

MINISTRY OF TRANSPORT, HIGHWAYS, PORTS AND CIVIL AVIATION

ROAD DEVELOPMENT AUTHORITY

REQUEST FOR PROPOSALS

**RECRUITMENT OF INDIVIDUAL HYDROLOGIST FOR
RDA**

OCTOBER 2025

GOVERNMENT OF THE DEMOCRATIC SOCIALIST
REPUBLIC OF SRI LANKA

MINISTRY OF TRANSPORT, HIGHWAYS, PORTS AND CIVIL AVIATION

ROAD DEVELOPMENT AUTHORITY

INDIVIDUAL HYDROLOGIST CONTRACT NO. RDA/DPR/CON/NCB/PD(AKK)/HYL/68

RDA intends to obtain the services of an individual Hydrologist to carry out hydraulic studies for following three locations

- i. Br No 375/5 on Colombo Ratnapura -Wellawaya - Batticoloa Road (A 004)
- ii. Karaitivu - Ampara Road (A 031) Ch 0+200 to 0+800 KM
- iii. Br No 4/3 on Kalmunai- Chavalakadai Road (B 187) Ch 3+525 to 3+715 KM

Applications are invited from professionally Qualified Civil Engineers having minimum of 15 years experience in conducting hydraulic studies for bridges.

Terms of Reference (TOR) and other documents could be obtained free of charge from the Director (Procurement), Road Development Authority, Maganeguma Mahamadura, Denzil Kobbekaduwa Road, Battaramulla , on request or can be downloaded from www.rda.gov.lk from 24.09.2025

Salary is negotiable and the appointment will be on contract basis initially for a period of Two (02) months and extendable on requirement.

Application together with complete Bio-Data, copies of relevant documentary proof of experience and qualifications should be sent under registered cover to reach Director (Procurement Management), RDA, 4th Floor, Maganeguma Mahamadura, Denzil Kobbekaduwa Road, Battaramulla not later than 2:00 PM on 02nd October 2025. The words "Post of Individual Hydrologist for RDA" shall be written on the top left hand corner of the envelope.

Further information can be obtained from the office of Deputy Director General (Procurement Management), RDA on 011 2884790 and 011 2046481

**Chairman
Department Consultant Procurement Committee
Road Development Authority
"Maganaguma Mahamadura"
Denzil Kobbekaduwa Road
Battaramulla**

**HYDROLOGIST AND HYDRAULICS
STUDIES ON THREE PROPOSED
BRIDGE SITES IN OLUVIL, KARAITIU
AND KALMUNAI**

TERMS OF REFERENCE

**DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
ROAD DEVELOPMENT AUTHORITY**

Table of Contents

Table of Contents	i
1 Introduction.....	1
2 Background.....	1
2.1 Bridge No. 375/5 on Colombo – Ratnapura – Wellawaya – Batticaloa Road (A004).....	1
2.2 The Section between CH: 0+200 and 0+800 km of Karaitivu – Ampara Road (A031).....	2
2.3 The Section between CH: 3+525 and 3+715 km at Bridge No. 4/3 on Kalmunai – Chavalakadai Road (B 187)	2
3 Objectives.....	3
4 Scope of the Work.....	3
5 Time Schedule.....	4
6 Expected Deliverables.....	4

**TERMS OF REFERENCE FOR CONSULTANCY FOR HYDROLOGY AND
HYDRAULICS STUDIES ON THREE PROPOSED BRIDGE SITES IN OLUVIL,
KARAITIU AND KALMUNAI**

1 Introduction

The objective is to study the Hydrology and Hydraulic behaviours of the following 03 locations and propose appropriate and efficient flood protection system or structures to minimize inconvenience to road users.

- Bridge No. 375/5 on Colombo – Ratnapura – Wellawaya – Batticaloa Road (A004)
- The section between CH: 0+200 and 0+800 km of Karaitivu – Ampara Road (A031)
- The section between CH:3+525 and 3+715 km at Bridge No. 4/3 on Kalmunai – Chavalakadai Road (B 187)

2 Background

The brief description of the 03 location are as follows.

2.1 Bridge No. 375/5 on Colombo – Ratnapura – Wellawaya – Batticaloa Road (A004)

Bridge No. 375/5, located on the A004 highway near the South Eastern University in Oluvil, Sri Lanka, serves as a critical transportation link for the region. This bridge connects key towns including Kalmunai, Ampara, Akkaraipattu, Batticaloa, and Pottuvil, making it an essential infrastructure component on the Colombo – Ratnapura – Wellawaya – Batticaloa Road.

The Bridge No. 375/5 was originally constructed as a multiple cell box bridge structure (04 cells, each 4m x 3m) and completed in the year 2010 by RDA. Prior to this construction, the location functioned as a causeway.

In November 2024, the region experienced a significant flood event, which led to the sinking of the bridge due to heavy scour, rendering it impassable. Notably, there is no river that crosses the bridge. The existing structure functions as a water balancing structure, facilitating the flow of water from higher ground to lower-lying areas during periods of heavy rainfall and flooding.

Based on the observed failure pattern of the existing box-type structure under high hydraulic pressure and unexpected water flow due to bridging of Gal Oya right river channel at several locations, it is evident that proper hydraulic and hydraulic study need to be carried out to design

suitable bridge.

2.2 The Section between CH: 0+200 and 0+800 km of Karaitivu – Ampara Road (A031)

The section of the Karaitivu – Ampara Road (A031) between (Ch: 0+200 and 0+800) km, connecting Karaitivu to Mavadipalli, serves as a vital link between several towns including Baticaloa, Kalmunai, Sainthamaruthu, Nitavur and further connects to key urban centers such as Sammanthurai, Ampara, Mahaoya, Bibile, and Monaragala. This corridor is critically important for regional connectivity and daily transportation.

Historically, this segment has experienced recurrent flooding primarily linked to the Kaloya River. During the rainy season, it has been inundated approximately 4 to 5 times annually, with flood heights averaging 2 to 3 feet above the existing road level. In recent years, flood levels have exceeded 4 feet, causing significant disruption to vehicular movement until floodwaters drain.

Recent flood events in 2024 have been exacerbated by sudden surges in water flow. These surges resulted from the release of water from Walathapitiya Tank by the Department of Irrigation and the heavy rainfall associated with a cyclone in the region. As a result, water level rose more than 4 feet above the existing road level, made the section impassable for over 7 days. Alternative routes, approximately 16 km longer, were also submerged during these flood events, highlighting the critical need for resilient flood mitigation measures.

As an A-class National Highway, with high daily traffic volume, ensuring the safety and accessibility of this corridor is essential. To effectively plan and implement structural interventions, such as bridges and drainage improvements, comprehensive hydrological and hydraulic studies are required with the suitable recommendation.

2.3 The Section between CH: 3+525 and 3+715 km at Bridge No. 4/3 on Kalmunai – Chavalakadai Road (B 187)

The Kittangi Bridge, located on the Kalmunai – Chavalakadai Road (B 187) at Bridge No. 4/3 (Ch: 3+525 to 3+715) km, is a critical infrastructure component serving the local community. During the torrential rain season, this area experiences flooding that significantly disrupts traffic, with water submerging the road to a depth of 2 to 4 feet approximately 3 to 4 times annually.

This disruption poses substantial difficulties for the residents of Navithanveli Divisional Secretariat, who rely heavily on this route for their daily needs, including travel to Kalmunai.

The residents, numbering around 29,000 people across 6,050 families, are compelled to resort to boat transportation during times of severe flooding, which hampers their mobility and access to essential services.

The section associated with the existing bridge includes a causeway spanning approximately 190 meters. The irrigation department has restrictions on raising the elevation of this section due to its function as a spillway for the Kittanki Lagoon, which is close by complicating flood mitigation efforts.

Given its classification as a B-class road with significant daily traffic, ensuring the safety and reliable accessibility of this corridor is essential. To develop effective solutions, including potential structural interventions such as bridges and drainage enhancements, comprehensive hydrological and hydraulic studies are imperative. These investigations shall provide a detailed understanding of flood behavior, flow patterns, and vulnerabilities, ultimately facilitating the development of resilient measures to reduce flood impacts and improve drainage capacity, ensuring sustainable connectivity for the local community.

3 Objectives

- To analyze the impact of the existing structures (if any)/ road embankments on the drainage systems of the basins concerned for specified three locations
- To identify the options for cross drainage requirements across specified three locations to ensure the safe disposal of flood runoff
- To determine the design flood levels corresponding to the 2, 5, 10, 25, 50 & 100 design return period at all locations

4 Scope of the Work

The key tasks are to identify sound technical options for the cross-drainage structures by setting up a combined hydrological and hydraulic numerical modeling of the upstream watershed to ensure safe disposal of flood runoff across the specified three locations and to propose cross drainage structures for the flood mitigation and drainage enhancement measures as required. In this process, peak flood discharges need to be calculated for the 2, 5, 10, 25, 50 and 100-year return periods. For above, data shall be collected by the consultant himself based on flood hearing survey and literature survey on past flood events, extents and patterns. Road Development Authority (RDA) shall provide any coordination with the relevant authorities for

data collection if required.

Hydrological and hydraulic analysis of the catchment area corresponding to the respective watershed and specific location are need to be carried out. The consultant shall submit the methodology for conducting the hydrology and hydraulic studies to achieve the above objectives. Any results obtained from numerical modeling must be validated by any other method.

5 Time Schedule

Time duration for each location is two (02) months and the total duration for the said assignment is six (06) calendar months for from the date on which the contractual agreement is signed between both parties (RDA and Consultant), unless otherwise extended due to unavoidable externalities as mutually agreed by both parties. Reports for the above assignment shall be submitted in two stages. The initial report shall be submitted to the RDA for review 6 weeks after the date of signing the contract. Subject to a one-week review period by the RDA, the final report shall be submitted within the above timeframe.

6 Expected Deliverables

Following deliverables are expected from the consultant during the specified time period.

- Identifying the drainage pattern, system, sensitivity and risk at all locations
- Flood contours for different return period. (2, 5, 10, 25, 50 and 100 years)
- Maximum flood discharge for different return periods at location before introducing the cross drainage structures
- Proposing appropriate cross drainage structures with required opening sizes (bridge, culvert, or any other structures) with the design flood levels and discharge through those structures after introducing them
- Scour depths at all locations
- Final recommendations

7 Payments

If required, 20% of the contract amount shall be paid as an advance payment after signing the contract agreement. The remaining amount shall be paid after submitting the final report.

113

Financial Proposal

Description	(Sri Lankan Rupees)
Remuneration as a Lump Sum	

Name:.....

Signature

Date:

Evaluation Criteria

The individual consultant is selected on the basis of their qualifications for the assignment. They shall be selected through comparison of qualifications of the candidates.

1. Minimum Qualifications

BSc (Civil) + MSc/Phd in Hydrology with more than 15 years in hydrology

Consultants shall fulfill the above minimum qualification.

Only consultants who meet the minimum qualification criteria shall be considered for evaluation. Among the qualified consultants, the contract shall be awarded to the consultant who submits the lowest price proposal.

FORMAT FOR CURRICULUM VITAE (CV)

FOR PROPOSED NATIONAL INDIVIDUAL PROCUREMENT CONSULTANT

Position Title	PROCUREMENT CONSULTANT (NATIONAL)
Name of Expert:	{Insert full name}
Date of Birth:	{day/month/year}
Citizenship	
Current Resident Address	
Mobile Tel No.	
Telephone No.	
Fax No	
Email-Address	

Education: {List college/university or other specialized education, giving names of educational institutions, dates attended, degree(s)/diploma(s) obtained}

Employment record relevant to the assignment: {Starting with present position, list in reverse order. Please provide dates, name of employing organization, titles of positions held, *type of employment (full time, part time, contractual)*, types of activities performed and location of the assignment, and contact information of previous clients and employing organization(s) who can be contacted for references. Past employment that is not relevant to the assignment does not need to be included. }

Period	Employing organization and your title/position. Contact information for references	Summary of activities performed relevant to the Assignment
[e.g., May 2020-present]	[e.g., Ministry of, advisor/consultant to... For references: Tel...../e-mail.....; Mr. Bbbbbb,	

Detailed task Assigned

(List all tasks to be performed under the assignment)

Work undertaken that the best illustrates capabilities to handle the tasks assigned

1. Name of Assignment or Project

2. Year

3. Location

4. Client

5. Main Project features

6. Position held

7. Activities Performed

Membership in Professional Associations and Publications:

Language Skills (indicate only languages in which you can work): _____

Adequacy for the Assignment:

Detailed Tasks Assigned on Consultant's Team of Experts:	Reference to Prior Work/Assignments that Best Illustrates Capability to Handle the Assigned Tasks
{List all deliverables/tasks as in TOR in which the Expert will be involved}	

Certification:

I, the undersigned, certify to the best of my knowledge and belief that

- (i) This CV correctly describes my qualifications and experience*
- (ii) I am not a current employee of the Executing or the Implementing Agency*
- (iii) In the absence of medical incapacity, I will undertake this assignment for the duration and in terms of the inputs specified for me takes place within the validity of this proposal.*
- (iv) I was not part of the team who wrote the terms of reference for this consulting services assignment*
- (v) I am not currently debarred by a multilateral development bank*
- (vi) I certify and confirm that I will be available to carry out the assignment for which my CV has been submitted in accordance with the implementation arrangements and schedule set out in the Proposal.*

I understand that any willful misstatement described herein may lead to my disqualification or dismissal, if engaged.

*[Signature of expert]*¹ Date: _____
Day/Month/Year
