

No. NHIII/P/50/76

*Dated the 1st July, 1976*

To.

All the Chief Engineers of States  
(Dealing with National Highways)

Subject : Revised Estimates of National Highway (Road & Bridge) Works : Check-Lists

The revised estimates received from the State Governments are often wanting in data, designs, relevant information etc., with the result that there are to and fro references and dealys. Keeping this in view, check-lists have been devised in this Ministry for revised estimates of National Highway Road and Bridge Works. These check-lists are enclosed.

2. It may please be ensured that the estimate contents are checked with the lists and only those revised estimates are forwarded which fulfil the requirements and are comprehensive.
3. The revised estimates should continue to be forwarded in duplicate with an additional copy to this Ministry's Regional Superintending Engineer/Engineer Liaison Officer as per the extent instructions.

Enclosure to letter No. NHIII/P/50/76 dt. 1.7.76

# **CHECK LIST : NATIONAL HIGHWAYS (ROAD WORKS) REVISED ESTIMATES**

## **I. ESTIMATE REPORT**

1. Does the report explain the need of revising the estimate and give detailed reasons for change in scope, specifications, rates, etc., and furnish information on the alternatives considered?
2. Does the report quote the letters of the Roads Wing approving changes in scope, in horizontal and vertical profiles, in dimensions, in specifications etc. and approving higher rates through tenders? (In case any tender rate higher than the estimated rate has been accepted by the State authorities, the delegated powers under which the same has been done may please be quoted and where a higher tender rate has been accepted beyond the delegated power, the reasons for not taking approval of the Centre may please be given.)
3. For provisions of restoring damage by rains, floods etc. does the report quote the letters intimating the damages on occurrence and explain as to why restoration of the damages could not be a responsibility of the contractor?
4. Does, for the completed works, the report give reasons for not submitting the revised estimate in time?
5. Does the report narrate briefly the audit objections of significance on the work pending clearance? (It may be clearly understood that the Roads Wing reserves the right of reviewing a provision in case due to lack or inadequacy of information etc., from the State Authorities, the provision, even though under objection by the State Accountant General, gets accepted in the revised estimate.)
6. Does the report give the date of start, the target date or completion etc?

## **II. CERTIFICATES**

1. Does the revised estimate contain the following certificates :
  - (i) That the estimate has been checked cent per cent arithmetically by a responsible officer of the State Government.
  - (ii) That the land acquisition rates are as ascertained from the competent land acquisition authority.
  - (iii) That the estimate does not provide for the cost of land belonging to the State Government and that this land will be available free of cost for the National Highway.
  - (iv) That the compensation rates for land acquisition do not include agency charges and as such agency charges have been provided separately.

## **III. COMPLIANCE WITH TECHNICAL AND INSPECTION NOTES :**

Does the estimate contain reports of compliance with the Technical and inspection notes of the Roads Wing issued to-date.

## **IV. STATEMENT COMPARING THE ORIGINAL AND REVISED PROVISIONS, GIVING EXCESSES AND SAVINGS, AND THE REASONS THEREOF**

Does the estimate contain a comparative statement in the form enclosed and give in detail the reasons for excesses and savings?

## **V. ABSTRACT OF COST**

1. Has it been seen that the estimate provides for the following wherever needed :
  - (i) Erosion control measures.
  - (ii) Railing where embankment is high.
  - (iii) Ramps for intercepted State Roads.
2. Has it been seen that there is no major lump provision?
3. Has it been indicated as to which rates are based on actuals, on tender, and on the current schedule and on the analysis?
4. Does the abstract of cost account for as credit the salvage value of the dismantled material, empty bitumen drums, and usable hard stone obtained from rock-cutting?
5. Does the abstract give apportionment of cost wherever applicable between the concerned Authorities i.e. between the Road and Rail authorities for approaches to over/under bridges in replacement of level crossings; between Road and Irrigation Authorities where a road needing improvements requires diversion or raising because of coming of an irrigation project; between the Centre and the State for lengths of bypasses through municipal limits where, as per the extent policy on National Highway links, land for parallel service roads has to be acquired at the State's cost along with the land for the bypass and later on parallel service roads also to be provided by the State at their cost before urbanization is authorized.
6. Is the provision for agency charges at 7½% for work done upto 30th September, 1975, and at 9% for the balance work?
7. Is the provision for work-charged establishment as per the following?
 

(a) For works upto Rs. 25 lakhs	2%
(b) For works above Rs. 25 lakhs and upto Rs. 50 lakhs	1¾%
(c) For works above Rs. 50 lakhs	1½%

**VI. DETAILS OF MEASUREMENTS**

1. Does the estimate give clearly the details of measurements of all the items figuring in the abstract of cost including levelling course? Is the quantity of the levelling course provided in the revised estimate on 'L' and cross sections as spelled out in this Ministry's specification No. 106.3 "Measurement of pavement thickness" and not on percentage?
2. Do the measurements give separately the details of the work found necessary consequent to heavy erosion by rain, floods etc.

**VII. ANALYSIS OF RATES**

1. Does the estimate give analysis of all the rates which are neither covered by tenders nor by the schedule of rate?
2. Are there quarry or borrow area charts in support of the leads adopted in the rate analysis?
3. Have reasons and supporting data been furnished for changes in quarries of stone aggregate and borrow areas of earth?

**VIII. DESIGNS**

Does the estimate give designs and other details for new items as well as old items where there is change, covering :

- (i) Cross Sections of embankment.
- (ii) Crust thickness and composition.
- (iii) Design of sub-base, base and surfacing.
- (iv) Retaining walls etc.

**IX. DRAWINGS**

1. Does the estimate contain all the drawings viz., key map, index map, site plan, alignment plan, longitudinal sections, cross-sections, land acquisition plans and schedules, culverts, rest houses and inspection bungalows?
2. Do these drawings clearly show both the original and revised proposals and original and revised topography in case there be any difference?
3. Do the longitudinal and cross-sections indicate wherever relevant the highest water-table and highest flood level obtaining?

**National Highway (Road Works).**

STATE :

**STATEMENT SHOWING EXCESS/SAVINGS AND DEVIATIONS IN COST & QUANTITIES AS COMPARED WITH THE ORIGINAL ESTIMATE IN RESPECT OF THE WORK OF.**

Sl. No.	Items of work	Original sanctioned estimate		Revised Estimate			Savings/Excess due to variation in quantity				
		Qty.	Rate	Amt.	Qty.	Rate	Amt.	Qty. Cols. (6-3) (-) or (+)	Rate same as Col. 4	Savings (-) Cols. (9×10) Amount Rs.	Excess (+) Cols. (9×10) Amount Rs.
1	2	3	4	5	6	7	8	9	10	11	12
I.	As provided in the original sanctioned estimate.										
II.	New and/or deviated items	(Note : The work done/to be done by different executing agencies should be shown separately).									
III.	Centage charges										
	(a) Contingencies										
	(b) W/C establishment										
	(c) Quality control on admissible items.										
	(d) Agency charges										

Total :

Savings/Excess due to variation in Rates				Total Savings/Excess		Remarks and justifications for deviations from the sanctioned estimates
Qty same as Col. 6	Rate Cols. (7-4) (-) or (+)	Savings (-) Cols. (13×14) Amount Rs	Excess (+) Cols. (13×14) Amount Rs	Savings (-) Cols. (11+15) Amount Rs	Excess (+) Cols. (12+16) Amount Rs	
13	14	15	16	17	18	19

**CHECK LIST : NATIONAL HIGHWAYS (BRIDGE WORKS) REVISED ESTIMATES**

**I. ESTIMATE REPORT ACCOMPANYING THE REVISED ESTIMATE**

1. (a) Does the report explain the need of revising the estimate and give detailed reasons for change in scope, specifications, rate etc?
- (b) Detailed note on each of the items where huge excess has been incurred as compared to the sanctioned estimate.
2. Does the report quote the letters of the Roads Wing approving changes in scope, in dimensions, in specifications, etc., and approving tenders?
3. Does the report indicate the present stage of work (in progress or already completed)?
4. If the work is already completed, does it give reasons for not submitting the Revised Estimate in time? Further, is it accompanied with completion drawings?
5. For provision of restoring damages by rains, floods etc. does the report quote the letters intimating the damages on occurrence and explain as to why restoration of the damages could not be a responsibility of the contractor?

**II. CERTIFICATES**

1. Does the revised estimate contain the following certificates :
  - 1.1. That the estimate has been checked cent per cent arithmetically by a responsible officer of the State Government.
  - 1.2. *Land Acquisition, if required*
    - (i) That the land acquisition rates are as ascertained from the competent land acquisition authority.
    - (ii) That the estimate does not provide for the cost of land belonging to the State Government and that this land will be available free of cost for the National Highway bridges and appurtenant works.
    - (iii) That the compensation rates for land acquisition do not include agency charges and as such agency charges have been provided separately.
  - 1.3. That the estimate is based on actuals in case of completed works.

**III. COMPLIANCE WITH TECHNICAL AND INSPECTION NOTES**

Does the estimate contain reports of compliance with the technical and inspection notes of the Roads Wing issued to-date?

**IV. STATEMENT COMPARING THE ORIGINAL AND REVISED PROVISIONS, GIVING EXCESSES AND SAVINGS AND THE REASONS THEREOF**

Does the estimate contain the requisite comparative statement (copy of proforma enclosed) and give in detail the reasons for excesses and savings?

**V. ABSTRACT OF COST**

1. Has it been seen that the estimate provides for the following wherever needed?  
Dismantling of diversion bridge after construction of new bridge.
2. **SUB-ESTIMATES FOR L.S. ITEMS**  
Are the Lumpsum provisions made either in the original sanctioned estimate or the revised estimate supported by the detailed sub-estimates with proper justification for exceeding the sanctioned provisions, if any or for including any new items not covered by the sanctioned estimate?
3. Has it been indicated as to which rates are based on actuals, on tender, and on the current schedule and on the analysis?
4. Does the abstract of cost account for as credit the salvage value of dismantled materials of the existing structure, if any?
5. Does the abstract give apportionment of cost wherever applicable between the concerned Authorities i.e. between the Road and Rail Authorities for approaches to over/under bridges in replacement of level crossings; between Road and Irrigation Authorities where a road requires diversion or raising because of coming of an irrigation project; between the Centre and the State for lengths of bypasses through municipal limits where, as per the extant policy on National Highway links, land for parallel service roads has to be acquired at the State's cost along with the land for the bypass and later on parallel service roads are to be provided by the State at their cost before urbanization is authorized.

6. Is the provision for agency charges of 7½% for work done upto 30th September, 1975, and at 9% for the balance work?
7. Is the provision for work-charged establishment as per the following?
 

(a) For works upto Rs. 25 lakhs	2%
(b) For works above Rs. 25 lakhs and upto 50 lakhs	1½%
(c) For works above Rs. 50 lakhs	1%

*Note :* Provision for centage charges in case of completed works, should be as per actuals limited to the permissible percentages.

#### VI. DETAILS OF MEASUREMENTS

1. Does the estimate give clearly the details of measurements of all the items figuring in the abstract of cost?
2. Do the measurements give separately the details of the work found necessary consequent to heavy erosion by rain, floods etc?

#### VII. (a) CONTRACT DOCUMENTS

Is the R.E. accompanied with a copy of the contract agreement in full (not piecemeal)?

- (b) In case of items where extra due to any clause in the contract like escalation clause) is incurred, copies of necessary letters etc. justifying in detail for the extra amount on this account.

#### VIII. ANALYSIS OF RATES

1. Does the estimate give analysis of all the rates which are neither covered by tenders nor by the schedules of rates?  
(*Note :* Analysis for supplementary tender rates have to be given)
2. Are there quarry or borrow area charts in support of the leads adopted in the rate analysis?
3. *Fluctuation in rates of materials like steel and cement*
  - (a) Does the R.E. contain the full details regarding the extra amount spent for steel and cement etc including sources and quality of materials, rates of procurement and the need for paying higher rates?
  - (b) Have reasons and supporting data been furnished for changes in quarries of stone aggregate and borrow areas?

#### IX. DESIGNS

- (i) Whether the bridge or guide bund is being/has been constructed at the site approved by Roads Wing?
- (ii) Whether the changes, if any, in design from those provided in the sanctioned estimate (like changes in span arrangement), change in linear waterway, type and depth of foundations etc) have been got approved from Roads Wing?
- (iii) Whether design assumptions made in the sanctioned estimate have been realised at site?
- (iv) Whether approval of the Ministry or its regional office has been obtained wherever specified in the technical notes accompanying the sanction letters?

#### X. DRAWINGS

1. Does the estimate contain all the drawings viz., index map, site plan, general arrangement drawing of the bridge/guide bund with supporting drawings or reference to any type drawings being used along with justification for departure, if any.
2. Does these drawings clearly show both the original and revised proposals in case there be any difference.
3. Whether the drawings have been got approved from the regional office wherever suggested in the technical notes?

#### XI. AUDIT PARAS

Are there any audit objections pending clearance on this work? If so, a brief report may be furnished.

#### XII. PENDING CLAIMS

If there are any claims pending settlement on this work, a brief report thereof may be furnished.

#### XIII. DEPARTMENTAL EXECUTION

If any or all the items of the work have been executed departmentally at rates different from sanctioned rates, the rate analysis of all such items may be furnished.

STATE:

STATEMENT SHOWING EXCESS/SAVINGS AND DEVIATIONS IN COST & QUANTITIES AS COMPARED WITH THE ORIGINAL ESTIMATE IN RESPECT OF CONSTRUCTION OF BRIDGE

IN KM \_\_\_\_\_ N.H.No. \_\_\_\_\_ JOB No. \_\_\_\_\_

Sl. No.	Items of work	Original sanctioned estimate		Revised Estimate				Savings/Excess due to variation in quantity			
		Qty.	Rate	Amt.	Qty.	Rate	Amt.	Qty. Cols. (6-3)	Rate same as Col. 4	Savings (-) Cols. (9×10) Amount Rs	Excess (+) Cols. (9×10) Amount Rs
1	2	3	4	5	6	7	8	9	10	11	12
I.	As provided in the original sanctioned estimate.										
II.	New and/or deviated items	(Note : The work done/to be done by different executing agencies should be shown separately).									
III.	Excess due to difference in cost of procurement and supply of materials like.										
1.	Cement										
2.	Steel										
3.	Other materials										
Total :											
IV.	Centage charges										
(a)	W/C Establishment										
(b)	Contingencies										
(c)	Quality control										
(d)	Agency charges										
Total :											
Savings/Excess due to variation in Rates				Total Savings/Excess		Remarks and justification for deviations from the sanctioned estimates					
Qty same as Col. 6	Rate Cols. (7-4) (-) or (+)	Savings (-) Cols. (13×14) Amount Rs	Excess (+, Cols. (13×14) Amount Rs	Savings (-) Cols. (11+15) Amount Rs	Excess (+) Cols. (12+16) Amount Rs						
13	14	15	16	17	18	19					