

V. FLOOD CONTROL

The National Capital Territory of Delhi has been experiencing floods mainly from Sahibi Nadi (passing through Najafgarh Drain in Delhi) and Yamuna River. Local drainage system has also been found to be inadequate to meet the requirement whenever there is heavy rainfall in the catchment of these drains or during inflow of floodwater from adjoining states/in Yamuna River. Several flood mitigating measures like raising and strengthening of Yamuna marginal embankments, remodeling and lining of Najafgarh Drain for a discharge of 10,000 cusecs from Kakraula regulator to its outfall into river Yamuna, strengthening of Dhansa Bund, Construction of supplementary drain to Najafgarh Drain to cater to excessive inflow of flood discharge in the Najafgarh Drain, have been taken up over the years so that there is no repetition of flood like the one experienced in Najafgarh drainage system in 1997 and in Yamuna river during the year 1997-98.

The marginal embankments along Yamuna river in Delhi can withstand discharge upto 2.5 lakh cusecs in the river against the requirement of 3.5 lakh cusecs for a flood frequency of one in hundred year as is suggested by Central Water Commission, Govt., of India. The work relating to construction of supplementary drain to Najafgarh Drain by way of excavation and lining of the drain ; Improvement of Jahangirpuri Drain; Procurement of additional machinery for desilting of trunk drains under the jurisdiction of I&FC Department and remodelling of Bawana Escape are major schemes.

Financial outlay for 10th Five year Plan i.e. 2002-07, Annual Plan 2002-03, Anticipated expenditure & approved outlay for Annual Plan 2003-2004 are given below:

Rs. In lakhs

S.No.	Name of Scheme	Approved outlay for 10 th Five Year Plan (2002-07)	Approved outlay Annual Plan (2002-03)	Anticipated expenditure 2002-03	Approved outlay for Annual Plan 2003-04
1.	Embankment Schemes	1327.00	59.00	79.00	18.00
2.	Drainage Schemes (Including bridges)	11541.00	1561.00	1324.00	1687.00

3.	Anti Erosion Schemes	100.00	8.00	9.00	10.00
4.	Protection of Govt. land	157.00	31.00	78.00	100.00
5.	Liabilities on completed schemes and charged expenditure	700.00	110.00	180.00	150.00
6.	Water Development Schemes	175.00	31.00	30.00	35.00
	Total	14000.00	1800.00	1700.00	2000.00

A. EMBANKMENT

1. Construction of Mundella Bund along Delhi Haryana Border (Bund connecting B.C. outfall drain with Dhansa Minor) (Rs.15.00 lakh Annual Plan 2003-04)

A combined scheme for the construction of B.C.outfall drain and construction of earthen bund connecting B.C.Drain with Dhansa Minor was approved in 1997. During Ist week of Sept.1995 when substantial discharge passed through B.C. outfall drain due to tornado and heavy down pour in Haryana Territory a number of breaches occurred in the banks of B.C.drain in Haryana through which the flood waters entered Delhi territory and inundated the crops of villages Bakkergarh, Mundella Khurd and Mundela Kalan. This again highlighted the need for construction of this bund. Accordingly, the scheme has now been revised as per prevailing market rate for an estimated cost of Rs. 172.95 lakh. The scheme has been approved and A/A & E/S has also been issued in 2001. A provision of Rs. 93.00 lakh has been kept in the 10th Five-Year Plan and Rs. 40.00 lakh in the Annual Plan 2002-03 against which an anticipated expenditure of Rs. 65 lakhs is likely to be incurred in the current financial year and further provision of Rs.15.00 lakh has been approved for Annual Plan 2003-04.

2. Fabrication and installation of gates including procurement of diesel pumps for operation of inlets at RD 180m of RME D/S of Okhla Barrage. (Annual Plan, 2003-04 Rs.2.00 lakh).

The surplus irrigation water from Okhla Effluent Irrigation system coupled with seepage discharge from the ash pond of BTPs outfalls into river Yamuna through an inlet structure at RD 180m of RME d/s of Okhla Barrage. During floods in river Yamuna, this inlet structure is required to be operated frequently to avoid backflow of river water into the agricultural fields and unauthorized colonies existing on the other side of the embankment. The scheme is based on the suggestion of the committee constituted under the chairmanship of Hon'ble Minister of Development to review the effects of heavy floods in river Yamuna on 5.9.95 and to suggest remedial measures. Accordingly, a scheme amounting to Rs. 14.20 lakh was framed to cover the probable cost of fabrication and erection of gates and procurement of two trolley mounted 35 HP diesel pump sets at RD 180m of RME d/s of Okhla Barrage to facilitate quick and easy /frequent operations of the inlets during floods. The scheme has been cleared by the TAC and A/A & E/S has been issued. A provision of Rs. 4.00 lakh has been kept in 10th Five Year Plan and Annual Plan 2002-03 against which an anticipated expenditure of Rs.5 lakh is likely to be incurred in the current financial year and a further provision of Rs.2.00 lakh has been approved for the Annual Plan 2003-04.

3. Installation of mechanically operated gates at outfall of Qudasia Ghat Drain opposite ISBT (Rs. 30.00 lakhs in 10th Plan)

The scheme amounting to Rs. 20.64 lakh has been cleared in TAC and A/A & E/S issued in July, 1996. This scheme was proposed to change the present regulating system, which is being done manually by putting karries with earth filled bags, which is cumbersome process/uneconomical and time consuming. This difficulty has been experienced in the last flood seasons, as other regulators are already having steel gated structure except this drain. In the 9th Five-Year Plan a provision of Rs. 21.00 lakh had been kept but due to change in structural design of gates of regulator, the scheme has been revised for Rs. 43.06 lakh against which an expenditure of Rs. 15.21 lakh has been incurred by 31.3.2002. A provision of Rs. 30.00 lakh has been kept in the 10th Five-Year

Plan and Rs. 15.00 lakh in Annual Plan 2002-03 against which an anticipated expenditure of Rs.9 lakhs is likely to be incurred and the scheme is likely to be completed during 2002-03.

4. **Raising and strengthening of Marginal Bund, embankments on both side of Yamuna River to provide safety against flood of one in hundred year frequency from Okhla barrage to Jaitpur (Rs.1.00 lakhs Annual Plan 2003-04).**

The Central Water Commission has recommended that the marginal embankments along Yamuna River in Urban Area be strengthened to safely carry of flood discharge of 3.5 lakh cusecs to cope with 4.5 lakh cusecs discharge when operating within free board. A provision of Rs. 1200.00 lakh has been kept in the 10th Five Year Plan and Rs. 1.00 lakhs in Annual Plan 2003-04 is being approved for planning and execution of the scheme.

B. Major drainage schemes

The schemes under this head are of construction of major trunk drains. The schemes are necessitated due to increased run off on account of urbanization of the catchment area of the drains. Government of NCT of Delhi has decided that all drains carrying more than 1000 cusecs discharge will be planned and executed by the Irrigation & Flood Control deptt., under Flood Control Sector. Two prominent drainage schemes viz. supplementary Drain and Jahangirpuri Drain are being executed. A provision of Rs. 7995.00 has been kept during 10th Five-Year Plan and Rs. 725.00 lakh in Annual Plan 2002-03 against which an anticipated expenditure of Rs.616.00lakh is likely to be incurred and a further provision of Rs.800.00 lakhs has been approved for the Annual Plan 2003-04.

5. **Construction of Supplementary Drain to N.G.Drain (Phase-I)** **(Rs. 350.00 lakh in Annual Plan 2003-04)**

This is an ongoing scheme which was sanctioned by the Govt. of India at an anticipated cost of Rs. 25.07 crores in the year 1982 under the name "Supplementary Drain to Najafgarh Drain Phase I". This scheme envisages construction of drain taking

off from N.G.Drain, down stream of Kakraula regulator and was aligned along Mungeshpur Drain and Madan Pur Drain by reversing their flows upto village Madanpur Dabas and thereafter through the lands of village Pooth Kalan Ghewara, Madanpur, etc. upto Rohini Complex and thereafter through Rohini Complex upto G.T.Road near village Bhalswa, ultimately outfalling into the river Yamuna along Road No. 50 i.e. N.H.I Bye pass. In spite of the fact that land for entire length for execution in the area upstream of Rohini was required but due to resistance by the land owners and local leaders the alignment had to be changed. Hence, approval of a revised alignment was accorded in the year 1987. The new alignment envisages the construction of drain down stream of Kakraula Regulator along the left side of existing N.G.Drain upto outfall of Nangloi Drain into N.G.Drain and thereafter, along Nangloi Drain by reversing its flow upto the intersection with the originally proposed alignment of supplementary drain. Accordingly, the scheme has been revised for a cost of Rs. 122.87 crores and submitted to the Central Water Commission for Techno - Economical appraisal. Since the revised alignment has already been approved by the Ministry of Water Resources vide their letter dated 25.3.88, the work on changed alignment of the drain has been taken up after obtaining the Go - Ahead sanction of Delhi Administration. The revised schemes provide for excavation of about 1.00 crore cum. of earth, 2.75 lakh sq. Km. of lining, 25 road bridges, two railway bridges, two regulators, 2 aqueducts, and 54 inlets. The drain will have the flood discharge from catchment of 1250 sq. Km. The drain with a capacity of 5000 cusecs will be mainly katcha. Lining will be provided where enough land is not available. About 80% of the work in this scheme has been completed which includes excavation of the drains upto SSWL in a length of 34 Km., excavation of drain upto DBL in a length of 25 Km., 23 road bridges, one railway abridge, three foot bridges, three aqueducts, one syphon, 5 pipe bridges. About 9 lakhs cement concrete tiles required for side lining of about 6.5 Km. length of the drain have also been manufactured. The work of lining and one railway abridge, two road bridges are in progress. It is expected that work on the scheme will be completed during 10th FYP. A provision of Rs. 1240.00 lakhs has been kept in the 10 FYP and Rs. 300.00 lakh in the annual plan 2002-03 against which an anticipated expenditure of Rs.229.00 is likely to be incurred and a further provision of Rs.350.00 lakh has been approved for the Annual Plan 2003-04.

6. Construction of outfall drain for draining of Shalimar Bagh, Jahangirpuri, Azadpur and Model Town Area

(a) Remodelling/improvement of Jahangirpuri Drain (Annual plan 2003-04 Rs.100.00 lakh).

This is a scheme which will provide drainage facility to Model Town, Jahangirpuri, Azadpur, etc. These areas do not have a proper drainage system. As per decision taken by the Chief Secretary (Delhi), Delhi Development Authority, MCD & PWD are to prepare drainage plans for their respective areas Irrigation & Flood Control Department shall construct an outfall drain from the point where discharge of the drain exceeds 1000.00 cusecs. An outlay of Rs. 1950.00 lakh was approved for 9th FYP and A/A & E/S of Rs. 473.80 lakh was issued vide U.O. No.380-A dated 1.9.93. However, work could not be taken up during 1993-94 due to non-availability of land from Delhi Development Authority. A revised scheme has been prepared amounting to Rs. 46.91 crores. The scheme has now been cleared by TAC & FCB and further forwarded to Central Water Commission for its techno-economical appraisal. A pilot earthen sanction for carrying discharge of 200 cusecs alongwith 6 culverts and diversions have been completed subsequently, based on decision taken in a meeting held with Hon. L.G. Delhi on 16.4.2002, the ongoing scheme has been wind up and a new scheme to cater modified discharge with mainly katcha section, has been prepared amounting to Rs.297 lakhs . The scheme shall be put up before TAC & FCB for its approval. In the meanwhile the Hon'ble Lt.Governor of Delhi called a meeting at Raj Niwas on 16.4.2002 to decide the completion of the scheme as quick as possible. After due deliberation it was decided to prepare a fresh proposal which includes the discharge comes from Dhirpur Housing Project of D.D.A. In view of the above a new scheme amounting to Rs.297.00 lakhs has been prepared in consultation with the beneficiary agency i.e. DDA, PWD, and Delhi Jal Board. The scheme envisages lining of a section at some places and remodelling of existing earthen section at some points the scheme will be completed in three year after receiving the A.A & E.S. The earlier proposal already send to C.W.C. has been dropped. A provision of Rs. 3450.00 lakh has been kept for 10th FYP and Rs. 40.00 lakh under annual plan 2002-03 against which an anticipated expenditure of Rs.2 lakhs is likely to be incurred. A provision of Rs. 100.00 lakh has been approved for revised scheme in Annual Plan 2003-04.

7. Procurement of appropriate machinery including Dredger, Bulldozers, Hydraulic Excavators for maintenance of drains under control of Irrigation & Flood Control Department (Rs.350.00 lakh in Annual Plan 2003-04)

Under this scheme the department intends to purchase draglines, dredgers and pocklain machines for carrying out effective desilting of various drains like N.G.Drain, Supplementary drain and other trunk drains. The dragline machines available in the department are very old and obsolete. An outlay of Rs. 450.00 lakh is approved for the 9th FYP against which no expenditure has been incurred. The scheme for procurement of these machines has been prepared and cleared in the 16th TAC meeting held on 21.08.2000 and 25th meeting of the Flood Control Board meeting held on 5.12.2000. A provision of Rs. 3000.00 lakh has been kept in the 10th FYP for procuring additional earth moving machines and Rs. 385.00 lakh in the annual Plan 2002-03 against which an anticipated expenditure of Rs.385 lakhs is likely to be incurred and a further provision of Rs.350.00 lacs is approved for the Annual Plan 2003-04 to procure additional machinery

**8. REMODELLING/IMPROVEMENT OF EXISTING DRAINS.
(Rs.517.00 lakh for Annual Plan 2003-04)**

Following works are being executed under this scheme.

- 8 (i) Remodelling of Bawana Escape from RD.14190m to RD.19790m
scheme completed**
- 8 (ii) Remodelling of New Drain from RD 0m to RD 5400m**

A sprawling industrial cum residential complex is being developed by Delhi Development Authority at Narela Township. The storm water of newly urbanized area is to be discharged into new drain through Bawana Escape and drain No.6. The present proposal envisages the remodelling of new drain from the existing capacity of 1168 cusecs to 5000 cusecs to accommodate the increased run off from the Delhi Development Authority complex. The scheme further provides for extension of bridge for 5000 cusecs and a retaining wall along the right bank of the drain to accommodate the required section of the drain due to stretching of unauthorized activities by the unscrupulous persons right upto the boundary of this drain. New drain is the only drain flowing north

to south which can cater for discharge requirement of vast industrial cum residential complex at Narela. The ultimate discharge from Narela Township shall be around 7000 cusecs. It is the only viable proposal, as drainage of aforesaid Delhi Development Authority complex can not be taken care of through any other alternatives. It is the only economical proposal as no acquisition of land is involved since the widening has been proposed within the existing land width. The scheme amounting to Rs. 96.87 lakh has been prepared and was approved from TAC, FCB & SFC and A/A & E/S has also been issued. The work is proposed to be completed in the 9th FYP for which an outlay of Rs. 60.00 lakh is provided against which an expenditure of Rs. 88.14 lakh has been incurred by 31.3.2002. A further provision of Rs. 300.00 lakh has been kept in 10th FYP as the scope of work has been changed and the scheme has been revised and cleared by TAC. A provision of Rs. 5.00 lakh has been kept in Annual Plan 2002-03 against which an expenditure of Rs.7 lakhs is likely to be incurred in the current financial year. A provision of Rs.15.00 lakhs has been approved for the Annual Plan 2003-04.

8(iii) Remodelling of Nangloi Drain from RD 1500m to RD 8600m

A scheme amounting to Rs. 29.15 lakh has been approved by the TAC for remodelling of Nangloi Drain in the above reach. The remodelling is proposed to be carried out within the existing land width of the drain. The necessity of remodelling of this drain has been badly felt during the last many years, as large chunk of agriculture land along this drain remains flooded for more than six months. An outlay of Rs. 30.00 lakh has been approved in the 9th FYP against which an expenditure of Rs. 23.69 lakh has been incurred by 31.3.2002. Due to change in scope of work, this scheme is being revised. Hence, a provision of Rs. 15.00 lakh has been made in the Annual Plan 2002-03 against which an expenditure of Rs.20 lakh is likely to be incurred and the scheme is likely to be completed during 2002-03.

8(iv) Restoration of banks and construction of WBM road of B.C. outfall drain from RD 0m to RD 4000m and RD 5735m to 8550m drain .

The BC outfall drain was constructed during the year 1980-82. This drain enters Delhi Territory near Mundella Khurd at RD 8500m. Ever since no major maintenance

work have been carried on this drain. During a meeting between Hon'ble Minister (D&E) and Minister (Irr.) Haryana on 18.12.95 a decision was taken that a portion of B.C. outfall drain from RD 2750m to RD 6277m is falling in the Haryana Territory shall henceforth be maintained by Govt. of Delhi because this reach is not being maintained by Haryana. Accordingly, it has become necessary to frame a scheme for restoration of banks and construction of WBM road on the Right Bank in the entire length of drain. The scheme is amounting to Rs. 76.32 lakh has been framed and approved by competent authority in the year 2000. The A/A & E/S of the scheme has also been issued. An expenditure of Rs. 46.17 lakh has been incurred by 31.3.2002. A provision of Rs. 10.00 lakh has been kept in the Annual Plan 2002-03 against which an anticipated expenditure of Rs.7 lakhs is likely to be incurred and the scheme is likely to be completed during 2002-03.

8(v) Construction of outfall structure at out falling point of drain No.6 into new drain.

Due to rapid urbanisation in Alipur Block and development of sprawling industrial cum residential complex by Delhi Development Authority at Narela the existing section of the drain shall have to be remodelled to cater for the expected increase in the discharge. The storm water of entire Narela Project of Delhi Development Authority shall find its way into drain No.6 as a result of which this drain shall have to be remodelled. Recently references have been received from Delhi Development Authority for remodelling of drain No.6 to cater for the discharge from a few pockets (covering a portion of complex) fulfilling the storm water need for the rest of the area of their complex. A scheme has been prepared to construct 3 bay RCC box type outfall structure having discharge of 500 cusecs. There is a proposal to increase the capacity of drain No.6 to accommodate discharge from Narela Industrial Town and STP constructed by Delhi Jal Board. But the remodelling work could not be taken up till complete town ship is developed. Hence, a scheme amounting to Rs. 32.00 lakh is prepared which has been cleared by TAC and FCB. The A/A & E/S of the scheme has also been issued in 2000. An expenditure of Rs. 10.00 lakh has been incurred upto 31.3.2002. A further provision of Rs. 10.00 lakh has been kept in the Annual Plan 2002-03 against which an expenditure of Rs.18 lakh is to be incurred and the scheme is likely to be completed during 2002-03.

8 (vi) Remodeling of Bawana Escape from RD 4830 M to RD 19790 M (Rs. 450.00 lacs for Annual Plan 2003-04).

Bawana escape drain starts from Darya Pur Jhal near Village Harevali and Out fall into new drain with an existing discharge of 3.5cum. at the starting point and 24.09 cum at Out fall points. DSIDC has taken up a project of development of industrial complex at village Bawana for reallocation of Industry as per the direction of Hon'ble Supreme Court of India, to avoid pollution in the walled city area. It is proposed that the storm water discharge of the area will out fall into bawana escape between RD 4830M and RD 14190 M. As per the reports submitted by DSIDC a discharge of 19.20 cum will out fall in between RD 4830 M to RD7560m M and 15.13 cum between RD 7590 to RD 14190 M. In addition to this, Delhi Development Authority has also requested to take care of the discharge of the Narela project which has also been to out fall into this drain at various location. As per the proposal of Delhi Development Authority a discharge of 58.28 cum. Will out fall into this drain. Thus, the total discharge will be 116.70 M. In this context, a series of meeting were held with the higher officers of Govt. of NCT of Delhi including Chief Secretary, Officials of DSIDC, delhi Development Authority, Railway and PWD and finally, in the meetings, held on 15.1.2001, it was decided that the Bawana Escape to be remodeled from RD 4830 M to 19790 M with the extent to accommodate the additional discharge of both the new projects. It was also decided that Irrigation & Flood Control Department shall prepare a project estimate for the same. Accordingly, project estimate amounting to Rs. 17.24 crores has been prepared and got cleared from TAC, FCB & EFC and A/A & E/S amounting to Rs. 17.24 crores has been received. A provision of Rs. 1300 lacs had been kept in the 10th Five Year Plan and Rs. 500 lacs in the Annual Plan 2002-03 against which, an anticipated expenditure of Rs. 365 lacs likely to be incurred in the Current Financial year and a provision of Rs. 450 lacs is being proposed in the Annual Plan 2003-04.

8(vii) Remodelling and lining of Palam Link Drain from RD 0m to Rd 1710m

Under this head, it is proposed to improve rural drainage system. With the improvement in the water supply system to the rural areas and other facilities to be habitation in the rural areas has suitably grown and sludge flow from the villages are on increase. The dry weather flow from the villages used to be contained in village pond

which used to spill over during monsoons. Since the quantum of the dry weather flow has increased, open drains are no longer capable to carry the sludge water therefore, health authorities are insisting for improvement of drainage facilities in such village abadis also. As such, a scheme amounting go Rs. 98.80 lakh was prepared for remodelling of this drain to accommodate the discharge of 500 cusecs. A provision of Rs. 44.00 lakh has been kept in the Annual Plan 2002-03 against which an anticipated expenditure of Rs.50.00 lakh is likely to be incurred and a provision of Rs. 30.00 lakh is being in the Annual Plan 2003-04.

8(viii) Remodelling of Karari Suleman Nagar Drain from RD 3700m to 6100m

Karari Suleman Nagar Drain passes through densely populated unauthorized colonies on both sides between RD 6100m to RD 0m. The entire sewage and sludge of these colonies are directly connected in the drain as a result the drain needs constant cleaning throughout the year between RD 6100m to RD 5300m. the land available is approx. 33ft. which is quite inadequate to hold the katcha section of the drain, as practically there is no space available on both sides for its watch and ward and maintenance throughout the year. This is causing great inconvenience and unhygienic condition because of inability of the department to clean the drain -properly as no machine can work in the area. The desilting/cleaning of drain is practically impossible by manual labour and more over the desilted material can not be carted out of the entire reach due to inadequate width of the land. The design section of the kachha drain is having bed width of 4.27m with 1:1 slopes and FSD of the drain is 1.22 km. i.e. approximately 6.50m-land width is required to accommodate the mere section of the drain. In view of the above it was considered utmost urgent to have a pucca RCC trough section in the reach for discharge of 110.00 cusecs so that an adequate land will be available for improvement and maintenance of the drain. The design bed width of the pucca RCC trough section is 3.20m with FSD 1.22m and RCC wall and bed of 0.2m thickness. This section can be accommodated in a width of approx. 4.00m. As such there can be 3m roadway shall be available for inspection of a drain. The cost of the project estimate has been worked out to be 2.81 crores on the basis of DSR 1997. A provision of Rs. 10.00 lakh has been kept in the Annual Plan 2003-04.

8(xi) Remodelling of Bawana Drain from Daryapur to Bawana Stadium

The Bawana Drain starts from Village Darya pur Kalan at RD 11361m and outfalls into Mungeshpur Drain near Village Kanjhawala at RD 0m. The 1800m length of this drain which is running parallel to Auchandi Bawana Road was constructed by Irrigation & Flood Control Department in the land boundary of Auchandi Bawana Road with a bed width of 1.8m and side slope as 1:1. Recently, the existing road has been widened by concerned authority, which endanger the reduction of the section of the Bawana Drain as well as obstruction to the free flow of water. In order to pass the design discharge of this drain along Auchandi Bawana Road in the reduced width, it is proposed to construct a pucca section of the drain in the said length of 1800m.

It is proposed to construct RR masonry wall on both side of the drain alongwith the protection measure towards road side. It is anticipated that the project cost of this scheme will be around Rs. 150.00 lakh and the same is under preparation. A provision of Rs.5.00 lakh has been kept for the Annual Plan 2003-04.

8(x) Remodelling of Drain No.6.

Due to rapid urbanisation in Alipur Block and Development works proposed for industrial-cum-residential complex by DDA, the existing section of the drain shall have to be remodelled to cater for the expected increase in the discharge. The storm water of entire Narela sub city being developed by DDA shall find its way into Drain No.6, as a result of which this drain shall have to be remodelled. Recently, reference have been received from DDA for remodelling of Drain No.6 so as to cater for the discharge from 5 pockets (covering a portion of complex) carrying the storm water of their complex. An additional discharge of 1723 cusecs shall be contributed into drain No.6, at five points earmarked by DDA.

This scheme is yet to be formulated and a tentative cost is proposed to be approximately Rs. 100 lakh. A provision of Rs. 2.00 lakh has been kept in the Annual Plan 2003-04.

8(xi) Remodelling of Pankha Road Drain

Pankha road drain constructed by the Delhi Development Authority to cater for the storm water of Janakpuri Area as a result of fast urbanisation of the adjoining colonies such as Vikas Puri and Hastal etc. The capacity of the drain has been found to be inadequate and drainage congestion takes place every year during monsoon. Consequent upon the decision of Delhi Government that the drain be taken up by Irrigation & Flood Control Department. A scheme amounting to Rs. 154.00 lakh was appeared and approved by TAC to carry a discharge of 1000 cusecs. In the meanwhile as a result of Dwarka Project by the Delhi Development Authority there is a proposal to divert Palam Drain near RD 7000m and connected to the Pankha Road Drain. This proposal will further increase the discharge in Pankha Road Drain to 2800 cusecs, hence the old proposal has become obsolete. Though there was a provision of Rs. 100.00 lakh in the 9th FYP but no expenditure has been incurred during this plan. A new scheme is under consideration.

8(xii) Construction of Trunk Drain No.II in Dwarka

Delhi Development Authority has already taken up the development works of Dwarka project. Two drains of this department namely Palam Drain and Baprola Drain are coming in the catchment of this project. Delhi Development Authority has proposed to realign the Palam Drain and remodelling of Baprola Drain for a discharge of 1420 cusecs to accommodate the additional discharge due to development of this area. This department has been asked to frame and execute the scheme as the designed discharge of these two drains would be more than 1000 cusecs for catering the storm water discharge of Dwarka area. This scheme amounting to Rs. 453.23 lakh has been cleared from TAC on 27.10.98 and has been submitted to Central Water Commission for techno-economic appraisal. A provision of Rs. 5.00 lakh has been kept in the Annual Plan 2003-04.

9. OTHER SMALL DRAINAGE IMPROVEMENT SCHEME

(Rs.40.00 lakh for Annual Plan 2003-04)

Following works will be executed under this plan scheme.

9(I) . Improvement of Bawana Drain in front of Bawana Stadium

The Bawana drain starts from village Daryapur Kalan and outfall into Mungeshpur drain near village Kanjhawala. During Sept., 1995 unprecedented rainfall took place. The abadies in village Daryapur Kalan got flooded due to inadequate capacity of the drain. Thus, it becomes necessary to remodel the existing section of the drain in the entire reach. For executing this work a provision of Rs. 27.00 lakh was kept in 9th FYP against which an expenditure of Rs. 2.99 lakh has been incurred in the 9th FYP. A provision of Rs. 30.00 lakh has been kept in the 10th FYP and Rs. 5.00 lakh in Annual Plan 2002-03 against which an expenditure of Rs.28 lakhs is likely to be incurred in the current financial year and scheme is likely to be completed, hence no provision is being proposed for the Annual Plan 2003-04.

9(ii) Remodelling of Ghoga Link Drain

During the unprecedented rainfall experienced on 3.9.95, village Ghoga and Sanoth were badly inundated. Ghoga drain was seen overflowing at number of places and it was observed that its capacity was inadequate. Entire agricultural land of village Ghoga and part of Abadi area remained under sheet of water for more than a week due to urbanization all around. A scheme was framed at an estimated cost of Rs. 33.95 lakh and the same has been approved and the A/A E/S has also been issued in 2000. An outlay of Rs. 60.00 lakh has been kept in 9th FYP against which an expenditure of Rs. 7.65 lakh has been incurred by 31.3.2002. A provision of Rs. 20.00 lakh has been kept in the 10th Five-Year Plan and Rs. 5.00 lakh in Annual Plan 2002-03 against which an expenditure of Rs.22 lakh likely to be incurred . A provision of Rs._3.00 lakh is kept for the Annual Plan 2003-04.

9(iii) Construction of connecting Drain from Daryapur fields to New Ghoga Link Drain from RD 220m

In a meeting held in the Chamber of the Hon'ble Chief Minister on 28.2.96 it was decided that gravity drainage scheme for storm water drainage of this area should be formulated by Irrigation & Flood Control Department. The present scheme provides for

construction of a drain along the existing Daryapur Ghoga road to outfall into new Ghoga Link Drain. An area of about 430 Acres would be catered by this drain having a capacity of 6.71 cusecs. This scheme has been approved by the TAC and the Administrative Approval and Expenditure Sanction has been accorded by the competent authority in 1996 but due to change in scope of work and non-availability of land this scheme has been revised for Rs. 49.21 lakhs. A provision of Rs. 5.00 lakh has been kept in the Annual Plan 2002-03 against which an anticipated expenditure of Rs.1 lakh is to be incurred . A provision of Rs. 5.00 lakhs is kept for the Annual Plan 2003-04.

9(iv) Construction of pump house and open drain on the left bank of Ali Drain d/s of Bridge at RD 1600m for removal of congestion if Jaitpur.

A scheme amounting to Rs. 24.68 lakh was prepared and has been approved by the TAC & A/A & E/S has been issued. The scheme is framed for the area of village located between RME, ash Bund of BTPS and left bank of Ali Drain which suffers from acute drainage congestion during the monsoons every year because the inlets through which the area gets drained off remained closed due to back flow in into Ali Drain on account of floods in river Yamuna. An outlay of Rs. 25 lakh is approved in the 9th FYP against which an anticipated expenditure of Rs. 6.19 lakh has been incurred upto 31.3.2002. A provision of Rs. 8.00 lakh has been kept in the Annual Plan 2002-03 against which an anticipated expenditure of Rs.11 lakh is to be incurred and scheme is likely to be completed during 2002-03.

9(v) Construction of a storm water drain for Tilangpur Kotla village.

The scheme has been framed at a cost of Rs. 18.72 lakh which provides for construction of a pucca drain with 1M bed width and 0.6m FSD. The A/A & E/S has been received and the work is in progress. A provision of Rs. 18.00 lakh has been made in the 9th FYP against which an expenditure of Rs. 15.30 lakh has been incurred. The land has been acquired and the work will be commenced in the current financial year, hence a provision of Rs. 2.00 lakh has been kept in the Annual Plan 2002-03 against which an anticipated expenditure of Rs.1 lakh and a further provision of Rs.2 lakh is being approved in the Annual Plan 2003-04.

9(vi) **Realignment of Burari Creek along Burari ROAD.**

Burari Creek is a major drain for the drainage of Burari and Jharoda area. The realignment is proposed to be carried out on the west of Burari road within the right of way of the road along boundary, thereby dispensing with the problem of land acquisition. In that eventuality, the discharge from this drain would be pumped into Supplementary drain with the help of 3 Nos. electrical pump sets of 50 HP. each which are proposed to be installed at the outfall point. A generating set will also be kept at the pump house to work standby in the event of electric failure. The scheme was cleared from the TAC, FCB & SFC. Accordingly, A/A & E/S of the scheme has also been issued. The work could not be taken up due to clearance of alignment from MCD as there is no provision of land acquisition and the execution of the scheme is to be taken up within MCD road land available for its widening for which clearance from MCD was required. A provision of Rs.5 lakh has been kept in the Annual Plan 2002-03 against which an anticipated expenditure of Rs.6 lakh is likely to be incurred. Due to increasing scope of work scheme is being revised and a provision of Rs.20.00 lakh is being kept in the current financial year i.e. 2003-04.

9(vii) **Covering of Nawada Drain from RD 0-2250m**

Nawada Drain exists from village Nawada to u/s of Kakrola Regulator on right bank of Najafgarh Drain, some part of this drain from RD500 - 2250m exists on the right side of Uttam Nagar and from 0m to 480m on the left side of N.G. Road. This is an open channel but party in the length of 307 m has been covered by local residents. Being an open drain, the residents are in the habit of throwing their malba and plastic bag etc. in the drain which results in congestion, therefore, to avoid this practice a scheme amounting to Rs. 43.33 lakh has been framed to cover this drain with slabs at 3.0m interval with 1.5 mt. opening covering with pre-cast slab of width 0.30 mt. which will function as a man-hole for cleaning/desilting the drain. A token provision of Rs.1.00 lakh has been kept Annual Plan 2002-03 against which no expenditure incurred further a provision of Rs.10.00 lakh is being made in the Annual Plan 2003-04.

10. ACCESS ROADS & BRIDGES

(Rs.330.00 lakh for Annual Plan2003-04)

Following works will be executed under this scheme.

10(I) Construction of additional 2 lane RCC Bridge down steam of existing Burari Bridge at RD.4200m of Supplementary Drain

The existing two lane bridge at RD 4200m was constructed across supplementary drain long back to give access to the residents of villages situated beyond the left bank of supplementary drain to main Delhi city. Due to fast urbanization a manifold increase in traffic resulted in congestion which also affect the movement of traffic at road No.50. Keeping in view the inconvenience faced by large number of people, a scheme for construction of two lane bridge with four span of 5m on Burari Side to facilitate extension of the bridge to increase the discharge capacity of the drain in future has been framed amounting to Rs. 100.00 lakh. this scheme has been cleared by Flood Control Board in 1999 and A/A & E/S has also been issued. As there is no provision in the 9th FYP but a provision of Rs. 40.00 lakh has been made in the Annual Plan 2001-2002 against which an anticipated expenditure of Rs. 48.54 lakh has been incurred by 31.3.2002. A provision of Rs. 1.00 lakh has been kept in Annual Plan 2002-03 against which an anticipated expenditure of Rs.7 lakh is likely to be incurred and the scheme is likely to be completed during 2002-03.

10(ii) Construction of single span pre-stressed RCC foot bridge on N.G.Drain near Roop Nagar at RD 52904m

The above scheme costing to Rs. 22.75 lakhs has been prepared to meet demands of residents of the area because at present for to and fro movement across the drain only two bridges i.e. one double lane (Vijay Nagar Bridge) and the other one steel truss foot bridge are situated at RD 53198m and RD 53716 respectively. Both these bridges are situated sufficiently away from the residential area of Roop Nagar. As such for crossing the drain the residents of Roop Nagar have to travel by foot. Therefore, there is a demand that Foot Bridge may also be constructed at RD 52904m of N.G.Drain.

The scheme has been cleared in the 16th TAC and FCB and A/A & E/S amounting to Rs. 32.67 lakh has also been issued in 2000. An expenditure of Rs. 1.79 lakh has been

incurred by 31.3.2002. A provision of Rs. 15.00 lakhs has been kept in Annual Plan 2002-03 against which an anticipated expenditure of Rs.12 lakh is likely to be incurred. A provision of Rs.12.00 lakh is being approved for the Annual Plan 2003-04.

10(iii) Construction of single lane bridge at RD 2300m of Supplementary Drain

The existing bridge across supplementary drain are wide apart and in between there is no other bridge. The residents of the area are facing a great inconvenience to reach to main city. Due to rapid urbanisation and shifting of regional transport authority office in 1994-95, the need has been felt to construct a foot bridge at RD 2300m of supplementary drain to relieve traffic congestion and access to pedestrians, cyclist and scooterist, etc. Accordingly, a provision for the RCC bridge with 6 span of 14.5m each has been framed amounting to Rs. 60 lakh. this scheme has been cleared by SFC and A/A & E/S has also been issued. Though there is no provision in the 9th FYP against this scheme yet a provision of Rs. 50.00 lakh has been kept in the annual Plan 2001-2002 against which an expenditure of Rs. 23.63 lakh has been incurred. A provision of Rs. 40.00 lakh has been kept in Annual Plan 2002-03 against which an anticipated expenditure of Rs.35 lakh is to be incurred . A provision of Rs.65 lakh is being kept for Annual Plan 2003-04.

10(iv) Widening of Bhalswa RCC road bridge at RD 7340m of Supplementary drain from existing two lane to four lane

The existing two lane bridge at RD 7340m of Supplementary Drain was constructed in 1985 to give access to village Bhalswa residents of Dairy colony. Subsequently, the project of development of Bhalswa lake and tourist complex taken up by Delhi Development Authority, the traffic has increased manifold resulted in frequent traffic jam at crossing. To avoid this traffic congestion, a scheme amounting to Rs. 103.33 lakh has been framed for widening this bridge. The scheme has been cleared and A/A & E/S has also been issued in the year 2000. Though there is no provision in the 9th FYP against this scheme but a provision of Rs. 30.00 lakh has been kept in the annual plan 2001-2002 against which an expenditure of Rs. 1.59 lakh has been incurred. A provision of Rs. 35.00 lakh has been kept in Annual Plan 2002-03 against which an

anticipated expenditure of Rs.35 lakh is likely to be incurred and a provision of Rs.87.00 lakh is being kept in the Annual Plan 2003-04.

10(v) Widening of Mukandpur RCC road bridge at RD 5700m of Supplementary Drain from existing two to four lane.

The existing two lane Mukandpur bridge at RD 5700m of Supplementary drain was constructed in 1985 to provide access across supplementary drain for the residents of village Mukandpur, Jahangirpuri, Tomar Colony, Sant Nagar, etc. Subsequently due to increase in traffic manifold by rapid urbanisation in the proximity of the bridge and since the traffic from Kingsway Camp going towards Burari has to be diverted by traffic police during peak hours via Mukandpur bridge, all this has caused a large scale increase in flow of traffic, retarding the movement of traffic on this crossing, causing frequent traffic jams. To avoid the traffic congestion, a scheme has been framed for amounting to Rs. 94.32 lakh for widening of the Mukandpur bridge by taking into accounts future increase in number of vehicles using the above bridge and A/A & E/S has also been issued in the year 2000. A provision of Rs. 35.00 lakh has been kept in Annual Plan 2002-03 against which an anticipated expenditure of Rs.25 lakh is likely to be incurred and a provision of Rs.77.00 lakh is being kept the Annual Plan 2003-04.

10(vi) Remodelling of Rohtak Road culvert (NH-10) across Karari Suleman Nagar Drain at RD 4100m (near Qamruddin Nagar More)

The existing culvert on Rohtak Road (NH-10) across Karari Suleman Nagar Drain at RD 4100m remains choked due to its serpentine alignment and obstruction due to some existing structural members across the flow of drain. This leads to heading up of storm water and dry weather flow upstream of the box culvert thereby resulting in inundation of the adjoining locations of Prem Nagar, Karari, etc. upstream of existing culvert during monsoons. During lean season the dry weather flow gets stagnated and creates unhygienic conditions in the upstream localities. It is proposed to charge the cost of construction of the culvert under existing road way in a length of 35.00m (skew) under Plan scheme of Irrigation & Flood Control Department. However, PWD authorities are widening the national highway to six land and the cost of remaining 40m (skew) length of

the culvert shall be borne by PWD department, Govt. of Delhi. This has already been agreed in the meeting held in the Chamber of Joint Secretary PWD on 5.1.98.

Accordingly, a scheme amounting to Rs. 24.57 lakh has been prepared for smoothening the flow condition and improving hydraulic efficiency of the drain. This will further avoid accumulation of storm water in the drain upstream of culvert. Box culvert shall be provided with a divide wall to facilitate desilting. The above scheme has been cleared by TAC in its 14th meeting held on 27.10.98. A provision of Rs. 10.00 lakh has been kept for executing this project in Annual Plan 2002-03 against which no expenditure likely to be incurred and a provision of Rs.5.00 lakh is being kept in the Annual Plan 2003-04.

10(vii) Widening/Construction of bridges over various drains on Irrigation & Flood Control Department

The drains of this department are passes through very thickly populated areas and unauthorised colonies developed due to migration of the peoples from other states has put up a tremendous pressure over the existing bridges resulted in renovation/construction of new bridges over the drains of the departments. To meet out the demands of the people and simultaneously considering the increasing intensity of the traffic and reduction in water ways compelled the department to plan the strategy to renovate/construct the structures like foot bridge and other type of bridges. A provision of Rs. 28.00 lakh has been kept in Annual Plan 2002-03 for construction of bridge at Pankha Road Drain, Palam Drain and Naseerpur Drain Rs. 20.00 lakh & Karari Suleman Nagar Drain at RD 3100m Rs. 2.00 lakh in AP 2002-03 against which an anticipated expenditure of Rs.28.00 lakh is likely to be incurred and a provision of Rs.48.00 lakh is being kept in the Annual Plan 2003-04 for taking up the works of bridges at various drains which are given below.

- a) Construction of single lane RCC bridge across N.G.Drain at RD.45546m near Sudarsan Park
- b) Construction of additional single line bridge across N.G.Drain at RD.46787m D/S of Karampura bridge
- c) Construction of RCC foot bridge at RD.23745m across Supplementary Drain

- d) Construction of 2 lane bridge across Supplementary Drain and N.G.Drain near RD.26060m of Supplementary Drain to join Nihal Vihar, Chandan Vihar and Keshopur area.

10(viii) Widening of existing left bank and road over supplementary drain from RD 5700m to RD 1550m

In view of religious congregations of Nirankari Samagam which is held every year in this area, heavy traffic passes in the area causing numerous traffic jams on Burari and Mukandpur bridges at outer Ring Road necessitating diversion of traffic on left bank during such diversion. As per the directions issued by the Chairman, FCB, in its 24th meeting held on 1999, it has been decided to widen the existing left bank of supplementary drain from 7.5m to 12.5m, width alongwith the widening of pucca road from 3.66m to 7.5m. It has been decided to frame a scheme amounting to Rs. 107.90 lakh which has been cleared by TAC, FCB and SFC also. The A/A & E/S has also been issued in this year i.e. 2001. Though there is no provision in the 9th FYP but due to urgency of the work a provision of Rs. 10.00 lakh has been kept in the annual plan 2001-2002 against which an anticipated expenditure of Rs. 13.25 lakh has been incurred upto 31.3.2002. A provision of Rs. 50.00 lakh has been kept in Annual Plan 2002-03 against which an expenditure of Rs.30 lakh is likely to be incurred and a provision of Rs.36 lakh is being kept in the Annual Plan 2003-04.

F. ANTI EROSION WORKS

11. **Anti Erosion works of river Yamuna during 10th Five Year Plan (Rs. 10.00 lakh for Annual Plan 2003-04)**

In order to protect the left and right bank of river yamuna against the erosion a number of works are required to be taken up on the emergency basis every year to check and control the further erosion in the future. A scheme is yet to be prepared for executing anti erosion works during 10th Five Year Plan. A provision of Rs. 100.00 lakh has been kept in the 10th Five Year Plan and Rs. 8.00 lakh in Annual Plan 2002-03 against which an anticipated expenditure of Rs.9 lakh is likely to be incurred and a provision of

Rs.10.00 lakh is being kept in the Annual Plan 2003-04 for carry out the ongoing works and following new works.

11(i) Strengthening of boulder bar at Ramp No.1 & 2.

A scheme amounting to Rs. 7.78 lakh has been prepared for construction of boulder bar at nose of RAMP No. 1 & 2. It has been seen during the past that these RAMPs proved to be very effective for diverting the current of water of river Yamuna during the flood, to make these RAMPs more effective particularly for protecting Jagatpur bund from damage during high frequency floods. It is considered necessary to construct diverting deflecting type boulder bar at the nose point of these RAMPs . The A/A & E/S of the scheme has also been accorded. An outlay of Rs.8 lakhs has been kept in the Annual Plan 2002-03. This scheme is completed.

11(ii)_Construction of Balli scheme on right side of river Yamuna at location upstream of RAMP NO. 1 & 3 RME and Jagatpur Bund. A provision of Rs.10.00 lakhs is approved for Annual Plan 2003-04.

12. PROTECTION OF GOVERNMENT LAND

(Rs.100.00 lakh for 2003-04)

For planning and construction of drains with proper embankments and space for movement, land had been acquired by Irrigation & Flood Control Department for construction of a large number of major and minor drains. As such it has become essential to protect the Government land belonging to Irrigation & Flood Control Department from encroachment by suitable measures viz. constructing walls, fencing along the boundaries of drains wherever required and feasible. A provision of Rs. 157.00 lakh has been kept the 10th Five-Year Plan and Rs. 31.00 lakhs in Annual Plan 2002-2003 against which an anticipated expenditure of Rs.78 lakhs is likely to be incurred . A provision of Rs.100 lakh is approved in the Annual Plan 2003-04. The schemes along with its proposed allocation are given below:-

- (i) Construction of Stone Masonry wall on the left of bank of Pankha Road drain from R.D. 0.0 M to 1560 M – An expenditure of Rs. 15.00 lakh is likely to be incurred during 2002-03 and the scheme is completed.
- (ii) Providing barbed wire fencing with RCC post fixing on stone masonry wall on both side of Burari Drain.

Burari Drain off takes near Burari Ibrahimpur road and caters for drainage of the area bounded between Burari Ibrahimpur Road on the west, Bawana Escape on the north and RME on its east. The major portion of drain from RD 0m to RD 3880m passes in the rural belt whereas in the portion from RD 3880m to 5480m in the urban areas where development of plots by colonisers near the land boundary of the land. It is, therefore, essential to protect the Government land. A scheme amounting to Rs. 17.60 lakh has been framed and cleared by TAC and A/A & E/S has also been issued. A provision of Rs. 2.00 lakh has been kept in the Annual Plan 2002-2003 against which an anticipated expenditure of Rs.13 lakh is likely to be incurred in the current financial year. This scheme is likely to be completed.

- (iii) Providing barbed wire fencing with RCC post fixing on RR masonry wall along Bawana Drain in village Bawana, Chanderpur and Kanjhawla .

Due to fast increase in population of Delhi, the Govt. land has come under tremendous pressure of encroachment and has to be immediately protected by providing fencing as the area in the vicinity of the embankment is being developed in the form of farm house etc. at the fast pace and there is every possibility of Govt. land to be encroached upon by the unscrupulous elements. Hence, a proposal of preparation of scheme is under consideration. A provision of Rs. 5.00 lakh has been kept in the Annual Plan 2002-2003 for executing the scheme against which an expenditure of Rs.5 lakh is likely to be incurred and a further provision of Rs.25.00 lakh is being made for the Annual Plan 2003-04.

- (iv) Providing barbed wire fencing with RCC post embedded in stone masonry wall on both side of Jagatpur Link Drain No. II

Due to fast increase in population of Delhi, the Govt. land has come under tremendous pressure of encroachment and has to be immediately protected by providing fencing as the area in the vicinity of the embankment is being developed in the form of farm house etc. at the fast pace and there is every possibility of Govt. land to be encroached upon by the unscrupulous elements. A proposal to prepare a scheme has been mooted hence a provision of Rs. 4.00 lakh in the Annual Plan 2002-03 against which an expenditure of Rs.15 lakh is likely to be incurred in the current financial year and a further provision of Rs. 5.00 lakhs is being made for the Annual Plan 2003-04.

- (v) Providing barbed wire fencing with RCC post embedded in stone masonry wall on both sides of Burari drain from RD 2880 m to 3880 m

The major portion of the drain from RD 0 m to RD 3880 m passes in the rural belt whereas in the portion from RD 3880 m to 5480 m in the urban areas where development of plots by colonizers near the land boundary of the government land is in process. It is therefore essential to protect the government land from encroachment, a scheme amounting to Rs. 17.16 lakhs has been framed and cleared by TAC and A/A and E/S has also been issued. A provision of Rs. 4.00 lakhs in the Annual Plan 2002-03 against which an anticipated expenditure of Rs. 5,00 lakhs is likely to be incurred in the current financial year. To execute the balance work, a provision of Rs. 10.00 lakhs is being kept for the A.P. 2003-04.

- (vi) Providing Barbed wire fencing with RCC post fixing on RR masonry wall along Mungeshpur Drain in village Mungeshpur, Kutub garh, Jatkhori Kanjhawala and Ladpur

Due to fast increase in population of Delhi, the Govt. land has come under tremendous pressure of encroachment and has to be immediately protected by providing fencing as the area in the vicinity of the embankment is being developed in the form of farm house etc. at the fast pace and there is every possibility of Govt. land to be encroached upon by the unscrupulous elements. Hence, a proposal of preparation of scheme is under consideration. A provision of Rs. 10.00 lakh has been kept in the Annual Plan 2002-03 against which an anticipated expenditure of Rs.15 lakhs is incurred and a further provision of Rs.10.00 lakh is being kept in the Annual Plan 2003-04.

(vii) Construction of boundary wall on right side from RD 0m to RD 1100m of TD No.2

With the fast urbanisation of Delhi during the last decade or so, trans Yamuna area has become thickly populated, by migration of people from Adjacent State. Due to scarcity of land and increase in cost, the activity of encroachment over Govt. land takes place at a very large scale. Keeping in view the above facts, it has been decided to protect the surplus land lying along the banks of the drains by constructing boundary wall/fencing. Hence the scheme amounting to Rs. 8.00 lakh has been framed to protect the Government land from encroachment. A provision of Rs. 8.00 lakh exists in the annual plan 2001-2002 against which no expenditure has been incurred.

Upto 31.3.2002. A provision of Rs. 5.00 lakh has been kept in the Annual Plan 2002-2003 against which an expenditure of Rs.10 lakh is likely to be incurred. This scheme is likely to be completed in the current financial year.

(viii) **Other Works** :Due to rapid urbanization in the N.C.T. of Delhi, there is a threat from colonizers and local people to encroach upon the land boundary of bunds/drains. In order to thwart chances of encroachment of Government land it is imperative to protect the Govt. land by providing barbed wire fencing to the area which is under the possession of this department. The following scheme will be taken up for which an outlay of Rs.50.00 lakh has been kept for 2003-04.

- (i). Providing RR Masonary wall along right side of Burari creek from RD.5400 to 8863 and on left side from RD.8526 to 8620m from Burari Road bridge to outfall.
- (ii). Demolition and Reconstruction of Boundary wall between outer ring road and Khyala village bridge RD.40680m to RD.42000m on left bank of N.G.Drain.
- (iii). Demolition and Reconstruction of Boundary wall between outer ring road and Nangloi Drain on Left side of N.G.Drain.
- (iv). Construction of boundary wall on Right Bank of N.G.Drain between RD.28145m to RD.30180m.

13. Liabilities on completed schemes.(Rs. 20.00 lakh in Annual Plan 2003-04)

A budget head for meeting liabilities on completed scheme has been permitted in order to ensure that schemes/projects completed in the past year are not reflected in the plan document, only to cater for spill over liabilities A provision of Rs. 100.00 lakh has been kept in the 10th FYP and Rs. 10.00 lakh in the annual Plan 2002-2003 against which an expenditure of Rs.20 lakhs is likely to be incurred and a further provision of Rs. 20 lakh is being approved for the Annual Plan 2003-04.

14. Charged expenditure (Rs. 130.00 lakh in the AP 2003-04))

Expenditure attributed to the directive of force of law will be met under this head. A provision of Rs. 600.00 lakh has been kept in the 10th FYP and Rs. 100.00 lakh in Annual Plan 2002-2003 against which an expenditure of Rs.160 lakh is likely to be incurred and a provision of Rs.130 lakh is being approved in the Annual Plan 2003-04.

REVENUE SCHEMES

15. Water Development Schemes

(a) Survey/Model study & Hydrological Data Collection & Investigation of new schemes including study of covering of drains/Nallahs (Rs.34.50 lakh in Annual Plan 2003-04)

For meticulous preparation of project estimates, it is necessary to collect hydrological data of the various drains and Yamuna river, round the year. The course of the river Yamuna has to be plotted every year to plan schemes relating to anti-erosion works. Rs. 200.00 lakh has been provided for survey and hydraulic data collection . A provision of Rs. 150.00 lakh has been kept in the 10th Five Year Plan and Rs. 30.00 in Annual Plan, 2002-2003 against which an expenditure of Rs.29.50 lakh is likely to be incurred and a further provision of Rs. 34.50 lakh is being approved in the Annual Plan 2003-04.

16. OTHERS

(a) Establishment of Quality Control and Material Testing Laboratory (Rs. 0.50 lakh in A.P.2003-04)

Control of quality of different materials used in the construction of various projects is absolutely essential . Quality control also reduces construction costs by5% to 10%. Work on setting up the laboratory was started in 1989-90. The building for the laboratory has been constructed and equipments installed. A provision of Rs. 5.00 lakh has been kept in 10 Five Year Plan and Rs. 1.00 lakh in Annual Plan 2002-2003 against which an expenditure of Rs.0.50 lakh likely to be incurred and a provision of Rs.0.50 lakh is being approved in the Annual plan 2003-04.