

Minutes of the 9th State Level Technical Committee (SLTC) of Atal Mission for Rejuvenation and Urban Transformation (AMRUT) held on 12th July 2017 at 10.30AM in the Chamber of Principal Secretary, Local Self Government Department, Government of Kerala.

Members Present:

1. Sri. A Shajahan IAS, Secretary, LSGD
2. Sri. P.S. Muhammed Sagir IAS, Mission Director, AMRUT
3. Smt. Vijaya Francis, Dy. Mayor, Kollam
4. Sri. Krishna Kumar, Vice chairman, Palakkad Municipality
5. Sri. Haris.S, Chief Engineer, KWA
6. Sri. Shaji Joseph, Chief Town Planner (Planning), LSGD
7. Smt. T.R.Rajeswary, Under Secretary, Finance Department
8. Smt. Resmi Raveendran, Under Secretary, Power Department
9. Smt. Deepthi Bhanu, Dy. Chief Engineer (PWD, R&B)
10. Sri. Shaheem.S, Senior Scientist, NATPAC
11. Smt. Sheela, Exe. Engineer LSGD

The meeting of State Level Technical Committee commenced at 10.30.Am in the Chamber of Principal Secretary, Local Self Government Department Chaired by the Secretary, LSGD.

Agenda Item No. 1. Approval of the Minutes of the 7th SLTC held on 16.06.2017 and the 8th SLTC held on 28.06.2017.

Decision

The SLTC approved the Minutes of the 7th SLTC held on 16.06.2017 and the 8th SLTC held on 28.06.2017.

Agenda Item No. 2. Action taken report on the decisions of 7th and 8th meeting of SLTC

2.1 Administrative sanction for DPRs

The 7th SLTC held on 16.07.2017 had reviewed 16 DPRs worth Rs 120.54Cr from three mission cities viz. Thiruvananthapuram, Kochi and Guruvayoor and recommended to place them before the next State High Powered Steering Committee (10th SHPSC) for Administrative sanction. Similarly, another 4 DPRs worth Rs 23.16 Cr. in Urban Transport sector from Palakkad Municipality has been recommended to the SHPSC by the 8th SLTC held on 28.07.2017.

2.1.1 Action taken

Total 20 projects amounting to Rs.143.70 Cr have been recommended for AS to the 10th SHPSC to be held on 14th July 2017.

2.2 HR support for KWA

The 7th SLTC decided not to give any consultancy fee to KWA for preparing DPRs in water supply and sewerage sectors, but to reimburse cost on actuals upon the submission of bills for all types of surveys carried out during DPR preparation. Also, HR cost of Rs.33.25 lakhs from AMRUT A&OE was sanctioned to develop and maintain web based monitoring portal for water supply projects under AMRUT

2.2.1 Action taken

Mission Director has initiated the process of releasing payment of Rs.33.25lakhs to Managing Director, KWA from AMRUT A&OE funds for survey works and monitoring system.

2.3 Credit rating of mission cities.

SLTC decided to call for a special meeting of the Secretaries of the Mission Cities chaired by the Director-Urban Affairs, to discuss the implications of the credit rating & its follow up action and further to place it in the SLTC.

2.3.1 Action taken

Director, Urban Affairs has scheduled a meeting with the Secretaries of Mission cities during the third week of July 2017 to finalise the follow up action.

2.4 AMRUT reforms 2016-17.

The Director of Urban Affairs suggested to Team Leader SMMU to submit a note on the reform milestones of 2016-17

2.4.1 Action taken

Team Leader SMMU submitted a note regarding AMRUT reform milestones of 2016-17 to the Director Urban Affairs.

Decision

The committee took note of the action taken report of SLTC meeting

Agenda Item No. 3. Administrative sanctions to the projects

The Mission Directorate has received 61 projects amounting to Rs.156.63 Cr from five mission cities viz. Kollam , Alappuzha, Palakkad, Thiruvananthapuram and Kochi.

SLTC reviewed each project placed for AS in detail and the comments are enclosed as Annexure I. The committee decided to recommend 40 projects amounting to Rs. 121.13 Cr for the consideration of SHPSC. Remaining 21 projects amounting to Rs.35.5 Cr to be reworked. (enclosed as Annexure II) The list of projects recommended to SHPSC (40 Projects) is below

KLM - SWD -

STORM WATER DRAINAGE – 29 Projects		
PALAKKAD MUNICIPALITY – 29 Projects		
SL.No	Project Name	Project Cost RsCr
1.	Kalvakkulam Thodude silting and side wall (from stadium stand to Ramanandapuram)	1.54
2.	Widening of Manappillikkavu Thirunellayi stream and construction of bridge	2.00
3.	Rejuvenation of drains around Sakunthala junction and construction of tertiary drains	2.00
4.	Rejuvenation of drains at housing board colony, Mattumantha, Shekaripuram junction and construction of tertiary drains.	3.00
5.	ThirunellayiManappullikkavuThodu	2.00
6.	Selvapalayam- Indira Nagar	0.30
7.	ChadanaKurissi	0.30
8.	Arayakulam	0.50
9.	Parakkunnam-Narikuthi	0.50
10.	Sree Rama Palayam	0.40
11.	Kalikkadu	0.40
12.	Karim Nagar	0.70
13.	New colony	0.50
14.	Chakkamthara- Kaikuthuparambu	0.70
15.	Karukoodi	0.50
16.	Salamath Nagar	0.30
17.	Poolakkad	0.20
18.	Mission school	0.20
19.	Kaalambuzhathodu	0.30
20.	Selvinagarthodu	0.50
21.	ManakkaThodi secondary drain	0.50
22.	Mattumantha – palayam-Chuliyodu	0.35
23.	Sasthrinagar- PVR nagar- Anjali gardens	0.22
24.	Vadakkanthra road secondary drain	1.00
25.	GB road to Noorjahan secondary drain	0.50
26.	GB road to Noorjahan secondary drain	0.28
27.	Maettupalayam street drain	0.70
28.	Kunnathoormedu drain	0.50
29.	Olavakkode- Near co operative	0.45
Green Space & Parks– 3 Project		
ALAPPUZHA MUNICIPALITY – 1 Project		
30.	Town Square in Alapuzha	0.70
KOLLAM MUNICIPAL CORPORATION – 2 Projects		
31.	T.K Divakaran& Nehru Park - Improvement & Renovation of Existing Park	0.518
32.	T.M Varghese Park and adjacent area -	0.660

	Improvement & Renovation of Existing Park	
	Urban Transport -1 project	
	KOLLAM MUNICIPAL CORPORATION – 1 Project	
33.	Stair case in Over bridge near municipal building chinnakada	0.2
	WATER SUPPLY- 5 Projects	
	KOLLAM MUNICIPAL CORPORATION – 2 Projects	
34.	Rain Water Harvesting Phase I -2015-'16	2.667
35.	Rain Water Harvesting Phase I -2016-'17	2.667
	ALAPPUZHA MUNICIPALITY -1 Project	
36.	Water Supply Sector- Augmentation & modernisation of water supply Distribution system in Alappuzha Municipality(phase II)	56.87
	KOCHI MUNICIPAL CORPORATION – 2 Projects	
37.	Laying of 500mm transmission line from karthikadavu to proposed pachalam CWR	10.70
38.	Water Supply Sector-Kochi Corporation-Laying 500mm DI line from pump house at Thamanam to OHSR at kadavanthara.	7.65
	SEWERAGE SECTOR– 2 Projects	
	THIRUVANANTHAPURAM MUNICIPAL CORPORATION – 2 Projects	
39.	Providing new net work in the missing Areas of the core city in THIRUVANANTHAPURAM	7.98
40.	Rehabilitation of existing net work in the missing area of core city	3.84
	Total	121.13

Activity: Recommendation of approved projects to SHPSC

Action by	Date	Monitoring by
Smt. Bhagavathy Iyer Team Leader SMMU	10.08.2017	Sri. P.S.Mohammed Sagir Mission Director, AMRUT

Agenda Item No. 4. CHANGE OF PROJECTS APPROVED IN SAAP

Municipal Corporation of Kozhikode vide letter No. EG-12/30199/16 has informed the Mission Director that a multi level parking complex at Stadium Junction amounting to Rs.14.12 Cr proposed in SAAP 2016-17 under Urban Transport has been cancelled as ULB decided to develop it through PPP model (BOT). Subsequently, the council approved the cancellation of project from

Urban transport and to transfer the project cost to Sewerage Sector for the project – Construction of sewerage system in Zone A.

The SLTC observed that as per the guideline of MOUD in case of cancellation of projects, new projects may be taken up only in the priority sectors of AMRUT i.e., Water Supply and Sewerage and Septage Management Sectors. Hence SLTC decided to consider the request of Kozhikode corporation to change project from Urban Transport to Sewerage sector and the project change is recommended to SHPSC for approval

Action by	Date	Monitoring by
Sm t. Bhagavathy Iyer Team Leader SMMU	10-08-2017	Sri. P.S.Mohammed Sagir Mission Director, AMRUT

Agenda Item No. 5. SELECTION OF CONSULTANTS

As per the decision of 5th SLTC, the Mission Cities were directed to select consultants for DPR preparation from the list of consultants empanelled by LSGD under various projects/programmes.

- 5.1** In Guruvayur, for Urban transport sector, consultants outside the empanelled list also participated in the open tendering process. The municipality has selected M/s Muralee Associates as consultant at a fee of 1.1% fixed as consultancy fee. The council has approved the selection of the consultant

SLTC observed that ULB has selected the consultant through Competitive bidding process and all the procedures for consultant selection had been followed by Guruvayur municipality. The consultant who quoted the lowest rate of consultancy fee of 1.1% of DPR is selected for the assignment. Therefore, SLTC ratified the selection of M/s Muralee Associates for the preparation of DPRs in Urban transport sector.

- 5.1.1** In Kannur, despite of repeated tendering in Open spaces and parks sector, no response was received from the empanelled consultants. Hence the municipality has sought permission to entrust Steel Industries Limited Kerala(SILK) who have expressed their willingness to take up the DPR preparation in Parks sector

SLTC deliberated on the profile of SILK and directed the corporation of Kannur to review the technical competence of SILK in the park sector and the criteria for evaluation shall be.


The consultant shall have minimum of 3 years of experience in preparing the DPR for parks. with a project cost not less than 50% of the project cost of proposed parks projects in Kannur under AMRUT.

The supporting documents showing the experience of SILK in park to be submitted along with photos and certificate of completion from the respective clients

The meeting was concluded at 3.30 PM


Mission Director, AMRUT

P. S. MOHAMMED SAIF IAS
Mission Director
State Mission Management Unit (SMMU)
AMRUT Kerala, Thiruvananthapuram


Secretary' (LSGD)

A. SHAJAHAN IAS
Secretary to Government
Local Self Government Department
Govt. Secretariat, Thiruvananthapuram-1.
Tel: 0471--2517058, 2335311

ANNEXURE 1 (Projects Considered for Administrative Sanction) - 9th SLTC

1	STORM WATER DRAINAGE	
KOLLAM MUNICIPAL CORPORATION – (3 Projects)		
1.1	Uliyakovil - Ashtamudi Drain-Phase II	2.357
1.2.1	Uliyakovil Area Phase III	2.232
1.2.2	Kuttichira-Kilikolloor Area	1.051
1.2.3	Mangad-Arunoottimangalam-Karikkodu Area	2.456
1.2.4	Thangasserry Area	2.860
1.2.5	Sakthikulangara Area	5.211
1.3.1	Vadakkevila-Eravipuram Area	3.852
1.3.2	Pullikkada Colony	1.594
1.3.3	SMP Colony	0.792
1.3.4	Mundakkal Area	0.799
1.3.5	Kavanad Area (Right side of NH 47- Kollam to Ernakulam)	1.225
	Remarks SLTC directed the ULB/CMMU to rework all the 3 Projects considering the full integrated Drainage network map of the municipality ensuring connectivity in full length, tail ends discharge location, carrying capacity of the primary and secondary drains, provisions adopted for prevention of solid waste disposal etc.	
PALAKKAD MUNICIPALITY – (29 Projects)		
1.4	Kalvakkulam Thodude silting and side wall (from stadium stand to Ramanandapuram)	1.54
1.5	Widening of Manappillikkavu Thirunellayi stream and construction of bridge	2.00
1.6	Rejuvenation of drains around Sakunthala junction and construction of tertiary drains	2.00
1.7	Rejuvenation of drains at housing board colony, Mattumantha, Shekaripuram junction and construction of tertiary drains.	3.00
1.8	Thirunellayi Manappullikkavu Thodu	2.00
1.9	Selvapalayam- Indira Nagar	0.30
1.10	Chadana Kurissi	0.30
1.11	Arayakulam	0.50
1.12	Parakkunnam-Narikuthi	0.50
1.13	Sree Rama Palayam	0.40
1.14	Kallikkadu	0.40
1.15	Karim Nagar	0.70
1.16	New colony	0.50
1.17	Chakkamthara- Kaikuthuparambu	0.70
1.18	Karukoodi	0.50
1.19	Salamath Nagar	0.30
1.20	Poolakkad	0.20



1.21	Mission school	0.20
1.22	Kaalambuzzhathodu	0.30
1.23	Selvinagarthodu	0.50
1.24	Manakka Thodi secondary drain	0.50
1.25	Mattumantha – palayam–Chuliyodu	0.35
1.26	Sasthrinagar- PVR nagar- Anjali gardens	0.22
1.27	Vadakkanthra road secondary drain	1.00
1.28	GB road to Noorjahan secondary drain	0.50
1.29	GB road to Noorjahan secondary drain	0.28
1.30	Maettupalayam street drain	0.70
1.31	Kunnathoormedu drain	0.50
1.32	Olavakkode- Near co operative	0.45

Remarks:

- The SLTC asked the ULB/CMMU Team to present their storm water sector projects based on the full integrated Drainage network map of the municipality ensuring ,connectivity in full length , tail ends discharge location, carrying capacity of the primary and secondary drains, provisions adopted for prevention of solid waste disposal etc.
- The ULB Engineers Presented the projects in detail with integrated map of proposed projects with the existing drainage network map of municipality. Clarified the questions regarding the last receiving point, connectivity, carrying capacity of the drains etc with maps, cross section details etc .
- The ULB/CMMU team should make ensure the comments of 8th SLTC for Storm water sector ^(All conditions in the checklist) are incorporated in the DPRs before approval of the projects in the next SHPSC

All the 29 DPRs from Palakkad Municipality under Strom Water Sector were recommended for the consideration of SHPSC.

2 Green Space & Parks

ALAPPUZHA MUNICIPALITY – (3 Projects)

2.1	Chatanadu Park - 0.50 Cr. <u>Remarks</u> Total area of chathanad park is 24 cents and the estimated amount is around 50 lakhs. Hence the Committee directed to rework the project. An asset management strategies for the parks to be incorporated in the DPR.	
2.2	ValiyaChudukadu Park – 0.55 Cr. <u>Remarks</u> Total area available at valiyachudukad park is 2.42 acres and the space utilised for the project is only 52 cents . Hence the SLTC directed to rework the project considering the more space available for development.	



2.3	Town Square - 0.70 Cr. Remarks <ul style="list-style-type: none">The committee observed that the estimated cost for the project is 70 lakhs against the total allocated amount of 40 lakhs in SAAP 2016-17. Committee sought clarification regarding the additional source of fund (30 lakhs) met for the Town Square Project. .The Secretary of Alappuzha Municipality clarified that the additional amount of 30 lakhs will be met with in the total allocated amount for Alappuzha Municipality, under Green space & Parks sector which is admissible. The same is reflected in the approved final SLIP also.	
	DPR for Town Square project recommended for the consideration of SHPSC	
KOLLAM MUNICIPAL CORPORATION (3 Projects)		
	ULB/CMMU team of Kollam had presented 3 projects worth 4.74 Cr	
2.4	T.K Divakaran & Nehru Park - Improvement & Renovation of Existing Park	0.518
2.5.1	T.M Varghese Park and adjacent area - Improvement & Renovation of Existing Park	0.660
2.5.2	Park at Asramam near Traffic Police station - Development of New Park	1.319
2.5.3	Kambiyilkulam, Thrikkadavoor - Development of New Park	0.273
2.6.1	Thirumullavaram- Ozhukkuthodu - Development of New Park	0.576
2.6.2	Veliyilkulangara - Development of New Park	0.283
2.6.3	Thanni - Development of New Park	0.170
2.6.4	Thoppilkadavu - Development of New Park	0.556
2.6.5	Kilikolloor-Elavanthi - Development of New Park	0.179
2.6.6	Poyalathodu – Development of Green Belt	0.142
2.6.7	Thattamala- Development of Green Belt	0.022
2.6.8	Mevaram- Development of Green Belt	0.051
	Remarks: DPRs for 2 projects (Sl. No. 2.4 T.K Divakaran & Nehru Park and Sl. No. 2.5.1 T.M Varghese Park and adjacent area) recommended for the consideration of SHPSC For remaining DPR/Project under parks sector from Kollam, the ULB should produce ownership details/documents, clearance certificate required from Revenue, NH, PWD departments at the next SLTC for recommending to SHPSC.	
PALAKKAD MUNICIPALITY		
	ULBhad submitted 11projects under parks sector amounting to Rs.3.66 Cr.	
2.7	Kasim colony park Palakad	0.50
2.8	Aiswarya Nagar Park	0.50



2.9	Dr Krishnan park	0.50
2.10	Krishnamenon park	0.25
2.11	Yakkara Park	0.41
2.12	Salamathnagar Park	0.35
2.13	Jaladha Nagar Park	0.25
2.14	Rose Garden Park	0.25
2.15	Vandana Park	0.20
2.16	Gandhi Nagar Park	0.20
2.17	Venkiteshwara Garden	0.25
	Remarks: The SLTC noticed that the estimates for parks are high and suggested to rework the projects of Palakkad and to present to the next SLTC	
3	Urban Transport	
KOLLAM MUNICIPAL CORPORATION (5 Projects)		
	ULB/CMMU Team had presented 5 projects under Urban Transport sector amounting to Rs.7.90 Cr.	
3.1.1	FOB at Convent Junction	0.905
3.1.2	FOB at Hospital Junction	0.720,
3.1.3	FOB at SN College Junction	0.684
3.2.1	Memu Shed – A R Camp Foot Path	0.361
3.2.2	Railway station – Chemmamukku	0.947
3.2.3	Karbala Jn – S N College	0.856
3.2.4	S N College – A R Camp	0.145
3.2.5	Chinnakkada – Kollam Beach (Beach road)	0.799
3.3.1	Link road	0.123
3.3.2	Chinnakada – Kadappakada	0.677
3.3.3	SBI Jn – Rail Cross (YMCA Road)	0.379
3.3.4	Chinnakada- Payikkada Road	0.695
3.4.1	Bus shelter -1 (4*1.5) 11Nos	0.217
3.4.2	Bus shelter -2 (6*1.5)	0.108
3.4.3	Bus shelter -3 (3*1.5)	0.036
3.4.4	Bus shelter -4 (3*1.5 –without seating)	0.032
3.4.5	Bus shelter -1 (4*1.5) above Drain	0.022
3.5	Stair case in Over bridge near municipal building Chinnakada	0.20
	Remarks: Approved only one project (SL. No. 3.5, Stair case in Over bridge near municipal building Chinnakada) and the project was recommended for the consideration of SHPSC Comments on remaining 4 projects Advised to rework the projects and to present in the next SLTC based on the checklist for Urban Transport, previous comments of SLTC meetings for bus shelter, Foot paths and FOBs.	



4.	WATER SUPPLY- 5 Projects	
KOLLAM MUNICIPAL CORPORATION - 2 Projects		
4.1	Rain Water Harvesting Phase I -2015-'16	2.667
4.2	Rain Water Harvesting Phase I -2016-'17	2.667
<i>DPRs recommended for the consideration of SHPSC</i>		
ALAPPUZHA MUNICIPALITY -1 Project		
4.3	Water Supply Sector- Augmentation & modernisation of water supply Distribution system in Alappuzha Municipality(phase 11)	56.87
<i>DPR recommended for the consideration of SHPSC.</i>		
KOCHI MUNICIPAL CORPORATION- 2 Projects		
4.4	Laying of 500mm transmission line from Karthikadavu to proposed pachalam CWR	10.70
4.5	Water Supply Sector-Kochi Corporation-Laying 500mm D1 line from pump house at Thamanam to OHSR at kadavanthara.	7.65
<i>DPRs recommended for the consideration of SHPSC</i>		
5.	SEWERAGE SECTOR	
THIRUVANANTHAPURAM- (2 Projects)		
5.1	Providing new net work in the missing Areas of the core city in Thiruvananthapuram	7.98
5.2	Rehabilitation of existing net work in the missing area of core city	3.84
<i>DPRs recommended for the consideration of SHPSC</i>		



Annexure II (Projects to be reworked – 21 Nos.) – 9th SLTC

1	STORM WATER DRAINAGE – 3 Projects	
	KOLLAM MUNICIPAL CORPORATION	
Sl.No	Project Name	Project Cost Rs in Cr
1.1	Uliyakovil - Ashtamudi Drain-Phase II	2.357
1.2.1	Uliyakovil Area Phase III	2.232
1.2.2	Kuttichira-Kilikolloor Area	1.051
1.2.3	Mangad-Arunoottimangalam-Karikkodu Area	2.456
1.2.4	Thangasserry Area	2.860
1.2.5	Sakthikulangara Area	5.211
1.3.1	Vadakkevila-Eravipuram Area	3.852
1.3.2	Pullikkada Colony	1.594
1.3.3	SMP Colony	0.792
1.3.4	Mundakkal Area	0.799
1.3.5	Kavanad Area (Right side of NH 47- Kollam to Ernakulam) in Kollam	1.225
2	Green Space & Parks – 14 Projects	
	ALAPPUZHA MUNICIPALITY	
2.1	Chatanadu Park in Alapuzha	0.50
2.2	ValiyaChudukadu Park in Alaouzha	0.55
	KOLLAM MUNICIPAL CORPORATION	
2.3.1	Park at Asramam near Traffic Police station - Development of New Park	1.319
2.3.2	Kambiyilkulam, Thrikkadavoor - Development of New Park	0.273
2.4.1	Thirumullavaram- Ozhukkuthodu - Development of New Park	0.576
2.4.2	Veliyilkulangara - Development of New Park	0.283
2.4.3	Thanni - Development of New Park	0.170
2.4.4	Thoppilkadavu - Development of New Park	0.556
2.4.5	Kilikolloor-Elavanthi - Development of New Park	0.179
2.4.6	Poyalathodu – Development of Green Belt	0.142



2.4.7	Thattamala- Development of Green Belt	0.022
2.4.8	Mevaram- Development of Green Belt	0.01
	PALAKKAD MUNICIPALITY	
2.5	Kasim colony park Palakad	0.50
2.6	Aiswarya Nagar Park	0.50
2.7	Dr Krishnan park	0.50
2.8	Krishnamenon park	0.25
2.9	Yakkara Park	0.41
2.10	Salamathnagar Park	0.35
2.11	Jaladha Nagar Park	0.25
2.12	Rose Garden Park	0.25
2.13	Vandana Park	0.20
2.14	Gandhi Nagar Park	0.20
2.15	Venkiteshwara Garden	0.25
	Urban Transport -4 projects	
	KOLLAM MUNICIPAL CORPORATION	
3.1.1	FOB at Convent Junction	0.905
3.1.2	FOB at Hospital Junction	0.720.
3.1.3	FOB at SN College Junction	0.684
3.2.1	Memu Shed – A R Camp Foot Path	0.361
3.2.2	Railway station – Chemmamukku	0.947
3.2.3	Karbala Jn – S N College	0.856
3.2.4	S N College – A R Camp	0.145
3.2.5	Chinnakkada – Kollam Beach (Beach road)	0.799
3.3.1	Link road	0.123
3.3.2	Chinnakada – Kadappakada	0.677
3.3.3	SBI Jn – Rail Cross (YMCA Road)	0.379
3.3.4	Chinnakada- Payikkada Road	0.695
3.4.1	Bus shelter -1 (4*1.5) 11Nos	0.217
3.4.2	Bus shelter -2 (6*1.5)	0.108
3.4.3	Bus shelter -3 (3*1.5)	0.036
3.4.4	Bus shelter -4 (3*1.5 –without seating)	0.032
3.4.5	Bus shelter -1 (4*1.5) above Drain	0.022



AMRUT- Check list for Storm water Drainage Sector

Checklist based on the comments of SLTC meetings

1. Need of the project/rationale to be ascertained
2. Expected impact/ result and change in the benchmark
3. Contour Map showing the entire drainage network within the ULB limit
4. Drainage network map along with road network
5. MSL data in all major network points
6. Annual Rainfall data of the city and water shed pattern
7. Last receiving Tail ends capacity with depth,width and discharge in kilolitre/min to the main drain.
8. Primary drains carrying capacity assessment
9. If primary Drain is discharging to any National waterway, possibilities to converge with the proposal of other agencies like KSINC(Kerala State Inland Navigation Corporation) etc to be proposed.
10. Provisions/ proposals to prevent Flooding/ maintain the quality of water.
 - a. Side wall protection
 - b. Strategies to maintain the width and depth on entire length(desilting).
11. Provisions/ proposals to maintain the quality of water.
 - a. In case, Grey water/Black water/other Liquid waste/Solid wastes if disposing/mixing with the drainage, then the provisions to treat these discharges before letting it out to the storm water drain. The details of treatment technology to be an integral part of the DPR.
 - b. Strategies to prevent the disposal of solid waste to secondary and tertiary drains
 - c. Details of encroachment and strategies for rehabilitation

