



National Highway Authority of India
(Ministry of Road Transport & Highways)

PATEL SETHIAHOPU - CHOLOPURAM HIGHWAY PRIVATE LIMITED

Four laning of Sethiyahopu - Cholopuram from Km 65.960 to
Km.116.440 section of NH-45C in the state of Tamil Nadu under
NHDP Phase-IV on Hybrid Annuity Mode.

INDEPENDENT ENGINEER
M/s. Theme Engineering Services Pvt. Ltd

MONTHLY PROGRESS REPORT
FEBRUARY 2019

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Executive Summary

The old National Highway (NH -36) runs through the state of Tamil Nadu. The project road is part of the 168 km long Vikravandi to Thanjavur section of the existing National Highway 36 (NH-36). Recently MORTH has amended the number and Length of the National Highways. The old NH 12 in the state of Tamil Nadu has become the part of the New National Highway 45C. It links Chennai with Thanjavur and is 418 km long.

The Sethiyahopu to Cholopuram section of NH-45C is an important link to connect Metropolitan city of Chennai to religious and tourist places of Cholopuram, Thanjavur, kumbakonam, Puducherry. The project is also expected to provide improved connectivity to other religious places & other major cities like Rameswaram, Madurai, Tiruchirappalli, etc.

Project Synopsis

The Government of India had entrusted to the National Highway Authority of India (NHAI) the development, maintenance and management of National Highway No. 45C including the section from km 65.960 to Km 116.440 (approx. 50.480 Km). The Authority had resolved to augment for four Laning of Sethiyahopu - Cholopuram from Km 65.960 to Km 116.440 section of NH - 45C in the State of Tamil Nadu under NHDP Phase-IV on design, build, operate and transfer (the "DBOT Annuity" or "Hybrid Annuity") basis.

The scope of work will broadly include rehabilitation, upgradation and widening of the existing carriageway to four - lane standards with construction of new pavement, rehabilitation of existing pavement, construction and/or rehabilitation of major and minor bridges, culverts, road intersections, interchanges, drains etc. Including those prescribed in the Concession Agreement and its Schedule and the operation and maintenance itself. The map of project road is given in Figures below. The details of habitations are given in table - 01.

Figure 1: Project Location Map

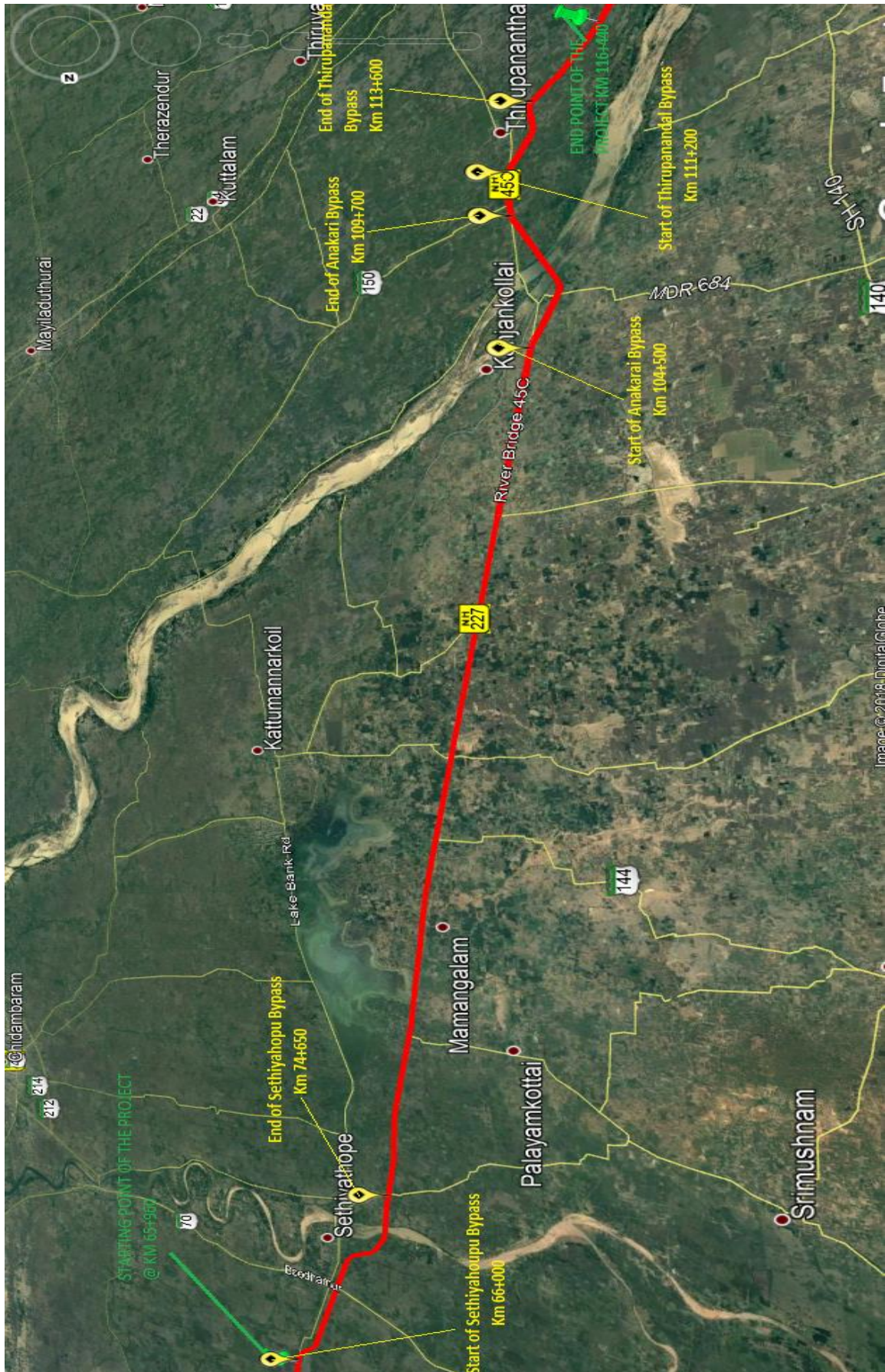
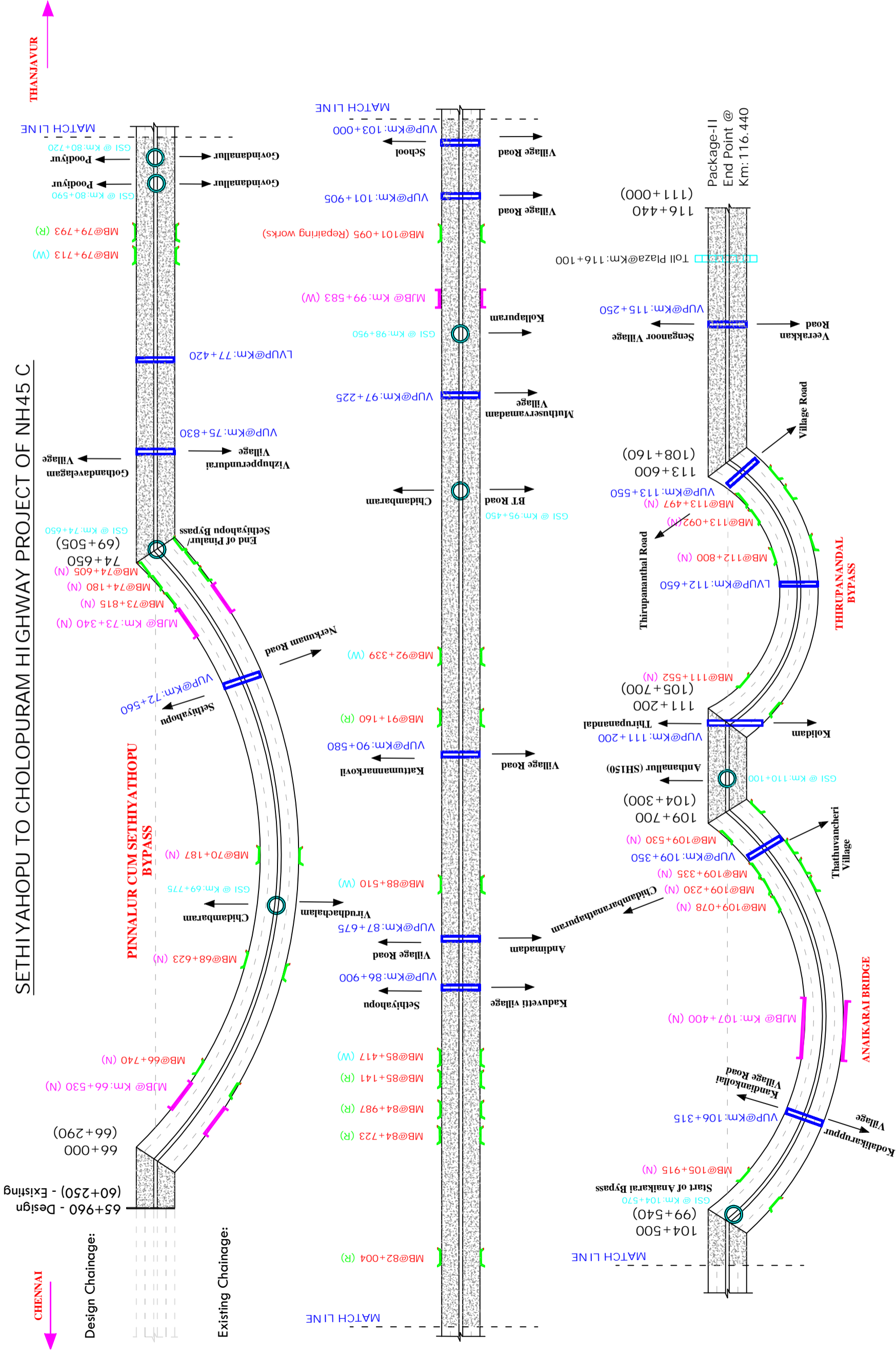


Table - 1.1 : Details of Project Alignments

Figure 2: Project Alignment Map

SETHIYAHOPU TO CHOLOPURAM HIGHWAY PROJECT OF NH45 C



THANJAVUR

CHENNAI

Design Chainage:

Existing Chainage:

Pinnaluru /Sethiyathopu Bypass
Km: 66+000 to 74+650

SI No	Description	Unit	Quantity
1.	Culvert	Nos.	05
2.	Minor Bridge	Nos.	06
3.	Major Bridge	Nos.	02
4.	VUP/LVUP	Nos.	01
5.	Grade Separator	Nos.	02

Widening of Existing Road
Km: 74+650 to 104+500

SI No	Description	Unit	Quantity
1.	Culvert	Nos.	29
2.	Minor Bridge	Nos.	10
3.	Major Bridge	Nos.	01
4.	VUP/LVUP	Nos.	08
5.	Grade Separator	Nos.	04

Anaikarai Bypass
Km: 104+500 to 109+700

SI No	Description	Unit	Quantity
1.	Culvert	Nos.	12
2.	Minor Bridge	Nos.	05
3.	Major Bridge	Nos.	01
4.	VUP/LVUP	Nos.	02
5.	Grade Separator	Nos.	01

Widening of Existing Road
Km: 109+700 to 111+200

SI No	Description	Unit	Quantity
1.	Culvert	Nos.	6
2.	Minor Bridge	Nos.	-
3.	Major Bridge	Nos.	-
4.	VUP/LVUP	Nos.	01
5.	Grade Separator	Nos.	01

Thirupananthandal Bypass
Km: 111+200 to 113+600

SI No	Description	Unit	Quantity
1.	Culvert	Nos.	-
2.	Minor Bridge	Nos.	04
3.	Major Bridge	Nos.	-
4.	VUP/LVUP	Nos.	02
5.	Grade Separator	Nos.	-

Widening of Existing Road
Km: 113+600 to 116+440

SI No	Description	Unit	Quantity
1.	Culvert	Nos.	08
2.	Minor Bridge	Nos.	-
3.	Major Bridge	Nos.	-
4.	VUP/LVUP	Nos.	01
5.	Toll Plaza	Nos.	01

LEGEND:

- Major Bridge (MJB)
- Minor Bridge (MB)
- Grade Separated Structure
- Toll Plaza
- Vehicle Under Pass (LVUP/VUP)
- Reconstruction of Existing Road
- Bypass/Newconstruction

Salient Features of Project:

SI No	Description	Unit	Scope
1.	Total Length of Project	Km	50.480
2.	Length of Widening Portion	Km	34.230
3.	Length of Bypass	Km	16.250
4.	Length of service/Slip Road	Km	27.100
5.	Culverts	Nos.	53
6.	Slab Culvert	Nos.	07
7.	Minor Bridge	Nos.	25
8.	Major Bridge	Nos.	04
9.	VUP/LVUP	Nos.	15
10.	Grade Separated Structure	Nos.	08
11.	Minor Intersection	Nos.	07
12.	Major Intersection	Nos.	09
13.	Bus Bays and Shelters	Nos.	01

Drawing Title

Strip Plan - Sethiyahopu to Cholapuram Highway Project

Date:	31-08-2018
Project No.	PSCHP/NHA/TN/001

Existing and Proposed Alignments							
Sl. no.	Existing Chainage (Km)		Design Chainage (Km)		LENGTH (Km)	TCS Type	Remarks
	From	To	From	To			
1	60.250	Bypass	65.960	69.460	3.500	Type-A-3 (Fig 2.4 of the manual)	Bypass
2	Bypass	Bypass	69.460	70.090	0.630	Figure 7.8- Grade separator and its approaches with RE wall and both side 5.5 m wide Slip road	
3	Bypass	Bypass	70.090	72.350	2.260	Type-A-3 (Fig 2.4 of the manual)	Bypass
4	Bypass	Bypass	72.350	72.775	0.425	Figure 7.8- Grade separator and its approaches with RE wall and both side 5.5 m wide Slip road	
5	Bypass	Bypass	72.775	74.335	1.560	Type-A-3 (Fig 2.4 of the manual)	Bypass
6	Bypass	69.820	74.335	74.960	0.625	Figure 7.8- Grade separator and its approaches with RE wall and both side 5.5 m wide Slip road	
7	69.820	70.375	74.960	75.520	0.560	Type-A-3 (Fig 2.4 of the manual)	Eccentric Widening
8	70.375	71.010	75.520	76.150	0.630	Figure 7.8- Grade separator and its approaches with RE wall and both side 5.5 m wide Slip road	
9	71.010	71.855	76.150	76.900	0.750	Type-B (Fig 2.6 of the manual) with both side service road	Eccentric Widening
10	71.855	72.170	76.900	77.220	0.320	Type-B (Fig 2.6 of the manual) with both side service road	Concentric Widening
11	72.170	72.570	77.220	77.620	0.400	Figure 7.8- Grade separator and its approaches with RE wall and both side 5.5 m wide Slip road	
12	72.570	72.800	77.620	77.850	0.230	Type-B (Fig 2.6 of the manual) with both side service road	Concentric Widening
13	72.800	73.230	77.850	78.300	0.450	Type-B (Fig 2.6 of the manual) with both side service road	Eccentric Widening
14	73.230	75.105	78.300	80.150	1.850	Type-A-3 (Fig 2.4 of the manual)	Eccentric Widening
15	75.105	76.080	80.150	81.120	0.970	Figure 7.8- Grade separator and its approaches with RE wall and both side 5.5 m wide Slip road	
16	76.080	76.460	81.120	81.500	0.380	TCS-1	Concentric Widening
17	76.460	77.000	81.500	82.240	0.740	Type-A-3 (Fig 2.4 of the manual)	Eccentric Widening
18	77.000	78.115	82.240	83.150	0.910	Type-B (Fig 2.6 of the manual) with both side service road	Eccentric Widening
19	78.115	79.110	83.150	84.150	1.000	Type-B (Fig 2.6 of the manual) with both side service road	Concentric Widening
20	79.110	79.510	84.150	84.550	0.400	Type-B (Fig 2.6 of the manual) with both side service road	Eccentric Widening
21	79.510	80.610	84.550	85.650	1.100	Type-A-3 (Fig 2.4 of the manual)	Eccentric Widening
22	80.610	81.555	85.650	86.580	0.930	Type-B (Fig 2.6 of the manual) with both side service road	Concentric Widening
23	81.555	82.170	86.580	87.210	0.630	Figure 7.8- Grade separator and its approaches with RE wall and both side 5.5 m wide Slip road	
24	82.170	82.320	87.210	87.360	0.150	Type-B (Fig 2.6 of the manual) with both side service road	Concentric Widening

25	82.320	82.910	87.360	87.990	0.630	Figure 7.8- Grade separator and its approaches with RE wall and both side 5.5 m wide Slip road	
26	82.910	83.180	87.990	88.265	0.275	Type-B (Fig 2.6 of the manual) with both side service road	Concentric Widening
27	83.180	83.660	88.265	88.745	0.480	Type-A-3 (Fig 2.4 of the manual)	Eccentric Widening
28	83.660	85.220	88.745	90.265	1.520	Type-B (Fig 2.6 of the manual) with both side service road	Concentric Widening
29	85.220	85.850	90.265	90.895	0.630	Figure 7.8- Grade separator and its approaches with RE wall and both side 5.5 m wide Slip road	
30	85.850	86.555	90.895	91.600	0.705	Type-A-3 (Fig 2.4 of the manual)	Eccentric Widening
31	86.555	87.015	91.600	92.050	0.450	TCS-1	Concentric Widening
32	87.015	87.525	92.050	92.560	0.510	Type-A-3 (Fig 2.4 of the manual)	Eccentric Widening
33	87.525	90.000	92.560	95.035	2.475	Type-B (Fig 2.6 of the manual) with both side service road	Concentric Widening
34	90.000	90.830	95.035	95.865	0.830	Figure 7.8- Grade separator and its approaches with RE wall and both side 5.5 m wide Slip road	
35	90.830	91.350	95.865	96.400	0.535	Type-B (Fig 2.6 of the manual) with both side service road	Concentric Widening
36	91.350	91.970	96.400	96.910	0.510	TCS-1	Concentric Widening
37	91.970	92.460	96.910	97.535	0.625	Figure 7.8- Grade separator and its approaches with RE wall and both side 5.5 m wide Slip road	
38	92.460	93.550	97.535	98.535	1.000	TCS-1	Concentric Widening
39	93.550	94.370	98.535	99.335	0.800	Figure 7.8- Grade separator and its approaches with RE wall and both side 5.5 m wide Slip road	
39A	94.370	94.875	99.335	99.840	0.505	Type-A-3 (Fig 2.4 of the manual)	Eccentric Widening
40	94.875	95.350	99.840	100.300	0.460	Type-B (Fig 2.6 of the manual) with both side service road	
41	95.350	96.630	100.300	101.590	1.290	Type-A-3 (Fig 2.4 of the manual)	Eccentric Widening
42	96.630	97.260	101.590	102.225	0.635	Figure 7.8- Grade separator and its approaches with RE wall and both side 5.5 m wide Slip road	
43	97.260	97.720	102.225	102.685	0.460	Type-B (Fig 2.6 of the manual) with both side service road	Eccentric Widening
44	97.720	98.360	102.685	103.315	0.630	Figure 7.8- Grade separator and its approaches with RE wall and both side 5.5 m wide Slip road	
45	98.360	99.190	103.315	104.160	0.845	Type-B (Fig 2.6 of the manual) with both side service road	Eccentric Widening
46	99.190	Bypass	104.160	104.990	0.830	Figure 7.8- Grade separator and its approaches with RE wall and both side 5.5 m wide Slip road	
47	Bypass	Bypass	104.990	106.000	1.010	Type-A-3 (Fig 2.4 of the manual)	Bypass

48	Bypass	Bypass	106.000	106.625	0.625	Figure 7.8- Grade separator and its approaches with RE wall and both side 5.5 m wide Slip road	
49	Bypass	Bypass	106.625	109.035	2.410	Type-A-3 (Fig 2.4 of the manual)	Bypass
50	Bypass	104.260	109.035	109.660	0.625	Figure 7.8- Grade separator and its approaches with RE wall and both side 5.5 m wide Slip road	
51	104.260	105.015	109.660	110.515	0.855	Figure 7.8- Grade separator and its approaches with RE wall and both side 5.5 m wide Slip road	
52	105.015	105.390	110.515	110.890	0.375	Type-B (Fig 2.6 of the manual) with both side service road	Eccentric Widening
53	105.390	Bypass	110.890	111.515	0.625	Figure 7.8- Grade separator and its approaches with RE wall and both side 5.5 m wide Slip road	
54	Bypass	Bypass	111.515	112.430	0.915	Type-A-3 (Fig 2.4 of the manual)	Bypass
55	Bypass	Bypass	112.430	112.840	0.410	Figure 7.8- Grade separator and its approaches with RE wall and both side 5.5 m wide Slip road	
56	Bypass	Bypass	112.840	113.225	0.385	Type-A-3 (Fig 2.4 of the manual)	Bypass
57	Bypass	108.410	113.225	113.850	0.625	Figure 7.8- Grade separator and its approaches with RE wall and both side 5.5 m wide Slip road	
58	108.410	109.395	113.850	114.835	0.985	Type-A-3 (Fig 2.4 of the manual)	Eccentric Widening
59	109.395	110.220	114.835	115.660	0.825	Figure 7.8- Grade separator and its approaches with RE wall and both side 5.5 m wide Slip road	
60	110.220	111.000	115.660	116.440	0.780	Type-A-3 (Fig 2.4 of the manual)	Eccentric Widening

1.1. Project Overview

Name of Work	Four Laning of Sethiyahopu-Cholopuram from km. 65.960 to Km.116.440 of NH-45C under NHDP-IV on Hybrid Annuity Mode Basis
Name of Employer	National Highways Authority of India (NHAI) G-5 & 6, Sector-10, Dwarka, New Delhi -110075
Name of Concessionaire	Patel Sethiyahopu – Cholopuram Highway Pvt Ltd, Patel House, Beside Prakruti Resorts, Channi Road,Vadodara. Gujarat– 391740 Tel: +91-265 277 6678 Fax: +91-265 277 7878
Independent Engineer	M/s. Theme Engineering Services Pvt. Ltd, S.F B1&B2, gateway Apartments, koranattu Karuppur, Kumbakonam – 612501.
EPC Contractor	M/s. Patel Infrastructure Limited, Patel House, Beside Prakruti Resorts, Channi Road,Vadodara Gujarat– 391740, Tel: +91-265 277 6678 Fax: +91-265 277 7878
Design Consultant	CTL Global Services Pvt. Ltd.. 101, 1st Floor, Krishna Chambers, HAL, Airport Road, Bangalore-560017
Senior Lender	Punjab National Bank, Large Corporate Branch, Neelkamal Building, Opp. Sales India, Ashram Road, Ahmedabad - 380009
Lenders Independent Engineers	Sharul Techno-Financial Consultancy Services Pvt. Ltd., 403, Aspire Tower 5, Amanora Park Town, Hadapsar, Pune - 411028.
Length of Road (Design Length)	50.480 Kms
Total Bid Cost	Rs. 1461.00 Crores (as per concession agreement)
Date of Concession Agreement	November 9, 2017
Concession Period	17 Years (Construction Period 2 Years from Appointed date, Operation period 15 years from COD)
Appointed Date	16.08.2018
Construction Period	2 years from Appointed date
Completion Date	15.08.2020
Maintenance Period	15 years from COD

1.2. Salient Project Features

Besides the construction of new carriageways and widening and strengthening of existing carriageways, the following table summaries the major elements of the project construction:

4 - Lane Divided Carriage Way	50.48 Km.
Service Road/ Slip Road	26.595 Km
Major Bridge	04 Nos.
Minor Bridge	25 Nos.
Grade Separate Intersection	08 Nos.
Vehicular Underpass	13 Nos.
Light Vehicular Underpass	2 Nos.
Box Culverts	53 Nos.
Slab Culverts	07 Nos.
Major Intersections	100 Nos.
Minor Intersections	07 Nos.
Bus Bays	09 Nos.
Toll Plaza	01 Nos.

1.3. Contractual Project Milestones

Following is a listing of the Key Project Milestones:

Mile Stone	Description	Target Date
Mile Stone-I	Concessionaire shall expended not less than 20 % of the Total capital cost and shall have commenced construction of the project and achieved 20% of physical progress on 214 th day from the Appointed Date.	18 th March 2019
Mile Stone-II	Concessionaire shall expended not less than 35% of the Total capital cost and shall have commenced construction of the project and achieved 35% of physical progress on 334 th day from the Appointed Date	16 th July 2019
Mile Stone-III	Concessionaire shall expended not less than 75 % of the Total capital cost and shall have commenced construction of the project and achieved 75% of physical progress on 584 th day from the Appointed Date	22 nd March 2020
Scheduled Completion	Concessionaire shall have completed Project on 730 th day from the Appointed Date	15 th August 2020

1.4. Payment milestone during Construction Period

Payment Milestone	Eligibility Criteria	Payment Amount (Rs.)
Milestone-I	On Achievement of 10% of Physical Progress	116.88 Crs.
Milestone-II	On Achievement of 30% of Physical Progress	116.88 Crs.
Milestone-III	On Achievement of 50% of Physical Progress	116.88 Crs.
Milestone-IV	On Achievement of 75% of Physical Progress	116.88 Crs.
Milestone-V	On Achievement of 90% of Physical Progress	116.88 Crs.

1.5. Permits & Approvals

Sr. No.	Details	Authority	Current Status	Remarks
1	Extraction of Boulders from Quarries	Dist. Mining Officer	Obtained	We have executed an agreement with Mr. Thiru V. Sekar for supply of boulders that is having a valid license for extraction of boulders for the quarry at Padalur Village, Perambalur District.
2	Installation of Crusher	Village Panchayat Head	Obtained	
3	-----D O-----	Pollution Control Board	Obtained	
4	Use of Explosives	District Collector	Obtained	
5	Labour License	Labour Commissioner	Obtained	
6	Environmental Clearance		NA	

Sr. No.	Details	Authority	Current Status	Remarks
7	Trees Cutting Permission	Forest department through NHAI	Obtained & work is in Progress	Tree felling permission obtained for all the three districts & Work in Progress.
8	Electric Poles Shifting	Tamil Nadu Electricity Board	In progress	Work in progress in all Three districts.
9	Water Pipes Shifting	Tamilnadu Water Supply and Drainage Board	In Progress	All the estimates are approved and Work in Progress.
10	Drawing Water from river/ reservoir		NA	

2. Right of Way Status

2.1. Land Acquisition

As per the Schedule – A of Concession Agreement, the Proposed Right of Way (ROW) is of 45 & 60 meters as per table below.

Table 2.1-1: Details of proposed ROW as per Schedule-A				
	Design Chainage (Km)	Design Length (Km)	Width (m)	Remarks
Full Right of Way (full width)				
Stretch	65.960 to 75.150	9.190	60.00	Within 15 days of date of Agreement.
Stretch	75.150 to 82.380	7.230	45.00	
Stretch	82.380 to 83.080	0.700	60.00	
Stretch	83.080 to 84.050	0.970	45.00	
Stretch	84.050 to 86.440	2.390	60.00	
Stretch	86.440 to 87.660	1.220	52.50	
Stretch	87.660 to 91.730	4.070	45.00	
Stretch	91.730 to 93.730	2.000	52.50	
Stretch	93.730 to 95.900	2.170	45.00	
Stretch	95.900 to 99.700	3.800	60.00	
Stretch	99.700 to 104.500	4.800	30.00	
Stretch	104.500 to 109.700	5.200	60.00	
Stretch	109.700 to 110.980	1.280	30.00	
Stretch	110.980 to 113.700	2.720	60.00	
Stretch	113.700 to 116.440	2.740	30.00	
Total Length		50.480		
Balance Right of way (width)				
	Design Chainage (Km)	Design Length (Km)	Width (m)	Within 90(Ninety) days of the Appointed date
Stretch	099.700 to 104.500	4.800	15.00	
Stretch	109.700 to 110.980	1.280	15.00	
Stretch	113.700 to 116.400	2.740	15.00	

Besides this, the Authority has to acquire additional land at Toll plaza location, Bus bays, Turning radius at Major junctions.

Table 2.1-2: Status of Land Acquisition as per Site Condition.				
Sl. No.	Description	Unit	Present Status	Remarks
A)	Total Length of the Project Highway	Km	50.48	
1	Use of Existing Road Portion	Km	34.23	
2	Proposed Bypass / Realignment portion	Km	16.25	
B)	Hindered Length			
1.	LA pending	Km	7.620	
2.	Payment Pending	Km	9.770	
3.	Existing Buildings	Km	4.605	
4.	Temple & Bus stand	Km	0.105	
5.	Electrical Lines	Km	4.100	
6.	Rural Water Supply lines	Km	20.200	
7.	NOC Irrigation Deptt.	Km	1.040	
8.	Paddy/Cotton fields	Km	0	
9.	Trees	Km	0.876	
10.	Net Hindered Length (both Side)	Km	44.96	
C)	Total Project Length (both Side)	Km	100.96	
D)	% Hindered Length	%	44.53%	

The details of land acquisition status and available hindrances are produced on a strip chart under section 04.

The status of compensation disbursed is as below: -

Table 2.1-3: Compensation disbursement for land					
SL No.	Name of the District	Total No. of Land cases	Amount paid (in Nos.)	Balance to be Paid (in Nos.)	Remarks
1	Cuddalore	710	546	164	
2	Ariyalur	355	261	94	
3	Thanjavur	102	89	13	
	Total in Nos.	1167	896	271	
		Total in %	76.77%	23.23%	

Table 2.1-4 - Compensation disbursement for Structures					
Sl No.	Name of the District	Total No. of structures	Amount paid (in Nos.)	Balance to be Paid (in Nos.)	Remarks
1	Cuddalore	386	240	146	
2	Ariyalur	359	258	101	
3	Thanjavur	153	96	57	
	Total in Nos.	898	594	304	
		Total in %	66.15%	33.85%	

The details of chainages under hindrance due to such balance compensation issues to their land owners, structure payment issues, standing crops, water pipe lines etc. are as below -

Table 2.1.5 - Details of Stretches Under Hindrance						
Sr. No.	From	To	Length	Effective Hindered Length	Side	Remarks
1	066+100	066+260	160	320	BHS	Veeranam Pipe Line
2	068+550	068+620	70	140	BHS	Compensation Disbursement balance - Not allowed to work by owner
3	070+520	070+600	80	160	BHS	Compensation Disbursement balance - Not allowed to work by owner
4	070+800	070+900	100	200	BHS	Compensation Disbursement balance - Not allowed to work by owner
5	072+450	072+600	150	300	BHS	Compensation Disbursement balance - Not allowed to work by owner
6	072+600	072+700	100	200	BHS	Compensation Disbursement balance - Not allowed to work by owner
7	072+800	073+100	300	600	BHS	Compensation Disbursement balance - Not allowed to work by owner
8	073+900	074+200	300	600	BHS	Compensation Disbursement balance - Not allowed to work by owner
9	074+570		10	20	BHS	Structure - Payment pending
10	075+500	076+150	650	1300	BHS	Compensation Disbursement balance - Not allowed to work by owner
11	077+200	077+600	400	800	BHS	Village Limit - Ribbon Development - Compensation Disbursement balance - Not allowed to work owner
12	080+100	081+150	1050	2100	BHS	Village Limit - Ribbon Development - Compensation Disbursement balance - Not allowed to work owner

13	083+200	084+500	1300	2600	BHS	Compensation Disbursement balance - Not allowed to work by owner
14	085+500	086+500	1000	2000	BHS	Compensation Disbursement balance - Not allowed to work by owner
	086+900	087+000	100	200	BHS	
	087+500	088+200	700	1400	BHS	
15	088+900	091+000	2100	4200	BHS	Compensation Disbursement balance - Not allowed to work by owner
16	095+050	095+850	800	1600	BHS	Village Limit - Ribbon Development - Compensation Disbursement balance - Not allowed to work owner
17	098+500	099+400	900	1800	BHS	Village Limit - Ribbon Development - Compensation Disbursement balance - Not allowed to work owner
18	099+400	099+900	500	1000	RHS	Compensation Disbursement balance - Not allowed to work by owner
19	099+900	100+300	400	800	BHS	Village Limit - Ribbon Development - Compensation Disbursement balance - Not allowed to work owner
20	100+300	101+600	1300	2600	BHS	Compensation Disbursement balance - Not allowed to work by owner
21	101+600	102+230	630	1260	BHS	Village Limit - Ribbon Development - Compensation Disbursement balance - Not allowed to work owner
22	102+230	102+700	470	940	BHS	Village Limit - Ribbon Development - Compensation Disbursement balance - Not allowed to work owner
23	102+700	103+320	620	1240	BHS	Compensation Disbursement balance - Not allowed to work by owner
24	103+320	104+200	880	1760	BHS	Compensation Disbursement balance - Not allowed to work by owner
25	104+200	104+500	300	600	BHS	Compensation Disbursement balance - Not allowed to work by owner
26	110+400	110+850	450	900	BHS	Compensation Disbursement balance - Not allowed to work by owner
27	113+250	113+450	200	400	BHS	Temple Land, Local not allowing to Work
28	114+400	114+650	250	500	BHS	Village Limit - Ribbon Development - Compensation, Disbursement balance - Not allowed to work owner
29	115+700	116+440	740	1480	BHS	Toll Plaza Area - LA under Progress

Table 2.1.6 - Hindrance Photographs

Photo	Obstruction Length (m)	LHS -Type of Hindrance	Chainage		RHS -Type of Hindrance	Obstruction Length (m)	Photo	Remarks
			From	To				
	240	Veeranam Pipe Line	65+960	66+200	Veeranam Pipe Line	240		
			68+600		Sluice Gate (2 Nos)	40		
	150	HT Line Crossing	70+030	70+200				
		Teek Farm, Pump Set	71+250					
			73+400		HT Line Tower	20		
			73+450		Bore Well, Pump Set & Tree EB Pole	50		
		Temple, Hand Pump,	74+710					
			75+260		Bore Well & Water Tank			
		Flag Poles	75+390					
		Building	75+640					
			75+650		Temple			
			75+660		Water Tap			
		Building	75+680					
			75+700		OFC			

Photo	Obstruction Length (m)	LHS -Type of Hindrance	Chainage		RHS -Type of Hindrance	Obstruction Length (m)	Photo	Remarks
			From	To				
		Bore Well & Water Tank	75+700					
		Kothanda vilagam Village	75+700	76+200	Kothanda vilagam Village			
		Hand Pump	75+710					
		Water Tap	75+810					
		Street Light	75+840					
		Flag Pole	75+840		Existing Culvert			
		Water Tap	75+880					
		Bore Well & Water Tank	76+025					
		Pump Set	76+260					
		Trees & EB Poles	76+300	76+800	Trees & EB Poles	450		
		Trees & EB Poles	76+300	76+800				
		Bus Shelter	76+410					
			76+410		Flag Pole			















Photo	Obstruction Length (m)	LHS -Type of Hindrance	Chainage		RHS -Type of Hindrance	Obstruction Length (m)	Photo	Remarks
			From	To				
			76+600		Temple			
			76+695		OFC & Compound Wall			
		Flag Pole	77+390	77+420				4 Nos
		Hand Pump	77+505					
		Telephone Pole	77+390	77+510				3 Nos
		Hand Pump	77+590					
			77+700		OFC			
		Building	77+730					
			77+760		Water Tank & Motor Room			
		EB Pole	77+900	78+400	EB Pole			10 Nos
		Water Tap	77+975					
			78+120		OFC			
			78+390		EB Pole, Bore Well			

Photo	Obstruction Length (m)	LHS -Type of Hindrance	Chainage		RHS -Type of Hindrance	Obstruction Length (m)	Photo	Remarks
			From	To				
		OFC	78+400					
	450		78+400	79+000	EB Pole, Trees	450		340 Trees, 16 Poles
			78+680		OFC			
			78+725		Transformer			
		Huts	78+670	78+760				
			78+860		OFC			
	400	Trees & EB Poles	79+000	79+500	Trees & EB Poles	400		
			79+080		OFC			
		Hand Pump	79+105					
		Existing Culvert	79+110					
			79+220		Flag Pole			
		Water Tank & Motor Room	79+240					
			79+260		OFC			








Photo	Obstruction Length (m)	LHS -Type of Hindrance	Chainage		RHS -Type of Hindrance	Obstruction Length (m)	Photo	Remarks
			From	To				
			79+520		Transformer			
		Transformer	80+340					
	400		80+500	81+000	EB Poles, Telephone Poles, Trees, Water Tap	400		
		Flag Poles	80+530	80+570	Flag Poles			6nos
			80+710		Existing Culvert			
	400	Tree, EB Poles	81+000	81+500	Tree, EB Poles	400		
			81+125		OFC			
		Sluice Gate	82+020		Sluice Gate			5 Nos
		OFC	83+265					
		Flag Post	83+385					
			83+615		Temple			
	450	EB Pole, Water Tap, Trees, Telephone Pole & Buildings	84+000	84+500	EB Pole, Water Tap, Trees, Telephone Pole & Buildings	450		EB Pole - 14, Tap - 2, Tree - 185
		Temple & Well	84+070					

Photo	Obstruction Length (m)	LHS -Type of Hindrance	Chainage		RHS -Type of Hindrance	Obstruction Length (m)	Photo	Remarks
			From	To				
		Flag Pole, Telephone Pole	84 + 110					
		Transformer	84 + 480		E			
			84 + 500	84 + 560	Huts			
			84 + 560		Flag & Ex Culvert			Pole 2 Nos
			84 + 650		OFC			
			84 + 920		OFC			
		Building	84 + 930	84 + 980				
			85 + 955		Temple			
	500		86 + 000	86 + 700	EB Pole, Tree, Water Tap, T Poles	500		Eb Pole - 20, Tree - 275, Tap - 36, T Pole -5
			86 + 280		Temple			
		Temple	86 + 390					
		Buildings	86 + 000	86 + 700	Buildings			
	700	Building & Huts	86 + 700	87 + 500	Building & Huts	700		













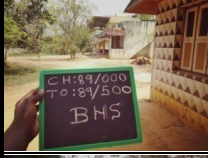



Photo	Obstruction Length (m)	LHS -Type of Hindrance	Chainage		RHS -Type of Hindrance	Obstruction Length (m)	Photo	Remarks
			From	To				
			86+700	87+500	EB Pole, Tree, Water Tap, T Poles			EB - 38, Tree - 392, Tap - 30, T Pole - 2
			86+720		Flag Pole			
			86+830		OFC, Transformer			
		Transformer	86+915					
		Temple	87+500					
			87+835		Water Tank			
		House	88+500	89+000	House			
			88+580		OFC			
			88+910		Temple			
		Existing Culvert	88+965					
	450	EB Pole, Tree, water Tap, Telephone Pole	89+000	89+500	EB Pole, Tree, water Tap, Telephone Pole	450		EB - 14, Tap - 15, T Pole - 5, Tree - 195
		Flag Post Pedestal	89+110					
			89+210		Transformer			



Photo	Obstruction Length (m)	LHS -Type of Hindrance	Chainage		RHS -Type of Hindrance	Obstruction Length (m)	Photo	Remarks
			From	To				
			89+240		OFC			
			89+350		Water Tank With Bore Well			
			89+355		Temple			
	450	EB Pole, Tree, water Tap, Telephone Pole	89+500	90+000	EB Pole, Tree, water Tap, Telephone Pole	450		EB - 16, Tap - 18, T Pole - 3, Tree - 270
		Water Tank	89+515					
		Flag Pole	89+590					
		Motor Room	89+690					
			89+710		OFC			
			89+805		Well			
			89+910		OFC			
	400	EB Pole, Water Tap, Telephone Pole, House	90+000	90+500	EB Pole, Water Tap, Telephone Pole, House	400		EB - 34, Tap - 4, T. Pole - 6
		Pond	90+000	90+060				
			90+090	90+180	Compound Wall			




Photo	Obstruction Length (m)	LHS -Type of Hindrance	Chainage		RHS -Type of Hindrance	Obstruction Length (m)	Photo	Remarks
			From	To				
			90+180		Transformer			
			90+195		OFC			
			90+230		Transformer			
			90+325		Temple			
			90+375		Existing Culvert			
	400	EB Pole, Telephone Pole, Tree, Water Tap	90+500	91+000	EB Pole, Telephone Pole, Tree, Water Tap	400		EB - 14, Tap - 5, T. Pole 7, Tree - 130
			90+560		OFC			
			90+610		Water Tank			
		Water Tank	90+630					
			90+830	90+860	Pond			
			90+955		OFC			
	450	EB Pole, Tree	91+000	91+500	EB Pole, Tree	450		EB - 34, Tree 71
			91+080		OFC			











Photo	Obstruction Length (m)	LHS -Type of Hindrance	Chainage		RHS -Type of Hindrance	Obstruction Length (m)	Photo	Remarks
			From	To				
			91+480		OFC			
	450	EB Pole, Water Tap, Telephone Pole, Trees	91+500	92+000	EB Pole, Water Tap, Telephone Pole, Trees	450		
			91+600		OFC			
			91+730		OFC			
			91+780		Temple			
		Pond	91+780	91+860				
			91+840		OFC			
			91+955		OFC			
	700	EB Pole, Water Tap, Tree, Telephone Pole	92+000	93+000	EB Pole, Water Tap, Tree, Telephone Pole	700		EB - 16, Tap - 10, Tree - 26, T Pole - 7
			92+080		OFC			
		Temple	92+135					
			92+265		OFC			
		Pond	92+270	92+330				















Photo	Obstruction Length (m)	LHS -Type of Hindrance	Chainage		RHS -Type of Hindrance	Obstruction Length (m)	Photo	Remarks
			From	To				
			92+300	92+380	Water Pipe Crossing			
			92+390		OFC			
		Temple	92+455					
			92+570		Temple			
			92+600		OFC			2 Nos
			92+770		OFC			2 Nos
		OFC	92+995					
	750	EB Pole, Water Tap, Tree	93+000	94+000	EB Pole, Water Tap, Tree	750		EB - 44, Tape - 14, Tree - 270
			93+045		OFC			
			93+115		Transformer			
			93+200		OFC			
			93+360		OFC			
			93+660		OFC			
















Photo	Obstruction Length (m)	LHS -Type of Hindrance	Chainage		RHS -Type of Hindrance	Obstruction Length (m)	Photo	Remarks
			From	To				
			93+800		OFC			
			93+930		Hand Pump			
			93+975		OFC			
	400	Tree, EB Poles, T. Pole, Water Tap, House	94+000	94+500	Tree, EB Poles, T. Pole, Water Tap, House	400		Tree - 220, EB - 25, T Pole - 5, Tap - 7
			94+130		OFC			
		OFC, MOTOR ROOM	94+170					
			94+385		OFC			
		TEMPLE	94+440					
	400		94+500	95+000	Tree, EB Pole, T. Pole	400		Tree - 146, EB - 23, T Pole - 4, Tap - 6
			94+530		OFC			
		OFC	94+555					
			94+780		OFC, Transformer			
		Pond, Pipe Line	94+830	94+900				

Photo	Obstruction Length (m)	LHS -Type of Hindrance	Chainage		RHS -Type of Hindrance	Obstruction Length (m)	Photo	Remarks
			From	To				
			94+935		OFC			
	450	EB Pole, Tree, Tape, Telephone Pole	95+000	95+500	EB Pole, Tree, Tape, Telephone Pole	450		EB - 16, T Pole - , Tap 5, Tree 150
			95+130	95+230	Compound Wall			
			95+210		Telephone Panel, Water Tank With Well			
			95+255		Police Station Arch			
			95+290		OFC			
		Flag Pole & Stage	95+415					
			95+435		Street Light			
	350	EB Pole, Tree, Tape, Telephone Pole	98+000	98+500	EB Pole, Tree, Tape, Telephone Pole	350		EB - 9, T Pole - 2, Tree - 120
		OFC	98+280					
	350	EB Pole, Tree, Tape, Telephone Pole	98+500	99+000	EB Pole, Tree, Tape, Telephone Pole	350		EB - 19, T Pole - 3, Tree 110
			98+620		Transformer			
		OFC	98+635		Temple			

















Photo	Obstruction Length (m)	LHS -Type of Hindrance	Chainage		RHS -Type of Hindrance	Obstruction Length (m)	Photo	Remarks
			From	To				
			98+710		Temple			
		Water Tank with Bore	98+735					
		OFC	98+825					
		Street Light	98+920					
		Flag Pole	98+940					
	750	EB Pole, Tree, Tape, Telephone Pole	99+000	100+000	EB Pole, Tree, Tape, Telephone Pole	750		EB - 47, T Pole - 4, Tap - 5, Tree 118
			99+120		Temple			
		Motor Room With Bore	99+150					
			99+160		Transformer			
			99+195		Temple With Water Tank			
		OFC	99+300					
		OFC	99+490					
	650	EB Pole, Tree, Tape, Telephone Pole	100+000	101+000	EB Pole, Tree, Tape, Telephone Pole	650		EB - 32, Tap - 12, Tree 210, T Pole - 3














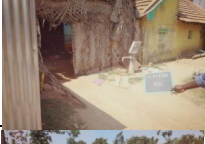

Photo	Obstruction Length (m)	LHS -Type of Hindrance	Chainage		RHS -Type of Hindrance	Obstruction Length (m)	Photo	Remarks
			From	To				
		Transformer	100+150					
			100+195		Bore Well			
			100+200		OFC			
		Pond	100+350					
			100+475		Water Tank			
		Pond	100+740	100+820				
	650	EB Pole, Tree, Tape, Telephone Pole	101+000	102+000	EB Pole, Tree, Tape, Telephone Pole	650		EB - 42, T Pole - 5, Tap - 6 Tree 100
			101+005		OFC			
		OFC	101+125					
			101+120	101+300	Pond			
		OFC	101+330					
			101+480		Hand Pump			
			101+805		OFC			
















Photo	Obstruction Length (m)	LHS -Type of Hindrance	Chainage		RHS -Type of Hindrance	Obstruction Length (m)	Photo	Remarks
			From	To				
		Transformer	101+835					
	750	EB Pole, Tree, Tape, Telephone Pole	102+000	103+000	EB Pole, Tree, Tape, Telephone Pole	750		EB - 30, T Pole - 2, Tap - 13, Tree 110
		OFC	102+100					
			102+240		Temple			
			102+365		Transformer			
		OFC	102+390					
		OFC	102+435					
			102+520		Flag Pole			
		OFC	102+575					
		OFC	102+730					
		Transformer	102+930					
		Schooh Arch	102+960					
	800	EB Pole, Tree, Tape, Telephone Pole	103+000	104+000	EB Pole, Tree, Tape, Telephone Pole	800		EB - 30, Tree - 110, T Pole - 2, Tap - 13




















Photo	Obstruction Length (m)	LHS -Type of Hindrance	Chainage		RHS -Type of Hindrance	Obstruction Length (m)	Photo	Remarks
			From	To				
		OFC	103+025					
		Pond	103+090	103+300				
		OFC	103+130					
		OFC	103+320					
		OFC	103+400					
		OFC	103+425					
		OFC	103+530					
			103+590		Temple			
		OFC & Flag Pole	103+720					
		Pond	103+775	103+815				
			103+860	103+910	Pond			
		Pond	103+935	104+250				
		Existing Irrigation Sluice	103+990					

Photo	Obstruction Length (m)	LHS -Type of Hindrance	Chainage		RHS -Type of Hindrance	Obstruction Length (m)	Photo	Remarks
			From	To				
	400	EB Pole, Tree	104+000	104+500	EB Pole, Tree	400		EB - 4 , Tree - 3
		House	104+500		House			
	350	EB Pole, Tree, Tape	104+500	105+200	EB Pole, Tree, Tape	350		Tree - 21, EB - 23, Tap - 3
			110+725		OFC			
		Transformer	110+740		Motor Room with well			
	1750	EB Pole, Tree, Tape	111+200	113+500	EB Pole, Tree, Tape	1750		Tree - 460, EB - 23, Tap - 12
			111+680		Motor Room With Bore			
	750	EB Pole, Telephone Pole, Tree, Tape	113+500	114+600	EB Pole, Telephone Pole, Tree, Tape	750		Tree - 280, EB - 38, T Pole - 9, Tap - 6
			113+670	113+720	Sub Station			
			113+700		HT Line Crossing			
			114+060		Flag Pole			
			114+090		Flag Pole, Water Tank			
		HT Line	114+130					

Photo	Obstruction Length (m)	LHS -Type of Hindrance	Chainage		RHS -Type of Hindrance	Obstruction Length (m)	Photo	Remarks
			From	To				
		Transformer	114+460					
		Water Tank	114+450					
		Water Tank	114+495					
		OFC	114+520		Temple			
		Pond	114+540	114+580				
	650	EB Pole, Telephone Pole, Tree, Tape	114+600	115+600	EB Pole, Telephone Pole, Tree, Tape	650		Tree - 80, EB -18, Tap - 2
			115+230		Flag Pole			5 Nos
	700	EB Pole, Telephone Pole, Tree, Tape	115+600	116+440	EB Pole, Telephone Pole, Tree, Tape	700		Tree - 90, EB -26, T Pole - 2 Tap - 16
			115+650		Motor Room			
		OFC	115+820					
		Transformer	115+970					
		OFC	116+095					
		OFC	116+170					

Photo	Obstruction Length (m)	LHS -Type of Hindrance	Chainage		RHS -Type of Hindrance	Obstruction Length (m)	Photo	Remarks
			From	To				
		Hand Pump	116+200					
		Water Tank & Motor Room	116+210					
		OFC	116+275					
		OFC	116+410					
			116+560		Flag Pole			
		House	115+600	116+440	House			

2.2. Removal of Religious Structures

The following structures coming within the ROW are to be demolished

Sl No.	Name of the District	Total No. Of structures	Removed as on Date (in Nos.)	Balance (in Nos.)
1	Cuddalore	10	2	8
2	Ariyalur	10	1	9
3	Thanjavur	2	1	1
	Total in Nos.	22	4	18

2.3. Shifting of Utilities and Electrical HT/LT Lines

To proceed with the project construction, several utilities are required to be shifted under the supervision of the respective authorities. These include a water supply line, hand pumps, overhead water tanks, besides Electrical lines, as shown in the table below.

Sr. No.	Name of the District	Chainages			Total Number of Estimates	Remarks
		From	To	Length in Km		
1	Cuddalore	65+960	86+440	20.48	25	Work in Progress
2	Ariyalur	86+440	106+860	20.42	46	
3	Thanjavur	106+860	116+440	9.58	4	

Sr. No	Name of the District	Chainages			Number of Estimates	Present Status	Remarks
		From	To	Length in Km			
1	Cuddalore	65+960	86+440	20.48	10	Estimate Approved	Supervision Charges paid.
2	Ariyalur	86+440	106+860	20.42	5	Estimate Approved	Supervision Charges paid.
3	Thanjavur	106+860	116+440	9.58	5	04 Estimates are Approved and 01 estimate is under process with NHAI.	Supervision Charges paid.

Estimates for shifting of the above Electric lines have been prepared. The estimated cost is Rs. 17.45 Crores.

Estimates have been done for the shifting of the water supply pipeline & related items mentioned above. The final amount of Rs. 15.87 Crores sanctioned by RO, NHAI, Madurai.

Sl. No.	Authority	Description	Unit	Total Length/ Nos.	Work done	Balance	Remarks
1	BDO & EE, TWAD	Water Supply Pipe Line	Kms.	21.595	3.77	17.825	Work in progress
2	BDO of Concern Union	Hand Pump/Pump Room with Bore well	Nos.	24	4	20	
3	BDO of Concern Union	Over Head Tank	Nos.	15	3 Nos. completed	12	04 Nos. In Progress
4	TNEB	Electrical Lines	Kms.	6.83	2.75	4.08	

2.4. Tree felling

Sl.No.	Name of the District	Chainages			Effected Length in Kms.	Completed as on Date	Balance as on Date	Balance no. of Trees	Remarks
		From	To	Length in Km					
1	Cuddalore	65+960	86+440	20.48	6.535	6.289	0.246	26	Work in Progress
2	Ariyalur	86+440	106+860	20.42	8.385	8.215	0.170	54	
3	Thanjavur	106+860	116+440	9.58	2.515	2.055	0.460	140	
Total				50.48	17.435	16.559	0.876	220	

3.1. Pre-construction Activities

Detailed Design & Drawings

The Plan and Profile, as well as the Pavement Designs for the entire 50.48 km project length has been completed and reviewed by the Independent Engineer (IE). Construction Methodology, QA & QC procedures submitted to the IE has been reviewed and accepted.

Table 3.1-1: Status of Design and Drawings-Highway

Sl No.	Description	Unit	Total Scope as per Sch. B As per Sch. B	Design submitted	Drawing Approved
1	Pavement Design	Km	50.480	50.48	50.48
2	Plan & Profile	Km	50.480	50.48	48.48
3	Typical Cross Sections	Type	7	7	-
4	Major Intersections	No	07	-	-
5	Minor Intersections	No	100	-	-
6	Toll Plaza (Typical Details)	No	01	-	-
7	Service Roads	No	27.10	27.10	-

Table 3.1-2: Sta

Table 3.1-2 : Status of Design and Drawings –Structures

Sr. No	Description	Unit	Total Scope As per Sch. B	Design Submitted	Drawing Approved
1	Major Bridges	No	04	04	1
2	Minor Bridges	No	25	25	17
3	Grade Separated Intersection	No	08	08	8
4	VUP/LVUP	No	15	15	12
5	Box /Slab Culvert	No	60	60	51

4.1. Physical Progress of Work

The Progress of the Major Works carried out at the Site in the Month of February 2019 is as follows.

CUMMULATIVE STATEMENT

For Main Carriageway

Sr. No.	Description	Total Length of Highway Excluding Toll Plaza (in. Km.)	Progress up to Previous Month (in Km)	Progress during this Month (In Km.)	Cumulative Progress Achieved up to this Month (In Km)	In Progress (In Km.)	Balance Length to be Completed	Cumulative % of Progress Achieved
1	Clearing and Grubbing							
	LHS	47.28	19.46	0	19.46	0	27.82	41.16%
	RHS	47.28	17.11	0	17.11	0	30.17	36.19%
2	Embankment							
	LHS	47.28	0	0	0	4.165	47.28	0.00%
	RHS	47.28	0	0	0	3.520	47.28	0.00%
3	Sub grade							
	LHS	47.28	0	0	0	0	47.28	0.00%
	RHS	47.28	0	0	0	0	47.28	0.00%
4	GSB/ Cement Treated Base							
	LHS	47.28	0	0	0	0	47.28	0.00%
	RHS	47.28	0	0	0	0	47.28	0.00%
5	Wet Mix Macadam							
	LHS	47.28	0	0	0	0	47.28	0.00%
	RHS	47.28	0	0	0	0	47.28	0.00%
6	Dense Bitumen Macadam							
	LHS	47.28	0	0	0	0	47.28	0.00%
	RHS	47.28	0	0	0	0	47.28	0.00%
7	Bituminous Concrete							
	LHS	47.28	0	0	0	0	47.28	0.00%
	RHS	47.28	0	0	0	0	47.28	0.00%

For Service Road

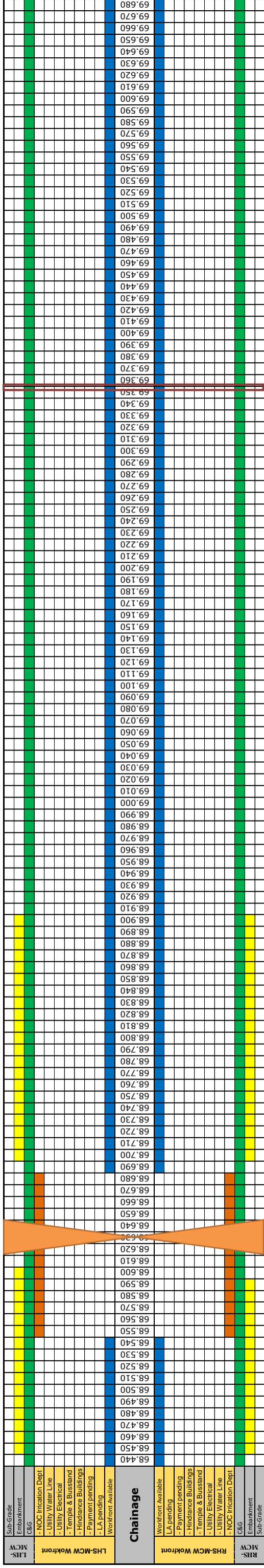
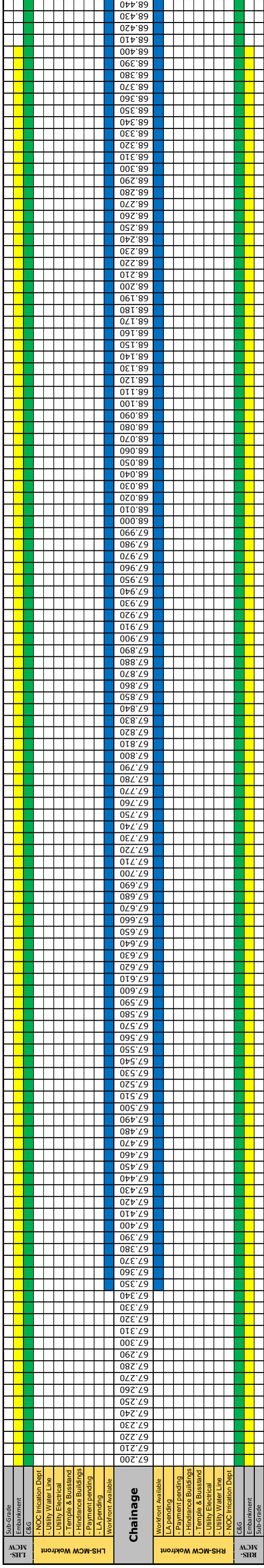
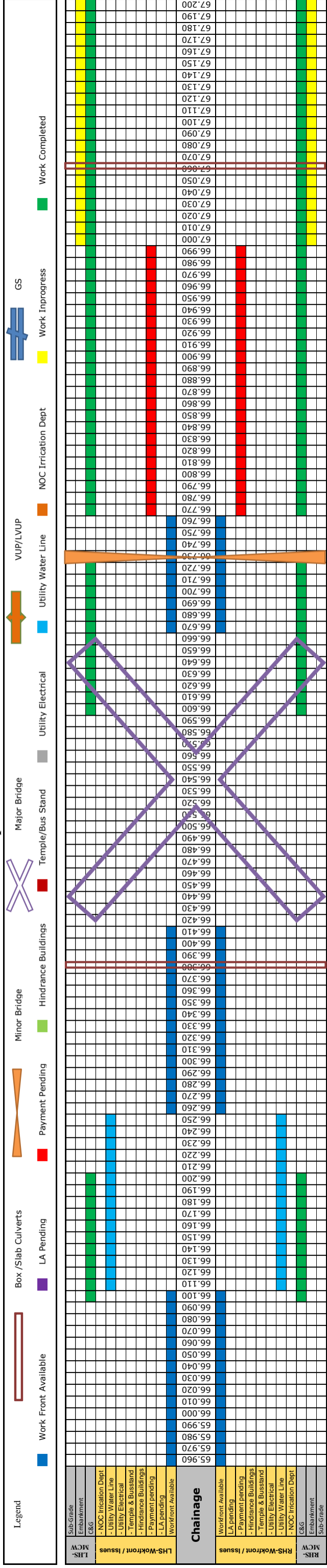
Sr. No.	Description	Total Length of Service Road (Km.)	Progress up to Previous Month (in Km)	Progress during this Month (In Km.)	Cumulative Progress Achieved up to this Month (In Km)	In Progress (In Km.)	Balance Length to be Completed	Cumulative % of Progress Achieved
1	Embankment	53.19	0	0	0	0	53.19	0.00%
2	Sub grade	53.19	0	0	0	0	53.19	0.00%
3	GSB/ Cement Treated Base	53.19	0	0	0	0	53.19	0.00%
4	Wet Mix Macadam	53.19	0	0	0	0	53.19	0.00%
5	Dense Bitumen Macadam	53.19	0	0	0	0	53.19	0.00%
6	Bituminous Concrete	53.19	0	0	0	0	53.19	0.00%

<u>Structure Work</u>					
Sr. No.	Type of Structure	Total No. of Structures	Nos. of Structures		
			Completed	In Progress	Balance
1	Culvert	60	1	28	31
2	Light Vehicular Underpass	2	0	1	1
3	Vehicular Underpass	13	0	6	7
4	Minor Bridges	25	0	16	9
5	Major Bridge	4	0	1	3
6	Flyover	8	0	5	3

Four Laning of Sethiyahopu - Cholopuram from Km.65.960 to Km.116.440 Section of NH45C in the state of Tamil Nadu Under NHDP Phase-IV on Hybrid Annuity Mode

Sethiyahopu - Cholopuram Road Projects

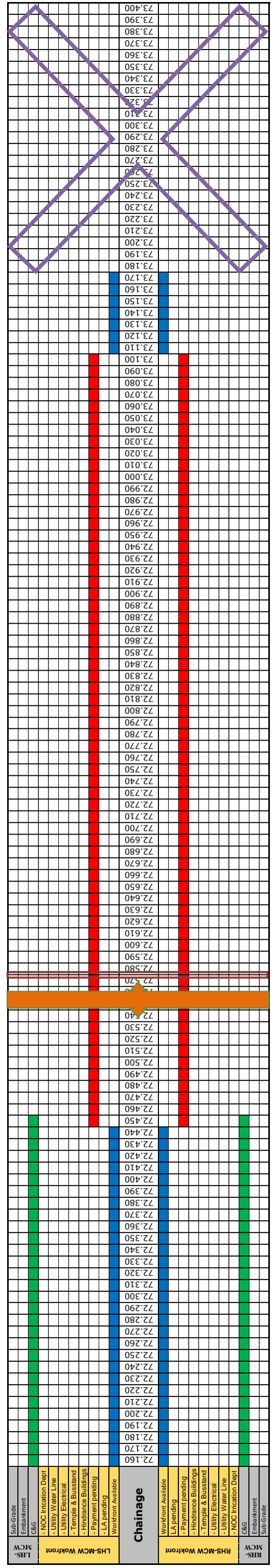
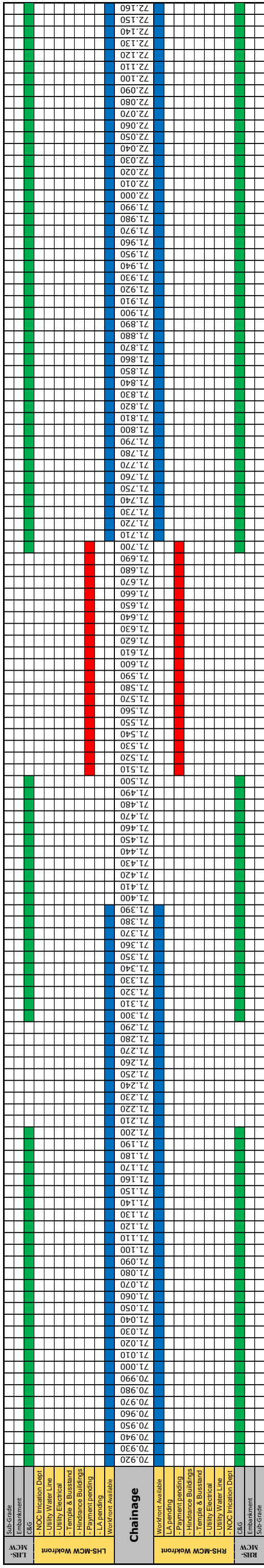
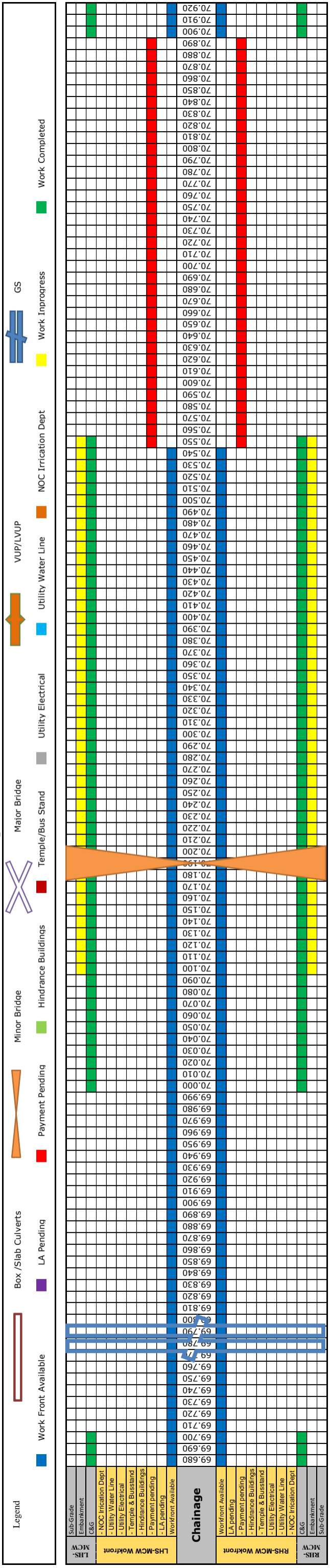
Strip Plan on 28-02-2019



Four Laning of Sethiyahopu - Cholopuram from Km.65.960 to Km.116.440 Section of NH45C in the state of Tamil Nadu Under NHDP Phase-IV on Hybrid Annuity Mode

Sethiyahopu - Cholopuram Road Projects

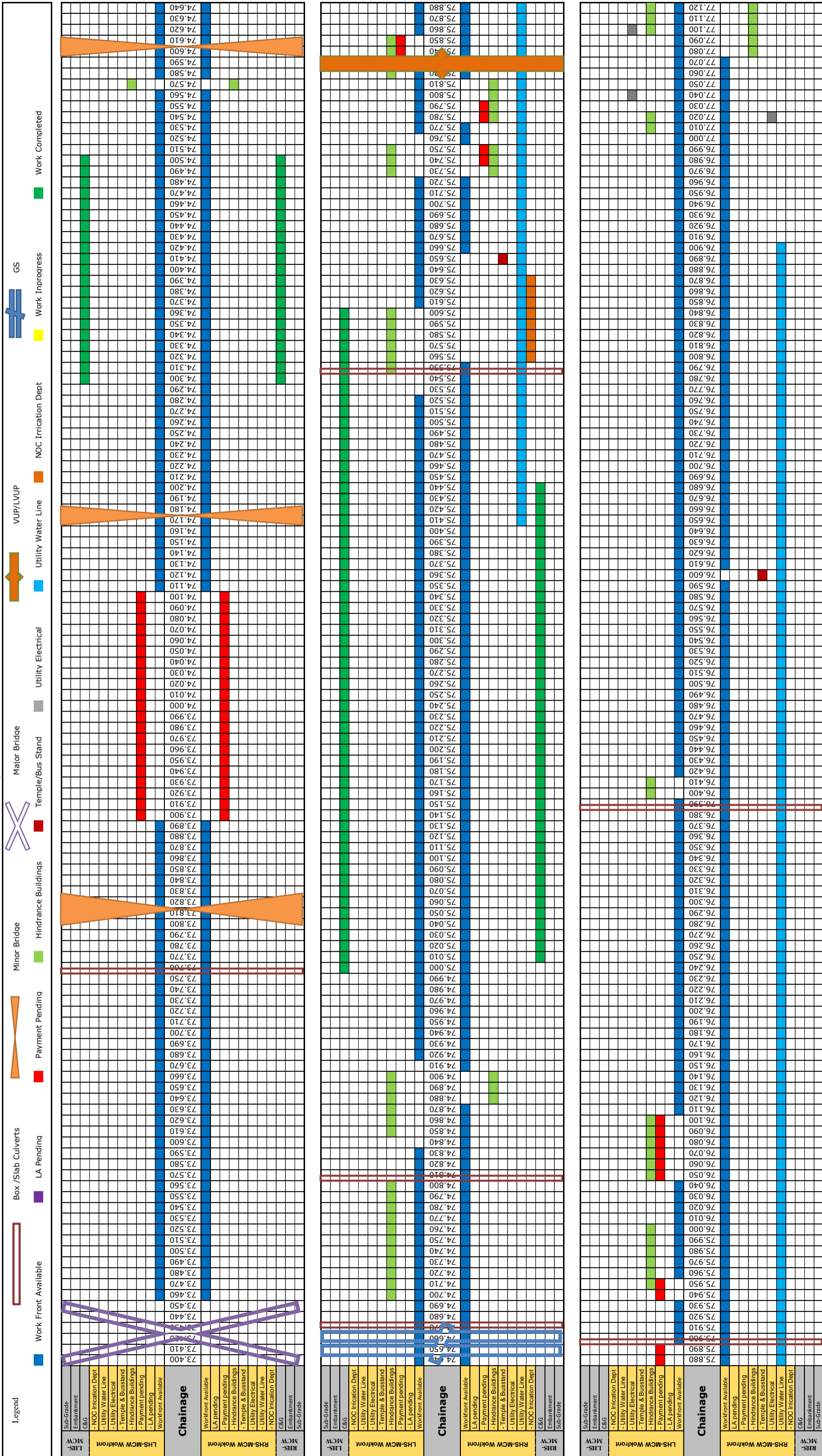
Strip Plan on 28-02-2019



Four Laning of Sethiyahopu - Cholopuram from Km.65.960 to Km.116.440 Section of NH45C in the state of Tamil Nadu Under NHDP Phase-IV on Hybrid Annuity Mode

Sethiyahopu - Cholopuram Road Projects

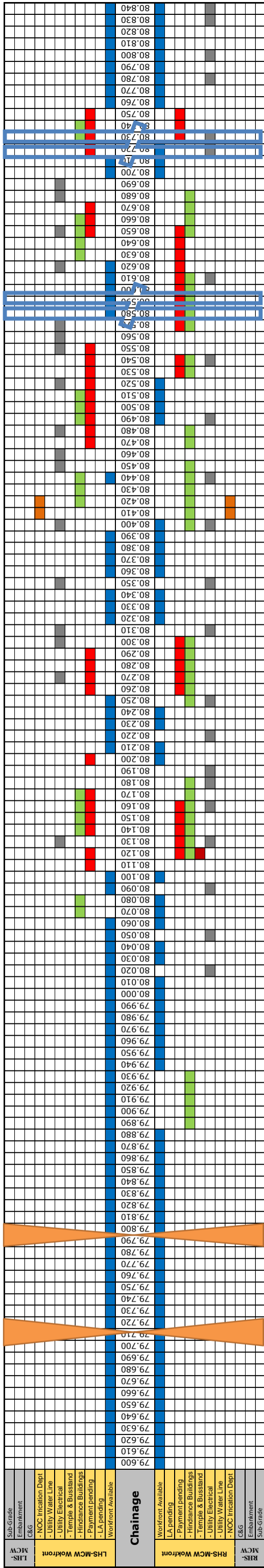
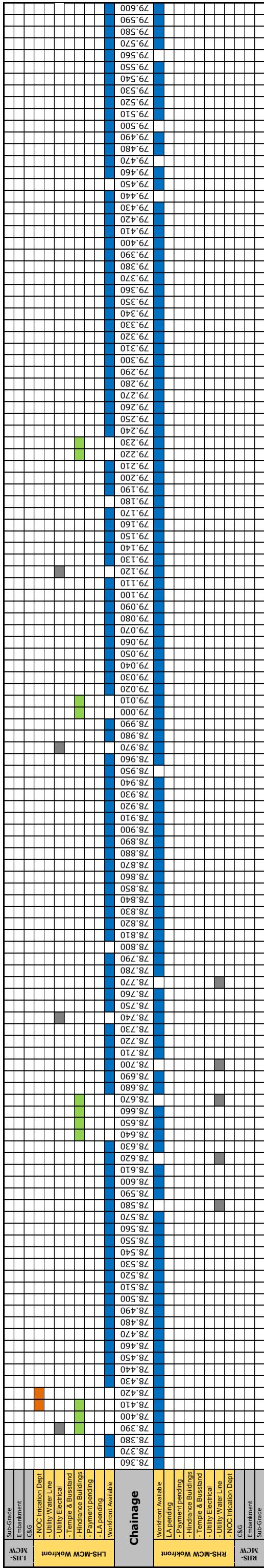
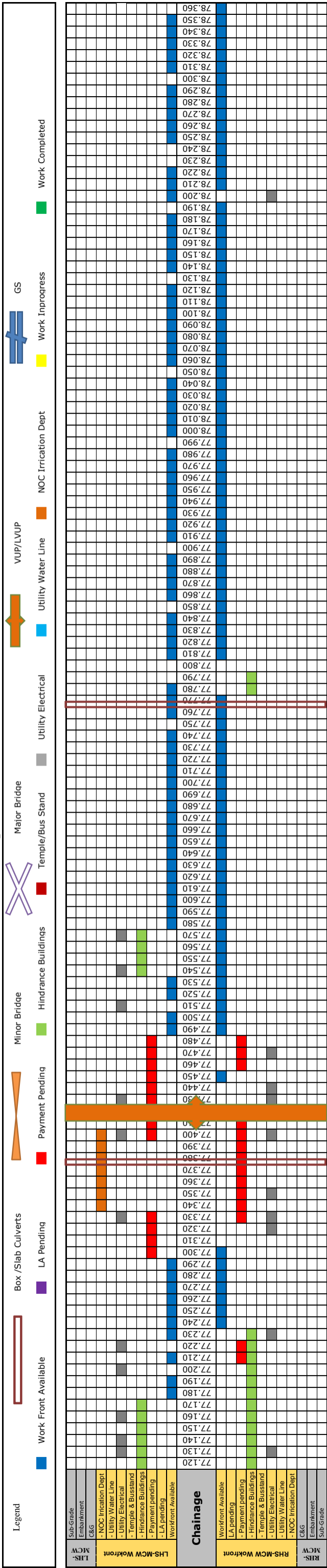
Strip Plan on 28-02-2019



Four Laning of Sethiyahopu - Cholopuram from Km.65.960 to Km.116.440 Section of NH45C in the state of Tamil Nadu Under NHDP Phase-IV on Hybrid Annuity Mode

Sethiyahopu - Cholopuram Road Projects

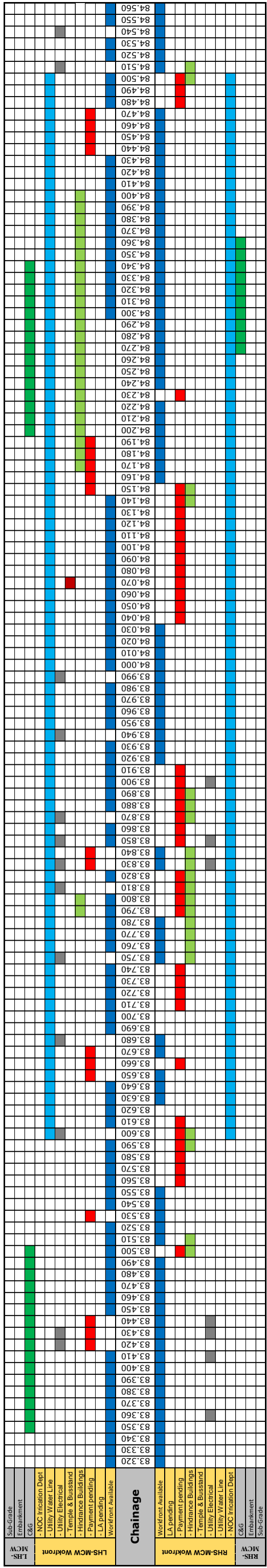
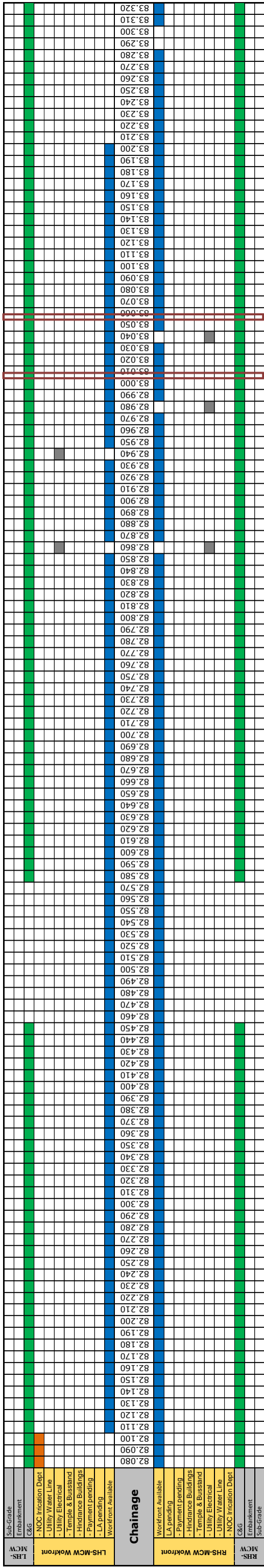
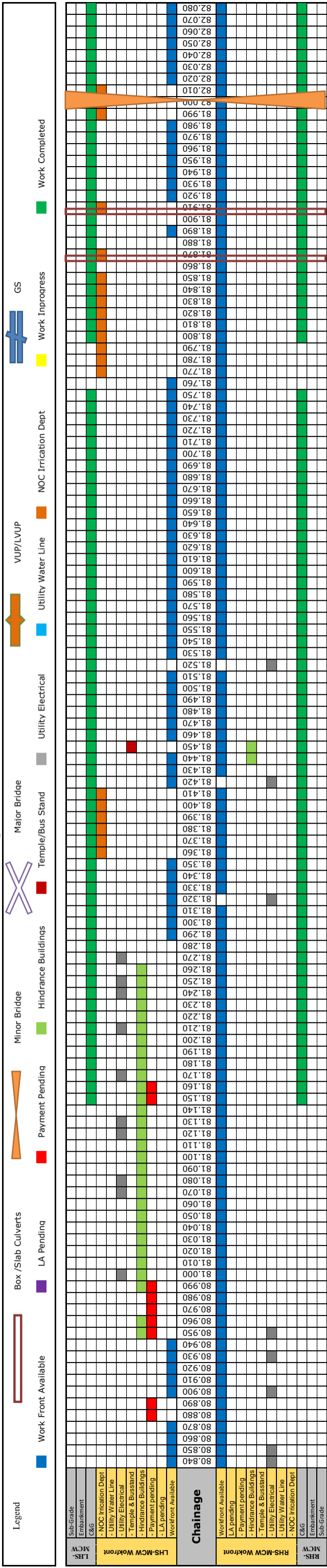
Strip Plan on 28-02-2019



Four Laning of Sethiyahopu - Cholopuram from Km.65.960 to Km.116.440 Section of NH45C in the state of Tamil Nadu Under NHDP Phase-IV on Hybrid Annuity Mode

Sethiyahopu - Cholopuram Road Projects

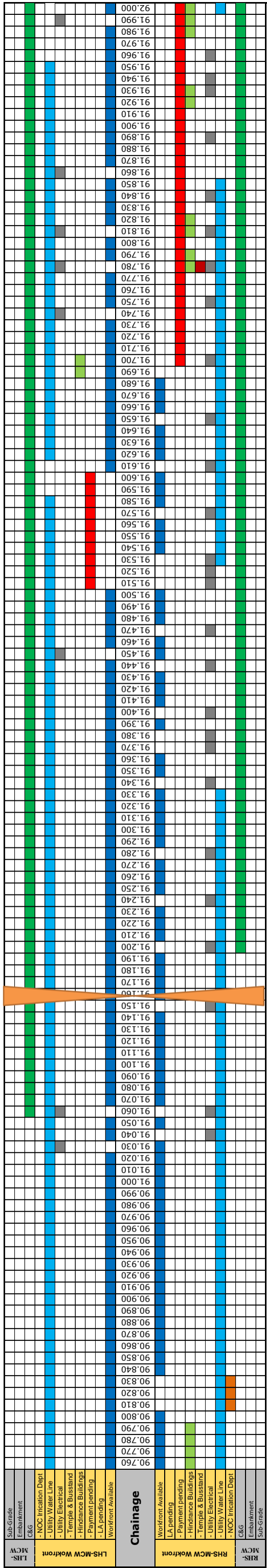
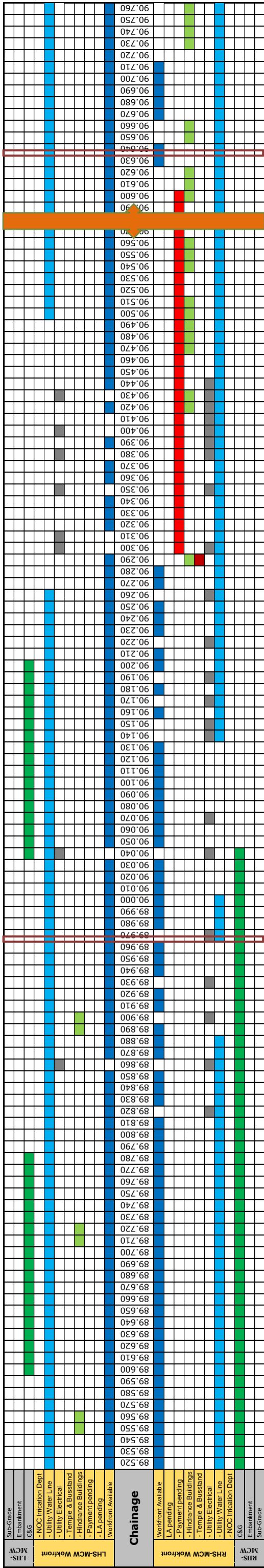
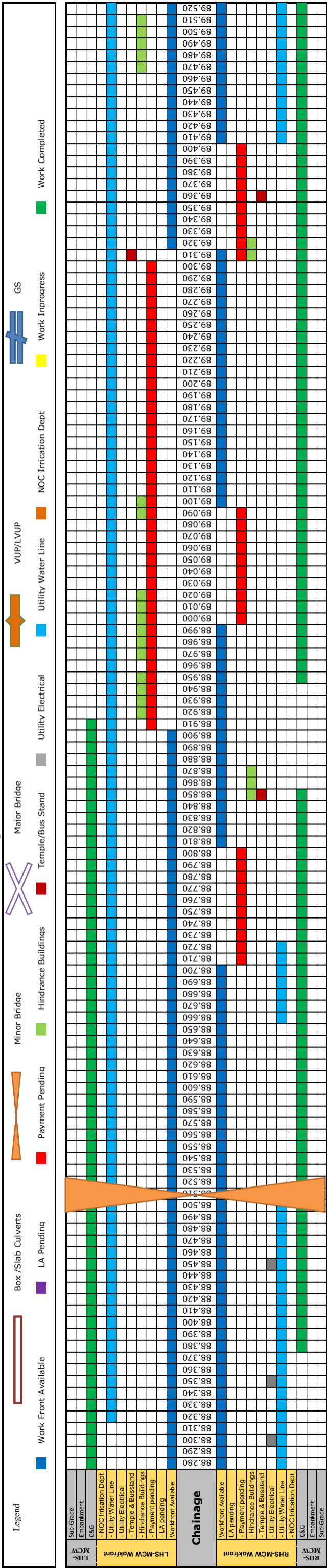
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Four Laning of Sethiyahopu - Cholopuram from Km.65.960 to Km.116.440 Section of NH45C in the state of Tamil Nadu Under NHDP Phase-IV on Hybrid Annuity Mode

Sethiyahopu - Cholopuram Road Projects

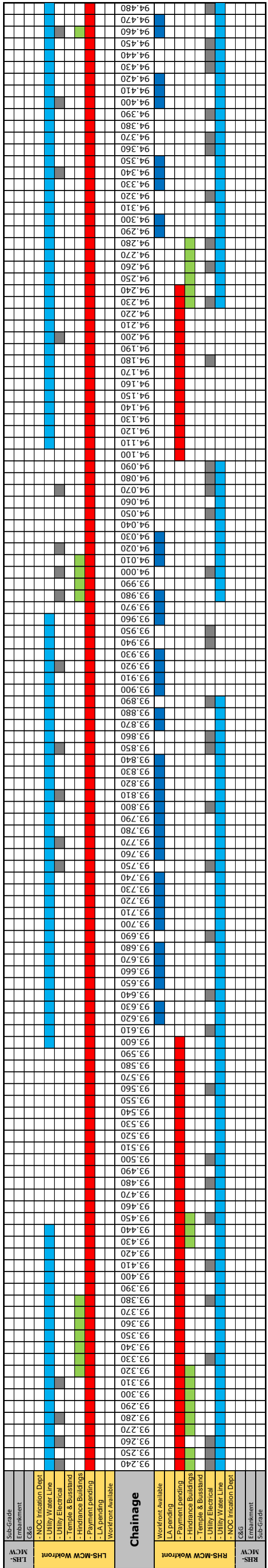
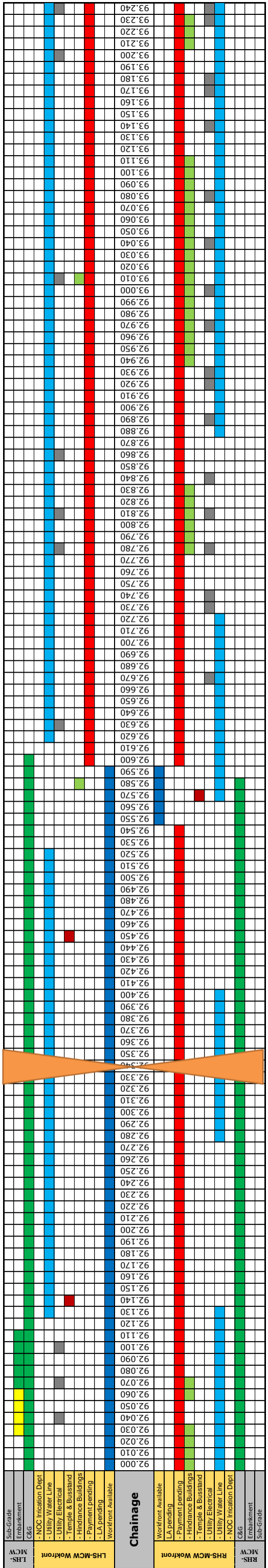
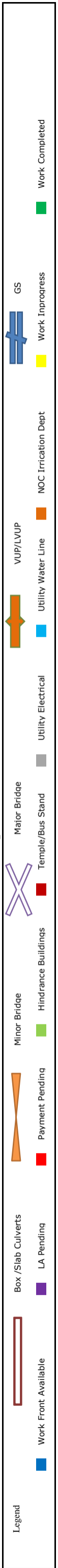
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Four Laning of Sethiyahopu - Cholopuram Road Projects

Sethiyahopu - Cholopuram Road Projects

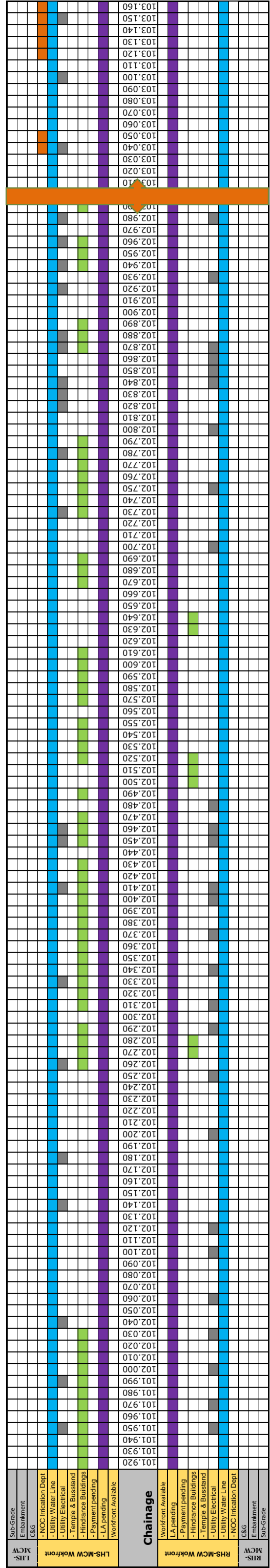
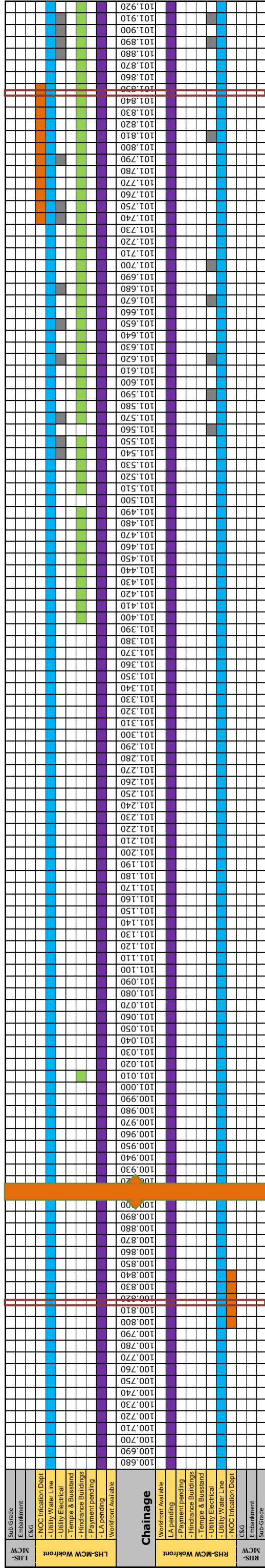
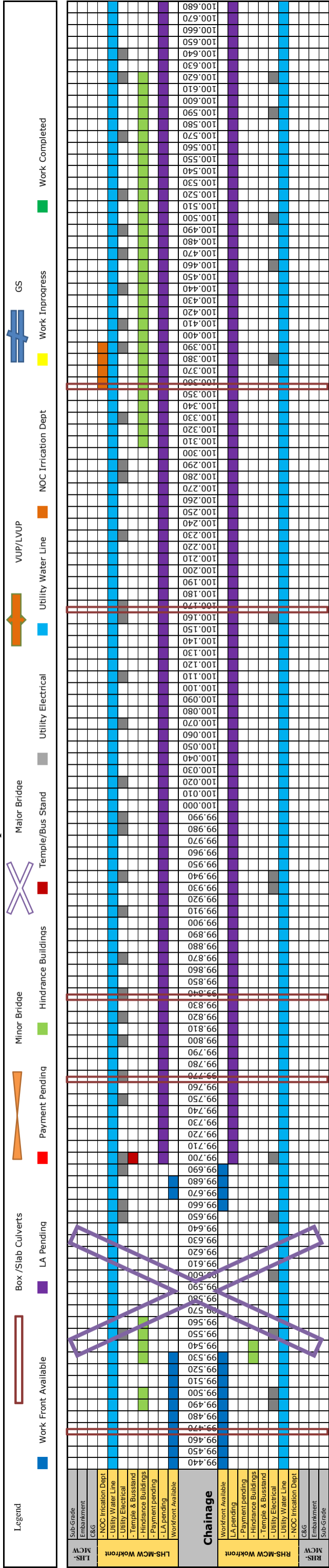
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Four Laning of Sethiyahopu - Cholopuram from Km.65.960 to Km.116.440 Section of NH45C in the state of Tamil Nadu Under NHDP Phase-IV on Hybrid Annuity Mode

Sethiyahopu - Cholopuram Road Projects

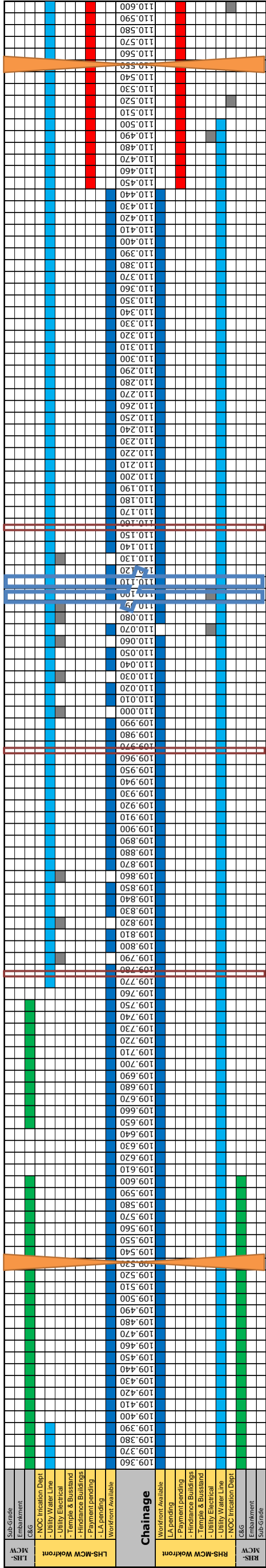
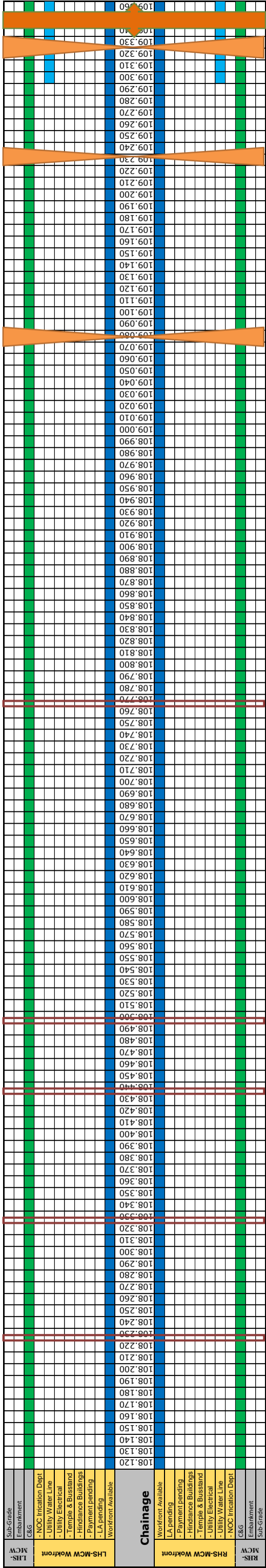
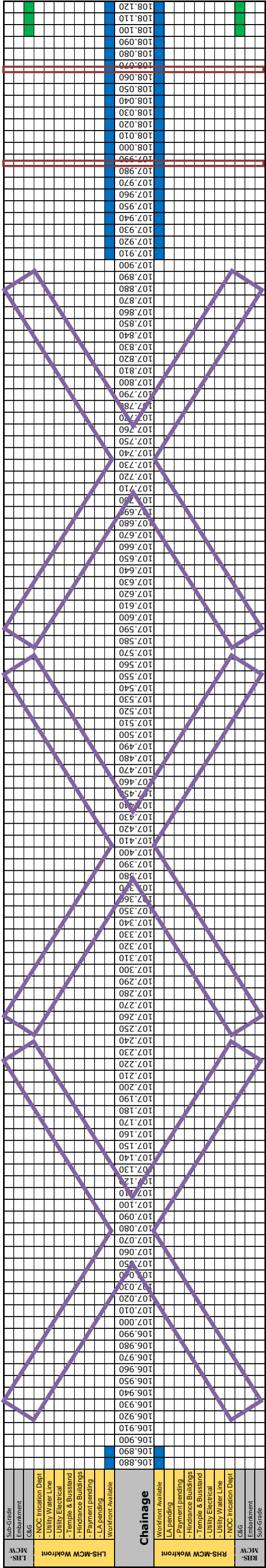
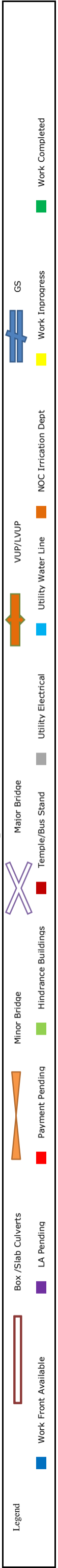
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Four Laning of Sethiyahopu - Cholopuram from Km.65.960 to Km.116.440 Section of NH45C in the state of Tamil Nadu Under NHDP Phase-IV on Hybrid Annuity Mode

Sethiyahopu - Cholopuram Road Projects

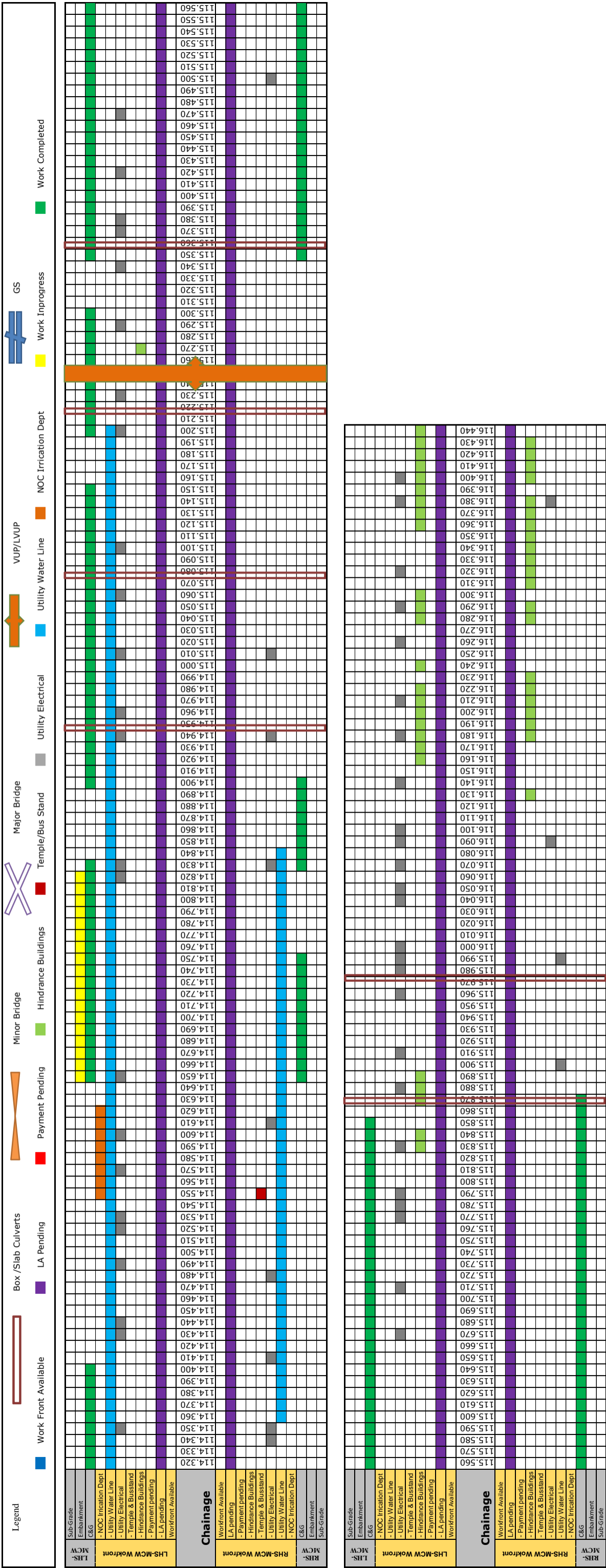
Strip Plan on 28-02-2019



Four Laning of Sethiyahopu - Cholopuram from Km.65.960 to Km.116.440 Section of NH45C in the state of Tamil Nadu Under NHDP Phase-IV on Hybrid Annuity Mode

Sethiyahopu - Cholopuram Road Projects

Strip Plan on 28-02-2019



SETHIAHOPI CHOLOPURAM PROJECT - STATUS OF BOX CULVERTS ON EXISTING ROAD											Completed						In Progress						
Status Upto	28.02.2019										LHS						RHS						
Sr. No.	As Approved by IE	Design Chainage As per CA	Number and Length of Spans (m)	Remarks	Type of Structure	Protection Work	Slab	Wall	Raft	PCC	Granular Filling	Excavation	Excavation	Granular Filling	Excavation	Excavation	Granular Filling	PCC	Raft	Wall	Slab	Protection Work	
1	74+675	74.670	EXISTING 1 x 3.0m x 2.0m	New Construction	BOX CULVERT																		
2	74+800	74.808	EXISTING 1 x 1.20m	Reconstruction	PIPE CULVERT																		
3	75+558	75.555	EXISTING 1x3.0m	Reconstruction	BOX CULVERT																		
4	75+902	75.897	EXISTING 1 x 2.0m x 2.0m	Reconstruction	BOX CULVERT																		
5	76+390	76.387	EXISTING 1 x 3.0m	Reconstruction	BOX CULVERT																		
6	77+382	77.379	EXISTING 1 x 4.0m	Reconstruction	BOX CULVERT																		
7	77+766	77.764	EXISTING 1 x 2.0m	Widening	BOX CULVERT																		
8	81+868	81.867	EXISTING 1 x 2.0m x 2.0m	Reconstruction	BOX CULVERT																		
9	81+913	81.910	EXISTING 1 x 1.95m x 1.0m	Widening	BOX CULVERT																		
10	83+012	83.007	EXISTING 2 x 2.0m x 2.0m	Reconstruction	BOX CULVERT																		
11	83+065	83.062	EXISTING 1 x 2.0m x 2.0m	Reconstruction	BOX CULVERT																		
12	89+973	89.969	EXISTING 4 x 0.75m	Widening	PIPE CULVERT																		
13	90+640	90.637	EXISTING 1 x 1.20m	Reconstruction	PIPE CULVERT																		
14	94+509	94.509	EXISTING 1 x 3.6m x 1.6m	Widening	BOX CULVERT																		
15	95+495	95.490	EXISTING 1 x 1.2m x 0.9m	Reconstruction	BOX CULVERT																		
16	95+794	95.787	EXISTING 1 x 1.20m	Reconstruction	PIPE CULVERT																		
17	96+511	96.505	EXISTING 1 x 5.0m	Reconstruction	BOX CULVERT																		
18	97+530	97.534	EXISTING 1x2.0m	Reconstruction	BOX CULVERT																		
19	97+742	97.738	EXISTING 1 x 3.0m x 1.0m	Widening	BOX CULVERT																		
20	99+471	99.467	EXISTING 1 x 3.0m x 4.0m	Repair & Widening	BOX CULVERT																		
21	99+776	99.769	EXISTING 1 x 2.0m x 2.0m	Repair & Widening	BOX CULVERT																		
22	99+840	99.838	EXISTING 1 x 1.5m x 1.5m	Repair & Widening	BOX CULVERT																		
23	100+177	100.173	EXISTING 1 x 1m	Repair & Widening	PIPE CULVERT																		
24	100+364	100.358	EXISTING 1 x 10m	Repair & Widening	BOX CULVERT																		
25	100+823	100.817	EXISTING 1 x 3.5m x 2.5m	Repair & Widening	BOX CULVERT																		
26	101+851	101.851	EXISTING 1 x 1.5m x 1.5m	Repair & Reconstruction	BOX CULVERT																		
27	103+220	103.214	EXISTING 1 x 4.0m x 2.5m	Repair & Reconstruction	BOX CULVERT																		
28	104+197	104.190	EXISTING 1 x 1.0m	Repair & Reconstruction	PIPE CULVERT																		
29	104+215	104.208	EXISTING 1 x 1.0m	Reconstruction	PIPE CULVERT																		
30	109+786	109.779	EXISTING 1 x 1.0m	Repair & Reconstruction	PIPE CULVERT																		
31	109+975	109.967	EXISTING 1 x 2.0m x 1.7m	Repair & Reconstruction	BOX CULVERT																		
32	110+167	110.160	EXISTING 2 x 1.0m	Repair & Reconstruction	PIPE CULVERT																		
33	110+795	110.785	EXISTING 1 x 1.2m x 2.0m	Repair & Widening	BOX CULVERT																		
34	110+980	110.971	EXISTING 1 x 1.5m x 2.0m	Repair & Reconstruction	BOX CULVERT																		
35	113+897	113.885	EXISTING 1 x 1.0m	Repair & Widening	PIPE CULVERT																		
36	114+313	114.300	EXISTING 1 x 1.0m	Repair & Widening	PIPE CULVERT																		
37	114+703	114.703	EXISTING		PIPE CULVERT																		
38	114+954	114.952	EXISTING 1 x 1.0m	Repair & Reconstruction	PIPE CULVERT																		
39	115+097	115.087	EXISTING 2 x 1.0m	Repair & Reconstruction	PIPE CULVERT																		
40	115+232	115.221	EXISTING 1 x 2.0m x 2.0m	Repair & Reconstruction	BOX CULVERT																		
41	115+381	115.368	EXISTING 1 x 2.0m	Repair & Reconstruction	BOX CULVERT																		
42	115+884	115.872	EXISTING 2 x 1.0m	Repair & Widening	PIPE CULVERT																		
43	115+978	115.978	EXISTING 1 x 2.0m x 2.0m	Repair & Widening	BOX CULVERT																		

SETHIAHOPI CHOLOPURAM PROJECT - STATUS OF BOX CULVERTS ON BYPASS																			
Status Upto	28.02.2019	As Approved by IE	Design Chainage As per CA	Number and Length of Spans (m)	Type of Structure	Completed						In Progress							
						Protection Work	Slab	Wall	Raft	PCC	Granular Filling	Excavation	Protection Work	Slab	Wall	Raft	PCC	Granular Filling	Excavation
1	66+357	66.383	BYPASS	1 x 3.0m x 2.0m	BOX CULVERT														
2	67+068	67.068	BYPASS	1 x 3.0m x 2.0m	BOX CULVERT														
3	69+357	69.357	BYPASS	1 x 2.0m x 2.0m	BOX CULVERT														
4	72+570	72.578	BYPASS	1 x 3.0m x 2.0m	BOX CULVERT														
5	73+755	73.755	BYPASS	1x1.2.0mx2.0m	PIPE CULVERT														
6	104+622	104.618	BYPASS	1 x 2.0m x 2.0m	BOX CULVERT														
7	104+998	104.992	BYPASS	1 x 4.0m x 2.0m	BOX CULVERT														
8	105+440	105.440	BYPASS	1 x 2.0m x 2.0m	BOX CULVERT														
9	105+536	105.525	BYPASS	1 x 2.0m x 2.0m	BOX CULVERT														
10	106+442	106.432	BYPASS	1 x 2.0m x 2.0m	BOX CULVERT														
11	108+002	107.994	BYPASS	1 x 3.0m x 2.0m	BOX CULVERT														
12	108+080	108.070	BYPASS	1 x 4.0m x 2.0m	BOX CULVERT														
13	108+225	108.225	BYPASS	1 x 3.0m x 2.0m	BOX CULVERT														
14	108+345	108.334	BYPASS	1 x 3.0m x 2.0m	BOX CULVERT														
15	108+441	108.441	BYPASS	1 x 3.0m x 2.0m	BOX CULVERT														
16	108+540	108.500	BYPASS	1 x 2.0m x 2.0m	BOX CULVERT														
17	108+767	108.767	BYPASS	1 x 4.0m x 2.0m	BOX CULVERT														
18	111+205	111.196	BYPASS	1 x 1.0m	PIPE CULVERT														
19	111+452	111.452	BYPASS		PIPE CULVERT														

SETHIYAHOPU CHOLOPURAM PROJECT - STATUS OF MNB-BOX										Completed						In Progress					
Status Upto	28.02.2019									LHS						RHS					
Sr. No.	As Approved by IE	Design Chainage As per CA	Number and Length of Spans (m)	Type of Structure	Protection Work	Slab	Wall	Raft	PCC	Granular Filling	Excavation	Excavation	Granular Filling	PCC	Raft	Wall	Slab	Protection Work			
1	79+716	79.715	1 x 12.50m	MNBB	EXISTING																
2	79+795	79.795	2 x 12.50m	MNBB	EXISTING																
3	82+007	82.006	2 x 12.50m	MNBB	EXISTING																
4	85+144	85.144	2 x 12.50m	MNBB	EXISTING																
5	85+435	85.432	1 x 12.50m	MNBB	EXISTING																
6	88+513	88.513	1 x 12.50m	MNBB	EXISTING																
7	91+164	91.165	2 x 12.50m	MNBB	EXISTING																
8	92+343	92.342	1 x 12.50m	MNBB	EXISTING																
9	101+101	101.100		MNBB	EXISTING																
10	109+195	109.208	2 x 12.5m	MNBB	EXISTING																
11	66+757	66.730	2 x 12.5m	MNBB	BYPASS																
12	68+644	68.650	2 x 12.5m	MNBB	BYPASS																
13	74+173	74.175	2 x 12.5m	MNBB	BYPASS																
14	74+605	74.600	2 x 12.5m	MNBB	BYPASS																
15	105+915	105.915	2 x 12.5m	MNBB	BYPASS																
16	109+090	109.088	2 x 12.5m	MNBB	BYPASS																
17	109+365	109.365	2 x 12.5m	MNBB	BYPASS																
18	109+540	109.540	2 x 12.5m	MNBB	BYPASS																
19	111+563	111.565	2 x 12.5m	MNBB	BYPASS																
20	113+100	113.100	2 x 12.5m	MNBB	BYPASS																
21	113+505	113.505	2 x 12.5m	MNBB	BYPASS																

SETHIYAHOPU CHOLOPURAM PROJECT - STATUS OF LVUP							Completed					In Progress					
Status Upto	28.02.2019	As Approved by IE	Number and Length of Spans (m)	Type of Structure		Protection Work	Slab	Wall	Raft	PCC	Excavation	Excavation	PCC	Raft	Wall	Slab	Protection Work
							LHS					RHS					
1	77+420	1X10.5	LVUP	EXISTING													
2	112+650	1X10.5	LVUP	BYPASS													

SETHYAHOPU CHOLOPURAM PROJECT - STATUS OF MNB (> 15m Span)										Completed								In Progress													
Status upto	28.02.2019									LHS								RHS													
SR.NO.	MNB at Chainage	Span								Crash	Slab	Girder	Launching	Girder	Castling	Piercap /Abtcap	Pier/Abt	Raft	PCC	Excavation	Crash	Slab	Launching	Girder	Castling	Piercap /Abtcap	Pier/Abt	Raft	PCC	Excavation	
1	70+185	2 x 20	BYPASS							A1																					
2	73+815	1 x 15	BYPASS							A1																					
3	84+725	1 x 15	EXISTING							A1																					
4	84+987	2 x 15	EXISTING							A1																					
5	112+807	1 x 25	BYPASS							A1																					

SETHIYAHOPU CHOLOPURAM PROJECT - STATUS OF MJB											Completed	
MJB at Chainage 66+530 (8x30) - BYPASS											In Progress	
LHS/LSR					RHS/LSR							
Crash Barrier	Slab	Girder Launc hing	Girder Castin g	Pier Cap/A bt Cap	Pier/A bt	Pile Cap	Pile	Pier Cap/A bt Cap	Girder Castin g	Girder Launc hing	Slab	Crash Barrier
A1												
P1												
P2												
P3												
P4												
P5												
P6												
P7												
A2												

MJB at Chainage 73+340 (9x30) - BYPASS											Completed	
MJB at Chainage 73+340 (9x30) - BYPASS											In Progress	
LHS/LSR					RHS/LSR							
Crash Barrier	Slab	Girder Launc hing	Girder Castin g	Pier Cap/A bt Cap	Pier/A bt	Pile Cap	Pile	Pier Cap/A bt Cap	Girder Castin g	Girder Launc hing	Slab	Crash Barrier
A1												
P1												
P2												
P3												
P4												
P5												
P6												
P7												
P8												
A2												

MJB at Chainage 99 + 583 (3x25) - EXISTING ROAD											Completed	
											In Progress	
LHS/LSR						RHS/LSR						
Crash Barrier	Slab	Girder Launc hing	Girder Castin g	Pier Cap/A bt Cap	Pier/A bt	Pile Cap	Pier/A bt	Pier Cap/A bt Cap	Girder Castin g	Girder Launc hing	Slab	Crash Barrier
A1												
P1												
P2												
A2												
MJB at Chainage 107 + 400 - BYPASS											Completed	
											In Progress	
LHS/LSR						RHS/LSR						
Crash Barrier	Slab	Girder Launc hing	Girder Castin g	Pier Cap/A bt Cap	Pier/A bt	Pile Cap	Pier/A bt	Pier Cap/A bt Cap	Girder Castin g	Girder Launc hing	Slab	Crash Barrier
A1												
P1												
P2												
P3												
P4												
P5												
P6												
P7												
P8												
P9												
P10												
P11												
P12												
P13												
P14												
P15												
P16												
P17												
P18												
P19												
A2												

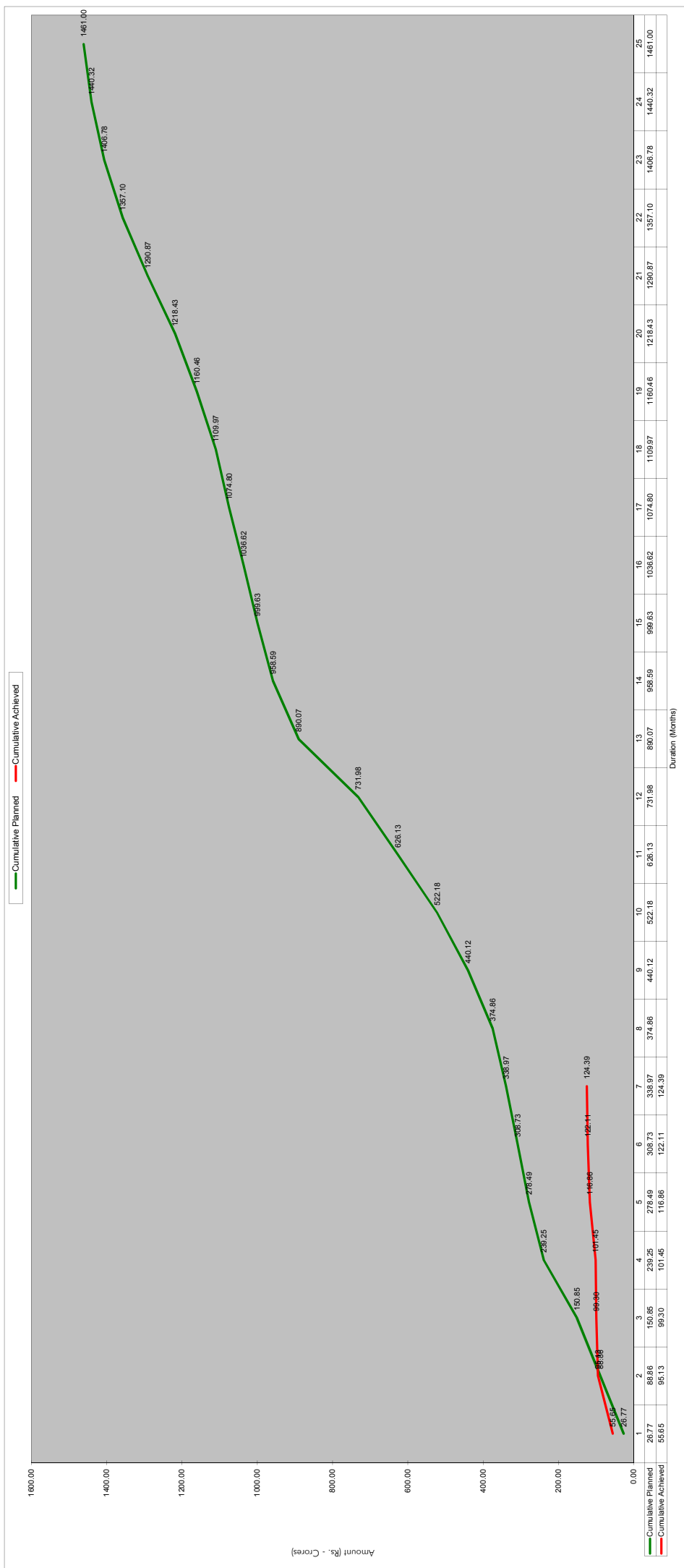
SETHYAHOPU CHOLOPURAM PROJECT - STATUS OF FLYOVER										Completed								In Progress												
Status upto	28.02.2019									LHS								RHS												
Sr.No.	FO at Chainage	Span				Crash Barrier	Slab	Girder Launching	Girder Casting	Piercap /Abicap	Pier /Abt	Pile Cap	Pier /Abt	Piercap /Abicap	Girder Casting	Girder Casting	Launchin	Slab	Crash Barrier	Pile	PCC	Pile Cap	Pier /Abt	Piercap /Abicap	Girder Casting	Girder Casting	Launchin	Slab	Crash Barrier	
1	69+785	1x30	BYPASS			A1 A2																								
2	74+655	1x30	BYPASS+EXISTING			A1 A2																								
3	80+556	1x30	EXISTING			A1 A2																								
4	80+720	1x30	EXISTING			A1 A2																								
5	95+455	2x30	EXISTING			A1 P1 A2																								
6	98+950	2x30	EXISTING			A1 P1 A2																								
7	104+570	1x30	BYPASS			A1 A2																								
8	110+110	1x30	EXISTING			A1 A2																								

SETHIYAHOPU CHOLOPURAM PROJECT - STATUS OF VUP										Completed										In Progress										
Status upto	28.02.2019										LHS										RHS									
SR.NO.	VUP at Chainage	Span				Crash Barrier	Slab	Girder Launching	Girder Casting	Piercap /Abcap	Pier /Abt	Pile Cap	PCC	Pile	Crash Barrier	Slab	Girder Launching	Girder Casting	Piercap /Abcap	Pier /Abt	Pile Cap	PCC	Pile							
1	72+545	1x25	BYPASS	A1																										
2	75+830	1x25	EXISTING	A1																										
3	86+677	1x25	EXISTING	A1																										
4	87+670	1x25	EXISTING	A1																										
5	90+580	1x25	EXISTING	A1																										
6	97+225	1x25	EXISTING	A1																										
7	101+910	1x25	EXISTING	A1																										
8	102+975	1x25	EXISTING	A1																										
9	106+318	1x25	BYPASS	A1																										
10	109+350	1x25	BYPASS	A1																										
11	111+235	1x25	BYPASS+EXIS TING	A1																										
12	113+550	1x25	BYPASS+EXIS TING	A1																										
13	115+258	1x25	EXISTING	A1																										

Figure 3: Financial Progress - Planned vs Achieved - S Curve

Four Laning of Sehiyahopu - Cholopuram from Km. 65.960 to 116.440 Section of NH45C in the state of Tamilnadu under NHDP-IV on Hybrid Annuity Mode

Fig. 03- Financial Progress (S-Curve)



Schedule	2019												2020												
	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Monthly Planned	26.77	62.10	61.99	88.40	39.24	30.24	30.24	35.88	65.26	82.06	103.95	105.85	158.09	68.52	41.04	36.99	38.18	35.17	50.49	57.96	72.45	66.23	49.67	33.54	20.68
Monthly Achieved	55.65	39.48	4.17	2.15	15.41	5.26	2.27																		
Cumulative Planned	26.77	88.86	150.85	239.25	278.49	308.73	338.97	374.86	440.12	522.18	626.13	731.98	890.07	958.59	999.63	1036.62	1074.80	1109.97	1160.46	1218.43	1280.87	1357.10	1406.78	1440.32	1461.00
Cumulative Achieved	55.65	95.13	99.30	101.45	116.86	122.11	124.39																		
Monthly Planned (%)	1.8%	4.3%	4.2%	6.1%	2.7%	2.1%	2.1%	2.5%	4.5%	5.6%	7.1%	7.2%	10.8%	4.7%	2.8%	2.5%	2.6%	2.4%	3.5%	4.0%	5.0%	4.5%	3.4%	2.3%	1.4%
Monthly Achieved (%)	3.8%	2.7%	0.3%	0.1%	1.1%	0.4%	0.2%																		
Cumulative Planned (%)	1.8%	6.1%	10.3%	16.4%	19.1%	21.1%	23.2%	25.7%	30.1%	35.7%	42.9%	50.1%	60.9%	65.6%	68.4%	71.0%	73.6%	76.0%	79.4%	83.4%	86.4%	92.9%	96.3%	98.6%	100.0%
Cumulative Achieved (%)	3.8%	6.5%	6.8%	6.9%	8.0%	8.4%	8.5%																		

6.1. List of Lab Equipment's

A site laboratory has been set up with all equipment required for testing soil, GSB, WMM, Bitumen, aggregate and concrete. Following tables represents the list of QA/QC equipment's available at Annaikarai & Meensurity Lab.

Table 6.1 - 1 QA/QC Lab Equipment at Annaikarai Lab		
Sl. NO	EQUIPEMENT LIST'S	QUANTITY
1	Compression Testing Machine 2000 Kn	1
2	Cement Mortar Vibrating Machine	1
3	Aiv Apparatus	1
4	Electrronic Weighing Balance (50 Kg)	1
5	Electrronic Weighing Balance (600 Gm)	1
6	Hot Air Oven(250° C)	1
7	Hot Plate	1
8	Rain Gauge	1
9	Sieve: As Per IS 460 -1962 200 Dia Brass Frame	
10	4.75 Mm	1
11	1.18 Mm	1
12	600 Mic	1
13	300 Mic	1
14	90 Mic	1
15	75 Mic	1
16	Pan With Lid	1
17	Sieve: As Per IS 460 -1962 200 Dia GI Frame	
18	40 Mm	1
19	20 Mm	1
20	12.5 Mm	1
21	10 Mm	1
22	4.75 Mm	1
23	2.36 Mm	1
24	Pan With Lid	1
25	Thickness Gauge	1
26	Glass Rain Measuring Jar (200CM ²)	2
27	GI Tray (18 X24 X50)	5
28	Enamel Tray (Medium)	4
29	Enamel Tray (Small)	6
30	Spactula Wooden Handle	8
31	Gi Tray ()	1
32	Iron Tray	1
33	Slump Cone Apparatus With Tamping Rod	2

Table 6.1 - 2 QA/QC Lab Equipment at Meensurity Lab

Sl. NO	EQUIPEMENT LIST'S	QUANTITY
1	Test Sieves Set 450mm Internal Diameter As Per IS Complete With Lid & Pan Of Hole Sizes	
A	100mm	2 Nos
B	75mm	2 Nos
C	90mm	2 Nos
D	63mm	2 Nos
E	53mm	2 Nos
F	50mm	2 Nos
G	45mm	2 Nos
H	40mm	2 Nos
I	37.5mm	2 Nos
J	31.5mm	2 Nos
K	26.5mm	2 Nos
L	25mm	2 Nos
M	22.4mm	2 Nos
N	20.0mm	2 Nos
O	19.0mm	2 Nos
P	18mm	2 Nos
Q	16mm	2 Nos
R	14mm	2 Nos
S	13.2mm	2 Nos
T	12.5mm	2 Nos
V	11.2mm	2 Nos
U	10mm	2 Nos
W	9.5mm	2 Nos
X	6.3mm	2 Nos
Y	5.6mm	2 Nos
Z	4.75mm	2 Nos
2	Test Sieves Set 200mm Internal Diameter (Brass Frame & Steel Or Brass Wire Cloth Mesh) As Per IS Complete With Lid & Pan Of Sieve	
A	37.5mm	2 Nos
B	26.5mm	2 Nos
C	22.4mm	2 Nos
D	19mm	2 Nos
E	16mm	2 Nos
F	14mm	2 Nos
G	13.2mm	2 Nos
H	12.5	2 Nos
I	11.2mm	2 Nos
J	10mm	2 Nos
K	9.5mm	2 Nos
L	4.75mm	2 Nos
M	2.8mm	2 Nos
N	2.36mm	2 Nos
O	2.0mm	2 Nos

Sl. NO	EQUIPEMENT LIST'S	QUANTITY
P	1.80mm	2 Nos
Q	1.7mm	2 Nos
R	1.4mm	2 Nos
S	1.18mm	2 Nos
T	1.0mm	3 Nos
V	0.600mm	2 Nos
U	0.425mm	2 Nos
W	0.355mm	2 Nos
X	0.300mm	2 Nos
Y	0.180	2 Nos
Z	0.090mm	2 Nos
Aa	0.075mm	6 Nos
3	Measuring Cylinder - Borosilicate Glass - 100ML	40 Nos
4	Glass Thermometer 00c To 3000c	10 Nos
5	Flash Filtering Borosil Glass - 2000ML	1 No
6	Flash Filtering Borosil Glass - 5000ML	1 No
7	Round Hot Plate	2 Nos
8	Measuring Cylinder - Borosilicate Glass - 1000ML	4 Nos
9	Measuring Cylinder - Borosilicate Glass - 250ML	4 Nos
10	Measuring Cylinder- Borosilicate Glass - 500ML	4 Nos
11	Beakers - Glass Borosil - Low From Cap 600ML	4 Nos
12	Compaction Pedestal - 4"	4 Nos
13	Extractor Plate - 6" Dia For Marshal Test	1 No
14	Rammer Marshal - 4"	4 Nos
15	Thermometer Infra Red - MTX - 2	2 Nos
16	LE - Chatlier Mould One Set Of Six	2 Nos
17	Cone Penetrometer	1 No
18	Los Angeles Abrasion Testing Machine	1 No
19	Marshal Mould - 4" Dia	51 Nos
20	G.I Tray - 1500*1500*100MM	4 Nos
21	Compaction Pedestal - 6"	1 No
22	Marshal Stability Apparatus	1 No
23	Measuring Cylinder- Plastic - 50ML	4 Nos
24	Measuring Cylinder- Plastic - 250ML	2 Nos
25	Measuring Cylinder- Plastic - 500ML	2 Nos
26	Measuring Cylinder- Plastic - 1000ML	2 Nos
27	Vibrating Machine With Digital Timer	1 No
28	Hot Air Oven - Thermostatic - Non Digital - 45*45*45 CM	1 No
29	Hot Air Oven - Thermostatic - Non Digital - 90*60*60 CM	1 No
30	Penetration Cup - 55*70 MM	2 Nos
31	Penetration Cup - 55*35MM	6 Nos
32	Standard Penetrometer - Automatic With Digital Timer	1 No
33	Proctor Compaction Mould 100mm Dia With 2.69kg Rammer Mid Steel	4 Nos
34	Proctor Compaction Mould 150mm Dia With 4.89kg Rammer Mid Steel	6 Nos
35	Proving Ring Compression Type 10kn	1 Nos

Sl. NO	EQUIPEMENT LIST'S	QUANTITY
36	Proving Ring Compression Type 2.5kn	1 Nos
37	Proving Ring Compression Type 25kn	1 Nos
38	Proving Ring Compression Type 50kn	1 Nos
39	Pycnometer Bottle	4 Nos
40	Rapid Moisture Meter-0-25%	4 Nos
41	Riffle Sample Divider -G.I-20mm , No Of Slot ;16	1 nos
42	Riffle Sample Divider -G.I-40mm , No Of Slot ;12	1 Nos
43	Pipette Borosilicate Glass - 10 MI	4 Nos
44	Sant Equivalent Value Test Apparaus With Accessories	1 Nos
45	Fileld Density Test App - Sand Replacement Method Small	2 Set
46	Shrinkage Limit Set W/O Mercury	1 Nos
47	Mercury 250 Gm	1 Nos
48	Buoyancy Balance	1 Nos
49	Spatula 8"	10 Nos
50	Spatula 4"	10 Nos
51	Standard Sand - Grade III - Bag Of 25 Kg	2 Nos
52	Standard Sand - Grade I - Bag Of 25 Kg	2 Bag
53	Standard Sand - Grade II - Bag Of 25 Kg	2 Bag
54	Stanard Penetrometer - Automatic With Digital Timer	1 Nos
55	Beaking Head Assembly - 6'	1 Nos
56	Bulk Density Cylindrical Metal Measure - 15 LTR	1 Nos
57	Bulk Density Cylindrical Metal Measure - 5 LTR	1 Nos
58	Bulk Density Cylindrical Metal Measure - 30 LTR	1 Nos
59	Calcium Carbide - 500 GM For Rapid Moisture Meter	10 Nos
60	Liquid Limits Device - Hand Operated	1 Nos
61	CBR Mould Mild Steel 150mm Dia Eith Coller And Base Plate	60 Nos
62	Perforated Plate - For CBR Test AS Per 1377	57 Nos
63	Spacer Disc - For CBR Test	4 nos
64	Surcharge Weight 2.5kg Annular For Cbr Test	120 nos
65	Cbr Load Frame Electrical Single Speed	1 nos
66	Chiesel 25mm Wide *300mm Long	20 nos
67	Compression Testing Machine 2000kn Digital Manual Pace	1 nos
68	Cube Moulds 7.06cm Isi Marked For Cement	12
69	Concrete mixer - Tilting drum type	1 No
70	Constant temperature waterbath for marshal test with digital	2 Nos
71	Core drilling machine with disel engine	1 No
72	Electronic weighing balance - 10KG	1 No
73	Cube moulds - 10CM	18 Nos
74	Cube moulds - 5CM	12 Nos
75	Electronic weighing balance - 600Gms	2 Nos
76	Dial gauge 0.01*30mm	4 Nos
77	Electronic platform balance - 100KG	1 Nos
78	Electronic weighing balance - 30KG	2 Nos
79	Electronic weighing balance - 50KG	2 Nos
80	Electronic weighing balance - 5KG	1 No
81	Stop watch - digital	4 Nos

Sl. NO	EQUIPEMENT LIST'S	QUANTITY
82	Direct shear apparatus	1 No
83	Bottle wash plastic - 1000ML	4 Nos
84	Length gauge	1 No
85	Tray - G.I 300*300MM (12"*12")	6 Nos
86	Enamel tray -300*250*40 mm (10"*12")	9 Nos
87	Tray G.I -300*250*40 mm (10"*12")	9 Nos
88	Enamel tray -450*600*40 mm (18"*12")	12 Nos
89	Field density test app -sand replacement method medium	2 Set
90	Field density test app -sand replacement method Large	2 Set
91	Filter paper for marshal test 100mm dia	10 PKT
92	Filter paper for CBR test 15cm dia PKT of 100 circles	10 PKT
93	Flakiness gauge - M.S .Chrome / powder coated	1 Nos
94	Pensky marten flash piot apparatus	1 Nos
95	Flexural strength testing machine curve	1 Nos
96	French curve	2 Nos
97	Slump test appratus with tamping rod 16mm dia *600mm long	9 Nos
98	Thermometer dial 100mm dia * 300mm long 00 - 3000c	10 Nos
99	Tripod stand for CBR test	4 Nos
100	Gauging trowel 6" (150mm)	4 Nos
101	U tube glass viscometer	1 Nos
102	Saybolt viscometer with energy regulator	1 Nos
103	Vacuum pump -Singal Stage	1 Nos
104	Vibrating table -60*60 CM	1 Nos
105	Needle final setting time for vicat needle appratus	1 Nos
106	Needle Intial setting time for vicat needle appratus	1 Nos
107	Vicat Needle apparatus	2 Nos
108	Hammer with Handle - 1000 GM	4 Nos
109	Aggregate Impact testing machine	1 Nos
110	Beakers - glass borosil - low form cap ; 600ML	2 Nos
111	Beam mould -15*15*70 CM - Mild steel	17 Nos

6.2. Quality Control Test Summary

GSB material, soil samples from borrow areas, aggregates, cement and bitumen are being tested regularly. Trial mix design for concrete with different admixtures is also in progress.

The detailed list of quality control test conducted up to the month of February - 2019 are tabulated below -

Four Lining of Sethiyahopu - Cholapuram From km 65.960 to km 116.440 Section of NH-45C in the State of TamilNadu Under NHDP Phase-IV on Hybrid Annuity Mode

Monthly Progress Report : Summary of Quality Control Report : Month of February-2019

S. No.	Description	IS Specification Clause	Frequency of Tests	Test conducted upto Previous month			Tests conducted during reporting month upto 28 th Feb-2019			Test conducted upto this month				
				No. of test Conducted EPC/ Concessionaire	Passed	Failed	Nos of test witnessed by IE	No. of test Conducted EPC/ Concessionaire	Passed	Failed	Nos of test witnessed by IE	No. of test Conducted EPC/ Concessionaire	Passed	Failed
1.0 Tests on OGL														
1.1	Grain size analysis	IS:2720 (Part4)	1 test / 250 meters	289	289	0	71	16	16	0	3	305	0	74
1.2	Atterberg Limits	IS:2720 (Part5)	1 test / 250 meters	289	289	0	71	16	16	0	3	305	0	74
1.3	Proctor	IS:2720 (Part8)	1 test / 250 meters	289	289	0	71	16	16	0	3	305	0	74
1.4	Free Swell index	IS:2720 (Part40)	1 test / 250 meters	289	284	5	71	16	16	0	3	305	5	74
1.5	California bearing ratio	IS:2720 (Part16)	As required	0	0	0	0	0	0	0	0	0	0	0
2.0 Borrow Area for EMB/Subgrade (MoRT&H 305)														
2.1	Grain size analysis	IS:2720 (Part4)	1 test /1500 m ³	121	121	0	88	20	20	0	8	141	0	96
2.2	Atterberg Limits	IS:2720 (Part5)	1 test /1500 m ³	121	121	0	88	20	20	0	8	141	0	96
2.3	Proctor	IS:2720 (Part8)	1 test /1500 m ³	121	121	0	88	20	20	0	8	141	0	96
2.4	Free Swell index	IS:2720 (Part40)	1 test /1500 m ³	121	121	0	88	20	20	0	8	141	0	96
2.5	California bearing ratio	IS:2720 (Part16)	1 test / 3000 m ³	0	0	0	0	0	0	0	0	0	0	0
3.0 Cutting portion & Existing for EMB/SG (MoRT&H 305)														
3.1	Grain size analysis	IS:2720 (Part4)	1 test /1500 m ³	0	0	0	0	2	2	0	2	0	0	2
3.2	Atterberg Limits	IS:2720 (Part5)	1 test /1500 m ³	0	0	0	0	2	2	0	2	0	0	2
3.3	Proctor	IS:2720 (Part8)	1 test /1500 m ³	0	0	0	0	2	2	0	2	0	0	2
3.4	Free Swell index	IS:2720 (Part40)	1 test /1500 m ³	0	0	0	0	2	2	0	2	0	0	2
3.5	California bearing ratio	IS:2720 (Part16)	1 test / 3000 m ³	0	0	0	0	0	0	0	0	0	0	0
4.0 FLYASH For Embankment														
4.1	Liquid Limit & Plastic limit	TABLE-1	1 test /1500 m ³	55	55	0	55	0	0	0	0	55	0	55
4.2	Maximum Dry Density	Clause 5.2	1 test /1500 m ³	55	55	0	55	0	0	0	0	55	0	55
5.0 Field Density Test MoRT&H 305														
5.1	Field density (OGL)	IS:2720 (Part28)	1 test /3000 sqm	517	505	12	130	0	0	0	0	517	12	130
5.2	EMB field density	IS:2720 (Part28)	1 test /3000 sqm	825	813	12	142	0	0	0	0	825	12	142
5.3	SG field density	IS:2720 (Part28)	1 test / 2000 sqm	0	0	0	0	0	0	0	0	0	0	0
5.4	Shoulder field density	IS:2720 (Part28)	1 test / 2000 sqm	0	0	0	0	0	0	0	0	0	0	0
6.0 Filter Media & Back filling MoRT&H 2500														
6.1	Gratation		As required	0	0	0	0	0	0	0	0	0	0	0
6.2	Backfilling field density		1 test /1000 m ³	0	0	0	0	0	0	0	0	0	0	0
6.3	RE Wall field density		As required	0	0	0	0	0	0	0	0	0	0	0

S. No.	Description	IS Specification Clause	Frequency of Tests	Test conducted upto Previous month			Tests conducted during reporting month upto 28 th Feb-2019			Test conducted upto this month					
				No. of test Conducted EPC/ Concessionaire	Passed	Failed	Nos. of test witnessed by IE	No. of test Conducted EPC/ Concessionaire	Passed	Failed	Nos. of test witnessed by IE	No. of test Conducted EPC/ Concessionaire	Passed	Failed	Nos. of test witnessed by IE
7.0 Safe Bearing capacity of soil															
7.1	Free Swell index	IS:2720 (Part40)	As required	35	31	4	35	8	8	0	4	43	39	4	39
7.2	Grain size analysis	IS:2720 (Part4)	As required	35	35	0	35	8	8	0	4	43	43	0	39
7.3	Atterberg limits	IS:2720 (Part5)	As required	0	0	0	0	0	0	0	0	0	0	0	0
7.4	Proctor	IS:2720 (Part8)	As required	35	35	0	35	8	8	0	4	43	43	0	39
7.5	Direct shear Test	IS:2720 (Part13)	As required	35	28	7	35	8	8	0	4	43	36	7	39
7.6	Bearing Capacity / Plate Load Test	IS:6403 / IS 1888	As required	1	1	0	1	2	2	0	2	3	3	0	3
8.0 CTSB Mix Design/Site Frequency MoRT&H 403															
8.1	Gradation	Table 400-4	1 test/400m ³	0	0	0	0	21	21	0	21	21	0	0	21
8.2	Atterberg Limits	IS:2720 (Part5)	1 test/400m ³	0	0	0	0	2	2	0	2	2	0	0	2
8.3	Proctor	IS:2720 (Part8)	As required	0	0	0	0	2	2	0	2	2	0	0	2
8.4	CBR Test or unconfined compressive	IS:2720 (Part16)	As required	0	0	0	0	0	0	0	0	0	0	0	0
8.5	Quality of cement		Minimum 1 test/5 tons	0	0	0	0	1	1	0	1	1	0	0	1
8.6	Aggregate Impact value	IS:2386 Part-4	As required	0	0	0	0	1	1	0	1	1	0	0	1
8.7	Field Density	IS:2720 (Part28)	1 set of 2 Test per	0	0	0	0	0	0	0	0	0	0	0	0
8.8	Specific gravity & Water absorption	IS:2386 (Part2)	As required	0	0	0	0	1	1	0	1	1	1	0	1
9.0 Granular Bedding Material (For Structures-Ground Improvement)- Mix Design															
9.1	Gradation	Table 400-1	1 test/400m ³	0	0	0	0	0	0	0	0	0	0	0	0
9.2	Atterberg Limits	IS:2720 (Part5)	1 test/400 m ³	0	0	0	0	0	0	0	0	0	0	0	0
9.3	Proctor	IS:2720 (Part8)	As required	0	0	0	0	0	0	0	0	0	0	0	0
9.4	CBR Test	IS:2720 (Part16)	As required	0	0	0	0	0	0	0	0	0	0	0	0
9.5	Aggregate Impact value	IS:2386 Part-4	As required	0	0	0	0	0	0	0	0	0	0	0	0
9.6	Field Density	IS:2720 (Part28)	1 Test per 1000sq.m	0	0	0	0	0	0	0	0	0	0	0	0
10.0 Granular Bedding Material (For Structures-Ground Improvement)- Site Frequency															
10.1	Gradation	Table 400-1	1 test/400m ³	0	3	0	3	0	0	0	0	0	3	0	3
10.2	Atterberg Limits	IS:2720 (Part5)	1 test/400 m ³	0	3	0	3	0	0	0	0	0	3	0	3
10.3	Proctor	IS:2720 (Part8)	As required	0	0	0	0	0	0	0	0	0	0	0	0
10.4	CBR Test	IS:2720 (Part16)	As required	0	0	0	0	0	0	0	0	0	0	0	0
10.5	Aggregate Impact value	IS:2386 Part-4	As required	0	0	0	0	0	0	0	0	0	0	0	0
10.6	Field Density	IS:2720 (Part28)	1 Test per 1000sq.m	90	90	0	21	0	0	0	0	90	90	0	21

S. No.	Description	IS Specification Clause	Frequency of Tests	Test conducted upto Previous month			Tests conducted during reporting month upto 28 th Feb-2019			Test conducted upto this month			
				No. of test Conducted EPC/ Concessionaire	Passed	Failed	Nos. of test witnessed by IE	No. of test Conducted EPC/ Concessionaire	Passed	Failed	Nos. of test witnessed by IE	No. of test Conducted EPC/ Concessionaire	Passed
11.0 WMM Mix Design													
11.1	Combined Gradation	Table 400-3	1 test/200m ³	0	0	0	0	0	0	0	0	0	0
11.2	Aggregate Impact Value	IS:2386 Part-4	1 test/ 1000 m ³	0	0	0	0	0	0	0	0	0	0
11.3	Flakiness & Elagation index	IS:2386 Part1	1 test/ 500 m ³	0	0	0	0	0	0	0	0	0	0
11.4	Atterberg Limits	IS:2720 (Part5)	1 test/200m ³	0	0	0	0	0	0	0	0	0	0
11.5	Water absorption	IS:2386 Part2	As required	0	0	0	0	0	0	0	0	0	0
11.6	Proctor	IS:2720 (Part8)	As required	0	0	0	0	0	0	0	0	0	0
11.7	CBR	IS:2720 (Part16)	As required	0	0	0	0	0	0	0	0	0	0
11.8	Field Density	IS:2720 (Part28)	1 set Test per 1000sq.m / 3 pits	0	0	0	0	0	0	0	0	0	0
12.0 WMM Site Frequency MoRt&H 406													
12.1	Combined Gradation	Table 400-3	1 test/200m ³	0	0	0	0	0	0	0	0	0	0
12.2	Aggregate Impact Value	IS:2386 Part-4	1 test/ 1000 m ³	0	0	0	0	0	0	0	0	0	0
12.3	Flakiness & Elagation index	IS:2386 Part1	1 test/ 500 m ³	0	0	0	0	0	0	0	0	0	0
12.4	Atterberg Limits	IS:2720 (Part5)	1 test/200m ³	0	0	0	0	0	0	0	0	0	0
12.5	Water absorption	IS:2386 Part2	As required	0	0	0	0	0	0	0	0	0	0
12.6	Proctor	IS:2720 (Part8)	As required	0	0	0	0	0	0	0	0	0	0
12.7	CBR	IS:2720 (Part16)	As required	0	0	0	0	0	0	0	0	0	0
12.8	Field Density	IS:2720 (Part28)	1 set Test per 1000sq.m	0	0	0	0	0	0	0	0	0	0
13.0 Prime Coat													
13.1	Rate of Spread of Binder		Three tests per day	0	0	0	0	0	0	0	0	0	0
14.0 Tack Coat													
14.1	Rate of Spread of Binder		Three tests per day	0	0	0	0	0	0	0	0	0	0
15.0 Fine Aggregate MoRt&H 1008													
15.1	Grade / Sieve analysis	IS:2386 (Part1)	1 test per day	192	192	0	94	45	45	237	237	0	102
15.2	Specific gravity & Water absorption	IS:2386 (Part2)	As required	16	16	0	15	0	0	16	16	0	15
15.3	Fineness Modulus	MORT&H Sec. 1008&383	1 test per day	50	50	0	22	45	45	95	95	0	30
15.4	Alkali aggregate reactivity test	IS:2386 (Part-7)IS : 456	1 test per source	0	0	0	0	0	0	0	0	0	0
15.5	Deleterious material/silt	IS:2386 (Part2)	1 test per source	0	0	0	0	0	0	0	0	0	0

S. No.	Description	IS Specification Clause	Frequency of Tests	Test conducted upto Previous month			Tests conducted during reporting month upto 28 th Feb-2019			Test conducted upto this month						
				No. of test Conducted EPC/ Concessionaire	Passed	Failed	No. of test witnessed by IE	No. of test Conducted EPC/ Concessionaire	Passed	Failed	No. of test witnessed by IE	No. of test Conducted EPC/ Concessionaire	Passed	Failed	Nos. of test witnessed by IE	
16.0 Coarse Aggregate MoRT&H 1007																
16.1	Gradation	IS:2386 (Part2)	1 test per day	192	192	0	105	45	45	0	8	237	237	0	113	
16.2	Specific gravity & Water absorption	IS:2386 (Part3)	As required	18	18	0	15	0	0	0	0	18	18	0	15	
16.3	Aggregate Impact Value	IS:2386 (Part4)	1 test / each source	79	79	0	51	17	17	0	5	96	96	0	56	
16.4	Flakiness index	IS:2386 (Part1)	1 test / each source	66	66	0	44	12	12	0	5	78	78	0	49	
16.5	Soundness	IS:2386 (Part5)	As required	0	0	0	0	0	0	0	0	0	0	0	0	
16.6	Alkali aggregate reactivity test	IS:2386 (Part-7) IS: 456	1 test per source	0	0	0	0	0	0	0	0	0	0	0	0	
16.7	Deleterious constituents	IS:2386 (Part2)	1 test per source	0	0	0	0	0	0	0	0	0	0	0	0	
16.8	Petrographic Examination	IS:2386 (Part8)	1 test per source	0	0	0	0	0	0	0	0	0	0	0	0	
17.0 Cement MoRT&H 1006																
17.1	Chemical test / Physical test	IS:4031,4032	1 test per source	4	4	0	4	0	0	0	0	4	4	0	4	
17.2	Fineness	IS:4031 (Part1)	Every batch	106	106	0	98	14	14	0	4	120	120	0	102	
17.3	Normal Consistency	IS:4031 (Part4)	Every batch	106	106	0	98	14	14	0	4	120	120	0	102	
17.4	Initial, Final setting time	IS:4031 (Part5)	Every batch	106	106	0	98	14	14	0	4	120	120	0	102	
17.5	Soundness of Cement	IS:4031 (Part3)	Every batch	78	78	0	75	14	14	0	4	92	92	0	79	
17.6	Compressive Strength-set	IS:4031 (Part6)														
	3 days		1 test per Lot	75	75	0	64	16	16	0	3	91	91	0	67	
	7 days		1 test per Lot	72	72	0	62	16	16	0	4	88	88	0	66	
	28 days		1 test per Lot	61	61	0	53	16	16	0	4	77	77	0	57	
18.0 Water																
18.1	Chemical test	IS:2386	1 test per source	2	2	0	2	0	0	0	0	2	2	0	2	
19.0 Admixture																
19.1	Physical Properties	IS:9103	1 test per Lot	2	2	0	2	1	1	0	1	3	3	0	3	
19.2	Chemical Test	IS:9103	1 test per source	2	2	0	2	0	0	0	0	2	2	0	2	
20.0 Steel																
20.1	8 mm Dia	IS:1786	Physical Properties & Chemical Test 2 test per Lot	2	2	0	2	0	0	0	0	2	2	0	2	
20.2	10 mm Dia	IS:1786		5	5	0	5	0	0	0	0	5	5	0	5	
20.3	12 mm Dia	IS:1786		5	5	0	5	0	0	0	0	5	5	0	5	
20.4	16 mm Dia	IS:1786		5	5	0	5	0	0	0	0	5	5	0	5	
20.5	20 mm Dia	IS:1786		5	5	0	5	0	0	0	0	5	5	0	5	
20.6	25 mm Dia	IS:1786		1	1	0	1	0	0	0	0	1	1	1	0	1
20.7	32 mm Dia	IS:1786		2	2	0	2	0	0	0	0	2	2	2	0	2

S. No.	Description	IS Specification Clause	Frequency of Tests	Test conducted upto Previous month			Tests conducted during reporting month upto 28 th Feb-2019			Test conducted upto this month					
				No. of test Conducted EPC/ Concessionaire	Passed	Failed	Nos. of test witnessed by IE	No. of test Conducted EPC/ Concessionaire	Passed	Failed	Nos. of test witnessed by IE	No. of test Conducted EPC/ Concessionaire	Passed	Failed	Nos. of test witnessed by IE
21.(A) Concrete Cube Strength															
	M15 PCC														
	7Days Compressive Strength	MORT&H Sec. 1700	MORT&H Sec. 1700 No of sets	88	85	0	76	9	9	0	3	97	94	0	79
	28Days Compressive Strength			136	136	0	126	18	18	0	3	154	154	0	129
	M20 PCC														
	7Days Compressive Strength	MORT&H Sec. 1700	MORT&H Sec. 1700 No of sets	0	0	0	0	0	0	0	0	0	0	0	0
	28Days Compressive Strength			0	0	0	0	0	0	0	0	0	0	0	0
	M25 RCC														
	7Days Compressive Strength	MORT&H Sec. 1700	MORT&H Sec. 1700 No of sets	0	0	0	0	0	0	0	0	0	0	0	0
	28Days Compressive Strength			0	0	0	0	0	0	0	0	0	0	0	0
	M30 RCC														
	7Days Compressive Strength	MORT&H Sec. 1700	MORT&H Sec. 1700 No of sets	64	64	0	52	8	8	0	2	72	72	0	54
	28Days Compressive Strength			127	127	0	86	30	30	0	11	157	157	0	97
	M30 RCC PUMPABLE														
	7Days Compressive Strength	MORT&H Sec. 1700	MORT&H Sec. 1700 No of sets	0	0	0	0	2	2	0	1	2	2	0	1
	28Days Compressive Strength			0	0	0	0	0	0	0	0	0	0	0	0
	M35 RCC														
	7Days Compressive Strength	MORT&H Sec. 1700	MORT&H Sec. 1700 No of sets	86	86	0	84	11	11	0	3	97	97	0	87
	28Days Compressive Strength			142	142	0	134	40	40	0	9	182	182	0	143
	M35 RCC PILING														
	7Days Compressive Strength	MORT&H Sec. 1700	MORT&H Sec. 1700 No of sets	162	162	0	152	26	26	0	4	188	188	0	156
	28Days Compressive Strength			329	323	0	304	60	60	0	12	389	383	0	316
	M35 RCC PUMPABLE														
	7Days Compressive Strength	MORT&H Sec. 1700	MORT&H Sec. 1700 No of sets	37	37	0	25	14	14	0	2	51	51	0	27
	28Days Compressive Strength			75	75	0	43	45	45	0	24	120	120	0	67
	M35 RE BLOCK														
	7Days Compressive Strength	MORT&H Sec. 1700	MORT&H Sec. 1700 No of sets	61	61	0	59	8	8	0	2	69	69	0	61
	28Days Compressive Strength			175	175	0	167	32	32	0	8	207	207	0	175
	M40 RCC														
	7Days Compressive Strength	MORT&H Sec. 1700	MORT&H Sec. 1700 No of sets	3	3	0	3	0	0	0	0	3	3	0	3
	28Days Compressive Strength			6	6	0	6	0	0	0	0	6	6	0	6
	M40 PILE														
	7Days Compressive Strength	MORT&H Sec. 1700	MORT&H Sec. 1700 No of sets	54	54	0	54	0	0	0	0	54	54	0	54
	28Days Compressive Strength			114	114	0	114	0	0	0	0	114	114	0	114

S. No.	Description	IS Specification Clause	Frequency of Tests	Test conducted upto Previous month			Tests conducted during reporting month upto 28 th Feb-2019			Test conducted upto this month									
				No. of test Conducted EPC/ Concessionaire	Passed	Failed	Nos. of test witnessed by IE	No. of test Conducted EPC/ Concessionaire	Passed	Failed	Nos. of test witnessed by IE	No. of test Conducted EPC/ Concessionaire	Passed	Failed	Nos. of test witnessed by IE				
	M45 RCC																		
	7Days Compressive Strength	MORT&H Sec. 1700	MORT&H Sec. 1700 No of sets	3	3	0	3	0	0	0	0	0	3	3	0	0	3	3	0
	28Days Compressive Strength			6	6	0	0	0	0	0	0	0	0	6	6	0	0	6	6
	M50 RCC																		
	7Days Compressive Strength	MORT&H Sec. 1700	MORT&H Sec. 1700 No of sets	3	3	0	3	0	0	0	0	0	3	3	0	0	3	3	0
	28Days Compressive Strength			0	0	0	0	0	0	6	6	0	0	6	6	0	0	6	6
	M60 RCC																		
	7Days Compressive Strength	MORT&H Sec. 1700	MORT&H Sec. 1700 No of sets	3	3	0	3	0	0	0	0	0	3	3	0	0	3	3	0
	28Days Compressive Strength			0	0	0	0	6	6	6	6	0	0	6	6	0	0	6	6

7. Weather Report

DATE	Temperature (°C)		Rainfall in mm	Humidity in %		Remarks
	Min	Max		Min	Max	
01-02-2019	22.8	32.8	0	50	83	Sunny
02-02-2019	21.8	32.7	0	45	83	Sunny
03-02-2019	23.5	33.8	0	42	85	Sunny
04-02-2019	24.6	33.8	0	42	82	Sunny
05-02-2019	25.4	33.0	0	52	83	Sunny
06-02-2019	24.1	33.7	0	46	85	Sunny
07-02-2019	24.1	34.4	0	47	85	Sunny
08-02-2019	26.8	36.9	0	42	86	Sunny
09-02-2019	26.8	35.8	0	43	89	Sunny
10-02-2019	26.4	36.9	0	42	87	Sunny
11-02-2019	26.2	33.6	0	49	88	Sunny
12-02-2019	25.1	33.6	0	49	89	Sunny
13-02-2019	24.2	33.6	0	49	86	Sunny
14-02-2019	24.5	33.6	0	49	79	Sunny
15-02-2019	25.6	34.5	0	47	87	Sunny
16-02-2019	25.1	37.0	0	43	82	Sunny
17-02-2019	27.6	41.1	0	40	84	Sunny
18-02-2019	27.5	41.1	0	40	89	Sunny
19-02-2019	28.4	41.1	0	40	87	Sunny
20-02-2019	26.0	41.1	0	40	92	Sunny
21-02-2019	24.5	34.8	0	43	87	Sunny
22-02-2019	24.7	34.8	0	38	85	Sunny
23-02-2019	23.3	36.5	0	32	78	Sunny
24-02-2019	24.8	36.5	0	32	81	Sunny
25-02-2019	25.0	37.7	0	32	81	Sunny
26-02-2019	26.2	38.8	0	32	88	Sunny
27-02-2019	26.6	39.5	0	32	84	Sunny
28-02-2019	28.1	38.4	0	40	82	Sunny

Various issues related to environment and safety, such as traffic management, safety signage, disposal of waste materials and oil spillage, housekeeping, area barricading and traffic management, etc., are being taken care of during the execution of the project.

Periodic Safety meetings being conducted on a regular basis and the details of the photographs for the same along with action taken are as below.



Concessionaire requests NHAI to take early action on the following issues:

1. Pending Disbursement of Payment to the beneficiaries from CALA towards Land and Buildings.
2. Payment of Supervision charges for TNEB for relocation of Electrical lines in Thanjavur District and Ariyalur District.
3. Relocation of High Tension transmission tower lines.
4. Change of Scope notice required for relocation of VUP @ Km 113+500 due to existence of electrical substation of TANGENDCO at Km:113+700 to 113+800(RHS).
5. NOC from PWD/WRO for commencement construction activities of Irrigation Structures.
6. Permission from Local Authorities for procurement of Borrow Earth from Irrigation Tanks.
7. In sufficient Right of Way with respect to the land handed over as per Clause 10.3.1 of Concession Agreement at the time of Signing of Joint Memorandum.
8. Payment disbursement and necessary clearances required for removal of religious and Govt buildings.
9. Necessary permission required for removal or relocation of irrigation Sluices.
10. Permission required for rerouting of irrigation channels.

Table 10.1. Details of Important Events			
Sl. No	Date of Events	Description of Events	Remarks
1)	04-02-2019 to 10-02-2019	Observance of 30th National Road Safety Week	
2)	11-02-2019	Meeting with Spl. DRO Land Acquisition, Thiruvarur	
3)	12-02-2019	Meeting Principal Secretary at Chennai	

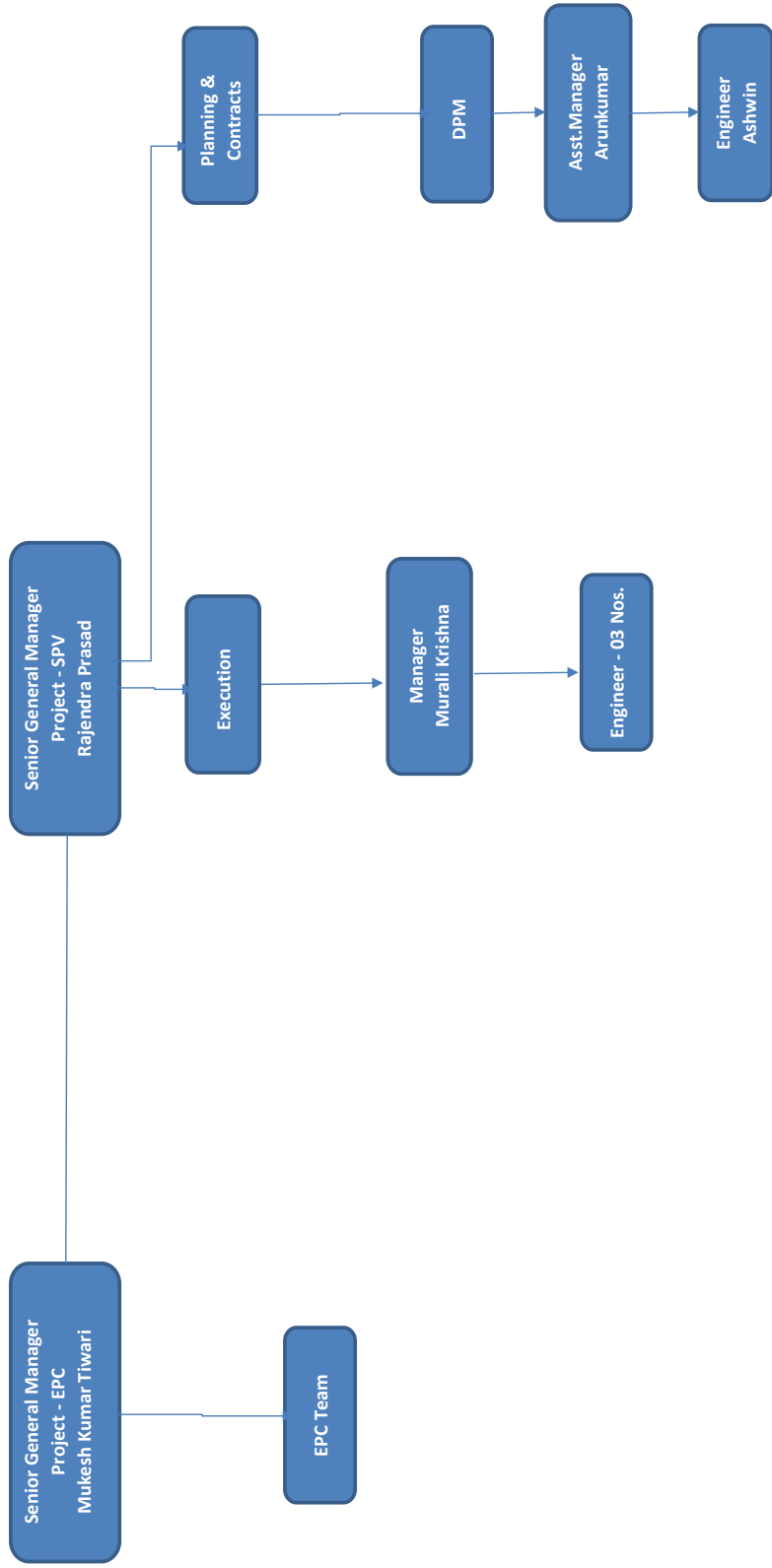
The following figures represents the organization structure of the EPC and SPV Team.

1. Fig. 4 - Organization Chart - EPC Team
2. Fig. 5 - Organization Chart - SPV Team

FIGURE 4 - ORGANIZATION CHART - EPC TEAM



FIGURE 5 - ORGANIZATION CHART - SPV TEAM



12. List of Plants, Machinery and Equipment's

Table 12.1 - List of Plants, Machinery and Equipment's				
S. No.	Name of the Machinery	Capacity / Model	Mobilized in Nos.	Remarks
1	Grader	120K2	9	
2	Excavator	JCB-220	9	
3	Dozer		3	
4	Soil Compactor	HAMM 311	8	
5	Backhoe Loader	JCB 3DX	7	
6	Tipper	Bharat Benz- 3128C	73	
7	Transit Mixture	2523C	8	
8	Loader	455 ZX	4	
9	Trailer		2	
10	Water Tanker		5	
11	Boom Placer	S-36	1	
12	Tractor	5036 D V-2	2	
13	Mobile Service Van		1	
14	Tower Light	AJASKY	3	
11	Hydra Crane		2	
12	Asphalt Batch Mix Plant		1	Erection in Progress
13	Wet Mix Plant	250 TPH	1	Erection in Progress
14	Concrete Batch Mix Plant	45 cum	2	
15	Concrete Batch Mix Plant	60 cum	1	
16	Crusher Plant (3 Stage)	250 TPH	2	
17	Weigh Bridge for Camp 100MT	100MT	3	
18	Weigh Bridge for Crusher 100MT	100MT	2	
19	Genset Base Camp	25KV	1	
20	Genset 63KVA Boiler	63KVA Boile	1	
21	Genset (H.M & B/P)	82.50KV	3	
22	Genset (B/P-CP-45)	125KV	2	
23	Genset Concrete Plant-180 KVA	180 KVA	1	
24	Genset (Crusher)	1010KVA	3	

13. Change of Scope Proposals

Table 13.1 - Status of Change of Scope Proposals

Sl. No	Proposal Details	Date of Proposal	Current Status	COS Amount	Actual Date of Approval
1	Replacement of Pipe Culvert with box Culvert	25.04.2018	Approved in-principle by Authority. Preparation of Details Quantities in proper order is in Progress.	NA	NA
2	Relocation of VUP from Km. 113+550 to Km. 113+273	13.11.2018	The proposal for Shifting of VUP at Km. 113+550 had been submitted to IE/Authority through letter no. PSCHPL/HO/IE/101/2018 dated 13.11.2018 and awaiting for the change of scope Notice from IE/ Authority.	NA	NA

The following tables list out the correspondences between the parties.

Table 14.1. - Concessionaire to NHAI

Table 14.2. - NHAI to Concessionaire

Table 14.3. - Concessionaire to Independent Engineer

Table 14.4. - Independent Engineer to Concessionaire

TABLE 14.1 - CORRESPONDANCE - CONCESSIONAIRE TO NHAI				
S.No	Date	Letter No	Subject	Remarks
1	06.02.2019	PSCHPL/SCP/NHAI/2019/268	Regarding details of Stretches under hindrance in project Highway	
2	12.02.2019	PSCHPL/SCP/NHAI/2019/278	Filling of Annual return by the contractors through shram suvidha portal	
3	12.02.2019	PSCHPL/SCP/NHAI/2019/279	Sadak Suraksha -Jeevan Raksha - Observance of 30th National Road Safety Week during 04th to 10th February 2019	
4	18.02.2019	PSCHPL/SCP/NHAI/2019/283	Disruption of construction activities due to delay in disbursement of payment to the effected land owners in the sethiyahopu bypass	
5	04.02.2019	PSCHPL/SCP/NHAI/2019/284	Disruption of Construction activities by local villagers in Sethiyahopu bypass	
6	19.02.2019	PSCHPL/SCP/NHAI/2019/285	Felling of Teak Wood Trees in Thirupanandal Village	
7	20.02.2019	PSCHPL/SCP/NHAI/2019/286	Source approval for HT Strands from Ms Usha martin Limited Joint Factory inspection requested	
8	20.02.2019	PSCHPL/HO/SCP/IE/0003/2019	Notice of Occurrence of "Force Majeure : Political Event " Under Article - 28, 28.4 (C) of the Concession Agreement"	
9	25.02.2019	PSCHPL/SCP/NHAI/2019/287	Permission to extract soil from proposed borrow areas in Cuddalore District	

TABLE 14.2 - CORRESPONDANCE - NHAI TO CONCESSIONAIRE						
S.No	Date	Letter No	Subject	Remarks		
1	01.02.2019	NHAI/PIU/Thanj/11025/11/2018/243	Pending Compensation payment for land in Thanjavur District Package II- Encumbrance free land requested by concessionaire			
2	11.02.2019	NHAI/PIU/Thanj/11025/11/2018/246	Remittance towards contribution of welfare cess Tamilnadu workers general welfare Board			
3	11.02.2019	NHAI/PIU/Thanj/11025/18/2018/318	Submission of GAD for 07 Nos of Proposed Minor Bridges for the Concurrences of Tamilnadu PWD-WRO-NOC Issued Communicated			
4	11.02.2019	NHAI/PIU/Thanj/11025/18/2018/323	Submission of GAD for 05 Nos of Proposed Minor Bridges & 1 Nos of major Bridge for the Concurrences of Tamilnadu PWD-WRO-NOC Issued Communicated			
5	13.02.2019	NHAI/PIU/Thanj/11025/18/2018/337	Submission of GAD for 01 Nos of Proposed Minor Bridges for the Concurrences of Tamilnadu PWD-WRO-NOC Issued Communicated			
6	16.02.2019	NHAI/PIU/Thanj/11019/52/2017/370	Independent Consultancy services for the month of December 2018-50% Claim			
7	16.02.2019	NHAI/PIU/Thanj/11025/17/2018/378	Lifting of pond ash for road works			

TABLE 14.3 - CORRESPONDANCE - CONCESSIONAIRE TO INDEPENDENT ENGINEER				
S.No	Date	Letter No	Subject	Remarks
1	01.02.2019	PSCHPL/SCP/IE/2018/264	Compliance to observations on revised super structure design & drawings (R1) and foundation substructure design & Drawing (R0) for major bridge at ch 73+340	
2	01.02.2019	PSCHPL/SCP/IE/2018/265	Compliance to Observations on submitted revised structure Design & Drawing (R1) of Major Bridge at design Ch 66+543	
3	05.02.2019	PSCHPL/SCP/IE/2019/266	Submission of Monthly Progress Report For the month of January	
4	06.02.2019	PSCHPL/SCP/IE/2019/267	Disruption of Construction activities by local Villager at Km 91 + 730 to Km 98+900 of Kundaveii (East) and Muthuservamodam village	
5	07.02.2019	PSCHPL/SCP/IE/2019/269	Procurement of HDPE Duct from M/s Dynamic Prestress Pvt Ltd	
6	07.02.2019	PSCHPL/SCP/IE/2019/270	Procurement of pot Bearing from Ms Dynamic Prestress Pvt Ltd	
7	07.02.2019	PSCHPL/SCP/IE/2019/271	Submission of Prestressing Credential from M/s Dynamic Prestress Pvt Ltd	
8	07.02.2019	PSCHPL/HO/SCP/IE/001/2019	SC Project - PSHCPL no. 001 dated 07.02.2019 for onward Submission of Design & Drawing of 4 Nos Minor Bridge at Design chainage Km.70+190, Km.84+987, Km.73+820 and Km.84+725	
9	09.02.2019	PSCHPL/SCP/IE/2019/272	Procurement of Admixture from M/s Sika India Private Limited	
10	09.02.2019	PSCHPL/SCP/IE/2019/273	Procurement of Waterproofing Membranes for Bridge Decks from Tiki Tar Danosa (India) Private ltd	
11	11.02.2019	PSCHPL/SCP/IE/2019/274	Submission of Drawings for 04 Nos of Minor Bridges	
12	12.02.2019	PSCHPL/SCP/IE/2019/275	Third Party Laboratory Tests for all Procured materials	
13	12.02.2019	PSCHPL/SCP/IE/2019/276	Workmanship of Structures-Compliance report	
14	12.02.2019	PSCHPL/SCP/IE/2019/277	Submission of Design & Drawings of VUP at Km 72+545 and Km 109+345	
15	14.02.2019	PSCHPL/SCP/IE/2019/280	Compliance report-NCR-01 - Improper ground improvement of Box Culvert at Km 76+390	
16	14.02.2019	PSCHPL/SCP/IE/2019/281	Submission of plate load test results along with revised method statement for ground improvement of weak soils	
17	18.02.2019	PSCHPL/SCP/IE/2019/282	Procurement of Bitumen from from HPCL, Chennai	
18	18.02.2019	PSCHPL/HO/SCP/IE/002/2019	Submission of Plan & Profile drawings of Service/ Slip Road of Project Highway	
19	20.02.2019	PSCHPL/SCP/IE/2019/286	Source approval for HT Strands from Ms Usha martin Limited Joint Factory inspection requested	
20	25.02.2019	PSCHPL/SCP/IE/2019/288	Submission of Plan and Profile drawing (Revision 5) of Project Highway	
21	25.02.2019	PSCHPL/SCP/IE/2019/289	Reason for slow progress and delay in achievement of Progress milestone.01	

TABLE 14.4 - CORRESPONDANCE - INDEPENDENT ENGINEER TO CONCESSIONAIRE / NHAI

S.No	Date	Letter No	Subject	Remarks
1	04.02.2019	TES/E/SCP/NHAI/2019/057	Widening of existing Box Culvert at Km 110+785-Change of Scope Proposal	
2	05.02.2019	TES/E/SCP/PII/2019/222	Submission of Structure Design and Drawing of Minor Bridges at Ch.105+915, Ch.112+810	
3	05.02.2019	TES/E/SCP/PII/2019/223	Detailed design and shop drawings for POT cum PTFE Bearings to be used in Grade Separators	
4	11.02.2019	TES/E/SCP/PII/2019/224	Submission of Revised Structure design and drawing of Minor Bridges at km 70+190, Km 73+320, Km 84+725 and km 84+98Minor Bridges at Km.70+190, Km 73+320, Km 84+725 and Km 84+987 - 3 Nos Concurrence	
5	11.02.2019	TES/E/SCP/PII/2019/225	List of Minor Major repair and Distressed Structures pertaining to RO NHAI Madurai (PIU-Wise)- MOM-Communicated	
6	11.02.2019	TES/E/SCP/PII/2019/226	Ms Dynamic Pre-stress Pvt Ltd, Nashik (HDPE Sheathing Duct)	
7	11.02.2019	TES/E/SCP/PII/2019/227	Ms Dynamic Pre-stress Pvt Ltd, Nashik (POT-PTFE) Bearings	
8	11.02.2019	TES/E/SCP/PII/2019/228	Submission of MPR for the Month of January 2019	
9	11.02.2019	TES/E/SCP/PII/2019/229	Submission of alternates proposal for VUP at Km 113+550 due to hindrance/obstruction of electrical substation within the proposed carriageway	
10	14.02.2019	TES/E/SCP/NHAI/2019/59	Hindrance/Obstruction of Religious Structures along the Project Highway	
11	15.02.2019	TES/E/SCP/PII/2019/234	Submission of Credential of M/s Sika India Pvt Ltd for Admixture	
12	18.02.1019	TES/E/SCP/PII/2019/235	Source approval for Ms Tikitar Damosa India Pvt Ltd as Waterproofing membranes for bridges	
13	18.02.2019	TES/E/SCP/PII/2019/236	NOC Issued from PWD/WRO Communicated	
14	18.02.2019	TES/E/SCP/PII/2019/237	Submission of Structure Design and Drawing of Minor Bridge at Ch.105+915	
15	21.02.2019	TES/E/SCP/PII/2019/238	Source Approval for Procurement of Bitumen from M/s HPCL Chennai	
16	23.02.2019	TES/E/SCP/PII/2019/239	Submission of Design and Drawing for Box Culverts at Km 110+795, Km 113+897, Km 114+315 and Km 115+884	
17	23.02.2019	TES/E/SCP/NHAI/2019/64	Site Visit held on 24.10.2018 by the General manger (T) & Regional Officer-NHAI Madurai	
18	26.02.2019	TES/E/SCP/PII/2019/240	Submission of revised design and drawing for VUPs at Km 72+545 and Km 109+345	
19	26.02.2019	TES/E/SCP/PII/2019/241	Third Party Laboratory test reports for all the procured materials-Reminder 3	
20	28.02.2019	TES/E/SCP/PII/2019/242	Submission of Revised Design and Drawing of Minor Bridges 04 Nos	

15. Progress Photographs

Sl. No	Description	Location	Side	Remarks
1.	Dismantling of Existing Structures	95+250		



Sl. No	Description	Location	Side	Remarks
2.	Dismantling of Existing Structures	87+550	LHS	



Sl. No	Description	Location	Side	Remarks
3.	Highway works in Progress at Sethiyahopu Bypass	66+700 to 67+300	BHS	



Sl. No	Description	Location	Side	Remarks
4.	ROW Clearing works in progress at Thirupanandal Bypass	112+800 to 113+000	BHS	-



Sl. No	Description	Location	Side	Remarks
5.	Box Culvert Raft Work Completed	74+675	RHS	
6.	Box Culvert wall in progress	69+357	BHS	



Sl. No	Description	Location	Side	Remarks
7.	Box Culvert Slab In Progress	83+012	LHS	
8.	Box Culvert Slab Completed	83+065	LHS	



Sl. No	Description	Location	Side	Remarks
9.	Minor Bridge- R/W 2 ND Lift Completed	88+513	LHS	
10.	Minor Bridge - A1 End Box Slab Completed	92+342	LHS	



Sl. No	Description	Location	Side	Remarks
11.	Minor Bridge- Wall 2 nd Lift in progress	74+605	BHS	
12.	Minor Bridge - Slab staging works in progress	74+173	LHS	



Sl. No	Description	Location	Side	Remarks
13.	VUP- A1 – LHS Pile Work In Progress	102+975	LHS	
14.	VUP - A2 RHS Abut. Wall In Progress	75+830	RHS	



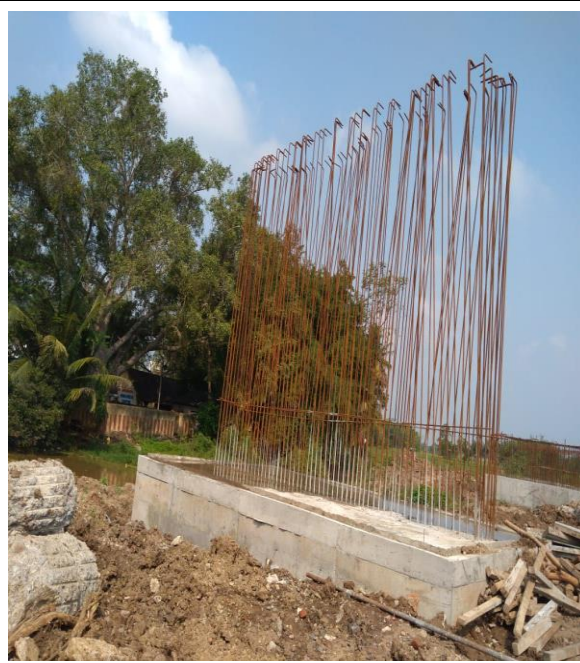
Sl. No	Description	Location	Side	Remarks
15.	VUP- A2 RHS – Abut. Wall Completed	97+225	RHS	
16.	VUP - A1 & A2 -BHS – Abut. Cap Completed	106+318	BHS	



Sl. No	Description	Location	Side	Remarks
17.	L-VUP - Raft Completed	112+643	RHS	
18.	GSI - A1 Pile Chipping In Progress	110+110	LHS	



Sl. No	Description	Location	Side	Remarks
19.	GSI - A1 Pile Cap Completed	74+655	LHS	
20.	GSI - A1 Pile Cap Completed	74+655	RHS	



Observance of 30th National Road safety Week
04th Feb 2019 - 10th Feb 2019

Sl. No	Description	Location	Side	Remarks
21.	National Road safety Week celebration and awareness program at Base Camp	Base Camp, Patteshwaram	-	-
22.				



Sl. No	Description	Location	Side	Remarks
23.	Session on Road Safety in public school – Meensuriti village.	-	-	
24.	Road Safety Training programme for drivers & operators	-	-	

