

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 2017-18, Approved Outlay & Revised outlay of Annual Outlay 2018-19 and Outlay for Budget Allocation 2019-20 for Minor Irrigation & Flood Control Sector are as under :-

[₹ in crore]

Sector	Annual Outlay 2017-18		Annual Outlay 2018-19			Annual Outlay 2019-20
	Revised Outlay	Expenditure	Approved Outlay	Revised Outlay	Exp	
I & FC	73.00	69.75	90.00	78.00	68.84	215.00

Total Outlay of 479.25 crore kept in B.E. 2019-20 on Irrigation and Flood Control. This includes revenue budget of 265.75 crore and capital budget of 213.50 crore. An amount of 215 crore is kept for implementation of various schemes, programmes and projects under Irrigation and Flood Control sector under capital heads.

1. MAJOR DRAINAGE SCHEMES

Budget Allocation 2019-20 : ₹ 800.00 Lakh (Capital)

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 11.07.2017, however the work has been delayed due to occurrence of monsoon season (flood season) and due to expert opinion sought from CRRI. The section proposed by the department was examined and vetted according to IRC: SP:72 by CRRI. On the basis of recommendation of CRRI, presently, the work is in slow progress due to ongoing work of laying of pipeline by DJB and construction of guard wall on river side. The new date of completion of the work has been fixed to 31.07.2019. In financial year 2018-19, 75% of the work was completed and 268.5 lakhs expenditure has been incurred.

2. OTHER DRAINAGE WORKS

Budget Allocation 2019-20 : ₹ 6000.00 Lakh (Capital)

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. 92% work has been completed an expenditure amounting to ₹ 417.79 lakh has been incurred so far.

2.1.2 Construction of sump and pump house at Escape drain No.1 near RD 400m Construction of Regulator near RD 400m of Escape Drain No. 1.

Estimated Cost of ₹ 857.00 lakh

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. 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. 65% of the work has been completed and the work is likely to be completed on 31.03.2020.

2.1.4 Remodeling of side drain on both side of Ratia Marg from boundary of Wild life sanctuary to M.B. Road.

Estimated Cost of ₹ 963.00 lakh

Along both side of Ratia Marg, numbers of unauthorized colonies have developed. The existing outfall drain on both side of Ratia Marg but is inadequate to take the discharge, of the colonies/catchment area. The RCC Box Type drain along both side of Ratia Marg was necessitated.

The work is in progress, 10% of the work has been completed and the work is expected to be completed upto 31.03.2020.

- 2.1.5. 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

The work could not be started due to non-issue of permission till date by forest department.

- 2.1.6. 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

The PWD drain coming from village Bakhtawarpur carries domestic waste water and sewage water of various villages viz. Bakhtawarpur, Mohmmadpur, Ramjanpur, & Hiranki. Due to non availability of any out fall drain in the nearby area, PWD has en-routed its drain to the abandoned portion of Bawana Escape drain near Hiranki Police Chowki on Burari Bakhtawarpur Road. In this work the waste water of PWD drain is proposed to be used after treatment by creating a water body to facilitate for ground water recharge by constructing wetland system in abandoned portion of Bawana Escape drain. During the financial year 2018-19 the 16% progress of the work has been achieved and expenditure of ₹ 25.62 lakhs incurred. The likely date of completion of the work is 22.08.2019.

- 2.1.7. Development of abandoned portion of Bawana Escape drain by treating Drain No. 6 Waste Water using constructed wet land method facilitating ground water recharge.

Estimated Cost of ₹ 248.00 lakh

Drain No.6 carries discharge of HSIIDC having chemical contents. It also carries waste water discharge from un-sewered area of nearby villages. Water quality of drain No.6 is very poor due to high pollutant load flowing in the drain and ultimately entering into river Yamuna through New Drain and Supplementary Drain. In this work it is proposed to construct wetland system on abandoned portion of Bawana Escape drain near Mukhmelpur village. The work shall be taken up during the financial year 2019-20 and shall be completed within a period of 12 months from the date of commencement.

- 2.1.8. Construction of guard wall on left side of carriageway of Right Marginal Embankment (RME) from Village Palla towards Village Hiranki (RD.0m to 1050m).

Estimated Cost of ₹ 362.34 lakh

The present width of carriageway of RME from RD 0 m to 10500 m is 3.50 m to 4.0 m. The work of widening of RME on city side is under progress. There is a depression of 5.0 m to 7.0 m on the river side of RME. Due to heavy traffic on the road of RME, there is possibility of accidents of felling of vehicles in river Yamuna bed. To avoid any such accidents at site it is necessary to provide guard wall on river site. During the financial year 2018-19 the 65 % progress of the work has been achieved and expenditure of ₹150.71laks incurred.

2.1.9. Widening Raising /Strengthening of Jagatpur Bund from RD.0m to RD 4388m (city side)

Estimated Cost of ₹ 939.00 lakh

The existing top level of Jagatpur bund at RD 1750 is having R.L. 211.00 m. As per the study report of Central Water and Power Research Station, Govt. of India, the level of embankment upstream of Wazirabad barrage should be 211.27 m for discharge of 4,50,000 cusec.

A RCC retaining wall is to be constructed to retain the earth on toe of embankment on city side.

The work shall be taken up during the financial year 2019-20 and shall be completed within a period of 8 months from the date of commencement.

2.1.10 Widening Raising /Strengthening of RME from RD 11000 m to RD.16500m (city side).

Estimated Cost of ₹ 965.00 lakh

During the monsoon season 2013, River Yamuna attained level 211.275 at Jhangola and 209.70 m at Jagatpur Ramp No. III on 19.06.2013. The existing top level of RME at RD 11000 m is 212.090 m and at RD 16500 m is 211.20 m. The approx. highest flood level at Hiranki check post was 210.50 m on dated 19.06.2013.

As per the study report of Central Water and Power Research Station, Govt. of India, the level of Bund at Bawana Escape Junction point should be kept as 213.28 m for discharge of 4,50,000 cusec.

The work shall be taken up during the financial year 2019-20 and shall be completed within a period of 8 months from the date of commencement.

2.1.11 Construction of 7 Nos. Ballie Screens on RME at RD 1700m, RD 4000m RD 6500m, RD 6600m, RD 12000m, RD 12800m and RD 13700m in Distt. North.

Estimated Cost of ₹ 419.16 lakh

Due to heavy discharge in river Yamuna during previous monsoon season, the main active course of river Yamuna has been shifted towards RME at various locations and eroded the agriculture land posing a threat to the RME. During past, it

has been observed that Ballie Screens are most effective for diverting the flow of river Yamuna and ultimately to save agriculture land and RME.

The work shall be taken up during the financial year 2019-20 and shall be completed within a period of 6 months from the date of commencement.

2.1.12 Construction of Rest House/inspection Banglow House at Palla Check Post No.III.

Estimated Cost of ₹ 399.88 lakh

Right Marginal Embankment (RME) plays an important role to protect a large area of Delhi against flood from River Yamuna on its Western side. 3 Nos. check post at Right Marginal Embankment (RME) i.e. Hiranki Check Post No.I, Jhangola Check Post No.II and Palla Check Post No.III are used for monitoring during the monsoon period. Further, the training programme regarding flood management of River Yamuna and other water issues also takes place for which conference / meeting hall is required, so it is essential to construct a rest house/ inspection Banglow with conference room for meeting purpose.

The work shall be taken up after completing of codal formalities, and shall be completed within a period of 9 Months from the date of commencement.

2.1.13 Resurfacing of inspection road of Right Marginal Embankment from RD.0m to 10500m (from Haryana Boarder to Hiranki Village Rainy Well No.4) (Revised)

Estimated Cost of ₹ 985.45 lakh

Right Marginal Embankment (RME) plays an important role to protect a large area of Delhi against flood from River Yamuna on its Western side. In addition, RME is being used by the local people of nearby villages i.e. Palla, Tigipur, Sungerpur, Bakhtawarpur, Hiranki, Mohammadpur, Ramjanpur etc. for their day to day use.

The work will be taken up after completing of codal formalities and shall be completed within a period of 6 Months from the date of commencement.

2.1.14 Construction of inspection road at Jagatpur Bund from RD 0m to RD 4388m.

Estimated Cost of ₹ 921.45 lakh

Jagatpur bund is one of major flood protection structure against floods from Yamuna river to the residents of Jagatpur village and other unauthorized colonies. In addition, Jagatpur bund is being used by the local people of above mentioned village and unauthorized colonies for their day to day commuting. In view of the above, double lane bituminous road is proposed.

The work will be taken up after completing of codal formalities, and shall be completed within a period of 12 Months from the date of commencement

2.1.15 Strengthening and widening of RME from RD 16500m to RD 18360m (from Jagatpur Bund to Supplementary Drain) (Both Side)

Estimated Cost of ₹ 939.56 lakh

The Right Marginal Embankment from RD 16500 m to RD 18300 M has road width of single lane. It also facilitates as shortest approach road to Right Marginal Embankment from outer ring road. Due to rapid urbanization along Right Marginal Embankment in this reach, the traffic congestion has increased and causing bottle neck during the field visits and peak hours. The work will be taken up after completing of codal formalities, and shall be completed within a period of 12 Months from the date of commencement.

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, occurrence of monsoon season (flood season) due to delay in construction of underpass which will be connected to this bridge on outer ring road by PWD, there is a delay of almost 02½ years. 94% of the work has been completed with an expenditure amounting to ` 352.86 lacs has been incurred so far.

2.2.2 Construction of additional double lane RCC bridge D/S of existing Badli Bridge at RD 9960m of Supplementary Drain.

Estimated Cost of ₹ 393.59 lakh

The work is in progress with stipulated date of start & completion 05.09.2018 & 26.02.2020. 27% of the work has been completed with an expenditure of 62.86 lacs. The work will be completed within the stipulated date of completion i.e. 26.02.2020.

2.2.3 Dismantling and reconstruction of two lane bridge at RD 21000m of Supplementary Drain.

Estimated Cost of ₹427.40 lakh

2.2.4 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

The Stipulated date for completion of work was 25.02.2019, but due to standing crops along the drain, the farmers not allowed to execute the work during the standing crop period. The anticipated date for completion of work is 15.06.2019. The percentage of physical progress of work achieved so far is 87% and the expenditure incurred on the completed work is Rs: 86.29 Lac.

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

Estimated Cost of ₹ 301.98 lakh

The proposed bridge at RD 1260 m is an important bridge to provide access from NH-1 to various villages of North West Delhi like, Nanglipoona, Kadipur etc. being shortest route. The necessity of bridge arises due to deteriorated condition of existing bridge by exposing its reinforcement vigorously. The completion of the work has been delayed due to non-shifting of DJB pipeline which was laid on the existing bridge. In financial year 2018-19, 75% of the work was completed and 233.54 lakhs expenditure has been incurred. The work is likely to be completed on 30.06.2019.

2.2.6 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

2.2.7 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

The Stipulated date for completion of work was 05.03.2019, but due to standing crops along the drain, the farmers not allowed to execute the work during the standing crop period. The anticipated date for completion of work is 15.06.2019. The percentage of physical progress of work achieved so far is 80% and the expenditure incurred on the completed work is Rs: 101.62 Lac.

2.2.8 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 ₹ 383.00 lakh

Khera Khurd drain is exclusively storm water drain for draining out rain water from the area. 8 Nos of existing pipe culverts at the drain are unable to accommodate additional discharge which resulted in flooding of newly area in vicinity. Hence, it is essential to remodel these culverts. A/A & E/S received on 06.02.2019 and estimate submitted for Technical sanction and tender will floated after General Election 2019.

2.2.9 Demolishing & Reconstruction of bridge across Bawana Escape at RD14190m.

Estimated Cost of ₹ 402.00 lakh

Existing single lane bridge is in deteriorating condition and unable to accommodate the existing traffic load. Hence, required replacement by constructing double lane bridge.

Now the work is in progress and 95% work has been completed till date. Project is not running as per schedule of completion due to flood season and none shifting of electric pole along the alignment of bridge.

2.2.10 Demolition and reconstruction of existing bridge at RD 4400m on T.D.No.I near Swarn cinema.

Estimated Cost of ₹ 201.00 lakh

The existing bridge located in front of Swarn Cinema is of two lane R.C.C box Culvert type bridge, approximately forty years old (Built in early 1980's). This Bridge connects Swami Dayanand Marg and part of population of Bholanath Nagar on left side and Vishwas Nagar on right side. The area is densely populated, due to presence of small scale industries in nearby colonies.

The above said work is in progress and will be completed by 31st of July'2019 .

2.2.11 Construction of RCC double lane bridge across Supplementary Drain D/s of existing ranhola bridge at RD 28080m.

Estimated Cost of ₹ 377.03 lakh

Above stated work is in progress and at present 50% of the work has been completed. About 114.00 lacs has already been incurred on this work. Work will be completed within stipulated date completion i.e. 14.11.19. Work is being taken up under capital head MH-4711-Capital Outlay on Flood Control-02-Drainage-800-Other expenditure-990042-Other Drainage Works.

2.2.12 Construction of additional RCC double lane bridge across Supplementary Drain D/s of existing Ranhola bridge at RD 30850m.

Estimated Cost of ₹ 342.51 lakh

Above stated work is in progress and at present 75% of the work has been completed. About 185.00 lacs has already been incurred on this work. Work will be completed within stipulated date completion i.e. 14.11.19. Work is being taken up under capital head MH-4711-Capital Outlay on Flood Control-02-Drainage-800-Other expenditure-990042-Other Drainage Works.

2.2.13 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

Existing pipe culverts are unable to accommodate additional discharge generated on account of increase in habitation along the drains which resulting in

stagnation of water in the nearby area. To accommodate the additional discharge existing pipe culverts should be replacement by constructing 3 Nos RCC culverts to facilitates for smooth flow of traffic as well as ease out the drainage congestion problem under the culverts.

Work is in progress and 42% of the work completed till date. Work is within the schedule date of completion.

2.2.14 Construction of additional RCC double lane bridge across NG drain downstream of existing Ranhola bridge at RD 34350m.

Estimated Cost of ₹ 867.26 lakh

The stipulated date of start and completion as 28.08.2018 and 18.02.2020 respectively. The progress of the work is approximately 55%. At present the work is physically in progress and shall be completed within the stipulated time period.

2.2.15 Widening of RCC foot bridge at RD 6480m of Trunk Drain No. 1

Estimated Cost of ₹ 313.00 lakh

2.2.16 Demolishing of 04 nos. existing pipe culverts and reconstruction of RCC box culverts at RD 75m, 140m, 850m and 1310m at Sannothe link drain.

Estimated Cost of ₹ 192.00 lakh

The Sannothe link drain was constructed purely as a storm water drain and existing the pipe culvert over this drain are unable to accommodate additional discharge of area due to urbanization and development of new colonies thus these pipe culvert need to be replaced by constructing R.C.C. Box culvert so as to ease the drainage cogitation under the culvert. Work is running within the schedule of completion.

2.2.17 Demolishing and re-construction of existing RCC culvert at RD. 5925m on Mundela Drain in Najafgarh Block connecting village Paprawat to village Pandwala Kalan.

Estimated Cost of ₹ 101.91 lakh

The stipulated date of start and completion as 07.11.18 and 05.09.19 respectively. The work is in progress.

2.2.18 Construction of Four Lane RCC bridge at upstream of RD 20180m (existing Dhoolsir Bridge) Dhoolsir on Najafgarh Drain.

Estimated Cost of ₹ 1810.22 lakh

The proposed bridge is a four lane RCC bridge adjacent to existing bridge with provision for footpath 1.5m on both edges, median 1m, with intermediate pier, two

abutments. The traffic over existing bridge which connects Chhawala on Najafgarh side to Dwarka at Najafgarh drain, Dhoolsiras is increased manifold.

The tender of the work will be floated after Model Code of Conduct of Election-2019.

2.2.19 Construction of two lane bridge at RD 7550m Trunk Drain No. 1.

Estimated Cost of ₹ 184.00 lakh

2.2.20 Construction of four lane RCC bridge at upstream of RD 14468m (existing badusarai bridge), on Najafgarh Drain.

Estimated Cost of ₹ 2277.33 lakh

The proposed bridge is a four lane RCC bridge on upstream of existing bridge with provisions for footpath 1.5m on both edges, median 1m with piers and abutments.

The traffic over existing bridge which connects Haryana region to Najafgarh side villages via Badusarai village, is increased manifold. Existing bridge is a single lane bridge which is very old and in dilapidated condition, is not sufficient to cater the needs of present day traffic.

The tender of the work will be floated after Model Code of Conduct of Election-2019.

2.2.21 Construction of four lane RCC bridge at upstream of RD 11960m (existing Jhatikra Bridge) on Najafgarh Drain.

Estimated Cost of ₹ 945.40 lakh

The stipulated date of start and completion as 15.11.18 and 14.11.19 respectively. The work is in progress. An expenditure amounting to ₹ 360.80 lakh has been incurred so far.

2.2.22 Construction of RCC bridge at RD 6430m of Trunk Drain No. I.

Estimated Cost of ₹ 182.35 lakh

2.2.23 Resurfacing of existing road between RD 17905m (Chhawla Bridge) at RD 28180m at Kakraula Bridge on R/B of NG Drain.

Estimated Cost of ₹ 345.55 lakh

The stipulated date of start and completion as 19.09.18 and 16.01.19 respectively. The work is in progress.

2.2.24 Construction RCC bridge at RD 15m, 422m, 2110 across Pankha road drain.

Estimated Cost of ₹ 762.50 lakh

The stipulated date of start and completion as 14.03.19 and 08.12.19 respectively. The work is in progress and shall be completed within the stipulated time period.

2.2.25 Construction of additional RCC double land bridge across N.G. Drain downstream of existing Niloti Bridge at RD 37250m.

Estimated Cost of ₹ 867.26 lakh

The tender of the work shall be recalled after removal of model code of conduct of Lok Sabha Election 2019

2.2.26 Construction of RCC bridge on downstream of existing bridge on chhawla Najafgarh road.

Estimated Cost of ₹ 3043.00 lakh

2.2.27 Resurfacing of the existing inspection road from RD 6950m to 9850m and Construction of Bituminous road on the left out portion of earthen banks (RD 9850m to 12550m) of Mundella Drain.

Estimated Cost of ₹ 298.75 lakh

The inspection bank road of Mundella drain between RD. 6950m to 9850m are in deteriorated condition and require resurfacing to make it motorable for inspection as well as for regular commuters of the nearby villagers in the vicinity of this drain. This road provide connectivity between Ghumanhera-Najafgarh road to Khera Dabar to Ujwa Kharikhari Rondh road, Ayurvedic Hospital, Forest Land.

2.2.28 Widening of existing of Rithala bridge by single lane on both sides at RD 16436m of Supplementary Drain.

Estimated Cost of ₹ 464.05 lakh

The necessity of this work arise as there is frequent traffic jam occur at existing double lane bridge there are four lane road of PWD of both sides of the existing bridge by constructing single lane on both side of the existing bridge so that traffic jam problem should be resolved. Presently, the work is in progress.

2.2.29 Construction of road and side drain on sub minor No. 4 from RD 350m to RD 1250m.

Estimated Cost of ₹ 197.79 lakh

The land for sub –minor No. 4 was acquired for construction of sub minor No. 4 to supply water to the farmers. Now the maximum area has been urbanized and there is no need of irrigation water and the channel has been abounded.

Work is in progress and 40% work completed up to till date. Work is delayed due to demarcation dispute with the local resident.

2.2.30 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 above said proposal was proposed to provide the direct approach to the divisional office, as the office exists in thickly populated area and to inspect the left bank of N.G. Drain. However, the work could not be completed due to occurrence of monsoon seasons and difficult site conditions i.e. heavy flow in N.G. drain and non availability of sufficient space for the work. The work is likely to be completed on 31/05/2019. The 95 % of work has been physically completed in financial year 2018-19 and amount of ₹ 148.00 lacs has been incurred.

2.2.31 Construction of RCC bridge at RD 18415m of Bawana Escape.

Estimated Cost of ₹ 285.00 lakh

Due to fast urbanization and development of industrial area adjacent to the existing drain, the existing bridges unable to cope-up the existing local traffic. In order to provide connectivity to the local residents. It has been decided to construct two lane RCC bridge at RD 18415M.

A/A & E/S has been conveyed on 22.02.2019, Estimate under process to Technical Sanction.

2.2.32 Demolishing of existing two lane RCC bridge and construction of new tree lane RCC bridge at RD 3890m of trunk Drain No. I Bhikam Singh Colony.

Estimated Cost of ₹ 623.00 lakh

The existing bridge is of two lane R.C.C box type bridge constructed approximately forty years back. The area is densely populated and due to presence of small scale industries in these colonies, Swarn Cinema, huge traffic ply on this bridge. This bridge is in very dilapidated condition.

The above said work is under the process of soil investigation and detailed estimate which is under process.

2.2.33 Demolishing and Re-Construction of RCC bridge at RD 5800m to Trunk Drain No. I.

Estimated Cost of ₹ 295.00 lakh

2.3 Protection of Govt. Land.

2.3.1 Construction of boundary wall on country side along the land boundary from RD 10500 to RD 18360 of RME to protect the Govt. land from unauthorized construction of nearby area.

Estimated Cost of ₹ 584.00 lakh

Right Marginal Embankment for the protection of the area from flooding Yamuna is in existence from RD 0 m (Palla) to RD 18360m (Jharoda Village). Outside the embankment between RD 10500m to 18360m there are lots of unauthorized constructions going on. There is very much possibility of encroachment on valuable Government land. To avoid illegal encroachment it is very much necessary to protect the land by way of constructing wall along land boundary.

- 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 stipulated date of start of the above work was 02.12.15 & 01.09.16. Work has started late due to stiff local public hindrance. At present 95% has been completed and 62.00 lacs has been incurred on this work. Work will be completed by 31 August, 2019.

- 2.3.3 Construction of boundary wall on left bank of T.D.No.I between RD 0m to RD 1940m.

Estimated Cost of ₹ 154.57 lakh

Drain T.D. No. I is a storm water drain which runs from Loni (U.P border) to Tata Telco, T-point, East Delhi. No boundary wall exist in the downstream of RD 1940m on left bank. The land on other side of boundary wall pertains to DDA, Patpartgunj Industrial Area, Railway Department and private land. In order to curb the illegal activities, encroachment on land by private parties and throwing of garbage in the drain/bank by industries of Patpartgunj Industrial Area, construction of boundary wall on left bank is necessitated.

- 2.3.4 P/L of 450mm dia NP-2 Class 56.06 RCC Pipe Conduct for carrying out treated water from wet land system at RD 9920m to existing pond at RD 11150m on left side of Bawana Escape Drain.

Estimated Cost of ₹ 56.06 lakh

SWAB based wetland system has already been constructed on the bank of Bawana Escape Drain to treat 1 MLD of waste water flowing in the Ghoga drain. At present the treated waste from the wetland system outfalls into the Bawana Escape Drain. This estimate has been framed in order to use to treated water to rejuvenate a dry water body of DSIIIDC approx. 1.2 Km downstream of the wetland system.

Work is in progress and 1% work completed up to till date. Work is within schedule date of completion.

- 2.3.5 Protection of Wet land at Bawana Escape Drain between RD 9700m by providing brick lining on Both Bank of Drain.

Estimated Cost of ₹ 107.52 lakh

A wet land system was constructed based on SWAB technology on Left Bank of Bawana Escape Drain at RD 9700 M to treat the waste water of Ghoga drain by adopting ecologically sensitive and sustainable method. On construction of the wet land, substantial part of left bank of Bawana Escape drain has been utilized. During recent monsoon season, the bank of which wet land was constructed has been damaged on various locations on account of heavy rain cut. This will lead to future damage of the wet land system.

Work is in progress and 15% work completed up to till date. Work is within in the schedule of completion.

2.3.6 Providing Flood Protection Work along river Yamuna between RD 0m to RD 800m of L. F. Bund (Sonia Vihar Pushta) North East Delhi.

Estimated Cost of ₹ 378.00 lakh

2.3.7 Construction of Service road from RD 3800m to RD 5750m of L. F. Bund.

Estimated Cost of ₹ 429.44 lakh

2.3.8 Restoration of damaged parapet wall on city side of L. F. Bund between RD 900m to RD 5750m.

Estimated Cost of ₹ 205.26 lakh

3. DEVELOPMENT OF CHHAT PUJA GHATS

Budget Allocation 2019-20 : ₹ 2000 Lakh (Capital)

In order to respect the culture and religious customs of the communities, Chhat Ghats will be constructed / developed all over Delhi during 2019-20.

Targets 2019-20

- Number of permanent Chhat ghats will be constructed : 6
- Number of temporary Chhat ghats will be constructed : 593

4. REJUVNATION/MAINTENANCE & PRESERVATION OF WATER BODIES (NEW SCHEME)

Budget Allocation 2019-20 : ₹ 2500.00 Lakh (Capital)

Irrigation & Flood Control Department (I&FC) is undertaking the Delhi Government's initiative for rejuvenation of 95 water body in NCT of Delhi by using ecologically sensitive sustainable technology and bio remediation and the creation of wetland and park-way systems etc. wherever feasible. The project is one of the most ambitious to be carried out in the water sector for overall holistic development of

water body and enable paradigm shift in strategy, exploring the feasibility of augmenting self purification of water bodies.

Consultant have been appointed for 60 water bodies in which DPR of 22 nos. have already been received and rest will be received in phases by 31.07.2019 and the remaining 35 water bodies preliminary estimate for A/A & E/S have been prepared and the same have been approved in 42nd TAC meeting.

5. REJUVNATION OF DRAINS (NEW SCHEME)

Budget Allocation 2019-20 : ₹ 10000.00 Lakh (Capital)

The quality of waste water of the drains falling in the Jurisdiction of I&FC Department is alarming due to in flow of industrial effluent, waste water and septage from the adjoining un-sewered village and industrial waste into the drains. BOD of the waste water has been enormous and found to vary from 150 to 250mg/litre at different location. The fumes of waste water in drains are also contributing the air pollution and pollute the sub soil of the area along which it flows. Further, Hon'ble NGT is also monitoring the water pollution contributed by the I&FC drains flowing into Yamuna River. Therefore, to rejuvenate 27 drains falling in jurisdiction of I&FC Department are proposed to rejuvenate in holistic manners by using ecologically sensitive and sustainable technique.

Consultants have been appointed for 27 Nos. drains in which DPR have been received for 05 Nos. and 22 Nos. drains DPR are expected to be received by 30.10.2019.

6. CHARGED EXPENDITURE

Budget Allocation 2019-20 : ₹ 50.00 Lakh (Capital)

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

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

Budget Allocation 2019-20 : ₹ 150.00 Lakh (Revenue)

- 7.1 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.
- 7.2 Survey, Model Study and Hydrological data Collection & Investigation for new schemes (Covering of Drains/Nallahs) are conducted under this scheme.
- 7.3 Establishment of Quality Control and Material Testing Laboratory.