

Government of Bihar, Water Resources Department,
Office of Director, Dam Safety cell
3th Floor. Block-B, Jal Sansadhan, Bhawan, Anisabad, Patna-800002
(Detailed Version)
Request for Expression of Interest
(Consulting Services-Firms Selection)

for
**Estimating Revised Design Flood, Conducting River Cross-Section Survey
in River Chandan and Carrying out Dam Break Analysis for Chandan
Dam including Preparation of Emergency Action Plan**

E- Procurement

India
National Hydrology Project
Loan No. IBRD Loan 8725-IN

Ref No: BIHAR/WRD/CHANDAN RIVER/NHP-SW/EOI/01/2019-20
Procurement Plan Ref No :NHP-2019-2020-BRSW-172308

Dated:- 16. 07. 19

1. This Invitation for Bid follows the General Procurement Notice for this Project that appeared in Development Business on 09/03/2017.
2. The Government of India has received financing from the World Bank toward the cost of the National Hydrology Project, and intends to apply part of the proceeds for the consulting services.
3. Water Resources Department, Govt. of Bihar, which is the implementing agency for Bihar (Surface Water Component), is interested in **Estimating Revised Design Flood, Conducting River Cross-Section Survey in River Chandan and Carrying out Dam Break Analysis for Chandan Dam including Preparation of Emergency Action Plan** to find out the extent of inundated area downstream, the maximum depth and velocity of water over the inundated zone as well as the time available before arrival of the flood peak and the duration of inundation.

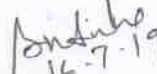
The total length of the river is approximately 118 kms from origin to outfall as per Report of the 2nd Bihar State Irrigation Commission Report, 1994, Volume V. The proposed conducting of river cross section work will provide all data on channel design, land-cover, channel longitudinal section (Thalweg), which would become an integral part of the dam break analysis as well as flood modelling systems which is going to be conducted/developed in near future. The data collected by proposed conducting of river cross section work will also be used to support flood management functions in the State including anti-erosion works and planning of new structures. This detailed topographic & cross-sectional survey aims at 05 cm absolute and relative vertical accuracy for proper fitment into various proposed model studies on the river Chandan.

4. **Scope of Consultancy:**The present consultancy package aims at addressing the challenging problem of creating a precise elevation model of Chandan River and enclosing structures using modern survey techniques. The data received from this Consultancy would be used in study of Chandan Dam Break Analysis as well as for other flood management works in Chandan River Basin. It also comprises dam break analysis of Chandan Dam for demarcating the area inundated, along with prediction of water depth, velocity, time of arrival of flood peak and duration of flood inundation. For this purpose, it is necessary to estimate the revised inflow design flood for the dam. For this purpose, it is necessary to estimate the revised inflow design flood for the dam. Since by the Indian standards Chandan Dam is a large dam, the inflow design flood is Probable Maximum Flood or the PMF. As the project was taken up in 1962 and completed in 1967-68, the inflow design flood needs to be re-estimated using the current procedures. It has been observed that for many other dams in the country the increase in design flood due to re-estimation has been substantial, often going up to multiple times of the initially adopted value. So, it is required to carry out the estimation of PMF for Chandan Dam using procuring storm data and catchment parameters/ any other acceptable approach. It also envisages preparation of actionable emergency action plan for evacuation during a possible disaster. However, assessment of the different aspects of the dam safety considerations are outside the purview of this assignment, and rests with the Department. It has to be implemented through constitution of DSRP following the prescribed norms. The hydraulic model developed with the rectified DEM prepared using the river cross sections obtained through field survey should be of such a quality that allows its future usage for flood forecasting during the monsoon season.

Broad Terms of Reference (ToR) is attached with this EoI.

5. The duration of the assignment is 18 (**Eighteen**) months.
6. Director, Dam Safety Cell, Patna (Water Resources Department), Govt. of Bihar now invites eligible Consultant to indicate their interest in providing the consultancy services for **Estimating Revised Design Flood, Conducting River Cross-Section Survey in River Chandan and Carrying out Dam Break Analysis for Chandan Dam including Preparation of Emergency Action Plan**
7. Interested Consultants must provide information indicating that they are qualified to perform the services (brochures, description of similar assignments in similar conditions, availability of appropriate skills among staff etc.). Consultants may associate with other firms in the form of a joint venture or a sub-consultancy to enhance their qualifications. Number of partners in a JV shall be limited to two including the lead partner
8. The criteria for short listing of the Consulting firms shall be as follows:
 - i. The eligible consultant shall be a consultancy firm, with over 10 years of experience in the field of Hydrological Survey specifically in the field of conducting river x-section and hydrological modelling.

- ii. Should have at least two (2) experiences during the last ten (10) years in field as mentioned above in point (i). At least one Project of similar work costing not less than Indian National Rupee (INR) 20 million (US\$ 0.30 million) or equivalent is required. In case of JV the lead consultant must meet 70% of this criteria and other member of the JV must meet 40 % of this criteria.
 - iii. The firms shall be financially sound with an average annual turnover of more than INR 40 million during the previous five years. In case of joint venture (JV) the minimum turn-over of lead partner should be 70 % whereas other member in Joint Venture minimum turn-over should be 40% of the required turn over for a firm. This should be clearly stated in the submission.
 - iv. Firm's Organization set-up, structure and availability of key professionals with the firm (Team Leader-Hydrologist/ Hydraulic Modeller, Junior Hydrologic/Hydraulic Modeller, Surveyor, GIS/RS Specialist, Meteorologist, Database Specialist, EAP Specialist, Technical Support Staff, Other Support Staff etc.) alongwith qualification and experience i.e. Technical team and expertise available with the organization.
9. The attention of interested Consultants is drawn to paragraph 1.9 of the World Bank's *Guidelines: Selection and Employment of Consultants under IBRD Loans and IDA Credits & Grants by World Bank Borrowers* January 2011 revised in July 2014 ("Consultant Guidelines"), setting forth the World Bank's policy on conflict of interest.
 10. A consultant will be selected in accordance with the QCBS (**Quality And Cost Based Selection**) procedures set out in the World Bank's "*Guidelines: Selection and Employment of Consultants Under IBRD Loans and IDA Credits & Grants by World Bank Borrowers- Jan 2011, modified July 2014*". The Guidelines are available at www.worldbank.org/procure.
 11. Interested Consultants may obtain further information at the address given below from 10.00 – 17.00 hours (IST) on all working days. This notice for Expression of Interest has also been posted on websites-<http://fmis.bih.nic.in> and <http://wrd.bih.nic.in>
 12. Expression of Interest with all relevant information and documents must be uploaded on <https://eprocure.gov.in> for "**Estimating Revised Design Flood, Conducting River Cross-Section Survey in River Chandan and Carrying out Dam Break Analysis for Chandan Dam including Preparation of Emergency Action Plan**" by not later than 5th September 2019 time 15.00hrs Server time. In the event, this last date being declared as holiday by the State Government, due date for submission of above EOI will be the next working day up till the same appointed time. **The Expression of Interests received till the appointed time and date shall be opened same day at 15.30 hrs Server time.** The electronic bidding system will not allow any late submission of the REOIs after due date and time as per server time. Physical, Email, Telex, cable or facsimile submission of REOIs will be rejected as non-responsive.


 16-7-19
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