Road	New culvert	Transect walk participant	New culvert to be constructed at 1+068km	Design in progress
8	BA - 05	UBA 290	Pelwinna Road (from pelwinna Junction)	Due to culvert lead away, rain water flows over villagers paddy land and covered with sand. Because of that they requested to change proposed drain pathway.	Peliarawa Farmers	Changed the drain path and diversion of storm water in to another culvert	Design in progress
9	MO - 01	UMO 028	Badalkumbura Karawilaella Road	Request for retaining wall	Principal	Retaining wall was under construction with a protection fence.	Satisfied - Construction in progress
10	MO - 01	UMO 031	Badalkumbura - Bogahapelessa lunugala Janapadaya road	Remove a tree and reduce a bend	Villagers	Tree was removed and bend was smoothed (Improve safety)	Satisfied
11	MO - 02	UMO 144	Batugammana Waralanda Road	Protect the 'BO' tree at 0+153 LHS	Transect walk participant	Shifting of Center Line at 0+153 LHS	Satisfied

SN	Package	Road ID	Name of the Road	Request	Request made by	Changes made	Status of Satisfaction
12	MO - 02	UMO 140	Weheragala Ampitiya Road	Protect the 'BO' tree at 5+050 RHS	Transect walk participant	Shifting of Center Line at 5+050 RHS	Satisfied
13	MO - 02	UMO 147	Madukotana Arawa Helatunthala Punsisigama Junction Road	Protect the 'Jak' tree 2+544 RHS	Transect walk participant	Shifting of Center Line at 2+544 RHS	Satisfied
14	MO - 03	UMO 138	Hathporuwa pola junction to somadevi school road	Increase road width up to 6.2 m	Transect walk participant	Increase the asphalt width up to 6.2m	Satisfied
15	MO - 04	UMO 122	Palwatta Co-operative via Gonagodalla-Kukurampola Road	New culvert	D.M. Lahiru Janaka	New culvert to be constructed at 0+139	Design in progress
16	MO - 04	UMO 122	Palwatta Co-operative via Gonagodalla-Kukurampola Road	New culvert	Transect walk participant	New culvert to be constructed at 1+320 & 1+541	Design in progress
17	MO - 04	UMO 120	Okkampitiya-Dabeyaya road	Improve bends	Transect walk participant	Widening the bend at Ch. 0+525 towards LHS to improve safety	Design in progress

SN	Package	Road ID	Name of the Road	Request	Request made by	Changes made	Status of Satisfaction
18	MO - 04	UMO 072	Horambawa-Suduwathura aara-Galtemandiya Road	Improve bends	Transect walk participant	Widening the sharp bends to improve safety	Design in progress
19	MO - 04	UMO 121.ii	Divisional irrigation engineer, Buththala	Request from regional irrigation engineer construct the causeway along the Rahathangama tank without changing spill level & reducing the causeway length.	Divisional irrigation engineer, Buththala	causeway design is in progress considering their request	Design in progress
20	MO - 04	UMO 121.ii	Niranjan Aththanayaka, secretary, unit of Agriculture Oraganization, No: 15/16, Rahathangama, Buththala.	Request construct the spill way of the Rahathangama tank.	Niranjan Aththanayaka, secretary, unit of Agriculture Oraganization, No: 15/16, Rahathangama, Buththala.	causeway design is in progress considering their request	Design in progress

Annexure 3: Classified Summary of Public Grievances, Requests, Suggestions and Complaints

District	Package	No. of road in work progress (including maintenance)	No. of Requests	No. of Suggestions	No. of Complaints	Total	No. of Completely Settled	Solutions in progress
Badulla	BA 01	05	04	00	01	05	05	00
	BA 02	04	12	00	01	13	03	10
	BA 03	02	04	01	00	05	04	01
	BA 04	09	07	00	03	10	06	04
	BA 05	04	02	01	02	05	03	02
	BA 06	02	07	00	02	09	09	00
	BA 07	02	16	01	05	22	09	13
	BA 08	02	06	00	00	06	00	06
Sub Total		30	58	03	14	75	39	36
Monaragala	MO 01	04	06	00	00	06	02	04
	MO 02	04	56	00	00	56	49	07
	MO 03	04	16	00	01	17	14	03
	MO 04	03	07	00	00	07	04	03
	MO 05	02	00	00	01	01	01	00
	MO 06	02	08	00	00	08	08	00
	MO 07	02	04	00	03	07	03	04
Sub Total		21	97	00	05	102	81	21
Grand Total		51	155	03	19	177	120	57