

CHAPTER-4

IRRIGATION & FLOOD CONTROL

Irrigation & Flood Control Department is entrusted with the responsibility of providing irrigation facilities to the farmers of rural villages of Delhi through effluent received from Sewage Treatment Outlets as well as through a Network of State tube-wells available in the rural areas, maintenance of embankments constructed on both sides of river Yamuna in the jurisdiction of Govt. of NCT of Delhi, maintenance of 61 nos. of major storm water drains e.g. Supplementary Drain, Najafgarh Drain, Trunk Drain No. I & Trunk Drain No. II, Gazipur drain, Pankha Road Drain, Palam Drain, Nasirpur Drain, Mungeshpur Drain, Nangloi Drain etc., including construction of bridges over these drains. Besides these, Irrigation & Flood Control Department is also equipped with machinery such as draglines, bulldozers, dredger and heavy duty electrical and diesel pump sets which are utilized for removal of drainage congestion during monsoon from low lying areas.

MINOR IRRIGATION

Irrigation in Delhi mainly depends upon ground water and partly upon surface water. Irrigation from the ground water is provided through shallow cavity tube-wells, while irrigation from surface water is provided by way of utilizing treated effluent water in North, South and West Districts from the existing sewage treatment Outlets located at Burari (Coronation Pillar), Okhla and Keshopur. Western Yamuna canal system under the control of Haryana Government is also being utilized for irrigation purposes in North-West District.

FLOOD CONTROL

The National Capital Territory of Delhi has experienced floods in the past, mainly from Sahibi Nadi (Passing through Najafgarh Drain in Delhi) and Yamuna River. The department is maintaining major storm water drainage network to tackle the flood situation during heavy rainfall in NCT of Delhi & flooding in river Yamuna. Further, so many river training, anti erosion and flood protection work are regularly undertaken to safeguard the city from flood fury & safe passage of peak discharge.

Revised Outlay & Expenditure of Annual Outlay 2016-17, Approved Outlay & Revised outlay of Annual Outlay 2017-18 and Outlay for Budget Allocation 2018-19 for Minor Irrigation & Flood Control Sector are as under :-

[₹ in crore]

Sector	2016-17		2017-18			2018-19 BE
	RE	Exp	BE	RE	Exp	
I & FC	60.00	59.21	90.00	73.00	69.75	90.00

Total Outlay of ₹ 307 crore kept in B.E. 2018-19 on Irrigation and Flood Control. This includes revenue budget of ₹ 218 crore and capital budget of ₹ 89 crore. An amount of ₹ 90 crore is kept for implementation of various schemes, programmes and projects under Irrigation and Flood Control sector.

1. **MAJOR DRAINAGE SCHEMES**

Budget Allocation 2018-19 : ₹ 800.00 Lakh

The major drainage schemes envisage procurement of machinery equipment and embankment schemes such as construction, strengthening and beautification of embankment of river / drains under the jurisdiction of I&FC Department. The schemes under this head are as under:

1.1 **Procurement of Machinery/ equipments**

- 1.1.1 Procurement of 07 Nos. back hoe loader cum excavators (JCB type) in I&FC Department.

Estimated cost of ₹ 140.00 lakh

The desilting of drains is a regular feature to complete the work before the onset of monsoon every year to avoid water logging. The above proposed machines are very handy in operation and useful in the existing site conditions. In order to meet out the present requirement, it has been decided that 07 more machines may be procured.

1.2 **Embankment Schemes**

- 1.2.1 Widening and Strengthening of carriage way of Right Marginal Embankment from RD 0 m to RD 10500 m.

Estimated Cost of ₹ 860.00 lakh

This work was supposed to be completed on 11.07.20017, however the work has been delayed due to occurrence of monsoon season (flood season) and due to expert opinion sought from CRRI. The new date of completion of the work has been fixed to 30.10.2018. In financial year 2017-18, 38% of the work was completed and ₹ 99.90 Lakh expenditure has been incurred.

2. OTHER DRAINAGE WORKS

Budget Allocation 2018-19 : ₹ 6120.00 Lakh

The Other Drainage Works includes Remodeling / Improvements of Existing Drains, Access Road and Bridges related projects, Works related to Protection of Govt. land etc.

2.1 Remodeling / Improvement of Existing Drains

Remodeling/improvement of existing drains are being carried out to accommodate additional discharge generated on account of new habitation / township / industrial park as these drains are passing through rural areas which was not developed and now under development/likely to be developed. The schemes under this sub-head are as under:-

2.1.1 Construction of Sump and pump house with regulator near RD 400M of Escape Drain No. 1.

Estimated Cost of ₹ 857.00 lakh

The Karawal Nagar area in Trans Yamuna is low lying and always flooded during monsoon season. To solve this problem, it has been decided to construct sump well at escape drain near outfall point with TD No. 1 and thereafter, it will be pumped into the TD No. 1 to check the back flow of water and speedy disposal. 75% work has been completed an expenditure amounting to ₹ 180.20 lakh has been incurred so far.

2.1.2 Remodeling of Molarbund Drain from RD 615M to 1335M.

Estimated Cost of ₹ 262.66 lakh

The existing section of the drain was not sufficient to accommodate the additional discharge generated due to unauthorized colony developed in the area, thereby resulting water logging in the area. There is no outfall, the water is pumped during the rainy season to Agra canal. The work was taken up to remodel the section of this drain including widening of inspection path for maintenance purpose in future. 85% of the work has been completed.

2.1.3 Construction of RCC box type drain along Devli Bund.

Estimated Cost of ₹ 894.00 lakh

Along Devli Bund numbers of unauthorized colonies have developed. The Govt. of NCT of Delhi, has already provided basic amenities in the colonies, such as street pavement & side drains. However, there is no outfall drains to drain off the storm water discharge of these colonies. As the drainage system is inadequate to cater the discharge, the RCC box type drain along Devli bund was necessitated. This drain will outfall into MCD drain. The work is in progress. 15% of the work has been completed an expenditure amounting to ₹ 42.07 lakh has been incurred so far.

New Schemes under Remodeling/Improvement of Existing Drain

- (a) Widening and strengthening of road on left bank of New Drain from RD.1260m to RD.4950m.

Estimated Cost of ₹ 372.00 lakh

- (b) Remodeling of N.G. Pond Drain by Construction of RCC retaining wall on opposite faces of bank from RD 600m to RD 1942m.

Estimated Cost of ₹ 1702.00 lakh

- (c) Development of abandoned portion of Bawana Escape drain from Burari Bakhtawarpur to Hiranki Check post in to a water body to facilitate ground water recharge by using constructed wetland system.

Estimated Cost of ₹ 227.92 lakh

2.2 Access Roads & Bridges

- 2.2.1 Construction of Double lane R.C.C. Bridge on up stream of existing Jagat Pur Bridge at RD 1670m of Supplementary drain.

Estimated Cost of ₹ 422.10 lakh

This work was supposed to be completed on 01.06.2016 but due to high level of ground water and occurrence of monsoon season (flood season), there is a delay of almost 02 years. The completion date of the work has been fixed to 31.07.2018. The work is in progress and 71% of the work has been completed with an expenditure amounting to ₹ 211.96 lakh has been incurred so far.

- 2.2.2 Demolishing & reconstruction of two lane RCC bridge at RD 1260m of New Drain.

Estimated Cost of ₹ 301.98 lakh

This work was supposed to be completed on 24.06.2017 but due to time taken in shifting of DJB pipe line, the work has been delayed by 01 year. The completion date of the work has been fixed to 30.06.2018. The work is in progress and 51% of the work has been completed with an expenditure amounting to ₹ 70.32 lakh has been incurred so far.

- 2.2.3 Construction of slip Road bridge 4.25m wide U/S existing bridge at RD 3600 M at Trunk Drain No. 2.

Estimated Cost of ₹ 188.00 lakh

This work was supposed to be completed on 28.08.2017 but due to collapse of pile of left abutment, redesign of which is in process and occurrence of monsoon season, the completion date of the work has been fixed to 31.07.2018. The work is in progress and 85% of the work has been completed with an expenditure amounting to ₹ 47.17 lakh has been incurred so far.

- 2.2.4 Re-construction of 1 no. Four Lane Bridge at RD 12230m, and construction of 2 no. Double Lane Bridge at RD 12687m and RD 11110 m of Trunk Drain No.1.

Estimated Cost of ₹ 832.68 lakh

The completion date of the work has been fixed to 30.12.2018. The work is in progress and 75% of the work has been completed with an expenditure amounting to ₹ 354.25 lakh has been incurred so far.

- 2.2.5 Demolishing and reconstruction of two lane RCC bridge at RD 2850m (Mahendra Park) across Pankha road drain.

Estimated Cost of ₹ 103.57 lakh

The completion date of the work has been fixed to 31.06.2018. The work is in progress and 80% of the work has been completed with an expenditure amounting to ₹ 34.06 lakh has been incurred so far.

- 2.2.6 Demolition and construction of 1 no. Four Lane Bridge at RD 1700m, and 2 no. Single Lane Bridge at RD 600m and RD 1600m of Karawal Nagar Drain.

Estimated Cost of ₹ 632.00 lakh

The work was supposed to be completed on 11.10.2017 but delayed of almost 13 months due to the occurrence of flood season. The completion date of the work has been fixed to 30.12.2018. The work is in progress and 75% of the work has been completed with an expenditure amounting to ₹ 191.75 lakh has been incurred so far.

- 2.2.7 Demolishing of Existing Culvert and Reconstruction of Double Lane RCC Bridge at RD 5010 M on Khera Khurd Link Drain.

Estimated Cost of ₹ 97.00 lakh

The completion date of the work has been fixed to 30.06.2018. The work is in progress and 85% of the work has been completed with an expenditure amounting to ₹ 1.40 lakh has been incurred so far.

- 2.2.8 Demolishing & Reconstruction of bridge across Bawana Escape at RD14190m.

Estimated Cost of ₹ 402.00 lakh

The completion date of the work has been fixed to 30.06.2018. The work is in progress and 60% of the work has been completed with an expenditure amounting to ₹ 49.51 lakh has been incurred so far.

2.2.9 Demolishing of pipe culverts and reconstruction of RCC box culverts at RD 675m, RD 770m & RD 1407m on Ghogha Drain.

Estimated Cost of ₹ 99.00 lakh

The completion date of the work has been fixed to 30.04.2018. The work is in progress and 85% of the work has been completed with an expenditure amounting to ₹ 2.09 lakh has been incurred so far.

2.2.10 Construction of wet land system based on SWAB technology including recharge pit on left bank of bawana escape drain between RD 9700 to 9970m to reduce the pollutant and silt load from Ghogha drain.

Estimated Cost of ₹ 182.00 lakh

The work was supposed to be completed on 10.11.2017 but delayed of almost 05 months due to the occurrence of flood season. The completion date of the work has been fixed to 30.04.2018. The work is in progress and 90% of the work has been completed with an expenditure amounting to ₹ 39.99 lakh has been incurred so far.

2.2.11 Construction of inspection path on the left bank of N.G. Drain from RD 47390m to RD 48200m.

Estimated Cost of ₹ 264.00 lakh

The work was supposed to be completed on 06.03.2017 but delayed of almost 14 months due to encroachment issue. The completion date of the work has been fixed to 30.06.2018. The work is in progress and 64% of the work has been completed with an expenditure amounting to ₹ 92.76 lakh has been incurred so far.

New Schemes under Access Road and Bridge

(a) Improvement of inspection path on left bank of Mungeshpur drain between RD 36789 M to RD 26550 M of Mungeshpur drain.

Estimated Cost of ₹ 250.00 lakh

(b) Resurfacing of inspection road of Right marginal embankment from RD 0m to 10500m.

Estimated Cost of ₹ 475.00 lakh

- (c) Resurfacing of Inspection path/ approach Road on Right Bank of Mungeshpur drain RD 23000 M to RD 15850 M.

Estimated Cost of ₹ 309.51 lakh

- (d) Demolishing/reconstruction of 8 Nos. existing pipe culverts with RCC box at RD 230m, 380m, 470m, 640m, 870m, 970m, 1665m & 4110m on KheraKhurd drain.

Estimated Cost of ₹ 383.51 lakh

- (e) Demolition and Re-construction of bridge at RD 5800m of Trunk Drain No.I.

Estimated Cost of ₹ 295.00 lakh

- (f) Providing & laying Pitching on city side slope of N.G. Drain on left bank from nose point RD-55904m to Timarpur Bridge RD-56704m Bridge.

Estimated Cost of ₹ 62.00 lakh

- (g) Construction of double lane RCC bridge at RD 19310m of Supplementary Drain.

Estimated Cost of ₹ 439.19 lakh

- (h) Construction of RCC double lane bridge across Supplementary Drain D/s of existing bridge at RD 28080m.

Estimated Cost of ₹ 372.00 lakh

- (i) Demolishing of 3 nos. existing culvert and reconstruction of RCC box culvert at RD 1475, 1875 & 2100m of Bawana Escape drain.

Estimated Cost of ₹ 144.00 lakh

2.3 Protection of Govt. Land.

- 2.3.1 Construction of brick masonry wall for protection of land at Saleempur Minor Irrigation Channel from RD 0M to RD 3000M

Estimated Cost of ₹ 216.00 lakh

The completion date of the work has been fixed to 02.11.2018. The work is in progress and 70% of the work has been completed.

- 2.3.2 Construction of boundary wall along the road on the left bank of Supplementary Drain from Vikaspuri bridge (RD 28080m) to MID Aquaduct (RD 26060m)

Estimated Cost of ₹ 127.21 lakh

The completion date of the work has been fixed to 30.06.2018. The work is in progress and 34% of the work has been completed.

3. DEVELOPMENT OF CHHAT PUJA GHATS (NEW SCHEME)

Budget Allocation 2018-19 : ₹ 2000 Lakh (Capital)

In order to respect the culture and religious customs of all the communities, Chhat Ghats will be constructed/ developed all over Delhi during 2018-19.

4. CHARGED EXPENDITURE

Budget Allocation 2018-19 : ₹ 20.00 Lakh (Capital)

Expenditure attributed to the directive of force of law will be met under this head.

5. SURVEY MODEL STUDIES/ PREPARATION OF MASTER OUTLAY FOR DRAINAGE & FLOOD CONTROL/ WATER DEVELOPMENT SCHEMES

Budget Allocation 2018-19 : ₹ 60.00 Lakh (Revenue)

- 5.1 The consultant has submitted the draft Drainage Master Plan 2021 and copy of the same has been circulated to all stake holders for their feedback.
- 5.2 Survey, Model Study and Hydrological data Collection & Investigation for new schemes (Covering of Drains / Nallahs)
- 5.3 Establishment of Quality Control and Material Testing Laboratory.