

## SCOPE OF WORK

### A. BACKGROUND INFORMATION

The community of Oak Glen and Forrest Falls both experience flooding during storm events and this has been exacerbated by the recent El Dorado Fire in the watersheds upstream of these communities. Recent flooding and mudflows in the area has demonstrated the increased flows and volume of debris since the fires. The District has provided temporary flood control measures to help alleviate some of this flooding however, it is not enough and a permanent solution needs to be studied, designed and constructed.

### B. PROJECT DESCRIPTION

#### 1. Project goal and objectives

To provide a H&H Study and Report including Risk/Hazard Assessment, Proposed Mitigation Options/ Strategies with Alternatives, Cost Analyses, Prioritization, Recommendations, and a Conceptual Design for the communities downstream of the El Dorado Fire.

The District previously prepared preliminary hydrology and debris flow calculation in 2020 during the fire as part of the Safety Assessment Team (SAT) Report. The Yucaipa Master Plan of Drainage (MPD) also includes planning hydrology for the City of Yucaipa and Community of Oak Glen which have both been impacted by post fire debris flows. There are also Watershed Emergency Response Team (WERT) Evaluation and a Burn Area Emergency Response (BAER) report that were created during the fires available for review as a reference only and a new H&H study should be prepared for the project area. The approved software to be used for the hydrology study is Advanced Engineering Software (AES) or CivilDesign and for the hydraulic analysis is HEC-RAS. Current topography data shall be utilized for the hydrology and hydraulic analyses.

This project is partially funded with Hazard Mitigation Grant Program 97.039 funds awarded by the U.S Department of Homeland Security (DHS), Federal Emergency Management Agency (FEMA) and the Consultant shall comply with 2 Code of Federal Regulations (CFR) 200. All subcontractors must be procured per 2 CFR §200.317-.327 and local and State procurement policies, whichever is more stringent.

#### 2. Deliverables/Requirements:

##### a. **Work Plan**

The Consultant will prepare a Work Plan that includes, but not limited to, a list of deliverables, milestone submittal schedule, summary of organization responsibilities and contacts, scope of work, task budgets, reporting and invoicing procedures, quality assurance plan, and project filing system. The Work Plan shall be submitted to the District prior to the first invoice.

##### **Deliverables:**

- Work Plan

##### b. **Meetings**

The Consultant shall document project meetings and prepare minutes of the meetings for the District's review within three (3) working days after each meeting. Upon receipt of the District's comments, if any, the Consultant shall incorporate comments into the meetings' minutes. Comments, which are not incorporated, shall be discussed with the District as to why such information has not been incorporated. The project at minimum shall include the following meetings:

- Kick-off Meeting - The Consultant shall organize an initial project meeting with the District staff to review and confirm project scope, risks, issues, assumptions and constraints as well as project schedule.
- Monthly Progress Updates - The Consultant shall schedule and conduct monthly progress meetings via video conference call with District staff to review project direction and redirect some elements as necessary to ensure the project's progress within the available budget and/or funding and schedule. The Consultant shall maintain a list of action items with projected completion dates and shall use this as a basis for monthly updates to the District's staff. The Consultant shall send current action item list via e-mail to the District staff three (3) working days prior to each progress meeting.

- Additional Meetings - The Consultant shall organize additional meetings, as required, to complete the project. Additional meetings include, but are not necessarily limited to, meetings to discuss review comments and responses, meetings with stakeholders such as other agencies, and the communities.

**Deliverables:**

- Meeting Minutes
- Written summaries of telephone/email coordination as appropriate
- Monthly Progress Reports

c. **Quality Assurance and Quality Control**

The Consultant will have a Quality Assurance and Quality Control Plan in effect for the duration of the Scope of Services. The plan will establish a process whereby all deliverables are independently checked, corrected and back checked prior to any formal submission and all job-related correspondence and memoranda are routed and received by affected persons and then appropriately filed. An appointed Quality Assurance Officer will monitor and review project activities and deliverable schedules. All deliverables shall contain signature of the Quality Assurance Officer.

**Deliverables:**

- Deliverables such as reports, preliminary plans, cost analysis, etc. shall be subject to signature by Quality Assurance Officer.

d. **Project Schedule**

**The package is due by no later than June 2024 in order to meet all funding deadlines.** Consultant will prepare and update monthly a project schedule with tasks and milestones. The Consultant will break down the schedule by logical tasks consistent with the scope of work and with enough detail to track project progress. Both a baseline schedule and tracking updates are required. The schedule must reflect realistic estimates of review periods by the District for tasks, such as reports, plans, and coordination. The schedule shall be provided prior to first invoice.

**Deliverables:**

- Project Schedule
- Updated Monthly Project Schedule

e. **Monthly Progress Report and Invoice**

The Consultant will establish and apply internal accounting methods and procedures acceptable to the District for documenting and monitoring contract costs. The Consultant will submit monthly invoices broken down in a manner consistent with the Work Plan. The Consultant shall include with the monthly invoice a progress report that reflects the work completed within the invoice period. Payments to the Consultant are to be in arrears. In other words, the Consultant must have actually incurred and paid the costs before invoicing the District.

**Invoices shall include the following:**

- Prepared on the Consultant's letterhead;
- Signed by the Consultant's project manager;
- Have a unique invoice number;
- Progress report that reflects the work completed within invoice period;
- Appropriate backup documentation attached;
- If the contract involves subconsultants, a separate invoice for each subconsultant shall be attached in the same format as the prime Consultant's invoice and should be included in the summary of the prime Consultant's invoice.

Consultant shall regularly review project budgets per task versus percent of work completed per task to determine if there are any issues that need to be resolved, or if effective practices can be implemented to keep costs within budget. Tasks anticipated to exceed the total estimated costs must be identified and presented to the District as early as possible. If the Consultant fails to comply with the above requirements, the District shall have the right to delay payment.

**Deliverables:**

- Monthly Progress Report and Invoice

f. **Submittal Requirements**

The Consultant shall submit draft reports and a final report of the H&H Study for District review. The Consultant shall submit in PDF format electronic half-size hydrology maps and conceptual drawings/plans (11"x17") of the proposed mitigation solution with each submittal for review by the District and one (1) set of full-size hydrology maps, when revisions are made, with each submittal for checking by the District, along with the previous check prints. All deliverables shall be clearly marked as being fully checked, and the preparation of the material followed the quality control plan established for the work. All deliverables shall contain signature by the Quality Assurance Officer. Reports, Cost Analysis Estimates, etc., the Consultant shall submit four (4) sets to the District for review. The Consultant shall, at no additional cost to the District, correct errors, omissions, and unworkable and/or improper design/drafting on the original reports/drawings that are covered subsequent to the completion of the review process. The Consultant shall provide a copy of all transmittals, submittals, and letters sent to agencies regarding the project. Reports, Maps, Estimates shall be in English units and must conform to Federal, and District standards, regulations, policies, procedures, manuals, and practices. The Consultant shall provide clear, concise, and complete reports.

All drawings (if applicable) shall be prepared in AutoCAD or Civil 3D. All maps shall be prepared in AutoCAD, Civil 3D, or ArcGIS Pro. The report, conceptual drawings, preliminary plans, maps, cost analyses are to be considered to be the property of the District at all times and shall be submitted to the District as hard and electronic files, upon completion or as otherwise directed by the District.

All project submittals shall meet the current guidelines and standards required by the applicable authority, be it District, County, FEMA, or CFR. The Consultant shall be responsible for preparing the final Hydrology & Hydraulic Report signed by a Professional Engineer registered in the State of California.

**Deliverables:**

- Four (4) sets of Hydrology and Hydraulic (H&H) Report
- Digital Files of all reports, plans, and H&H analyses
- 11"x17" PDF Plans
- One (1) set of full-size Hydrology Maps, only when revisions occur
- Applicable referenced reports (digital copies only)

3. **Project Approach**

**H&H Report including Risk/Hazard Assessment, Proposed Mitigation Options/Strategies, and Conceptual Designs and Cost Analyses of Recommended Alternatives**

Tasks shall include project management and all tasks necessary to complete a H&H Report, provide recommended and alternative proposed flood mitigation projects, a preliminary cost analysis for each proposed project, and prioritization with recommendations. The consultant shall thoroughly document and discuss the hydrologic and hydraulic modeling including input parameters, standards used, and assumptions in the report. The consultant shall utilize the San Bernardino County Hydrology Manual.

a. **Literature Review and Field Investigation**

- Literature review of all relevant plans, drainage studies, hydrology reports, and El Dorado Fire reports. The District will provide available plans, reports and studies developed by or for the District. Fire reports such as the El Dorado Fire Watershed Emergency Response Team (WERT) Evaluation and the Burn Area and BAER report prepared by CalFire/California Geological Survey and the United States Department of Agriculture Forest Service and are available from each of those entities, respectively.
- The Consultant shall conduct field reviews of the project sites as required for the hydrology and hydraulic study and conceptual design. Field investigation will be used to evaluate current conditions, identify potential hazard areas or points of concerns (POC), perform surveying or measurements as needed, and provide photo documentation to incorporate in the H&H study and report.

**b. H&H Study and Report**

**(a) Hydrologic Analyses**

- (i) Perform hydrology calculations for the watersheds above the communities of Oak Glen and Forest Falls per the San Bernardino County Hydrology Manual. Provide flowrates for the 5-, 25-, and 100-year storm events.
- (ii) Current topography data shall be used for the hydrology and hydraulic analyses.
- (iii) Determine post-fire debris yields, normal bulking factor recommendations, and clear water flowrates.

**(b) Hazard Identification, Risk Assessment, & Mitigation Options/Strategies**

- (i) Identify potential hazard locations and assess the risk using the hydrology analyses and engineering judgement.
- (ii) Identify mitigation options and strategies and evaluate the feasibility of these options.
- (iii) Perform preliminary hydraulic analyses of proposed alternatives.
- (iv) Perform a cost analyses of the proposed alternatives. Prioritize the proposed mitigation options and provide recommendations with the input of the District.

**(c) Conceptual Design and Preliminary Cost Estimate**

- (i) Provide conceptual design, hydraulic analysis and preliminary cost estimate of selected recommended alternative.

**Deliverables:**

- At the Draft submittal phase (may consist of more than one (1) draft):
  - Draft Hydrology & Hydraulic Report
  - One (1) set of full-size Hydrology Maps
  - Four (4) sets of 11x17 Plans of Conceptual Design (not be required for all drafts)
  - Responses to previous comments (not required for first draft)
- At the Final submittal phase:
  - Final Hydrology and Hydraulic Report
  - Four (4) sets of 11x17 Plans
  - A copy of Digital Files of all reports, plans, and H&H analyses
  - Responses to comments

**c. Community Outreach**

- Community outreach shall be provided to inform the residents that will be impacted by the selected mitigation project and allow for their comments, questions, suggestions, and/or concerns to be addressed.
- The consultant, with the assistance and cooperation of District staff, will conduct the outreach.

**C. ADDITIONAL REQUIREMENTS**

The Consultant must be registered as a Civil Engineer with the California Board for Professional Engineers, Land Surveyors, and Geologists. The Consultant should have similar work experience in preparing hydrology and hydraulic studies/reports and providing hazard mitigation recommendations for different types of projects for Federal, State, or Local agencies.

CWE

Proposal Description



## **San Bernardino County Flood Control District**

San Bernardino County Flood Control Mitigation – Advance Assistance (El Dorado Fire Area)  
No. PWG123-FLOOD-4921

# **Proposal Description**

The Oak Glen and Forest Falls communities experience flooding during storm events. The recent El Dorado Fire in the watersheds upstream of these communities has exacerbated the problem. The fire has increased flows and the volume of debris delivered during recent flooding and mudflow events in the area. Although the District has provided temporary flood control measures, they are not enough, and a permanent solution needs to be studied, designed, and constructed. The goal of this project is to provide a permanent solution to the flooding and debris flow problems that occur in the communities downstream of the El Dorado Fire.

The scope of this project is to provide a Hydrology and Hydraulic study and report that includes risk/hazard assessment, proposed mitigation options and strategies with alternatives, and cost analyses for the alternatives. A prioritization analysis will be conducted to evaluate the alternatives and provide the recommended solutions. Conceptual designs will be developed for the recommended projects and shown to the communities downstream of the El Dorado Fire.

The project will be partially funded with Hazard Mitigation Grant Program 97.039 funds awarded by the U.S Department of Homeland Security (DHS), FEMA. The funding requires that CWE will comply with 2 Code of Federal Regulations (CFR) 200, and all subcontractors must be procured with the more stringent processes of 2 CFR §200.317-.327, local, and State procurement policies.

The project will include a Hydrology and Hydraulic Report that will include the following information:

- Risk/Hazard Assessment,
- Proposed Mitigation Options/Strategies, and
- Class D cost analysis for each mitigation alternative
- Alternatives analysis and prioritization
- Conceptual Designs of Recommended Alternatives

CWE will document and discuss the hydrologic and hydraulic modeling including input parameters, standards used, and assumptions in the report. The analysis will utilize the San Bernardino County Hydrology Manual methods and approaches to assess hydrologic responses within the watershed. The following sections discuss the details of each task to be completed based on the project scope in the request for proposal and the experience CWE has in fire related studies.

## **Task A: Literature Review and Field Investigation**

CWE will review relevant plans, drainage studies, hydrology reports, and El Dorado Fire reports provided by the District. These documents will include available plans, reports and studies developed by or for the District. They will also include the El Dorado Fire Watershed Emergency Response Team (WERT) Evaluation and the Burn Area Emergency Response (BAER) report prepared by CalFire/California Geological Survey and the United States Department of Agriculture Forest Service. The information from these documents will be summarized in the H&H report. Data gaps will be evaluated to determine if additional information is needed that can be collected during the field investigation. These documents



## **San Bernardino County Flood Control District**

San Bernardino County Flood Control Mitigation – Advance Assistance (El Dorado Fire Area)  
No. PWG123-FLOOD-4921

will provide information on existing infrastructure, the impacts of the fire, and the burn severity and extent. This information will be coupled with hydrologic analysis and debris production assessments to determine the potential impacts of fire within the fire areas near Forest Falls and Oak Glen.

CWE will develop a draft Literature Review technical memorandum. The memorandum will include summaries of the documents reviewed, notes on key information from the sources, and any data gaps in the information related to the hazard analysis tasks. Once the District has reviewed the draft technical memorandum and provided feedback, CWE will finalize the Literature Review technical memorandum. It is assumed that only one (1) review will be performed and all District comments will be provided at the same time.

CWE will also conduct a desktop level analysis of potential project sites based on the fire boundary, watershed boundaries, topography, and aerial imagery to determine delineation of watershed subareas and debris yield boundaries. CWE staff will visit the watershed to conduct field reviews of the potential project sites prior to developing the hydrologic and hydraulic models for analysis of potential projects. The field investigation will be used to evaluate current conditions, identify potential hazard areas or points of concerns (POC), evaluate the need for surveying or other measurements, and to provide photo documentation to incorporate in the Hydrologic and Hydraulic study and report.

CWE will develop a draft field investigation technical memorandum. The memorandum will include descriptions of the potential hazard sites, photographs of the areas, and any notes on the location related to flooding, scour and deposition, flow constrictions, alluvial fan conditions, or other relevant features. It is assumed that only one (1) review will be performed and all District comments will be provided at the same time. District comments will be incorporated into the Final Hydrologic and Hydraulics Analysis Report.

### **Deliverables:**

- Draft Literature Review Summary Memorandum in PDF format
- Draft Field Investigation Technical Memorandum in PDF format

## **Task B: Hydrology and Hydraulic Study and Report**

This section covers the hydrologic and hydraulic analyses for the watersheds tributary to Oak Glen and Forest Falls. The approach to conducting the risk and hazard assessments is provided along with discussion on how option priorities will be developed into a decision matrix for use in selecting recommended alternatives. The section also covers the expectations for developing conceptual design plans and evaluating the costs associated with each recommended alternative.

### **Hydrologic Analyses**

Hydrology for the watersheds above the Oak Glen and Forest Falls communities will utilize the San Bernardino County Hydrology Manual methodologies to estimate peak flow rates for the clear flow 5-, 25-, and 100-year storm events. Use of the Unit Hydrograph method for analysis of key locations within the watersheds is expected due to the scale of the fire area and expected debris capture locations near the outlets of tributary canyons.



## **San Bernardino County Flood Control District**

San Bernardino County Flood Control Mitigation – Advance Assistance (El Dorado Fire Area)  
No. PWG123-FLOOD-4921

Runoff from fires increases due to the loss of vegetation and development of a hydrophobic layer beneath the soil that prevents infiltration. The flow volume also increases through sediment bulking from increased fine sediments from ash and accelerated erosion. CWE will evaluate the amount of increased runoff and bulking for burned watersheds to be applied to results from each clear flow design event. Normal bulking factors for clear flows determined by the models will be recommended for normal flooding event analysis. Burned and bulked flows will be used above debris capture systems. Burned but unbulk flows will be used below debris capture systems to evaluate the potential impacts of flooding on infrastructure and property.

The hydrologic and hydraulic analyses will rely on current topographic data. CWE assumes that the District will provide this information. Due to the FEMA funding expectations, CWE assumes that the data has been collected at a resolution that meets FEMA floodplain and hazard mapping requirements.

The post-fire hazard assessment requires analysis of debris yields mobilized by runoff after a wildfire. Debris yield will provide information on the need for debris retaining structures and help determine structure type and size. Structures range from debris retaining inlets up to detention basins regulated as dams.

The results of the hydrologic analyses will be critical in developing effective flood hazard mitigation measures. By identifying the potential risks associated with different storm events, local authorities and emergency responders will be better equipped to prepare for and respond to flood events, which can help to minimize property damage and ensure public safety. Moreover, the use of current topography data and advanced modeling techniques will enable more accurate and comprehensive assessments of the flood risks in the area, which can help to guide future land use decisions and infrastructure planning. Overall, the hydrologic analyses represent an important step towards building more resilient and sustainable communities in the face of ongoing environmental challenges.

CWE will develop a draft hydrology and hydraulics technical memorandum. The memorandum will include descriptions of the watershed and subareas, land use, soil types, rainfall values for design events, assumptions for flow routing, debris yield calculations, bulking analysis, and flow rates for clear flow, burned, and burned and bulked conditions. It is assumed that only one (1) review will be performed and all District comments will be provided at the same time. District comments will be incorporated into the Final Hydrologic and Hydraulics Analysis Report..

### **Deliverables:**

- Draft Hydrology Technical Memorandum in PDF format
- Hydrology model input and output files in electronic format

### **Hazard Identification, Risk Assessment, & Mitigation Options/Strategies**

Once the hydrology has been evaluated and the debris yield and bulking factors are reviewed by the District, the evaluation of hazards and risks will begin. The tasks related to hazards and risks are broken down into smaller subsections below. Each section has a deliverable to allow the District to provide input at each step of the process to ensure that the goals and objectives of the project are met, and that District and Stakeholder feedback are incorporated into the evaluation process.





## **San Bernardino County Flood Control District**

San Bernardino County Flood Control Mitigation – Advance Assistance (El Dorado Fire Area)  
No. PWG123-FLOOD-4921

### **Hazard Identification**

CWE will identify the potential hazard locations for debris flows and flooding using office tools and then verify locations during the field investigation. These hazard sites will then be evaluated for flow rates, burning and bulking, and debris production to determine the magnitude of the hazard.

Once the hydrologic modeling is completed, HEC-RAS models will be developed to help with hazard identification and risk assessment. Debris flow hazards will be determined using the mudflow analysis tools in HEC-RAS using the new non-Newtonian flow features, unless the District prefers the use of FLO-2D. Flooding hazards will be determined based on hydrologic model output and HEC-RAS modeling to evaluate flooding potential along blue line streams.

CWE will develop a hazard identification technical memorandum. The memorandum will include the input data, assumptions on modeling parameters, the results from analysis of both debris flow and channel flow models, and conclusions related to the severity of the hazard. It is assumed that only one (1) review will be performed and all District comments will be provided at the same time. District comments will be incorporated into the Final Hydrologic and Hydraulics Analysis Report.

#### **Deliverables:**

- Draft Hazard Identification Memorandum in PDF format
- HEC-RAS model input and output files in electronic format

### **Risk Assessment and Mitigation Alternatives**

Once the potential hazards have been identified the risk will be assessed by evaluating the probability of the hazard occurring and the amount of potential damage at each site. The next step is to identify potential mitigation options and strategies. This may include solutions such as building levees or floodwalls, constructing debris basins or debris retaining inlets, implementing early warning systems, or relocating infrastructure to safer locations.

After potential mitigation options have been identified and evaluated, preliminary hydraulic analyses of proposed alternatives must be conducted. CWE will model the structural alternatives in HEC-RAS to determine what impacts the solution has on mitigating the hazard. CWE will model up to 20 structural solutions within the fire area. It is assumed that two (2) alternatives will be modeled at ten (10) different sites. Non-structural alternatives will be evaluated in the feasibility assessment.

CWE will develop a risk assessment technical memorandum. The memorandum will include the risk assessment analysis for each potential hazard location, and the input data, assumptions on modeling parameters, results from analysis of both debris flow and channel flow models, and conclusions related to risk mitigation for each structural solution. It is assumed that only one (1) review will be performed and all District comments will be provided at the same time. District comments will be incorporated into the Final Hydrologic and Hydraulics Analysis Report.

#### **Deliverables:**

- Draft Risk Assessment Memorandum in PDF format
- HEC-RAS model input and output files in electronic format



## **San Bernardino County Flood Control District**

San Bernardino County Flood Control Mitigation – Advance Assistance (El Dorado Fire Area)  
No. PWG123-FLOOD-4921

### **Mitigation Options/Strategies Feasibility Analysis**

Option feasibility must be evaluated considering effectiveness, cost, and potential social or environmental impacts. CWE will develop a decision matrix for analyzing the alternatives and then work with the District to refine the matrix and weightings for each impact category. CWE will develop Class D construction cost estimates for each proposed alternative based on previous projects completed, District projects, and engineering judgment. The alternatives will also be evaluated for expected maintenance and operations costs. Potential cost savings for hazard mitigation will be estimated based on existing and expected future community growth conditions.

CWE will rank the alternatives for each location and get District input on the proposed mitigation options to determine the recommended alternative. The recommended alternatives will then be ranked in priority based on the identified risks, feasibility, and cost analyses. This will help ensure that the most effective and financially viable solutions are implemented to mitigate the identified hazards and protect the community.

CWE will develop a mitigations options/strategies technical memorandum. The memorandum will include the risk assessment analysis for each potential hazard location, implementation costs, potential social and environmental impacts, and the scoring matrix for each alternative. The memorandum will include details on the assumptions and methods used for the calculations and ranking assessment. It is assumed that only one (1) review will be performed and all District comments will be provided at the same time. District comments will be incorporated into the Final Hydrologic and Hydraulics Analysis Report.

#### **Deliverables:**

- Draft Mitigations Options/Strategies Technical Memorandum in PDF format

### **Conceptual Design and Preliminary Cost Estimate**

CWE will evaluate preliminary alternatives to address the creek erosion/maintenance concerns for each location. The preliminary alternatives analysis will include site visits, photo documentation of existing conditions, preliminary layouts (~10% design level), cost estimates, impacts to existing floodplains, and summarize up to three (3) potential remediation alternatives at each site.

CWE will develop 10% design plans for the recommended alternative at each of ten (10) locations showing plan view, and typical sections of the main channel. If a basin is located, a profile of the dam will be provided to show the elevations of the dam crest, toe, and possible width.

Class D costs will be developed for each recommended alternative based on past project cost information to be provided by the City, databases of costs developed by CWE, and engineering judgement. CWE has developed costs for preliminary analysis on hundreds of stormwater infrastructure projects, parks, and multi-benefit projects.

#### **Deliverables:**

- Four (4) sets of 11-inch by 17-inch Plans of Final Conceptual Design



## **San Bernardino County Flood Control District**

San Bernardino County Flood Control Mitigation – Advance Assistance (El Dorado Fire Area)  
No. PWG123-FLOOD-4921

### **Draft Hydrology and Hydraulics Report**

After completing all of the tasks in the hydrology and hydraulics section, a draft Hydrology and Hydraulics Report will be prepared by compiling all of the information into a complete report detailing all of the study efforts and results. The District will review the draft document and conceptual drawings and provide feedback.

#### **Deliverables:**

- Draft Hydrology & Hydraulic Report
- One (1) set of full-size Hydrology Maps
- Four (4) sets of 11-inch by 17-inch Plans of Conceptual Design
- Responses to previous comments

### **Final Hydrology and Hydraulics Report**

Once the District has reviewed the draft report and drawings, CWE will finalize the hazard identification technical memorandum with conclusions on the recommended alternative at each site. It is assumed that only one (1) review will be performed and all District comments will be provided at the same time.

#### **Deliverables:**

- Final Hydrology and Hydraulic Report
- Four (4) sets of 11-inch by 17-inch Plans
- Digital Files of all reports, plans, and H&H analyses
- Responses to comments

## **Task C: Community Outreach**

CWE has experience with community outreach, which is an essential aspect of any project that aims to mitigate the risks of flooding and debris flow. It is crucial to inform and educate the residents who will be impacted by the project about the benefits, the timeline, and the potential disruptions during the implementation. CWE has found that it can be important to conduct community outreach prior to starting projects to give the community a chance to share concerns, provide input into potential solutions, and recognize that they are part of the project. We recommend community outreach prior to the field investigation as an additional point in the decision process. A second community meeting can be scheduled to get community feedback once preliminary concepts are developed and prior to ranking the alternatives. This will help evaluate potential social impacts associated with each alternative.

CWE will conduct the community outreach with input from District staff. The outreach strategy will be discussed with the District during the Kickoff Meeting and a plan will be finalized. . The objective of the outreach efforts are to allow residents to ask questions, provide suggestions and express concerns, which will be considered and addressed during the planning process.



## **San Bernardino County Flood Control District**

San Bernardino County Flood Control Mitigation – Advance Assistance (El Dorado Fire Area)  
No. PWG123-FLOOD-4921

CWE will work closely with District staff to identify the key stakeholders and community groups that should be involved in the outreach process. Together they will create an inclusive and transparent outreach strategy that reaches all members of the community, including those who may not have easy access to digital communication. The outreach plan will include the strategies and approaches for communicating with the community, including public meetings, presentations, sidewalk booths at events, and social media. Once the District has reviewed the technical memorandum and provided feedback, CWE will finalize the outreach plan for implementation.

### **Deliverables:**

- Draft and Final Agenda, Presentation Slides, Meeting Summaries for Pre-Assessment Outreach Meeting
- Draft and Final Agenda, Presentation Slides, Meeting Summaries for Post-Assessment Outreach Meeting

## **Task D: Project Management**

CWE will manage the projects based on our standard internal project management process discussed in previous sections. We will oversee all consultant project staff, provide quality assurance/quality control of all deliverables, manage budgets and invoices, manage the schedule with monthly updates, conduct progress and delivery team meetings as needed, and provide stakeholder coordination and communication, meeting records and project file management. Most meetings will be held virtually to reduce project costs. The details for each of the management tasks is provided in the work plan section.

### **Deliverables:**

- Kick-Off Meeting Attendance and Notes in PDF format
- Progress Meetings Attendance and Notes in PDF format
- QA/QC Reviews
- Budget Management/Invoicing
- Schedule Updates (Monthly)
- Project File Management (to be sent to the District at completion of Project)