

15 -ാം കേരള നിയമസഭ

11 -ാം സമ്മേളനം

നക്ഷത്ര ചിഹ്നം ഇല്ലാത്ത ചോദ്യം നം. 4349

01-07-2024 - ൽ മറുപടിയ്ക്ക്

വള്ളിക്കുന്ന് മണ്ഡലത്തിലെ പാലം നിർമ്മാണത്തിന് ഫണ്ട് അനുവദിക്കാൻ നടപടി

ചോദ്യം	ഉത്തരം
<p align="center">ശ്രീ പി. അബൂൽ ഹമീദ്</p>	<p align="center">ശ്രീ കെ എൻ ബാലഗോപാൽ (ധനകാര്യ വകുപ്പ് മന്ത്രി)</p>
<p>(എ) വള്ളിക്കുന്ന് മണ്ഡലത്തിലെ മൂന്നമ്പത്ത് കടവ് പാലം, ഇരുമ്പോത്തികൽ പാലം, കടലുണ്ടിക്കടവ് പാലം എന്നിവയുടെ നിർമ്മാണത്തിനായി പൊതുമരാമത്ത് വകുപ്പിൽ നിന്നും ധനകാര്യ വകുപ്പിൽ അയച്ചതും ധനകാര്യ ഇൻഡസ്ട്രീസ് ആന്റ് പി.ഡബ്ല്യു.ഡി. വിഭാഗത്തിൽ പരിശോധിക്കുന്നതുമായ ഫയലുകളുടെ നിലവിലെ പുരോഗതി വ്യക്തമാക്കാമോ;</p>	<p>(എ) മൂന്നമ്പത്ത് കടവ് പാലം നിർമ്മാണം സംബന്ധിച്ച് 550 ലക്ഷം രൂപയുടെ എസ്റ്റിമേറ്റ് വരുന്ന പ്രൊപ്പോസൽ ധനവകുപ്പ് I&PW-B1/402/2023-FIN (E 2646425) ഫയലിൽ പരിശോധിക്കുകയും ചീഫ് ടെക്നിക്കൽ എക്സിക്യൂട്ടീവ് ഓഫീസർ നിർദ്ദേശങ്ങൾക്ക് വിധേയമായി പ്രസ്തുത എസ്റ്റിമേറ്റ് പുന:പരിശോധിക്കുന്നതിന് ഭരണ വകുപ്പിനോട് ആവശ്യപ്പെട്ടിരുന്നതും ആയതു പ്രകാരം 531 ലക്ഷം രൂപയുടെ പുതുക്കിയ പ്രൊപ്പോസൽ ഭരണവകുപ്പ് സമർപ്പിച്ചിട്ടുള്ളതും ആയതു ഇപ്പോൾ ധനവകുപ്പിന്റെ പരിശോധനയിലാണ്.</p> <p>വള്ളിക്കുന്ന് നിയോജക മണ്ഡലത്തിലെ കൂട്ടുമുച്ചി-ഇരുമ്പോത്തികൽ പാലം പുനർനിർമ്മാണം സംബന്ധിച്ച വിഷയം I&PW-B1/37/2022-FIN (E 2015969) ഫയലിൽ ധനവകുപ്പ് പരിശോധിച്ചിരുന്നതും പ്രവൃത്തി defer ചെയ്തിട്ടുള്ളതാകുന്നു. പ്രസ്തുത പ്രൊപ്പോസൽ പുന: പരിശോധിക്കണമെന്ന ആവശ്യം സംബന്ധിച്ച് ബഹു. വള്ളിക്കുന്ന് എം.എൽ.എ സമർപ്പിച്ചിട്ടുള്ള കത്ത് ധനവകുപ്പ് പരിശോധിച്ചു വരുന്നു.</p> <p>കടലുണ്ടിക്കടവ് പാലം പുനർനിർമ്മാണം സംബന്ധിച്ച് 1044 ലക്ഷം രൂപയുടെ എസ്റ്റിമേറ്റ് ഭരണ വകുപ്പ് സമർപ്പിക്കുകയും എസ്റ്റിമേറ്റ് പരിശോധിച്ച ചീഫ് ടെക്നിക്കൽ എക്സിക്യൂട്ടീവ് ഓഫീസർ സ്ഥല പരിശോധന നടത്തുകയും, പ്രസ്തുത പാലത്തിന് reconstruction അതോ rehabilitation ആണോ വേണ്ടത് എന്ന് ഭരണവകുപ്പ് തീരുമാനമെടുക്കണമെന്ന് അറിയിച്ചിരുന്നു. എന്നാൽ അക്കാലത്തിൽ അന്തിമ തീരുമാനമാകാതെ ഫയൽ വീണ്ടും ധനവകുപ്പിലേക്ക് സമർപ്പിച്ചിരിക്കുന്നു. ഫയൽ ഇപ്പോൾ ധനവകുപ്പിന്റെ പരിശോധനയിലാണ്.</p>

(ബി)	<p>പ്രസ്തുത പാലം നിർമ്മാണത്തിന്റെ ഭാഗമായി ധനകാര്യ വകുപ്പിലെ സി.ടി.ഇ. നൽകിയ പരിശോധനാ റിപ്പോർട്ടിന്റെ പകർപ്പുകൾ ലഭ്യമാക്കാമോ;</p>	(ബി)	<p>പ്രസ്തുത പാലം നിർമ്മാണത്തിന്റെ ഭാഗമായി അതാത് ഫയലുകളിൽ സി.ടി.ഇ. ലഭ്യമാക്കിയ അഭിപ്രായത്തിന്റെ പകർപ്പുകൾ ഇതോടൊപ്പം ഉള്ളടക്കം ചെയ്യുന്നു.</p>
(സി)	<p>പ്രസ്തുത പാലം നിർമ്മാണവുമായി ബന്ധപ്പെട്ട് ധനകാര്യ വകുപ്പിലെ ഫയലുകൾ പരിശോധിച്ച് ആവശ്യമായ ഫണ്ട് അനുവദിക്കുന്നതിന് നടപടി സ്വീകരിക്കുമോ; വ്യക്തമാക്കുമോ?</p>	(സി)	<p>പ്രസ്തുത പാലം നിർമ്മാണവുമായി ബന്ധപ്പെട്ട് ഫണ്ട് ആവശ്യമുള്ളപക്ഷം ആയത് പരിശോധിച്ച് ഉചിത നടപടികൾ സ്വീകരിക്കുന്നതാണ്.</p>

സെക്ഷൻ ഓഫീസർ

Note # 20

InspTech-1/38/2023-FIN

Finance(Inspn Tech)Dept

I&PW-B1/37/2022-FIN

The AS proposal for the work "Construction of Irumbothingal bridge across Chalikkal thodu on Koottumoochi - Athanikkal road in Vallikkunnu LAC in Malappuram District" submitted by the Chief Engineer, PWD Bridges amounting ₹1244 lakhs is examined in general and the following observations are noted.

Letter of CE, Bridges

1.Irumbothingal Bridge across **Chalikkal thodu** on Irumbothingal - Koottumoochi - Athanikkal Road passing through Vallikkunnu Grama Panchayat connecting on Chelari - Parappanangadi Road at Koottumoochi junction and meeting on Kadalundi - Chettiyarmadu road near by Athanikkal junction in Vallikkunnu LA constituency.

2.The proposal is to construct a new bridge near to the existing old narrow bridge which is in a dangerous condition. The road and bridge was taken over by the PWD from the District Panchayath.

3.At present bridge is not able to with stand the the traffic volume . The investigation for the construction of the bridge was conducted and the alignment plan prepared and submitted accordingly.

4.The bridge is proposed with a span of 3 x 12m with RCC solid slab. There is a 7.50m wide carriageway and 1.50 m wide footpath on both sides.

5.During the last severe flood, this bridge and approaches are submerged. The last recorded HFL is 0.55 m above the existing old bridge and the approaches.

6.This estimate is prepared as per DSOR 2018 with cost index 36.44% and Provision given for GST is 18%. Total estimate amount comes to ₹1244 Lakhs

Provisions in the Current Proposal.

1. Detailed estimate is not made available
2. The bridge is proposed with a skew span arrangement of 3 x 12m with RCC solid slab(990mm deep).
3. There is a 7.50m wide carriageway and 1.50 m wide footpath on both sides.
4. Foundation is seen proposed with cast in situ pile with RCC M35 of 800mm dia.
5. The major provisions in the proposal consists of formation of island, service road, steel liner of 5m depth, 800mm dia. pile foundation of 12-15m in depth, approach road of 120m in length on each side, DR retaining wall, culvert, two lane BM & BC works over GSB(20cm)/WMM(15cm), Mastic Asphalt layer over bridge deck, interlocking footpaths, road safety works
6. Soil investigation report for the proposed bridge is also submitted by the field officials. The SIR recommends pile foundation for the structure.

Inspection by FIW- Tech and Observations

The Officers of this wing inspected the site on 19.01.2023 in the presence of the concerned officials of PWD bridges and the following observations are noted.

1. **The bridge is in a dilapidated condition and needs to be re constructed immediately.**
2. The approach portion from Athanikkal side is noted on a higher level towards the existing bridge and then almost level towards Parappanangadi side.
3. The existing bridge is a two span bridge over Chalikkal thodu resting over RR abutments - length is 11.20m only
4. Location of the bridge is noted as on a curve .
5. MFL of the bridge is marked as +0.55m above slab in the 2018 flood .
6. The proposal is to **raise the existing slab level by more than 2m** above the present level , which demands LA & construction of a culvert

7. If the bridge is going to be raised as per the current proposal, the portion of the road in the Parappanangadi side will be below the flood level. Hence the raising of the bridge needs to be reviewed considering the topography of the area.

Error in PRICE estimate: A serious error is noted in the computation of reinforcement as mentioned below.

item No.1.008 for pile cap - Quantity vide item No.1.007 - 73.053Cu.m. @150Kg/Cum = 10957.95Kg /1000 = **10.96MT.**

Quantity proposed is 366.28MT against 10.96 MT

Hence the excess amount in this regard = $(366.28 - 10.96) \times 96793 = ₹3.44\text{Cr} \times 1.18 \text{ (GST)} = ₹ 4.06 \text{ Cr.}$

Recommendations

AD may be advised to take a decision on the following aspects

i) Whether raising of the bridge by 2m above the present level, which increases the cost of structure and increase in the Time of Completion due to LA, is required as per site conditions

ii) The existing bridge length is only 11.20m , whereas the proposal is for a 36m bridge, which requires a review.

iii) The PRICE wing of PWD shall conduct detailed enquiry about the grave mistake which creep-ed in the PRICE software, (which would have resulted in huge losses to Govt). AD shall take immediate action to correct and avoid such cases in future.

AD shall direct the Chief Engineer, PWD Bridges to personally inspect the site and offer comments on the proposal.

AD shall ensure proper scrutiny of proposals at all levels before submitting into Govt. to avoid delay and loss of public money.

01/02/2023 05:48 PM

HARIKUMAR S
CTE & EX-OFFICIO SEC (INSP TECH,FIN)

Note # 46

InspTech-1/38/2023-FIN

Finance(Inspn Tech)Dept

I&PW-B1/37/2022-FIN

The Modified AS proposal submitted by the field officials for irumbothinal bridge in Malappuram district amounting ₹ 762Lakhs is examined in general and the following observations are noted.

Refer Note # 20 , wherein, remarks were communicated for which CE has submitted a report.

Report of CE

The CE, PWD Bridges vide letter dated 14.07.2023 has reported that

1. The error in PRICE software calculation is forwarded to PRICE HELP DESK.
2. The design wing has raised the bridge by 2m due to the raising of water by 0.55m in the rainy season.
3. The length of bridge is increased due to the change in alignment avoiding curves

The CE, PWD Bridges vide letter dated 28.07.2023 has reported that the investigation for the construction of the bridge was conducted departmentally and the alignment plan is approved. As per the direction of the Government, necessary corrections are made in the estimate and resubmitted for Administrative Sanction.

Provisions in the estimate

The bridge is proposed with 3 spans x 12m with RCC solid slab. There is a 7.50m wide carriageway and 1.50 m wide footpath on both sides.

Inspection by FIW-tech Officers

Accordingly, the Officials of this wing inspected the site on 01.11.2023 in the presence of the concerned officials of PWD Bridges and the following observations are noted.

**The existing bridge length is a single span of 11.20m ,
whereas the proposal is for a three span of 36m bridge.**

**Photograph of the existing bridge showing its dilapidated
condition**





1. The approach portion from Athanikkal side is noted on a higher level towards the existing bridge and then almost level towards Parappanangadi side. Hence the purpose of raising bridge to a higher level doesn't serve the purpose during a flood situation.
2. **The bridge is on the verge of failure, as may noted in the photos.**
3. It is ideal to provide a submersible type bridge at a lower cost considering the site conditions
4. For raising the existing level of bridge by +0.55m, the raising of the entire structure by 2m is highly uneconomical.
5. However the LA to correct the alignment may be accepted. Normally LA will take minimum 1-2 years.

Observations by this Wing

1. Cost of bridge proper @ 7.6Lakhs/m is reasonable.
2. However the cost of approach road (Rs 2.91Cr +GST) which is noted as higher than the cost of bridge
3. It appears that the retaining structures are to be reworked based on the final level of the bridge after reviewing design by design wing.

4. In view of the above, we may limit the provision of approach road @50% cost of the approach road provision for issuing AS purpose only considering the dilapidated condition of the bridge.

Recommendation

AD may be advised to consider the AS proposal for the work "Construction of Irumbothinal bridge-construction of Irumbothingal bridge across Chalikkal thodu on Koottumoochi - Athanikkal road in Vallikkunnu LAC in Malappuram District" for **a modified amount of ₹590Lakhs** subject to the following conditions

1. The expenditure in the work may be limited to investigation, LA, Utility shifting, cost of valuation of affected structures until a revised AS is obtained with Finance concurrence after and modifying the design/proposal. Tenders may be called for only after clearance from Finance
2. AD may be advised to review the current proposal considering the option of a submersible type bridge at a lower cost considering the site conditions since the raising the existing level of bridge by +0.55m, the raising of the entire structure by 2m is observed highly uneconomical. Also the purpose of raising bridge at a higher level doesn't serve the purpose in a flood situation since one approach of the bridge is at a lower level.
3. AD & NIC **may be directed to view the numerical error occurred in the estimate for th item of reinforcement in "PRICE" software very seriously** which resulted an excess of ₹4.06Cr in the estimation process while processing the earlier proposal .

[Irumbothingal bridge Modified proposal-1.xlsx](#)

08/11/2023 06:03 PM

HARIKUMAR S
CTE & EX-OFFICIO SEC (INSP TECH,FIN)

Note # 85

InspTech-1/38/2023-FIN

Finance(Inspn Tech)Dept

I&PW-B1/37/2022-FIN

Refer remarks of this wing vide Note #20 and 46. The original proposal for the bridge was Rs 1244 lakhs , and AD was advised to modify the estimate based on our suggestions.

Modified proposal is for Rs 493 lakhs (against Rs 1244 lakhs)

The modified proposal submitted by the CE, PWD Bridges for the work "Construction of Irumbothinal bridge-construction of Irumbothingal bridge across Chalikkal thodu on Koottumoochi - Athanikkal road in Vallikkunnu LAC in Malappuram District" amounting ₹493 Lakhs is examined in general and the following observations are noted.

Proposal of the Chief Engineer, PWD Bridges.

The proposal is to construct a new bridge near the existing old narrow bridge which is in a dangerous condition due to long age. During the recent severe flood, this bridge and approaches were submerged. The last recorded HFL is 0.55 m above the existing bridge and the approaches. At present, the traffic volume is not able to withstand the safety of the bridge.

Hon. MLA for Vallikkunnu LA constituency is highly initiating to construct a new double lane bridge replacing the existing old aged foot bridge.

The site was visited by CTE and suggested for a redesign . Hence this estimate is resubmitted for administrative sanction, based on a new submersible design. This estimate is prepared as per DSR 2018 including GST@18%.

Observations:-

- 1.The original proposal of the bridge is for an amount of ₹1244lakhs.
- 2.The current proposal of ₹493lakhs is observed as based on the site inspections and further directions from this wing.
- 3.The provisions in the current proposal consists of 2x10m span submersible RCC slab integrated skew type bridge resting over

pile foundation, 800mm dia piles for abutment, provision for liner, Provision of elastomeric painting, GI tube hand rail.

4.Width of the bridge is noted as 11m (7.50m carriageway + 1.5m footpath on both sides)

5.Reinforcement for the work is seen provided on a thumb rule basis, which shall be provided in the TS estimate based on actual requirement and correctness of the quantity of reinforcement in the item 1.008 shall be checked while issuing TS.

6.The approach portions of the bridge consists of DR retaining wall, approach road, culverts, drain & road safety works.

10.The provision for approach road consists of GSB(20cm), WMM(15cm), BM(5cm) and BC(3cm) for a length of 120m + 136m

11.GST@ 18% noticed.

12.LS provisions for LA (1Cr), cost of affected structures (6L) and Utility shifting for KSEB (10Lakhs) is also included.

13.FRL of the bridge is noted as 100.500m and design MFL at the location is noted as 100.297m.

Recommendations:-

AD may be advised to consider the AS proposal for the work "Construction of Irumbothinal bridge-construction of Irumbothingal bridge across Chalikkal thodu on Koottumoochi - Athanikkal road in Vallikkunnu LAC in Malappuram District" amounting ₹493Lakhs subject to the following conditions.

1. The structural stability of the bridge shall be ensured by the CE, Design, PWD.
2. The provisions, quantities, rates shall be ensured by the CE, PWD Bridges.
3. The numerical correctness of the quantity of reinforcement in the item 1.008 shall be checked while issuing TS and TS authority shall ensure that the provision for reinforcement shall be based on actual requirement based on structural design while issuing TS.
4. The Lumpsum provisions shall be operated as per rules and actual requirement.
5. A copy of approved TS estimate shall be forwarded to FD for compliance.

11/04/2024 11:08 AM

HARIKUMAR S
CTE & EX-OFFICIO SEC (INSP TECH,FIN)

Note # 7

InspTech-1/1/2024-FIN

Finance(Inspn Tech)Dept

I&PW-B1/402/2023-FIN

The AS proposal for construction of Munambathkadavu bridge across Pullippuzha in Vallikkunnu and Beypore LAC has been examined.

Report from CE PWD

It is reported that the existing wooden foot bridge at site has eroded due to ageing and unfit for traffic now. Since there is no other other bridge for the transportation of vehicles nearby, it takes a lot of time to reach the opposite side of the river.

According to the PWD, once the construction of proposed bridge is completed, it is very easy to reach the peoples from Ennakkatt and Perumukham to the Calicut University and also it will act as a bypass from Idimuzhikkal - Agrashala PWD road to Kallampara road. Hence the estimate.

It is reported that the land for the construction of bridge and approach road need to be taken over from land owners as per direct purchase. This estimate amounting to Rs. 550 lakhs is prepared based on MoRTH specifications and DSR 2018 with GST provision @18%.

Provisions in the estimate:-

Appendix A -Construction of bridge proper :- The bridge is proposed with a span arrangement of 3 x 20m with RCC deck slab and pile foundations as per PWD Design. The estimated cost of bridge proper with a carriageway width of 5.50m and 1.50m wide footpath on one side comes to Rs.2,65,69,311/- only.

Appendix B - Construction of Approach Road and River protection :- Construction of immediate approach road and branch roads having a total length of 94m at Malappuram side and 195m at Kozhikode side are proposed in this appendix. CC retaining wall, RCC drainage, embankment filling, 20cm GSB, 20cm WMM, 50mm BM & 30mm BC etc. are proposed. The estimated cost under this head comes to Rs.1,19,46,111/-

Appendix C - Road safety and Signages :- This appendix

includes road safety elements like traffic signs, place identification boards, road markings, hazard marker, studs, crash barrier etc. are proposed. The estimated cost of road furniture comes to Rs.8,55,367/-

Appendix D - Lump sum provisions are given for utility shifting by KSEBL @ Rs. 10,00,000/- and land acquisition @ Rs. 75,00,000/- in this appendix.

Remarks on the estimate:-

It is observed that the provisions in the estimate are reasonable in general except provisions for steel liner(7m depth instead of 2.50m as per design), CC side protection wall (instead of DRM / RCC), GSB, WMM and the high rates adopted for elastomeric membrane.

Recommendation

AD may be advised to consider the AS proposal for construction of Munambathkadavu bridge across Pullippuzha in Vallikkunnu and Beypore LAC for an amount of Rs.550 lakhs subject to following conditions:-

1. The work shall be tendered only after ensuring required hindrance free land.
2. Provisions made for steel liner in the estimate @7m shall be reviewed and revised as per the provisions in design drawing.
3. The CC side protection walls proposed upto 5m height shall be reviewed and substituted with DRM or Designed RCC cross sections.
4. The Rates adopted for elastomeric membrane shall be revised as per the latest rates approved by Govt.
5. Possibility of optimizing the thickness of GSB & WMM from 20cm to 15cm may be explored.

08/01/2024 04:36 PM

HARIKUMAR S
CTE & EX-OFFICIO SEC (INSP TECH,FIN)

Note # 7

InspTech-1/229/2023-FIN
Tech)Dept

Finance(Inspn

I&PW-B1/119/2023-FIN

The proposal submitted by AD for Rehabilitation of Kadalundikadavu Bridge -Rehabilitation of Kadalundikadavu Bridge in Beypore LAC and Vallikunnu LAC in Kozhikode and Malappuram Districts - phase-1 (Superstructure) amounting to ₹10.47Cr is examined in general and the following observations are noted based on the detailed estimate and report of KHRI furnished by the field officials and inspections conducted by FIW Tech officers.

The case has been examined **earlier** and the following **recommendations** were offered based on the proposal amounting ₹5.28 Crores. (on 6.3.22)

1. In general, it is appreciable to adopt new technologies which are to be encouraged. However, it may be done only after proper validation by a pilot study. Hence, it is recommended to conduct a pilot study adopting the recommended technology which may be executed at site on selected severely damaged girders, piers, etc. **at a fraction of the cost.**
2. This pilot study will enable the department to assess the performance, sustainability, technical admissibility, recurring cost and most importantly cost effectiveness.
3. Based on the pilot study, the same may be extended to the full structure, in case it is found durable and cost effective.

It is noted that the earlier directions of Finance are not seen complied. The same estimate is resubmitted without any reconsideration.

KHRI Report regarding the current proposal

The following is the summary on the type of repair to be adopted for the **critical components of the bridge which**

needs an immediate repair. The remaining can be repaired later either when the distress are visible or based on the success of this repair as per the direction of the government.

Immediate repair required is reported as

Super Structure (Girders & Slab)

All the distressed girders, slabs, cross girders in the category 1, 2 & 3 shall be repaired as per the plan given in the final report submitted on October 2021. i.e removal of damaged concrete, providing treatment to rebars, reinstate with micro-concrete/polymer modified mortar and cathodic protection (specifications and design already provided in the report). Cathodic protection may be limited to regions have visible distress or regions which are prone to corrosion (splash zone). Anti-carbonation coating shall be given for the super structure after the repair being carried out as this will invariably improve the overall service life of the structure.

Piers, Pier cap, pile cap:

Patch repairs along with cathodic protection is to be done at the distressed regions of the piers, pier cap and pile cap. The cathodic protections is only required at the patch repaired regions (to prevent accelerated corrosion in future at repaired regions). Anti -Carbonation coating shall be given to pier caps.

Piles : All distressed piles given as per the report submitted on October 2021 shall be repaired as per the plan given. Majority of the repair cost associated with the piles are mainly for the clearing the sea water around the piles by sheet piling and pumping of concrete. Hence, to cut down the cost, the piles may be repaired when the conditions favourable for repair prevails at the site, ie when the sea water level is less and the sand around the piles are taken away by waves. **Generally from September to December, the site is having lower water level and it may be the suitable time to repair the damaged piles with minimum cost.**

All damaged piles as per the previous report or based on the condition prevails at the site may be repaired when the condition suitable for repair prevails at the site.

Observations on the current Proposal for rehabilitation

1.The proposal consists of removing damaged concrete surface from pier and piles girders, deck slab

2.The depth of removal of concrete from piles is mentioned as 4m

The quantity worked out as $15 \times 3.14/4 \times 1.2 \times 1.2 \times 4 = 68\text{Cum}$ and the quantity provided in the estimate is noted as 226.08Cum

3.The major provisions in the proposal also includes, adding of new reinforcement, rust removal , anchoring steel bars, injection grouting, providing galvanic shield, Applying Polymer modified mortar, micro concreting & FRP Wrapping, Providing MS Grill platform, protective coating, load test, providing Z sheet pile, Jacketing of piles.

4.Major cost of the work is noted as

Galvanic protection - **₹2.49Cr,**

Providing MS Grill platform amounting Rs 64lakhs,

Protective coating amounting **₹1.02Cr,**

providing Z sheet pile amounting **₹3.04Cr**

Provision for GST - 18%.

The rates and datas are reported as prepared in consultation of KHRI Thiruvananthapuram.

During inspection by our team , severe wave attack is noted during inspection and visible signs of damage were also noted.

Remarks on the proposal.

1. The bridge was completed on 31.12.2007 with Well and Pile foundation and T beam and Deck Slab as superstructure with 13No.s spans of 26.62m as per the details marked at site.
2. The proposed rehabilitation is only for a part of the structure amounting ₹10.47Cr (**immediate repair**).
3. The KHRI report mentions as "**Generally from September to December, the site seems having lower water level and it may be the suitable time to repair the damaged piles with minimum cost.**"
4. **Due to corrosion of steel rebars in the bridge, it was reported that repair works were undertaken during**

2014-15.

5. KHRI report mentions the recommendations suggested in the final report submitted earlier on October 2021, may be implemented in various steps considering the success of each stage after monitoring the repair carried out in each stage.
6. Immediate repair shall be carried out for the elements where serious corrosion has been observed like the beams, piles etc in the first five to six spans in the Kadalundi side of the bridge.
7. **Hence the total cost of rehabilitation of the bridge is not known at this stage.(which may escalate many fold)**
8. It is necessary to attend the bridge since it is operational

Recommendation

AD may be advised to take an appropriate decision "**whether to go in for rehabilitation or reconstruction of the bridge** considering the following point.

It is noted that rehabilitation (immediate repair) cost of a part of the bridge itself is estimated as ₹10.47Cr and hence a decision may be taken comparing the total expected rehabilitation cost of the existing bridge and **cost of a new bridge**

Safety assessment of the bridge is urgent, since the bridge is currently operational and ideal time mentioned for repairing piles is mentioned as September to December as per KHRI's report and the forthcoming rainy season.

In case, AD decides to rehabilitate the bridge, the numerical calculations, quantities shall be verified and it is advisable that rates shall be compared with the quoted rates of the work "rehabilitation of CH Fly Over, Kozhikode"

4.AD may wish enquire about the distress of the bridge(within 7 years of completion) and appropriate action shall be initiated upon all responsible based on the enquiry.

4.We may also advise compliance of our earlier observations wherever applicable.

09/06/2023 07:49 AM

**HARIKUMAR S
CTE & EX-OFFICIO SEC (INSP TECH,FIN)**

Note # 31

InspTech-1/229/2023-FIN

Finance(Inspn Tech)Dept

I&PW-B1/119/2023-FIN

Refer Note # 7 , wherein proposal for Rehabilitation of Kadalundikadavu Bridge -Rehabilitation of Kadalundikadavu Bridge in Beypore LAC and Vallikunnu LAC in Kozhikode and Malappuram Districts - phase-1 (Superstructure) amounting to ₹10.47Cr was examined and the following observations were noted based on the detailed estimate and report of KHRI furnished by the field officials and inspections conducted by FIW Tech officers.

The following recommendations were made.

AD may be advised to take an appropriate decision "**whether to go in for rehabilitation or reconstruction of the bridge**" considering the following points.

It is noted that rehabilitation (immediate repair) cost of a part of the bridge itself is estimated as ₹10.47Cr and hence a decision may be taken comparing the total expected rehabilitation cost of the existing bridge and **cost of a new bridge**

Safety assessment of the bridge is urgent, since the bridge is currently operational and ideal time mentioned for repairing piles is mentioned as September to December as per KHRI's report and the forthcoming rainy season.

In case, AD decides to rehabilitate the bridge, the numerical calculations, quantities shall be verified and it is advisable that rates shall be compared with the quoted rates of the work " rehabilitation of CH Fly Over, Kozhikode"

4.AD may wish enquire about the distress of the bridge(within 7 years of completion) and appropriate action shall be initiated upon all responsible based on the enquiry.

5.We may also advise compliance of our earlier observations wherever applicable.

Non compliance of observations

It is noted that there is no compliance is furnished on our observations in letter of the Chief Engineer, PWD Bridges dated 25.01.2024 even though the bridge warrants urgent attention

and action thereon.

In view of the above, It is opined that the earlier remarks of this wing still hold good in the above case and AD may be advised accordingly.

31/05/2024 11:58 AM

**HARIKUMAR S
CTE & EX-OFFICIO SEC (INSP TECH,FIN)**
