National Highways Authority of India

(Ministry of Road Transport & Highways)

PATEL CHOLOPURAM-THANJAVUR HIGHWAY PRIVATE LIMITED

Four laning of Cholopuram - Thanjavur from Km 116.440 to Km.164.275 section of NH-45C in the state of Tamilnadu under NHDP Phase-IV on Hybrid Annuity Mode.

INDEPENDENT ENGINEER

M/s. Theme Engineering Services Pvt. Ltd

# MONTHLY PROGRESS REPORT

# NOVEMBER 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.

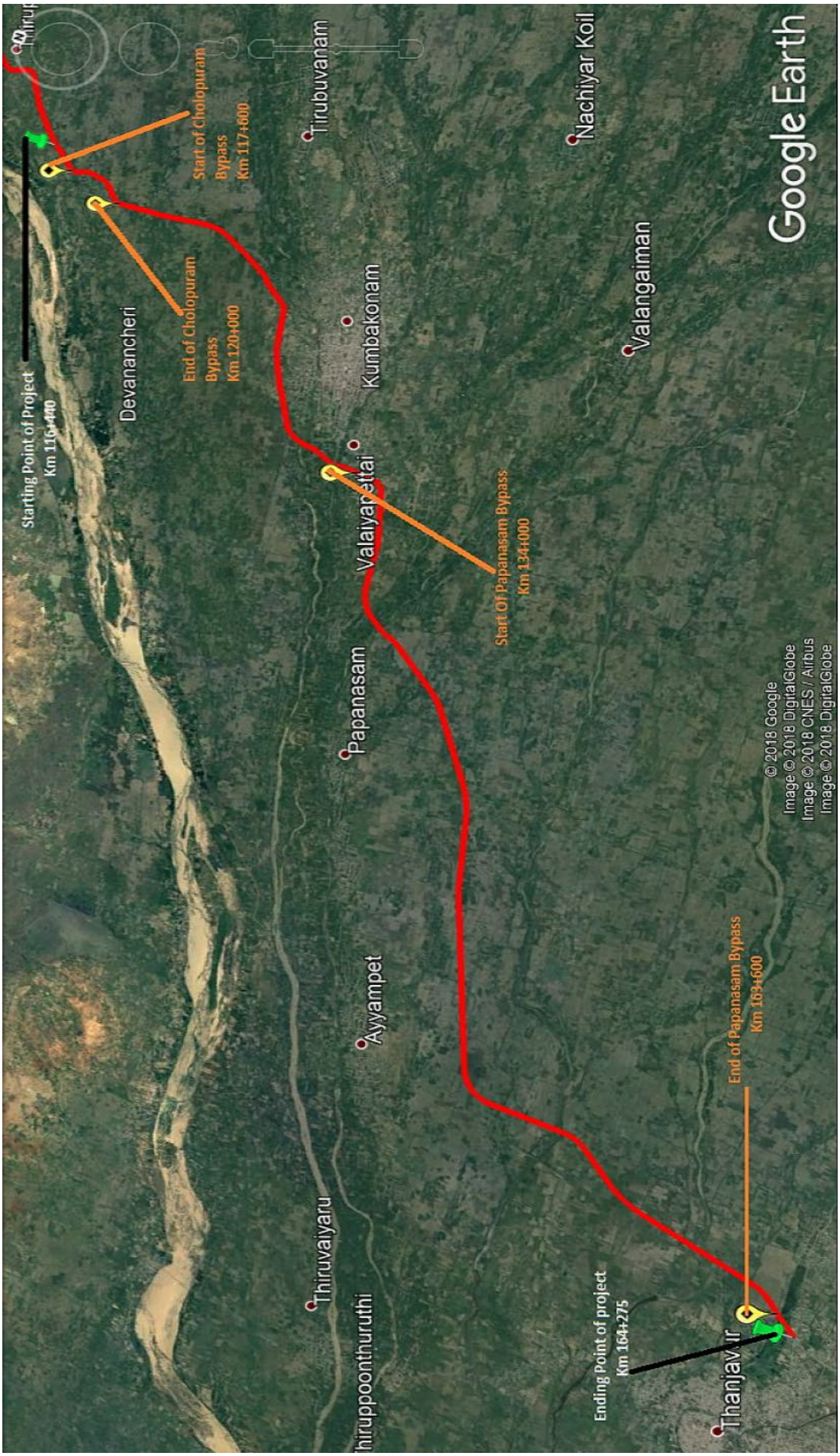
The Cholopuram to Thanjavur section of NH-45C is an important link to connect Metropolitan city of Chennai to religious and tourist places of Kumbakonam, Thanjavur, Tiruchirapalli. The project is also expected to provide improved connectivity to other religious places & other major cities like Thanjavur,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

### Project Synopsis

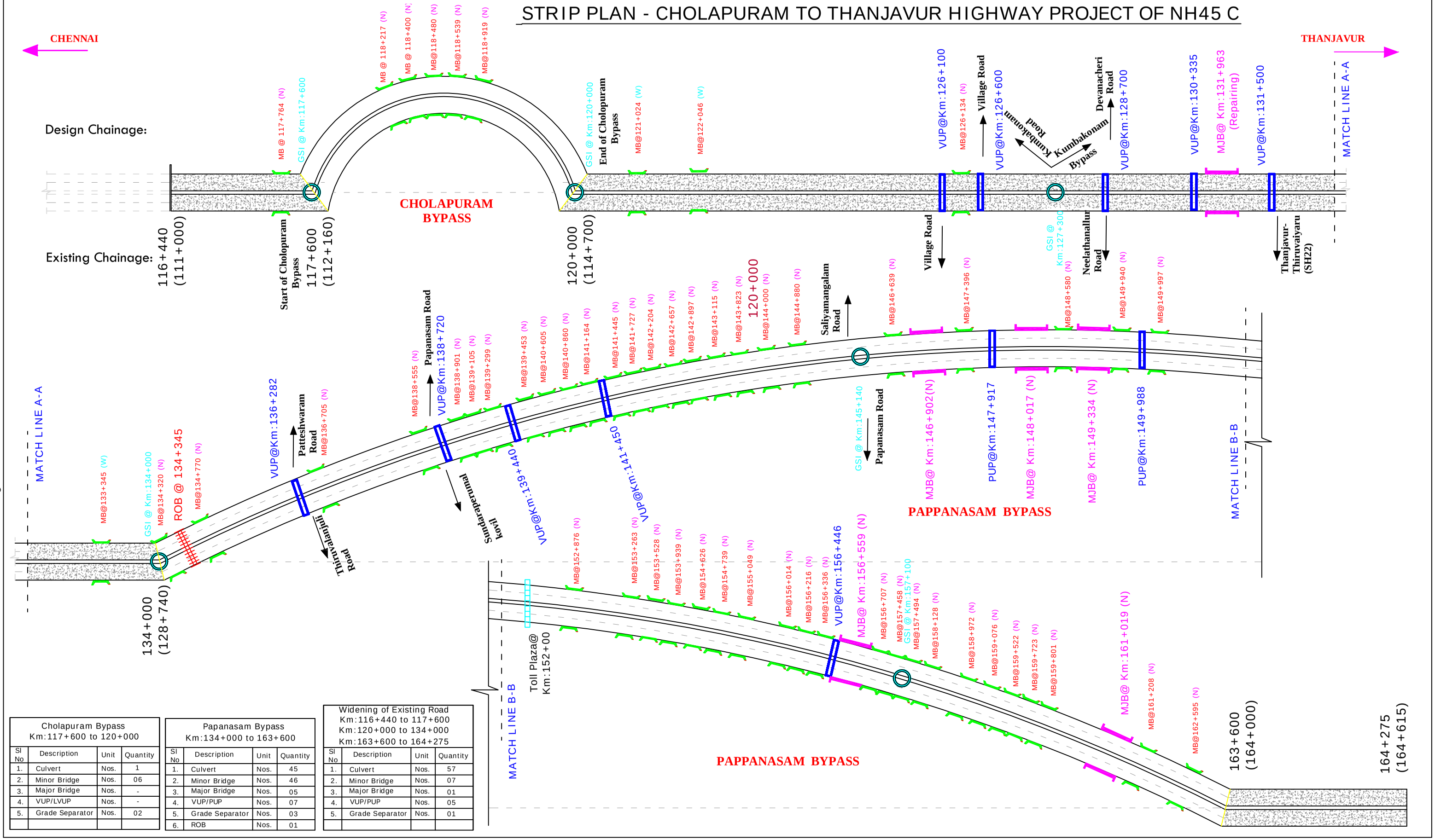
The Government of India had entrusted to the National Highway Authority of India (NHAI) the development, maintenance and management of National Highway No. 45C including the section from km 116.440 to Km 164.275 (approx. 47.835 Km). The Authority had resolved to augment for four Laning of Cholopuram - Thanjavur from Km 116.440 to Km 164.275 section of NH - 45C in the State of Tamilnadu under NHDP Phase-IV on "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



# STRIP PLAN - CHOLAPURAM TO THANJAVUR HIGHWAY PROJECT OF NH45 C




**Cholapuram Bypass**
Km:117+600 to 120+000

| Sl No | Description | Unit | Quantity |
|---|---|---|---|
| 1. | Culvert | Nos. | 1 |
| 2. | Minor Bridge | Nos. | 06 |
| 3. | Major Bridge | Nos. | - |
| 4. | VUP/LVUP | Nos. | - |
| 5. | Grade Separator | Nos. | 02 |
| | | | |

**Papanasam Bypass**
Km:134+000 to 163+600

| Sl No | Description | Unit | Quantity |
|---|---|---|---|
| 1. | Culvert | Nos. | 45 |
| 2. | Minor Bridge | Nos. | 46 |
| 3. | Major Bridge | Nos. | 05 |
| 4. | VUP/PUP | Nos. | 07 |
| 5. | Grade Separator | Nos. | 03 |
| 6. | ROB | Nos. | 01 |

**Widening of Existing Road**
Km:116+440 to 117+600
Km:120+000 to 134+000
Km:163+600 to 164+275

| Sl No | Description | Unit | Quantity |
|---|---|---|---|
| 1. | Culvert | Nos. | 57 |
| 2. | Minor Bridge | Nos. | 07 |
| 3. | Major Bridge | Nos. | 01 |
| 4. | VUP/PUP | Nos. | 05 |
| 5. | Grade Separator | Nos. | 01 |
| | | | |

## LEGEND:

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

## Salient Features of Project:

| Sl No | Description | Unit | Scope |
|---|---|---|---|
| 1. | Total Length of Project | Km | 47.835 |
| 2. | Length of Widening Portion | Km | 15.335 |
| 3. | Length of Bypass | Km | 32.000 |
| 4. | Length of service/Slip Road | Km | 27.100 |
| 5. | Culverts | | |
| | Box Culvert | Nos. | 74 |

| Sl No | Description | Unit | Scope |
|---|---|---|---|
| | Slab Culvert | Nos. | 29 |
| 6. | Minor Bridge | Nos. | 59 |
| 7. | Major Bridge | Nos. | 06 |
| 8. | VUP/PUP | Nos. | 12 |
| 9. | Grade Separated Structure | Nos. | 06 |
| 10. | ROB | Nos. | 01 |

| Sl No | Description | Unit | Scope |
|---|---|---|---|
| 11. | Minor Intersection | Nos. | 22 |
| 12. | Major Intersection | Nos. | 20 |
| 13. | Bus Bays and Shelters | Nos. | 05 |
| 14. | Toll Plaza | Nos. | 01 |
| | | | |
| | | | |

Drawing Title

Strip Plan - Cholopuram to Thanjavur Highway Project

| Date. | Project No. |
|---|---|
| 30-09-2018 | PCTHP/NHAI/TN/001 |

Table- 01: Details of Project Alignments

| Sr. no. | Design Chainage (Km) | | Length (Km) | TCS Type | Remarks |
|---|---|---|---|---|---|
| | From | To | | | |
| 1 | 116.440 | 117.200 | 0.760 | Type-B (Fig 2.6 of the manual) without service road | Concentric widening |
| 2 | 117.200 | 117.900 | 0.700 | Figure 7.8- Grade separator and its approaches with RE wall and both side 7.5 m wide Slip road | |
| 3 | 117.900 | 119.600 | 1.700 | Type-A-3 (Fig 2.4 of the manual) | Bypass |
| 4 | 119.600 | 120.420 | 0.820 | Figure 7.8- Grade separator and its approaches with RE wall and both side 7.5 m wide Slip road | |
| 5 | 120.420 | 122.000 | 1.580 | Type-B (Fig 2.6 of the manual) without service road | Concentric widening |
| 6 | 122.000 | 125.300 | 3.300 | Type-A-3 (Fig 2.4 of the manual) | Eccentric widening |
| 7 | 125.300 | 125.700 | 0.400 | Type-B (Fig 2.6 of the manual) without service road | Concentric widening |
| 8 | 125.700 | 127.700 | 2.000 | Figure 7.8- Grade separator and its approaches with RE wall and both side 7.5 m wide Slip road | |
| 9 | 127.700 | 128.300 | 0.600 | Type-B (Fig 2.6 of the manual) without service road | Concentric widening |
| 10 | 128.300 | 129.100 | 0.800 | Figure 7.8- Grade separator and its approaches with RE wall and both side 7.5 m wide Slip road | |
| 11 | 129.100 | 129.970 | 0.870 | Type-B (Fig 2.6 of the manual) without service road | Concentric widening |
| 12 | 129.970 | 130.700 | 0.730 | Figure 7.8- Grade separator and its approaches with RE wall and both side 7.5 m wide Slip road | |
| 13 | 130.700 | 131.050 | 0.350 | Type-B (Fig 2.6 of the manual) without service road | Concentric widening |
| 14 | 131.050 | 131.850 | 0.800 | Figure 7.8- Grade separator and its approaches with RE wall and both side 7.5 m wide Slip road | |
| 15 | 131.850 | 132.100 | 0.250 | Type-A-3 (Fig 2.4 of the manual) | Eccentric widening |
| 16 | 132.100 | 133.580 | 1.480 | Type-B (Fig 2.6 of the manual) without service road | Concentric widening |
| 17 | 133.580 | 134.800 | 1.220 | Figure 7.8- Grade separator and its approaches with RE wall and both side 7.5 m wide Slip road | |
| 18 | 134.800 | 136.000 | 1.200 | Type-A-3 (Fig 2.4 of the manual) | Bypass |
| 19 | 136.000 | 136.600 | 0.600 | Figure 7.8- Grade separator and its approaches with RE wall and both side 7.5 m wide Slip road | |
| 20 | 136.600 | 138.500 | 1.900 | Type-A-3 (Fig 2.4 of the manual) | Bypass |
| 21 | 138.500 | 139.750 | 1.250 | Figure 7.8- Grade separator and its approaches with RE wall and both side 7.5 m wide Slip road | |
| 22 | 139.750 | 141.100 | 1.350 | Type-A-3 (Fig 2.4 of the manual) | Bypass |

| Sr. no. | Design Chainage (Km) | | Length (Km) | TCS Type | Remarks |
|---|---|---|---|---|---|
| | From | To | | | |
| 23 | 141.100 | 141.800 | 0.700 | Figure 7.8- Grade separator and its approaches with RE wall and both side 7.5 m wide Slip road | |
| 24 | 141.800 | 144.450 | 2.650 | Type-A-3 (Fig 2.4 of the manual) | Bypass |
| 25 | 144.450 | 145.580 | 1.130 | Figure 7.8- Grade separator and its approaches with RE wall and both side 7.5 m wide Slip road | |
| 26 | 145.580 | 147.600 | 2.020 | Type-A-3 (Fig 2.4 of the manual) | Bypass |
| 27 | 147.600 | 148.320 | 0.720 | Figure 7.8- Grade separator and its approaches with RE wall and both side 7.5 m wide Slip road | |
| 28 | 148.320 | 149.720 | 1.400 | Type-A-3 (Fig 2.4 of the manual) | Bypass |
| 29 | 149.720 | 150.450 | 0.730 | Figure 7.8- Grade separator and its approaches with RE wall and both side 7.5 m wide Slip road | |
| 30 | 150.450 | 152.700 | 2.250 | Type-A-3 (Fig 2.4 of the manual) | Bypass |
| 31 | 152.700 | 153.300 | 0.600 | Toll Plaza | |
| 32 | 153.300 | 156.000 | 2.700 | Type-A-3 (Fig 2.4 of the manual) | Bypass |
| 33 | 156.000 | 157.350 | 1.350 | Figure 7.8- Grade separator and its approaches with RE wall and both side 7.5 m wide Slip road | |
| 34 | 157.350 | 164.275 | 6.925 | Type-A-3 (Fig 2.4 of the manual) | Bypass |
| | | Total Length | 47.835 | | |

## 1.1. Project Overview

| | |
|---|---|
| Name of Work | Four Laning of Cholopuram-Thanjavur from km. 116.440 to Km.164.275 of NH-45C under NHDP-IV on Hybrid Annuity Mode Basis |
| Name of Employer | National Highways Authority of India (NHAI)<br>G-5 & 6, Sector-10, Dwarka,<br>New Delhi -110075 |
| Name of Concessionaire | Patel Cholopuram-Thanjavur Highway Pvt Ltd,<br>Patel House, Beside Prakruti Resorts,<br>Chanani Road, Vadodara.<br>Gujarat– 391740<br>Tel: +91-265 277 6678<br>Fax: +91-265 277 7878 |
| Independent Engineer | M/s. Theme Engineering Services Pvt. Ltd,<br>8, Thomaiyammal Nagar, 6th Street, R.S College (Post),<br>Thanjavur-613005. |
| EPC Contractor | M/s. Patel Infrastructure Limited,<br>Patel House, Beside Prakruti Resorts,<br>Chanani Road,Vadodara<br>Gujarat– 391740,<br>Tel: +91-265 277 6678<br>Fax: +91-265 277 7878 |
| Design Consultant | CTL Global Services Pvt. Ltd.<br>101, IST Floor, Krishna Chambers, HAL, Airport Road,<br>Bangalore-560017 |
| Senior Lender | Punjab National Bank, Large Corporate Branch,<br>Neelkamal Building, Opp. Sales India, Ashram Road,<br>Ahmedabad - 380009 |
| Lenders Independent Engineers | Sharul Techno-Financial Consultancy Services Pvt. Ltd.,<br>403, Aspire Tower 5, Amanora Park Town, Hadapsar,<br>Pune - 411028. |
| Length of Road (Design Length) | 47.835 Kms. |
| Total Bid Cost | Rs. 1345.60 Crores (as per concession agreement) |
| Date of Concession Agreement | October 12, 2017 |
| Concession Period | 17 Years ( Construction Period 2 Years from Appointed date, Operation period 15 years from COD) |
| Appointed Date | 06.09.2018 |
| Construction Period | 02 years from Appointed date |
| Completion Date | 04.09.2020 |
| 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 | 47.835 Kms |
| Service Road/ Slip Road | 27.100 Kms |
| Major Bridge | 06 Nos. |
| Minor Bridge | 56 Nos. |
| Grade Separate Intersection | 06 Nos. |
| Vehicular Underpass | 10 Nos. |
| Pedestrian Underpass | 02 Nos. |
| Rail-road Bridges | 01 Nos |
| Box Culverts | 74 Nos. |
| Slab Culverts | 29 Nos. |
| Major Intersections | 20 Nos. |
| Minor Intersections | 22 Nos. |
| Bus Bays | 05 Nos. |
| Rest Area | 01 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 214th day from the Appointed Date. | 07th April 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 334th day from the Appointed Date | 05th August 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 584th day from the Appointed Date | 11th April 2020 |
| Scheduled Completion | Concessionaire shall have completed Project on 730th day from the Appointed Date | 04th September 2020 |

## 1.4. Payment milestone during Construction Period

| Payment Milestone | Eligibility Criteria | Payment Amount (Rs.) |
|---|---|---|
| Milestone-I | On Achievement of 10% of Physical Progress | 107.65 Crs. |
| Milestone-II | On Achievement of 30% of Physical Progress | 107.65 Crs. |
| Milestone-III | On Achievement of 50% of Physical Progress | 107.65 Crs. |
| Milestone-IV | On Achievement of 75% of Physical Progress | 107.65 Crs. |
| Milestone-V | On Achievement of 90% of Physical Progress | 107.65 Crs. |

## 1.5. Permits & Approvals

| Sr. No. | Details | Authority | Current Status | Remarks |
|---|---|---|---|---|
| 1 | Extraction of Boulders from Quarries | Dist. Mining Officer | Obtained | PIL (EPC Contractor) have engaged Agate Infra Engineering for supply of boulders that is having a valid license for extraction of boulders and other required permission for the quarry at Kalpadi Village, Perambalur District. |
| 2 | Installation of Crusher | Village Panchayat Head | Obtained | |
| 3 | -----D O------ | Pollution Control Board | Obtained | |
| 4 | Use of Explosives | Dist. Collector | Obtained | |
| 5 | Labour License | Labour Commissioner | Obtained | |
| 6 | Environmental Clearance | | NA | |
| 7 | Trees Cutting Permission | Forest department through NHAI | Obtained | Work in Progress ( Permission for removal of Teak wood trees is awaited ) |
| 8 | Electric Poles Shifting | Tamil Nadu Electricity Board | Obtained | Work in Progress |
| 9 | Water Pipes Shifting | Tamil Nadu Water Supply and Drainage Board | Obtained | Work in Progress |
| 10 | Drawing Water from river/ reservoir | - | NA | - |

## 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 |
| **(i) Full Right of Way (full width)** | | | | |
| Stretch | 116.440 to 117.600 | 1.160 | 30 | Within 15 (Fifteen) days from the date of Agreement. |
| Stretch | 117.600 to 120.000 | 2.400 | 60 | |
| Stretch | 120.000 to 134.000 | 14.000 | 30 | |
| Stretch | 134.000 to 164.275 | 30.280 | 60 | |
| **Total Length** | | **47.835** | | |

| Balance Right of way (width) | | | | |
|---|---|---|---|---|
| | Design Chainage (Km) | Design Length (Km) | Width (m) | |
| Stretch | 116.440 to 117.600 | 1.160 | 30 | Within 90 (Ninety) days of the Appointed date |
| Stretch | 120.000 to 120.340 | 0.34 | 20 | |
| Stretch | 124.700to 126.100 | 1.40 | 20 | |
| Stretch | 126. 700 to 127 .655 | 0.95 | 20 | |
| Stretch | 130.600 to 134.000 | 3.40 | 20 | |
| **Total Length** | | **7.250** | | |

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** | **47.835** | |
| i) | Use of Existing Road Portion | Km | 15.835 | |
| ii) | Proposed Bypass / Realignment portion | Km | 32.000 | |
| B ) | Hindered Length | | | |
| i) | LA Issues | Km | 8.190 | |
| ii) | Existing Buildings | Km | 2.515 | |
| iii) | Pending for Disbursement of Payment | Km | 4.815 | |
| iv) | Electrical Lines | Km | 4.675 | |
| v) | Rural Water Supply lines | Km | 11.200 | |
| C ) | Net Hindered Length (both Side) | Km | 17.700 | |
| D ) | Total Project Length (both Side) | Km | 47.835 | |
| E ) | **% Hindered Length** | **%** | **37.00%** | |

There has been increase in the Hindered length due to Diversion not possible at RE Wall stretches as Land not yet made available. 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

| Sr. No. | Name of the District | Total No. of Land cases | Amount paid (in Nos.) | Balance to be Paid (in Nos.) | Remarks |
|---|---|---|---|---|---|
| 1 | Thanjavur | 1467 | 1039 | 428 | |
| | Total in Nos. | 1467 | 1039 | 428 | |
| | Total in % | | 70.82% | 29.17% | |

Table 2.1-4 - Compensation disbursement for Structures

| Sr. No. | Name of the District | Total No. of structures | Amount paid (in Nos) | Balance to be Paid (in Nos) | Remarks |
|---|---|---|---|---|---|
| 1 | Thanjavur | 813 | 653 | 160 | |
| | Total in Nos | 813 | 653 | 160 | |
| | Total in % | | 80.31% | 24.50% | |

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 –

1) Details of Stretches Under Hindrance (LHS):-

Table 2.1-5 A- Details of Stretches Under Hindrance (LHS)

| Sr. No. | From | To | Length | Effective Hindered Length | Side | Remarks |
|---|---|---|---|---|---|---|
| 1 | 116+400 | 117+230 | 830 | 830 | LHS | Land not yet handed over compensation yet to be paid |
| 2 | 117+230 | 117+870 | 640 | 640 | LHS | RE Wall Location (i)BHS -Land not yet handed over- (ii)Compensation not yet paid for the structures, (iii)Compensation for 3 Nos of temples on LHS Side are yet to be paid, (iv)NOC for Existing pond at Km 117+742 to Km 117+814 . EB & Water Pipeline |
| 3 | 119+620 | 120+390 | 770 | 770 | LHS | RE Wall Location (i)Compensation not yet Paid for the Lands & Existing Buildings, (ii)NOC pending for existing pond on 120+200 to 120+242 to be cleared, (iii)Temples (Km 120+180)Compensation to be paid |
| 4 | 120+390 | 120+800 | 410 | 410 | LHS | (i)Compensation for Existing Buildings on LHS Side are yet to be paid, (ii) Existing pond on LHS 120+642 to 120+734 to be cleared |

| | | | | | | |
|---|---|---|---|---|---|---|
| 5 | 121+220 | 121+550 | 330 | 330 | LHS | Existing Crops on LHS Side |
| 6 | 121+550 | 121+700 | 150 | 150 | LHS | Shops & Temple (Km 121+600) Compensations are to be paid, Water Pipeline |
| 7 | 121+850 | 121+860 | 10 | 10 | LHS | Water Pipeline |
| 8 | 122+080 | 122+120 | 40 | 40 | LHS | Water Pipeline |
| 9 | 124+550 | 124+650 | 100 | 100 | LHS | Trees with fencing on LHS to be removed, Water Pipeline |
| 10 | 124+700 | 125+400 | 700 | 700 | LHS | Religious Structures |
| 11 | 125+400 | 125+500 | 100 | 100 | LHS | Compensation pending for Huts & RCC & tached roof buildings on poramboke land are pending, EB & Water Pipeline |
| 12 | 125+580 | 125+730 | 150 | 150 | LHS | Existing Buidings compenstion not yet paid , EB & Water Pipeline |
| 13 | 125+730 | 127+670 | 1940 | 1940 | LHS | RE Wall Location (i) Compensation pending from Km125+730 to Km 125+950 for the existing buildings, (ii)NOC pending for Existing pond at Km 126+ 090 to Km 126 +163 & Km 126+ 546 to Km 126 +596 & Km 126+675 to Km 126 +772, (iii) Water Pipeline (iv) Religious Structures |
| 14 | 128+320 | 129+060 | 740 | 740 | LHS | RE Wall Location (i) Km 128+400 Temple to be removed, (ii) Km 128+700 to 128 +900 VUP Location Existing Structures, (iii) Petrolbunk Compensation are yet to be paid, (iv) Temple (Km 128+400) compenstion not yet paid, EB & Water Pipeline (v) Religious Structures |
| 15 | 129+500 | 129+570 | 70 | 70 | LHS | Religious Structures |
| 16 | 129+570 | 129+600 | 30 | 30 | LHS | EB Poles, Water Pipeline |

| | | | | | | |
|---|---|---|---|---|---|---|
| 17 | 129+700 | 129+800 | 100 | 100 | LHS | Compensation pending for Land & Structures |
| 18 | 129+990 | 130+670 | 680 | 270 | LHS | **RE Wall Location** (i) Km 130+200 to 130+ 400 Moopakovil village Compensation pending for Existing Buildings, Poramboke houses , (ii)Existing Pond Km 130 +621 to Km 130+690, Religious structures |
| 19 | 131+070 | 131+830 | 760 | 760 | LHS | RE Wall Location, Compensation not yet paid for Land & Structures, EB & Water Pipeline |
| 20 | 131+830 | 133+610 | 1780 | 1780 | LHS | Comensation Not yet paid for Land & Structures, Temple( Km 133+180) compenstion not yet paid |
| 21 | 133+610 | 134+770 | 1160 | 1160 | LHS | **RE Wall Location**- (i) Comensation Not yet paid for Land & Structures, Existing irrigation Sluices at Km 134+770 to be relocated, (ii) EB & Water Pipeline |
| 22 | 136+010 | 136+560 | 550 | 550 | LHS | **RE Wall Location** |
| 23 | 138+200 | 138+530 | 330 | 330 | LHS | Land on dispute - Court Issue (Mr.Dharmalingam & Mr.Shanmugam) |
| 24 | 138+530 | 139+720 | 1190 | 1190 | LHS | **RE Wall Location** Km 138+750 to Km 138+850 Land on dispute -Court Case- Mr.Dhakshinamoorthy, Mr.Rajini , Mr.Nagaraj) Payment Issue of Land Owner Mrs.Valarmathi Kailasam |
| 25 | 141+110 | 141+770 | 660 | | LHS | **RE Wall Location** |
| 26 | 141+900 | 142+400 | 500 | 500 | LHS | Payment Issue of Land owners Mr.Pakir Mohammed |
| 27 | 144+470 | 145+530 | 1060 | 50 | LHS | **RE Wall Location** Km 144+800 to Km 144+850 teak trees to be removed |
| 28 | 146+600 | 147+400 | 800 | 800 | LHS | Km 146+650 to Km 146+800, teak trees to be removed Obstruction of Existing irrigation canal needs to be relocated. |
| 29 | 147+400 | 147+450 | 50 | 50 | LHS | Teak Wood trees to be removed, Obstruction of Existing irrigation canal needs to be relocated. |
| 30 | 147+450 | 148+270 | 820 | 650 | LHS | **RE Wall Location** Km 148+000 to Km 148+ 100 Teak wood trees to be removed, Obstruction of Existing irrigation canal needs to be relocated. |
| 31 | 149+330 | 149+340 | 10 | 10 | LHS | Teak Wood trees to be removed |
| 32 | 149+740 | 150+430 | 690 | | LHS | **RE Wall Location** |
| 33 | 150+600 | 150+900 | 300 | 300 | LHS | Existing irrigation Sluices at Km 150+800 to be relocated, Teak Wood trees to be removed |

| | | | | | | |
|---|---|---|---|---|---|---|
| 34 | 152+800 | 153+100 | 300 | 300 | LHS | Existing Irrigation Sluices at Km 152+900 to be relocated, |
| 35 | 154+500 | 154+900 | 400 | 400 | LHS | Vaiyacheri Village land on Dispute, Obstruction of Existing irrigation canal needs to be relocated. |
| 36 | 156+030 | 157+360 | 1330 | 300 | LHS | **RE Wall Location** Km 156+200 to Km 156+500 Teak wood trees to be removed |
| 37 | 158+500 | 158+700 | 200 | 200 | LHS | Hindrances of High Tension Transmission Towers. |
| 38 | 160+200 | 160+400 | 200 | 200 | LHS | Compensation Disbursement balance - Not allowed to work by owner |
| 39 | 161+000 | 162+000 | 1000 | 1000 | LHS | Land on dispute - Court Issue Ms Tamilselvei |
| | **Total Hindered Length LHS (Km.)** | | | **17910** | | |

2) Details of Stretches Under Hindrance (RHS):-

Table 2.1-5 B - Details of Stretches Under Hindrance (RHS)

| Sr. No. | From | To | Length | Effective Hindered Length | Side | Remarks |
|---|---|---|---|---|---|---|
| 1 | 116+400 | 117+230 | 830 | 830 | RHS | Land not yet handed over compensation yet to be paid |
| 2 | 117+230 | 117+870 | 640 | 640 | RHS | **RE Wall Location** (i) BHS -Land not yet handed over- Compensation not paid for the structures, (ii) Chruch Compensation to be Paid. (iii) NOC for Existing pond at Km 117+742 to Km 117+814 . (iv)EB & Water Pipeline |
| 3 | 119+620 | 120+390 | 770 | 770 | RHS | **RE Wall Location** (i)Compensation not yet Paid for the Land & Existing Buildings, (ii)Temple (Km120+200) Compensation to be paid, (iii) Water Pipeline |
| 4 | 120+390 | 120+800 | 410 | 410 | RHS | (i) Existing Buildings on LHS Side and compensation not yet paid from for land owners (ii) Existing pond on RHS 120+642 to 120+732 to be cleared, Water Pipeline |
| 5 | 121+400 | 121+450 | 50 | 50 | RHS | LA Issue- House under Arbitration, Water Pipeline |
| 6 | 121+550 | 121+700 | 150 | 150 | RHS | Water Pipeline |

| | | | | | | |
|---|---|---|---|---|---|---|
| 7 | 121+850 | 121+860 | 10 | 10 | RHS | Temple-Religious Statue on RHS side and compensation to be done, Water Pipeline |
| 8 | 122+080 | 122+120 | 40 | 40 | RHS | Vana kaliamman temple (Km 122+080) on RHS side with banyan tree compensation to be paid, Water Pipeline |
| 9 | 124+550 | 124+650 | 100 | 100 | RHS | Toyoto Showroom yard on RHS Side with fencing compensation to be paid, Water Pipeline |
| 10 | 124+700 | 125+400 | 700 | 700 | RHS | Religious Structures |
| 11 | 125+400 | 125+500 | 100 | 100 | RHS | Water Pipeline |
| 12 | 125+580 | 125+730 | 150 | 150 | RHS | Existing Buidings Temple(Km 125+670) compenstion not yet paid , Water Pipeline |
| 13 | 125+730 | 127+670 | 1940 | 1940 | RHS | RE Wall Location<br>(i)125+730 to 125+950 Existing building to dismantled, (ii) Compensation to be paid ( Including Toyoto showroom), (iii)127+300 Anuj Tiles showroom to be removed, Temple (Km 126+870)compenstion not yet paid , (iii) NOC pending for Existing pond at Km 126+ 546 to Km 126 +596 & Km 126+675 to Km 126 +772, Water Pipeline (iv) Religious Structures |
| 14 | 128+320 | 129+060 | 740 | 740 | RHS | RE Wall Location<br>EB & Water Pipeline<br>Religious Structures |
| 15 | 129+500 | 129+570 | 70 | 70 | RHS | Religious Structures |
| 16 | 129+570 | 129+600 | 30 | 30 | RHS | Existing Temple at Km 129+570 Compensation to be paid , EB Poles, Water Pipeline |
| 17 | 129+700 | 129+800 | 100 | 100 | RHS | Compensation pending for Land & Structures |

| | | | | | | |
|---|---|---|---|---|---|---|
| 18 | 129+990 | 130+670 | 680 | 200 | RHS | RE Wall Location<br>130+200 to 130+ 400 Moopakovil Existing Buildings Compensation to be paid, Religious structures |
| 19 | 131+070 | 131+830 | 760 | 760 | RHS | RE Wall LocationExsisting Buildings & Shops Compensation not paid, EB & Water Pipeline |
| 20 | 131+830 | 133+610 | 1780 | 1780 | RHS | Comensation Not yet paid for Land & Structures, EB & Water Pipeline |
| 21 | 133+610 | 134+770 | 1160 | 1160 | RHS | RE Wall Location-<br>(i)Comensation Not yet paid for Land & Structures,<br>(ii) NOC pending for Existing pond at Km 133+756 to Km 133+814 & Km 134+320 to 134+340, EB & Water Pipeline |
| 22 | 136+010 | 136+560 | 550 | 550 | RHS | RE Wall Location |
| 23 | 138+200 | 138+530 | 330 | 330 | RHS | Land on dispute - Court Issue (Mr.Dharmalingam & Mr.Shanmugam) |
| 24 | 138+530 | 139+720 | 1190 | 1190 | RHS | RE Wall Location<br>Km 138+750 to Km 138+850 Land on dispute -Court Case- Mr.Dhakshinamoorthy, Mr.Rajini , Mr.Nagaraj) Payment Issue of Land Owner Mrs.Valarmathi Kailasam |
| 25 | 141+110 | 141+770 | 660 | | RHS | RE Wall Location |
| 26 | 141+900 | 142+400 | 500 | 500 | RHS | Payment Issue of Land owners Mr.Pakir Mohammed |
| 27 | 144+470 | 145+530 | 1060 | 200 | RHS | RE Wall Location<br>Km 144+800 to Km 144+850, Km 146+650 to Km 146+800, teak trees to be removed |
| 28 | 146+600 | 147+400 | 800 | 800 | RHS | Km 146+650 to Km 146+800, teak trees to be removed Obstruction of Existing irrigation canal needs to be relocated. |
| 29 | 147+400 | 147+450 | 50 | 50 | RHS | Teak Wood trees to be removed |
| 30 | 147+630 | 148+270 | 640 | 100 | RHS | RE Wall Location<br>Km 148+000 to Km 148+ 100 Teak wood trees to be removed |
| 31 | 149+330 | 149+340 | 10 | 10 | RHS | Teak Wood trees to be removed |
| 32 | 149+740 | 150+430 | 690 | | RHS | RE Wall Location |
| 33 | 150+600 | 150+900 | 300 | 300 | RHS | Existing irrigation Sluices at Km 150+800 to be relocated, Teak Wood trees to be removed |
| 34 | 152+900 | 152+930 | 30 | 30 | RHS | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 35 | 154+500 | 154+800 | 300 | 300 | RHS | Vaiyacheri Village land on Dispute |
| 36 | 156+030 | 157+360 | 1330 | 300 | RHS | RE Wall Location Km 156+200 to Km 156+500 Teak wood trees to be removed |
| 37 | 158+500 | 158+700 | 200 | 200 | RHS | Hindrances of High Tension Transmission Towers. |
| 38 | 160+200 | 160+400 | 200 | 200 | RHS | Compensation Disbursement balance - Not allowed to work by owner |
| 39 | 161+000 | 162+000 | 1000 | 1000 | RHS | Land on dispute - Court Issue Ms Tamilselvei |
| | Total Hindered Length RHS (Km.) | | | 17160 | | |

## 2.2. Removal of Religious Structures

The following structures coming within the ROW are to be demolished

Table 2.2-1: Status of Removal of Religious structures

| Sl. No. | Name of the District | Total No. of structures | Removed as on Date (in Nos.) | Balance (in Nos.) |
|---|---|---|---|---|
| 1 | Thanjavur | 13 | 0 | 13 |
| Note: Pending for disbursement of payment to the Religious structures. | | | | |

## 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.

Table 2.3-1: Status of sanction of Estimates - Relocation of RWS Pipe line

| Sl. No | Name of the District | Chainages | | | Total Number of Estimates | Remarks |
|---|---|---|---|---|---|---|
| | | From | To | Length in Km | | |
| 1 | Thanjavur | 116+440 | 164+275 | 47.835 | 32 | Work is in Progress |

Table 2.3-2: Status of sanction of Estimates - Electrical Lines Relocation

| Sl. No | Name of the District | Chainages | | | Number of Estimates | Present Status | Remarks |
|---|---|---|---|---|---|---|---|
| | | From | To | Length in Km | | | |
| 1 | Thanjavur | 116+440 | 164+275 | 47.835 | 16 | Work in Progress | |

Estimates for shifting of the above Electric lines have been prepared. The estimated cost is approximately Rs. 10.50 crores.

Table 2.3-3: Status of Utility Relocation

| Sl. No. | Authority | Description | Unit | Total Length/ Nos. | Work done | Balance | Remarks |
|---|---|---|---|---|---|---|---|
| 1 | BDO & EE,TWAD | Water Supply Pipe Line | Kms. | 35.750 | 6.501 | 29.249 | Work in Progress |
| 2 | BDO of Concern Union | Hand Pump/Pump Room with Bore well | Nos. | 16 | 0 | 16 | |
| 3 | BDO of Concern Union | Over Head Tank | Nos. | 2 | 2 | 0 | Completed |
| 4 | TNEB | Electrical Lines | Kms. | 19.215 | 14.540 | 4.675 | Work in Progress |

Estimates have been done for the shifting of the water supply pipeline & related items mentioned above. The estimated cost is approximately Rs. 6.8 crores.

## 2.4. Tree felling

Table 2.4-1: Status of Tree felling

| Sl. No. | Name of the District | Chainages | | | Effected Length in Kms | Total No. of Trees | Felled/ Removed as on Date | Balance no. of Trees | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| | | From | To | Length in Km | | | | | |
| 1 | Thanjavur | 116+440 | 164+275 | 47.837 | 15.310 | 1461 | 1448 | 13 | Work in Progress |
| | | | Total | 47.835 | | | | | |

Teak Wood trees are not included in the above table since permissions for removal of teak wood trees is not yet obtained.

| Table 2.1.6 - Hindrance Photographs (30.11.2019) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Photo | Obstruction Length (m) | LHS - Type of Hindrance | Chainage | | RHS - Type of Hindrance | Obstruction Length (m) | Photo | Remarks |
| | | | From | To | | | | |
| | 30 | Houses (2 nos) | 116+440 | 116+470 | Houses (6 nos), Mango farm, Cocunut farm | 30 | | |
|  | 60 | Houses (6 nos), Culvert & Trees | 116+520 | 116+580 | | | | |
| | | | 116+580 | 116+600 | Canal crossing, culvert & Trees | 20 |  | |
|  | 50 | Houses (4 nos), Electrical Pole & Trees | 116+600 | 116+650 | Canal crossing & Trees | 50 |  | |
|  | 50 | Houses (2 nos), Electrical Pole & Trees | 116+650 | 116+700 | Bore Well, Pump set, Electrical Pole & Trees | 50 |  | |
| | 50 | Trees | 116+700 | 116+750 | Houses (7 nos), Electrical Pole & Trees | 50 |  | |
|  | 50 | Houses (6 nos), Electrical Pole & Trees | 116+750 | 116+800 | Houses (4 nos) & Cocunut Trees | 50 |  | |
|  | 50 | Vinayagar Temple, Houses (7 nos) & Electrical Pole (3 nos) | 116+800 | 116+850 | Houses (5 nos), & Cocunut Trees | 50 |  | |
|  | 50 | Houses (7 nos), Electrical Poles & Trees | 116+850 | 116+900 | Houses (8 nos) & Cocunut Trees | 50 |  | |
|  | 50 | Houses (5 nos), Culvert, Electrical Poles & Cocunut Trees | 116+900 | 116+950 | Houses (6 nos) & Cocunut Trees | 50 |  | |
|  | 30 | Houses (2 nos), Electrical Pole (3 nos) & Trees | 116+950 | 117+980 | Cocunut Trees & Nala | 30 |  | |
|  | 20 | Houses (2 nos), Electrical Poles & Trees | 116+980 | 117+000 | Cocunut Trees, Fencing & Electrical Pole | 20 |  | |
|  | 50 | Houses (7 nos), Electrical Pole (4 nos) & Trees | 117+000 | 117+050 | Church & Shops (3 nos) | 50 |  | |

| Photo | Obstruction Length (m) | LHS - Type of Hindrance | Chainage | | RHS - Type of Hindrance | Obstruction Length (m) | Photo | Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | From | To | | | | |
|  | 50 | Houses (5 nos), Electrical Poles & Trees | 117+050 | 117+100 | Houses (7 nos), Electrical Poles & Trees | 50 |  | |
|  | 50 | Houses (8 nos), Electrical Poles (3 nos) & Trees | 117+150 | 117+200 | Houses (6 nos), Ration Shop, Electrical Poles, Trees & Pond | 50 |  | |
|  | 50 | Temple, Houses (2 nos) & Cocunut Trees | 117+200 | 117+250 | Houses (9 nos), Electrical Poles & Trees | 50 |  | |
|  | 50 | Houses (3 nos), Electrical Poles & Trees | 117+250 | 117+300 | Houses (2 nos), Electrical Poles & Trees | 50 |  | |
|  | 50 | Houses (3 nos), Electrical Poles & Trees | 117+300 | 117+350 | Houses (3 nos), Electrical Poles & Trees | 50 |  | |
|  | 50 | Houses (4 nos), Electrical Poles & Trees | 117+350 | 117+400 | Houses (4 nos), Electrical Poles & Trees | 50 |  | |
|  | 50 | Houses (5 nos), Electrical Poles & Trees | 117+400 | 117+450 | Houses (6 nos), Electrical Poles & Cocunut Trees | 50 |  | |
|  | 50 | Houses (4 nos), Bus shelter, Water Tank, Electrical Poles & Trees | 117+450 | 117+500 | Houses (5 nos), Electrical Poles & Trees | 50 |  | |
|  | 50 | Houses (4 nos), Electrical Poles & Trees | 117+500 | 117+550 | Trees & Electrical Poles | 50 |  | |
|  | 50 | Trees & Electrical Poles | 117+550 | 117+600 | Houses (4 nos), Electrical Poles & Trees | 50 |  | |
|  | 50 | Electrical Poles | 117+600 | 117+650 | Electrical Poles | 50 | | |
|  | 20 | House (1 no.) & Cocunut Trees | 120+000 | | | | | |
|  | 50 | House (3 nos), Teak wood Trees | 120+050 | 120+100 | Bus shelter, House (3 nos), Electrical Pole (3 nos) & Teak wood Trees | 50 |  | |

| Photo | Obstruction Length (m) | LHS - Type of Hindrance | Chainage | | RHS - Type of Hindrance | Obstruction Length (m) | Photo | Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | From | To | | | | |
|  | 50 | Cocunut farm, Pond & Trees | 120+200 | 120+250 | Temple, Houses (2 nos) & Electrical Pole | 50 |  | |
|  | 30 | Houses (2 nos), Electrical Pole, Culvert & Cocunut farm | 120+250 | 120+280 | Houses (3 nos), Electrical Poles & Cocunut farm | 30 |  | |
|  | 20 | Houses (1 no.), Electrical Pole, Culvert, Nala & Cocunut farm | 120+280 | 120+300 | Houses (2 nos), Electrical Poles & Cocunut farm | 20 |  | |
|  | 50 | Houses (4 nos), Electrical Poles & Cocunut farm | 120+300 | 120+350 | Houses (3 nos), Electrical Poles, Culvert & Trees | 50 |  | |
|  | 50 | Shops, Electrical Pole & Cocunut farm | 120+350 | 120+400 | House, Electrical Pole & Teak wood Trees | 50 |  | |
|  | 50 | Houses (2 nos), Electrical Poles & Cocunut Trees | 120+400 | 120+450 | Houses (4 nos), Petrol Pump, Electrical Poles (2 nos) & Cocunut Trees | 50 |  | |
|  | 50 | Houses (2 nos), Shops, Cocunut & Teak wood Trees | 120+450 | 120+500 | Houses (3 nos), Electrical Poles & Trees | 50 |  | |
|  | 50 | Houses (8 nos), Electrical Poles, Cocunut & Teak wood Trees | 120+500 | 120+550 | Houses (8 nos), Electrical Poles, Cocunut & Teak wood Trees | 50 |  | |
|  | 50 | Houses (4 nos) & Cocunut farm | 120+550 | 120+600 | House (1 no.), Electrical Pole & Cocunut Trees | 50 |  | |
|  | 50 | Houses (6 nos), Fencing, Electrical Pole, Cocunut & Teak wood Trees | 120+600 | 120+650 | Houses (5 nos), Fencing, Electrical Pole, Cocunut, Mango Trees & Fish Pond | 50 |  | |
|  | 30 | Houses, Cocunut & Teak wood Trees | 120+650 | 120+680 | Pond & Trees | 30 |  | |
|  | 40 | Shops, Cocunut & Teak wood Trees | 120+680 | 120+720 | Next crop planted & Fencing | 40 |  | |
|  | 80 | Next crop planted, Electrical Poles & Trees | 120+720 | 120+800 | House (1 no.), Transformer, Electrical Poles (4 nos) & Trees | 80 |  | |

| Photo | Obstruction Length (m) | LHS - Type of Hindrance | Chainage | | RHS - Type of Hindrance | Obstruction Length (m) | Photo | Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | From | To | | | | |
|  | 50 | Houses (3 nos), Culvert & Trees | 120+800 | 120+850 | Houses (2 nos), Electrical Poles (3 nos) & Trees | 50 |  | |
|  | 30 | Houses (3 nos), Electrical Poles & Trees | 120+900 | 121+930 | Houses (1 no.), Fencing, Electrical Pole (4 nos) & Trees | 30 |  | |
|  | 20 | Preparing for next crop,Electrical Pole & Trees | 121+930 | 121+950 | Houses (2 nos), Electrical Pole (2 nos) & Trees | 20 |  | |
|  | 50 | Electrical Pole & Trees | 121+950 | 121+000 | Houses (2 nos), Electrical Pole (2 nos) & Trees | 50 |  | |
|  | 10 | Electrical Pole & Trees | 121+050 | | Transformer, Electrical Poles (3 nos) & Trees | 20 |  | |
| - | - | - | 121+100 | | Electrical Pole | 10 |  | |
|  | 50 | Cocunut Trees, Teak wood Trees & Jungle | 121+150 | | Electrical Pole & Trees | 20 |  | |
|  | 50 | Bus shelter, Houses (3 nos), Electrical Poles (2 nos) & Trees | 121+200 | 121+250 | Bus shelter, Trees & Jungle | 50 |  | |
|  | 50 | House (1 no.), Electrical Pole & Trees | 121+250 | 121+300 | House (3 no.), Electrical Poles (5 nos) & Trees | 50 |  | |
|  | 50 | Electrical Pole, Trees & Jungle | 121+300 | 121+350 | House (2 nos), Electrical Pole & Trees | 50 |  | |
|  | 80 | Electrical Pole, Trees & Jungle | 121+350 | 121+430 | Houses (9 nos), Electrical Poles (3 nos) & Trees | 80 |  | |
|  | 70 | Electrical Poles, Trees & Jungle | 121+430 | 121+500 | Electrical Poles, Trees & Jungle | 70 |  | |
|  | 50 | House (1 no.), Electrical Poles, Trees & Jungle | 121+500 | 121+550 | Electrical Poles, Culvert, Trees & Jungle | 50 | | |

| Photo | Obstruction Length (m) | LHS - Type of Hindrance | Chainage | | RHS - Type of Hindrance | Obstruction Length (m) | Photo | Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | From | To | | | | |
|  | 70 | Temple, Houses (3 nos) & Cocunut Trees | 121+550 | 121+620 | Houses (2 nos), Electrical Pole, Mango Trees 7 Jungle | 70 |  | |
|  | 60 | Shops, Houses, Electrical Poles, Cocunut Trees, Jungle & Culvert | 121+620 | 121+680 | Cocunut Trees (12 nos), Trees & Jungle | 60 |  | |
|  | 40 | Pump set, Structure & Cocunut Trees (8 nos) | 121+680 | 121+720 | Electrical Pole & Trees | 40 |  | |
|  | 20 | Trees & Jungle | 121+720 | 121+800 | Electrical Pole | 10 |  | |
|  | 50 | Transformer, Electrical Poles & Trees | 121+800 | 121+850 | Church Gate, Boundary Wall | 50 |  | |
|  | 15 | Transformer, Electrical Poles (4 nos) | 121+930 | | Electrical Poles (2 nos) | 15 |  | |
|  | 20 | Electrical Poles, existing bridge structure & Trees | 122+020 | | Electrical Pole & Trees | 10 |  | |
|  | | River crossing & Trees | 122+030 | | River crossing & Trees | | | |
| - | - | - | 122+080 | | Temple, Electrical Pole, Canal & Baniyan Trees | 25 |  | |
|  | 20 | Electrical Pole & Trees | 122+130 | | Trees (3 nos) | 20 |  | |
|  | 15 | Electrical Poles, Canal, Banana farm & Teak wood Trees | 122+200 | | Pump set & Electrical Poles | 15 |  | |
|  | 80 | Banana farm, Canal, Teak wood Trees, Transformer & Electrical Poles | 122+220 | 122+300 | Teak wood Trees, Electrical Pole & Banana farm | 80 |  | |
|  | 100 | Electrical Poles, Teak wood Trees & Canal | 122+300 | 122+400 | HP Petrol Bunk & Electrical Poles | 100 |  | |

| Photo | Obstruction Length (m) | LHS - Type of Hindrance | Chainage | | RHS - Type of Hindrance | Obstruction Length (m) | Photo | Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | From | To | | | | |
| | | | 122+900 | | Electrical Pole & Jungle | 10 |  | |
| | | | 122+900 | 123+000 | Electrical Pole, Trees & Jungle | 100 |  | |
| | | | 123+000 | 123+150 | Electrical Poles (3 nos) | 150 |  | |
|  | 70 | Canal, Teak wood Trees & Jungle | 123+230 | 123+300 | Transformer, Electrical Poles (3 nos) & Trees | 70 |  | |
|  | 50 | Electrical Pole & line crossing | 123+300 | 123+350 | Electrical Poles | 50 | | |
| | | | 123+900 | | Electrical Poles | 15 |  | |
|  | 100 | Electrical Pole & Trees | 125+700 | 125+800 | Compound Wall | 100 |  | |
|  | 50 | Houses (3 nos), Electrical Poles & Trees | 125+800 | 125+850 | Houses (4 nos), Electrical Poles & Trees | 50 |  | |
|  | 50 | Houses (4 nos), Electrical Poles & Trees | 125+850 | 125+900 | Houses (2 nos), Electrical Poles & Trees | 50 |  | |
|  | 50 | Govt building, House (1 no), Electrical Poles & Trees | 125+900 | 125+950 | Houses (3 nos), Electrical Poles & Trees | 50 |  | |
|  | 100 | House (1 no), Water tap & Trees | 125+950 | 126+050 | Houses (3 nos) & Trees | 100 | | |
|  | 50 | Building, Hut (2 nos) & Trees (21 nos) | 126+050 | 126+100 | Temple, Houses (5 nos), Electrical Pole (4 nos) & Trees (13 nos) | 50 |  | |
|  | 100 | Pond & Trees | 126+400 | 126+500 | Pond & Trees | 100 |  | |

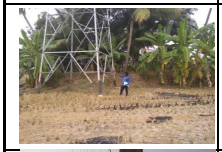
| Photo | Obstruction Length (m) | LHS - Type of Hindrance | Chainage | | RHS - Type of Hindrance | Obstruction Length (m) | Photo | Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | From | To | | | | |
|  | 100 | Bus shelter, Fencing, Houses (4 nos), Electrical Pole & Trees (7 nos) | 126+700 | 126+800 | Rice Mill, Houses (4 nos), Hut, Electrical Pole & Trees (13 nos) | 100 |  | |
|  | 100 | Houses (4 nos), Hand pump, Transformer & Electrical Poles | 126+800 | 126+900 | Temple, Houses (4 nos), Electrical Pole (2 nos) & Trees (13 nos) | 100 |  | |
|  | 100 | Bus shelter, Pump house, Electrical Pole (4 nos) & Trees (13 nos) | 126+900 | 127+000 | Electrical Pole (4 nos), Telephone Pole, Sign board & Trees (14 nos) | 100 |  | |
|  | 100 | Building (4 nos), Electrical Pole (4 nos), Sign boards (4 nos) & Trees (14 nos) | 127+100 | 127+200 | Pump house, Electrical Poles (4 nos), Transformer, Sign boards & Trees (10 nos) | 100 |  | |
|  | 100 | Building (2 nos), Electrical Pole (9 nos), Sign boards (4 nos) & Trees (10 nos) | 127+200 | 127+300 | Arch, Compound Wall, Electrical Pole (5 nos) & Trees (3 nos) | 100 |  | |
|  | 30 | Commercial building (3 nos), Electrical Pole (6 nos) & Line crossing & Trees (3 nos) | 127+650 | 127+800 | Building Compond Wall, Electrical Pole (6 nos) & Trees (2nos) | 30 |  | |
| | | | 128+000 | 128+120 | Pump house, Bore well, Transformer & Electrical Pole (3 nos) | 30 |  | |
|  | 10 | Electrical Pole (1 no.) | 128+120 | 128+200 | Electrical Pole (4 nos) | 40 |  | |
| - | - | - | 128+200 | 128+300 | Electrical Pole (2 nos) | 20 |  | |
|  | 25 | Small Temple with Gate | 128+300 | 128+350 | Electrical Pole (2 nos) | 20 |  | |
| | | | 128+350 | 128+400 | Electrical Pole (2 nos) | 20 |  | |
|  | 15 | Electrical Pole | 128+400 | 128+500 | Electrical Poles (3 nos) | 30 |  | |
| | | | 128+500 | 128+550 | Electrical Poles (2 nos) | 20 |  | |

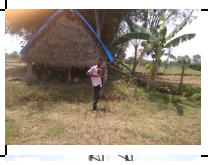
| Photo | Obstruction Length (m) | LHS - Type of Hindrance | Chainage | | RHS - Type of Hindrance | Obstruction Length (m) | Photo | Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | From | To | | | | |
| - | - | - | 128+550 | 128+600 | Electrical Poles | 10 |  | |
| | | | 128+600 | 128+700 | Shops (6 nos) & Houses (2 nos), Electrical Poles (5 nos) | 40 |  | |
|  | 60 | Fencing, Trees & Jungle | 128+700 | 128+800 | - | - | - | |
|  | 40 | Indian Oil Petrol Bunk, Small Temple, steel pole & Trees | 128+800 | 128+900 | - | - | | |
|  | 50 | Shops (9 nos), Transformer & Electrical Poles (5 nos) | 128+950 | 129+000 | Electrical Pole & Trees | 20 |  | |
|  | 30 | Electrical Pole (3 nos), Street light & Steel arch | 129+120 | 129+200 | Under construction house, Trees & Jungle | 40 |  | |
|  | 30 | Electrical Pole | 129+200 | 129+300 | | | | |
|  | 50 | Wooden work factory, Electrical Pole (4 nos) | 129+700 | 129+750 | Electrical Pole | 50 |  | |
|  | 50 | Building, Electrical Pole, Trees (4 nos) | 129+900 | 129+950 | Compound Wall, Electrical Pole & Trees | 50 |  | |
| | | | 129+950 | 130+000 | Transformer, Electrical Poles (2 nos) | 20 |  | |
|  | 20 | Electrical Pole | 130+000 | 130+120 | Electrical Poles (5 nos), Arch | 20 |  | |
|  | 60 | Electrical Pole (3 nos) | 130+120 | 130+200 | Houses (3 nos), Electrical Poles (4 nos) & Transformer | 60 |  | |
|  | 50 | Houses (2 nos), Electrical Pole | 130+200 | 130+250 | Houses (6 nos), Electrical Poles (2 nos) | 50 |  | |

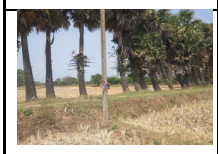
| Photo | Obstruction Length (m) | LHS - Type of Hindrance | Chainage | | RHS - Type of Hindrance | Obstruction Length (m) | Photo | Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | From | To | | | | |
|  | 50 | Shops, Electrical Pole | 130+300 | 130+350 | Compound Wall, Electrical Pole (3 nos) | 50 |  | |
|  | 50 | Houses (3 nos), Electrical Poles (2 nos) | 130+350 | 130+400 | Houses (6 nos), Electrical Poles (2 nos) | 50 |  | |
|  | 50 | Houses (7 nos), Electrical Poles (2 nos) | 130+400 | 130+450 | Houses (3 nos) | 50 |  | |
| | | | 130+550 | 130+600 | Fencing Pole preperation shop, Trees & Jungle | 20 |  | |
| | | | 130+600 | 130+700 | Shops (6 nos), Electrical Poles (2 nos) & Trees | 40 |  | |
|  | 30 | House with Gate (1 no), Electrical Pole (3 nos), | 130+700 | 130+780 | Trees, Electrical Poles & Culvert structure | 30 |  | |
|  | 10 | Electrical Pole & Line crossing | 130+780 | 130+800 | Electrical Pole & Line crossing | 10 | | |
| | | | 130+800 | 130+900 | Electrical Pole | 40 |  | |
|  | 20 | Electrical Pole (3 nos), | 130+900 | 131+000 | Arch, Existing culvert, Electrical Pole, | 20 |  | |
|  | 20 | Electrical Pole | 131+000 | 131+100 | Building (4 nos), Shop & Electrical Pole | 40 |  | |
|  | 20 | Electrical Pole | 131+100 | 131+200 | Temple (1 no.) | 25 |  | |
| | | | 131+200 | 131+300 | Electrical Pole | 20 |  | |
|  | 30 | Carpender Shop, Electrical Pole (4 nos) & Jungle | 131+300 | 131+400 | Under construction building, Electrical Pole, Pump set, Trees & Jungle | 30 |  | |

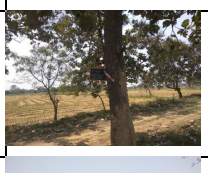
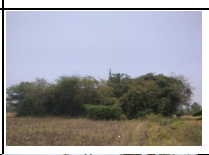
| Photo | Obstruction Length (m) | LHS - Type of Hindrance | Chainage | | RHS - Type of Hindrance | Obstruction Length (m) | Photo | Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | From | To | | | | |
|  | 40 | Electrical Poles (2 nos) | 131+400 | 131+500 | Electrical Pole, | 35 |  | |
| | | | 131+500 | 131+600 | Marble showroom, Electrical Poles & Line crossing (2 nos), Trees & Jungle | 40 |  | |
|  | 20 | Electrical Poles (2 nos) | 131+600 | 131+700 | Electrical Pole | 20 |  | |
|  | 40 | High mast light, Sign boards, Houses (4 nos), Electrical Poles (3 nos) & Trees (8 nos) | 131+700 | 131+800 | Advertisement board, Fencing, Houses (4 nos), Electrical Poles (2 nos) & Trees | 40 |  | |
|  | 40 | Cocunut farm | 132+000 | 132+100 | Trees & Jungle | 40 |  | |
|  | 60 | Banana farm & Trees (10 nos) | 132+100 | 132+200 | Trees & Jungle | 40 |  | |
|  | 50 | Houses (3 nos), Shop (1 no. & Electrical Pole | 132+200 | 132+250 | Electrical Pole, Trees & Jungle | 50 |  | |
|  | 60 | House, Teak wood Trees, Banana & Cocunut Trees | 132+300 | 132+400 | Teak wood Trees, Banana & Cocunut Trees, Electrical Pole & Jungle | 60 |  | |
|  | 30 | Teak wood Trees & Trees (6 nos) | 132+500 | 132+600 | Compound wall, Trees (6 nos) & Jungle | 30 |  | |
|  | 30 | Bore well, Pump set, Electrical Poles (9 nos) & Line crossing & Trees | 132+600 | 132+730 | Under construction House (1 no.), Electrical Poles (4 nos) & Line crossing & Trees | 30 |  | |
|  | 50 | Electrical Pole | 132+800 | 132+900 | Cocunut farm, Electrical Poles (2 nos), Teak wood Trees & Jungle | 50 |  | |
|  | 100 | Banana farm, Pump set & Trees | 132+900 | 133+000 | Pump set, Banana farm, Electrical Poles (2 nos) & Line crossing & Cocunut Trees | 100 |  | |
|  | 100 | Motor garage shop, Electrical Pole (2 nos) & Banana farm | 133+000 | 133+100 | Cocunut Trees, Existing culvert & Jungle | 100 |  | |

| Photo | Obstruction Length (m) | LHS - Type of Hindrance | Chainage | | RHS - Type of Hindrance | Obstruction Length (m) | Photo | Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | From | To | | | | |
|  | 45 | Temple, Hand pump, 1 no. of buildings, Electrical Poles (2 nos) & Trees | 133+100 | 133+150 | Electrical Poles (2 nos) & line crossing & Trees | 20 |  | |
|  | 50 | High mast light, 3 no. of buildings, Electrical Poles (4 nos) & Trees | 133+150 | 133+200 | Houses (3 nos), Street lighting pole, Electrical Poles (2 nos) & Trees | 50 |  | |
|  | 50 | Cocunut farm, Pump set & Trees | 133+350 | 133+400 | Trees & Jungle | 50 |  | |
|  | 50 | Compound wall, Electrical Pole & Trees (7 nos) | 133+400 | 133+500 | Trees, Existing culvert & Jungle | 30 |  | |
|  | 60 | Hotels (2 nos), Electrical Poles (2 nos) & Trees | 133+500 | 133+600 | | | | |
|  | 30 | Houses (2 nos), Electrical Pole (1 no.), School compond wall fencing | 133+600 | 133+700 | Compound wall, Transformer, Electrical Poles (2 nos), Arch & Trees (10 nos) | 60 |  | |
|  | 40 | Compound Wall, Electrical Pole, Trees & Jungle | 133+700 | 133+750 | House (1 no.), Pond, Compound wall, building & Electrical Poles & Trees | 40 |  | |
|  | 30 | House, Electrical Pole, Trees & Jungle | 133+750 | 133+800 | House, Electrical Poles & Trees | 30 |  | |
|  | 50 | Houses (3 nos), Trees & Jungle | 133+800 | 133+900 | House (1 no.), Electrical Poles (3 nos), Trees & Jungle | 40 |  | |
|  | 30 | Sign boards, Houses (2 nos), Building, Electrical Poles (2 nos), | 133+900 | 133+950 | Shops, Lighting Poles (2 nos) & Electrical Poles (2 nos) | 30 |  | |
|  | 30 | High mast light, Sign baords & Electrical Poles | 133+950 | 134+000 | High mast light, Sign baords & Electrical Poles | 30 |  | |
|  | 30 | House & Trees | 134+080 | | House & Trees | 30 |  | Encroachment |
|  | - | Railway Crossing | 134+380 | | Railway Crossing | - |  | ROB @ CH: 134+345 |

| Photo | Obstruction Length (m) | LHS - Type of Hindrance | Chainage | | RHS - Type of Hindrance | Obstruction Length (m) | Photo | Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | From | To | | | | |
|  | 20 | Regulator & Trees | 134+710 | | - | - | - | water regulator sluice to be relocated |
|  | 40 | HT Tower | 135+400 | | | | - | |
|  | 10 | Electrical Pole & Line Crossing | 136+100 | | Electrical Pole & Line Crossing | 10 |  | |
|  | 10 | Road crossing, Electrical pole & Trees | 136+300 | | Patteswaram to Swamimalai Road | 10 |  | VUP @ CH: 136+282 |
|  | 10 | Electrical Pole & Line crossing | 137+040 | | Electrical Pole & Line crossing | 10 | | |
| | 20 | Road crossing & Electrical pole | 137+100 | | House & Trees | 20 |  | |
| | - | - | 137+150 | | Electrical Pole | 10 |  | |
|  | 70 | Standing crop, Transformer, Electrical Pole & Trees | 137+550 | 137+620 | Standing crop, Road crossing (Patteswaram to Sundaraperumalkoil) & Trees | 70 |  | |
|  | 10 | Electrical Pole & Line Crossing | 137+850 | | Electrical Pole & Line Crossing | 10 | | |
|  | 10 | Electrical Pole | 137+900 | | Electrical Pole | 10 | | |
|  | 150 | Mango farm & Teak wood Trees | 138+300 | 138+450 | Pump set, Mango farm & Teak wood Trees | 150 |  | |
|  | 100 | Pump set, Banana farm, Cocunut farm & Canal crossing | 138+450 | 138+550 | Pump set, Banana farm, Cocunut farm & Canal crossing | 100 |  | |
|  | 50 | Fish pond | 138+620 | 138+670 | | | | |

| Photo | Obstruction Length (m) | LHS - Type of Hindrance | Chainage | | RHS - Type of Hindrance | Obstruction Length (m) | Photo | Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | From | To | | | | |
|  | 10 | Electrical Pole & Line Crossing & Trees | 138+680 | | Electrical Pole & Line Crossing & Trees | 10 | | |
|  | 20 | Road Crossing, Trees & EB Pole | 138+730 | | | | | |
|  | 20 | Cocunut farm, Electrical Pole & Trees | 138+730 | 138+750 | Cocunut farm, Electrical Pole & Trees | 20 |  | |
|  | 50 | Houses (7 nos), Trees & Electrical Poles | 138+750 | 138+800 | Cocunut farm, Banana farm & Teak wood Trees | 50 | | |
|  | 20 | Electrical Poles & Line Crossing, Road crossing & Trees | 139+450 | | Electrical Poles & Line Crossing, Road crossing & Trees | 20 |  | |
| - | - | - | 139+460 | | Sump, Pump house & Bore Well | 30 |  | |
|  | 20 | Small Temple | 140+900 | | EB Pole & Line Crossing | 20 | | |
|  | 15 | Road crossing & Trees | 141+102 | | Nallur to Avuru Road | 15 | | |
|  | - | Electrical Pole & Line Crossing & Trees | 141+330 | | Electrical Pole & Line Crossing & Trees | - |  | |
|  | 20 | Bore well, Pump house & Trees | 142+260 | | EB Pole & Line Crossing | 10 | | |
|  | 20 | Bore Well | 142+500 | | Electrical Pole & Line Crossing | 10 | | |
|  | 80 | Bamboo, Mango trees & Sugarcane farm | 142+570 | 142+650 | Bamboo, Mango trees & Sugarcane farm | 80 | | |
|  | 20 | High Tension Tower | 142+850 | | - | - |  | |

| Photo | Obstruction Length (m) | LHS - Type of Hindrance | Chainage | | RHS - Type of Hindrance | Obstruction Length (m) | Photo | Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | From | To | | | | |
|  | - | - | 143+100 | | High Tension Tower | 20 |  | |
|  | 20 | EB Pole | 143+600 | | EB Pole | 20 | | |
| | | | 143+850 | | Electrical Pole & Line Crossing & Trees | 15 |  | |
|  | 50 | Teak wood trees | 144+750 | | Teak wood trees | 50 | | |
|  | 20 | Temple | 145+500 | | - | - | - | - |
| | - | - | 145+520 | | Pump Set & Electrical Pole | 20 |  | |
|  | 10 | Electrical Pole & Line Crossing | 146+000 | | Electrical Pole & Line Crossing | 10 |  | |
|  | 20 | Pump set | 146+050 | | Electrical Pole & Line Crossing | 10 | | |
|  | 10 | Electrical Pole & Line Crossing | 146+070 | | | | | |
|  | 20 | Pump set & Trees | 146+130 | | Electrical Pole & Line Crossing | 10 | | |
|  | 10 | Electrical Pole | 146+200 | | - | - | - | |
|  | 20 | Electrical Pole | 146+300 | | Electrical Pole | 20 | | |
|  | 20 | Electrical Pole & Line Crossing | 146+700 | 146+720 | Electrical Pole & Line Crossing & Trees | 20 | | |

| Photo | Obstruction Length (m) | LHS - Type of Hindrance | Chainage | | RHS - Type of Hindrance | Obstruction Length (m) | Photo | Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | From | To | | | | |
| | 1500 | Existing Canal | 146+600 | 148+100 | Existing Canal | 1500 | | |
|  | 10 | Nala Crossing, Trees & Electrical Pole | 146+780 | | Nala Crossing, Trees & Electrical Pole | 10 | | |
|  | 20 | Pump set, River Crossing, Trees & Electrical Pole | 146+830 | | River Crossing, Trees & Electrical Pole | 20 |  | |
|  | 20 | Pump set | 146+900 | | Trees & EB Pole | 20 |  | |
|  | 30 | Nala Crossing & Trees | 146+900 | | Nala Crossing & Trees | 30 |  | |
|  | 15 | Pump set | 147+050 | | - | - |  | |
| | | | 147+100 | | High Tension Tower | 40 |  | |
|  | 20 | High Tension Tower | 147+330 | | - | - |  | |
|  | 20 | Bore well & Pump house | 147+380 | | - | - | - | |
|  | 30 | Nala Crossing & Trees | 147+370 | 147+400 | House | 30 | | |
| - | - | - | 147+410 | 147+450 | Houses, Trees & Electrical Line | 40 |  | |
|  | 20 | Teak wood trees | 147+520 | | Teak wood trees | 20 | | |
|  | 30 | Electrical Pole & Line Crossing | 147+880 | | Electrical Pole & Line Crossing | 30 |  | |

| Photo | Obstruction Length (m) | LHS - Type of Hindrance | Chainage | | RHS - Type of Hindrance | Obstruction Length (m) | Photo | Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | From | To | | | | |
|  | 20 | Road Crossing, Trees & EB Pole | 147+900 | | Road Crossing, Trees & EB Pole | 20 |  | |
| | | | 147+900 | 148+020 | EB Pole | 50 |  | |
|  | 250 | Pump set & EB Pole | 148+300 | 148+550 | Pump set & EB Pole | 250 |  | |
|  | 10 | EB Pole & trees (5 nos) | 149+100 | | Pump set & EB Pole | 20 |  | |
|  | 10 | EB Electrical Pole | 149+150 | | EB Electrical Pole | 10 |  | |
|  | 20 | Pump set | 149+900 | | Pump set & Electrical Pole | 20 |  | |
|  | 20 | Pump house | 150+610 | | EB Pole & Line crossing & Trees (2 nos) | 10 |  | |
|  | 70 | River Crossing, Trees & EB Pole | 150+780 | | Regulator & trees | 70 |  | |
| | | Existing Sluice | 150+800 | | Existing Sluice | | | |
| | | | 151+500 | 151+630 | Electrical Pole | 50 |  | |
|  | 20 | Pump set & Electrical Pole & line crossing | 151+650 | | Electrical Pole | 20 |  | |
|  | - | Road Crossing, Trees & EB Pole | 152+350 | | Sulamangalam to Palasakudi Road existing culvert | - |  | |
|  | | Existing Sluice | 152+900 | | Existing Sluice | |  | |

| Photo | Obstruction Length (m) | LHS - Type of Hindrance | Chainage | | RHS - Type of Hindrance | Obstruction Length (m) | Photo | Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | From | To | | | | |
|  | 20 | anal Crossing & Trees | 152+900 | | Canal Crossing & Trees | 20 |  | |
|  | 10 | EB Pole & Trees | 153+500 | | EB Pole & Trees | 10 |  | |
|  | 15 | Electrical Tower | 153+720 | | Electrical Pole & Trees | 15 | | |
|  | 40 | Houses (6 nos), Electrical pole & Trees | 154+590 | 154+630 | Houses (6 nos), Electrical pole & Trees | 40 |  | |
|  | 120 | Bamboo trees & trees & Canal crossing | 154+630 | 154+750 | Bamboo trees & trees & Canal crossing | 120 |  | |
|  | 10 | Electrical Pole | 154+650 | | Electrical Pole & Trees | 15 |  | |
|  | 90 | Houses (4 nos) & Trees | 154+680 | 154+770 | Bamboo trees | 90 |  | |
|  | 50 | Electrical poles | 155+950 | 155+080 | Electrical poles | 50 |  | |
|  | 10 | Pump set & Electrical poles | 155+760 | 155+770 | Road crossing | 10 |  | |
|  | 20 | Water tank & Trees | 155+780 | | | |  | |
|  | 10 | Canal crossing & Electrical Pole & Line crossing | 156+000 | | Canal crossing & Electrical Pole & Line crossing | 10 |  | |
|  | 20 | Electrical Pole | 156+420 | 156+440 | Teak wood trees | 20 |  | |
|  | 10 | Road Crossing, Trees & EB Pole | 156+470 | 156+480 | Kondavattanthidal & Perunakkanallur | 10 |  | |

| Photo | Obstruction Length (m) | LHS - Type of Hindrance | Chainage | | RHS - Type of Hindrance | Obstruction Length (m) | Photo | Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | From | To | | | | |
|  | 70 | Road Crossing, Trees & EB Pole | 156+480 | 156+550 | Kondavattanthidal & Perunakkanallur | 70 |  | |
|  | 60 | River crossing & Trees | 156+700 | | River crossing & Trees | 60 | | |
|  | 50 | Electrical pole | 157+150 | | Electrical pole | 50 |  | |
|  | 20 | Canal crossing, Jungle & Trees | 159+510 | | Canal crossing, Jungle & Trees | 10 |  | |
| | 150 | Agricultural Land (Court case) | 161+050 | 161+200 | Agricultural Land (Court case) | 150 | | |
| | | | 162+150 | 162+250 | House, Trees (5 nos), Bore well & Pump Set | 100 |  | |
|  | - | - | 163+620 | 163+650 | Houses (2 nos), Electrical pole, Road Crossing & Trees | 30 |  | |
|  | 400 | River crossing, Jungle & Trees | 163+700 | 164+100 | River crossing, Jungle & Trees | 400 |  | |
|  | 25 | Shops (6 nos) | 164+250 | 164+275 | Trees (7 nos) | 25 |  | |

## 3.1. Pre-Construction Activities

### Detailed Design & Drawings

The Plan and Profile, as well as the Pavement Designs for the entire 47.835 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 | Design submitted | Drawing Approved |
|---|---|---|---|---|---|
| 1 | Pavement Design | Km | 47.835 | 47.835 | 47.835 |
| 2 | Plan & Profile | Km | 47.835 | 47.835 | 47.835 |
| 3 | Typical Cross Sections | Type | 5 | 5 | - |
| 4 | Major Intersections | No | 20 | - | - |
| 5 | Minor Intersections | No | 22 | - | - |
| 6 | Toll Plaza (Typical Details) | No | 01 | - | - |
| 7 | Rest Area | No | 01 | - | |
| 8 | Bus Bay | No | 05 | - | |
| 9 | Service Roads | No | 27.10 | 27.10 | 23.680 |

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

| Sr. No | Description | Unit | Total Scope as per Sch. B | Design/ Drawings Submitted | Design/ Drawings Approved |
|---|---|---|---|---|---|
| 1 | Major Bridges | No | 06 | 04 | 01 |
| 2 | Minor Bridges | No | 56 | 56 | 44 |
| 3 | Grade Separated Intersection | No | 06 | 06 | 06 |
| 4 | VUP/PUP | No | 12 | 12 | 12 |
| 5 | Box /Slab Culvert | No | 103 | 99 | 99 |
| 6 | ROB | No | 01 | 01 | GAD approved |

## 4.1. Physical Progress of Work

The following table summarize the quantum of work achieved towards the construction of the various elements of the highway.

The Progress of the Major Works carried out at the Site in the Month of November 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 | 46.925 | 34.13 | 0 | 34.13 | 0 | 12.795 | 72.73% |
| | RHS | 46.925 | 32.68 | 0 | 32.68 | 0 | 14.245 | 69.64% |
| 2 | Embankment | | | | | | | |
| | LHS | 46.925 | 4.91 | 0 | 4.91 | 14.72 | 42.020 | 10.45% |
| | RHS | 46.925 | 4.34 | 0.1 | 4.44 | 12.65 | 42.485 | 9.46% |
| 3 | Sub grade | | | | | | | |
| | LHS | 46.925 | 0.43 | 1.49 | 1.92 | 0 | 45.005 | 4.09% |
| | RHS | 46.925 | 1.57 | 0.51 | 2.08 | 0 | 44.845 | 4.43% |
| 4 | GSB/ Cement Treated Base | | | | | | | |
| | LHS | 46.925 | 0 | 0 | 0 | 0 | 46.925 | 0.00% |
| | RHS | 46.925 | 0 | 0 | 0 | 0.11 | 46.925 | 0.00% |
| 5 | Wet Mix Macadam | | | | | | | |
| | LHS | 46.925 | 0 | 0 | 0 | 0 | 46.925 | 0.00% |
| | RHS | 46.925 | 0 | 0 | 0 | 0 | 46.925 | 0.00% |
| 6 | Dense Bitumen Macadam | | | | | | | |
| | LHS | 46.925 | 0 | 0 | 0 | 0 | 46.925 | 0.00% |
| | RHS | 46.925 | 0 | 0 | 0 | 0 | 46.925 | 0.00% |
| 7 | Bituminous Concrete | | | | | | | |
| | LHS | 46.925 | 0 | 0 | 0 | 0 | 46.925 | 0.00% |
| | RHS | 46.925 | 0 | 0 | 0 | 0 | 46.925 | 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 | 27.1 | 0 | 0 | 0 | 0 | 27.1 | 0.00% |
| 2 | Sub grade | 27.1 | 0 | 0 | 0 | 0 | 27.1 | 0.00% |
| 3 | GSB/ Cement Treated Base | 27.1 | 0 | 0 | 0 | 0 | 27.1 | 0.00% |
| 4 | Wet Mix Macadam | 27.1 | 0 | 0 | 0 | 0 | 27.1 | 0.00% |
| 5 | Dense Bitumen Macadam | 27.1 | 0 | 0 | 0 | 0 | 27.1 | 0.00% |
| 6 | Bituminous Concrete | 27.1 | 0 | 0 | 0 | 0 | 27.1 | 0.00% |

Structure Work

| Sr. No. | Type of Structure | Total No. of Structures | No. of Structures | | |
|---|---|---|---|---|---|
| | | | Completed | In Progress | Balance |
| 1 | Culvert | 103 | 37 | 22 | 44 |
| 2 | Light Vehicular Underpass | 2 | 0.5 | 1.5 | 0 |
| 3 | Vehicular Underpass | 10 | 0 | 9 | 1 |
| 4 | Minor Bridges | 56 | 16.5 | 20.5 | 19 |
| 5 | Major Bridge | 5 | 0 | 1 | 4 |
| 6 | Flyover | 6 | 0 | 6 | 0 |

Physical Progress of Project up to November 2019 as per approved Schedule G:

| Item | Stage for Payment | Unit | Qty. | Weightage in % to Contract Price | Completed up to November'19 | % Physical Progress |
|---|---|---|---|---|---|---|
| Road works including culverts, minor bridges, underpasses, overpasses, approaches to ROB/RUB/ Major Bridges/ Structures (but excluding service roads) | A- Widening and strengthening of existing road | | | | | |
| | (1) Earthwork up to top of the sub-grade | Km. | 28.70 | 4.26% | 2.00 | 0.297% |
| | (2) Granular work (sub-base, base, shoulders) | Km. | | | | |
| | (a) GSB/ Cement Treated Base | Km. | 28.70 | 1.40% | | 0.000% |
| | (b) WMM/ Cement Treated Base | Km. | 28.70 | 2.10% | | 0.000% |
| | (3) Shoulders | Km. | 7.10 | 0.03% | | 0.000% |
| | (4) Bituminous work | | | | | |
| | (a) DBM | Km. | 28.70 | 1.61% | | 0.000% |
| | (b) BC | Km. | 28.70 | 1.48% | | 0.000% |
| | (5) Rigid Pavement | | | | | |
| | Concrete Work | Km. | | | | |
| | (6) Widening and Repair of Culverts | Nos. | 33 | 0.57% | 11.30 | 0.196% |
| | (7) Widening and Repair of Minor Bridges | Nos. | 3 | 0.38% | | 0.000% |
| | B- New realignment/bypass | | | | | |
| | (1) Earthwork up to top of the sub-grade | Km. | 63.33 | 16.30% | 2.00 | 0.515% |
| | (2) Granular work (sub-base, base, shoulders) | Km. | | | | |
| | (a) GSB/ Cement Treated Base | Km. | 62.13 | 3.39% | | 0.000% |
| | (b) WMM/ Cement Treated Base | Km. | 62.13 | 3.83% | | 0.000% |
| | (3) Shoulders | Km. | 48.19 | 0.10% | | 0.000% |
| | (4) Bituminous work | | | | | |
| | (a) DBM | Km. | 62.13 | 3.39% | | 0.000% |
| | (b) BC | Km. | 62.13 | 3.83% | | 0.000% |
| | (5) Rigid Pavement | | | | | |
| | Concrete Work | Km | | | | |
| | C- New culverts, minor bridges, underpasses, overpasses on existing road, realignments, bypasses: | | | | | |

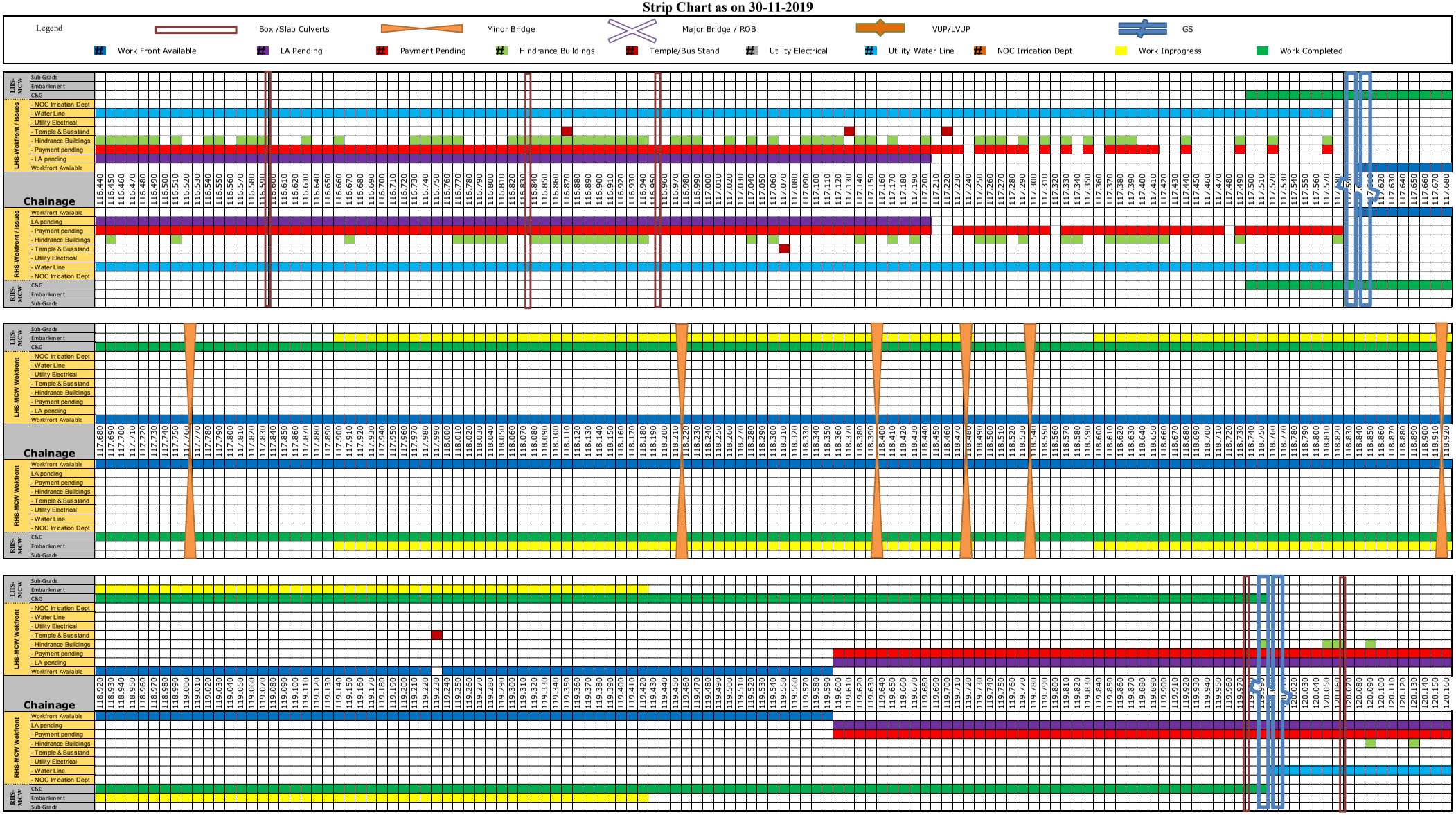
| | | | | | | |
|---|---|---|---|---|---|---|
| Road works including culverts, minor bridges, underpasses, overpasses, approaches to ROB/RUB/ Major Bridges/ Structures (but excluding service roads) | (1) Culverts | Nos. | 70 | 5.95% | 21.50 | 1.826% |
| | (2) Minor bridges | | | | | |
| | (i) Foundation | Nos. | 170 | 6.71% | 64.00 | 2.527% |
| | (ii) Substructure | Nos. | 270 | 3.50% | 87.50 | 1.133% |
| | (iii) Superstructure (including crash barrier etc. complete) | Nos. | 142 | 3.78% | 29.00 | 0.771% |
| | (3) Cattle/Pedestrian underpasses | | | | | |
| | (i) Foundation | Nos. | 4 | 0.15% | 4.00 | 0.150% |
| | (ii) Substructure | Nos. | 8 | 0.08% | 4.00 | 0.042% |
| | (iii) Superstructure (including crash barrier etc. complete) | Nos. | 4 | 0.06% | 1.00 | 0.014% |
| | (4) Pedestrian overpasses | | | | | |
| | (i) Foundation | Nos. | | | | |
| | (ii) Substructure | Nos. | | | | |
| | (iii) Superstructure (including crash barrier etc. complete) | Nos. | | | | |
| | (5) Grade separated structures | | | | | |
| | (a) Underpass (10 VUP) | | | | | |
| | (i) Foundation | Nos. | 40 | 2.50% | 23.00 | 1.437% |
| | (ii) Substructure | Nos. | 40 | 0.91% | 3.00 | 0.068% |
| | (iii) Superstructure (including crash barrier etc. complete) | Nos. | 20 | 1.14% | | 0.000% |
| | (c) Vehicular Overpass (VOP) | | | | | |
| | (i) Foundation | Nos. | | | | |
| | (ii) Substructure | Nos. | | | | |
| | (iii) Superstructure (including crash barrier etc. complete) | Nos. | | | | |
| | (c) Flyover | | | | | |
| | (i) Foundation | Nos. | 24 | 2.25% | 19.00 | 1.781% |
| | (ii) Substructure | Nos. | 24 | 0.82% | | 0.000% |
| | (iii) Superstructure (including crash barrier etc. complete) | Nos. | 12 | 1.02% | | 0.000% |
| Major Bridge works and ROB/RUB | Major Bridge works and ROB/RUB | | | | | |
| | A- Widening and Repair of Minor Bridges | | | | | |
| | (1) Foundations | | | | | |
| | (a) Open Foundation | Nos. | | | | |
| | (b) Pile foundation/ well foundation | Nos. | | | | |
| | (2) Substructure | Nos. | | | | |
| | (3) Superstructure (including crash barrier etc. complete) | Nos. | | | | |
| | C- New Major Bridges | | | | | |
| | (1) Foundations | | | | | |
| | (a) Open Foundation | Nos. | | | | |
| | (b) Pile foundation/ well foundation | Nos. | 76 | 2.17% | | 0.000% |
| | (2) Substructure | Nos. | 76 | 1.23% | | 0.000% |
| | (3) Superstructure (including crash barrier etc. complete) | Nos. | 62 | 1.49% | | 0.000% |
| | D- New rail-road bridges | | | | | |
| | (a) ROB | | | | | |
| | (i) Foundation | Nos. | 8 | 1.50% | | 0.000% |
| | (ii) Substructure | Nos. | 8 | 0.80% | | 0.000% |

| | | | | | | |
|---|---|---|---|---|---|---|
| | (iii) Superstructure (including crash barrier etc. complete) | Nos. | 6 | 1.49% | | 0.000% |
| Structures (elevated sections, reinforced earth) | **Structures (elevated sections, reinforced earth)** | | | | | |
| | (1) Foundation | Nos. | | | | |
| | (2) Substructure | Nos. | | | | |
| | (3) Superstructure (including crash barrier etc. complete) | Nos. | | | | |
| | **(4) Reinforced earth Wall (includes Approaches of ROB, Underpasses, Overpasses,Flyover etc)** | | 179469 | 7.52% | 33,362.01 | 1.398% |
| Other Works | **Other Works** | | | | | |
| | **(i) Service roads/ Slip Roads** | Km | 27.10 | 3.86% | | 0.000% |
| | **(ii) Toll Plaza** | Nos. | 1 | 1.38% | | 0.000% |
| | **(iii) Road side drains** | Km | 12.08 | 1.64% | | 0.000% |
| | **(iv) Road signs, markings, km stones, safety devices, ....** | | | | | |
| | (a) Road signs, markings, km stones, ... | Km | 95.67 | 2.02% | | 0.000% |
| | (b) Concrete Crash Barrier/ W-Beam Crash Barrier in Road work | Km | | | | |
| | (i) Concrete Crash Barrier | Km | 25.42 | 2.01% | | 0.000% |
| | (ii) W-Beam Crash Barrier | Km | 32.75 | 0.70% | | 0.000% |
| | **(v) Project facilities** | | | | | |
| | (a) Bus Bays | No. | 20 | 0.01% | | 0.000% |
| | (b) Truck Lay-byes | No. | | | | |
| | (b) Rest areas | No. | 2 | 0.22% | | 0.000% |
| | (vi)Repairs to bridges/structures | Nos. | 4 | 0.01% | | |
| | (vii) Road side plantation | Km | 22.54 | 0.61% | | 0.000% |
| | (viii) Protection works | | | | | |
| | (a) Boulder pitchin on slopes | Km | 32.75 | 0.19% | | 0.000% |
| | (b) Toe/Retaining wall | Km | | | | |
| | (x) Miscellaneous | Ls. | 100% | 0.150% | | 0.000% |
| | **Total** | | | **100.00%** | | **12.154%** |

## Four Laning of Cholopuram to Thanjavur from Km.116.440 to Km.164.275 Section of NH45C in the state of Tamil Nadu Under NHDP Phase-IV on Hybrid Annuity Mode

**Cholopuram - Thanjavur Project**

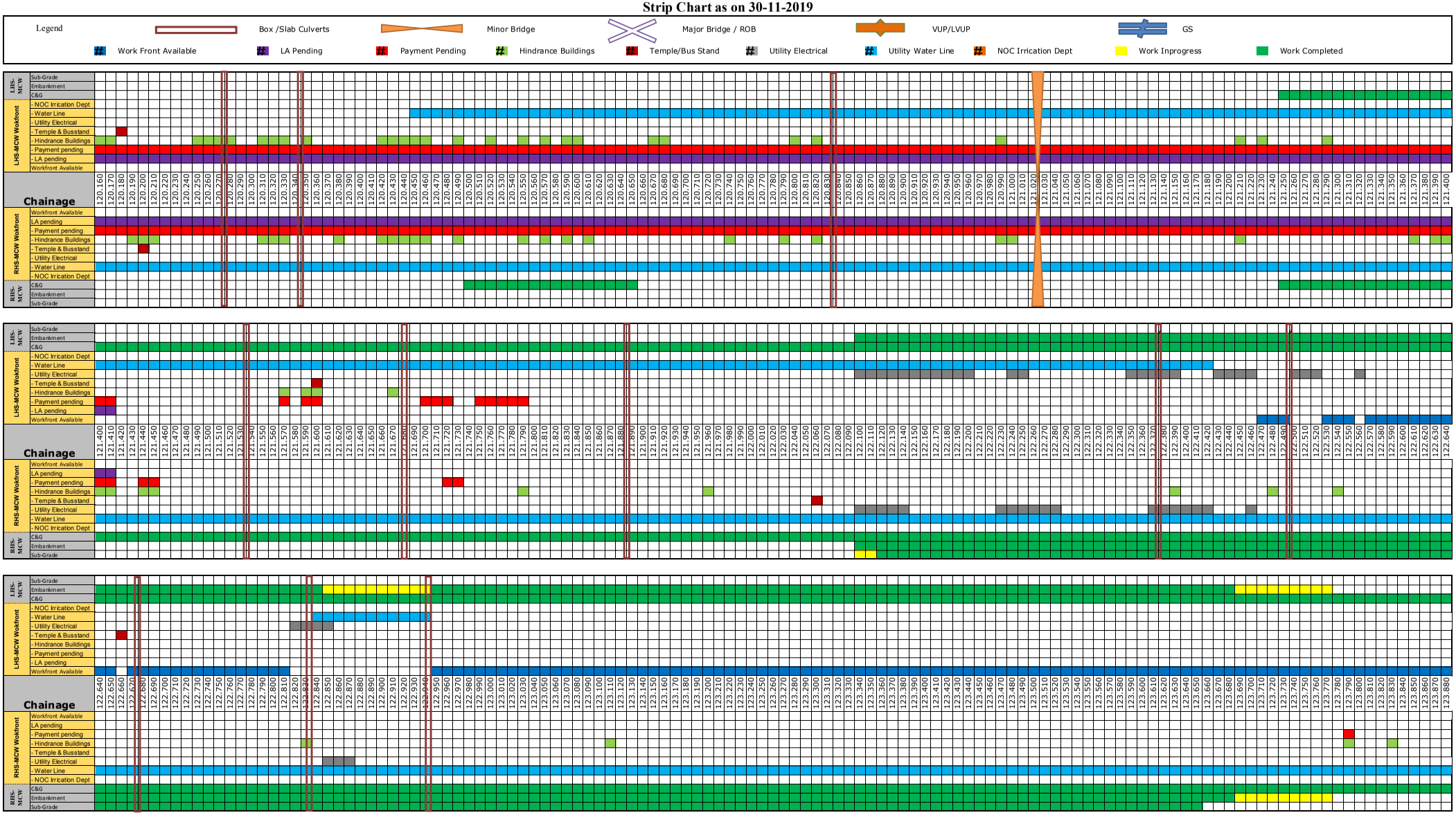
### Strip Chart as on 30-11-2019



## Four Laning of Cholopuram to Thanjavur from Km.116.440 to Km.164.275 Section of NH45C in the state of Tamil Nadu Under NHDP Phase-IV on Hybrid Annuity Mode

**Cholopuram - Thanjavur Project**

### Strip Chart as on 30-11-2019



## Four Laning of Cholopuram to Thanjavur from Km.116.440 to Km.164.275 Section of NH45C in the state of Tamil Nadu Under NHDP Phase-IV on Hybrid Annuity Mode

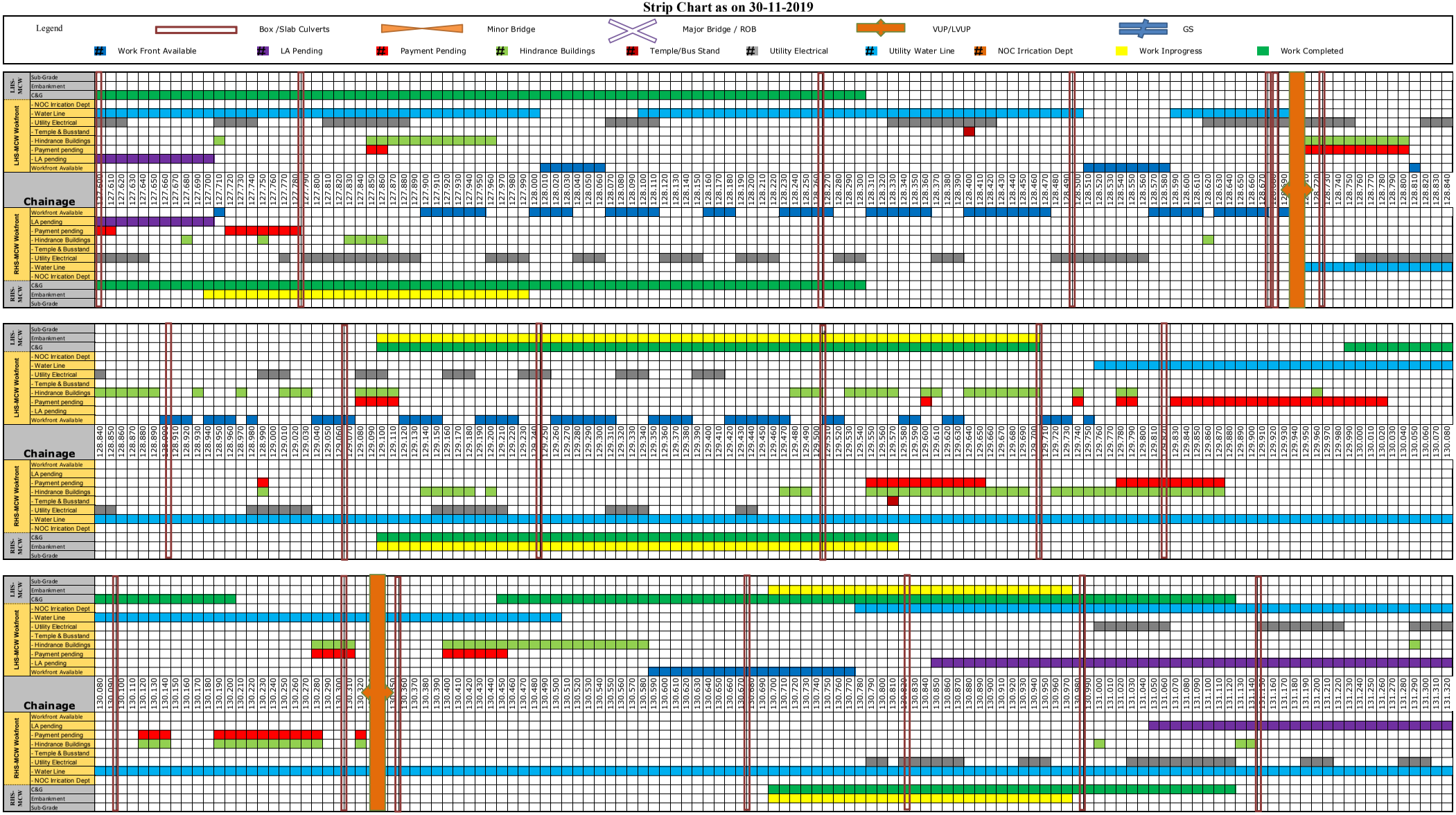
**Cholopuram - Thanjavur Project**

### Strip Chart as on 30-11-2019

## Four Laning of Cholopuram to Thanjavur from Km.116.440 to Km.164.275 Section of NH45C in the state of Tamil Nadu Under NHDP Phase-IV on Hybrid Annuity Mode

**Cholopuram - Thanjavur Project**

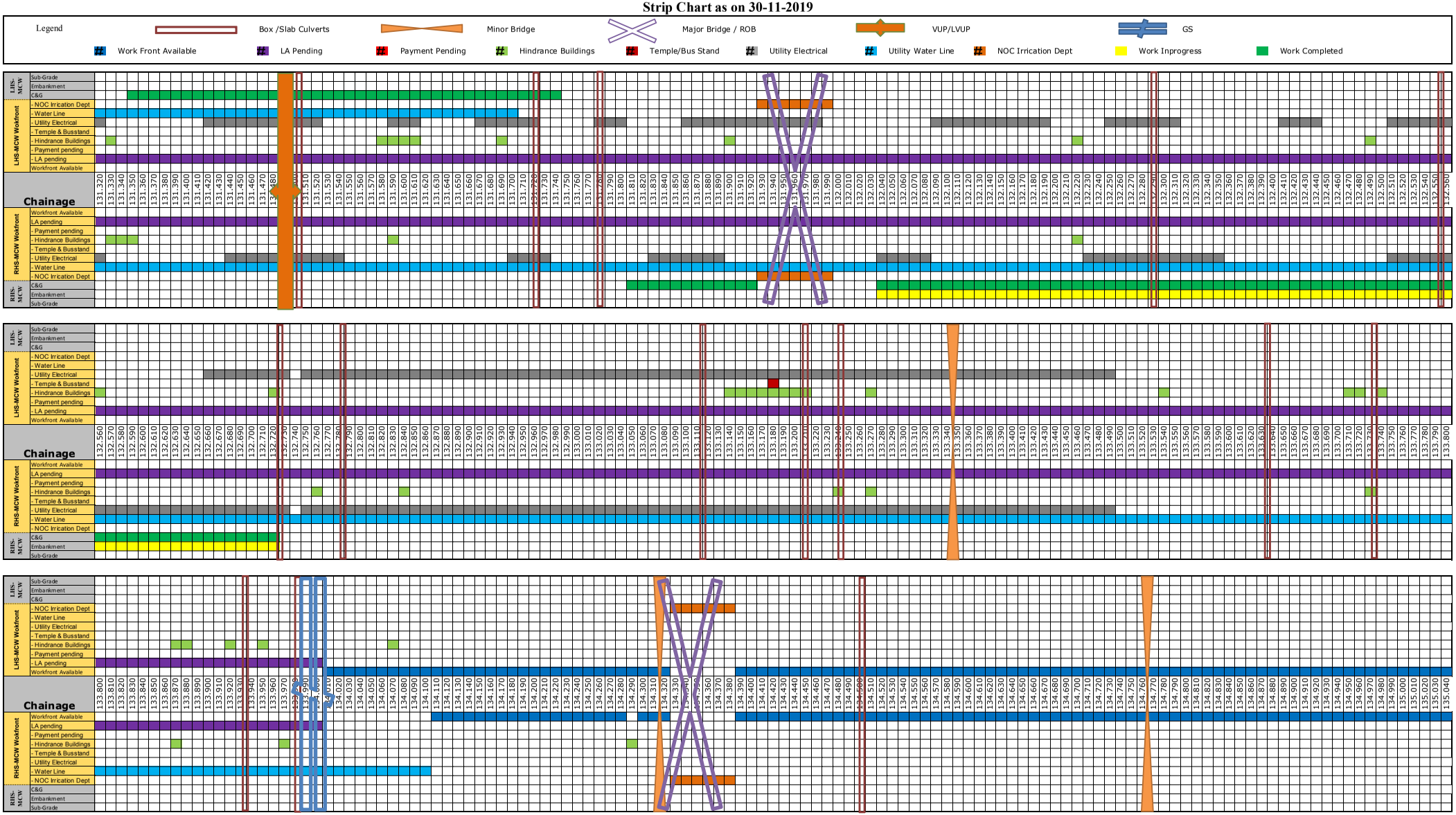
### Strip Chart as on 30-11-2019



## Four Laning of Cholopuram to Thanjavur from Km.116.440 to Km.164.275 Section of NH45C in the state of Tamil Nadu Under NHDP Phase-IV on Hybrid Annuity Mode

**Cholopuram - Thanjavur Project**

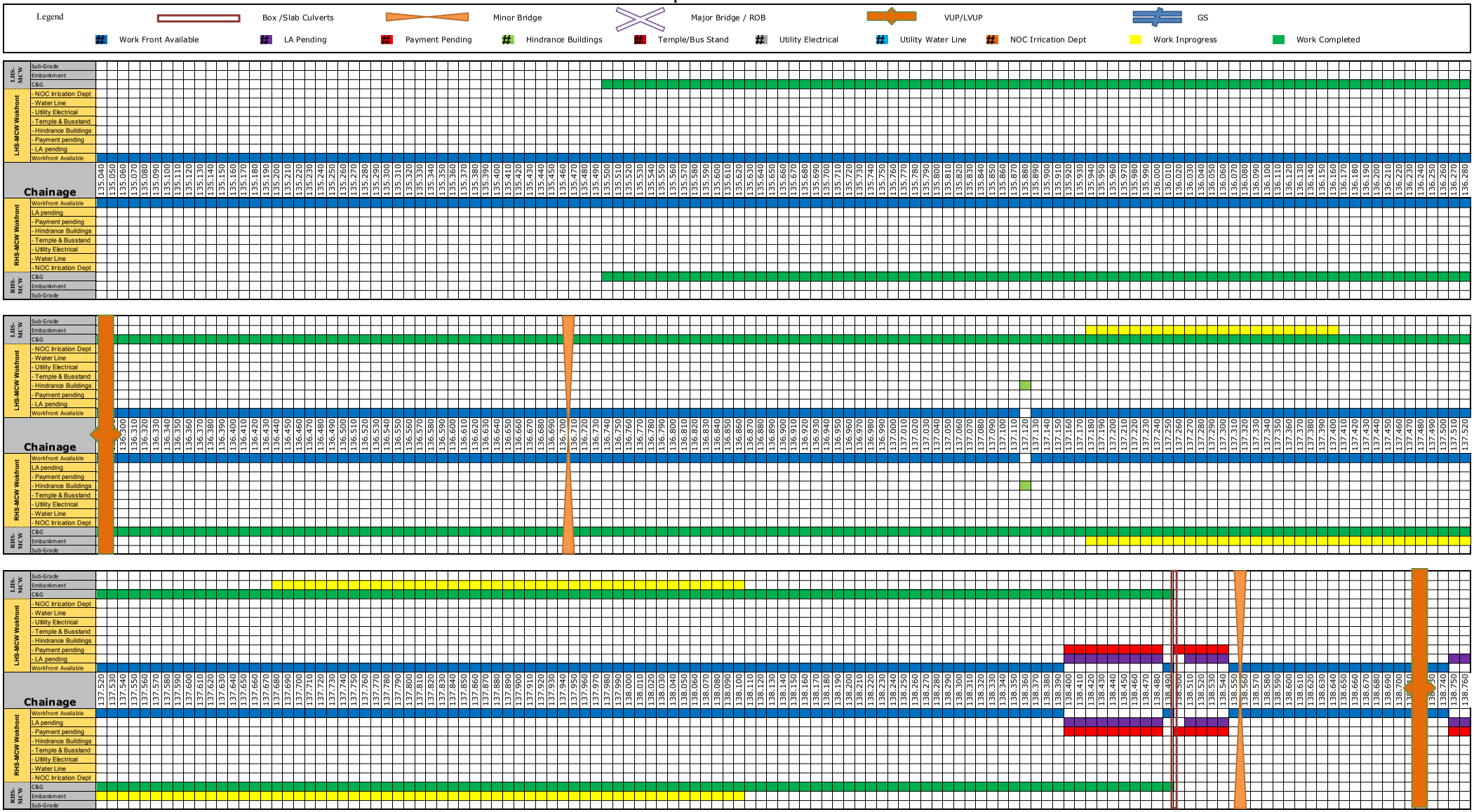
### Strip Chart as on 30-11-2019



## Four Laning of Cholopuram to Thanjavur from Km.116.440 to Km.164.275 Section of NH45C in the state of Tamil Nadu Under NHDP Phase-IV on Hybrid Annuity Mode

**Cholopuram - Thanjavur Project**

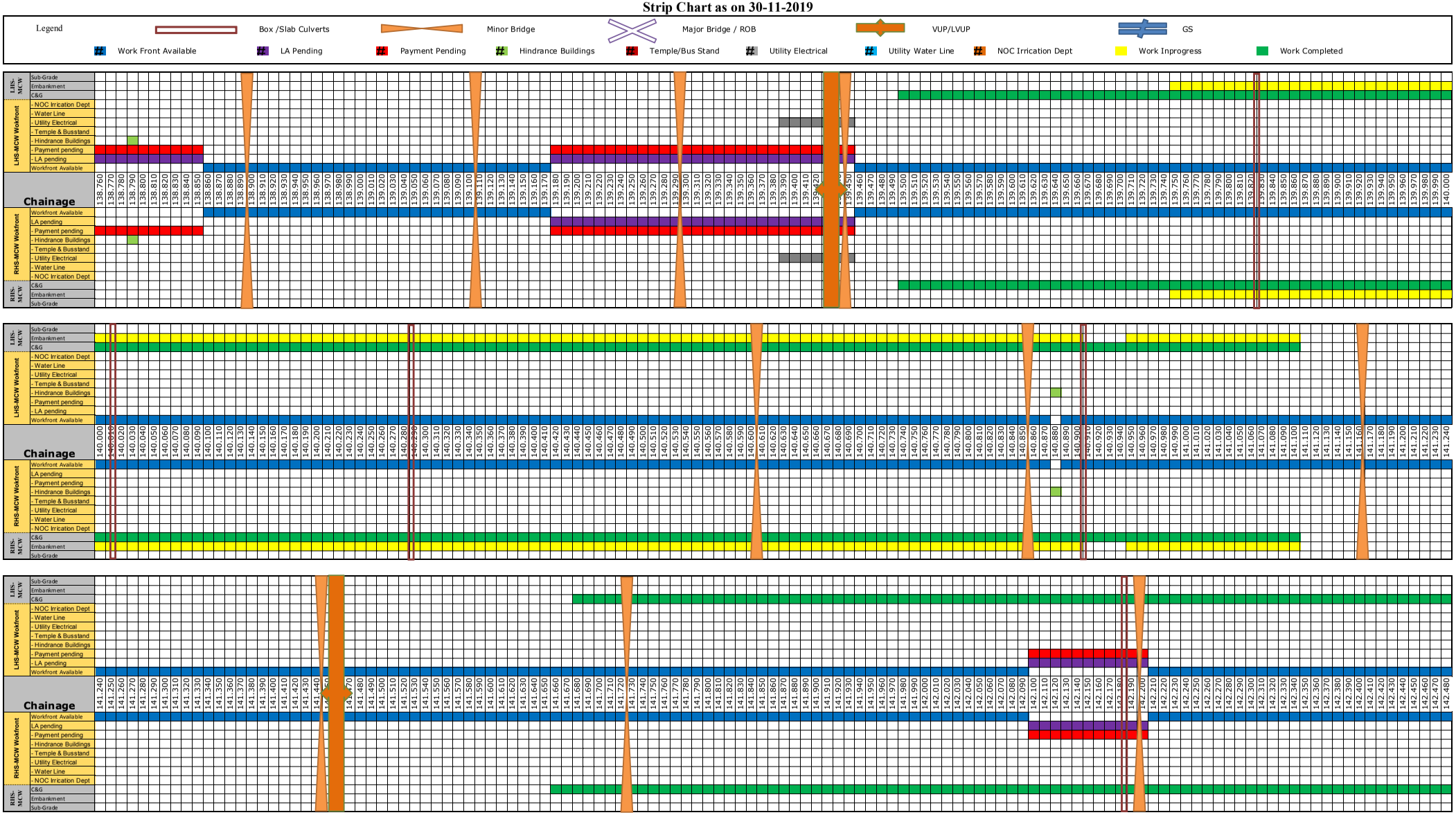
### Strip Chart as on 30-11-2019



## Four Laning of Cholopuram to Thanjavur from Km.116.440 to Km.164.275 Section of NH45C in the state of Tamil Nadu Under NHDP Phase-IV on Hybrid Annuity Mode

**Cholopuram - Thanjavur Project**

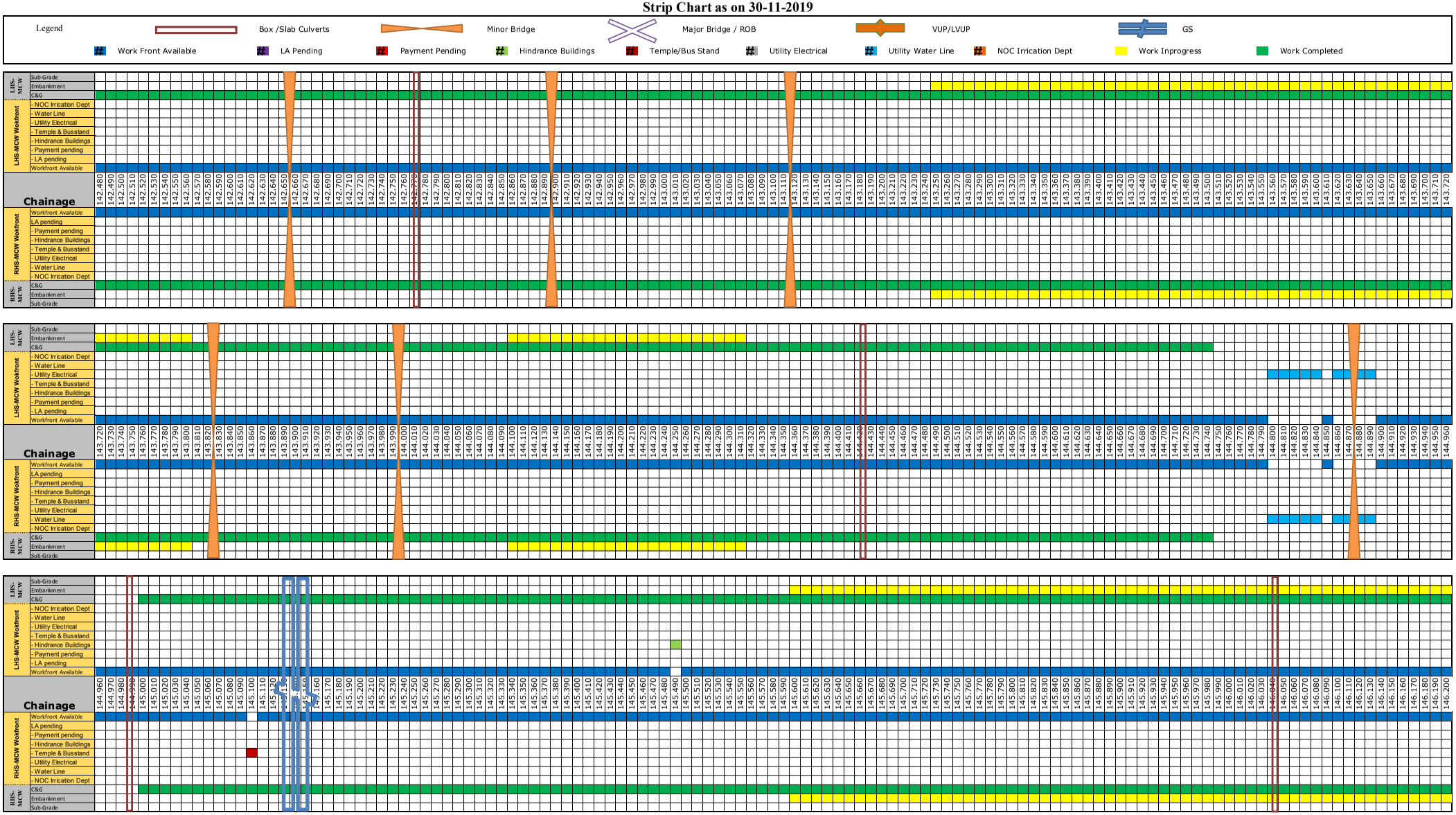
### Strip Chart as on 30-11-2019



## Four Laning of Cholopuram to Thanjavur from Km.116.440 to Km.164.275 Section of NH45C in the state of Tamil Nadu Under NHDP Phase-IV on Hybrid Annuity Mode

**Cholopuram - Thanjavur Project**

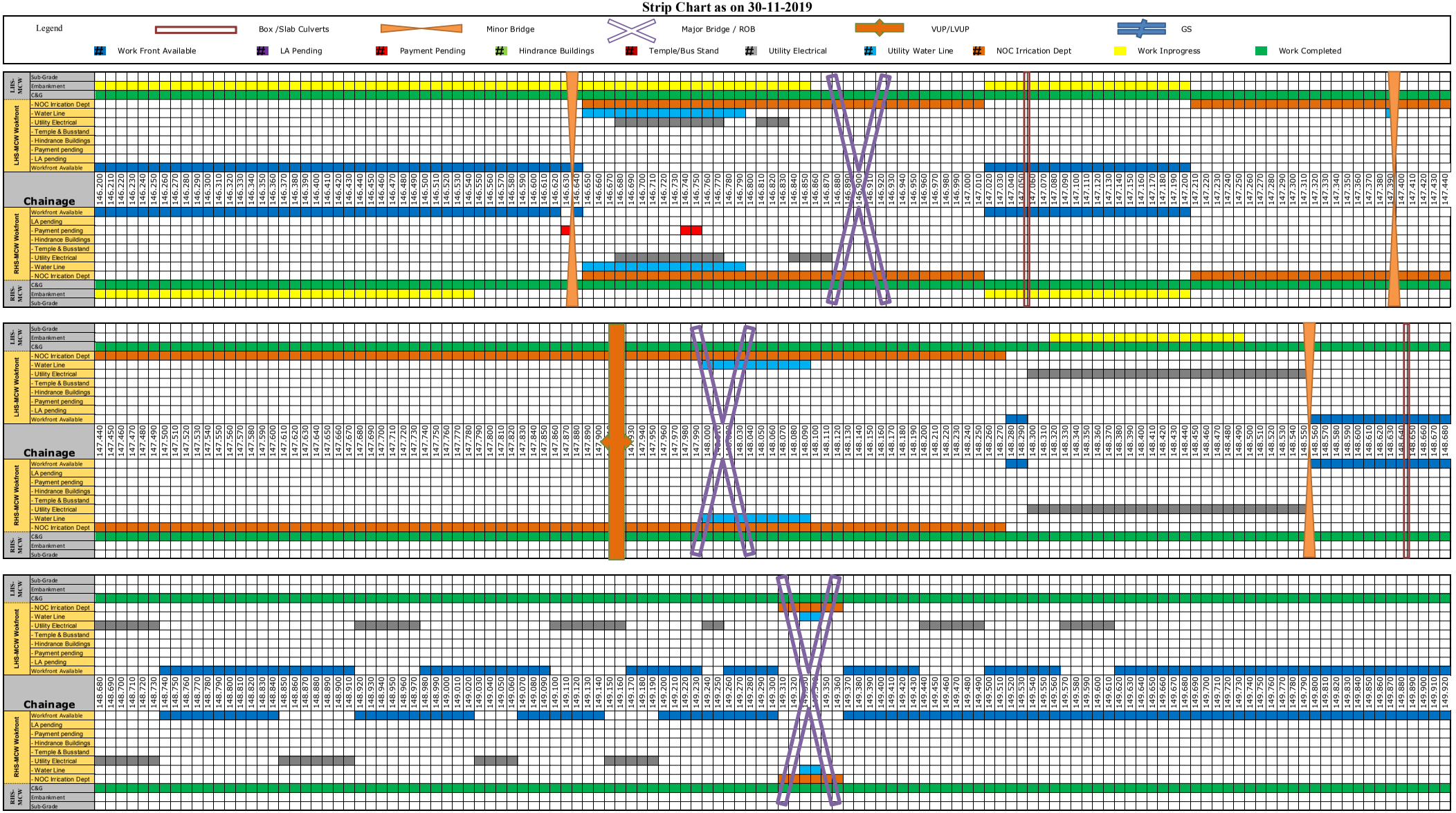
### Strip Chart as on 30-11-2019



## Four Laning of Cholopuram to Thanjavur from Km.116.440 to Km.164.275 Section of NH45C in the state of Tamil Nadu Under NHDP Phase-IV on Hybrid Annuity Mode

**Cholopuram - Thanjavur Project**

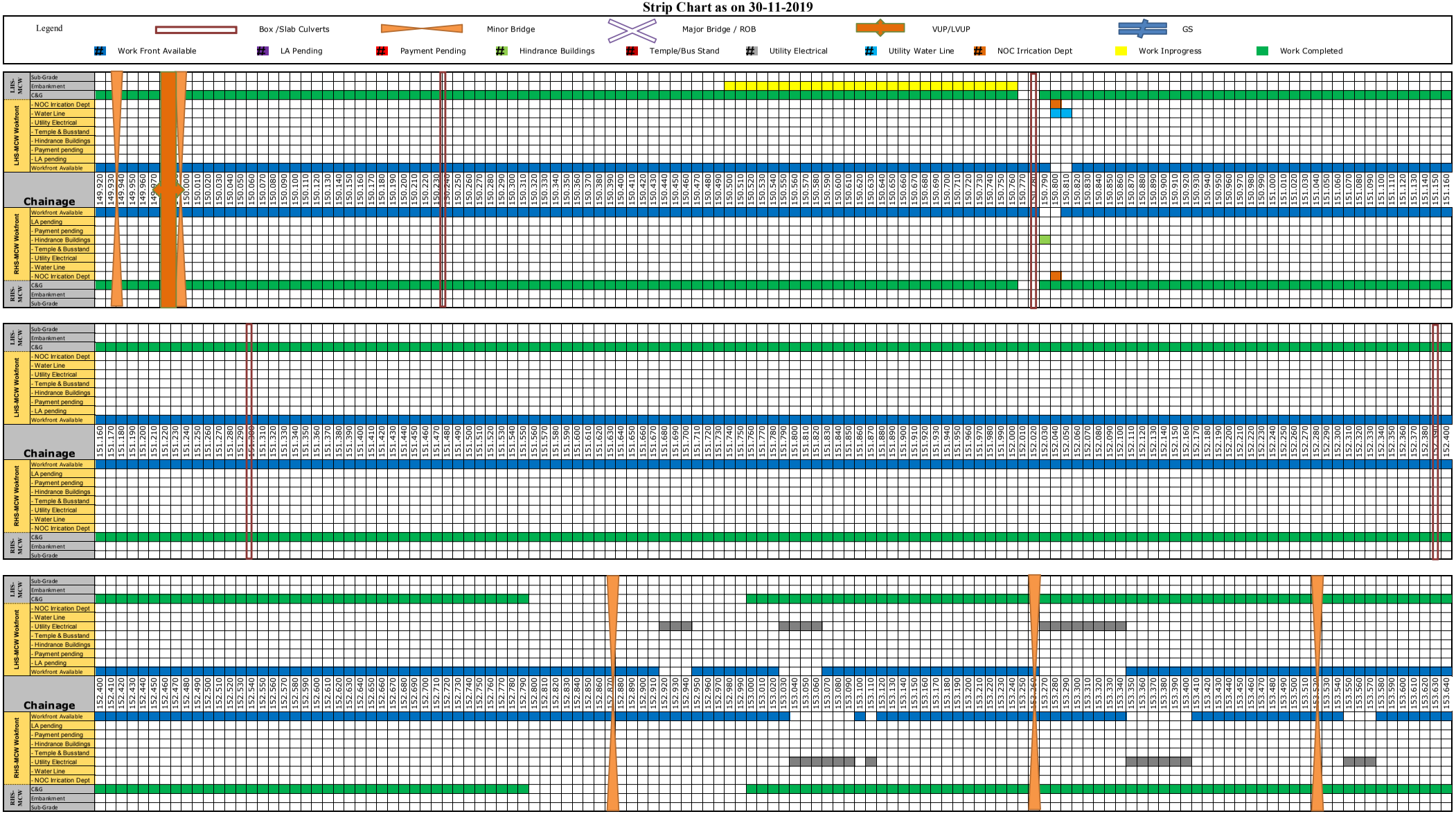
### Strip Chart as on 30-11-2019



## Four Laning of Cholopuram to Thanjavur from Km.116.440 to Km.164.275 Section of NH45C in the state of Tamil Nadu Under NHDP Phase-IV on Hybrid Annuity Mode

**Cholopuram - Thanjavur Project**

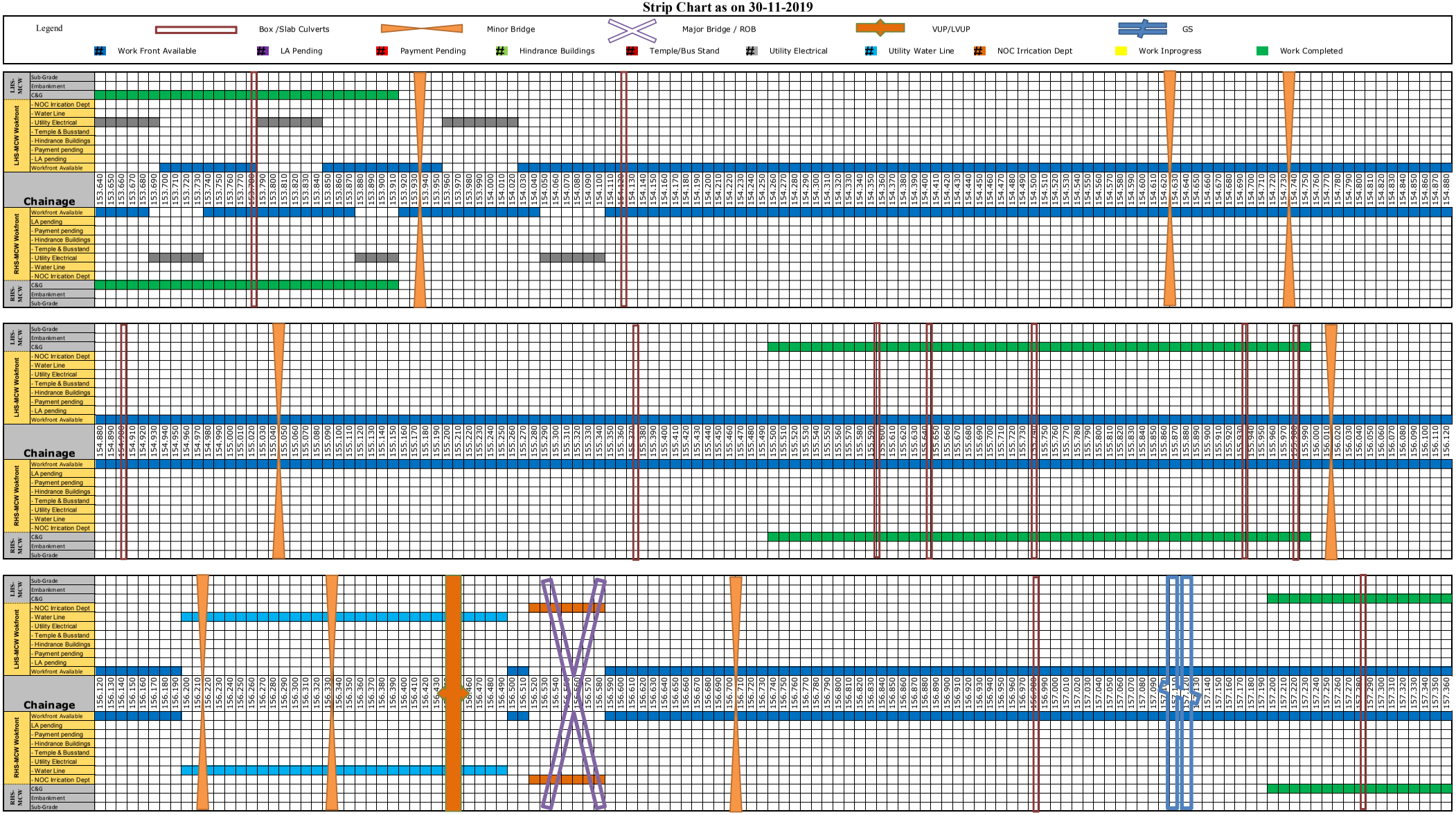
### Strip Chart as on 30-11-2019



## Four Laning of Cholopuram to Thanjavur from Km.116.440 to Km.164.275 Section of NH45C in the state of Tamil Nadu Under NHDP Phase-IV on Hybrid Annuity Mode

**Cholopuram - Thanjavur Project**

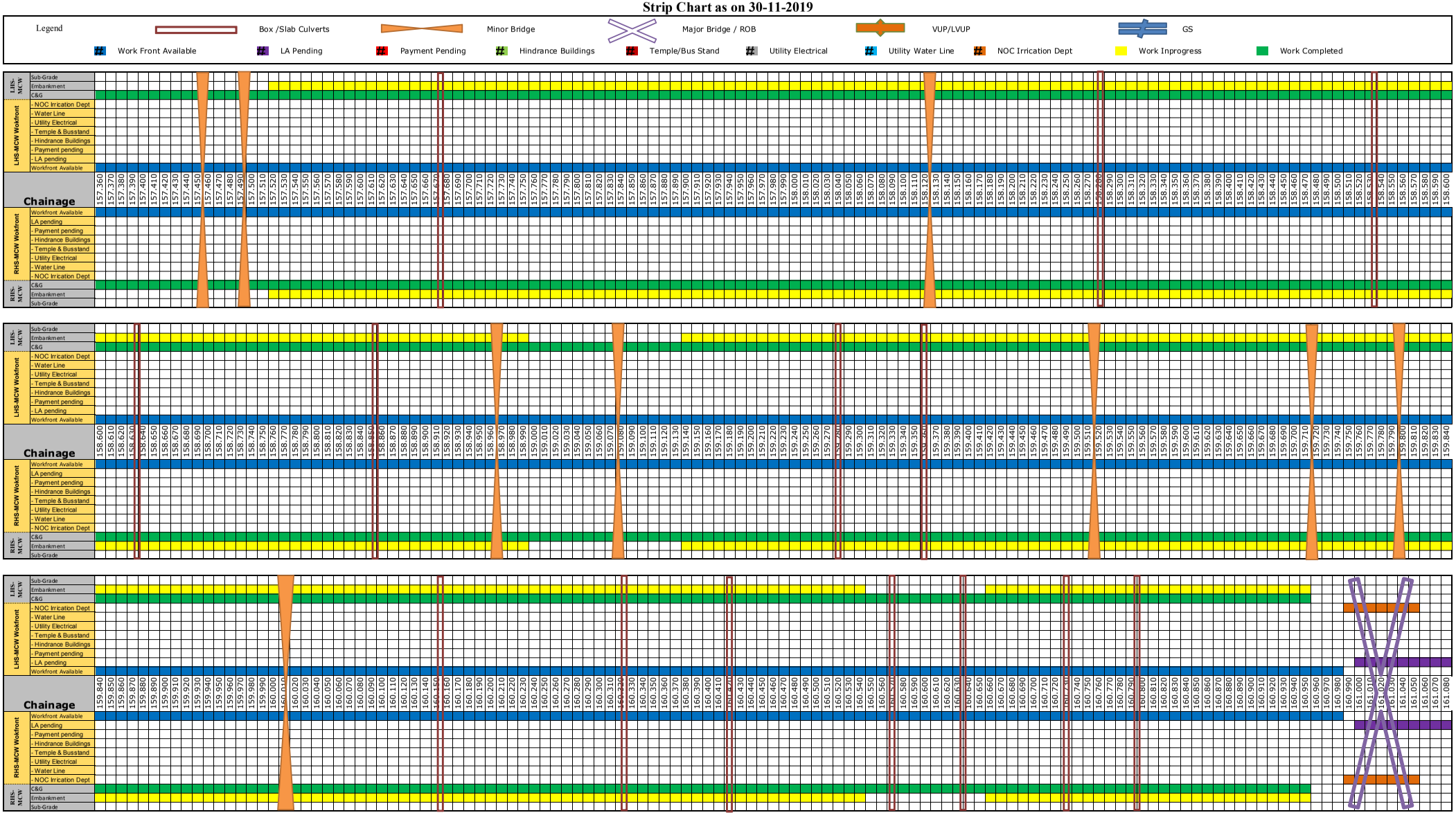
### Strip Chart as on 30-11-2019



## Four Laning of Cholopuram to Thanjavur from Km.116.440 to Km.164.275 Section of NH45C in the state of Tamil Nadu Under NHDP Phase-IV on Hybrid Annuity Mode

**Cholopuram - Thanjavur Project**

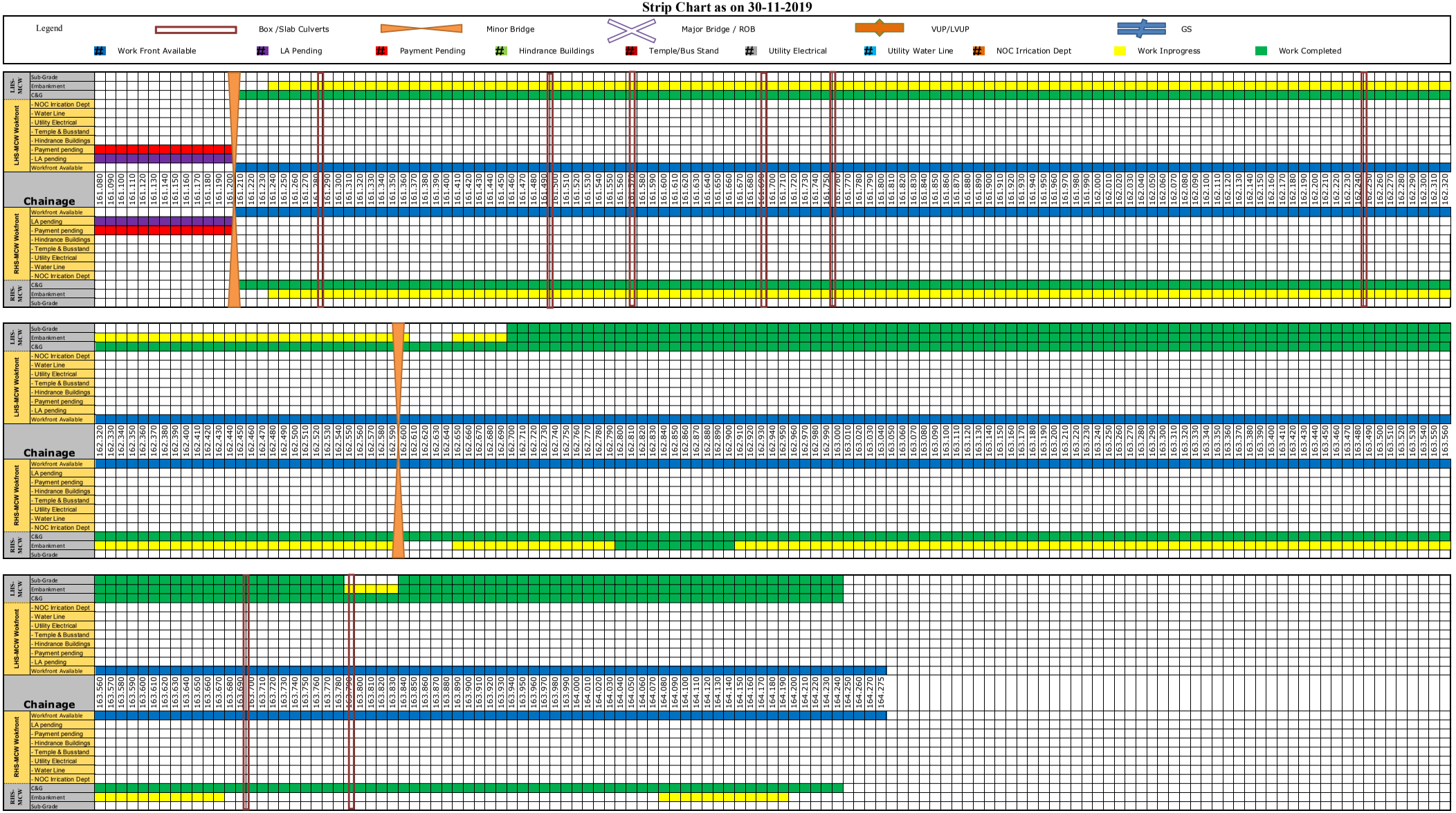
### Strip Chart as on 30-11-2019



## Four Laning of Cholopuram to Thanjavur from Km.116.440 to Km.164.275 Section of NH45C in the state of Tamil Nadu Under NHDP Phase-IV on Hybrid Annuity Mode

**Cholopuram - Thanjavur Project**

### Strip Chart as on 30-11-2019



# Four Laning of Cholopuram to Thanjavur from Km.116.440 to Km.164.275 Section of NH45C in the state of Tamil Nadu Under NHDP Phase-IV on Hybrid Annuity Mode

## Table 4.2 - 1 : Strip Chart for status of Box Culverts on Existing Road ( Main Carriageway )

IN PROGRESS — COMPLETED

MPR NOVEMBER 2019

| | | | | | | LHS | | | | | | | | RHS | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sr. No. | Design Chainage As per CA | Revised Design Chainage | Number and Length of Spans (m) | Remarks (As per Schd B) | Type of Existing Structure | Protection Work | Return Wall & Parapet | Slab | Wall | Raft | PCC | Granular Filling | Excavation | Excavation | Granular Filling | PCC | Raft | Wall | Slab | Return Wall & Parapet | Protection Work |
| 1 | 116.602 | | 1 x 2.0m | Widening | Slab Culvert | | | | | | | | | | | | | | | | |
| 2 | 116.837 | | 1 x 2.0m | Widening | Slab Culvert | | | | | | | | | | | | | | | | |
| 3 | 116.954 | | 1 x 1.6m | Widening | Slab Culvert | | | | | | | | | | | | | | | | |
| 4 | 120.068 | | 1 x 3.0 | Reconstruction | Slab Culvert | | | | | | | | | | | | | | | | |
| 5 | 120.280 | | 1 x 1.5 | Reconstruction | Slab Culvert | | | | | | | | | | | | | | | | |
| 6 | 120.346 | | 1 x 1.5 | Reconstruction | Box Culvert | | | | | | | | | | | | | | | | |
| 7 | 120.836 | | 1 x 2.0m | Widening | Box Culvert | | | | | | | | | | | | | | | | |
| 8 | 121.540 | | 1 x 3.0m | Widening | Slab Culvert | | | | | | | | | | | | | | | | |
| 9 | 121.683 | 121.693 | 1 x 1.5m | Widening | Slab Culvert | | | | | | | | | | | | | | | | |
| 10 | 121.885 | 121.895 | 2 x 1.0m | Widening | Pipe Culvert | | | | | | | | | | | | | | | | |
| 11 | 122.375 | 122.385 | 1 x 1.0m | Widening | Pipe Culvert | | | | | | | | | | | | | | | | |
| 12 | 122.497 | 122.508 | 2 x 1.0m | Widening | Pipe Culvert | | | | | | | | | | | | | | | | |
| 13 | 122.678 | 122.688 | 2 x 1.0m | Widening | Pipe Culvert | | | | | | | | | | | | | | | | |
| 14 | 122.835 | 122.845 | 1 x 3.0m | Widening | Slab Culvert | | | | | | | | | | | | | | | | |
| 15 | 122.943 | 122.952 | 2 x 1.0m | Widening | Pipe Culvert | | | | | | | | | | | | | | | | |
| 16 | 124.118 | 124.120 | 1 x 1.5m | Widening | Slab Culvert | | | | | | | | | | | | | | | | |
| 17 | 124.820 | 124.823 | 1 x 1.0m | Widening | Pipe Culvert | | | | | | | | | | | | | | | | |
| 18 | 125.682 | | 1 x 1.5m | Widening | Slab Culvert | | | | | | | | | | | | | | | | |
| 19 | 126.836 | 126.854 | 1 x 3.0 | Reconstruction | Slab Culvert | | | | | | | | | | | | | | | | |
| 20 | 126.987 | | 1 x 2.0 | Reconstruction | Slab Culvert | | | | | | | | | | | | | | | | |
| 21 | 127.488 | 127.498 | 1 x 1.2 | Reconstruction | Pipe Culvert | | | | | | | | | | | | | | | | |
| 22 | 127.600 | 127.612 | 3 x 1.2 | Reconstruction | Pipe Culvert | | | | | | | | | | | | | | | | |
| 23 | 127.788 | 127.800 | 1 x 0.9m | Widening | Pipe Culvert | | | | | | | | | | | | | | | | |
| 24 | 128.267 | 128.279 | 1 x 0.9m | Widening | Pipe Culvert | | | | | | | | | | | | | | | | |
| 25 | 128.494 | 128.505 | 1 x 1.2 | Reconstruction | Pipe Culvert | | | | | | | | | | | | | | | | |
| 26 | 128.675 | | 1 x 2.0 | Reconstruction | Box Culvert | | | | | | | | | | | | | | | | |
| 27 | 128.682 | | 1 x 2.0 | Reconstruction | Slab Culvert | | | | | | | | | | | | | | | | |
| 28 | 128.727 | | 3 x 1.2 | Reconstruction | Pipe Culvert | | | | | | | | | | | | | | | | |
| 29 | 128.904 | 128.916 | 1 x 1.2 | Reconstruction | Pipe Culvert | | | | | | | | | | | | | | | | |
| 30 | 129.067 | 129.079 | 1 x 1.2 | Reconstruction | Pipe Culvert | | | | | | | | | | | | | | | | |
| 31 | 129.246 | 129.260 | 1 x 0.9m | Widening | Pipe Culvert | | | | | | | | | | | | | | | | |
| 32 | 129.507 | 129.519 | 1 x 3.0m | Widening | Slab Culvert | | | | | | | | | | | | | | | | |
| 33 | 129.707 | | 1x2.5m | Widening | Slab Culvert | | | | | | | | | | | | | | | | |
| 34 | 129.823 | 129.835 | 1 x 0.9m | Widening | Pipe Culvert | | | | | | | | | | | | | | | | |
| 35 | 130.096 | | 1 x 1.2 | Reconstruction | Pipe Culvert | | | | | | | | | | | | | | | | |
| 36 | 130.307 | 130.318 | 1 x 1.5 | Reconstruction | Slab Culvert | | | | | | | | | | | | | | | | |
| 37 | 130.357 | 130.368 | 1 x 1.5 | Reconstruction | Slab Culvert | | | | | | | | | | | | | | | | |
| 38 | 130.680 | 130.693 | 2 x 1.2 | Reconstruction | Pipe Culvert | | | | | | | | | | | | | | | | |
| 39 | 130.827 | | 1 x 0.9m | Widening | Pipe Culvert | | | | | | | | | | | | | | | | |
| 40 | 130.989 | | 1 x 3.0m | Widening | Slab Culvert | | | | | | | | | | | | | | | | |
| 41 | 131.146 | 131.159 | 1 x 0.9m | Widening | Pipe Culvert | | | | | | | | | | | | | | | | |
| 42 | 131.505 | | 1 x 3.0 | Reconstruction | Slab Culvert | | | | | | | | | | | | | | | | |
| 43 | 131.722 | 131.733 | 1 x 1.2 | Reconstruction | Pipe Culvert | | | | | | | | | | | | | | | | |
| 44 | 131.780 | 131.792 | 1 x 1.2 | Reconstruction | Pipe Culvert | | | | | | | | | | | | | | | | |
| 45 | 132.300 | 132.318 | 1 x 3.0m | Widening | Slab Culvert | | | | | | | | | | | | | | | | |
| 46 | 132.557 | 132.571 | 1 x 3.0m | Widening | Slab Culvert | | | | | | | | | | | | | | | | |
| 47 | 132.730 | 132.742 | 1 x 3.0m | Widening | Slab Culvert | | | | | | | | | | | | | | | | |
| 48 | 132.789 | | 1 x 2.0m | Widening | Slab Culvert | | | | | | | | | | | | | | | | |
| 49 | 133.115 | | 1 x 5.0m | Widening | Slab Culvert | | | | | | | | | | | | | | | | |
| 50 | 133.210 | | 1 x 2.0m | Widening | Slab Culvert | | | | | | | | | | | | | | | | |
| 51 | 133.240 | | 1 x 0.9m | Widening | Pipe Culvert | | | | | | | | | | | | | | | | |
| 52 | 133.635 | 133.579 | 1 x 2.0 | Reconstruction | Slab Culvert | | | | | | | | | | | | | | | | |
| 53 | 133.734 | 133.748 | 1 x 2.0 | Reconstruction | Slab Culvert | | | | | | | | | | | | | | | | |
| 54 | 133.935 | | 1 x 1.2 | Reconstruction | Pipe Culvert | | | | | | | | | | | | | | | | |
| 55 | 133.987 | | 1 x 1.5 | Reconstruction | Slab Culvert | | | | | | | | | | | | | | | | |
| 56 | 163.700 | 163.700 | 2 x 0.9m | Widening | Pipe Culvert | | | | | | | | | | | | | | | | |
| 57 | 163.793 | 163.794 | 1 x 0.9m | Widening | Pipe Culvert | | | | | | | | | | | | | | | | |

# Four Laning of Cholopuram to Thanjavur from Km.116.440 to Km.164.275 Section of NH45C in the state of Tamil Nadu Under NHDP Phase-IV on Hybrid Annuity Mode

## Table 4.2 - 1 : Strip Chart for status of Box Culverts on Existing Road ( Service Road )

IN PROGRESS — COMPLETED

| | MPR | NOVEMBER | 2019 | | | LHS | | | | | | | | RHS | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sr. No. | Design Chainage As per CA | Revised Design Chainage | Number and Length of Spans (m) | Remarks (As per Schd B) | Type of Existing Structure | Protection Work | Return Wall & Parapet | Slab | Wall | Raft | PCC | Granular Filling | Excavation | Excavation | Granular Filling | PCC | Raft | Wall | Slab | Return Wall & Parapet | Protection Work |
| 1 | 120.068 | 120.068 | 1 x 3.0 | Reconstruction | Slab Culvert | | | | | | | | | | | | | | | | |
| 2 | 120.280 | 120.288 | 1 x 1.5 | Reconstruction | Slab Culvert | | | | | | | | | | | | | | | | |
| 3 | 120.346 | 120.356 | 1 x 1.5 | Reconstruction | Box Culvert | | | | | | | | | | | | | | | | |
| 4 | 126.836 | 126.829 | 1 x 3.0 | Reconstruction | Slab Culvert | | | | | | | | | | | | | | | | |
| 5 | 126.987 | 127.007 | 1 x 2.0 | Reconstruction | Slab Culvert | | | | | | | | | | | | | | | | |
| 6 | 127.488 | 127.433 | 1 x 1.2 | Reconstruction | Pipe Culvert | | | | | | | | | | | | | | | | |
| 7 | 127.600 | 127.612 | 3 x 1.2 | Reconstruction | Pipe Culvert | | | | | | | | | | | | | | | | |
| 8 | 128.494 | 128.504 | 1 x 1.2 | Reconstruction | Pipe Culvert | | | | | | | | | | | | | | | | |
| 9 | 128.675 | 128.667 | 1 x 2.0 | Reconstruction | Box Culvert | | | | | | | | | | | | | | | | |
| 10 | 128.682 | 128.674 | 1 x 2.0 | Reconstruction | Slab Culvert | | | | | | | | | | | | | | | | |
| 11 | 128.727 | 128.738 | 3 x 1.2 | Reconstruction | Pipe Culvert | | | | | | | | | | | | | | | | |
| 12 | 128.904 | 128.916 | 1 x 1.2 | Reconstruction | Pipe Culvert | | | | | | | | | | | | | | | | |
| 13 | 129.067 | 129.079 | 1 x 1.2 | Reconstruction | Pipe Culvert | | | | | | | | | | | | | | | | |
| 14 | 130.096 | 130.109 | 1 x 1.2 | Reconstruction | Pipe Culvert | | | | | | | | | | | | | | | | |
| 15 | 130.307 | 130.318 | 1 x 1.5 | Reconstruction | Slab Culvert | | | | | | | | | | | | | | | | |
| 16 | 130.357 | 130.369 | 1 x 1.5 | Reconstruction | Slab Culvert | | | | | | | | | | | | | | | | |
| 17 | 130.680 | 130.692 | 2 x 1.2 | Reconstruction | Pipe Culvert | | | | | | | | | | | | | | | | |
| 18 | 131.146 | 131.159 | 1 X 0.9 | Widening | Pipe Culvert | | | | | | | | | | | | | | | | |
| 19 | 131.505 | 131.516 | 1 x 3.0 | Reconstruction | Slab Culvert | | | | | | | | | | | | | | | | |
| 20 | 131.722 | 131.732 | 1 x 1.2 | Reconstruction | Pipe Culvert | | | | | | | | | | | | | | | | |
| 21 | 131.780 | 131.791 | 1 x 1.2 | Reconstruction | Pipe Culvert | | | | | | | | | | | | | | | | |
| 22 | 133.635 | 133.579 | 1 x 2.0 | Reconstruction | Slab Culvert | | | | | | | | | | | | | | | | |
| 23 | 133.734 | 133.747 | 1 x 2.0 | Reconstruction | Slab Culvert | | | | | | | | | | | | | | | | |
| 24 | 133.935 | 133.938 | 1 x 1.2 | Reconstruction | Pipe Culvert | | | | | | | | | | | | | | | | |
| 25 | 133.987 | 133.979 | 1 x 1.2 | Reconstruction | Pipe Culvert | | | | | | | | | | | | | | | | |

# Four Laning of Cholopuram to Thanjavur from Km.116.440 to Km.164.275 Section of NH45C in the state of Tamil Nadu Under NHDP Phase-IV on Hybrid Annuity Mode

## Table 4.2 - 2 : Strip Chart for status of Box Culverts on Bypass ( Main Carriageway )

IN PROGRESS — COMPLETED

| | MPR | NOVEMBER | 2019 | | | LHS | | | | | | | | RHS | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sr. No. | Design Chainage As per CA | Revised Design Chainage | Number and Length of Spans (m) | Remarks | Type of Structure | Protection Work | Return Wall & Parapet | Slab | Wall | Raft | PCC | Granular Filling | Excavation | Excavation | Granular Filling | PCC | Raft | Wall | Slab | Return Wall & Parapet | Protection Work |
| 1 | 119.971 | 119.879 | 1 x 1.5 | Reconstruction | Slab Culvert | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | |
| 2 | 134.500 | 134.514 | 1 x 2.0m x 2.0m | New Costruction | Box Culvert | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | |
| 3 | 138.492 | 138.523 | 1 x 4.0m x 2.0m | New Costruction | Box Culvert | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | |
| 4 | 139.827 | 139.856 | 1 x 2.0m x 2.0m | New Costruction | Box Culvert | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | |
| 5 | 140.010 | 140.040 | 1 x 2.0m x 2.0m | New Costruction | Box Culvert | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | |
| 6 | 140.292 | 140.322 | 1 x 3.0m x 2.0m | New Costruction | Box Culvert | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | |
| 7 | 140.911 | 140.945 | 1 x 4.0m x 2.0m | New Costruction | Box Culvert | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | |
| 8 | 142.189 | 142.048 | 1 x 4.0m x 2.0m | New Costruction | Box Culvert | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | |
| 9 | 142.776 | 142.812 | 1 x 4.0m x 2.0m | New Costruction | Box Culvert | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | |
| 10 | 144.426 | 144.500 | 1 x 4.0m x 2.0m | New Costruction | Box Culvert | | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | |
| 11 | 146.049 | 146.079 | 1 x 3.0m x 2.0m | New Costruction | Box Culvert | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | |
| 12 | 147.060 | 147.093 | 1 x 4.0m x 2.0m | New Costruction | Box Culvert | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | |
| 13 | 148.650 | 148.650 | 1 x 4.0m x 2.0m | New Costruction | Box Culvert | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | |
| 14 | 150.237 | 150.265 | 1 x 4.0m x 2.0m | New Costruction | Box Culvert | | | | | | ■ | ■ | ■ | ■ | ■ | ■ | | | | | |
| 15 | 150.780 | | 1 x 4.0m x 2.0m | New Costruction | Box Culvert | | | | | | | | | | | | | | | | |
| 16 | 152.390 | | 1 x 4.0m x 2.0m | New Costruction | Box Culvert | | | | | | | | | | | | | | | | |
| 17 | 153.781 | | 1 x 2.0m x 2.0m | New Costruction | Box Culvert | | | | | | | | | | | | | | | | |
| 18 | 154.129 | | 1 x 4.0m x 2.0m | New Costruction | Box Culvert | | | | | | | | | | | | | | | | |
| 19 | 154.900 | | 1 x 3.0m x 2.0m | New Costruction | Box Culvert | | | | | | | | | | | | | | | | |
| 20 | 155.381 | | 1 x 3.0m x 2.0m | New Costruction | Box Culvert | | | | | | | | | | | | | | | | |
| 21 | 155.601 | | 1 x 4.0m x 2.0m | New Costruction | Box Culvert | | | | | | | | | | | | | | | | |
| 22 | 155.645 | | 1 x 3.0m x 2.0m | New Costruction | Box Culvert | | | | | | | | | | | | | | | | |
| 23 | 155.743 | | 1 x 2.0m x 2.0m | New Costruction | Box Culvert | | | | | | | | | | | | | | | | |
| 24 | 155.938 | | 1 x 4.0m x 2.0m | New Costruction | Box Culvert | | | | | | | | | | | | | | | | |
| 25 | 156.984 | | 1 x 3.0m x 2.0m | New Costruction | Box Culvert | | | | | | | | | | | | | | | | |
| 26 | 157.283 | | 1 x 4.0m x 2.0m | New Costruction | Box Culvert | | | | | | | | | | | | | | | | |
| 27 | 157.678 | 157.701 | 1 x 4.0m x 2.0m | New Costruction | Box Culvert | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | |
| 28 | 158.283 | 158.310 | 1 x 2.0m x 2.0m | New Costruction | Box Culvert | | | | | | ■ | ■ | ■ | ■ | ■ | ■ | | | | | |
| 29 | 158.531 | | 1 x 2.0m x 2.0m | New Costruction | Box Culvert | | | | | | | | | | | | | | | | |
| 30 | 158.639 | | 1 x 2.0m x 2.0m | New Costruction | Box Culvert | | | | | | | | | | | | | | | | |
| 31 | 158.852 | 158.822 | 1 x 5.0m x 2.0m | New Costruction | Box Culvert | | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | |
| 32 | 159.282 | | 1 x 4.0m x 2.0m | New Costruction | Box Culvert | | | | | | | | | | | | | | | | |
| 33 | 159.361 | | 1 x 3.0m x 2.0m | New Costruction | Box Culvert | | | | | | | | | | | | | | | | |
| 34 | 160.157 | | 1 x 4.0m x 2.0m | New Costruction | Box Culvert | | | | | | | | | | | | | | | | |
| 35 | 160.326 | | 1 x 3.0m x 2.0m | New Costruction | Box Culvert | | | | | | | | | | | | | | | | |
| 36 | 160.420 | | 1 x 2.0m x 2.0m | New Costruction | Box Culvert | | | | | | | | | | | | | | | | |
| 37 | 160.572 | 160.594 | 1 x 2.0m x 2.0m | New Costruction | Box Culvert | | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | |
| 38 | 160.635 | 160.658 | 1 x 2.0m x 2.0m | New Costruction | Box Culvert | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | |
| 39 | 160.733 | | 1 x 2.0m x 2.0m | New Costruction | Box Culvert | | | | | | | | | | | | | | | | |
| 40 | 160.798 | 160.850 | 1 x 2.0m x 2.0m | New Costruction | Box Culvert | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | |
| 41 | 161.288 | 161.310 | 1 x 4.0m x 2.0m | New Costruction | Box Culvert | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | |
| 42 | 161.499 | 161.501 | 1 x 2.0m x 2.0m | New Costruction | Box Culvert | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | |
| 43 | 161.573 | 161.595 | 1 x 4.0m x 2.0m | New Costruction | Box Culvert | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | |
| 44 | 161.693 | 161.717 | 1 x 2.0m x 2.0m | New Costruction | Box Culvert | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | |
| 45 | 161.757 | | 1 x 2.0m x 2.0m | New Costruction | Box Culvert | | | | | | | | | | | | | | | | |
| 46 | 162.243 | 162.255 | 1 x 4.0m x 2.0m | New Costruction | Box Culvert | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | |

Four Laning of Cholopuram to Thanjavur from Km.116.440 to Km.164.275 Section of NH45C in the state of Tamil Nadu Under NHDP Phase-IV on Hybrid Annuity Mode

Table 4.2 - 2 : Strip Chart for status of Box Culverts on Bypass ( Service Road )

IN PROGRESS

COMPLETED

MPR NOVEMBER 2019

| Sr. No. | Design Chainage As per CA | Revised Design Chainage | Number and Length of Spans (m) | Remarks | Type of Structure | LHS | | | | | | | | RHS | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Protection Work | Return Wall & Parapet | Slab | Wall | Raft | PCC | Granular Filling | Excavation | Excavation | Granular Filling | PCC | Raft | Wall | Slab | Return Wall & Parapet | Protection Work |
| 1 | 119.971 | 119.978 | 1 x 1.5 | Reconstruction | Slab Culvert | | | | | | | | | | | | | | | | |
| 2 | 134.500 | 134.515 | 1 x 2.0m x 2.0m | New Costruction | Box Culvert | | | | | | | | | | | | | | | | |
| 3 | 138.492 | 138.503 | 1 x 4.0m x 2.0m | New Costruction | Box Culvert | | | | | | | | | | | | | | | | |
| 4 | 144.426 | 144.500 | 1 x 4.0m x 2.0m | New Costruction | Box Culvert | | | | | | | | | | | | | | | | |
| 5 | 150.237 | 150.268 | 1 x 4.0m x 2.0m | New Costruction | Box Culvert | | | | | | | | | | | | | | | | |
| 6 | 156.984 | 156.991 | 1 x 3.0m x 2.0m | New Costruction | Box Culvert | | | | | | | | | | | | | | | | |
| 7 | 157.283 | 157.289 | 1 x 4.0m x 2.0m | New Costruction | Box Culvert | | | | | | | | | | | | | | | | |

## Four Laning of Cholopuram to Thanjavur from Km.116.440 to Km.164.275 Section of NH45C in the state of Tamil Nadu Under NHDP Phase-IV on Hybrid Annuity Mode

Table 4.2 - 3 : Strip Chart for status of MNB - Box ( Main Carriageway )

IN PROGRESS | COMPLETED

MPR NOVEMBER 2019

| | | | | | | LHS | | | | | | | | RHS | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sr. No. | Design Chainage As per CA | Revised Chainage | Number and Length of Spans (m) | Type of Structure | Stretch | Protection Work | Retaing Wall + CB | Slab | Wall | Raft | PCC | Granular Filling | Excavation | Excavation | Granular Filling | PCC | Raft | Wall | Slab | Retaing Wall + CB | Protection Work |
| MNB IN EXISTING LENGTH | | | | | | | | | | | | | | | | | | | | | |
| 1 | 121.024 | | 1 x 6.0m | MNBB | Existing | | | | | | | | | | | | | | | | |
| 2 | 122.046 | | 3 x 7.5m | MNBB | Existing | | | | | | | | | | | | | | | | |
| MNB IN BYPASS | | | | | | | | | | | | | | | | | | | | | |
| 1 | 117.764 | 117.764 | 2 x 10.0m | MNBB | Bypass | | | | | | | | | | | | | | | | |
| 2 | 118.217 | 118.110 | 1 x 8.0m | MNBB | Bypass | | | | | | | | | | | | | | | | |
| 3 | 118.400 | 119.570 | 1 x 6.0m | MNBB | Bypass | | | | | | | | | | | | | | | | |
| 4 | 118.480 | 118.480 | 1 x 6.0m | MNBB | Bypass | | | | | | | | | | | | | | | | |
| 5 | 118.539 | 118.548 | 1 x 8.0m | MNBB | Bypass | | | | | | | | | | | | | | | | |
| 6 | 118.919 | 119.100 | 1 x 6.0m | MNBB | Bypass | | | | | | | | | | | | | | | | |
| 7 | 126.134 | | 2 X 10.0m | MNBB | Bypass | | | | | | | | | | | | | | | | |
| 8 | 134.320 | | 2x 10.0m | MNBB | Bypass | | | | | | | | | | | | | | | | |
| 9 | 134.770 | 134.774 | 1 x 10.0m | MNBB | Bypass | | | | | | | | | | | | | | | | |
| 10 | 136.705 | 136.738 | 1 x 6.0m | MNBB | Bypass | | | | | | | | | | | | | | | | |
| 11 | 138.555 | 138.585 | 1 x 6.0m | MNBB | Bypass | | | | | | | | | | | | | | | | |
| 12 | 138.901 | 138.935 | 6 x 7.5m | MNBB | Bypass | | | | | | | | | | | | | | | | |
| 13 | 139.105 | 139.138 | 2 x 15m | MNBB | Bypass | | | | | | | | | | | | | | | | |
| 14 | 139.299 | 139.335 | 4 x 7.5m | MNBB | Bypass | | | | | | | | | | | | | | | | |
| 15 | 139.453 | | 1 x 7.0m | MNBB | Bypass | | | | | | | | | | | | | | | | |
| 16 | 140.605 | 140.637 | 1 x 6.0m | MNBB | Bypass | | | | | | | | | | | | | | | | |
| 17 | 140.860 | 140.892 | 1 x 8.0m | MNBB | Bypass | | | | | | | | | | | | | | | | |
| 18 | 141.164 | 141.145 | 1 x 10.0m | MNBB | Bypass | | | | | | | | | | | | | | | | |
| 19 | 141.445 | | 1 x 8.0m | MNBB | Bypass | | | | | | | | | | | | | | | | |
| 20 | 141.727 | 141.760 | 1 x 8.0m | MNBB | Bypass | | | | | | | | | | | | | | | | |
| 21 | 142.204 | 142.235 | 1 x 8.0m | MNBB | Bypass | | | | | | | | | | | | | | | | |
| 22 | 142.657 | 142.687 | 1 x 6.0m | MNBB | Bypass | | | | | | | | | | | | | | | | |
| 23 | 142.897 | 142.932 | 2 x 8.0m | MNBB | Bypass | | | | | | | | | | | | | | | | |
| 24 | 143.115 | 143.136 | 6 x 7.5m | MNBB | Bypass | | | | | | | | | | | | | | | | |
| 25 | 143.823 | 143.852 | 2 x 8.0m | MNBB | Bypass | | | | | | | | | | | | | | | | |
| 26 | 144.000 | 143.995 | 2 x 10.0m | MNBB | Bypass | | | | | | | | | | | | | | | | |
| 27 | 146.639 | | 1 x 10.0m | MNBB | Bypass | | | | | | | | | | | | | | | | |
| 28 | 147.396 | 147.426 | 1 x 8.0m | MNBB | Bypass | | | | | | | | | | | | | | | | |
| 29 | 148.560 | 148.592 | 1 x 8.0m | MNBB | Bypass | | | | | | | | | | | | | | | | |
| 30 | 144.880 | 144.916 | 4 x 7.5m | MNBB | Bypass | | | | | | | | | | | | | | | | |
| 31 | 149.940 | 149.962 | 1 x 10.0m | MNBB | Bypass | | | | | | | | | | | | | | | | |
| 32 | 149.997 | | 1 x 6.0m | MNBB | Bypass | | | | | | | | | | | | | | | | |
| 33 | 152.876 | | 2 x 10.0m | MNBB | Bypass | | | | | | | | | | | | | | | | |
| 34 | 153.263 | 153.287 | 1 x 10.0m | MNBB | Bypass | | | | | | | | | | | | | | | | |
| 35 | 153.528 | 153.557 | 1 x 6.0m | MNBB | Bypass | | | | | | | | | | | | | | | | |
| 36 | 153.939 | 153.968 | 1 x 10.0m | MNBB | Bypass | | | | | | | | | | | | | | | | |
| 37 | 154.626 | 154.659 | 1 x 6.0m | MNBB | Bypass | | | | | | | | | | | | | | | | |
| 38 | 154.739 | 154.764 | 1 x 10.0m | MNBB | Bypass | | | | | | | | | | | | | | | | |
| 39 | 155.049 | 155.082 | 2 x 7.5m | MNBB | Bypass | | | | | | | | | | | | | | | | |
| 40 | 156.014 | 156.040 | 1 x 8.0m | MNBB | Bypass | | | | | | | | | | | | | | | | |
| 41 | 156.216 | 156.244 | 1 x 6.0m | MNBB | Bypass | | | | | | | | | | | | | | | | |
| 42 | 156.336 | 156.366 | 1 x 6.0m | MNBB | Bypass | | | | | | | | | | | | | | | | |
| 43 | 156.707 | | 1 x 10.0m | MNBB | Bypass | | | | | | | | | | | | | | | | |
| 44 | 157.458 | 157.485 | 1 x 7.0m | MNBB | Bypass | | | | | | | | | | | | | | | | |
| 45 | 157.494 | 157.517 | 1 x 8.0m | MNBB | Bypass | | | | | | | | | | | | | | | | |
| 46 | 158.128 | 158.155 | 1 x 7.0m | MNBB | Bypass | | | | | | | | | | | | | | | | |
| 47 | 158.972 | 158.994 | 1 x 6.0m | MNBB | Bypass | | | | | | | | | | | | | | | | |
| 48 | 159.076 | | 1 x 8.0m | MNBB | Bypass | | | | | | | | | | | | | | | | |
| 49 | 159.723 | 159.742 | 1 x 6.0m | MNBB | Bypass | | | | | | | | | | | | | | | | |
| 50 | 159.801 | | 1 x 6.0m | MNBB | Bypass | | | | | | | | | | | | | | | | |
| 51 | 161.208 | 161.227 | 1 x 8.0m | MNBB | Bypass | | | | | | | | | | | | | | | | |
| 52 | 162.595 | 162.595 | 2 x 15m | MNBB | Bypass | | | | | | | | | | | | | | | | |

Four Laning of Cholopuram to Thanjavur from Km.116.440 to Km.164.275 Section of NH45C in the state of Tamil Nadu Under NHDP Phase-IV on Hybrid Annuity Mode

Table 4.2 - 3 : Strip Chart for status of MNB - Deck Type ( Main Carriageway )

IN PROGRESS

COMPLETED

MPR NOVEMBER 2019

| SR.NO. | MNB at Chainage | Span | Pier/ Abutment | LHS | | | | | | | | RHS | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Crash Barrier | Slab | Girder Launching | Girder Casting | Piercap/Abtcap | Pier/Abt | Pile Cap | Pile | Pile | Pile Cap | Pier/Abt | Piercap/Abtcap | Girder Casting | Girder Launching | Slab | Crash Barrier |
| 1 | 133+345 | 3x12.5m | A1 | EXISITNG STRUCTURE | | | | | | | | | | | | | | | |
| | | | P1 | | | | | | | | | | | | | | | | |
| | | | A2 | | | | | | | | | | | | | | | | |
| 2 | 159+522 | 1x15.0m | A1 | | | | | | | | | | | | | | | | |
| | | | A2 | | | | | | | | | | | | | | | | |

Four Laning of Cholopuram to Thanjavur from Km.116.440 to Km.164.275 Section of NH45C in the state of Tamil Nadu Under NHDP Phase-IV on Hybrid Annuity Mode

Table 4.2 - 3 : Strip Chart for status of MNB - Box ( Service Road )

IN PROGRESS

COMPLETED

| | MPR | NOVEMBER | 2019 | | | LHS | | | | | | | RHS | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sr. No. | Design Chainage As per CA | Revised Chainage | Number and Length of Spans (m) | Type of Structure | Stretch | Protection Work | Slab | Wall | Raft | PCC | Granular Filling | Excavation | Excavation | Granular Filling | PCC | Raft | Wall | Slab | Protection Work |
| MNB SERVICE ROAD IN BYPASS | | | | | | | | | | | | | | | | | | | |
| 1 | 117.764 | 117.764 | 2 x 10.0m | MNBB | Bypass | | | | | | | | | | | | | | |
| 2 | 126.134 | 126.134 | 2 X 10.0m | MNBB | Realign | | | | | | | | | | | | | | |
| 3 | 134.320 | 134.320 | 2x 10.0m | MNBB | Bypass | | | | | | | | | | | | | | |
| 4 | 134.770 | 134.774 | 1 x 10.0m | MNBB | Bypass | | | | | | | | | | | | | | |
| 5 | 138.555 | 138.585 | 1 x 6.0m | MNBB | Bypass | | | | | | | | | | | | | | |
| 6 | 138.901 | 138.935 | 6 x 7.5m | MNBB | Bypass | | | | | | | | | | | | | | |
| 7 | 139.453 | 139.485 | 1 x 7.0m | MNBB | Bypass | | | | | | | | | | | | | | |
| 8 | 139.105 | 139.138 | 2 x 15m | MNBB | Bypass | | | | | | | | | | | | | | |
| 9 | 139.299 | 139.335 | 4 x 7.5m | MNBB | Bypass | | | | | | | | | | | | | | |
| 10 | 139.453 | 139.485 | 1 x 7.0m | MNBB | Bypass | | | | | | | | | | | | | | |
| 11 | 141.164 | 141.145 | 1 x 10.0m | MNBB | Bypass | | | | | | | | | | | | | | |
| 12 | 141.445 | 141.466 | 1 x 8.0m | MNBB | Bypass | | | | | | | | | | | | | | |
| 13 | 141.727 | 141.760 | 1 x 8.0m | MNBB | Bypass | | | | | | | | | | | | | | |
| 14 | 144.880 | 144.916 | 4 x 7.5m | MNBB | Bypass | | | | | | | | | | | | | | |
| 15 | 149.940 | 149.962 | 1 x 10.0m | MNBB | Bypass | | | | | | | | | | | | | | |
| 16 | 149.997 | 150.028 | 1 x 6.0m | MNBB | Bypass | | | | | | | | | | | | | | |
| 17 | 156.014 | 156.040 | 1 x 8.0m | MNBB | Bypass | | | | | | | | | | | | | | |
| 18 | 156.216 | 156.244 | 1 x 6.0m | MNBB | Bypass | | | | | | | | | | | | | | |
| 19 | 156.336 | 156.366 | 1 x 6.0m | MNBB | Bypass | | | | | | | | | | | | | | |
| 20 | 156.707 | 156.734 | 1 x 10.0m | MNBB | Bypass | | | | | | | | | | | | | | |

Four Laning of Cholopuram to Thanjavur from Km.116.440 to Km.164.275 Section of NH45C in the state of Tamil Nadu Under NHDP Phase-IV on Hybrid Annuity Mode

Table 4.2 - 4 : Strip Chart for status of PUP

IN PROGRESS

COMPLETED

| | MPR | NOVEMBER | 2019 | | LHS | | | | | | RHS | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sr. No. | Design Chainage As per CA | Chainage as Per Site | Number and Length of Spans (m) | | Protection Work | Slab | Wall | Raft | PCC | Excavation | Excavation | PCC | Raft | Wall | Slab | Protection Work |
| 1 | 147.917 | 147.951 | 1 X 7 m | BYPASS | | | | | | | | | | | | |
| 2 | 149.988 | 150.023 | 1 X 7 m | BYPASS | | | | | | | | | | | | |

Four Laning of Cholopuram to Thanjavur from Km.116.440 to Km.164.275 Section of NH45C in the state of Tamil Nadu Under NHDP Phase-IV on Hybrid Annuity Mode

Table 4.2 - 5 : Strip Chart for status of MJB ( Main Carriageway )

IN PROGRESS

COMPLETED

MPR NOVEMBER 2019

MJB at Chainage 146+902 (4x20) -BYPASS

| | LHS/LSR | | | | | | | | RHS/LSR | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Crash Barrier | Slab | Girder Launching | Girder Casting | Pier Cap/Abt Cap | Pier/Abt | Pile Cap | Pile | Pile | Pile Cap | Pier/Abt | Pier Cap/Abt Cap | Girder Casting | Girder Launching | Slab | Crash Barrier |
| A1 | | | | | | | | | | | | | | | | |
| P1 | | | | | | | | | | | | | | | | |
| P2 | | | | | | | | | | | | | | | | |
| P3 | | | | | | | | | | | | | | | | |
| A2 | | | | | | | | | | | | | | | | |

MJB at Chainage 148+017 (3x20)- BYPASS

| | LHS/LSR | | | | | | | | RHS/LSR | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Crash Barrier | Slab | Girder Launching | Girder Casting | Pier Cap/Abt Cap | Pier/Abt | Pile Cap | Pile | Pile | Pile Cap | Pier/Abt | Pier Cap/Abt Cap | Girder Casting | Girder Launching | Slab | Crash Barrier |
| A1 | | | | | | | | | | | | | | | | |
| P1 | | | | | | | | | | | | | | | | |
| P2 | | | | | | | | | | | | | | | | |
| A2 | | | | | | | | | | | | | | | | |

MJB at Chainage 149+334 (3x20)- BYPASS

| | LHS/LSR | | | | | | | | RHS/LSR | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Crash Barrier | Slab | Girder Launching | Girder Casting | Pier Cap/Abt Cap | Pier/Abt | Pile Cap | Pile | Pile | Pile Cap | Pier/Abt | Pier Cap/Abt Cap | Girder Casting | Girder Launching | Slab | Crash Barrier |
| A1 | | | | | | | | | | | | | | | | |
| P1 | | | | | | | | | | | | | | | | |
| P2 | | | | | | | | | | | | | | | | |
| A2 | | | | | | | | | | | | | | | | |

MJB at Chainage 156+559 (6x20)- BYPASS

| | LHS/LSR | | | | | | | | RHS/LSR | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Crash Barrier | Slab | Girder Launching | Girder Casting | Pier Cap/Abt Cap | Pier/Abt | Pile Cap | Pile | Pile | Pile Cap | Pier/Abt | Pier Cap/Abt Cap | Girder Casting | Girder Launching | Slab | Crash Barrier |
| A1 | | | | | | | | | | | | | | | | |
| P1 | | | | | | | | | | | | | | | | |
| P2 | | | | | | | | | | | | | | | | |
| P3 | | | | | | | | | | | | | | | | |
| P4 | | | | | | | | | | | | | | | | |
| P5 | | | | | | | | | | | | | | | | |
| A2 | | | | | | | | | | | | | | | | |

MJB at Chainage 161+019 (6x20)- BYPASS

| | LHS/LSR | | | | | | | | RHS/LSR | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Crash Barrier | Slab | Girder Launching | Girder Casting | Pier Cap/Abt Cap | Pier/Abt | Pile Cap | Pile | Pile | Pile Cap | Pier/Abt | Pier Cap/Abt Cap | Girder Casting | Girder Launching | Slab | Crash Barrier |
| A1 | | | | | | | | | | | | | | | | |
| P1 | | | | | | | | | | | | | | | | |
| P2 | | | | | | | | | | | | | | | | |
| P3 | | | | | | | | | | | | | | | | |
| P4 | | | | | | | | | | | | | | | | |
| P5 | | | | | | | | | | | | | | | | |
| A2 | | | | | | | | | | | | | | | | |

Four Laning of Cholopuram to Thanjavur from Km.116.440 to Km.164.275 Section of NH45C in the state of Tamil Nadu
Under NHDP Phase-IV on Hybrid Annuity Mode

Table 4.2 - 6 : Strip Chart for status of FLYOVER — IN PROGRESS — COMPLETED

MPR NOVEMBER 2019

| Sr.No. | FO at Chainage | Span | | | LHS: Crash Barrier | LHS: Slab | LHS: Girder Launching | LHS: Girder Casting | LHS: Piercap/Abtcap | LHS: Pier/Abt | LHS: Pile Cap | LHS: PCC | LHS: Pile | RHS: Pile | RHS: PCC | RHS: Pile Cap | RHS: Pier/Abt | RHS: Piercap/Abtcap | RHS: Girder Casting | RHS: Girder Launching | RHS: Slab | RHS: Crash Barrier |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 117+600 | 1 x 30 m | BYPASS+ EXISTING | A1 | | | | | | | | | | | | | | | | | | |
| | | | | A2 | | | | | | | | | | | | | | | | | | |
| 2 | 120+000 | 1 x 30 m | BYPASS+ EXISTING | A1 | | | | | | | | | | | | | | | | | | |
| | | | | A2 | | | | | | | | | | | | | | | | | | |
| 3 | 127+300 | 1 x 30 m | EXISTING | A1 | | | | | | | | | | | | | | | | | | |
| | | | | A2 | | | | | | | | | | | | | | | | | | |
| 4 | 134+000 | 1 x 30 m | BYPASS+ EXISTING | A1 | | | | | | | | | | | | | | | | | | |
| | | | | A2 | | | | | | | | | | | | | | | | | | |
| 5 | 145+140 | 1 x 30 m | BYPASS | A1 | | | | | | | | | | | | | | | | | | |
| | | | | A2 | | | | | | | | | | | | | | | | | | |
| 6 | 157+100 | 1 x 30 m | BYPASS | A1 | | | | | | | | | | | | | | | | | | |
| | | | | A2 | | | | | | | | | | | | | | | | | | |

Four Laning of Cholopuram to Thanjavur from Km.116.440 to Km.164.275 Section of NH45C in the state of Tamil Nadu
Under NHDP Phase-IV on Hybrid Annuity Mode

Table 4.2 - 7 : Strip Chart for status of VUP — IN PROGRESS — COMPLETED

MPR NOVEMBER 2019

| SR.NO. | VUP at Chainage | Span | | | LHS: Crash Barrier | LHS: Slab | LHS: Girder Launching | LHS: Girder Casting | LHS: Piercap/Abtcap | LHS: Pier/Abt | LHS: Pile Cap | LHS: PCC | LHS: Pile | RHS: Pile | RHS: PCC | RHS: Pile Cap | RHS: Pier/Abt | RHS: Piercap/Abtcap | RHS: Girder Casting | RHS: Girder Launching | RHS: Slab | RHS: Crash Barrier |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 126+100 | 1x25 | EXISTING | A1 | | | | | | | | | | | | | | | | | | |
| | | | | A2 | | | | | | | | | | | | | | | | | | |
| 2 | 126+600 | 1x25 | EXISTING | A1 | | | | | | | | | | | | | | | | | | |
| | | | | A2 | | | | | | | | | | | | | | | | | | |
| 3 | 128+700 | 1x25 | EXISTING | A1 | | | | | | | | | | | | | | | | | | |
| | | | | A2 | | | | | | | | | | | | | | | | | | |
| 4 | 130+335 | 1x25 | EXISTING | A1 | | | | | | | | | | | | | | | | | | |
| | | | | A2 | | | | | | | | | | | | | | | | | | |
| 5 | 131+500 | 1x25 | EXISTING | A1 | | | | | | | | | | | | | | | | | | |
| | | | | A2 | | | | | | | | | | | | | | | | | | |
| 6 | 136+282 | 1x25 | BYPASS | A1 | | | | | | | | | | | | | | | | | | |
| | | | | A2 | | | | | | | | | | | | | | | | | | |
| 7 | 138+720 | 1x25 | BYPASS | A1 | | | | | | | | | | | | | | | | | | |
| | | | | A2 | | | | | | | | | | | | | | | | | | |
| 8 | 139+440 | 1x25 | BYPASS | A1 | | | | | | | | | | | | | | | | | | |
| | | | | A2 | | | | | | | | | | | | | | | | | | |
| 9 | 141+450 | 1x25 | BYPASS | A1 | | | | | | | | | | | | | | | | | | |
| | | | | A2 | | | | | | | | | | | | | | | | | | |
| 10 | 156+446 | 1x25 | BYPASS | A1 | | | | | | | | | | | | | | | | | | |
| | | | | A2 | | | | | | | | | | | | | | | | | | |

Four Laning of Cholopuram to Thanjavur from Km.116.440 to Km.164.275 Section of NH45C in the state of Tamil Nadu
Under NHDP Phase-IV on Hybrid Annuity Mode

Table 4.2 - 8 : Strip Chart for status of ROB — IN PROGRESS — COMPLETED

MPR NOVEMBER 20

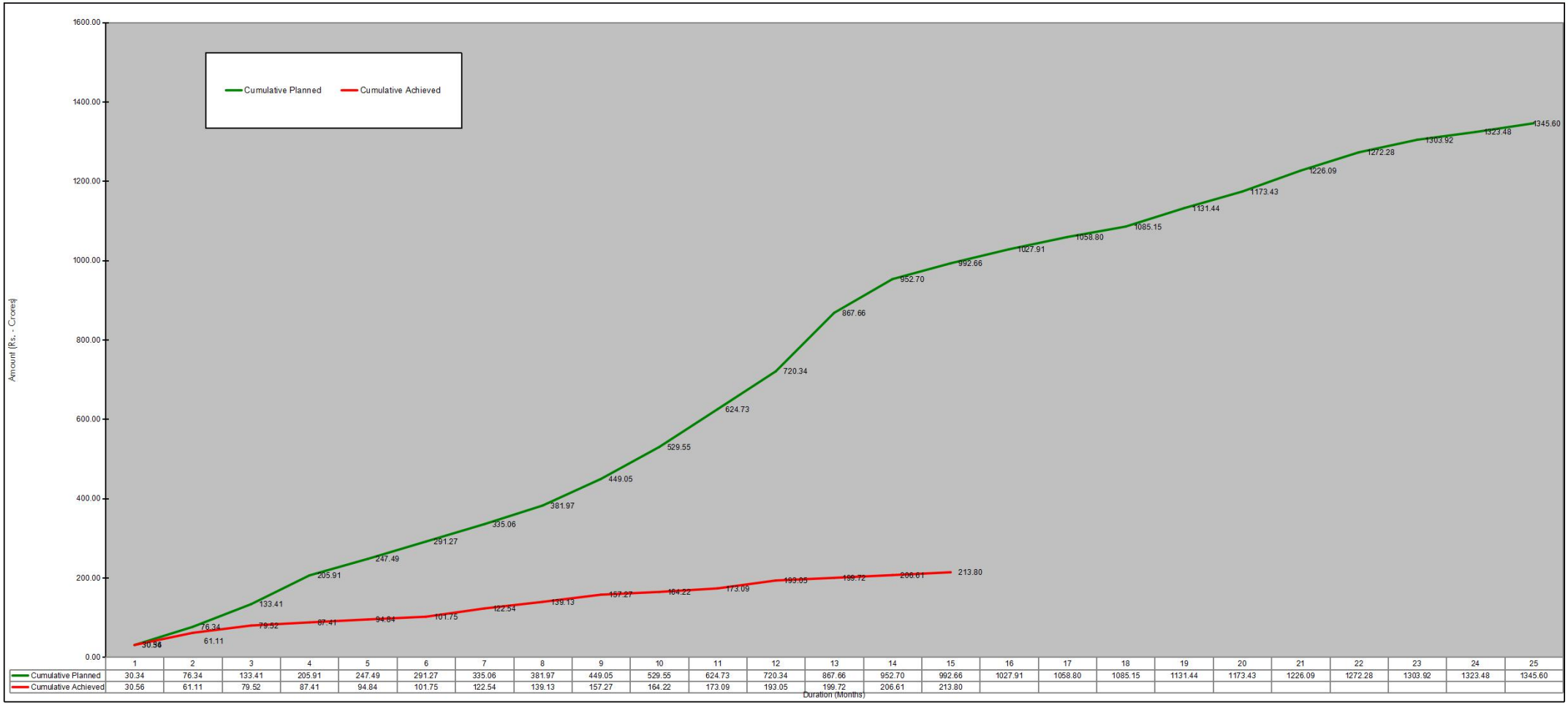
ROB at Chainage 134+345 (1 x 20.285m+1 x 30.426m+1 x 20.285m (Skew 9.6 °))- EXISTING

| | LHS/LSR | | | | | | | | | | RHS/LSR | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Crash Barrier | Slab | Steel Girder Launching | Steel Girder Erection | Girder Launching | Girder Casting | Pier Cap/Abt Cap | Pier/Abt | Pile Cap | Pile | Pile | Pile Cap | Pier/Abt | Pier Cap/Abt Cap | Girder Casting | Girder Launching | Steel Girder Erection | Steel Girder Launching | Slab | Crash Barrier |
| A1 | | | | | | | | | | | | | | | | | | | | |
| P1 | | | | | | | | | | | | | | | | | | | | |
| P2 | | | | | | | | | | | | | | | | | | | | |
| A2 | | | | | | | | | | | | | | | | | | | | |

Figure 3a : Financial Progress - Planned vs Achieved - S Curve
Figure 3b : Physical Progress - Planned vs Achieved - S Curve

## Four Laning of Cholopuram – Thanjavur from Km. 116.440 to 164.275 Section of NH45C in the state of Tamilnadu under NHDP-IV on Hybrid Annuity Mode

### Fig. 03a- Financial Progress (S-Curve)

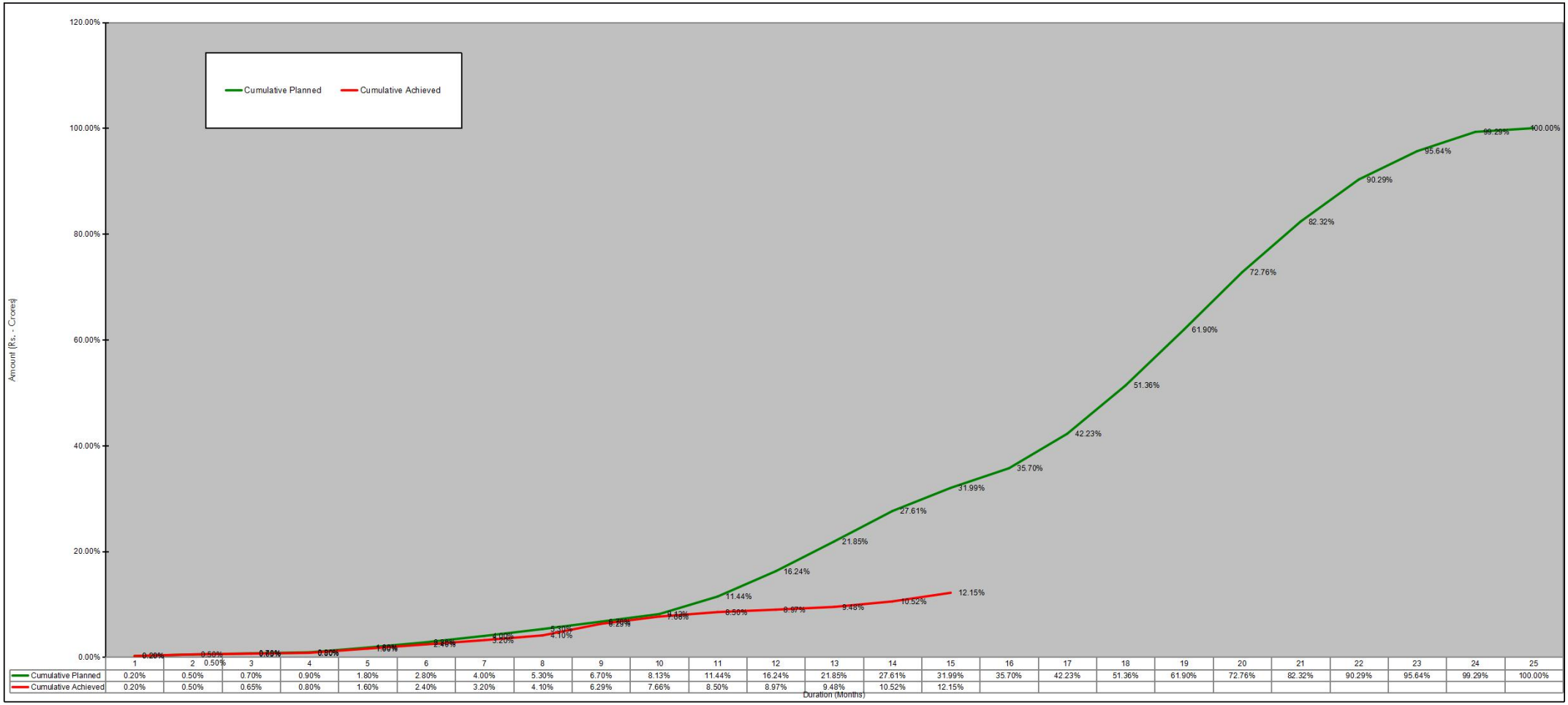



| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cumulative Planned | 30.34 | 76.34 | 133.41 | 205.91 | 247.49 | 291.27 | 335.06 | 381.97 | 449.05 | 529.55 | 624.73 | 720.34 | 867.66 | 952.70 | 992.66 | 1027.91 | 1058.80 | 1085.15 | 1131.44 | 1173.43 | 1226.09 | 1272.28 | 1303.92 | 1323.48 | 1345.60 |
| Cumulative Achieved | 30.56 | 61.11 | 79.52 | 87.41 | 94.84 | 101.75 | 122.54 | 139.13 | 157.27 | 164.22 | 173.09 | 193.05 | 199.72 | 206.61 | 213.80 | | | | | | | | | | |

| | Schedule | 2019 | | | | | | | | | | | | | | | | | 2020 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| | Monthly Planned | 30.34 | 46.00 | 57.07 | 72.50 | 41.58 | 43.78 | 43.78 | 46.91 | 67.08 | 80.50 | 95.17 | 95.61 | 147.32 | 85.04 | 39.97 | 35.24 | 30.90 | 26.34 | 46.29 | 41.99 | 52.67 | 46.19 | 31.64 | 19.56 | 22.12 |
| | MonthlyAchieved | 30.56 | 30.56 | 18.41 | 7.89 | 7.43 | 6.90 | 20.79 | 16.59 | 18.14 | 6.95 | 8.87 | 19.96 | 6.67 | 6.89 | 7.18 | | | | | | | | | | |
| | Cumulative Planned | 30.34 | 76.34 | 133.41 | 205.91 | 247.49 | 291.27 | 335.06 | 381.97 | 449.05 | 529.55 | 624.73 | 720.34 | 867.66 | 952.70 | 992.66 | 1027.91 | 1058.80 | 1085.15 | 1131.44 | 1173.43 | 1226.09 | 1272.28 | 1303.92 | 1323.48 | 1345.60 |
| | Cumulative Achieved | 30.56 | 61.11 | 79.52 | 87.41 | 94.84 | 101.75 | 122.54 | 139.13 | 157.27 | 164.22 | 173.09 | 193.05 | 199.72 | 206.61 | 213.80 | | | | | | | | | | |
| | Monthly Planned (%) | 2.3% | 3.4% | 4.2% | 5.4% | 3.1% | 3.3% | 3.3% | 3.5% | 5.0% | 6.0% | 7.1% | 7.1% | 10.9% | 6.3% | 3.0% | 2.6% | 2.3% | 2.0% | 3.4% | 3.1% | 3.9% | 3.4% | 2.4% | 1.5% | 1.6% |
| | Monthly Achieved (%) | 2.3% | 2.3% | 1.4% | 0.6% | 0.6% | 0.5% | 1.5% | 1.2% | 1.3% | 0.5% | 0.7% | 1.5% | 0.5% | 0.5% | 0.5% | | | | | | | | | | |
| | Cumulative Planned (%) | 2.3% | 5.7% | 9.9% | 15.3% | 18.4% | 21.6% | 24.9% | 28.4% | 33.4% | 39.4% | 46.4% | 53.5% | 64.5% | 70.8% | 73.8% | 76.4% | 78.7% | 80.6% | 84.1% | 87.2% | 91.1% | 94.6% | 96.9% | 98.4% | 100.0% |
| | Cumulative Achieved (%) | 2.3% | 4.5% | 5.91% | 6.50% | 7.05% | 7.56% | 9.11% | 10.3% | 11.7% | 12.2% | 12.9% | 14.3% | 14.8% | 15.4% | 15.9% | | | | | | | | | | |

## Four Laning of Cholopuram – Thanjavur from Km. 116.440 to 164.275 Section of NH45C in the state of Tamilnadu under NHDP-IV on Hybrid Annuity Mode

### Fig. 03b- Physical Progress (S-Curve)




| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cumulative Planned | 0.20% | 0.50% | 0.70% | 0.90% | 1.80% | 2.80% | 4.00% | 5.30% | 6.70% | 8.13% | 11.44% | 16.24% | 21.85% | 27.61% | 31.99% | 35.70% | 42.23% | 51.36% | 61.90% | 72.76% | 82.32% | 90.29% | 95.64% | 99.29% | 100.00% |
| Cumulative Achieved | 0.20% | 0.50% | 0.65% | 0.80% | 1.60% | 2.40% | 3.20% | 4.10% | 6.29% | 7.66% | 8.50% | 8.97% | 9.48% | 10.52% | 12.15% | | | | | | | | | | |

| | Schedule | 2019 | | | | | | | | | | | | | | | | | 2020 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| | Monthly Planned | 0.20% | 0.30% | 0.20% | 0.20% | 0.90% | 1.00% | 1.20% | 1.30% | 1.40% | 1.43% | 3.31% | 4.80% | 5.61% | 5.76% | 4.38% | 3.71% | 6.53% | 9.13% | 10.54% | 10.86% | 9.56% | 7.97% | 5.35% | 3.65% | 0.71% |
| | MonthlyAchieved | 0.20% | 0.30% | 0.15% | 0.15% | 0.80% | 0.80% | 0.80% | 0.90% | 2.19% | 1.37% | 0.85% | 0.46% | 0.51% | 1.04% | 1.63% | | | | | | | | | | |
| | Cumulative Planned | 0.20% | 0.50% | 0.70% | 0.90% | 1.80% | 2.80% | 4.00% | 5.30% | 6.70% | 8.13% | 11.44% | 16.24% | 21.85% | 27.61% | 31.99% | 35.70% | 42.23% | 51.36% | 61.90% | 72.76% | 82.32% | 90.29% | 95.64% | 99.29% | 100.00% |
| | Cumulative Achieved | 0.20% | 0.50% | 0.65% | 0.80% | 1.60% | 2.40% | 3.20% | 4.10% | 6.29% | 7.66% | 8.50% | 8.97% | 9.48% | 10.52% | 12.15% | | | | | | | | | | |

## 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 Pateeswaram Lab.

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

| Sl. No | Equipment List | Quantity |
|---|---|---|
| A) | SOIL | |
| 1 | Proctor Moulds (Big) Collar or Base plate & Rammer 4.89 kg | 6 |
| 2 | Proctor Moulds (Small) Collar or Base plate & Rammer 2.6 kg | 4 |
| 3 | Atterberg Limits Test(Apparatus) | 1 |
| 4 | Soil Cone Penetrometer | 1 |
| 5 | CBR Moulds with collar or Base Plate | 60 |
| 6 | CBR Plunger | 4 |
| 7 | Proving Ring(25 KN) | 1 |
| 8 | Proving Ring(10 KN) | 1 |
| 9 | Proving Ring(2.5 KN) | 1 |
| 10 | FSI JARS BOROSIL -100 ml | 40 |
| 11 | Spacer Disc(with Handle) | 4 |
| 12 | CBR Testing Machine | 1 |
| 13 | CBR Surcharge Central Hole Weights 2.5 kg | 60 |
| 14 | CBR Surcharge Slotted Weights 2.5 kg | 60 |
| 15 | CBR Perorated Brass plates | 60 |
| 16 | Sand Pouring Cylinders (100 mm Dia) Complete with Calibrating Container with Trays | 2 |
| 17 | Sand Pouring Cylinders (150 mm Dia) Complete with Calibrating Container with Trays | 2 |
| 18 | Sand Pouring Cylinders (200 mm Dia) Complete with Calibrating Container with Trays | 2 |
| 19 | Rapid Moisture Meters | 4 |
| 20 | Calcium Carbide Bottles | 10 |
| 21 | Spatula Big | 10 |
| 22 | Spatula Small | 10 |
| 23 | Hammers big | 4 |
| 24 | Chisels big | 20 |
| 25 | Electronic Balance Capacity 100 kg (10 gram accuracy) | 1 |
| 26 | Electronic Balance Capacity 50 kg (1 gram accuracy) | 2 |
| 27 | Electronic Balance Capacity 30 kg (1 gram accuracy) | 2 |
| 28 | Electronic Balance Capacity 10 kg (1 gram accuracy) | 1 |
| 29 | Electronic Balance Capacity 5 kg (0.5 gram accuracy) | 1 |
| 30 | Electronic Balance Capacity 600gram(0.01 gram accuracy) | 2 |
| 31 | Hot Air Oven (Big)250oC | 1 |
| 32 | Hot Air Oven (Small)250oC | 1 |
| 33 | Direct Shear Test Apparatus | 1 |

| Sl. No | Equipment List | Quantity |
|---|---|---|
| 34 | Filter Paper Dia 100 mm | 10 |
| 35 | Filter Paper Dia 150 mm | 10 |
| 36 | Pipettes | 4 |
| 37 | Plastic Bottles | 4 |
| 38 | Enamel tray -450x300x40 mm | 12 |
| 39 | G.I tray-1500x1500x100mm | 4 |
| 40 | French Curves | 2 |
| B) | CONCRETE WORKS | |
| 41 | Compressive Testing machine(2000KN) | 1 |
| 42 | Flextural strength testing machine digital | 1 |
| 43 | Concrete Cube Moulds With Base Plate(15cm) | 200 |
| 44 | Concrete Cube Moulds With Base Plate(10cm) | 18 |
| 45 | Motor Cube Moulds (7.06cm) with Base Plate | 12 |
| 46 | Motor Cube Vibrating Machine(12000 Rmp) | 1 |
| 47 | Concrete Mixer Electrically Operated | 1 |
| 48 | Cube Vibrating Machine (Big) | 1 |
| 49 | Slump Cone Testing Appratus | 10 |
| 50 | Vicat Needle Apparatus , with dash pot complete with set of needles and brass mould | 2 |
| 51 | Soundness Testing Apparatus | 2 |
| 52 | Trowels With Wodden Handles | 4 |
| 53 | A I V Testing Machine | 1 |
| 54 | Loss Angels abrasion Testing Machine | 1 |
| 55 | Sand Equvivalant Testing Apparatus | 1 |
| 56 | Flakiness Index Test Guage | 1 |
| 57 | Elongation Index Test Guage | 1 |
| 58 | Density Basket | 2 |
| 59 | Bulk Density Cylinder (5lt) | 1 |
| 60 | Bulk Density Cylinder (15lt) | 1 |
| 61 | Bulk Density Cylinder (30lt) | 1 |
| 62 | Gi trays -450x600x50mm | 9 |
| 63 | Enamal trays -300x250x40 mm | 9 |
| 64 | Trays for Samples Collections | 12 |
| 65 | Riffle Box ( 40 MM ) | 1 |
| 66 | Riffle Box ( 20 MM ) | 1 |
| 67 | PYcnometer Bottels ( 1000 ml) | 4 |
| 68 | Specific Gravity & water absorotion test apparatus with Electronic balance | 1 |
| 69 | DLC Compaction vibrating hammer | 1 |
| 70 | Cement mortar cube mould 5.0 cm | 12 |
| 71 | Sandard Sand Grade-1 bag of 25 kg | 2 |
| 72 | Sandard Sand Grade-2 bag of 25 kg | 2 |
| 73 | Sandard Sand Grade-3 bag of 25 kg | 2 |
| C) | BITUMINOUS WORKS | |
| 74 | Specific Gravity Bottels ( 50 ml ) | 2 |
| 75 | Specific Gravity Bottels ( 100 ml ) | 2 |

| Sl. No | Equipment List | Quantity |
|---|---|---|
| 76 | Pen Sky- Martins closed Tester (Flash & Fire point) | 2 |
| 77 | Dial gauge 0.01x30 mm adis make | 4 |
| 78 | Ring & Ball Apparatus ( Softening Point ) | 1 |
| 79 | Bitumen Penetrometer ( automatic) | 1 |
| 80 | Marshall Stability Apparatus (set) | 1 |
| 81 | Marshall Compaction Pedestal | 2 |
| 82 | Marshall Compaction Rammer 4.53 KG | 4 |
| 83 | Marshall Moulds (101.6 mm Dia ) | 30 |
| 84 | Modified Marshall Compaction Pedestal | 1 |
| 85 | Modified Marshall Compaction Rammer 10.2 KG | 4 |
| 86 | viscometer u tub size no 12 | 2 |
| 87 | Breaker - glass 600 ml for ring and ball apparatus | 4 |
| 88 | Bitumen Extraction Apparatus (centrifuge Type) | 1 |
| 89 | Proving Ring(50 KN) | 1 |
| 90 | Proving Ring(100 KN) | 1 |
| 91 | Digital Thermometers | 10 |
| 92 | Glass Thermometer | 10 |
| 93 | IR Thermometer | 5 |
| 94 | Core Cutting Machine With Apparatus (set) | 1 |
| 95 | Diamond Core Cutting Bit (100mm Dia) | 1 |
| 96 | Core Barrels for Core Cutting Machine | 1 |
| 97 | Vacuum Pump (specific Gravity of Bitumen Mix GMM ) | 1 |
| 98 | Constant temperature Water bath (Digital) | 2 |
| 99 | Penetration cup 55x70 mm | 2 |
| 100 | penetration cup 55x35 mm | 2 |
| 101 | Specific Gravity Flask (2000 ml ) | 1 |
| 102 | Specific Gravity Flask (5000 ml ) | 1 |
| 103 | Specimen Extractor (Tikki, Goli & Rod)Marshall | 1 |
| 104 | Emulsion Trays | 6 |
| 105 | Viscometer viscosity of emulsified bitumen | 1 |
| 106 | Stop Watch | 4 |
| 107 | Hot Plates Electrical | 2 |
| 108 | Viscometer viscosity of bitumen | 1 |
| FOR I.S SIEVES 450 MM DIA | | |
| 109 | 100MM | 2 |
| 110 | 90MM | 2 |
| 111 | 75MM | 2 |
| 112 | 63MM | 2 |
| 113 | 53MM | 2 |
| 114 | 50MM | 2 |
| 115 | 45MM | 2 |
| 116 | 40MM | 2 |
| 117 | 37.5MM | 2 |
| 118 | 31.5MM | 2 |
| 119 | 26.5MM | 2 |
| 120 | 25MM | 2 |

| Sl. No | Equipment List | Quantity |
|---|---|---|
| 121 | 22.4MM | 2 |
| 122 | 20MM | 2 |
| 123 | 19MM | 2 |
| 124 | 16 MM | 2 |
| 125 | 14MM | 2 |
| 126 | 13.2MM | 2 |
| 127 | 12.5MM | 2 |
| 128 | 11.2MM | 2 |
| 129 | 10MM | 2 |
| 130 | 9.5MM | 2 |
| 131 | 6.3MM | 2 |
| 132 | 5.6MM | 2 |
| 133 | 4.75MM | 2 |
| 134 | 2.36 MM | 2 |
| FOR I.S SIEVES 200 MM DIA | | |
| 135 | 37.5MM | 2 |
| 136 | 6.5MM | 2 |
| 137 | 22.4MM | 2 |
| 138 | 19MM | 2 |
| 139 | 16MM | 2 |
| 140 | 14 MM | 2 |
| 141 | 13.2MM | 2 |
| 142 | 12.5MM | 2 |
| 143 | 11.2MM | 2 |
| 144 | 10MM | 2 |
| 145 | 9.5MM | 2 |
| 146 | 5.6MM | 2 |
| 147 | 4.75MM | 2 |
| 148 | 2.80MM | 2 |
| 149 | 2.36MM | 2 |
| 150 | 2.00MM | 2 |
| 151 | 1.80MM | 2 |
| 152 | 1.40MM | 2 |
| 153 | 1.18MM | 2 |
| 154 | 1.00MM | 2 |
| 155 | 0.710 mc | 1 |
| 156 | 0.600 mc | 2 |
| 157 | 0.500 mc | 1 |
| 158 | 0.45 mc | 1 |
| 159 | 0.425 mc | 2 |
| 160 | 0.355 mc | 2 |
| 161 | 0.300 mc | 2 |
| 162 | 0.150 mc | 2 |
| 163 | 0.090 mc | 2 |
| 164 | 0.075 mc | 6 |

| Sl. No | Equipment List | Quantity |
|---|---|---|
| GENERAL & CONTROL OF PROFILE AND SURFACE EVENNESS | | |
| 165 | Rain Guage | 1 |
| 166 | Vernier Calliper | 1 |
| 167 | Glass Measuring Cylinder -1000 ml | 2 |
| 168 | Glass Measuring Cylinder -500 ml | 2 |
| 169 | Glass Measuring Cylinder -250 ml | 2 |
| 170 | Glass Measuring Cylinder -250 ml | 2 |
| 171 | Plastic Measuring Cylinder- 1000 ml | 2 |
| 172 | Plastic Measuring Cylinder- 500 ml | 2 |
| 173 | Plastic Measuring Cylinder- 250 ml | 2 |
| 174 | Plastic Measuring Cylinder- 250 ml | 2 |
| 175 | Depth gauge | 4 |
| 176 | Digital thermo hygrometer | 2 |
| 177 | Sampling containers 100 gms | 200 |
| 178 | 3 Meter straight edge and measuring wedge | 1 |
| 179 | Camber template board | 2 |
| 180 | 5 mtr tape | 2 |
| 181 | 10 mtr tape | 2 |
| 182 | 30 mtr tape | 4 |
| 183 | 50 mtr tape | 4 |

## 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 November - 2019 are tabulated below -

Four Laning of Cholopuram - Thanjavur From km 116.440 to km 164.275 Section of NH-45C in the State of TamilNadu Under NHDP Phase-IV on Hybrid Annuity

Summary of Quality Control Report / Monthly Progress Report (QC) - MONTH : November-2019

| S. No. | Description | IS Specification Clause | Frequency of Tests | Test conducted upto Previous month | | | | Tests conducted during reporting month upto 25th OCTOBER-2019 | | | | Test conducted upto this month | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | No. of test Conducted (1 Test | Passed | Failed | Nos.of test witnessed by IE | No. of test Conducted | Passed | Failed | Nos.of test witnessed by IE | No. of test Conducted | Passed | Failed | Nos.of test witnessed by IE |
| **1.0 Tests on OGL** | | | | | | | | | | | | | | | |
| 1.1 | Grain size analysis | IS:2720 (Part4) | 1 test / 250 meters | 421 | 421 | 0 | 224 | 0 | 0 | 0 | 0 | 421 | 421 | 0 | 224 |
| 1.2 | Atterberg Limits | IS:2720 (Part5) | 1 test / 250 meters | 421 | 421 | 0 | 224 | 0 | 0 | 0 | 0 | 421 | 421 | 0 | 224 |
| 1.3 | Proctor | IS:2720 (Part8) | 1 test / 250 meters | 233 | 233 | 0 | 68 | 0 | 0 | 0 | 0 | 233 | 233 | 0 | 68 |
| 1.4 | Free Swell index | IS:2720 (Part40) | 1 test / 250 meters | 421 | 403 | 18 | 224 | 0 | 0 | 0 | 0 | 421 | 403 | 18 | 224 |
| 1.5 | California bearing ratio | IS:2720 (Part16) | As required | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ***2.0 Cutting portion & Existing for EMB/SG (MoRT&H 305)*** | | | | | | | | | | | | | | | |
| *2.1* | *Grain size analysis* | IS:2720 (Part4) | 1 test /1500 $m^3$ | 19 | 19 | 0 | 6 | 12 | 12 | 0 | 5 | 31 | 31 | 0 | 11 |
| *2.2* | *Atterberg Limits* | IS:2720 (Part5) | 1 test /1500 $m^3$ | 19 | 19 | 0 | 6 | 12 | 12 | 0 | 5 | 31 | 31 | 0 | 11 |
| *2.3* | *Proctor* | IS:2720 (Part8) | 1 test /1500 $m^3$ | 19 | 19 | 0 | 6 | 12 | 12 | 0 | 5 | 31 | 31 | 0 | 11 |
| *2.4* | *Free Swell index* | IS:2720 (Part40) | 1 test /1500 $m^3$ | 19 | 19 | 0 | 6 | 12 | 12 | 0 | 5 | 31 | 31 | 0 | 11 |
| *2.5* | *California bearing ratio* | IS:2720 (Part16) | 1 test / 3000 $m^3$ | 8 | 8 | 0 | 2 | 12 | 12 | 0 | 5 | 20 | 20 | 0 | 7 |
| **3.0 Borrow Area for EMB/Subgrade (MoRT&H 305)** | | | | | | | | | | | | | | | |
| 3.1 | Grain size analysis | IS:2720 (Part4) | 1 test /1500 $m^3$ | 535 | 535 | 0 | 136 | 16 | 16 | 0 | 10 | 551 | 551 | 0 | 146 |
| 3.2 | Atterberg Limits | IS:2720 (Part5) | 1 test /1500 $m^3$ | 535 | 535 | 0 | 136 | 16 | 16 | 0 | 10 | 551 | 551 | 0 | 146 |
| 3.3 | Proctor | IS:2720 (Part8) | 1 test /1500 $m^3$ | 535 | 535 | 0 | 136 | 16 | 16 | 0 | 10 | 551 | 551 | 0 | 146 |
| 3.4 | Free Swell index | IS:2720 (Part40) | 1 test /1500 $m^3$ | 535 | 535 | 0 | 136 | 16 | 16 | 0 | 10 | 551 | 551 | 0 | 146 |
| 3.5 | California bearing ratio | IS:2720 (Part16) | 1 test / 3000 $m^3$ | 76 | 76 | 0 | 29 | 5 | 5 | 0 | 5 | 81 | 81 | 0 | 34 |
| 3.6 | Water Soluble Sulphate | IS:2720 (Part27) | As required | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 |
| 3.7 | Angle of Internal Friction(ø) | IS:2720 (Part13) | As required | | | | | | | | | | | | |
| **4.0 Field Density Test MORT&H 305** | | | | | | | | | | | | | | | |
| 4.1 | Field density (OGL) | IS:2720 (Part28) | 1 test /3000 sqm | 4377 | 4365 | 15 | 1754 | 0 | 0 | 0 | 0 | 4377 | 4365 | 15 | 1754 |
| 4.2 | Field density (EMB) | IS:2720 (Part28) | 1 test /3000 sqm | 9734 | 9710 | 30 | 2656 | 516 | 510 | 6 | 70 | 10250 | 10220 | 36 | 2726 |
| 4.3 | Field density (SG) | IS:2720 (Part28) | 1 test / 2000 sqm | 90 | 0 | 0 | 65 | 463 | 460 | 3 | 25 | 553 | 3 | 3 | 90 |
| 4.4 | Field density (Shoulder) | IS:2720 (Part28) | 1 test / 2000 sqm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **5.0 Safe Bearing capacity of soil** | | | | | | | | | | | | | | | |
| 5.1 | Grain size analysis | IS:2720 (Part40) | As required | 148 | 148 | 0 | 36 | 0 | 0 | 0 | 0 | 148 | 148 | 0 | 36 |
| 5.2 | Atterberg Limits | IS:2720 (Part4) | As required | 148 | 148 | 0 | 35 | 0 | 0 | 0 | 0 | 148 | 148 | 0 | 35 |
| 5.3 | Proctor | IS:2720 (Part5) | As required | 148 | 148 | 0 | 35 | 0 | 0 | 0 | 0 | 148 | 148 | 0 | 35 |
| 5.4 | Free Swell index | IS:2720 (Part8) | As required | 148 | 147 | 1 | 36 | 0 | 0 | 0 | 0 | 148 | 147 | 1 | 36 |
| 5.5 | Bearing Capacity | IS:6403 / IS 1888 | As required | 148 | 1 | 147 | 37 | 0 | 0 | 0 | 0 | 148 | 1 | 147 | 37 |
| 5.6 | Plate Load Test | IS:6403 / IS 1888 | As required | 24 | 24 | 0 | 19 | 0 | 0 | 0 | 0 | 24 | 24 | 0 | 19 |
| ***6.0 Filter Media & Back filling MoRT&H 2500(Design)*** | | | | | | | | | | | | | | | |
| *6.1* | *Gradation* | | As required | 61 | 61 | 0 | 40 | 0 | 0 | 0 | 0 | 61 | 61 | 0 | 40 |
| 6.2 | *Backfilling field density* | | 1 test /1000 $m^3$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **7.0 Granular Bedding Material (For Structures-Ground Improvement)-Design Approval** | | | | | | | | | | | | | | | |
| 7.1 | Gradation | Table 400-1 | As required | 15 | 15 | 0 | 15 | 0 | 0 | 0 | 0 | 15 | 15 | 0 | 15 |
| 7.2 | Atterberg Limits | IS:2720 (Part5) | As required | 13 | 13 | 0 | 7 | 0 | 0 | 0 | 0 | 13 | 13 | 0 | 7 |
| 7.3 | Proctor | IS:2720 (Part8) | As required | 9 | 9 | 0 | 9 | 0 | 0 | 0 | 0 | 9 | 9 | 0 | 9 |
| 7.4 | CBR Test | IS:2720 (Part16) | As required | 3 | 3 | 0 | 3 | 0 | 0 | 0 | 0 | 3 | 3 | 0 | 3 |
| 7.5 | Aggregate Impact value | IS:2386 Part-4 | As required | 9 | 9 | 0 | 9 | 0 | 0 | 0 | 0 | 9 | 9 | 0 | 9 |

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| S. No. | Description | IS Specification Clause | Frequency of Tests | Test conducted upto Previous month | | | | Tests conducted during reporting month upto 25th OCTOBER-2019 | | | | Test conducted upto this month | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | No. of test Conducted (1 Test | Passed | Failed | Nos.of test witnessed by IE | No. of test Conducted | Passed | Failed | Nos.of test witnessed by IE | No. of test Conducted | Passed | Failed | Nos.of test witnessed by IE |
| *8.0 Granular Bedding Material (For Structures-Ground Improvement)- Stock & Site Testing* | | | | | | | | | | | | | | | |
| *8.1* | *Gradation* | Table 400-1 | As required | 72 | 72 | 0 | 35 | 0 | 0 | 0 | 0 | 72 | 72 | 0 | 35 |
| *8.2* | *Atterberg Limits* | IS:2720 (Part5) | As required | 72 | 72 | 0 | 35 | 0 | 0 | 0 | 0 | 72 | 72 | 0 | 35 |
| *8.3* | *Proctor* | IS:2720 (Part8) | As required | 10 | 10 | 0 | 9 | 0 | 0 | 0 | 0 | 10 | 10 | 0 | 9 |
| *8.4* | *CBR Test* | IS:2720 (Part16) | As required | 10 | 10 | 0 | 9 | 0 | 0 | 0 | 0 | 10 | 10 | 0 | 9 |
| *8.5* | *Aggregate Impact value* | IS:2386 Part-4 | As required | 7 | 7 | 0 | 7 | 0 | 0 | 0 | 0 | 7 | 7 | 0 | 7 |
| *8.6* | *Field Density* | IS:2720 (Part28) | As required | 1111 | 1111 | 0 | 253 | 0 | 0 | 0 | 0 | 1111 | 1111 | 0 | 253 |
| *9.0 CTSB Mix Design MoRT&H 403* | | | | | | | | | | | | | | | |
| *9.1* | *Gradation* | Table 400-4 | 1 test/400m$^3$ | 63 | 63 | 0 | 52 | 0 | 0 | 0 | 0 | 63 | 63 | 0 | 52 |
| *9.2* | *Atterberg Limits* | IS:2720 (Part5) | 1 test/400m$^3$ | 24 | 24 | 0 | 15 | 0 | 0 | 0 | 0 | 24 | 24 | 0 | 15 |
| *9.3* | *Proctor* | IS:2720 (Part8) | As required | 29 | 29 | 0 | 21 | 0 | 0 | 0 | 0 | 29 | 29 | 0 | 21 |
| *9.4* | *Aggregate Impact value* | IS:2386 Part-4 | As required | 24 | 24 | 0 | 14 | 0 | 0 | 0 | 0 | 24 | 24 | 0 | 14 |
| *9.5* | *Field Density* | IS:2720 (Part28) | 1 set of 2 Test per 500Sqm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| *9.6* | *Specific gravity& Water absorption* | IS:2386 (Part2) | As required | 14 | 14 | 0 | 5 | 0 | 0 | 0 | 0 | 14 | 14 | 0 | 5 |
| *9.7* | *Cubes casting& Testing(Sets)* | IRC SP 89 (2010) | Minimum 5 Cubes | 42 | 42 | 0 | 32 | 0 | 0 | 0 | 0 | 42 | 42 | 0 | 32 |
| *9.8* | *CBR Test(Set)* | IS:2720 (Part16) | As required | 6 | 6 | 0 | 6 | 0 | 0 | 0 | 0 | 6 | 6 | 0 | 6 |
| *9.9* | Organic Content | IRC SP 89 (2010) | As required | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 |
| *9.10* | Total SO4 Content | IRC SP 89 (2010) | As required | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 |
| *9.11* | Chloride Content | IRC SP 89 (2010) | As required | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| *9.12* | 10% Fines Value | BS:812 (111) | As required | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 |
| *9.13* | Durability Test | IRC SP 89 (2010) | As required | 6 | 6 | 0 | 6 | 0 | 0 | 0 | 0 | 6 | 6 | 0 | 6 |
| *9.14* | Permeability Test | IS 2720 (Part 36) | As required | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| *10.0 CTSB Site Frequency* | | | | | | | | | | | | | | | |
| *10.1* | *Gradation* | Table 400-4 | 1 test/400m$^3$ | 5 | 5 | 0 | 5 | 0 | 0 | 0 | 0 | 5 | 5 | 0 | 5 |
| *10.2* | *Atterberg Limits* | IS:2720 (Part5) | 1 test/400m$^3$ | 3 | 3 | 0 | 3 | 0 | 0 | 0 | 0 | 3 | 3 | 0 | 3 |
| *10.3* | *Proctor* | IS:2720 (Part8) | As required | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 |
| *10.4* | *Aggregate Impact value* | IS:2386 Part-4 | As required | 3 | 3 | 0 | 3 | 0 | 0 | 0 | 0 | 3 | 3 | 0 | 3 |
| *10.5* | *Field Density* | IS:2720 (Part28) | 1 set of 2 Test per 500Sqm | 9 | 3 | 12 | 9 | 0 | 0 | 0 | 0 | 9 | 3 | 12 | 9 |
| *10.6* | *Specific gravity& Water absorption* | IS:2386 (Part2) | As required | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| *10.7* | *Cubes casting& Testing(Sets)* | IRC SP 89 (2010) | Minimum 5 Cubes | 3 | 3 | 0 | 3 | 0 | 0 | 0 | 0 | 3 | 3 | 0 | 3 |
| *10.8* | *CBR Test* | IS:2720 (Part16) | As required | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 |
| *11.0 WMM Mix (Design)* | | | | | | | | | | | | | | | |
| *11.1* | *Individual / Combined Gradation* | Table 400-3 | 1 test/200m$^3$ | 88 | 88 | 0 | 67 | 0 | 0 | 0 | 0 | 88 | 88 | 0 | 67 |
| *11.2* | *Aggregate Impact Value* | IS:2386 Part-4 | 1 test/ 1000 m$^3$ | 13 | 13 | 0 | 11 | 0 | 0 | 0 | 0 | 13 | 13 | 0 | 11 |
| *11.3* | *Flakiness & Elagation index* | IS:2386 Part1 | 1 test/ 500 m$^3$ | 13 | 13 | 0 | 11 | 0 | 0 | 0 | 0 | 13 | 13 | 0 | 11 |
| *11.4* | *Atterberg Limits* | IS:2720 (Part5) | 1 test/200m$^3$ | 11 | 11 | 0 | 9 | 0 | 0 | 0 | 0 | 11 | 11 | 0 | 9 |
| *11.5* | *Water absorption* | IS:2386 Part2 | As required | 8 | 8 | 0 | 8 | 0 | 0 | 0 | 0 | 8 | 8 | 0 | 8 |
| *11.6* | *Proctor* | IS:2720 (Part8) | As required | 6 | 6 | 0 | 6 | 0 | 0 | 0 | 0 | 6 | 6 | 0 | 6 |
| *11.7* | *CBR* | IS:2720 (Part16) | As required | 6 | 6 | 0 | 6 | 0 | 0 | 0 | 0 | 6 | 6 | 0 | 6 |
| *11.8* | *Field Density(Trial strech)* | IS:2720 (Part28) | 1 set Test per 1000Sq.m / 3 pits | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | | | | | | | | | | | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | No. of test Conducted (1 Test | Passed | Failed | Nos.of test witnessed by IE | No. of test Conducted | Passed | Failed | Nos.of test witnessed by IE | No. of test Conducted | Passed | Failed | Nos.of test witnessed by IE |
| *12.0 WMM Site Frequency MoRT&H 406* | | | | | | | | | | | | | | | |
| *12.1* | *Individual / Combined Gradation* | Table 400-3 | 1 test/200m$^3$ | 3 | 3 | 0 | 3 | 0 | 0 | 0 | 0 | 3 | 3 | 0 | 3 |
| *12.2* | *Aggregate Impact Value* | IS:2386 Part-4 | 1 test/ 1000 m$^3$ | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 |
| *12.3* | *Flakiness & Elagation index* | IS:2386 Part1 | 1 test/ 500 m$^3$ | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 |
| *12.4* | *Atterberg Limits* | IS:2720 (Part5) | 1 test/200m$^3$ | 3 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 3 |
| *12.5* | *Proctor* | IS:2720 (Part8) | As required | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 |
| *12.6* | *CBR* | IS:2720 (Part16) | As required | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 |
| *12.7* | *Field Density(Trial strech)* | IS:2720 (Part28) | 1 set Test per 1000Sq.m / 3 pits | 6 | 3 | 0 | 6 | 0 | 0 | 0 | 0 | 6 | 3 | 0 | 6 |
| ***13.0 Dense Bituminous Macadam (Grade - II) (Design)*** | | | | | | | | | | | | | | | |
| *13.1* | Gradation | MORTH Section-500/Clause-507 & Table 500-10 | One set for individual constituent and mixed aggregate from dryer for each 400 tonnes of mix | 0 | 0 | 0 | 0 | 50 | 50 | | 50 | 50 | 50 | 0 | 50 |
| *13.2* | Flakiness & Elongation Index | IS: 2386 (Part 1)1963 | 1 Test for 350 m$^3$ | 0 | 0 | 0 | 0 | 9 | 9 | | 9 | 9 | 9 | 0 | 9 |
| *13.3* | Aggregate Impact Value Test | IS: 2386 (Part 4)1963 | 1 Test for 350 m$^3$ | 0 | 0 | 0 | 0 | 9 | 9 | | 9 | 9 | 9 | 0 | 9 |
| *13.4* | Binder content and grading of mix | IRC: SP 11-1988(APP-5) | One Test for each 400 tonnes of mix produced subject to a | 0 | 0 | 0 | 0 | 9 | 9 | | 9 | 9 | 9 | 0 | 9 |
| *13.5* | Marshall Stability of mix | ASTM D 2726/1188 | 3 Tests for stability flow value density and void contents for each 400 tonnes of mix subject to | 0 | 0 | 0 | 0 | 10 | 10 | | 10 | 10 | 10 | 0 | 10 |
| *13.6* | Sand Equivalent Test | IS: 2720 Part 37)1963 | One Test for each each source | 0 | 0 | 0 | 0 | 12 | 12 | | 12 | 12 | 12 | 0 | 12 |
| *13.7* | Los Angeles Abrasion Value | IS: 2386 (Part 3)1963 | 1 Test for 350 m$^3$ | 0 | 0 | 0 | 0 | 9 | 9 | | 9 | 9 | 9 | 0 | 9 |
| *13.8* | Stripping | IS : 6241 | One Test for each each source | 0 | 0 | 0 | 0 | 3 | 3 | | 3 | 3 | 3 | 0 | 3 |
| *13.9* | Retained Satlaility | AASHTO 283 | One Test for each each source | 0 | 0 | 0 | 0 | 8 | 8 | | 8 | 8 | 8 | 0 | 8 |
| *14.0* | Retained Tensile Strength | AASHTO 284 | One Test for each each source | 0 | 0 | 0 | 0 | 8 | 8 | | 8 | 8 | 8 | 0 | 8 |
| *14.1* | Refuasal | AASHTO 285 | One Test for each each source | | | | | | | | | | | | |
| *14.2* | Plasticity Index | IS: 2720( Part 5) | One Test for each each source | 0 | 0 | 0 | 0 | 3 | 3 | | 3 | 3 | 3 | 0 | 3 |
| *14.3* | Cleanliess (Dust) | IS: 2386 (Part 1) | One Test for each each source | 0 | 0 | 0 | 0 | 3 | 3 | | 3 | 3 | 3 | 0 | 3 |
| ***15.0 Bitumen test*** | | | | | | | | | | | | | | | |
| *15.1* | Absolute Viscosity at 60° C poise,Minimum | IS: 1206-1978 part-2 | As per table 2 of IS 73-2013 | 0 | 0 | 0 | 0 | 3 | 3 | | 3 | 3 | 3 | 0 | 3 |
| *15.2* | Penetration Test at 25° C,100gr,0.1mm,5sec | IS: 1203-1978 | As per table 2 of IS 73-2013 | 0 | 0 | 0 | 0 | 3 | 3 | | 3 | 3 | 3 | 0 | 3 |
| *15.3* | Softening point(R&B) Min | IS: 1205-1978 | As per table 2 of IS 73-2013 | 0 | 0 | 0 | 0 | 3 | 3 | | 3 | 3 | 3 | 0 | 3 |
| *15.4* | Flash point(Clevelend open cup)° C,Min | IS: 1209-1978 | 1 Test per Lot | 0 | 0 | 0 | 0 | 3 | 3 | | 3 | 3 | 3 | 0 | 3 |

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| S. No. | Description | IS Specification Clause | Frequency of Tests | Test conducted upto Previous month | | | | Tests conducted during reporting month upto 25th OCTOBER-2019 | | | | Test conducted upto this month | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | No. of test Conducted (1 Test | Passed | Failed | Nos.of test witnessed by IE | No. of test Conducted | Passed | Failed | Nos.of test witnessed by IE | No. of test Conducted | Passed | Failed | Nos.of test witnessed by IE |
| 15.5 | Test on Residue from TFOT | | | | | | | | | | | 0 | 0 | 0 | 0 |
| 15.6 | Viscosity ratio at 60° C max | IS: 1206-1978 part-2 | 1 Test per Lot | 0 | 0 | 0 | 0 | 3 | 3 | | 3 | 3 | 3 | 0 | 3 |
| 15.7 | Ductility at 25° C ,cm,Min | IS: 1208-1978 | 1 Test per Lot | 0 | 0 | 0 | 0 | 3 | 3 | | 3 | 3 | 3 | 0 | 3 |
| | | | | | | | | | | | | | | | |
| *17.0 Fine Aggregate MoRT&H 1008* | | | | | | | | | | | | | | | |
| 17.1 | *Grade / Sieve analysis* | IS:2386 (Part1) | As required | 339 | 339 | 0 | 96 | 40 | 40 | 0 | 20 | 379 | 379 | 0 | 116 |
| 17.2 | *Specific gravity& Water absorption* | IS:2386 (Part2) | As required | 14 | 14 | 0 | 4 | 2 | 2 | 0 | 2 | 16 | 16 | 0 | 6 |
| 17.3 | *Fineness Modulus* | MORT&H Sec. 1008&383 | As required | 339 | 339 | 0 | 96 | 40 | 40 | 0 | 20 | 379 | 379 | 0 | 116 |
| 17.4 | *Alkali aggregate reactivity test* | IS:2386 (Part-7)IS : 456 | 1 test per source | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 |
| 17.5 | *Deleterious material/silt* | IS:2386 (Part2) | 1 test per source | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 |
| *18.0 Coarse Aggregate MoRT&H 1007* | | | | | | | | | | | | | | | |
| 18.1 | *Gradation* | IS:2386 (Part2) | As required | 554 | 554 | 0 | 176 | 40 | 40 | 0 | 20 | 594 | 594 | 0 | 196 |
| 18.2 | *Specific gravity& Water absorption* | IS:2386 (Part3) | As required | 22 | 22 | 0 | 9 | 2 | 2 | 0 | 2 | 24 | 24 | 0 | 11 |
| 18.3 | *Aggregate Impact Value* | IS:2386 (Part4) | As required | 72 | 72 | 0 | 24 | 6 | 6 | 0 | 2 | 78 | 78 | 0 | 26 |
| 18.4 | *Flakiness index* | IS:2386 (Part1) | As required | 72 | 72 | 0 | 24 | 6 | 6 | 0 | 2 | 78 | 78 | 0 | 26 |
| 18.5 | *Soundness* | IS:2386 (Part5) | As required | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 |
| 18.6 | *Alkali aggregate reactivity test* | IS:2386 (Part-7)IS : 456 | 1 test per source | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 |
| 18.7 | *Deleterious constituents* | IS:2386 (Part2) | 1 test per source | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 |
| 18.8 | *Petrograhic Examination* | IS:2386 (Part8) | 1 test per source | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 |
| *19.0 Cement MoRT&H 1006* | | | | | | | | | | | | | | | |
| 19.1 | *Chemical test* | IS:4031,4032 | 1 test per source | 12 | 12 | 0 | 7 | 0 | 0 | 0 | 0 | 12 | 12 | 0 | 7 |
| 19.2 | *Fineness* | IS:4031 (Part1) | 500mt (or) Every week | 84 | 84 | 0 | 36 | 4 | 4 | 0 | 4 | 88 | 88 | 0 | 40 |
| 19.3 | *Normal Consistency* | IS:4031 (Part4) | 500mt (or) Every week | 84 | 84 | 0 | 39 | 4 | 4 | 0 | 4 | 88 | 88 | 0 | 43 |
| 19.4 | *Initial,Final setting time* | IS:4031 (Part5) | 500mt (or) Every week | 84 | 84 | 0 | 39 | 4 | 4 | 0 | 4 | 88 | 88 | 0 | 43 |
| 19.5 | *Soundness of Cement* | IS:4031 (Part3) | 500mt (or) Every week | 84 | 84 | 0 | 39 | 4 | 4 | 0 | 4 | 88 | 88 | 0 | 43 |
| 19.6 | *Compressive Strength-set* | IS:4031 (Part6) | | | | | | | | | | | | | |
| | *3 days* | | 500mt (or) Every week | 101 | 101 | 0 | 43 | 6 | 6 | 0 | 6 | 107 | 107 | 0 | 49 |
| | *7 days* | | 500mt (or) Every week | 100 | 100 | 0 | 44 | 7 | 7 | 0 | 7 | 107 | 107 | 0 | 51 |
| | *28 days* | | 500mt (or) Every week | 100 | 100 | 0 | 20 | 7 | 7 | 0 | 7 | 107 | 107 | 0 | 27 |
| 20 | *Chemical test* | IS 2386 | 1 test per source | 7 | 7 | 0 | 3 | 0 | 0 | 0 | 0 | 7 | 7 | 0 | 3 |
| *21.0 Admixture* | | | | | | | | | | | | | | | |
| 21.1 | *Chemical Test* | IS 9103 | 1 test per source | 3 | 3 | 0 | 1 | 0 | 0 | 0 | 0 | 3 | 3 | 0 | 1 |
| *22.0 Steel* | | | | | | | | | | | | | | | |
| 22.1 | *8 mm Dia* | IS 1786 | Physical &Chemical Properties (1) Test on first lot.(2) Further supply will be provided with mtc. (3) As required by engineer. | 15 | 15 | 0 | 7 | 0 | 0 | 0 | 0 | 15 | 15 | 0 | 7 |
| 22.2 | *10 mm Dia* | IS 1786 | | 15 | 15 | 0 | 8 | 0 | 0 | 0 | 0 | 15 | 15 | 0 | 8 |
| 22.3 | *12 mm Dia* | IS 1786 | | 19 | 19 | 0 | 9 | 0 | 0 | 0 | 0 | 19 | 19 | 0 | 9 |
| 22.4 | *16 mm Dia* | IS 1786 | | 20 | 20 | 0 | 9 | 0 | 0 | 0 | 0 | 20 | 20 | 0 | 9 |
| 22.5 | *20 mm Dia* | IS 1786 | | 20 | 20 | 0 | 8 | 0 | 0 | 0 | 0 | 20 | 20 | 0 | 8 |
| 22.6 | *25 mm Dia* | IS 1786 | | 22 | 22 | 0 | 12 | 0 | 0 | 0 | 0 | 22 | 22 | 0 | 12 |
| 22.7 | *32 mm Dia* | IS 1786 | | 8 | 8 | 0 | 5 | 0 | 0 | 0 | 0 | 8 | 8 | 0 | 5 |

Four Laning of Cholopuram - Thanjavur From km 116.440 to km 164.275 Section of NH-45C in the State of TamilNadu Under NHDP Phase-IV on Hybrid Annuity

Summary of Quality Control Report / Monthly Progress Report (QC) - MONTH : November-2019

| S. No. | Description | IS Specification Clause | Frequency of Tests | Test conducted upto Previous month | | | | Tests conducted during reporting month upto 25th OCTOBER-2019 | | | | Test conducted upto this month | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | No. of test Conducted (1 Test | Passed | Failed | Nos.of test witnessed by IE | No. of test Conducted | Passed | Failed | Nos.of test witnessed by IE | No. of test Conducted | Passed | Failed | Nos.of test witnessed by IE |
| *23.(A) Concrete Cube Strength of Design Mix* | | | | | | | | | | | | | | | |
| | M15 PCC | | | | | | | | | | | | | | |
| | *7Days Compressive Strength* | IS:516 / IS:456 | MORT&H Sec. 1700 | 60 | 60 | 0 | 56 | 9 | 9 | 0 | 9 | 69 | 69 | 0 | 65 |
| | *28Days Compressive Strength* | | | 65 | 62 | 0 | 55 | 0 | 0 | 0 | 0 | 65 | 62 | 0 | 55 |
| | M20 PCC | | | | | | | | | | | | | | |
| | *7Days Compressive Strength* | IS:516 / IS:456 | MORT&H Sec. 1700 | 57 | 57 | 0 | 53 | 9 | 9 | 0 | 9 | 66 | 66 | 0 | 62 |
| | *28Days Compressive Strength* | | | 59 | 56 | 0 | 55 | 0 | 0 | 0 | 0 | 59 | 56 | 0 | 55 |
| | M20 KERB | | | | | | | | | | | | | | |
| | *7Days Compressive Strength* | IS:516 / IS:456 | MORT&H Sec. 1700 | 8 | 8 | 0 | 8 | 0 | 0 | 0 | 0 | 8 | 8 | 0 | 8 |
| | *28Days Compressive Strength* | | | 8 | 8 | 0 | 8 | 0 | 0 | 0 | 0 | 8 | 8 | 0 | 8 |
| | M25 RCC | | | | | | | | | | | | | | |
| | *7Days Compressive Strength* | IS:516 / IS:456 | MORT&H Sec. 1700 | 57 | 57 | 0 | 53 | 9 | 9 | 0 | 9 | 66 | 66 | 0 | 62 |
| | *28Days Compressive Strength* | | | 59 | 56 | 0 | 55 | 0 | 0 | 0 | 0 | 59 | 56 | 0 | 55 |
| | M30 RCC | | | | | | | | | | | | | | |
| | *7Days Compressive Strength* | IS:516 / IS:456 | MORT&H Sec. 1700 | 60 | 60 | 0 | 56 | 0 | 0 | 0 | 0 | 60 | 60 | 0 | 56 |
| | *28Days Compressive Strength* | | | 63 | 59 | 0 | 59 | 0 | 0 | 0 | 0 | 63 | 59 | 0 | 59 |
| | M30 RCC PUMPABLE | | | | | | | | | | | | | | |
| | *7Days Compressive Strength* | IS:516 / IS:456 | MORT&H Sec. 1700 | 38 | 38 | 0 | 34 | 9 | 9 | 0 | 9 | 47 | 47 | 0 | 43 |
| | *28Days Compressive Strength* | | | 37 | 35 | 0 | 33 | 0 | 0 | 0 | 0 | 37 | 35 | 0 | 33 |
| | M35 RCC | | | | | | | | | | | | | | |
| | *7Days Compressive Strength* | IS:516 / IS:456 | MORT&H Sec. 1700 | 56 | 56 | 0 | 52 | 0 | 0 | 0 | 0 | 56 | 56 | 0 | 52 |
| | *28Days Compressive Strength* | | | 58 | 56 | 0 | 54 | 0 | 0 | 0 | 0 | 58 | 56 | 0 | 54 |
| | M35 RCC PILING | | | | | | | | | | | | | | |
| | *7Days Compressive Strength* | IS:516 / IS:456 | MORT&H Sec. 1700 | 56 | 56 | 0 | 52 | 9 | 9 | 0 | 9 | 65 | 65 | 0 | 61 |
| | *28Days Compressive Strength* | | | 58 | 56 | 0 | 54 | 0 | 0 | 0 | 0 | 58 | 56 | 0 | 54 |
| | M35 RCC PUMPABLE | | | | | | | | | | | | | | |
| | *7Days Compressive Strength* | IS:516 / IS:456 | MORT&H Sec. 1700 | 38 | 38 | 0 | 34 | 9 | 9 | 0 | 9 | 47 | 47 | 0 | 43 |
| | *28Days Compressive Strength* | | | 37 | 35 | 0 | 33 | 0 | 0 | 0 | 0 | 37 | 35 | 0 | 33 |
| | M35 RE BLOCK | | | | | | | | | | | | | | |
| | *7Days Compressive Strength* | IS:516 / IS:456 | MORT&H Sec. 1700 | 60 | 60 | 0 | 54 | 0 | 0 | 0 | 0 | 60 | 60 | 0 | 54 |
| | *28Days Compressive Strength* | | | 55 | 55 | 0 | 55 | 0 | 0 | 0 | 0 | 55 | 55 | 0 | 55 |
| | M40 RCC | | | | | | | | | | | | | | |
| | *7Days Compressive Strength* | IS:516 / IS:456 | MORT&H Sec. 1700 | 26 | 24 | 0 | 26 | 9 | 9 | 0 | 9 | 35 | 33 | 0 | 35 |
| | *28Days Compressive Strength* | | | 13 | 9 | 0 | 13 | 9 | 9 | 0 | 9 | 22 | 18 | 0 | 22 |
| | M45 RCC | | | | | | | | | | | | | | |
| | *7Days Compressive Strength* | IS:516 / IS:456 | MORT&H Sec. 1700 | 27 | 21 | 0 | 28 | 9 | 9 | 0 | 9 | 36 | 30 | 0 | 37 |
| | *28Days Compressive Strength* | | | 34 | 34 | 0 | 31 | 9 | 9 | 0 | 9 | 43 | 43 | 0 | 40 |
| | M45 RCC PUMPABLE | | | | | | | | | | | | | | |
| | *7Days Compressive Strength* | IS:516 / IS:456 | MORT&H Sec. 1700 | 23 | 15 | 0 | 20 | 0 | 0 | 0 | 0 | 23 | 15 | 0 | 20 |
| | *28Days Compressive Strength* | | | 26 | 22 | 0 | 23 | 0 | 0 | 0 | 0 | 26 | 22 | 0 | 23 |

Four Laning of Cholopuram - Thanjavur From km 116.440 to km 164.275 Section of NH-45C in the State of TamilNadu Under NHDP Phase-IV on Hybrid Annuity

Summary of Quality Control Report / Monthly Progress Report (QC) - MONTH : November-2019

| S. No. | Description | IS Specification Clause | Frequency of Tests | Test conducted upto Previous month | | | | Tests conducted during reporting month upto 25th OCTOBER-2019 | | | | Test conducted upto this month | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | No. of test Conducted (1 Test | Passed | Failed | Nos.of test witnessed by IE | No. of test Conducted | Passed | Failed | Nos.of test witnessed by IE | No. of test Conducted | Passed | Failed | Nos.of test witnessed by IE |
| *23.(B) Concrete Cube Strength of Site Cubes* | | | | | | | | | | | | | | | |
| | **M15 PCC** | | | | | | | | | | | | | | |
| | *7Days Compressive Strength* | IS:516 / IS:456 | MORT&H Sec. 1700 | 205 | 205 | 0 | 103 | 5 | 5 | 0 | 5 | 210 | 210 | 0 | 108 |
| | *28Days Compressive Strength* | | | 406 | 406 | 0 | 204 | 8 | 8 | 0 | 8 | 414 | 414 | 0 | 212 |
| | **M20 PCC** | | | | | | | | | | | | | | |
| | *7Days Compressive Strength* | IS:516 / IS:456 | MORT&H Sec. 1700 | 3 | 3 | 0 | 2 | 0 | 0 | 0 | 0 | 3 | 3 | 0 | 2 |
| | *28Days Compressive Strength* | | | 8 | 8 | 0 | 4 | 0 | 0 | 0 | 0 | 8 | 8 | 0 | 4 |
| | **M25 RCC** | | | | | | | | | | | | | | |
| | *7Days Compressive Strength* | IS:516 / IS:456 | MORT&H Sec. 1700 | 8 | 4 | 0 | 3 | 2 | 2 | 0 | 2 | 10 | 6 | 0 | 5 |
| | *28Days Compressive Strength* | | | 11 | 9 | 0 | 5 | 4 | 4 | 0 | 4 | 15 | 13 | 0 | 9 |
| | **M30 RCC** | | | | | | | | | | | | | | |
| | *7Days Compressive Strength* | IS:516 / IS:456 | MORT&H Sec. 1700 | 369 | 369 | 0 | 136 | 16 | 16 | 0 | 16 | 385 | 385 | 0 | 152 |
| | *28Days Compressive Strength* | | | 735 | 735 | 0 | 240 | 46 | 46 | 0 | 46 | 781 | 781 | 0 | 286 |
| | **M30 RCC PUMPABLE** | | | | | | | | | | | | | | |
| | *7Days Compressive Strength* | IS:516 / IS:456 | MORT&H Sec. 1700 | 8 | 8 | 0 | 3 | 1 | 1 | 0 | 1 | 9 | 9 | 0 | 4 |
| | *28Days Compressive Strength* | | | 22 | 22 | 0 | 7 | 5 | 5 | 0 | 5 | 27 | 27 | 0 | 12 |
| | **M35 RCC** | | | | | | | | | | | | | | |
| | *7Days Compressive Strength* | IS:516 / IS:456 | MORT&H Sec. 1700 | 252 | 252 | 0 | 96 | 17 | 17 | 0 | 17 | 269 | 269 | 0 | 113 |
| | *28Days Compressive Strength* | | | 540 | 540 | 0 | 205 | 38 | 38 | 0 | 38 | 578 | 578 | 0 | 243 |
| | **M35 RCC PILING** | | | | | | | | | | | | | | |
| | *7Days Compressive Strength* | IS:516 / IS:456 | MORT&H Sec. 1700 | 444 | 444 | 0 | 124 | 9 | 9 | 0 | 9 | 453 | 453 | 0 | 133 |
| | *28Days Compressive Strength* | | | 1372 | 1372 | 0 | 523 | 93 | 93 | 0 | 93 | 1465 | 1465 | 0 | 616 |
| | **M35 RCC PUMPABLE** | | | | | | | | | | | | | | |
| | *7Days Compressive Strength* | IS:516 / IS:456 | MORT&H Sec. 1700 | 200 | 200 | 0 | 75 | 33 | 33 | 0 | 33 | 233 | 233 | 0 | 108 |
| | *28Days Compressive Strength* | | | 506 | 506 | 0 | 172 | 68 | 68 | 0 | 68 | 574 | 574 | 0 | 240 |
| | **M35 RE BLOCK** | | | | | | | | | | | | | | |
| | *7Days Compressive Strength* | IS:516 / IS:456 | MORT&H Sec. 1700 | 777 | 777 | 0 | 269 | 0 | 0 | 0 | 0 | 777 | 777 | 0 | 269 |
| | *28Days Compressive Strength* | | | 1414 | 1414 | 0 | 459 | 0 | 0 | 0 | 0 | 1414 | 1414 | 0 | 459 |
| | **M40 RCC** | | | | | | | | | | | | | | |
| | *7Days Compressive Strength* | IS:516 / IS:456 | MORT&H Sec. 1700 | 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 |
| | **M45 RCC** | | | | | | | | | | | | | | |
| | *7Days Compressive Strength* | IS:516 / IS:456 | MORT&H Sec. 1700 | 4 | 4 | 0 | 4 | 0 | 0 | 0 | 0 | 4 | 4 | 0 | 4 |
| | *28Days Compressive Strength* | | | 4 | 4 | 0 | 2 | 0 | 0 | 0 | 0 | 4 | 4 | 0 | 2 |
| *24.0 BENTONITE* | | | | | | | | | | | | | | | |
| *20.1* | *Density* | MORT&H Sec. 1115.2.3 | As required | 212 | 212 | 0 | 62 | 7 | 7 | 0 | 7 | 219 | 219 | 0 | 69 |
| *20.2* | *Marsh Cone Viscosity* | | | 212 | 212 | 0 | 62 | 7 | 7 | 0 | 7 | 219 | 219 | 0 | 69 |
| *20.3* | *pH Value* | | | 212 | 212 | 0 | 62 | 7 | 7 | 0 | 7 | 219 | 219 | 0 | 69 |
| *20.4* | *Silt Content* | | | 13 | 13 | 0 | 4 | 1 | 1 | 0 | 1 | 14 | 14 | 0 | 5 |
| *20.5* | *Liquid Limit* | | | 16 | 16 | 0 | 5 | 1 | 1 | 0 | 1 | 17 | 17 | 0 | 6 |

Four Laning of Cholopuram - Thanjavur From km 116.440 to km 164.275 Section of NH-45C in the State of TamilNadu Under NHDP Phase-IV on Hybrid Annuity

Summary of Quality Control Report / Monthly Progress Report (QC) - MONTH : November-2019

| S. No. | Description | IS Specification Clause | Frequency of Tests | Test conducted upto Previous month | | | | Tests conducted during reporting month upto 25th OCTOBER-2019 | | | | Test conducted upto this month | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | No. of test Conducted (1 Test | Passed | Failed | Nos.of test witnessed by IE | No. of test Conducted | Passed | Failed | Nos.of test witnessed by IE | No. of test Conducted | Passed | Failed | Nos.of test witnessed by IE |
| *25.0 Fine Aggregate MoRT&H 1008-(RE-Block)* | | | | | | | | | | | | | | | |
| 21.1 | *Grade / Sieve analysis* | IS:2386 (Part1) | As required | 460 | 460 | 0 | 134 | 0 | 0 | 0 | 0 | 460 | 460 | 0 | 134 |
| 21.2 | *Fineness Modulus* | MORT&H Sec. 1008&383 | As required | 460 | 460 | 0 | 134 | 0 | 0 | 0 | 0 | 460 | 460 | 0 | 134 |
| 21.3 | *Specific gravity& Water absorption* | IS:2386 (Part2) | As required | 11 | 11 | 0 | 4 | 0 | 0 | 0 | 0 | 11 | 11 | 0 | 4 |
| *26.0 Coarse Aggregate MoRT&H 1007-(RE-Block)* | | | | | | | | | | | | | | | |
| 22.1 | *Gradation* | IS:2386 (Part2) | As required | 416 | 416 | 0 | 113 | 0 | 0 | 0 | 0 | 416 | 416 | 0 | 113 |
| 22.2 | *Specific gravity& Water absorption* | IS:2386 (Part3) | As required | 9 | 9 | 0 | 3 | 0 | 0 | 0 | 0 | 9 | 9 | 0 | 3 |
| 22.3 | *Aggregate Impact Value* | IS:2386 (Part4) | 1 test / each source & | 16 | 16 | 0 | 5 | 0 | 0 | 0 | 0 | 16 | 16 | 0 | 5 |

| Date | Temperature (Celsius) | | Humidity (%) | | Rainfall (mm) | Remarks |
|---|---|---|---|---|---|---|
| | Min | Max | Min | Max | | |
| 01-11-19 | 24.8 | 32.00 | 63.0 | 93.0 | - | Sunny |
| 02-11-19 | 24.8 | 32.00 | 63.0 | 93.0 | 0.0 | Sunny |
| 03-11-19 | 27.2 | 33.60 | 60.0 | 85.0 | 0.0 | Sunny & Cloudy |
| 04-11-19 | 26.7 | 33.10 | 59.0 | 84.0 | 0.0 | Sunny |
| 05-11-19 | 26.7 | 33.90 | 49.0 | 84.0 | 0.0 | Sunny |
| 06-11-19 | 26.8 | 33.80 | 49.0 | 86.0 | 0.0 | Sunny |
| 07-11-19 | 27.1 | 33.40 | 57.0 | 79.0 | 0.0 | Sunny |
| 08-11-19 | 27.8 | 34.00 | 53.0 | 77.0 | 0.0 | Sunny |
| 09-11-19 | 27.0 | 34.00 | 60.0 | 91.0 | 0.0 | Sunny |
| 10-11-19 | 28.8 | 34.70 | 49.0 | 82.0 | 0.0 | Sunny |
| 11-11-19 | 26.8 | 33.50 | 52.0 | 78.0 | 0.0 | Sunny |
| 12-11-19 | 33.6 | 26.90 | 80.0 | 54.0 | 0.0 | Sunny |
| 13-11-19 | 26.4 | 30.90 | 65.0 | 81.0 | 0.0 | Sunny |
| 14-11-19 | 26.9 | 32.80 | 55.0 | 81.0 | 0.0 | Sunny |
| 15-11-19 | 26.2 | 32.50 | 60.0 | 89.0 | 0.0 | Sunny |
| 16-11-19 | 26.7 | 31.60 | 63.0 | 87.0 | 0.0 | Sunny |
| 17-11-19 | 26.7 | 32.80 | 57.0 | 87.0 | 1.4 | Sunny/Rainy |
| 18-11-19 | 27.2 | 31.50 | 69.0 | 87.0 | 3.0 | Sunny/Rainy |
| 19-11-19 | 27.1 | 33.90 | 54.0 | 83.0 | 2.2 | Sunny/Rainy |
| 20-11-19 | 26.7 | 32.20 | 63.0 | 89.0 | 5.7 | Sunny/Rainy |
| 21-11-19 | 26.0 | 30.80 | 67.0 | 90.0 | 27.0 | Rainy |
| 22-11-19 | 25.1 | 30.8 | 67 | 91 | 6.5 | Rainy |
| 23-11-19 | 25.4 | 30.3 | 65 | 89 | 0 | Sunny & Cloudy |
| 24-11-19 | 25 | 29.8 | 69 | 82 | 0 | Sunny & Cloudy |
| 25-11-19 | 25.4 | 30.5 | 64 | 82 | 0 | Sunny |
| 26-11-19 | 25.4 | 31.1 | 61 | 91 | 0 | Sunny |
| 27-11-19 | 25.9 | 31 | 67 | 89 | 16.8 | Cloudy & Rainy |
| 28-11-19 | 25.9 | 30.5 | 71 | 93 | 35 | Cloudy & Rainy |
| 29-11-19 | 25.2 | 30 | 73 | 97 | 105 | Cloudy & Rainy |
| 30-11-19 | 25.8 | 27.1 | 90 | 97 | 45 | Cloudy & Rainy |

Various issues related to environment and safety, such as traffic management, safety signage's, 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.

1. Road Safety Meeting Organized for Sub Contractors at Patteeswaram Camp.

## 9. Support Required from NHAI

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 in Thanjavur District. – Request Authority to advise/instruct the Competent Authority of Land Acquisition to speed up the process of disbursement of pending payment.

2. Permission from Local Authorities for procurement of Borrow Earth for Irrigation Tanks.

3. Rerouting of existing canal between Km.146+600 to 148+100

4. NOC from PWD/WRO, Govt of Tamilnadu for construction of Minor Bridge(17 Nos) and Major Bridge (05 Nos)

5. NOC from PWD/WRO, Govt of Tamilnadu for construction of project highways in the existing ponds (in a length of 1.667 Kms).

6. Removal/relocation of existing irrigation sluice and regulator in the locations of Km:150+800, Km:152+900 & Km:134+770.

7. Additional land acquisition for Toll plaza location, Bus bays. Turning radius at Major junctions.

8. Permission for Removal of Teak wood trees from the Project Highway in length of 680m.

9. Removal of Religious structures of 13 Nos. and Bus stand from the proposed ROW.

10. Removal of Government Buildings like VAO office, School, Post Office & Ration Shop etc. in 15 nos. of locations.

11. Removal of unauthorized occupations in 25 nos. of locations in the project highways.

12. Hindrances/Occupations/Land Acquisition issues in the following locations due to various reasons,

| Sl. No | From | To | Effected Length in ( M ) | Nature of Hindrance | Survey No | Name of Village | Name of Land Owner |
|---|---|---|---|---|---|---|---|
| 1 | 138+400 | 138+480 | 520 m | Court Stay | 4/4A | Thiruvalanzuli | Mr.Dharmalingam |
| 2 | 138+500 | 138+540 | | Court Stay | - | Thiruvalanzuli | Mr.Shanmugam |
| 3 | 138+750 | 138+850 | 500 m | Court Stay | | Thiruvalanzuli | Mr.Dhahshnamoorthy , Mr.Rajini, Mr.nagaraj |
| 4 | 142+100 | 142+200 | 500 m | Payment Issue | 326/1, 326/2, 326/3, 326/4, 326/5, 326/ 6 | Gopurajapuram | Mr.Pakir Mohammed 9566541123 |
| 5 | 161+100 | 161+200 | 1000 m | LA issues | 3/1A,3/1B | Kadakadapai | Ms Tamilselvei |
| Total Effected Length in Meters | | | 2520 | | | | |

Table 10.1. Details of Important Events

| Sl. No | Date of Events | Description of Events | Remarks |
|---|---|---|---|
| 1) | 19.11.2019 | Progress Review Meeting at Pateeswaram Camp with IE Officials | |

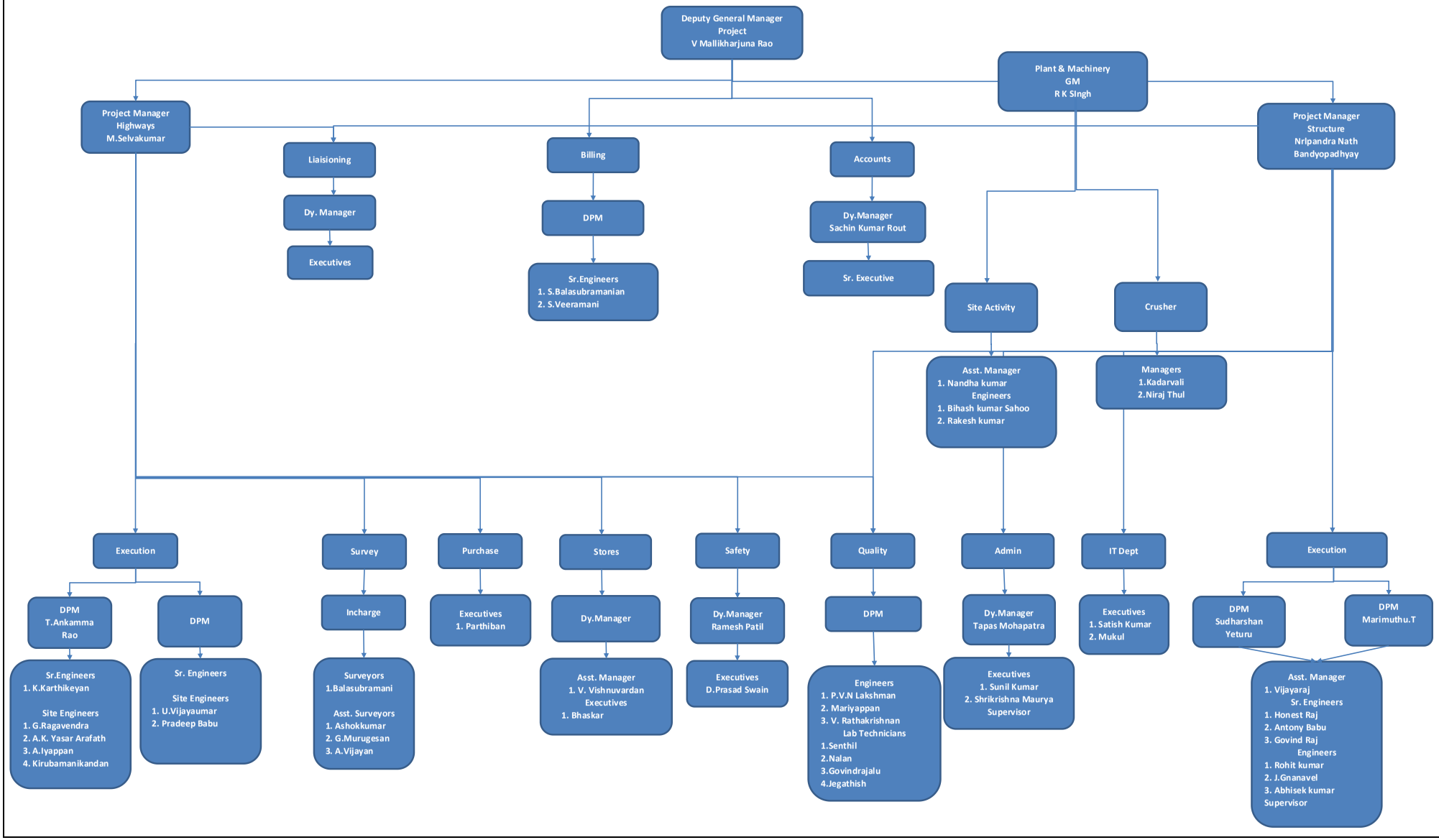
# 11. Organization Chart

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

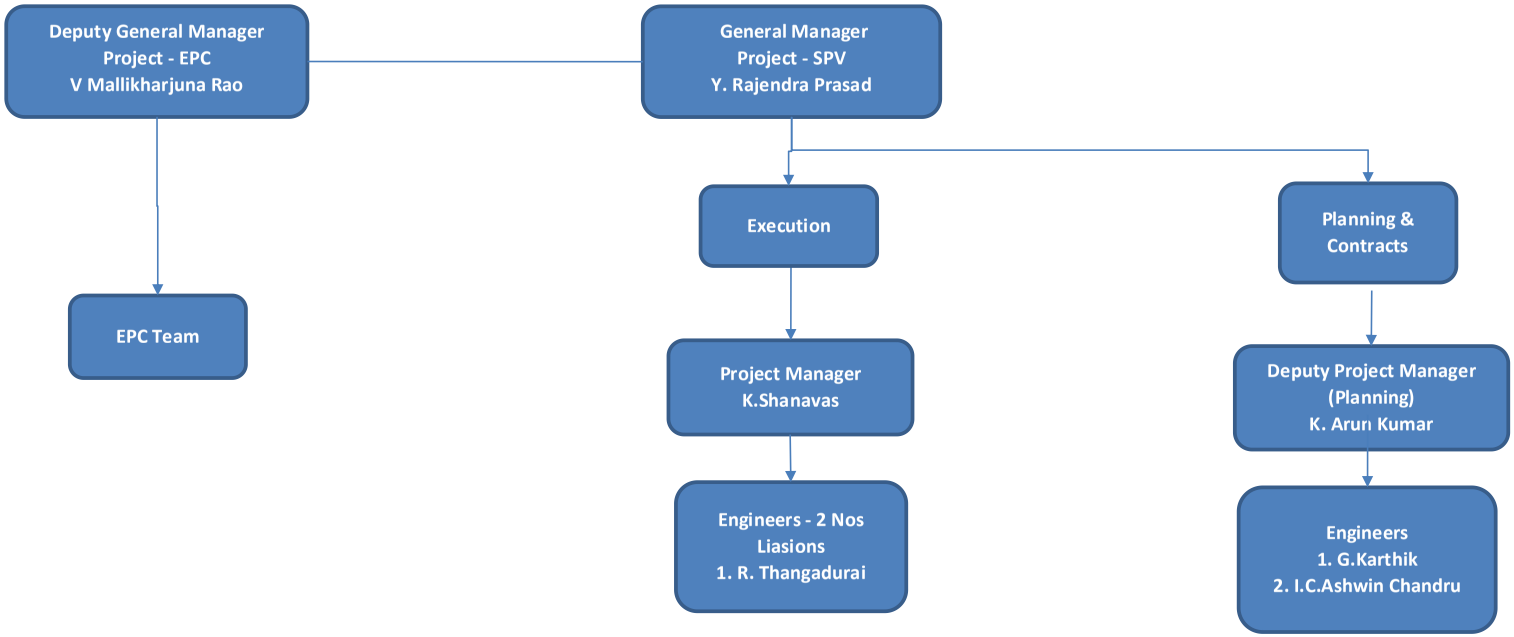
1. Fig. 4 - Organization Chart - EPC Team

2. Fig. 5 - Organization Chart - SPV Team

## Figure 4 - ORGANAIZATION CHART - EPC TEAM



## Figure 5 - ORGANAIZATION CHART - SPV TEAM



## 12. List of Plants, Machinery and Equipment's

| S.No | Name of the Machinery | Capacity / Model | Mobilized at Site | Remarks |
|---|---|---|---|---|
| 1 | Grader | 120K2 | 5 | |
| 2 | Excavator/JCB | JCB-220 | 6 | |
| 3 | Dozer | | 1 | |
| 4 | Soil Compactor | HAMM 311 | 4 | |
| 5 | Backhoe Loader | JCB 3DX | 5 | |
| 6 | Tipper | Bharat Benz- 3128C | 16 | |
| 7 | Transit Mixer | 2523C | 11 | |
| 8 | Loader | 455 ZX | 6 | |
| 9 | Trailer | | 3 | |
| 10 | Water Tanker | | 8 | |
| 11 | Diesel Tanker | | 3 | |
| 12 | Boom Placer | S-36 | 0 | |
| 13 | Tractor | 5036 D V-2 | 3 | |
| 14 | Mobile Service Van | | 1 | |
| 15 | Tower Light | AJASKY | 3 | |
| 16 | Hydra Crane | | 4 | |
| 17 | Asphalt Batch Mix Plant | | 1 | |
| 18 | Wet Mix Plant | 250 TPH | 1 | |
| 14 | Concrete Batch Mix Plant 45 cum | 45 cum | 2 | |
| 15 | Concrete Batch Mix Plant 60 cum | 60 cum | 1 | |
| 16 | Crusher Plant (3 Stage) | 250 TPH | 3 | |
| 17 | Weigh Bridge for Camp 100MT | 100MT | 2 | |
| 18 | Weigh Bridge for Crusher 100MT | 100MT | 1 | |
| 19 | Genset Base Camp | 25KV | 2 | |
| 20 | Genset (Crusher) 63KVA | 63KVA | 3 | |
| 21 | Genset (H.M & B/P) | 82.50KV | 3 | |
| 22 | Genset (B/P-CP-45) | 125KV | 1 | |
| 23 | Genset 650 KVA | 650 KVA | 1 | |
| 26 | Genset (Crusher) | 1010KVA | 3 | |
| 27 | Genset 15KVA | 15KVA | 1 | |

| 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 | Upgradation strengthening the Incident Management services. | 10.05.2019 | IE recommended to Authority vide ref.148 for issuance under COS and is under scrutiny with Authority | NA | NA |
| 3 | Construction of Major Bridge at Km 131+963- under Change of Scope | 01.06.2019 | IE recommended to Authority vide ref.141 for issuance under COS. | NA | NA |

# 14. Details of Correspondences

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

## 15. Progress Photographs

| Sl. No | Description | Location | Side | Remarks |
|---|---|---|---|---|
| 1. | DISMANTLING OF EXISTING STRUCTURES IS IN PROGRESS | 125+810 | LHS | |
| 2. | DISMANTLING OF EXISTING STRUCTURES IS IN PROGRESS | 120+450 | RHS | |


| Sl. No | Description | Location | Side | Remarks |
|---|---|---|---|---|
| 3. | DISMANTLING OF EXISTING STRUCTURES IS IN PROGRESS | 130+300 | RHS | |
| 4. | DISMANTLING OF EXISTING STRUCTURES IS IN PROGRESS | 121+290 | RHS | |


| Sl. No | Description | Location | Side | Remarks |
|---|---|---|---|---|
| 5. | MAINTAINENCE OF EXISTING ROAD IS IN PROGRESS | | | |
| 6. | MAINTAINENCE OF EXISTING ROAD IS IN PROGRESS | | | |

| Sl. No | Description | Location | Side | Remarks |
|---|---|---|---|---|
| 7. | EMBANKMENT IS IN PROGRESS | 161+750 | LHS | |
| 8. | EMBANKMENT IS IN PROGRESS | 162+490 | BHS | |

| Sl. No | Description | Location | Side | Remarks |
|---|---|---|---|---|
| 9. | EMBANKMENT TOP COMPACTION IS IN PROGRESS | 160+200 | | |
| 10. | SUBGRADE TOP COMPACTION IS IN PROGRESS | 161+300 | | |

| Sl. No | Description | Location | Side | Remarks |
|---|---|---|---|---|
| 11. | EMBANKMENT 4TH LAYER IS IN PROGRESS | 160+300 | RHS | |
| 12. | SUBGRADE TOP COMPACTION IS IN PROGRESS | 161+110 | RHS | |

| Sl. No | Description | Location | Side | Remarks |
|---|---|---|---|---|
| 13. | BOX CULVERT – TOP SLAB CONCRETING IS PROGRESS | 129+260 | LHS | |
| 14. | BOX CULVERT – RETURN WALL SHUTTERING COMPLETED | 160+658 | LHS | |

| Sl. No | Description | Location | Side | Remarks |
|---|---|---|---|---|
| 15. | BOX CULVERT – SLAB CONCERTING IS IN PROGRESS | 132+742 | LHS | |
| 16. | BOX CULVERT – SLAB REINFORCEMENT IS IN PROGRESS | 163+700 | LHS | |

| Sl. No | Description | Location | Side | Remarks |
|---|---|---|---|---|
| 17. | MNB – RAFT SHUTTERING IN PROGRESS | 158+994 | RHS | |
| 18. | MNB – SLAB CURING IN PROGRESS | 141+760 | LHS | |

| Sl. No | Description | Location | Side | Remarks |
|---|---|---|---|---|
| 19. | PUP – BRACKET DESHUTTERING IN PROGRESS | 147+951 | BHS | |
| 20. | PUP – SLAB SHUTTERING IN PROGRESS | 147+951 | LHS | |

| Sl. No | Description | Location | Side | Remarks |
|---|---|---|---|---|
| 21. | GSI- ABUTMENT WALL CURING IN PROGRESS | 134+028 | RHS | |
| 22. | GSI- ABUTMENT WALL SHUTTERING IN PROGRESS | 157+188 | LHS | |


| Sl. No | Description | Location | Side | Remarks |
|---|---|---|---|---|
| 23. | VUP- A2 SIDE PIER CAP REINFORCEMENT IN PROGRESS | 136+307 | RHS | |
| 24. | VUP- GIRDER DESHUTTERING IN PROGRESS | 128+715 | LHS | |

| Sl. No | Description | Location | Side | Remarks |
|---|---|---|---|---|
| 25. | VUP – WALL CONCRETING IN PROGRESS | 136+307 | LHS | |
| 26. | VUP – G7 GIRDER SHUTTERING IN PROGRESS | | RHS | |

| Sl. No | Description | Location | Side | Remarks |
|---|---|---|---|---|
| 27. | VUP – PIER CAP CURING IN PROGRESS | 136+307 | BHS | |
| 28. | VUP – WALL FINAL LIFT CONCRETING IN PROGRESS | 139+477 | | |