



**DRAFT**

# Agreement

Carson Water Subconservancy District (hereinafter "CWSD") and Michael Baker International (hereinafter "MB") hereby enter into an agreement whereby MB will complete the East Carson City Area Drainage Master Plan project in accordance with and subject to the following terms and conditions:

1) **ASSIGNMENT**

MB's assignment shall relate to the following product(s) or service(s):

Complete that East Caron City Area Drainage Master Plan which is further identified and described in Exhibit "A," the compensation paid to MB for the CWSD Video shall not exceed **\$174,465**.

2) **INDEMNITIES**

(a) To the fullest extent permitted by law MB shall indemnify, hold harmless and defend, not excluding the CWSD's right to participate, the CWSD from and against all liability, claims, actions, damages, losses, and expenses, including, without limitation, reasonable attorneys' fees, and costs, arising out of any alleged negligent or willful acts or omissions of MB, its officers, employees, and agents.

(b) CWSD will indemnify and hold MB harmless with respect to any claims or actions instituted by third parties which result from the use by MB of material furnished by CWSD or where material created by MB is substantially changed by CWSD. Information or data obtained by MB from CWSD to substantiate claims made in advertising shall be deemed to be "materials furnished by CWSD."

(c) In the event of any proceeding against CWSD by any regulatory agency or in the event of any court action or self-regulatory action challenging any advertising prepared by MB, MB shall assist in the preparation of the defense of such action or proceeding and cooperate with CWSD and CWSD's attorneys. CWSD will reimburse MB any out-of-pocket costs MB may incur in connection with any such action or proceeding.

(d) Neither party waives any right or defense to indemnification that may exist in law or equity.

3) **INSURANCE**

Unless otherwise required in this Agreement, the CWSD and MB shall, during the performance of the services as provided herein, maintain insurance of the types and amounts specified, and with insurers satisfactory to the other party as follows:

a) Comprehensive General Liability including \$1,000,000 per occurrence for bodily injury and property damage; \$1,000,000 Products/Completed Operations Aggregate; \$1,000,000 General Aggregate over all interests.

b) Comprehensive Automobile Liability including coverage for owned, non-owned, and hired vehicles: \$1,000,000 Bodily Injury, \$1,000,000 Property Damage.

c) MB shall name CWSD as an additional insured and deliver a certificate to CWSD.

4) **TERM OF AGREEMENT**

a) The term of this Agreement will commence on the date of the last signature executed hereon and will continue in full force and effect until **12/31/2023**, unless extended by written agreement of the parties.

b) MB will submit monthly invoices with a description of activities preformed.

c) In the event of termination of this Agreement, the rights, duties, and responsibilities of MB shall continue in full force during the period of notice.

d) If circumstances arise that require a time extension to complete the project, the CWSD Board grants the General Manager authority to do so in a written notice to MB.

5) **PERFORMANCE**

Should MB fail to perform any of the services provided for in Exhibit "A," CWSD shall notify MB of such non-performance and allow thirty (30) days for MB to remedy the performance. If the performance has not been satisfied within thirty days, CWSD may withhold payment only for the services not performed in



accordance with this Agreement.

6) **SUPPLEMENTS TO AGREEMENT**

The following Exhibits are an integral part of this Agreement:

(a) Exhibit A: MB Business Plan

7) **INDEPENDENT CONTRACTOR**

MB acknowledges that it is furnishing the services contemplated by this Agreement hereto as an independent contractor, and not as an employee, or agent of CWSD or any of its affiliates.

8) **OWNERSHIP**

Any reports, histories, studies, tests, manuals, instructions, photographs, negatives, blue prints, plans, maps, data, system designs, computer code (which are intended to be considered under this Agreement), or any other documents or drawings, prepared, or in the course of preparation, by MB (or its subcontractors) in performance of its obligations under this Agreement shall be the exclusive property of CWSD and all such materials shall be delivered into CWSD's possession by MB upon completion, termination, or cancellation of this Agreement. MB shall not use, willingly allow, or cause to have such materials used for any purpose other than performance of MB's obligations under this Agreement without the prior written consent of CWSD.

9) **AGREEMENT TERMINATION**

(a) Termination Without Cause. Any discretionary or vested right of renewal notwithstanding, this Agreement may be terminated upon written notice by mutual consent of both parties or unilaterally by either party without cause.

(b) Cause Termination for Default or Breach. A default or breach may be declared with or without termination. This Agreement may be terminated by either party upon written notice of default or breach to the other party as follows:

- (1) If MB fails to provide or satisfactorily perform any of the conditions, work, deliverables, goods, or services called for by this Agreement within the time requirements specified in this Agreement or within any granted extension of those time requirements; or
- (2) If any State, county, city, or federal license, authorization, waiver, permit, qualification, or certification required by statute, ordinance, law, or regulation to be held by MB to provide the goods or services required by this Agreement is for any reason denied, revoked, debarred, excluded, terminated, suspended, lapsed, or not renewed; or
- (3) If MB becomes insolvent, subject to receivership, or becomes voluntarily or involuntarily subject to the jurisdiction of the bankruptcy court; or
- (4) If CWSD materially breaches any material duty under this Agreement and any such breach impairs MB's ability to perform; or

(c) Time to Correct. Termination upon declared default or breach may be exercised only after service of formal written notice and the subsequent failure of the defaulting party within thirty (30) calendar days of receipt of that notice to provide evidence, satisfactory to the aggrieved party, showing that the declared default or breach has been corrected.

(d) Winding Up Affairs Upon Termination. In the event of termination of this Agreement for any reason, the parties agree that the provisions of this Section survive termination:

- (1) The parties shall account for and properly present to each other all claims for fees and expenses and pay those which are undisputed and otherwise not subject to set off under this Agreement. Neither party may withhold performance of winding up provisions solely based on nonpayment of fees or expenses accrued up to the time of termination;
- (2) MB shall satisfactorily complete work in progress at the agreed rate (or a pro rata basis if necessary) if so requested by the CWSD;



- (3) MB shall execute any documents and take any actions necessary to effectuate an assignment of this Agreement if so requested by the CWSD; and
- (4) MB shall preserve, protect, and promptly deliver into CWSD possession all information in accordance with Section 8, Ownership.

10) **RIGHTS UPON TERMINATION**

Upon termination of this Agreement, MB shall transfer, assign, and make available to CWSD or CWSD's representative, all property and materials in their possession or control belonging to and paid for by CWSD, subject, however, to any rights of third parties of which MB has informed CWSD.

11) **BREACH REMEDIES.**

Failure of either party to perform any obligation of this Agreement shall be deemed a breach. Except as otherwise provided for by law or this Agreement, the rights and remedies of the parties shall not be exclusive and are in addition to any other rights and remedies provided by law or equity, including but not limited to actual damages. If the court awards reasonable attorney's fees to the prevailing party, in an amount to be determined by the Court.

The parties acknowledge or agree that the contract was written and agreed by both parties.

Prior to the initiation of any litigation the parties agree to mediate.

12) **PUBLIC RECORDS**

Pursuant to NRS 239.010, information or documents received from MB may be open to public inspection and copying. CWSD has a legal obligation to disclose such information unless a particular record is made confidential by law. MB may label specific parts of an individual document as a "trade secret" or "confidential" in accordance with NRS 333.333, provided that MB thereby agrees to indemnify and defend CWSD for honoring such a designation. The failure to so label any document that is released by CWSD shall constitute a complete waiver of any and all claims for damages caused by any release of the records.

13) **NOTICES**

Any notice pursuant to this Agreement will be addressed to the following parties:

**Attn.: Edwin James**  
**Carson Watershed Subconservancy District**  
**777 E William Street, Suite 110 A**  
**Carson City, NV 89701**

**Attn.: Mujahid Chandoo, PE.**  
**Michael Baker International**  
**5470 Kietzke Lane, Suite 208**  
**Reno, NV 89511**

14) **FORCE MAJEURE**

Neither party shall be held responsible for any delay or failure in performance of any part of this Agreement to the extent such delay or failure is caused by fire, flood, explosion, war, embargo, government requirement, civil or military authority, act of God, pandemic, or other similar causes beyond its control and without the fault or negligence of the delayed or non-performing party. The affected party will notify the other party in writing within ten (10) days after the beginning of any such cause that would affect its performance. Notwithstanding, if a party's performance is delayed for a period exceeding thirty (30) days from the date the other party receives notice under this paragraph, the non-affected party will have the right, without any liability to the other party, to terminate this agreement.

15) **HEADINGS**

Headings in this Agreement are for convenience only and are not intended to be used in interpreting or construing the terms, covenants, and conditions of this Agreement.

16) **ENTIRE AGREEMENT**

This Agreement constitutes the whole agreement between the parties with respect to the subject matter contained herein, and there are no terms other than those contained herein. No



modification or amendment of this Agreement shall be valid unless in writing and signed by the parties hereto.

17) **SEVERABILITY**

Each provision of this Agreement shall be considered separable and if for any reason any provision or provisions herein are determined to be invalid, unenforceable, or illegal under any existing or future law, such invalidity, unenforceability, or illegality shall not impair the operation of or affect those portions of this Letter that are valid, enforceable, and legal.

18) **GOVERNING LAW**

This Agreement shall be interpreted in accordance with the laws of the State of Nevada pertaining to contracts made and performed entirely therein. If the above accords with the parties' understanding and agreement, kindly indicate consent hereto by signing in the place provided below.

Accepted and agreed on behalf of:  
**Carson Water Subconservancy District**

Accepted and agreed on behalf of:  
**Michael Baker International**

\_\_\_\_\_  
*Signature* *Date*  
Edwin D. James  
General Manager

\_\_\_\_\_  
*Signature* *Date*  
Mujahid Chandoo  
Project Manager

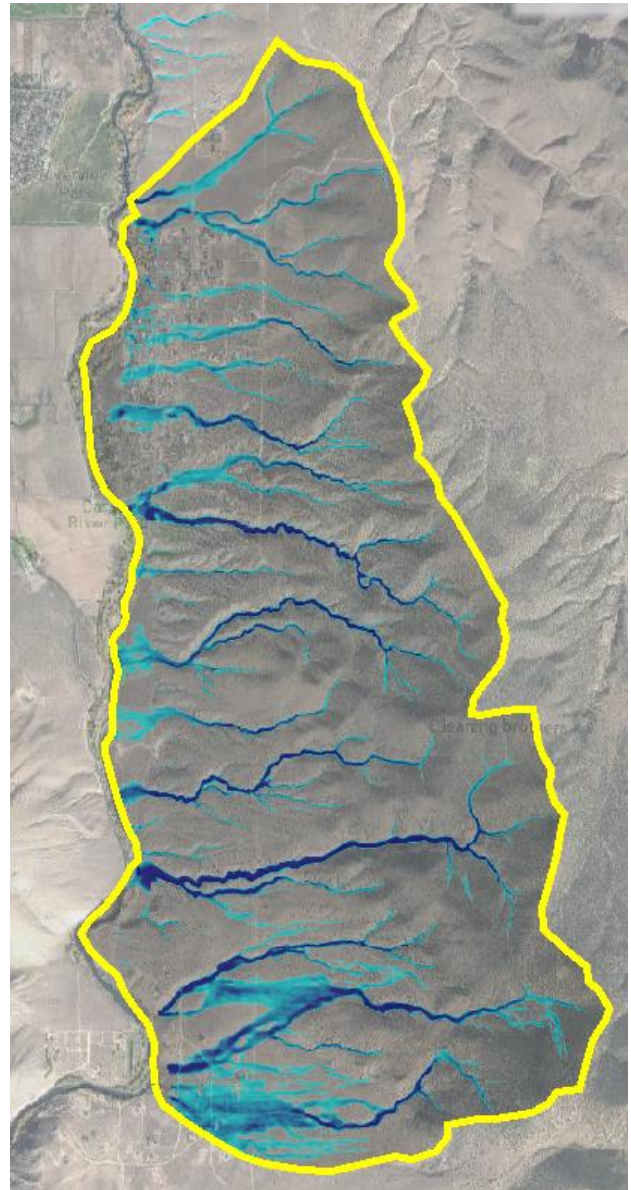
## East Carson City Area Drainage Master Plan (ADMP) Business Plan

### Project Purpose and Need

The primary purpose of the East Carson City ADMP is to identify and quantify the flood hazard risk within the Pinion Hills Area. The watershed is approximately 7.5 square miles and is within the eastern portion of Carson City. The watershed study will include hydrology and hydraulic analysis to identify existing deficiencies and propose infrastructure to reduce the number of properties and structures located in the flood areas and which may be subject to shallow flooding. The effective FEMA floodplain is confined along the Carson River which includes Zone A and Zone AE. The project objective and goals will include:

- I. Data Collection including topographic survey and existing drainage information
- II. Identify and quantify flood risk within the study area
- III. Establish guidance for future development and establish a flood hazard mitigation strategy that protects public safety and considers the unique natural and physical characteristics of the watershed.
- IV. Public Outreach

Michael Baker's team consists of experts who have the modeling expertise using various software packages. Our team has the experience to seamlessly find solutions to solve the upstream and downstream drainage issues in a comprehensive manner. Our experience with different modeling and software packages allows us to be able to choose the 'right tool for the job', whether it is HEC-RAS 2D or FLO-2D. We know that the different model platforms are not one-size fits-all in their application. The team has used the FEMA MIP application on multiple projects and have a good understanding of the best practices to seamlessly upload data. The team consists of local and regional staff dedicated to facilitating successful communication with the public and stakeholders.

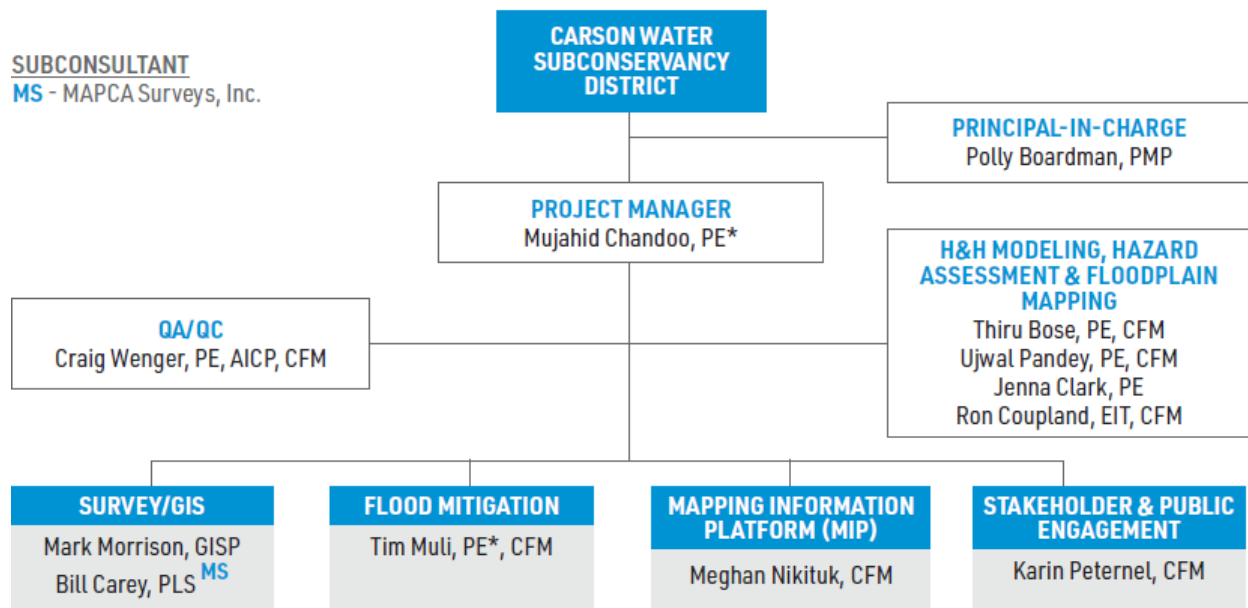


## Project Services and Tasks

### Task 1.0: Project Management and Coordination

**1.1: Project Management.** Michael Baker has identified Mujahid Chandoo, PE, as the Project Manager. He will be supported by Polly Boardman as the Project Principal from the Reno, Nevada office at 5470 Kietzke Ln., Suite 208, Reno, NV 89511. Mujahid has over 15 years of experience in surface water management projects. His areas of expertise include H&H, sediment transport, and advanced modeling. He has been involved with various projects, not limited to, floodplain management and FEMA mapping, complex watershed and drainage master planning, channel design, and large-scale 2D floodplain studies. Polly has almost 20 years of GIS management experience in Northern Nevada. As Principal-in-Charge in the Reno office and an Officer of Michael Baker, she will also be responsible and accountable for all contract issues and negotiations, as well as legally binding the company for contract agreements.

**Deliverables:** Monthly Progress Reports



**1.2: Project Coordination Meetings.** PM shall schedule monthly project coordination meetings with the client team to keep the team informed and to ensure communication and collaboration throughout the duration of the project.

**Deliverables:**

- Recurring monthly meeting invite

**1.3: Invoicing.** PM shall invoice the CWSD monthly with a percent complete estimate for each task. The invoice will be processed by Michael Baker on the first Tuesday of the following month and will be emailed or mailed to CWSD's point of contact prior to the 10<sup>th</sup> of each month, to be identified in the contracting process. The invoice each month will include a brief progress report per task.

***Deliverables:***

- Monthly invoice

## Task 2.0: Topographic Data

Michael Baker will obtain the 2017 USGS LiDAR for this entire study area from CWSD in .tif format (or other acceptable formats such as .asc). This information will be used to develop the terrain data. CWSD shall define the source(s) of data, dates, and accuracy for project record. If multiple sources are merged into a composite product, the raw and final files will be provided by CWSD/Carson City. This will include a Survey Report/accuracy statement signed and sealed by a Registered Professional Land Surveyor.

Michael Baker will review the topographic surface and determine if the data are sufficient for the project needs and provide feedback to CWSD/Carson City via a short memorandum. CWSD/Carson City will review the recommendations and decide whether the changes will be made in-house or tasked to Michael Baker. Changes to the base topographic data tasked to Michael Baker, will be authorized as an *Optional* work item per Task 3.4.

***Deliverables:***

- Memorandum Defining Supplemental Survey Requirements

## Task 3.0: Data Collection

**3.1: Hydraulic Structure Inventory.** Michael Baker will identify and inventory existing storm drain (greater than or equal to 18 inches), culverts and engineered channels within the study area. The hydraulic structures will be assessed for applicability and benefit of hydraulically routing inflow to the storm drain in Task 4.0. This will include collecting GIS inventories maintained by the CWSD, Carson City and HOAs in the study area as well as readily available as-built drawings. Michael Baker will use the as-built drawings to identify pipe inverts, pipe materials, pipe sizes and pipe lengths, as available. Michael Baker will then use mapping and aerial photography to identify additional facilities. Significant At-Grade crossings will be inventoried as well.

Michael Baker will prepare a GIS database of the inventory. Formal As-Built field surveying is not included in this task item. Michael Baker will make recommendations for performing a field reconnaissance to obtain data such as relative invert elevations to the roadway grade, size, material, sediment/scour conditions, and photographs for modeling purposes. Recommendations for further inventory or survey will be authorized as an *Optional* work item per Task 3.4.

**3.2: Site Visit.** Michael Baker will perform one (1) site visit to assess and verify hydraulic characteristics of the watershed. This will include field measurements documented via pictures and photo log. High water marks observed in the field will be measured.

**3.3: Previous Study Collection.** CWSD will provide or coordinate with the various City agencies within the project area to provide the following information:

- I. All hydrology reports
- II. All recent storm NEXRAD databases covering the project area
- III. Available shapefiles of all buildings, walls, land use, infiltration soil groups and related data, and flow roughness.
- IV. Any available rating curves or other data on hydraulic structures.

Michael Baker will review these document/files for background information and data to be used for the study.

**3.4: Supplemental Survey.** Field survey data may be necessary to supplement data from task 2.0, 3.1 and Task 3.2. Michael Baker’s teaming partner will provide field survey for some of the roadway crossing locations to determine geometry information (elevations and structure sizes) that were not captured from the provided DEM (Task 2.0). This task assumes 4 locations. If required, a scope of work will be developed and provided to CWSD for review and approval prior to the start of the Supplemental Survey.

**Deliverables:**

- Storm Drain Data Inventory in GIS format
- Field notes and Photos
- Summary of available drainage data
- Field Survey Proposal (if needed)

**Task 4.0: Flood Risk and Mitigation**

**4.1: Baseline Models (Hydrology and Hydraulics).** Michael Baker will collect and process data related to parameter development of the hydrologic and hydraulic models for the East Carson ADMP. This task is essential for determination of existing flood hazards and risks for the study area.

- **Software.** HEC-RAS 6.0 (or latest version at the start of H&H modeling)
- **Frequencies to Analyze.** Michael Baker will analyze the 10-, 25-, and 100-year storm events.
- **Duration (24-hr).** Michael Baker will run the base models with for the 24-hour duration (as discussed in the kick-off meeting 2021-01-06) and evaluate the results.
- **Distribution.** The rainfall distribution will use the 24-hour SCS Type II Rainfall distribution.
- **Rainfall Losses.** Green-Ampt method will be used to estimate rainfall and infiltration losses.
- **Manning’s n-values.** Michael Baker will develop a spatially varied coverage for Manning’s n-values based on the Surface Feature Characterization and other n-value guidance and input provided by CWSD/Carson City. Michael Baker will document changes to the n-value in a shapefile.
- **Grid Size Selection.** Michael Baker will evaluate and recommend the grid element size (e.g., 10-foot, 20-foot, etc.). This assessment will take into consideration issues associated with the ground surface and hydraulic accuracy as well as model size and



model integration. Michael Baker will refer to previous studies, evaluate the ground surface, and evaluate applicability for modeling goals before making a recommendation.

- **Key Hydraulic Structures.** For the base models, key hydraulic structures along major washes will be added to the models to assist with the model development based on data collected from Task 2.0 and 3.0. As-Built drawings for these structures will be provided by the CWSD and Carson City. As-builts or GIS database will be obtained from CWSD for storm drain components that need to be included in the study area if available.
- **Model Calibration and Verification Data.** This task includes data collection of past storms (i.e. rain and stream gage data if available) in the watershed for use in model calibration/correlation and verification.

**4.2: Flood Risk Assessment.** Michael Baker, along with CWSD and Carson City, will develop an approach to defining potential flood risk based on the baseline modeling (Task 4.1) results and the identified flood hazards. Flood risk will be based on some or all of the following: erosion potential, water depth and the product of depth multiplied by velocity. Michael Baker will quantify the number of buildings, road crossings and other critical infrastructure within each type of flood risk or defined risk category. This assessment will identify flooding problems also based on historical flood observations. Flooding problems are defined as areas the Michael Baker Team and CWSD/Carson City believe are worthy of further investigation/alternative analysis.

**4.3: Alternative Analysis.** Conceptual flood mitigation alternatives will be developed and analyzed for the identified flood hazard areas. Alternatives may include flood control features such as regional detention basins, channels, storm drain systems, and development standards.

Michael Baker shall collect updated plans from the CWSD and Carson City regarding parks/recreation, trails, future growth, updates to general plans, research and collect information relevant to current Area Developments and their respective master plans for the open space, drainage and trail connections strategies, and coordination with current and future development plans for the Pinion Area. This task will include identifying possible alternative opportunities and constraints pertaining to open space/multiuse benefits. Task 4.3 will incorporate green infrastructure as part of the mitigation evaluation.

Physical features will be input into the existing/baseline conditions hydraulic models to evaluate effectiveness. These analyses, along with input from the public and project stakeholders as described for the Outreach task, will also allow for the development of recommended alternatives. Recommended alternatives will be developed into conceptual designs to aid and support potential mitigation grant applications. The task assumes 3 alternatives/mitigation locations that will have conceptual designs.

**4.4: Cost Estimation.** As part of the infrastructure evaluation, preliminary/order-of-magnitude cost estimates will be developed for the three conceptual alternatives. These will be engineers cost estimates based on high-level unit costs from the City/CWSD or consultant recent bid documents. These data will be used to help select the recommended alternatives. The cost estimate for the recommended alternative will be refined for inclusion in the cost to benefit ratio analysis, and to support mitigation grant applications.

**4.5: Cost to Benefit Ratio Analysis.** FEMA’s Hazus economic loss analyses software will be run for both existing conditions, and the three alternatives. The economic benefit of each alternative will be used to help select the recommended alternatives, and to support mitigation grant applications. The Hazus analysis will use existing and proposed depth grids for determining flood depths, LiDAR and a 3” rule of thumb for determining finished floor elevations, and County Assessor’s property data for estimating full replacement costs.

**4.6: Conceptual Drainage Report.** Michael Baker will prepare a Hydrology and Hydraulics Report summarizing the results. The report will be organized in the TSDN format. The draft report will be delivered to the District digitally for review. After receipt of all city comments, we will address the comments and deliver the final report in digital format.

#### **Deliverables:**

- H&H Modeling (via electronic submittal)
- Draft and Final Flood Hazard Exhibits
- Alternative Analysis Memo (to be incorporated in the Draft/Final Report)
- Conceptual Report

#### **Task 5.0: Public Outreach**

**5.1: Public and Stakeholder Involvement Plan.** Michael Baker shall prepare a Public and Stakeholder Involvement Plan for submittal to CWSD and Carson City. The plan will include a strategy, list of all homeowner associations or resident/community events with contact information and regularly scheduled meeting dates, a list of tools and recommended techniques to be used, and an implementation plan and schedule. This task includes meetings with maintenance staff from Carson City and Pinion Hills residents. It is anticipated that the first meeting will be at the onset of the project in an effort to educate the public regarding the East Carson City ADMP and collect residents’ flood pictures and first-hand accounts and information.

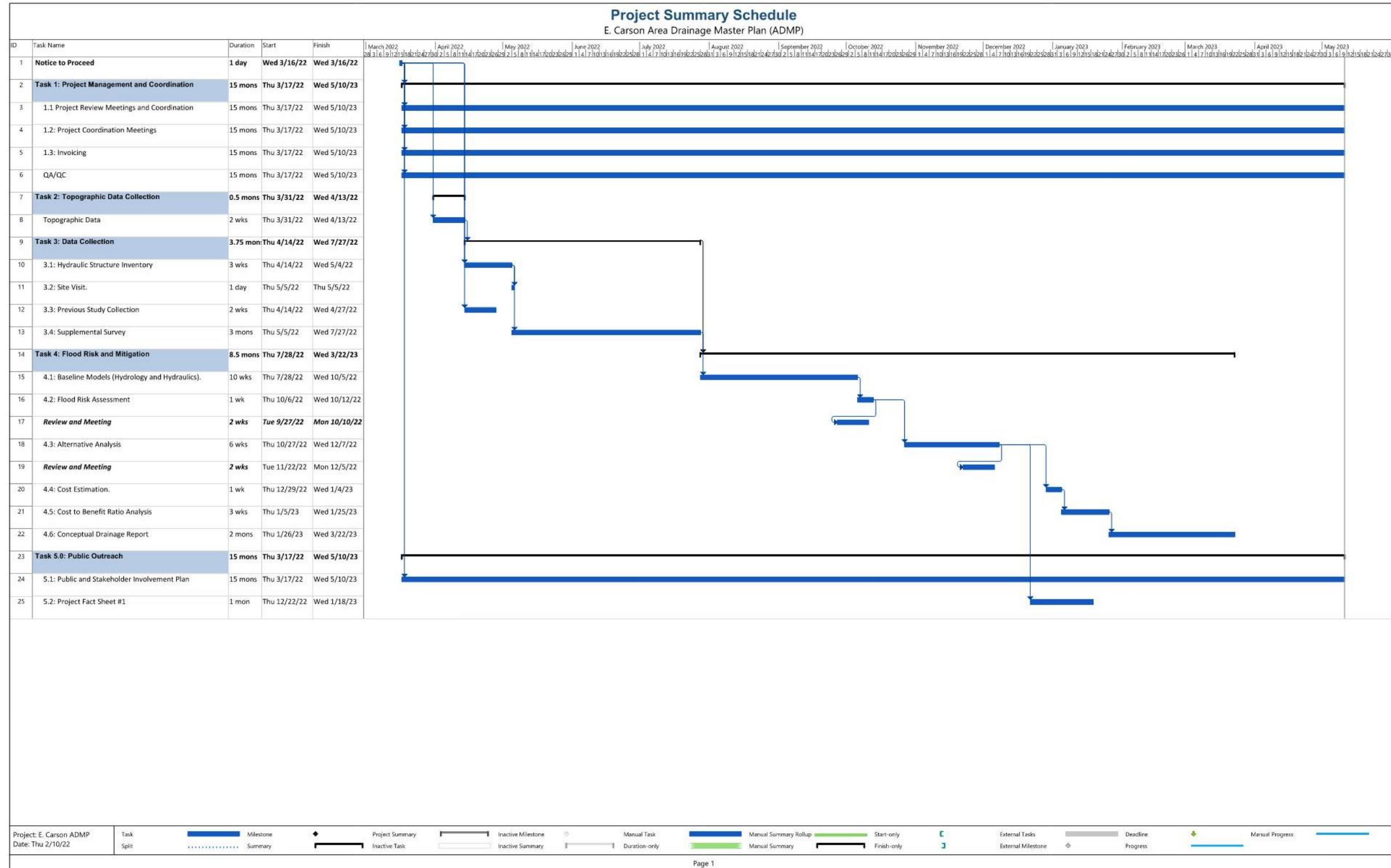
In addition to the stakeholder kick-off meeting, Michael Baker shall meet with stakeholders individually, as needed, to gather information about flooding issues. A second informational public meeting will be held to inform residents of the proposed plan and possible drainage infrastructure. Final public meetings will be held to present the results of the study. This will be presented to the CWSD Board and the Carson City Board of Supervisors. Online meetings will be prepared in the event in-person meetings are not feasible. CWSD Project Manager shall be advised of meetings and given an opportunity to attend. Michael Baker shall keep a written summary of all meetings and will include them as part of the project record. This scope includes up to two (2) individual stakeholder meetings and board presentation to CWSD and Carson City.

**5.2: Project Fact Sheet #1.** Michael Baker shall prepare a project fact sheet for use in the initial public and stakeholder outreach efforts. The fact sheet will include the project study area map, goals and objectives, and other pertinent information as appropriate. CWSD and Carson City shall be responsible for the design and production of printed material. CWSD and Carson City will post the project information packet materials on the project page website.

***Deliverables:***

- Public and Stakeholder Involvement Plan
- 2 Stakeholder Meetings
- Board Presentation (CWSD and Carson City)
- Project Fact Sheet #1

# Project Schedule



## Project Fee

Task	Description	Allotted Budget
1.0	Project Management	\$17,090
2.0	Topographic Data	\$3,590
3.0	Data Collection	\$26,675
4.0	Flood Risk and Mitigation	\$98,930
5.0	Public Outreach	\$26,180
	Reimbursable/ODC	\$2,000
	<b>Total</b>	<b>\$174,465</b>