



REQUEST FOR QUOTATION (RFQ)

for

**High-resolution digital terrain model derived from satellite
imagery for Tawi River Basin, Jammu and Kashmir State,
India**

Issued on:

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FOR

HIGH-RESOLUTION DIGITAL TERRAIN MODEL DERIVED FROM SATELLITE IMAGERY FOR TAWI RIVER BASIN, JAMMU AND KASHMIR STATE, INDIA

1 BACKGROUND

The Joint Venture **AQUALOGUS & OILTECH** (hereafter the “Consultant”) is preparing the *Feasibility and Detailed Project Report for Flood Mitigation and Comprehensive River Management Measures for Tawi Basin* (hereafter the “Project”), under a Contract established with the Project Management Unit (PMU), ERA / Jhelum & Tawi Flood Recovery Project (JTFRP), Government of Jammu and Kashmir, funded by the World Bank (WB).

Therefore, the Joint Venture **AQUALOGUS & OILTECH** is requesting proposals from qualified firms (hereafter the “Bidder”) to provide high resolution satellite imagery and Digital Terrain Model (DTM) for the Area of Interest located in the Tawi River Basin, Jammu and Kashmir State, India.

The Project will include hydrodynamic modelling of river flow, therefore high resolution digital terrain model is required for floodplains and plane areas.

2 AREA OF INTEREST

The area of interest (AOI) to provide a high-resolution DTM derived from satellite imagery is located in Jammu and Kashmir State, India, mostly included in the Jammu District as presented in the Figure 2.1. The area of the AOI is around 500 km², comprising the flood plains and plane areas downstream of Udhampur, Nagrota and up to India-Pakistan border.

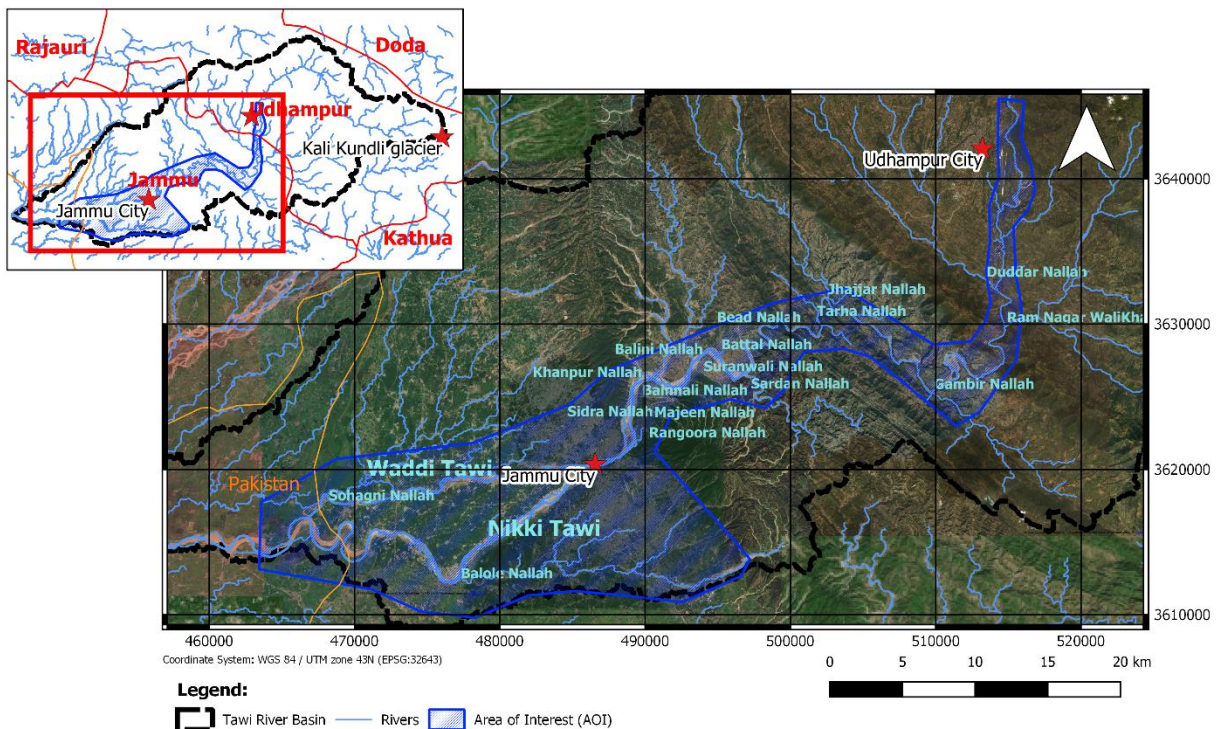


Figure 2.1: Area of Interest to provide high resolution satellite imagery.

The AOI in digital format (shape file) should be requested by email to the

tawiproject@aqualogus.com ; and

varun@oiltech.in

Alternatively, the link to download the AOI in digital format (shape file) is included below (coordinate system WGS84 / UTM Zone 43N):

<https://cloud.aqualogus.pt/index.php/s/ceBDy7GO1EO05in>

3 GENERAL REQUIREMENTS, TECHNICAL SPECIFICATIONS AND DELIVERABLES/PRODUCTS

The general requirements and technical specifications for deliverables/products to be provided under this RFQ are presented below:

1. The products should be provided in WGS 84 spheroid, Grid co-ordinates are in terms of Universal Transverse Mercator (UTM) Projection: UTM Zone 43N.
2. The products should include at least all the area as defined in section “Area of interest”.
3. **Digital terrain model should be derived from high resolution stereo satellite imagery** and provided with the following specifications: **spatial resolution of 2 m** and **vertical accuracy of less than 0.5 m**. Bidders that cannot ensure previously requested

vertical accuracy, are suggested to provide quotation for digital terrain model with vertical accuracy of less than 1.0 m.

4. The **Consultant will provide the necessary Ground Control Points (GCPs)** with high vertical accuracy as requested by the successful bidder. The digital terrain model should be corrected based on these GCPs and vertical accuracy should be investigated and reported accordingly.
5. The digital terrain model should be derived from **specifically acquired or recent available satellite imagery obtained during the lean flow period**, *i.e.*, from October to February, so that most of the river bed and flood plains should be included/reproduced in the digital terrain model. Both variants (*i.e.* acquire fresh stereo imagery or consider already available stereo imagery) should be detailed by the bidder in the methodology of technical proposal.
6. The considered satellite imagery by the successful bidder should have been acquired during perfect weather conditions.
7. **High resolution ortho image** should also be provided with resolution of 0.5 m.
8. Report including the details of the data acquisition, processing should be submitted along with the previously mentioned products.
9. Raw satellite imagery data should also be provided.

4 INSTRUCTIONS TO BIDDERS

4.1 DOCUMENTS COMPRISING THE PROPOSAL

The bidder's proposal should include the following elements:

(a) Technical Proposal, including the following elements:

- Firm information, past experience, qualification, etc.
- Technical approach and methodology, including a short write-up on the data acquisition and processing methods.
- Details of the technical specifications of the proposed products.
- Proposed work schedule and timeline to provide the requested deliverables/products.

(b) Financial Proposal, with a proposed quotation for providing the deliverables/products previously described in this RFQ.

Instructions on Proposal Submission are detailed in the Section 4.7 of this RFQ document.

4.2 CLARIFICATIONS AND REQUEST FOR INFORMATIONS

The Consultant reserves the right to make clarifications, corrections, or changes in this RFQ at any time prior to the time proposals are opened. Questions and requests for information must be submitted before January 16th, 2019 to:

tawiproject@aqualogus.com ; and

varun@oiltech.in

All prospective Bidders will be informed of said clarifications, corrections, or changes via an emailed addendum. All proposals submitted must acknowledge receipt of all addenda issued by the Consultant.

4.3 REJECTION OF PROPOSALS

Proposals that are not prepared in accordance with Instructions in this RFQ may be rejected. If not rejected, the Consultant may demand correction of any deficiency and accept the deficiently prepared proposal upon compliance with these Instructions by the Bidders.

4.4 ACCEPTANCE OF PROPOSALS

Proposals submitted are offers only and the decision to accept or reject is a function of quality, reliability, capability, reputation, and expertise of the proponent Bidder.

The Consultant reserves the right to accept the proposal that is, in its judgment, the best and most favourable to the interests of the Consultant and the Project based on the evaluation factors in this RFQ; to reject the low price proposal; to accept any item of any proposal; to reject any and all proposals; and to waive irregularities and informalities in any proposal submitted or in the request for quotation process; provided, however, the waiver of any prior defect or informality shall not be considered a waiver of any future or similar defect or informality.

This Request for Quotation (RFQ) does not commit the Consultant to award a contract or to reimburse the Proposer for costs incurred in submitting this proposal.

Additionally, the Consultant reserves the right to reject any or all proposals received as a result of this request, to negotiate with any Proposer, or to amend or cancel in part or in its entirety, this Request for Quotation, pursuant to the best interest of the Consultant and the Project.

4.5 ELIGIBILITY CRITERIA

The following criteria as per World Bank Guidelines must be satisfied to assess the eligibility of the bidders:

a) Incorporation of the Firm:

- A firm or legal entity registered in the country of its presence should have been in operations internationally or nationally for at least three (3) years with the proof of incorporation/commencement of business.

b) Similar work:

- The bidder should have successfully completed at least three (3) similar works (certificates of completion/ substantial completion issued by the clients to be attached) for an amount not less than 20 000 USD (or equivalent in other currency) during the last five (5) years.

c) Turn Over:

- Annual average financial turnover of the bidder should not be less than 250 000 USD (or equivalent in other currency) during last three (3) financial years

4.6 EVALUATION OF PROPOSALS

The submitted proposals will be reviewed and successful bidder will be selected based upon the following factors:

- 1) Capability to provide the requested deliverables/products complying with the technical specifications.
- 2) Proposed timeline for providing the requested deliverables/products.
- 3) Any additional deliverables/products not identified in this RFQ that the Bidder believes will improve the project. These should be included in breakdown in the provided quotation.
- 4) Quotation cost.

Time is of the essence in this scope of work. The bidders with the best delivery date before 15th March, 2019 will receive due consideration.

Proposals will be evaluated and award of the Contract should be made on the basis of the quotation and qualifications that best meet the interest of the Consultant.

4.7 PROPOSAL DUE DATE AND SUBMITTAL PROCEDURE

Financial and Technical proposals should be submitted until **17:00 pm (Indian time) on Wednesday, January 21st, 2019.**

Proposals received after the time specified above will not be considered.

All proposals must be signed by an authorized official. Proposals that contain omissions, erasures, alterations, or additions not called for, conditional or alternate bids unless called for, or that contain irregularities of any kind may be rejected.

The submittal procedure of technical and financial proposals is detailed below:

a) Technical Proposal

Technical proposal should be submitted to the following email addresses:

Team Leader, Tawi Project: tawiproject@aqualogus.com;

Project Coordinator, Tawi Project: varun@oiltech.in

Bidders are encouraged to submit the entire technical proposal as one PDF file.

b) Financial Proposal

The Financial proposal should be submitted in a **password protected pdf file** to the following email addresses:

Team Leader, Tawi Project: tawiproject@aqualogus.com;

Project Coordinator, Tawi Project: varun@oiltech.in

The **password should be shared through a separate and explicit email only & only** to the Director Planning & Coordination, Jhelum & Tawi Flood Recovery Project: dirpnc@gmail.com.

Any financial proposal without password protection shall be rejected.

Financial proposals will be opened in presence of the Provisional Sum Committee.

4.8 SCHEDULE OF BIDDING PROCESS

The schedule of the bidding process is as follows:

- Date of Announcement: January 8th, 2019
- Deadline for Submittal of Completed Bid: January 23rd, 2019
- Contract Award: February 1st, 2019