



Government of West Bengal  
Irrigation & Waterways Department  
Jalasampad Bhaban, 3rd Floor, Western Block  
Bidhannagar, Salt Lake City, Kolkata 700091

Memo No. 287 – I  
I/4M-11/2018

Dated, 5<sup>th</sup> September 2019

MEMORANDUM

Reg: Maintenance Manual and Annual Maintenance Plan

The Departmental Technical Committee constituted under the chairmanship of Chief Engineer (Design & Research) to prepare a comprehensive Maintenance Manual for proper maintenance of functional and non-functional assets of the Irrigation & Waterways Department, vide IWD Memo No.416-I dated 05.11.2018, has submitted its report.

2. With a view to facilitate and streamline the process of preparation of an Annual Maintenance Plan (AMP) by the Divisional Engineers of the Civil and Mechanical & Electrical Wings of the Irrigation & Waterways Directorate for maintenance of assets in a holistic manner and with a systematic approach on year to year basis, following formats have been devised in this Department, as per recommendation of the Committee:

- (i) Format M1 – Detailed Annual Maintenance Plan to be prepared by the concerned Executive Engineer of the Division and submitted to the Chief Engineer (D&R) through the concerned Chief Engineer.
- (ii) Format M2 – Division-wise Summary of Annual Maintenance Plan to be submitted by the Chief Engineer (D&R) to the Secretariat Office.
- (iii) Format M3 – Undertaking to be provided by the Executive Engineer and Superintending Engineer regarding adherence of Standard Schedule of Rates in preparation of maintenance estimates and recording the maintenance works in the Register of Annual Maintenance of Assets.

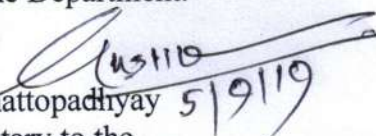
Soft copies of the above formats in a single Excel file are being sent to the concerned Chief Engineers.

3. Guidelines for preparation and processing of the Annual Maintenance Plan have also been formulated and enclosed as Annex – 1.
4. In the context of above, all zonal Chief Engineers are requested to arrange for completion of preparation of Annual Maintenance Plan by the concerned Executive Engineers for 2020-21, latest by 4<sup>th</sup> November 2019 and also for submission to the Chief Engineer (D&R) latest by 15<sup>th</sup> November 2019 as per the procedures enumerated in the Annex – 1. Submission of Format M2 and also Format M1 (if required) by the Chief Engineer (D&R) to the Department is to be completed latest by 20<sup>th</sup> November 2019. Since the Annual Maintenance Plan is specific to the Divisions, there is no need to compile records of all the Divisions and the same for individual Division may be processed as and when received.
5. As already stated in the Guidelines (Annex – 1), the entire processing upto the level of Chief Engineer (D&R) is to be done on soft copy and the mode of submission should be always through e-mail.
6. The format for “Register of Annual Maintenance of Assets” and guidelines for filling up the format are being issued separately.
7. Format M1 for the Divisions under the control of Chief Engineer (M&E) is being issued shortly.
8. The entire exercise needs to be undertaken meticulously with utmost care and the sum total requirement of fund of all the Divisions will have to be accommodated in the Maintenance Budget of this Department under Administrative Expenditure for 2020-21, which is to be submitted to the Finance Department by 3<sup>rd</sup> week of November, 2019. Accordingly, the deadlines of submission must be maintained. Release of maintenance fund to the defaulting Divisions will not be made during 2019-20, after 15<sup>th</sup> November 2019.
9. Allocation of maintenance fund to the Divisions for the year 2020-21, will be made in due course as per the Annual Maintenance Plan, subject to budgetary availability.



10. Chief Engineers are requested to promptly transmit the order and soft copies of the formats to subordinate offices. These are also being uploaded in the Departmental website to enable downloading by the concerned officials.

11. This issues with the approval of Additional Chief Secretary of the Department.

  
G K Chattopadhyay 5/9/19  
Secretary to the  
Government of West Bengal


Encl. as above

Memo No.287/1(3) – I

Dated, 5<sup>th</sup> September 2019

Copy with copy of Annex-1 and Formats in Excel File forwarded for information to the:

1. OSD to Minister-in-charge  
Irrigation & Waterways Department
2. Sr. PA to Additional Chief Secretary  
Irrigation & Waterways Department
3. Financial Adviser & Special Secretary  
Irrigation & Waterways Department

  
D SenGupta  
Joint Secretary to the  
Government of West Bengal

Encl. as above

Memo No.287/2(10) – I

Dated, 5<sup>th</sup> September 2019

Copy with copy of Annex-1 and soft copy of Formats in Excel File mailed for information and necessary action to the:

1. Chief Engineer  
Teesta Barrage Project  
Irrigation & Waterways Directorate
2. Chief Engineer (North East)  
Irrigation & Waterways Directorate
3. Chief Engineer (North)  
Irrigation & Waterways Directorate
4. Chief Engineer (West)  
Irrigation & Waterways Directorate

5. Chief Engineer (South West)  
Irrigation & Waterways Directorate
6. Chief Engineer (South)  
Irrigation & Waterways Directorate
7. Chief Engineer (Design & Research)  
Irrigation & Waterways Directorate
8. OSD & Ex-officio Deputy Secretary – III  
Irrigation & Waterways Department
9. OSD & Ex-officio Deputy Secretary – IV  
Irrigation & Waterways Department  
– with a request to upload in the departmental website.
10. Executive Engineer-I  
Investigation & Planning Division (South)  
Irrigation & Waterways Directorate

alc @ 5/9/19  
D SenGupta  
Joint Secretary to the  
Government of West Bengal

Encl. as above

## **Guidelines for preparation and processing of Annual Maintenance Plan**

### **1. Identification of total assets and the extent of maintenance**

1.1 Assets have broadly been categorized under the following Sectors:

#### **1.1.1 Sector – I**

*Irrigation Development*, comprising irrigation canals and structures under Civil Wing, excluding Roads, Bridges & Culverts, which have been covered under **Sector-V**. Gates, hoisting arrangements and various other electro-mechanical components of dams & barrages of Major / Medium Irrigation Schemes have been dealt separately under **Sector VII**.

#### **1.1.2 Sector – II**

*Flood Management & Drainage Improvement under Civil Wing*, comprising drainage channels, flood embankments (including Ex-Zamindary embankments), sea wall, linear and non-linear riverbank protection works, inlets, sluice structures, pumphouses (excluding pumps and accessories under Mechanical & Electrical Wing).

#### **1.1.3 Sector – III**

*Inspection Roads* on canal and channel banks / embankments and *Internal Roads* within Departmental Campuses.

#### **1.1.4 Sector – IV**

*Wooden Bridges*.

#### **1.1.5 Sector – V**

*Other Bridges & Culverts*.

#### **1.1.6 Sector – VI**

*Infrastructure* including offices (excluding Jalasampad Bhavan & Commercial Tax Building), Quarter Complexes, Rest Sheds, Non-VIP Inspection Bungalows and Colony Campuses under Civil Wing.

#### **1.1.7 Sector – VII**



*Electro-mechanical Components* in Dams, Barrages, Major Sluices, Offices, Quarters and Non-VIP Inspection Bungalows under Mechanical & Electrical Wing.

1.1.8 **Sector – VIII**

*Miscellaneous not included in Sectors I to VII*, e.g. IT Peripherals, Machinery & Equipment (excluding Departmental vehicles), Tools & Plants, office furniture, various gadgets.

1.2 Quantification of all assets is to be made and entered into,

- (i) Asset Register,
- (ii) Enclosed Format M1 (Col. 3, 4 & 5, shaded in yellow).

1.3 It may be seen that various items of works that may be required for maintenance of assets have been exemplified in Col.2 of Format – M1. Also, normal periodicity of maintenance of such assets have been indicated in Col.6 of the said Format – M1 as a guideline. Accordingly, the Divisional Engineer would identify the extent of maintenance to be undertaken in any particular financial year and accordingly fill up Col.7, 8 & 9 of the abovesaid format. **Average maintenance expenditure incurred during last two years may be taken as reference to arrive at a realistic figure of maintenance for various assets and necessary prioritisation in the scope of maintenance of assets may be made accordingly. In other words, it needs to be realized that all the assets of a particular Division can not be maintained in any particular year due to physical and financial constraints, even if the periodicity is mentioned as annual. Hence, selection of scope of work in the Annual Maintenance Plan, based on the extent of requirement of maintenance in consideration of relative need /vulnerability and also on likely availability, is an extremely crucial exercise and the field officials need to apply their mind and take a call accordingly.**

1.4 *Special considerations for maintenance of drainage channels and rivers*

- 1.4.1 Clearance of weeds, water hyacinth and garbage from bed and slope of all drainage channels and rivers, passing through Municipal Areas as well as semi-urban areas or thickly populated rural areas in Blocks, particularly at the location of market places, and also in the upstream of bridges or diversion / regulating structures, shall normally be brought under Annual Maintenance Contract (AMC). It may be recalled that few such stretches of the drainage channels in KMC area and surrounding districts of North & South 24 Parganas, Howrah, Hooghly and Purba



Medinipur have already been brought under AMC with the approval of the I & W Department. In case it is felt necessary to include further stretches of rivers/channels under the management of the I & WD and, specific proposals for bringing those stretches under maintenance in AMC mode may be submitted to the Secretariat Office separately for consideration on case to case basis.

- 1.4.2 Open tidal stretches of major rivers, e.g. New Cossyee, Silabati, Haldi, Rupnarayan, Kaliaghai, Mundeswari, Amta Channel, Short-cut Channel, Ichhamati and Hooghly should not generally be considered under AMC, as water hyacinth does not normally grow in saline water. However, more emphasis should be laid on keeping the tributary channels and minor rivers (with or without outfall sluice at the confluence points) free from water hyacinth as these are the source points.
- 1.4.3 Normal AMC for clearance of water hyacinth and garbage in the upstream of diversion structures (e.g. barrages) or major outfall sluices having design discharge of 100 cumec or more, may be kept suspended for the monsoon months (July, August and September). Water hyacinth and floating garbage could be flushed downstream in these cases, by suitably operating gates of barrages and outfall sluices during passage of flood discharge. Labour and Supervisor component for gate operation and pushing the water hyacinth towards gates together with hire charge of boats etc, may be considered in such cases and the AMC estimates may be framed accordingly. Durgapur Barrage Pond and the pond upstream of Kangsabati Anicut are, however, kept beyond the purview of AMC for the time being, These are to be taken up separately.
- 1.4.4 Following two types of AMC, are to be considered:
  - (i) Channels / rivers being maintained for the 1<sup>st</sup> time by IWD or being maintained after 3 years. In this case, the work would involve initial removal of water hyacinth and garbage (similar to capital nature of work), to be done over a period of 2 to 3 months followed by maintenance for next 12 months.
  - (ii) Channels / rivers already under AMC or brought under AMC from 2<sup>nd</sup> year onwards, after completion of initial cleaning and 1-year AMC stated at (a) above.
- 1.4.5 For works under the category 1.4.4(a) above, if contract is executed in the middle of the year, rate for AMC in the requirement of funds should

be reduced, in consideration of effective months within the year under AMC.

1.4.6 **It is advised to prepare a comprehensive list of stretches of rivers and channels under AMC by the Divisional Engineer and share it with the District Administration as well as with the Zilla Parishad to settle the scope of work under I & WD and to avoid confusion. The left out stretches may be requested to be maintained by the Panchayat Authorities, in a similar manner as being done by the I & WD.**

1.4.6 **It is also advised to put display boards at prominent locations within the zone under maintenance by the I & WD, clearly mentioning that “Stretch(es) from \_\_\_\_ km (*Name of the place to be mentioned*) to \_\_\_\_ km (*Name of the place to be mentioned*) of (*Name of the channel/ river to be mentioned*) is /are under maintenance by (*Name of the Division to be mentioned*), Irrigation & Waterways Directorate.”**

## **2. Derivation of Unit Cost of various items**

2.1 The Departmental Committee under the chairmanship of Chief Engineer (Design & Research) has worked out unit cost of various items in consideration of periodicity of maintenance, based on standard Schedule of Rates (SoRs) of IWD and PWD in case of scheduled items and past experience / records for non-scheduled items.

2.2 **These unit costs are only for the purpose of assessment of requirement of fund for annual maintenance** and need not be considered for preparation of estimates and tendering of works, which should be done on the basis of specific items of works as per the standard SoRs.

2.3 There are a few items under “Sector – VIII”, where unit costs are to be assessed by the Indenting Divisions on case to case basis, as such unit costs may vary from district to district.

2.4 There are also a few LS items, for which unit costs need not be calculated.

## **3. Preparation of the Indent of Fund**

3.1 The entire Format – M1 (Division-specific) is a part of Excel File and has following 3 Excel sheets:



- (a) M1 – Sector I to VI (relevant to Civil Wing)
- (b) M1 – Sector VII (relevant to Mechanical & Electrical Wing)
- (c) M1 – Sector VIII (Miscellaneous, relevant to all offices)

3.2 Other two parts of the Excel File are,

- (a) M2 – Total requirement of fund of all Schemes
- (b) M3 – Undertaking by Executive Engineer and Superintending Engineer.

3.3 Basic inputs are to be entered in all “M1 Sheets” by the Divisional Engineer against blank spaces in Col.7, 8 & 9 (shaded in **light green**). In case any item is not relevant to any Division, zero (0) may be put in the respective rows and columns. Sector-wise total item-wise and total requirement of fund would be generated automatically. Normally, the Unit Rates specified should not be changed. In case, any change is felt required, the same may be inserted and reasons may be recorded in the end of the sheet, in the form of Note. **In case of such changes, shading of the figures in the respective Column will change automatically to **light pink** due to conditional formatting.**

3.4 All the notes in the format may be read carefully before making any entry.

#### 4. Transmission and processing of indents

- 4.1 The Executive Engineer will transmit the entire file (i.e. Format – M1 (3 sheets), Format – M2 and Format – M3) to the Superintending Engineer in soft copy by mail. The Superintending Engineer will examine the document, make any change if necessary, in the quantities and mail it to the concerned Chief Engineer. The Chief Engineer will review the entire document, make any change, if felt necessary and recommend it to the Chief Engineer (D&R) by mailing the soft copy ([ce-dr@wbiwd.gov.in](mailto:ce-dr@wbiwd.gov.in)).
- 4.2 Chief Engineer (D&R) will get the document examined by his associates and will carefully fill up Format – M2. He will also satisfy that the undertaking in Format – M3 has duly been provided by the Indenting Executive Engineer and Superintending Engineer.
- 4.3 Chief Engineer (D&R), after exercising the option of modification of indents, if felt necessary by him, will take a print out of Format – M2, sign it and submit a hard copy of the signed document to the Secretary of the Department for taking a final decision on allocation. In case, Chief Engineer (D&R) differs with the recommendations of the concerned Chief Engineer, the entire soft copy should be mailed to Officer-on-Special Duty & Deputy Secretary-IV (E-mail:

[bivabasu.iwd@rediffmail.com](mailto:bivabasu.iwd@rediffmail.com)) for verification at the Secretariat Office. Chief Engineer (D&R) will also mail a copy of the entire file (i.e. M1, M2 and M3) in soft copy to the concerned Chief Engineer, even when he is fully in agreement with the concerned Chief Engineer.

4.4 The final Division-wise allocation of fund will be made by Secretary and all concerned will be intimated accordingly.

4.5 **It is reiterated that all transactions shall be done in soft copies through e-mails. As such, the original Excel File format shall not be modified, without consulting the Secretariat Office of the Department. All printouts, if all required, must be taken in A4 size with landscape orientation.**

## **5. Entry of works in the Register of Annual Maintenance of Assets**

Necessary formats and modalities to be followed in this regard are being issued separately.

## **6. Exclusions**

The followings are excluded from the scope of Annual Maintenance Plan and specific proposals for release of funds need to be submitted to the Secretary of the Department by the concerned Chief Engineer.

- (i) Jalasampad Bhavan and adjoining Commercial Tax Building.
- (ii) Sech Abasan at FF-Block, Bidhannagar.
- (iii) Civil (structural) components of dams and barrages, excluding road on top.
- (iv) VIP Inspection Bungalows
- (v) Automated gate operation arrangement using SCADA-PLC.
- (vi) Open tidal stretches of major rivers, e.g. New Cossyee, Silabati, Haldi, Rupnarayan, Kaliaghai, Mundeswari, Amta Channel, Short-cut Channel, Ichhamati and Hooghly.
- (vi) Durgapur Barrage Pond & the pond at upstream of Kangsabati Anicut.

## **7. Segregation of assets to be maintained by the Civil and M & E Wing**

Consequent upon restructuring of the M & E Wing under the I & W Department, there has been substantial re-orientation of working jurisdiction, vide I & WD Notification No. 13-(W)/2018-19 dated 7<sup>th</sup> March 2019 (copy available on the departmental website [www.wbiwd.gov.in](http://www.wbiwd.gov.in)). **All the Executive Engineers are to go through the**



**Annex-2 & Annex-3 of the said Notification to ascertain the extent of assets to be maintained by any particular Division.**

**7. Assistance for clarifications**

In case of any clarification, the following Officers may be contacted.

- (i) D SenGupta  
Joint Secretary (Works)  
Irrigation & Waterways Department  
E-mail: [jsworkswbiwd@gmail.com](mailto:jsworkswbiwd@gmail.com)  
Mobile: 94332 16743
- (ii) S Sarkar  
Executive Engineer-I  
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