

**American River Flood Control District
MBK Hydraulic Study Scope of Work
Staff Report**

Discussion:

The Encampments Committee requested a proposal from MBK Engineers to do a small hydraulic study on the impacts of homeless encampment structures on the flow stage of Steelhead Creek. MBK intends to develop a hydraulic model that will place hypothetical rigid encampment structures within the floodway to determine if there is a change to the water surface elevation at flood flows. The model will include the ability to increase the number and locations of potential encampments to determine the cumulative impacts.

Recommendation:

At the time of this posting, the Scope of Work is still being developed. It will be distributed to the Board as soon as it's available.



Water Resources ♦ Flood Control ♦ Water Rights

DON TRIEU, P.E.
DARREN CORDOVA, P.E.
NATHAN HERSHEY, P.E., P.L.S.
LEE G. BERGFELD, P.E.
BEN TUSTISON, P.E.
THOMAS ENGLER, P.E., CFM
MICHAEL MONCRIEF, P.E.
NICOLE ORTEGA-JEWELL, PMP
KYLE KNUTSON, P.E.
ANNE WILLIAMS, P.E.
PATRICK HO, P.E.
MICHAEL KYNETT, P.E.

FOUNDERS:

ANGUS NORMAN MURRAY
1913-1985
JOSEPH I. BURNS
1926-2021
DONALD E. KIENLEN
1930-2023

April 9, 2026

Tim Kerr, PE
General Manager
American River Flood Control District
185 Commerce Circle
Sacramento, CA 95815

RE: Scope of Work – Hydraulic Analysis of Encampment Debris along NEMDC / Steelhead Creek

Mr. Kerr,

MBK Engineers proposes the following professional services to support ARFCD's findings on hydraulic impacts due to significant debris resulting from encampments within the NEMDC / Steelhead Creek channel. The following are the anticipated areas of initial support:

Task 1: Hydraulic Model Refinement

An existing 2-D hydraulic model of the region has been developed by MBK as part of past efforts for SAFCA and DWR. The hydraulic model was originally developed specifically for channel restoration and vegetation management efforts to ensure the conveyance of the design flow can pass within NEMDC as originally intended as part of the Sacramento River Flood Control System. For this effort, a 2-D model is required to better capture localized impacts and measure differences in stage and velocity versus a 1-D model which can only compute a single water surface elevation at each cross section.

This task includes:

1. Refinement of the 2-D hydraulic model to include large debris deposits along the channel bank.
2. Compute the changes in water surface elevations and velocities as compared to the unimpeded 100-year and 200-year flows.

The model refinement will not require other changes to hydraulics and hydrology, nor will it require new terrain data. A full blockage scenario to the design water surface elevations will be required to determine measurable stage and velocity impacts. A total of 3 sites will be analyzed using the information provided by the River City Waterway Alliance. MBK shall employ conservative estimates of debris blockages at each site based on discussions with ARFCD.

Deliverables for Task #1 include results of the differences in water surface elevations and velocities based on model simulations for with- and without debris conditions. Some iterations in adjusting the blockage area may be necessary to ensure a balance is achieved between conservative assumptions for modeling purposes and realistic scenarios as observed by ARFCD and other pertinent parties.

Task 1 estimate: \$10,000

Task 2: Technical Memorandum (optional)

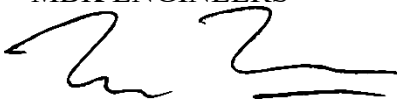
Upon request, MBK shall prepare a formal technical memorandum to describe the background, model assumptions, and model results per the work completed under Task 1.

Task 2 estimate: \$5,000

MBK efforts are charged on an actual time and expense basis in accordance with our current fee schedule (enclosed). The total amount associated with this scope of work is not expected to exceed the costs shown above. Please review the scope and contract and let me know if you have any questions or comments. If you do not have any questions, please sign the authorization statement below and the enclosed contract, and return all signed documents via email or by mail.

We appreciate the opportunity to assist you with this effort. Please let me know if you have any questions or comments on this scope of work.

Sincerely,
MBK ENGINEERS



Don Trieu, P.E., Principal

PM

1479 ARFCD/Scope of Work NEMDC Encampments 04-09-2025

I authorize MBK Engineers to proceed with the following work, as described in this letter:

All tasks (\$15,000.00) **OR** Task 1 only (\$10,000.00)

Recipient Name

Signature

Date

Enclosures: Attachment 1 - 2026 MBK Schedule of Fees
 Attachment 2 - Terms and Conditions

SCHEDULE OF FEES

1. Standard Fees:

	<u>Per Hour</u>
Principal/Principal Engineer	\$290–315
Senior Consultant	290–315
Supervising Engineer	230–300
Senior Project Manager	230–295
Senior Engineer	180–260
Project Manager	170–240
Project Accountant	140–200
Engineer/Hydrologist	140–200
GIS Professional	130–220
Water Resources Associate	110–220
Assistant Engineer	110–190
Assistant Surveyor	110–190
Prevailing Rate Surveyor, Chief of Party	238*
Prevailing Rate Surveyor, Rodman/Chainman	216*
GIS Specialist	90–170
Technician/Drafter	90–170
Junior Engineer	90–145
Engineering Aide	60–105
Technical Editor	70–150
3-Person Survey Crew	385
2-Person Survey Crew	325

*Subject to CA Department of Industrial Relations (DIR) wage determinations

2. Time spent in appearances at courts or quasi-judicial State or Federal boards and commissions is billed at \$500 per hour for principals and supervising engineers, \$450 per hour for registered engineer staff, and \$300 per hour for other staff.

3. Automobile mileage is billed at the Federal reimbursement rate. Local mileage (less than 20 miles) will not be billed.

4. All other direct non-salary expenses, including, but not limited to, transportation and subsistence, commercial printing, reproduction costs, and similar out-of-pocket expenses are billed at actual cost plus a service charge of 10%. Use of GPS equipment is billed at \$60 per hour. Use of MBK owned boat will be billed at \$750/day. Use of MBK owned drones will be billed at \$195-750/day or as specified in a separate agreement. Professional services provided by others, billed through MBK, will be billed at cost plus a service charge of 5% or as specified in a separate agreement.

5. Billings will be made monthly and payment will be due within 45 days. Accounts not paid within 90 days of presentation will bear interest at the rate of 1½% per month or fraction thereof from the billing date unless other arrangements are made in advance.

6. If accounts are not paid within 90 days of presentation, the firm may retain an attorney to obtain payment. In the event that it does so and payment of all or part of the account is thereafter obtained, reasonable attorney's fees and other costs incurred to obtain such payment shall also be paid, or if payment is obtained by Judgment, shall be awarded as part of the Judgment.

~ Rates subject to adjustment on January 1st of each year ~

Attachment 1

TERMS AND CONDITIONS

SERVICES TO BE PROVIDED. MBK Engineers (“MBK”), as an independent consultant, agrees to provide CLIENT, for its sole benefit and exclusive use, consulting services as set forth in the Proposal.

BILLING AND PAYMENT. Unless otherwise specified, fee quotations are estimates only, MBK billings will be based on actual accrued time and expenses. CLIENT agrees to pay invoices upon receipt. If payment is not received within 30 days, the amount due shall accrue interest at a rate of one-and-a-half percent (or the maximum percentage allowed by law, whichever is lower) of the invoiced amount per month. If CLIENT objects to any portion of an invoice, CLIENT shall so notify MBK within 14 calendar days of the invoice date, identify the cause of the objection, and pay when due that portion of the invoice not in dispute. If the project is terminated in whole or in part, MBK shall be paid for services performed prior to MBK receiving written notice of such termination, in addition to reimbursable expenses and any shut down costs incurred. MBK shall be entitled to recover reasonable costs of collection, including attorney or other fees incurred.

ADDITIONAL SERVICES. Any services provided by MBK outside of the Basic Services, as defined in MBK’s Proposal, shall be compensated as Additional Services. CLIENT shall be responsible for additional charges authorized or requested by CLIENT in writing. The cost of reimbursable expenses, including consultants shall be billed in accordance with our Fee Schedule.

NO PERSONAL LIABILITY. In no event shall the officers, directors, shareholders, owners, members, partners, or employees of either party, or their consultants be personally liable for any obligation under this Agreement.

STANDARD OF CARE. Professional services provided by MBK and its consultants, if any, shall be provided consistent with and limited to the professional skill and care ordinarily provided by professionals practicing in the same or similar locality under the same or similar circumstances. MBK shall perform its services as expeditiously as is consistent with such professional skill and care.

LIMITATION OF LIABILITY. CLIENT and MBK agree to allocate certain of the risks so that, to the fullest extent permitted by law, MBK’s total aggregate liability to CLIENT is limited to \$31,000 or to the proceeds available from MBK’s required insurance coverages, whichever is higher, for any and all injuries, damages, claims, losses, expenses, or claim expenses (including attorneys’ and expert witness’ fees) arising out of this AGREEMENT from any cause or causes. Such causes include, but are not limited to, MBK’s negligence, errors, omissions, strict liability, statutory liability, breach of contract, breach of warranty, negligent misrepresentation, or other acts giving rise to liability based upon contract, tort, or statute.

DISPUTES. Any and all disputes arising out of or related to this Agreement shall be held in a California State Superior Court of competent jurisdiction. Prior to the initiation of litigation, the parties shall submit the matter to mediation with the JAMS facility closest to the project site, or as otherwise agreed to by the Parties, the cost of which shall be split equally between the Parties.

INDEMNIFICATION. MBK agrees to hold harmless and indemnify CLIENT from and against liability to the extent arising out of MBK’s negligent acts, errors or omissions in the performance of professional services under this Agreement. In no event shall MBK be liable for any indirect, special or consequential damages under this provision.

DOCUMENTS. CLIENT will furnish or cause to be furnished such reports, data, studies, plans, specifications, documents and other information for proper performance of our services. MBK may reasonably rely upon CLIENT-provided documents in performing services required under this Agreement.

OWNERSHIP OF DOCUMENTS. All documents, including but not limited to, drawings, specifications, reports, calculations and estimates prepared by MBK shall be deemed instruments of service pursuant to this Agreement and shall remain MBK’s sole property. If CLIENT uses all or any portion of our work on another project without our permission, CLIENT shall to the maximum extent permitted by law, indemnify, immediately defend and save MBK harmless from any and all claims arising from such unauthorized reuse.

TERMINATION FOR CONVENIENCE. Either party shall have the express right to terminate this AGREEMENT for convenience and without cause upon 14 days written notice.

SEVERABILITY. In the event that any portions of this Agreement are held to be unenforceable or invalid by any court, the remaining portions, shall not be affected and shall be curtailed by the court, but only to the extent required for their validity under any law which may be applicable.

SURVIVAL. All obligations arising prior to the termination of this Agreement and all provisions of this Agreement allocating responsibility or liability between CLIENT and MBK shall survive the completion of the services and the termination of this Agreement.

INTEGRATION. This Agreement and the documents attached hereto and which are incorporated herein constitute the entire Agreement between the parties and cannot be changed except by a written instrument signed by both parties.

GOVERNING LAW. This Agreement shall be governed in all respects by the laws of the State of California.

Attachment 2