

## **IRRIGATION AND FLOOD CONTROL**

### **INTRODUCTION**

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 Plant as well as through a Network of State tube-wells available in the rural areas, maintaining the embankments constructed along on both sides of river Yamuna in the jurisdiction of Govt. of NCT of Delhi, maintenance of 63 Nos. storm water drains in the various Districts of Govt. of NCT of Delhi 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 this, Irrigation & Flood Control Deptt. 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.

### **FUNCTIONS AND ACTIVITIES OF THE DEPTT**

1. Protecting the city of Delhi from floods in River Yamuna, by construction, strengthening and maintenance of marginal embankments including planning execution and maintenance of flood protection & river training works
2. Protecting the city of Delhi against floods in Sahibi Nadi- Najafgarh Nallah basin by maintenance of Dhansa Bund, Najafgarh drain and construction of a new drain, called Supplementary Drain.
3. To provide drainage to Delhi area through various trunk storm-water drains having more than 1000 cusecs capacity.
4. Effective monitoring of the flood situation in the river basin during the floods and to take all precautionary/preventive measures to avoid any untoward situation including emergent flood protection / flood fighting measures, if such a situation arises.
5. To provide irrigation facilities to the cultivators of Delhi through State Tube Wells, and to provide treated effluents (available from various Sewage Treatment Plants at Okhla, Keshopur & Coronation Pillar) for farming.

### **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, whereas surface irrigation by way of utilizing treated effluent water in North, South and West Districts from the existing sewage treatment plants located at Burari, Okhla and Keshapur. Western Yamuna canal system under the control of Haryana Government is also being utilized for irrigation purposes in North-West District. The details of the programme under Minor Irrigation are given in Part-I.

## **FLOOD SECTOR**

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. Local Drainage system has also been found inadequate to meet the requirement when there is heavy rain fall in the catchments of these drains or during inflow of flood water from adjoining states through Yamuna River in Delhi. Several flood mitigating measures like raising and strengthening of Yamuna marginal embankments, remodeling and lining of various drains have been taken up over the years to avoid repetition of flood. The details of the programme under Flood Control are given in Part-II.

Revised Outlay & Expenditure of Annual Plan 2011-12, Approved Outlay & Revised outlay of Annual plan 2012-13 and Proposed Outlay for Annual Plan 2013-14 for Minor Irrigation & Flood Control Sector are as under:

(` in crore)

Sector	Annual Plan 2011-12		Annual Plan 2012-13		Annual Plan 2013-14
	Revised Outlay	Expenditure	Approved Outlay	Revised Outlay	
I & FC	49.63	49.38	55.00	74.63	80.00

### **PART-I**

#### **MINOR IRRIGATION**

##### **Ground Water Recharge & Water Conservation (₹ 5.00 lakh Under Capital Head)**

Due to uncontrolled exploitation of ground water resources and inadequate ground water re-charge measure, the ground water in Delhi has been continuously depleting over the last several years. The groundwater situation in Mehrauli and Najafgarh Block and Alipur Block are critical. In order to reverse this trend, the Dept. has taken-up number of water harvesting schemes such as creating pondage in the bed of N.G. Drain, making recharging pits/trenches in Mungeshpur Drain, Bawana Escape, Mundella Bund etc.

### **PART – II**

#### **FLOOD SECTOR**

##### **1. Embankment schemes including Access Roads & Bridges, Anti Erosion Works and Beautification works**

##### **Plan Outlay**

**Annual Plan 2013-14** : ₹ 5230 Lakh (Under Capital Head)

The embankment schemes envisage construction, strengthening and beautifications of embankments of river/drains under the jurisdiction of I&FC Deptt.

## **1.1 EMBANKMENT SCHEMES**

### **1.1.1 Construction of Sump Well for Toe Drain and Link Drain No.-II (Estimated Cost of ` 99.66 lakh)**

E/S has been issued in the year 2011-12. 2% work has been completed. The work is in progress and to be completed in 2013-14. .

### **1.1.2 Construction of out fall structure cum regulator for Link Drain No. II (Estimated Cost of ` 63.78 lakh)**

E/S has been issued in the year 2011-12. 2% work has been completed. The work is in progress and to be completed in 2013-14.

### **1.1.3 Construction of Toe Drain along Supplementary Drain from old RME to Link Drain No.-2 (Estimated Cost of ` 64.24 lakh)**

E/S has been issued in the year 2011-12. 2% work has been completed. The work is in progress and to be completed in 2013-14.

### **1.1.4 Improvement of existing pitching/lining of Jahangirpuri Drain between RD 1135m and RD 600m (Estimated Cost of ` 80.00 lakh)**

E/S has been issued in the year 2011-12. 12% work has been completed. The work is in progress and to be completed in 2013-14.

### **1.1.5 Strengthening of Yamuna Bazar wall on right bank of River Yamuna (Estimate Cost of ` 99.00 lakh)**

E/S has been issued in the year 2011-12. 55% work has been completed. The work is in progress and to be completed in 2013-14.

### **1.1.6 Construction of retaining wall on right bank of Jahangirpuri Drain (Estimated Cost of ` 96.00 lakh)**

E/S has been issued in the year 2011-12. 80% work has been completed. The work is in progress and to be completed in 2013-14.

### **1.1.7 Strengthening of left bank of New Drain from RD 0 M to RD 1700 M (Estimated Cost of ` 158.54 lakh)**

E/S has been issued in the year 2011-12. 81% work has been completed. The work is in progress and to be completed in 2013-14.

### **1.1.8 Construction of retaining wall along both banks of Shahdra outfall drain downstream of Chilla regulator RD 5900m (Estimated Cost of ` 125.07 lakh)**

Due to release of heavy discharge from Hindon Cut Canal by U.P. Irrigation Department into Shahdara out fall drain by closing gates of Chilla regulator and Hindon Cut Canal and heavy discharge into Shahdara Outfall drain through Ghazipur drain & Shahdara Link drains and due to local rains, during flood season of 2010, both side earthen banks of Shahdara Outfall drain were eroded in a length of 50.0m (appx). As an emergent measure the erosion was controlled by placing earth filled bags and erecting a row of wooden ballies, as a temporary. However, as a permanent measure and to avoid erosion of banks of drain at this location, it is proposed to construct retaining wall on pile foundation, in 60.0m length along both the banks.

E/S has been issued in the year 2011-12. The work is in progress.

- 1.1.9 Improvement & strengthening side slopes and bank by providing pointing on pitching between RD 19750m to RD 16436m of Supplementary drain **(Estimated Cost of ₹ 84.00 lakh)**

E/S has been issued in the year 2012-13. The work has been foreclosed due to technical reason.

## 1.2 **REVAMPING OF I & FC DRAINS**

The major drains which are out falling into River Yamuna should be protected from garbage by way of construction of boundary wall on both side and additional measures taken on bridges by strengthened existing railing and erecting wire mesh fencing/netting. It was decided to take up work on Najafgarh Drain, Supplementary Drain and others Drains of I&FC Department which have not been covered under phase-I programme. Accordingly, separate schemes have now been taken up.

- 1.2.1 Revamping of Najafgarh Drain from Amberahi Bridge to Kakraula Bridge (RD 22435m to RD 30180m) **(Estimated Cost of ₹ 746.00 lakh)**

E/S has been issued in the year 2008-09. 82% work has been completed. The work is in progress and to be completed in 2013-14.

- 1.2.2 Revamping of NG drain from Kakraula Bridge to Basaidarapur Bridge i.e. RD 22435m to RD 45316m **(Estimated Cost of ₹ 519.00 lakh)**

E/S has been issued in the year 2008-09. 62% work has been complete and the further work could not be executed due to technical reasons and the scheme is being foreclosed. The proposal for foreclosure is being placed to Work Advisory Board for its approval.

- 1.2.3 Construction of wall on right bank of TD No.1 between MCD dustbin at RD 8660m to Arterial Highway bridge RD 1033m **(Estimated Cost of ₹ 93.28 lakh)**  
E/S has been issued in the year 2010-11. The work is in progress and to be completed in 2013-14.

- 1.2.4 Construction of wall on left bank of TD No. 1 between Arterial Highway Bridge to pipe line Bridge (i.e. RD 10330m to RD 11270m)

**(Estimated Cost of ` 319.00 lakh)**

E/S has been issued in the year 2012-13. 30% work has been completed. The work is in progress and to be completed in 2013-14.

- 1.2.5 Construction of sump well for village Wazirabad near Supplementary Drain

**(Estimated Cost of ` 153.40 lakh)**

E/S has been issued in the year 2012-13. The work is in progress and to be completed in 2013-14.

- 1.2.6 Revamping of left bank of new drain from RD 1260m to RD 5400m.

### **1.3 REMODELING/IMPROVEMENT OF EXISTING DRAINS**

- 1.3.1 Remodeling of Karari Suleman Nagar Drain from RD 3700 M to RD 6100 M (By constructing RCC through section at RD 3700 m to RD 6090 m)

**(Estimated Cost of ` 525.21 lakh)**

E/S has been issued in the year 2007-08. 64% work has been completed. The work is in progress and to be completed in 2013-14

- 1.3.2 Remodeling of drain No. 6 from RD 0m to RD 14725m (5 bridges)

**(Estimated Cost of ` 744.00 lakh)**

E/S has been issued in the year 2007-08. 37% work has been completed and to be completed in 2013-14.

- 1.3.3 Construction of RCC Drain from RD 495m to RD 1130m of Link Drain No. II along Burari Bund (Road leading to Bio- Diversity Park)

**(Estimated Cost of ` 115.38 lakh)**

E/S has been issued in the year 2007-08. 60% work has been completed and to be completed in 2013-14.

- 1.3.4 Remodeling of Mundka peripheral Drain by constructing R.C.C. through section

**(Estimated Cost of ` 341.23 lakh)**

E/S has been issued in the year 2007-08. 42% work has been completed and to be completed in 2013-14.

- 1.3.5 Remodeling of Kirari Suleman Nagar Drain by constructing RCC through section from RD 3700 m to RD 2445 m

**(Revised Estimated Cost of ` 584.00 lakh)**

E/S has been issued in the year 2007-08. The work is in progress and to be completed in 2013-14.

- 1.3.6 Construction of RCC covered storm water drain from pond in Kh. No.482 to existing outfall drain near Phirni road in village Tikri Kalan  
**(Estimated Cost of ` 173.55 lakh)**

E/S has been issued in the year 2008-09. 80% work has been completed. The work is in progress and to be completed in 2013-14.

#### 1.4 **OTHER SMALL DRAINAGE IMPROVEMNET SCHEMES**

- 1.4.1 Construction of balance portion of Bakarwala outfall drain near Keshopur-Nilothi Irrigation Channels at village Bakarwala  
**(Estimated Cost of ` 76.21 lakh)**

E/S has been issued in the year 2011-12. 40% work has been completed. The work is in progress and to be completed in 2013-14.

- 1.4.2 Improvement of Trunk Drain No. I from RD 6265 m to RD 5900 m and RD 6690m to RD 6345m  
**(Estimated Cost of ` 398.00 lakh)**

The purpose of carrying out desilting of Trunk Drain No.I D/S of G.T. Road Bridge in the areas of Ajit Nagar, Old Seelampur, West Kanti Nagar, a permanent longitudinal earthen Bundi has been constructed in centre of bed of the drain. The existing longitudinal earthen Bundi constructed in the bed of drain is 3 to 4m wide due to which the discharge carrying capacity of drain has been reduced considerably by approximately 30%. The earthen bundi also breaches due to rise in water level, resulting in obstruction in the smooth flow of water as well as delay in execution of work. To mitigate this problem and avoid recurring expenditure on the maintenance of earthen bundi, it is proposed to construct a permanent RCC divide wall which will not affect the discharge in drain and also will be helpful in carrying out desilting by diverting the flow in one bay. Accordingly the scheme has been framed.

- 1.4.3 Covering of Irrigation Channel from Okhla Treatment Plant to main road of village Jasola in Okhla Constituency  
**(Estimated Cost of ` 250.00 lakh)**

Open Irrigation Channel carrying treated effluent available from of Okhla Treatment Plant, passing through Abadi area of village Jasola creates unhygienic insanitary condition, foul smell and has become place for mosquito breeding and health hazards to the local residents. The demand for covering of channel has been raised by the local residents number of times and the Hon'ble area MLA also raised this issue with Hon'ble Minister of Irrigation & Flood Control Department in the meeting held on 06.11.2011 and requested to cover the channel and use the same as internal road. Accordingly, a preliminary survey has been carried out, found that there is encroachment along the channel and a number of pipelines existing in the channel, it seems difficult to cover the channel in the TAC & FCB meeting and same was approved by them. As such, the Chief Engineer: Zone-I put up the proposal for appointment of a consultant to carry out a detailed survey and find out the possibility and methodology for covering of this channel. This project/scheme shall be taken after the report submitted by the consultant if found feasible to execute the scheme.

- 1.4.4 Providing and laying dry stone pitching on bank of Trunk Drain No. 1 from RD 20m to RD 480m  
**(Estimated Cost: ₹ 98.00 Lakh)**

Scheme for providing dry stone pitching with necessary provisions of RR profiles and patra to stabilize the pitching on U/S and D/s of the existing bridge in a length of approx. 460m, has been framed. After the pitching in this portion, flow of the drain will be smooth and floating material will not accumulate easily along the edges of drain which will improve the appearance of the drain.  
E/S has been issued in the year 2012-13.

## **1.5 ACCESS ROADS & BRIDGES**

- 1.5.1 Const. of two Lane RCC Bridge connecting Budh Vihar and Vijay Vihar at RD 18750m of Supplementary Drain  
**(Estimated Cost of ₹ 218.40 lakh)**

E/S has been issued in the year 2007-08. 85% work has been completed. The work is in progress and to be completed in 2013-14.

- 1.5.2 Improvement of road on left bank of Supplementary Drain between Wazirabad and New drain  
**(Estimated Cost of ₹ 321.00 lakh)**

E/S has been issued in the year 2008-09. The work is in progress and to be completed in 2013-14.

- 1.5.3 Dismantling and reconstruction of two lane bridge at RD 21000m of Supplementary drain  
**(Estimated Cost of ₹ 191.00 lakh)**

E/S has been issued in the year 2009-10. The work cannot be taken up as the bridge at RD 21260m of Supplementary drain is to be rehabilitated before taking up this work.

- 1.5.4 Restoration of left bank of BC drain from RD 0m to RD 8550m  
**(Estimated Cost of ₹ 358.00 lakh)**

The B.C. Drain i.e. RD 8550 m in length from Delhi Haryana Border to its outfall point including Mungeshpur drain was constructed in year 1987. The condition of the left bank of B.C. Drain is in deteriorating condition, it is necessary to restore the bank upto design level. Construction of W.B.M. road on left bank of B.C.Drain to facilitate the movement of men and material during any emergency. Total length of this drain is RD 8550m out of which the drain from RD 2736m to RD 6280m falls in Haryana Territory.

E/S issued in the year 2011-12. The work could not be taken up due to permission not granted by Haryana Govt. Irrigation Deptt. for cutting of trees, since some portions of the drain passes through Haryana Govt. land. The scheme at planning stage. The work is to be taken up in the year 2013-14.

1.5.5 Demolition and Re-construction of Bridge at RD 4165m of Bawana Escape  
**(Estimated Cost of ₹ 84.74 lakh)**

E/S has been issued in the year 2008-09. 50% work has been completed. The work is in progress and to be completed in 2013-14.

1.5.6 Upgradation of existing left bank of Najafgarh Drain from Amberahi Bridge to Kakraula Regulator (RD 22435 M to 30106 M)  
**(Estimated Cost of ₹ 181.52 lakh)**

E/S has been issued in the year 2009-10. 30% work has been completed and the work is in progress and to be completed in 2013-14.

1.5.7 Demolishing and re-construction of culvert across Nangloi Drain outfalling on Left Bank of Supplementary Drain. at RD 14600m.  
**(Estimated Cost of ₹ 63.27 lakh)**

E/S has been issued in the year 2008-09. The work can not be taken up due to non supply of Hydraulic data by DDA.

1.5.8 Construction of two lane RCC bridge at RD 4028m (Rawta) on Najafgarh drain.  
**(Estimated Cost of ₹ 609.00 lacs)**

E/S has been issued in the year 2009-10. 82% work has been completed. The work is in progress and to be completed in 2013-14

1.5.9 Construction of two lane RCC Bridge at RD 28180m (Kakraula Village Bridge) on Najafgarh drain  
**(Estimated Cost of ₹ 504.00 lakh)**

E/S has been issued in the year 2009-10. 95% work has been completed. The work is in progress and to be completed in 2013-14.

1.5.10 Demolishing of Single lane culverts and Re-construction of double lane bridges at RD 4450 M, RD 4580 M, RD 4756 M, RD 4957 M, RD 5300 M, RD 5690 M of Kirari Suleman Nagar drain.  
**(Estimated Cost of ₹ 77.72 lakh)**

Due to existence of thickly populated Colonies situated on both sides of Kirari Suleman Nagar drain, heavy vehicular traffic passes through these culverts & thus there is a need to demolition existing bridge & construct double lane culverts/bridges in place of existing small culverts/bridges with increased discharge capacity. The deck slab of these bridges shall also be raised to facilitate proper cleaning and smooth passage of discharge.

E/S has been issued in the year 2011-12. The work is to be taken up in 2013-14 as design and drawing are under process.



- 1.5.11 Construction of RCC road culvert at outfalling point of Mundka peripheral drain at RD 2345m across Hirankudna road  
**(Estimated Cost of ` 22.00 lakh)**

Mundka peripheral drain discharges into Madanpur drain. At present this is a pipe culvert consisting of single row of NP2 RCC Pipes of size 900mm diameter laid across Hiran Kudna road. Since, Mundka peripheral drain is being remodeled for 104 cusec discharge, the existing culvert is inadequate to cope- up with the designed discharge of remodeled Mundka peripheral drain, it is necessary to reconstruct culvert at outfall point to match with discharge of Mundka Pherpherial drain. As such, it is proposed to construct a RCC Box type culvert of size 2.00m x 2.50m across Hirankudna road to protect provide outfall structure. The provision of steel structure gates and kerries shall be made in the outfall structure.

E/S has been issued in the year 2011-12. The work will be spill over in the year 2013-14.

- 1.5.12 Demolishing and reconstruction of culvert at RD 1722m of Kirari Suleman Nagar Drain (Nangloi-Najafgarh Road)  
**(Estimated Cost of ` 94.61 lakh)**

The existing culvert was constructed long back by MCD at RD 1722mof Kirari Suleman Nagar drain on Nangloi-Najafgarh Road and is inadequate to accommodate additional discharge of colonies developed in the catchment area of the drain and added discharge from DJB treatment plant near Right Bank at RD 2400m. During last monsoon, a great difficulty was experienced as the discharge capacity of culvert was low. As such, it has become necessary to remodel this culvert to accommodate the additional discharge of this area. Since, Nangloi-Najafgarh road is very busy due to heavy traffic and there is space restriction, it is proposed to carry out the work in two phases. In phase-I one RCC duct shall be constructed adjacent to the existing culvert and in phase-II, the existing duct shall be reconstructed after dismantling the existing culvert.

E/S has been issued in the year 2011-12. The estimate under technical sanction and taken up in the year 2013-14.

- 1.5.13 Remodeling of existing inlets/regulators of Jahangirpuri drain  
**(Estimated Cost of ` 35.00 lakh)**

E/S has been issued in the year 2011-12. 50% work has been completed. The work is in progress and to be completed in 2013-14.

- 1.5.14 Construction of inspection path right side of Kirari Suleman Nagar drain by constructing RCC wall from RD 6090m to RD 7850m.  
**(Estimated Cost of ` 262.00 lakh)**

E/S has been issued in the year 2010-11. 20% work has been completed. The work is in progress and to be completed in 2013-14

- 1.5.15 Construction of two lane RCC bridge at RD 18300m of Supplementary drain at Dal Mil Gali, Budh Vihar  
**(Estimated Cost of ₹ 256.00 lakh)**

E/S has been issued in the year 2011-12. 3% work has been completed. The work is in progress and to be completed in 2013-14

- 1.5.16 Remodeling of left bank of Supplementary drain and construction of inspection path from RD 28080m to RD 30850m (Ranhola Bridge)  
**(Estimated Cost of ₹ 67.23 lakh)**

The bank of Supplementary drain between RD 28080m to RD 30850m is lying as a spoil bank and is uneven. To make this portion jeepable for inspection, it is proposed to construct WBM road to facilitate inspection during floods. The scope of work involves construction of WBM road with red bajri at the top.

E/S has been issued in the year 2011-12. The work is to be completed in 2013-14.

- 1.5.17 Construction of two lane RCC bridges at RD 2117m (Sarangpur) on N.G. Drain  
**(Estimated Cost of ₹ 674 lakh)**

The existing single lane bridge at RD 2117m across Najafgarh drain was constructed in mid eighties as a village road bridge which has now to cater for a very heavy traffic from other side coming towards Najafgarh area. Heavy traffic has resulted in settling down of the approach slab. Reinforcement of the main deck slab is also seen to be exposed, making it risky, even for the lightest vehicle to ply over it.

As such, it is proposed to demolish the existing bridge and re-construct a new two lane Bridge with 7.50m carriage way with 1.50m wide foot paths on the either side, adjoining this old bridge which is proposed to be dismantled

- 1.5.18 Construction of two lane RCC Bridge across NG Drain at RD 44060m to connect Shivaji Enclave & Road No. 33 West of Punjabi Bagh

The reach from RD 42895m to RD 45316m of NG drain, there exists no bridge to cater to thickly populated unauthorized/regular colonies developed on either side of the drain. Local residents of either side of the drain are facing difficulty in crossing the drain in this reach. As such, the present scheme has been prepared to construct a two lane RCC bridge, having 7.50m wide carriage way and 1.50m wide footpaths on either side at RD 44060m of NG Drain to give relief to the commuters on both sides.

- 1.5.19 Demolishing of Single lane bridge and Re-construction of double lane bridge at RD 17220m, RD 18928m, RD 24115m, RD 30849m and RD 31204m at Mungeshpur Drain

Bridges at RD 17220m, RD 18928m, RD 24115m, RD 30849m and RD 31204m across Mungeshpur drain were constructed about 40 years back as "village road bridges" for light vehicular traffic. At present they are in a dilapidated condition & require reconstruction. The clipping of the existing condition of the bridges were shown to the TAC. In the first phase, it is proposed to replace these 5 Nos. bridges with double lane RCC bridges having footpaths on both sides for pedestrian.

- 1.5.20 Widening of existing bridge at RD-1940m across T.D. No.1 at Karkari More.  
**(Estimated Cost of ` 411.51 lakh)**

E/S has been issued in the year 2011-12. The work is in progress and to be completed in 2013-14.

- 1.5.21 Restoration / Improvement of inspection road of RME from RD 10500 M to RD 18360M  
**(Estimated Cost of ` 339.31 lakh)**

E/S has been issued in the year 2011-12. 92% work has been completed. The work is in progress and to be completed in 2013-14

- 1.5.22 Improvement of bank by laying WBM on right bank/left bank of Mungeshpur drain in between RD 37550m to RD 15850m.  
**(Estimated Cost of ` 97.3 lakh)**

E/S has been issued in the year 2011-12. 70% work has been completed. The work is in progress and to be completed in 2013-14.

- 1.5.23 Providing and laying R.M.C on right bank of Pankha Road drain from RD 370m to RD 1570m.  
**(Estimated Cost of ` 76.30 lakh)**

E/S has been issued in the year 2012-13. 35% work has been completed. The work is in progress and to be completed in 2013-14

- 1.5.24 Construction of inspection road on right bank of new drain from RD 0m to 2000m.  
**(Estimated Cost of ` 66.62 lakh)**

E/S has been issued in the year 2012-13. 35% work has been completed. The work is in progress and to be completed in 2013-14.

- 1.5.25 Demolition of existing pipe culverts and reconstruction of RCC box culverts at RD 1181m, 1266m, 1337m, 1419m & 1478m of Burari Creeks  
**(Estimated Cost of ` 192.93 lakh)**

E/S has been issued in the year 2012-13. The work is under award and to be completed in 2013-14.

- 1.5.26 Improvement of road from Outer Ring Road Bridge to Raghurir Nagar Bridge i.e. RD 40680m to RD 42895m Right Bank at N.G. drain  
**(Estimated Cost of ` 94.90 lakh)**

E/S has been issued in the year 2012-13. The work is in progress and to be completed in 2013-14.

- 1.5.27 Construction of a double lane RCC bridge at RD 12740m of Supplementary Drain.

- 1.5.28 Construction of RCC double lane bridge at RD 23800m, U/S of existing foot Bridge, across Supplementary Drain.

- 1.5.29 Construction of two no. steel truss foot bridge on NG drain upstream and downstream of Bharat Nagar at RD 57232m.

**(Estimated Cost of ` 133.70 lakh)**

E/S has been issued in the year 2012-13. The work is at planning stage and to be over taken up in the year 2013-14.

- 1.5.30 Construction of steel truss bridge for crossing of 450mm & 300mm M.s. water pipe line of Delhi Jal board at RD 21260m of Supplementary drain

**(Estimated Cost of ` 96.02 lakh)**

The existing bridge at RD 21260m of Supplementary Drain carrying water mains and other service lines has to be shifted since cracks in the pier cap of bridge have developed after a period of 19 years of its construction. Further the laying of water pipelines on the RCC bridge is not desirable as per prevailing practice since there is difficulty in maintenance of bridge and pipelines both and the leakage also damaging bridge structure. For the rehabilitation of the existing bridge, it is necessary to shift the water supply mains passing over it. As such, a proposal has been prepared to construct a steel truss bridge on D/S of existing bridge for shifting DJB water mains of dia 400mm and 300mm. Besides the cost of proposed Steel Truss Bridge, which has to be constructed for carrying DJB Water mains, Delhi Jal Board has demanded a sum of `` 29.18 lakh for shifting of existing water mains.

E/S has been issued in the year 2012-13.

- 1.5.31 Construction of approach road on the Right Bank of Kirari Suleman Nagar drain between RD 150m (Feeder Channel) to RD 1430m (Nilothi Distributory)

**(Estimated Cost of ` 75.00 lakh)**

Kirari-Suleman Nagar Drain passes through various thickly populated unauthorized colonies and villages and its banks are excessively used by people of these colonies/villages. In the absence of proper pucca path in reach from RD 150m to 1430m, difficulties are being faced in maintenance/inspection of the drain particularly in monsoon season. As such, it is proposed to construct 4.25m wide inspection road on right bank with 4 cm thick bitumastic sheet and its associated items. Provision for laying of 60cm wide dry brick on edge flooring on either side of the road has also been made in the scheme.

- 1.5.32 Construction of inspection road on right embankment of river Yamuna from U/S of Nizamuddin Railway Bridge to Nallah No. 12 A, behind Inderprastha Power Station.

**(Estimated Cost of ` 69.00 lakh)**

- 1.5.33 Demolition of existing pipe culverts and reconstruction of RCC culverts at RD 610m, 1866m, 2910m, 3510m & 3700m of Bankner Link Drain in Alipur Block.

**(Estimated Cost of ` 134.07 lakh)**

There are several intermittent drains of MCD/DDA carrying slush/garbage and other floating material which outfall into Bankner Link Drain through its entire reach, due to which existing pipe culverts remain choked and floating material accumulates at the mouth of these culverts which obstruct flow of drain. Therefore, remodelling of these pipe culverts is considered essential to have obstruction free flow and avoid drainage congestion due to frequent choking of pipe culverts.

- 1.5.34 Construction of R.C.C. bridge at RD 4800 M of New Drain.

**(Estimated Cost of ` 328.00 lakh)**

The existing bridge located at RD 4975m at New Drain near Sanitary Land ground is in deteriorated condition and is at low level as compared to the G.T. Karnal Road. Commissioner, MCD vide letter No PSC/716/2011 dated 17.10.2011, has also requested to raise the level and widening of this bridge for plying of dumpers carrying sanitary waste to sanitary landfill. Due to settlement of a few colonies along the drain, local residents of these colonies are also demanding for restoring the condition of bridge. Beside this the water way of the existing bridge is also inadequate to cater the increased discharge.

- 1.5.35 Demolition of pipe culverts and reconstruction of RCC box culverts at RD 1508 M, RD 1534 M, RD 1662 M, RD 1788 M and RD 1872 M of Burari Creek.

**(Estimated Cost of ` 150.00 lakh)**

The existing pipe culverts across Burari Creek, constructed long back have resulted in blockage of flow and all floating material get blocked at these locations. Photographs of these locations were also shown to the members. It was also brought to the notice of members of the committee that there are more such locations where work is in progress as the previous phase work. The water way at these locations is very small.

- 1.5.36 Demolishing & re-construction of bridge at RD 1230 M of Drain No. 6 connecting Mukhmelpur village.

**(Estimated Cost of ` 182.00 lakh)**

There exists a very old bridge, constructed about 40 year back, across drain No. 6 at RD 1230m which connects Nangli Poona village with Mukhmelpur. The bridge is very narrow and is in deteriorated conditions. With the passage of time, vehicular traffic has increased. The local area representative has also requested for demolishing and reconstruction of this bridge.

- 1.5.37 Resurfacing of road and construction of Protection wall on both banks inner edges on Mungeshpur drain from RD 0m to RD 2740m  
**(Estimated Cost of ` 453.00 lakh)**

Inspection road on right bank of Mungeshpur drain between RD 0M to RD 2740M (Out fall of Mungeshpur drain into N.G. drain near Kakrola, to Dichaon Kalan Depot) is badly damaged, creating problems for road users and causing breakdown/damage to vehicles plying over it. This road is being excessively used by the local residents of the colonies along the Mungeshpur drain. During the inspection of Hon'ble Minister of I&FC Deptt. along with area MP as well as area MLAs, it was desired to repair the damaged road.

E/S in the year 2012-13. The work is in progress and to be completed in 2013-14.

- 1.5.38 Construction of inspection road from RD 9024m to 10362m and re-surfacing of existing road from RD 4610m to RD 9024m including protection wall on the (left side) inner edge of Mungeshpur Drain from RD 4610m to RD 10362m"  
**(Estimated Cost of ` 315.00 lakh)**

- 1.5.39 Strengthening of existing road of Mundella Bund from RD 0 m to RD 6320m  
**(Estimated Cost of ` 99.89 lakh)**

E/S issued in the year 2012-13. The work is at planning stage and to be completed in the current financial year.

- 1.5.40 Demolition and reconstruction of RCC bridge at RD 1260m of new drain.

- 1.5.41 Demolition and reconstruction of RCC bridge at RD 14190m of Bawana escape.

## **1.6 ANTI EROSION WORK IN RIVER YAMUNA**

- 1.6.1 Construction of 14 No. Ballie Screens between RD 1180m to RD 12200m of R.M.E  
**(Estimated cost of ` 559.44 lakh)**

E/S has been issued in the year 2012-13. 90% work has been completed. The work is in progress and to be completed in 2013-14

- 1.6.2 Restoration of existing bed bars on D/S of ITO Barrage on right bank of River Yamuna.  
**(Estimated cost of ` 216.00 lakh)**

E/S has been issued in the year 2012-13. The work is in progress and spill over in current financial year.

- 1.6.3 Providing and Laying stone filled wire creates along left bank of river yamuna on U/S of super No. 18 for protection of L..M. Bund  
**(Estimated cost of ` 87.44 lakh)**

E/S has been issued in the year 2012-13. The work is in progress and to be completed in the 2013-14

- 1.7.4 Providing and laying stone filled wire (rates along left bank of river Yamuna between super No. 17 & 18 for protection of L.M Bund.  
**(Estimated cost of ` 96.47 lakh)**

E/S has been issued in the year 2012-13. 30% work has been completed. The work is in progress and to be completed in 2013-14.

- 1.7.5 Providing & laying stone filled wire crates along the bank to check erosion of river Yamuna between RD 1300m and RD 1650m of L.F. Bund including restoration of nose point of bed bar at RD 1530m by stone dumping and laying stone filled wire crates for protection of L.F. Bund.  
**(Estimated cost of ` 394.00 lakh)**

River Yamuna, explained that during floods of medium and high magnitude in River Yamuna, water flow hits the nose portions of shank & studs and damages them. It was further explained that during monsoon season 2011, a heavy erosion occurred along left bank of river Yamuna between RD 1650m and RD 1300m, including damages caused to the bed bar at RD 1530m of LF Bund. It has therefore become necessary to protect the bank against erosion and also strengthen and restore the river training work i.e. bed bar at RD 1530m by laying stone apron/G.I. wire-crates filled up with stones.

E/S has been issued in the year 2012-13. 2% work has been completed. Work is in progress and to be completed in 2013-14.

- 1.7.6 Providing and laying stone filled wire crates along left Bank of river Yamuna, D/S I.T.O. Bridge and U/S of Metro Bridge, to check further land erosion.  
**(Estimated cost of ` 192.79 lakh)**

E/S has been issued in the year 2012-13. 2% work has been completed. Work is in progress and spill over in year 2013-14.

## 1.8 PROTECTION OF GOVERNMENT LAND

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.

- 1.8.1 Construction of wall along land boundary of Jagatpur Bund on city side from RD 0M to RD 4388m  
**(Estimated Cost of ` 102.00 lakh)**

E/S has been issued in the year 2008-09. 98% work has been completed. The work is in progress.

- 1.8.2 Construction of boundary wall at left bank of Shahdara outfall drain between RD 1850 m to RD 2625m (between PWD bridge to Atta bridge and downstream of Okhla barrage to RD 900m)  
**(Estimated Cost of ₹ 57.00 lakh)**

E/S has been issued in the year 2012-13. The work is in progress and likely to be completed in current financial year.

- 1.8.3 Construction of boundary parapet wall along both sides of Mundella Bund from RD 0m to RD 6320m.  
**(Estimated Cost of ₹ 257.00 lakh)**

E/S issued in the year 2012-13.

- 1.8.4 Raising and repairing of boundary wall (R/S & L/S) with providing and fixing concertina coil fencing at TD No. II between RD 0m to RD 4580m.  
**(Estimated Cost of ₹ 54.00 lakh)**

- 1.8.5 Construction of boundary wall on both side of land boundary of Mungeshpur drain from RD 7440m to RD 10362m of Najafgarh drain  
**(Estimate Cost of ₹ 289.00 lakh)**

E/S issued in the year 2012-13. 52% work has been completed and work has been foreclosed.

- 1.8.6 Demolition of damaged RR masonry wall and construction of one meter high brick wall on river side, on top edge of left forward und between RD 0m to RD 5750m  
**(Estimate Cost of ₹ 128.00 lakh)**

## **2. MAJOR DRAINAGE SCHEME**

### **2.1 CONSTRUCTION OF DRAINAGE WORK (₹ 200.00 lakh)**

### **2.2 Procurement of Machinery/ equipments (₹ 1000.00 lakh)**

#### **2.2.1 Procurement of Heavy Machinery such as Bulldozers, Hydraulic Excavators, Dredger, Draglines, Pump Sets, Gen. Sets etc.**

Procurement of Machines for desilting & maintenance of Drains

<b>S. No.</b>	<b>Name of the Machinery</b>	<b>Quantity (No.)</b>	<b>Cost (₹ in crore)</b>
1	(a) Big size dredger	4	21.00
	(b) Amphibious Excavator	4	
2	Hydraulic Excavator with Extended Boom	10	6.00
3	Hydra Crane (16 Tonne)	2	0.49
4	J.C.B Machine	3	0.62
			<b>28.11</b>



2.2.2 Procurement of 3 Nos. Big Size Dredgers & 6 Nos. 12 Cum (18 MT) Hopper Barges for Najafgarh Drain

2.2.3 Strengthening of existing testing laboratory of I&FC Deptt

The Quality Control Laboratory of I&FC Deptt. was established in 1988 to facilitate testing of construction material and concrete cubes collected from various works executed by I&FC department. The laboratory was made functional in 1992 for conducting tests with limited facilities such as compressive strength test, tensile strength test, abrasion value test, impact test and crushing value of stones, silt contents and slump test etc.

### **3. Charged Expenditure**

#### **Plan Outlay**

**Annual Plan 2013-14:** ₹ 5 Lakh (Under Capital Head)

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

### **4. Survey Model Studies/ Preparation of Master Plan for Drainage & flood Control)**

#### **Plan Outlay**

**Annual Plan 2013-14:** ₹ 60 Lakh (Under Revenue Head)

4.1 Survey, Model Study and Hydrological Data Collection & Investigation for new Schemes (Covering of Drains/Nallahs)

4.2 Preparation of Master Plan for Drainage for N.C.T. of Delhi.

The consultant has been appointed for preparation of Master Plan for Drainage 2021 and work is in progress.

4.3 Establishment of Quality Control and Material Testing Laboratory

### **5. TRANS YAMUNA AREA DEVELOPMENT BOARD**

#### **Plan Outlay**

**Annual Plan 2013-14:** ₹ 1500 Lakh (Under Capital Head)

In order to accelerate the development process in Trans Yamuna Area, a board has been set up to guide & frame suitable program on the advice of concerned Hon'ble MLA from Trans Yamuna Area. After identifying the issue connected with planned growth of the area with a view to reducing wide disparity in the existing infrastructure are enumerated & guidelines issued by the Board for bringing about improvement in the area. I&FC is also an executing agency under Trans Yamuna Development Board similar for works recommended by the board.

Under the scheme work like construction of drains, roads, small bridges cremation grounds, community centres etc has executed by the I & FC Department.