

STATE OF TEXAS

TWDB Contract No. 1600012040

COUNTY OF TRAVIS

Flood Protection

**CENTRAL TEXAS
COUNCIL OF GOVERNMENTS**

THIS Contract, (hereinafter "CONTRACT"), between the Texas Water Development Board (hereinafter "TWDB") and the Central Texas Council of Governments (hereinafter "CONTRACTOR"), is composed of two parts, SECTION I - SPECIFIC CONDITIONS AND EXCEPTIONS TO THE STANDARD AGREEMENT and SECTION II - STANDARD AGREEMENT.

**SECTION I - SPECIFIC CONDITIONS AND EXCEPTIONS TO STANDARD
AGREEMENT**

ARTICLE I DEFINITIONS

For the purposes of this CONTRACT, the following terms or phrases shall have the meaning ascribed therewith:

1. TWDB – The Texas Water Development Board, or its designated representative
2. CONTRACTOR – Central Texas Council of Governments
3. EXECUTIVE ADMINISTRATOR – The Executive Administrator of the TWDB or a designated representative
4. PARTICIPANT(S) – Cities of Belton, Harker Heights, Killeen and Nolanville, Bell County WCID No. 6, and the Brazos River Authority
5. REQUIRED INTERLOCAL AGREEMENT(S) – N/A
6. TWDB APPROVAL DATE – August 25, 2016
7. PROJECT – An early warning system plan, flood response plan, and a flood protection plan for the PLANNING AREA
8. PLANNING AREA – Nolan Creek Watershed. The project area is more specifically defined in Exhibit A (the original grant application).
9. DEADLINE FOR CONTRACT EXECUTION – January 25, 2017
10. CONTRACT INITIATION DATE – August 25, 2016

11. INSTALLATION DEADLINE –n/a
12. FINAL REPORT - the report that combines the Early Warning System Plan Report, the Local Flood Response Plan, and the Flood Protection Plan for the PROJECT
13. PROJECT COMPLETION DATE – December 31, 2018
14. EXPIRATION DATE – August 31, 2019
15. TOTAL COSTS – \$402,038
16. TWDB SHARE OF THE TOTAL COSTS – the lesser of \$201,019 or 50 percent of the TOTAL COSTS.
17. LOCAL SHARE OF THE TOTAL COSTS – \$201,019 in cash and/or in-kind contributions or 50 percent of the TOTAL COSTS.
18. PAYMENT REQUEST SCHEDULE – Quarterly
19. OTHER SPECIAL CONDITIONS AND EXCEPTIONS TO STANDARD AGREEMENT OF THIS CONTRACT –

SECTION II - STANDARD AGREEMENT

ARTICLE I RECITALS

Whereas, the CONTRACTOR applied to the TWDB, Austin, Texas, for a planning grant to develop an early warning system/local flood response plan and/or flood protection plan ;

Whereas, the CONTRACTOR and PARTICIPANT will commit cash and/or in-kind services to pay for the LOCAL SHARE OF THE TOTAL COSTS of this planning project;

Whereas, the CONTRACTOR is the entity who will act as administrator of the TWDB's planning grant and will be responsible for the execution of this CONTRACT;

Whereas, on the TWDB APPROVAL DATE, the Texas Water Development Board approved the CONTRACTOR's application for financial assistance;

Now, therefore, the TWDB and the CONTRACTOR, agree as follows:

ARTICLE II PROJECT DESCRIPTION AND SERVICES TO BE PERFORMED

1. The TWDB enters into this CONTRACT under the authority provided by House Bill 1, Rider 3, Acts of the 84th Texas Legislature, Trusteed Programs Within the Office of the Governor, and the December 10, 2015 Memorandum of Understanding (MOU) Between the Office of the Governor and the TWDB; **EXHIBIT A**, ORIGINAL GRANT APPLICATION; **EXHIBIT B**, SCOPE OF WORK; **EXHIBIT C**, TASK AND EXPENSE BUDGETS; **EXHIBIT D**, Guidelines For Authors Submitting Contract Reports To The Texas Water Development Board, and **EXHIBIT E**, TWDB Guidelines For a Progress Report which are incorporated herein and made a permanent part of this CONTRACT; and this CONTRACT.
2. The CONTRACTOR will conduct the PROJECT for the PLANNING AREA, as delineated and described in **EXHIBIT A**, according to the Scope of Work contained in **EXHIBIT B**.
3. The CONTRACTOR shall establish formal, direct, and continuous liaisons with all community leaders, cities, counties, councils of governments, river authorities, and all applicable state agencies, districts, federal agencies, including the appropriate project directors of the U.S. Army Corps of Engineers, and other governmental entities having flood response, mitigation, or protection responsibility within the PROJECT AREA for the purpose of coordinating the scope of work with existing studies, plans, or activities and for the purpose of providing the best information to support the PROJECT. The CONTRACTOR is responsible for soliciting comments from the general public as to the content and objective of the PROJECT.

4. The CONTRACTOR shall coordinate the PROJECT with existing plans and policies of the entities listed above and all other affected entities.
5. The CONTRACTOR shall hold public meetings with the PARTICIPANTS, consultants, local entities, the TWDB, and any interested parties, to describe the PROJECT and to solicit input and comments from the affected public. Public meetings must be conducted in accordance with the Texas Open Meetings Act and held as determined by the CONTRACTOR and TWDB but at a minimum, at the commencement of the study, near the mid-point of the study, and upon completion of the FINAL REPORT.

ARTICLE III CONTRACT TERM, SCHEDULE, REPORTS, AND OTHER PRODUCTS

1. The CONTRACTOR has until the DEADLINE FOR CONTRACT EXECUTION to execute this CONTRACT and to provide acceptable evidence of any REQUIRED INTERLOCAL AGREEMENTS and evidence of the CONTRACTOR's ability to provide the LOCAL SHARE OF THE TOTAL COSTS, if applicable, to the EXECUTIVE ADMINISTRATOR for approval or the TWDB's SHARE OF THE TOTAL COSTS will be rescinded.
2. The term of this CONTRACT begins and the CONTRACTOR begins performing its obligations hereunder on the CONTRACT INITIATION DATE and ends on the EXPIRATION DATE. Delivery of an acceptable FINAL REPORT for the PROJECT no later than the EXPIRATION DATE constitutes completion of the terms of this CONTRACT.
3. A progress report, including results to date, must be provided to the EXECUTIVE ADMINISTRATOR according to the PAYMENT REQUEST SCHEDULE throughout the project. Special interim reports on special topics and/or results will be provided as appropriate. Instructions for the progress report are shown in **EXHIBIT E**, TWDB GUIDELINES FOR A PROGRESS REPORT.
4. The CONTRACTOR will complete the PROJECT consisting of the following:

A. EARLY WARNING SYSTEM

- (1) Data Quality - The CONTRACTOR shall coordinate equipment and data standards or collection protocols to match existing state or national data collection efforts to insure consistency and compatibility with existing flood warning and forecasting efforts across the state. The TWDB can facilitate this effort.
- (2) Data Accessibility - Data must be reported to a publicly accessible website or delivered to the TWDB for use in providing information on flood conditions. Data collected as part of this PROJECT must be made available to the TWDB and other public service entities throughout the project period and for as long as the equipment is operational.

Draft Report - The draft Early Warning System Report must be submitted to the EXECUTIVE ADMINISTRATOR for review and comment no later than the PROJECT COMPLETION DATE. Information in the report should include at a minimum:

- a. Communities and/or entities involved in formulating the system plan, including dates of contact;
- b. Public comment;
- c. Types of equipment installed or proposed equipment;
- d. Location(s) of equipment placement or proposed equipment;
- e. Scheduled maintenance of equipment or proposed equipment; and
- f. Scheduled monitoring of equipment or proposed equipment.

(3) Early Termination - If this CONTRACT is terminated for any reason prior to satisfactory performance of CONTRACTOR work or the completion of the PROJECT, then the TWDB may require the return of purchased equipment to the TWDB or may allow the CONTRACTOR to reimburse the TWDB and maintain ownership of the equipment. Upon delivery of the FINAL REPORT, the CONTRACTOR may maintain ownership of the equipment.

B. LOCAL FLOOD RESPONSE PLAN

- (1) Plan Coordination - The CONTRACTOR shall document all necessary coordination with other communities/entities including dates of contact and submit the list with the Local Flood Response Plan to TWDB.
- (2) Draft Report - The draft Local Flood Response Plan must be submitted to the EXECUTIVE ADMINISTRATOR for review and comment no later than the PROJECT COMPLETION DATE. Information in the report should include at a minimum:
 - a. Communities and/or entities involved in formulating the plan, including dates of contact;
 - b. Public comment;
 - c. A framework for emergency response;
 - d. Dates of future rehearsal(s) or simulation(s) as needed; and
 - e. Date Hazard Mitigation Plan was or will be submitted to Texas Department of Emergency Management.

C. FLOOD PROTECTION PLAN

- (1) Plan Coordination - The CONTRACTOR shall coordinate with the TWDB and the Federal Emergency Management Agency (FEMA) National Flood Insurance Program and shall consider all relevant flooding and drainage protection studies and activities to determine if previous planning studies have been conducted in the PROJECT AREA and to obtain available data for the development of a flood protection plan. The CONTRACTOR shall coordinate the flood protection plan with the existing plans and policies of the entities listed in Section II, Article II,

Paragraph 3, the Texas Commission on Environmental Quality, and any other affected entities.

- (2) Draft Report - The draft Flood Protection Plan is to be submitted to the EXECUTIVE ADMINISTRATOR for review and comment no later than the PROJECT COMPLETION DATE. Information in the report should include at a minimum:
 - a. A review of existing hydrology and hydraulic studies;
 - b. Hydrology and hydraulic analyses including the production of flood maps showing results of analyses;
 - c. Analysis of mitigation strategies and an associated a benefit-cost analysis for each; and
 - d. Documented results of at least three public meetings.
5. The CONTRACTOR shall complete a DRAFT REPORT according to the guidance given by type of PROJECT as provided in Article III Section 4. DRAFT REPORTS must include an *Executive Summary*, an *Introduction* describing the project or research performed; a *Methodology* section to describe any materials, procedures, or models used; *Results* to describe any analyses, activities, or data collected, *Conclusions* of the PROJECT, and Recommendations as appropriate. DRAFT REPORTS must include a Table of Contents, List of Figures, List of Tables, a List of References, and any other pertinent information such as the scope of work or other diagrams, graphics, or tables to explain the procedures and results of the study. The DRAFT REPORT also must include an electronic copy of any computer programs, maps, or models along with any manuals or sample data set(s) developed under the terms of this CONTRACT. The CONTRACTOR shall deliver four (4) double-sided copies and one electronic copy (one in Portable Document Format (PDF) and one in Microsoft Word format) of the DRAFT REPORT to the EXECUTIVE ADMINISTRATOR no later than the PROJECT COMPLETION DATE. All DRAFT REPORTS must be prepared according to **EXHIBIT D**, *Guidelines For Authors Submitting Contract Reports To The Texas Water Development Board*. After a 45-day review period, the EXECUTIVE ADMINISTRATOR will return review comments to the CONTRACTOR.
6. The CONTRACTOR must consider incorporating comments from the EXECUTIVE ADMINISTRATOR and other commentors on all draft deliverables into the FINAL REPORT. The CONTRACTOR shall include a copy of the EXECUTIVE ADMINISTRATOR's comments in the FINAL REPORT. The CONTRACTOR shall submit one (1) electronic copy of the entire FINAL REPORT in Portable Document Format (PDF) and seven (7) bound double-sided copies of the FINAL REPORT to the EXECUTIVE ADMINISTRATOR no later than the EXPIRATION DATE. The CONTRACTOR shall submit one (1) electronic copy of any computer programs or models and an operations manual developed under the terms of this CONTRACT. In compliance with Texas Administrative Code, Title 1, Part 10, Chapters 206 and 213 (related to Accessibility and Usability of State Web Sites), the digital copy of the FINAL REPORT must comply with the requirements and standards specified in

statute. After a 30-day review period, the EXECUTIVE ADMINISTRATOR will either accept or reject the FINAL REPORT. If the FINAL REPORT is rejected, the rejection letter sent to the CONTRACTOR will state the reasons for rejection and the steps the CONTRACTOR needs to take to have the FINAL REPORT accepted and the retainage released. An extension of the CONTRACT will be prepared if necessary to allow time for the CONTRACTOR to resubmit the FINAL REPORT.

7. The EXECUTIVE ADMINISTRATOR can extend the PROJECT COMPLETION DATE and the EXPIRATION DATE upon written approval. The CONTRACTOR shall notify the EXECUTIVE ADMINISTRATOR in writing within ten (10) working days prior to the COMPLETION DATE or thirty (30) days prior to the EXPIRATION DATE that the CONTRACTOR is requesting an extension to the respective dates.

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| ARTICLE IV | COMPENSATION, REIMBURSEMENT AND REPAYMENT |
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1. The TWDB agrees to compensate and reimburse the CONTRACTOR in a total amount not to exceed the TWDB's SHARE OF THE TOTAL COSTS for costs incurred and paid by the CONTRACTOR pursuant to performance of this CONTRACT. The CONTRACTOR will contribute local matching funds, if applicable, in sources and amounts defined as the LOCAL SHARE OF THE TOTAL COSTS. The TWDB will reimburse the CONTRACTOR for one hundred percent (100%) of the TWDB's SHARE OF THE TOTAL COSTS of each invoice up to 90% of the TWDB SHARE OF THE TOTAL COSTS pending the CONTRACTOR's performance, completion of the PROJECT, and written acceptance of said PROJECT by the EXECUTIVE ADMINISTRATOR, at which time the TWDB will reimburse the remaining ten percent (10%) to the CONTRACTOR upon submission of invoices.
2. The CONTRACTOR shall submit payment requests and documentation for reimbursement billing according to the PAYMENT REQUEST SCHEDULE and in accordance with the approved task and expense budgets contained in **EXHIBIT C** of this CONTRACT. The CONTRACTOR has budget flexibility within task and expense budget categories to the extent that the resulting change in amount in any one task or expense category does not exceed 35% of the total amount for the task or category as authorized by this CONTRACT. Larger deviations shall require approval by the EXECUTIVE ADMINISTRATOR or designee which will be documented through an Approved Budget Memorandum to the TWDB contract file. The CONTRACTOR will be required to provide written explanation for the overage and reallocation of the task and expense amounts.

For all reimbursement requests, including any subcontractor's expenses, the EXECUTIVE ADMINISTRATOR must have determined that the REQUIRED INTERLOCAL AGREEMENT(S) and contracts or agreements between the CONTRACTOR and the subcontractors are consistent with the terms of this CONTRACT. The CONTRACTOR is fully responsible for paying all charges by subcontractors prior to reimbursement by the TWDB.

3. The CONTRACTOR and its subcontractors shall maintain satisfactory financial accounting documents and records, including copies of invoices and receipts, and shall make them available for examination and audit by the EXECUTIVE ADMINISTRATOR. Accounting by the CONTRACTOR and its subcontractors shall be in a manner consistent with Generally Accepted Accounting Principles (GAAP). By executing this CONTRACT, the CONTRACTOR accepts the authority of the State Auditor's Office, under direction of the legislative audit committee, to conduct audits and investigations in connection with any and all state funds received pursuant to this CONTRACT. The CONTRACTOR shall comply with and cooperate in any such investigation or audit. The CONTRACTOR agrees to provide the State Auditor with access to any information the State Auditor considers relevant to the investigation or audit. The CONTRACTOR also agrees to include a provision in any subcontracts related to this contract that requires the subcontractors to submit to audits and investigation by the State Auditor's Office in connection with any and all state funds received pursuant to the subcontracts.

The CONTRACTOR shall submit a signed and completed payment request using the current spreadsheet located at: www.twdb.texas.gov/about/contract_admin/index.asp along with a progress report as described in Section II, Article III, Paragraph 3. To obtain reimbursement for the TWDB'S SHARE OF THE TOTAL COSTS, CONTRACTOR shall also submit the following documentation of TOTAL COSTS for the reporting period to the EXECUTIVE ADMINISTRATOR, even if the TOTAL COSTS for the reporting period are zero:

- A. A completed "Current Reimbursement Worksheet" Payment Request Checklist tab, or an invoice which includes the following information:
- (1) TWDB Contract Number;
 - (2) Billing period; beginning (date) to ending (date);
 - (3) Total Expenses for this period;
 - (4) Total In-kind services, if applicable;
 - (5) Less Local Share of the total COSTS for the billing period, if applicable;
 - (6) Total TWDB's share of the total COSTS for the billing period;
 - (7) Total costs to be reimbursed by the TWDB for the billing period; and
 - (8) Certification, signed by the CONTRACTOR authorized representative, that the expenses submitted for the billing period are a true and correct representation of amounts paid for work performed directly related to this CONTRACT.
- B. Using the "Current Reimbursement" Worksheet, post all expenses for the period on the Invoice Ledger tab and Task Ledger tab for direct expenses incurred by the CONTRACTOR.
- (1) Salaries and Wages, Fringe, Overhead, and Profit.

- (2) Other Expenses: Copies of detailed, itemized invoices/receipts for other expenses (credit card summary receipts or statements are not acceptable).
 - (3) Travel Expenses: Names, dates, work locations, time periods at work locations, itemization of subsistence expenses of each employee, limited, however, to travel expenses authorized for state employees by the General Appropriations Act, Tex. Leg. Regular Session, 2015, Article IX, Part 5, as amended or superceded. Receipts required for lodging; as well as copies of invoices or tickets for transportation costs or, if not available, names, dates, and points of travel of individuals.
- C. Using the "Current Reimbursement" Worksheet, post all expenses for the period on the Invoice Ledger tab and Task Ledger tab for direct expenses incurred by all subcontractors.
 - (1) Salaries and Wages, Fringe, Overhead, and Profit.
 - (2) Other Expenses: Copies of detailed, itemized invoices/receipts for other expenses (credit card summary receipts or statements are not acceptable).
 - (3) Travel Expenses: Names, dates, work locations, time periods at work locations, itemization of subsistence expenses of each employee, limited, however, to travel expenses authorized for state employees by the General Appropriations Act, Tex. Leg. Regular Session, 2015, Article IX, Part 5, as amended or superceded. Receipts required for lodging; as well as copies of invoices or tickets for transportation costs or, if not available, names, dates, and points of travel of individuals.
- 4. Reimbursement Requests that lack required documentation will be denied or partially paid if deficiencies are not resolved within ten (10) business days. Denied Reimbursement Requests or eligible expenses that were short paid must be resubmitted by the CONTRACTOR with the required documentation to be reconsidered for reimbursement. If for some reason the reimbursement request cannot be processed due to the need for an amendment to the CONTRACT, the CONTRACTOR will be required to resubmit the Payment Request Checklist dated after the execution of the amendment.
- 5. The CONTRACTOR is responsible for any food or entertainment expenses incurred by its own organization or that of its subcontractors, outside that of eligible travel expenses authorized and approved by the State of Texas under this CONTRACT.
- 6. The CONTRACTOR is responsible for submitting any final payment request and documentation for reimbursement, along with a request to release any retained funds, no later than 60 days following the EXPIRATION DATE. Failure to submit a timely final payment request may result in the release of the retained funds to the CONTRACTOR and a lapse and closure of any other remaining funding under this CONTRACT.

ARTICLE V**INTELLECTUAL PROPERTY: OWNERSHIP, PUBLICATION, AND
ACKNOWLEDGEMENT**

1. For purposes of this Article, “CONTRACTOR Works” are work products developed by the CONTRACTOR and subcontractors using funds provided under this CONTRACT or otherwise rendered in or related to the performance in whole or part of this CONTRACT, including but not limited to reports, drafts of reports, or other material, data, drawings, studies, analyses, notes, plans, computer programs and codes, or other work products, whether final or intermediate.
 - A. It is agreed that all CONTRACTOR Works are the joint property of the TWDB and the CONTRACTOR.
 - B. The parties hereby agree that, if recognized as such by applicable law, the CONTRACTOR Works are intended to and shall be works-made-for-hire with joint ownership between the TWDB and the CONTRACTOR as such works are created in whole or part.
 - C. If the CONTRACTOR Works do not qualify as works-made-for-hire under applicable law, the CONTRACTOR hereby conveys co-ownership of such works to the TWDB as they are created in whole or part. If present conveyance is ineffective under applicable law, the CONTRACTOR agree to convey a co-ownership interest of the CONTRACTOR Works to the TWDB after creation in whole or part of such works, and to provide written documentation of such conveyance upon request by the TWDB.
2. The TWDB and the CONTRACTOR acknowledge that the copyright in and to copyrightable CONTRACTOR Works subsists upon creation of the CONTRACTOR Works and its fixing in any tangible medium. The CONTRACTOR or the TWDB may register the copyrights to such Works jointly in the names of the CONTRACTOR and the TWDB.
3. The TWDB and the CONTRACTOR each have full and unrestricted rights to use CONTRACTOR Works with No Compensation Obligation.
4. For purposes of this Article, “Subcontractor Works” include all work product developed in whole or part by or on behalf of subcontractors engaged by the CONTRACTOR to perform work for or on behalf of any CONTRACTOR under this CONTRACT (or by the subcontractor’s subcontractors hereunder, and so on). The CONTRACTOR shall secure in writing from any subcontractor so engaged:
 - A. Unlimited, unrestricted, perpetual, irrevocable, royalty-free rights of the TWDB and, if desired, of the CONTRACTOR to access and receive, and to use, any and all technical or other data or information developed in or resulting

- from the performance of services under such engagement, with No Compensation Obligation; and either
- B. Assignment by the subcontractors to the TWDB and, if desired by them, jointly to the CONTRACTOR of ownership (or joint ownership with the subcontractors) of all Subcontractor Works, with No Compensation Obligation; or
 - C. Subcontractors must grant a non-exclusive, unrestricted, unlimited, perpetual, irrevocable, world-wide, royalty-free license to the TWDB and, if desired by them, the CONTRACTOR may use any and all Subcontractor Works, including the right to sublicense use to third parties, with No Compensation Obligation.
5. "Use" of a work product, whether CONTRACTOR Works, Subcontractor Works or otherwise, means and includes, without limitation hereby, any lawful use, copying or dissemination of the work product, or any lawful development, use, copying or dissemination of derivative works of the work product, in any media or forms, whether now known or later existing.
6. "No Compensation Obligation" means there is no obligation on the part of one co-owner or licensee of a work, whether CONTRACTOR Works, Subcontractor Works or otherwise, to compensate other co-owners, licensees or licensors of the work for any use of the work by the using co-owner or licensee, including but not limited to compensation for or in the form of: royalties; co-owner or licensee accounting; sharing of revenues or profits among co-owners, licensees or licensors; or any other form of compensation to the other co-owners, licensees or licensors on account of any use of the work.
7. "Dissemination" includes, without limitation hereby, any and all manner of: physical distribution; publication; broadcast; electronic transmission; internet streaming; posting on the Internet or world wide web; or any other form of communication, transmission, distribution, sending or providing, in any forms or formats, and in or using any media, whether now known or later existing.
8. The TWDB has an unlimited, unrestricted, perpetual, irrevocable, non-exclusive royalty-free right to access and receive in usable form and format, and to use all technical or other data or information developed by the CONTRACTOR and subcontractors in, or otherwise resulting from, the performance of services under this CONTRACT.
9. No unauthorized patents. The CONTRACTOR Works and Subcontractor Works or other work product developed or created in the performance of this CONTRACT or otherwise using funds provided hereunder must not be patented by the CONTRACTOR or subcontractors unless the Executive Administrator consents in writing to submission of an application for patent on such works; and provided that, unless otherwise agreed in writing:

- A. Any application made for patent must include and name the TWDB and, as applicable and desired by them, the CONTRACTOR as co-owners of the patented work;
 - B. No patent granted will in any way limit, or be used by the CONTRACTOR or subcontractors to limit or bar the TWDB's rights hereunder to access and receive in useable form and format, and right to use, any and all technical or other data or information developed in or resulting from performance pursuant to this CONTRACT or the use of funds provided hereunder; and
 - C. The TWDB and, if applicable, the CONTRACTOR shall have no compensation obligation to any other co-owners or licensees of any such patented work, unless otherwise expressly agreed in writing.
10. The CONTRACTOR shall include terms and conditions in all contracts or other engagement agreements with any subcontractors as are necessary to secure these rights and protections for the TWDB; and shall require that their subcontractors include similar such terms and conditions in any contracts or other engagements with their subcontractors. For the purposes of this section, "subcontractors" includes independent contractors (including consultants) and employees working outside the course and scope of employment.
11. Any work products subject to a TWDB copyright or joint copyright and produced or developed by the CONTRACTOR or their subcontractors pursuant to this CONTRACT or using any funding provided by the TWDB may be reproduced in any media, forms or formats by the TWDB or the CONTRACTOR at their own cost, and be disseminated in any medium, format or form by any party at its sole cost and in its sole discretion. The CONTRACTOR may utilize such work products as they may deem appropriate, including dissemination of such work products or parts thereof under their own name, provided that any TWDB copyright is noted on the materials.
12. The CONTRACTOR agrees to acknowledge the TWDB in any news releases or other publications relating to the work performed under this CONTRACT.

ARTICLE VI AMENDMENT, TERMINATION, AND STOP ORDERS

1. This CONTRACT may be altered or amended by mutual written consent or terminated by the EXECUTIVE ADMINISTRATOR at any time by written notice to the CONTRACTOR. Upon receipt of such termination notice, the CONTRACTOR shall, unless the notice directs otherwise, immediately discontinue all work in connection with the performance of this CONTRACT and shall proceed to cancel promptly all existing orders insofar as such orders are chargeable to this CONTRACT. The CONTRACTOR shall submit a statement showing in detail the work performed under this CONTRACT to the date of termination. The TWDB shall then pay the CONTRACTOR promptly that proportion of the prescribed fee, which applies to the work, actually performed under this CONTRACT, less all payments that have been

previously made. Thereupon, copies of all work accomplished under this CONTRACT shall be delivered to the TWDB.

2. The EXECUTIVE ADMINISTRATOR may issue a Stop Work Order to the CONTRACTOR at any time. Upon receipt of such order, the CONTRACTOR shall discontinue all work under this CONTRACT and cancel all orders pursuant to this CONTRACT, unless the order directs otherwise. If the EXECUTIVE ADMINISTRATOR does not issue a Restart Order within 60 days after receipt by the CONTRACTOR of the Stop Work Order, the CONTRACTOR shall regard this CONTRACT terminated in accordance with the foregoing provisions.

ARTICLE VII SUBCONTRACTS

Each subcontract entered into to perform required work under this CONTRACT must contain the following provisions:

1. A clause that states that the parties shall not construe this SUBCONTRACT and Agreement as creating any debt by or on behalf of the State of Texas and the TWDB, and all obligations of the State of Texas are subject to the availability of funds. To the extent the performance of this SUBCONTRACT transcends the biennium in which this SUBCONTRACT is entered into, this SUBCONTRACT is specifically contingent upon the continued authority of the TWDB and appropriations therefore.
2. A detailed budget estimate with specific cost details for each task or specific item of work to be performed by the subcontractor and for each category of reimbursable expenses;
3. A clause stating that the subcontract is subject to audit by the Texas State Auditor's Office and requiring the subcontractor to cooperate with any request for information from the Texas State Auditor, as further described in **Article X, Section 1, Paragraph D** hereof;
4. A clause stating that payments under the subcontract are contingent upon the appropriation of funds by the Texas Legislature, as further described in **Article X, Section 1, Paragraph A** hereof;
5. A clause stating that data, materials and work papers, in any media, that are gathered, compiled, adapted for use or generated by the subcontractor or the CONTRACTOR become data, materials and work owned by the TWDB and that subcontractor has no proprietary rights in such data, materials and work papers, except as further described in **Article V** hereof;
6. A clause stating that subcontractor shall keep timely and accurate books and records of accounts according to generally acceptable accounting principles as further described in **Article X, Section 2, Paragraph G**;

7. A clause stating that subcontractor is solely responsible for securing all required licenses and permits from local, state and federal governmental entities and that subcontractor is solely responsible for obtaining sufficient insurance in accordance with the general standards and practices of the industry or governmental entity; and
8. A clause stating that subcontractor is an independent contractor and that the TWDB shall have no liability resulting from any failure of subcontractor that results in breach of CONTRACT, property damage, personal injury or death.

ARTICLE VIII LICENSES, PERMIT, AND INSURANCE

1. For the purpose of this CONTRACT, the CONTRACTOR will be considered an independent contractor and therefore solely responsible for liability resulting from negligent acts or omissions. The CONTRACTOR shall obtain all necessary insurance, in the judgment of the CONTRACTOR, to protect themselves, the TWDB, and employees and officials of the TWDB from liability arising out of this CONTRACT.
2. The CONTRACTOR shall be solely and entirely responsible for procuring all appropriate licenses and permits, which may be required by any competent authority for the CONTRACTOR to perform the subject work.
3. Indemnification. The CONTRACTOR shall indemnify and hold the TWDB and the State of Texas harmless, to the extent the CONTRACTOR may do so in accordance with state law, from any and all losses, damages, liability, or claims therefore, on account of personal injury, death, or property damage of any nature whatsoever caused by the CONTRACTOR, arising out of the activities and work conducted pursuant to this CONTRACT. The CONTRACTOR is solely responsible for liability arising out of its negligent acts or omissions during the performance of this CONTRACT. This agreement does not create any third party cause of action and the CONTRACTOR does not waive any immunity available under state law.

ARTICLE IX SEVERABILITY

Should any one or more provisions of this CONTRACT be held to be null, void, voidable, or for any reason whatsoever, of no force and effect, such provision(s) shall be construed as severable from the remainder of this CONTRACT and shall not affect the validity of all other provisions of this CONTRACT which shall remain of full force and effect.

ARTICLE X GENERAL TERMS AND CONDITIONS

1. **GENERAL TERMS**
 - A. **No Debt Against the State.** This CONTRACT does not create any debt by or on behalf of the State of Texas and the TWDB. The TWDB's obligations under

this CONTRACT are contingent upon the availability of appropriated funds and the continued legal authority of the TWDB to enter into this CONTRACT.

- B. **Independent Contractor.** Both parties hereto, in the performance of this CONTRACT, shall act in an individual capacity and not as agents, employees, partners, joint ventures or associates of one another. The employees or agents of one party shall not be deemed or construed to be the employees or agents of the other party for any purposes whatsoever.
- C. **Procurement Laws.** The CONTRACTOR shall comply with applicable State of Texas procurement laws, rules and policies, including but not limited to competitive bidding and the Professional Services Procurement Act, Government Code, Chapter 2254, relating to contracting with persons whose services are within the scope of practice of: accountants, architects, landscape architects, land surveyors, medical doctors, optometrists, professional engineers, real estate appraisers, professional nurses, and certified public accountants.
- D. **Right to Audit.** The CONTRACTOR and its subcontractors shall maintain all financial accounting documents and records, including copies of all invoices and receipts for expenditures, relating to the work under this CONTRACT. The CONTRACTOR shall make such documents and records available for examination and audit by the Executive Administrator or any other authorized entity of the State of Texas. The CONTRACTOR's financial accounting documents and records shall be kept and maintained in accordance with generally accepted accounting principles. By executing this CONTRACT, the CONTRACTOR accepts the authority of the Texas State Auditor's Office to conduct audits and investigations in connection with all state funds received pursuant to this CONTRACT. The CONTRACTOR shall comply with directives from the Texas State Auditor and shall cooperate in any such investigation or audit. The CONTRACTOR agrees to provide the Texas State Auditor with access to any information the Texas State Auditor considers relevant to the investigation or audit. The CONTRACTOR also agrees to include a provision in any subcontract related to this CONTRACT that requires the subcontractor to submit to audits and investigation by the State Auditor's Office in connection with all state funds received pursuant to the subcontract.
- E. **Force Majeure.** Unless otherwise provided, neither the CONTRACTOR nor the TWDB nor any agency of the State of Texas, shall be liable to the other for any delay in, or failure of performance, of a requirement contained in this CONTRACT caused by force majeure. The existence of such causes of delay or failure shall extend the period of performance until after the causes of delay or failure have been removed provided the non-performing party exercises all reasonable due diligence to perform. Force majeure is defined as acts of God, war, strike, fires, explosions, or other causes that are beyond

the reasonable control of either party and that by exercise of due foresight such party could not reasonably have been expected to avoid, and which, by the exercise of all reasonable due diligence, such party is unable to overcome. Each party must inform the other in writing with proof of receipt within five (5) business days of the existence of such force majeure or otherwise waive this right as a defense.

2. **STANDARDS OF PERFORMANCE**

- A. **Personnel.** The CONTRACTOR shall assign only qualified personnel to perform the services required under this CONTRACT. The CONTRACTOR shall be responsible for ensuring that any subcontractor utilized shall also assign only qualified personnel. Qualified personnel are persons who are properly licensed to perform the work and who have sufficient knowledge, skills and ability to perform the tasks and services required herein according to the standards of performance and care for their trade or profession.
- B. **Professional Standards.** The CONTRACTOR shall provide the services and deliverables in accordance with applicable professional standards. The CONTRACTOR represents and warrants that he is authorized to acquire subcontractors with the requisite qualifications, experience, personnel and other resources to perform in the manner required by this CONTRACT.
- C. **Antitrust.** The CONTRACTOR represents and warrants that neither the CONTRACTOR nor any firm, corporation, partnership, or institution represented by the CONTRACTOR, or anyone acting for such firm, corporation, partnership, or institution has (1) violated the antitrust laws of the State of Texas under the Texas Business & Commerce Code, Chapter 15, of the federal antitrust laws; or (2) communicated directly or indirectly the proposal resulting in this CONTRACT to any competitor or other person engaged in such line of business during the procurement process for this CONTRACT.
- D. **Conflict of Interest.** The CONTRACTOR represents and warrants that CONTRACTOR has no actual or potential conflicts of interest in providing the deliverables required by this CONTRACT to the State of Texas and the TWDB. The CONTRACTOR represents that the provision of services under this CONTRACT will not create an appearance of impropriety. The CONTRACTOR also represents and warrants that, during the term of this CONTRACT, the CONTRACTOR will immediately notify the TWDB, in writing, of any potential conflict of interest that could adversely affect the TWDB by creating the appearance of a conflict of interest.

The CONTRACTOR represents and warrants that neither the CONTRACTOR nor any person or entity that will participate financially in this CONTRACT has received compensation from the TWDB or any agency of the State of

Texas for participation in the preparation of specifications for this CONTRACT. The CONTRACTOR represents and warrants that he has not given, offered to give, and does not intend to give at any time hereafter, any economic opportunity, future employment, gift, loan, gratuity, special discount, trip, favor or service to any public servant in connection with this CONTRACT.

- E. **Proprietary and Confidential Information.** The CONTRACTOR warrants and represents that any information that is proprietary or confidential, and is received by the CONTRACTOR from the TWDB or any governmental entity, shall not be disclosed to third parties without the written consent of the TWDB or applicable governmental entity, whose consent shall not be unreasonably withheld.
- F. **Public Information Act.** The CONTRACTOR acknowledges and agrees that all documents, in any media, generated in the performance of work conducted under this CONTRACT are subject to public disclosure under the Public Information Act, Government Code, Chapter 552. The CONTRACTOR shall produce all documents upon request of the TWDB within two (2) business days when the documents are required to comply with a request for information under the Public Information Act.
- G. **Accurate and Timely Record Keeping.** The CONTRACTOR warrants and represents that CONTRACTOR will keep timely, accurate and honest books and records relating to the work performed and the payments received under this CONTRACT according to generally accepted accounting standards. Further, the CONTRACTOR agrees that the CONTRACTOR will create such books and records at or about the time the transaction reflected in the books and records occurs.
- H. **Dispute Resolution.** The CONTRACTOR and the TWDB agree to make a good faith effort to resolve any dispute relating to the work required under this CONTRACT through negotiation and mediation as provided by Texas Government Code, Chapter 2260 relating to resolution of certain contract claims against the state. The CONTRACTOR and the TWDB further agree that they shall attempt to use any method of alternative dispute resolution mutually agreed upon to resolve any dispute arising under this CONTRACT if this CONTRACT is not subject to Chapter 2260.
- I. **Contract Administration.** The TWDB shall designate a project manager for this CONTRACT. The project manager will serve as the point of contact between the TWDB and the CONTRACTOR. The TWDB's project manager shall supervise the TWDB's review of the CONTRACTOR's technical work, deliverables, draft reports, the FINAL REPORT, payment requests, schedules, financial and budget administration, and similar matters. The project manager does not have any express or implied authority to vary the terms of

the CONTRACT, amend the CONTRACT in any way or waive strict performance of the terms or conditions of the CONTRACT.

ARTICLE XI CORRESPONDENCE

All correspondence between the parties shall be made to the following addresses:

For the **TWDB**:

For the **CONTRACTOR**:

Contract Issues:

Texas Water Development Board
Attention: Contract Administration
P.O. Box 13231
Austin, Texas 78711-3231
Email: contracts@twdb.texas.gov

Contract Issues:

Jim Reed
Central Texas Council of Governments
P. O. Box 729
Belton, Texas 76513
Email: jim.reed@ctcog.org

Payment Request Submission:

Texas Water Development Board
Attention: Accounts Payable
P.O. Box 13231
Austin, Texas 78711-3231
Email: invoice@twdb.texas.gov

Payment Request Submission:

Michael Irvine
Central Texas Council of Governments
P. O. Box 729
Belton, Texas 76513
Email: Michael.Irvine@ctcog.org

Physical Address:

Stephen F. Austin State Office Building
1700 N. Congress Avenue
Austin, Texas 78701

Physical Address:

Central Texas Council of Governments
2180 North Main Street
Belton, Texas 76513

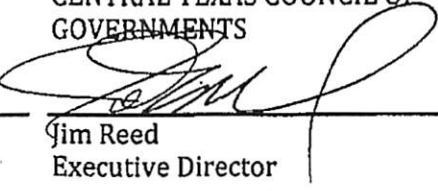
IN WITNESS WHEREOF, the parties have caused this CONTRACT to be duly executed in multiple originals.

TEXAS WATER DEVELOPMENT BOARD

CENTRAL TEXAS COUNCIL OF
GOVERNMENTS



Jeff Walker
Executive Administrator



Jim Reed
Executive Director

Date: 1-23-17

Date: 1-23-17

EXHIBIT A

ORIGINAL GRANT APPLICATION

EXHIBIT B

SCOPE OF WORK

1. Collection and Review of Baseline Information

For the Flood Early Warning, Flood Protection Planning, and Flood Response Implementation Strategy Activities, the CONTRACTOR and its designated consultant will collect and review previous drainage studies, the previous local community Master Drainage Plans, FEMA Flood Insurance Study (FIS) and maps, FEMA LOMRs, citizen drainage complaint reports, Tropical Storm Hermine and more recent flood damage reports, review/inspection of existing gages (for flood early warning) and software/hardware equipment, a review of existing local storm (during and post) response plans, and other available pertinent information associated with the planning area.

The CONTRACTOR will conduct a kick-off meeting with its designated consultant, TWDB project manager and the representatives from the participating entities. The kick-off meeting will cover the following topics:

- Project communication & reporting responsibilities – establish the frequency and method of the CONTRACTOR's designated consultant interface with TWDB project manager, the CONTRACTOR project manager and the representatives from the participating entities;
- Project milestone and schedule; and
- Project deliverables at each milestone.

2. Development of a Base Map

For the Flood Protection Planning effort, the CONTRACTOR and its designated consultant will develop a base map using the following information:

- Current FEMA FIS and Flood Insurance Rate Map (FIRM)
- Digital GIS data of parcels, zoning maps, current and future land use maps and soils maps;
- As-built drawings for channel and bridge/culvert improvements;
- Most current LiDAR topography; and
- Approved LOMRs since the latest FIRM update.

3. Assessment of Environmental Constraints

For the Flood Protection Planning Activities, the CONTRACTOR and its designated consultant will review and assess existing environmental constraints within the study area. This task will be focused on a desk-top study of known environmental constraints and if needed a preliminary site visit to identify potential constraints associated with proposed structural flood reduction alternatives. This task will not include detailed field survey, but rather will establish the framework for the requirements of environmental assessment during the implementation and final design phase of the flood mitigation measures.

4. **Identification of Flood Early Warning System Improvements**

For the Flood Early Warning Activities, the CONTRACTOR and its designated consultant will do the following:

- Summarize findings from task (a) associated with existing gages (equipment and software),
- Coordinate with local participating communities to develop a set of flood early warning system improvement goals,
- Develop a budget to upgrade the flood early warning system,
- Develop a budget and strategy to ensure long term future funding of the flood early warning system well into the future.

5. **Identification of Flood Response Implementation Strategies**

For the Flood Response Implementation Strategies Activities, the CONTRACTOR and its designated consultant will conduct the following activities:

- Coordinate with local entities to identify existing implementation strategies in effect,
- Coordinate with outside entities to develop a list of recent and applicable “lessons learned”, this may include coordination with the City of Wimberley and/or City of San Marcos (as an example).
- Coordination with local emergency management personnel to identify ways to improve and/or items to include in a comprehensive response plan,
- Development of a comprehensive flood response implementation plan for adoption by the local entities involved.

6. **Initial Identification of Flood Problem Areas**

For the Flood Protection Planning Activities, the CONTRACTOR and its designated consultant will develop a list of flood complaints from past recent flood events including but not limited to Tropical Storm Hermine. The CONTRACTOR will conduct a public meeting to solicit input on the drainage problem areas including the specifics and nature of the flooding. The CONTRACTOR will prepare a brief preliminary finding report.

7. **Perform Field Survey**

For the Flood Protection Planning Activities, the CONTRACTOR and its designated consultant will utilize the most current LiDAR data flown in the proposed planning area for the overall watershed study. This LiDAR data will be supplemented with field measurements, channel cross-section surveys, and bridge/culvert cross section surveys were needed to adequately conduct a new watershed study of the area. Use of existing field survey data available from participating communities will be incorporated where applicable.

8. **Develop Hydrologic Model**

For the Flood Protection Planning Activities, the CONTRACTOR and its consultant will develop GIS geo-referenced hydrologic models using the Corps of Engineers HEC-HMS computer program, along with the preprocessor HEC-GeoHMS. The

CONTRACTOR and its consultant will develop the Existing Condition and Ultimate Condition hydrologic runoff models. The Ultimate Condition will be based on information provided by each participating entity. The following information will be incorporated into the HEC-HMS models:

- Regional detention facilities;
- FEMA LOMR hydrologic models; and
- Other large scale storm water impoundment facilities (more than 10 acres in surface area) such as SCS Dam or retention/stock ponds.

The hydrologic model input parameters will be developed based on the following approach;

- Rainfall data – The latest USGS 24-hour design storm with National Resources Conservation Service (NRCS) Type III or II distribution will be used. The 2-, 5-, 10-, 25-, 50-, 100- and 500-year frequency storm events will be modeled.
- Drainage Area – To insure consistency in the peak time computation within the HEC-HMS model, the subarea size for rural area (in the headwater area) will be divided to close to 2.5 square miles but will not exceed 5 square miles. The subarea size for urban area (in the downtown and fully developed areas) will be divided to close to 0.5 square mile but will not be less than 0.1 square mile.
- Time of Concentration – The TR-55 equations for estimating the time of concentration for sheet flow, shallow concentrated flow and channel/storm drain flow will be used. For rural areas, sheet flow length will not exceed 200 feet. For urban areas, sheet flow length shall not exceed 50 feet.
- Runoff Curve Number – The CN for each sub-basin will be computed based on procedures outlined in the NRCS TR-55 publication. Two sets of CN values will be developed for each sub-basin, the existing condition and the ultimate development condition. The existing condition CN will be computed based on latest existing land-use condition data. The ultimate development condition CN will be computed based on the available information provided by each entity associated with future conditions land-use. The latest NRCS Soil Survey Geographic (SSURGO) database for Bell County will be used for soil type determination. For rural and sparsely populated sub-basins, the CONTRACTOR designated consultant will coordinate with the local jurisdictions to determine the ultimate land use based on their annexation and future land use planning documents, in order to inform the future condition CN values.
- Aerial Reduction analysis will be incorporated where contributing drainage areas exceed 10 sq. miles following the TP-40 curves or other best available data.

The hydrologic model will be calibrated to peak discharges recorded during historic storm events prior to computing peak flows for hypothetical storm events. In particular, the CONTRACTOR (and other participating entities) have extensive rainfall, runoff and high water marks data from the Tropical Storm Hermine event. This data will be used to calibrate the HEC-HMS and HEC-RAS models.

9. **Develop Hydraulic Model**

For the Flood Protection Planning Activities, the CONTRACTOR and its consultant will develop GIS geo-referenced hydraulic models using the Corps of Engineers HEC-RAS computer program, along with the preprocessor HEC-GeoRAS. Similar to the hydrologic models, the Existing Condition and the Ultimate Condition HEC-RAS models will be developed. The HEC RAS hydraulic models will cover all the stream miles mentioned in Section 2 Planning Information.

The hydraulic model input parameters and modeling procedures are presented as follows:

- Peak discharges from the HEC-HMS junctions will be specified at the appropriate cross sections. For channel or creek between two HEC-HMS junctions, the downstream junction peak flow will be used two-third distance upstream along the creek and the peak flow from the upstream junction will be used one-third distance downstream along the creek.
- Manning's roughness coefficients ("n") will be established based on field reconnaissance, aerial photos and standard engineering reference tables or publications.
- Field reconnaissance will be performed to verify survey data and record drawings and get a general feel for each crossing.
- Field survey will also be acquired for channel cross section at an interval of approximately one cross section per stream mile. Some flexibility in this approach will be considered based on engineering judgment.
- Other HEC-RAS parameters, such as "ineffective flow area", "expansion/contraction coefficients" and "bridge/culvert energy loss coefficients" will be used as appropriate.

The HEC-RAS model will be calibrated based on available historical storm events, such as Tropical Storm Hermine, prior to applying the hypothetical storm events.

10. **Final Identification of Flood Problem Areas, Establishment of Flood**

Protection Criteria and Evaluation of Flood Mitigation Alternatives

For the Flood Protection Planning Activities, the CONTRACTOR and its consultant will utilize information from Item d) above to identify flood problem areas and confirm locally reported flooding areas. For each of identified flood problem areas, a flood problem severity index will be developed. The elements of this index will include, but not be limited to, depth of flooding (in inches or feet), number of structure affected, value of the affected structure, the ability to evacuate its inhabitants, the environmental impacts, and the frequency of the flooding. The flood problem severity index will assist in the selection and prioritization of the proposed improvement projects.

The flood mitigation plan will include consideration of the following:
Structural Approach:

- Detention/Retention Facility;
- Channel Improvements, particularly using the Natural Channel Method;
- Roadway Bridge/Culvert Improvements;
- Levees/Berms/Floodwalls; and
- Combination of any of two or more of the above.

Non-Structural Approach:

- Develop a comprehensive the CTCOG Drainage Criteria Manual and existing land development criteria for consideration and adoption by the participating entities;
- Development of individual entity Drainage Criteria Manuals;
- Buy-outs of the flooded properties;
- Installation of Early Flood Warning systems;
- Installation of flood warning signs and barricades at frequent inundated roadway crossings; and
- Develop public information publications describing flood risks and flood insurance.

11. Perform Hydrologic/Hydraulic Analyses of Flood Mitigation Alternatives

For the Flood Protection Planning Activities, Hydrologic/hydraulic analyses of flood mitigation alternatives will be performed using HEC- HMS and HEC-RAS models for the various hypothetical flood events. Preliminary structural flood control measures will be developed along with their corresponding impacts to the floodplain limits. Rough plan, profile and cross section sheets may be developed as necessary depending on the complexity of the alternative considered.

Flood mitigation alternatives will be evaluated not only at the problem area (to reduce the levels of flooding) but also the potential of causing adverse hydrologic/hydraulic impacts at other locations in the watershed. For example, a channel improvement project would likely reduce the time of concentration through the project area, thereby potentially increase the peak discharges at the downstream discharge point of the project area. The CTCOG consultant will ensure that flood mitigation measures will not cause adverse flooding impacts elsewhere in the proposed flood improvement areas.

A public meeting will be conducted to present the flood mitigation alternatives and to solicit input from the property owners and stakeholders. To the extent possible, citizen and stakeholder concerns will be incorporated.

12. Develop Benefit/Cost Analysis of Flood Mitigation Alternatives

For the Flood Protection Planning Activities, The flood mitigation alternatives benefits will be developed. Specifically, these benefits will include reduction in damages for structures (residences, commercials and public facilities), reduction in damages for roadway crossings, and reduction in economic loss (business

interruptions and temporary job lost). Each alternative of flood mitigation benefits will be compared to the cost of the proposed improvements, which will include preliminary administration, management, engineering and construction costs. The U.S. Army Corps of Engineers, Hydrologic Engineering Center, Flood Damage Reduction Analysis (HEC-FDA) software, or other compatible widely accepted software (such as FEMA BCA v.5.2.1), will be used in the Benefit/Cost analysis. This effort will result in a ranking of proposed mitigation alternatives based on cost effectiveness and technical merits. A public meeting will be conducted to obtain citizen and stakeholder input on the flood mitigation alternatives and the results of the benefit/cost analysis.

13. **Prepare Implementation and Phasing Plan**

For the Flood Protection Planning Activities, and based on input from the public meeting, a project implementation and phasing plan will be developed. The implementation and phasing plan will consider items such as funding sources, project duration, easement requirements, environmental impact of the proposed improvements, and benefit/cost ratio.

14. **Prepare Final Report**

For the Flood Protection Planning, Flood Early Warning, and Flood Response Implementation Strategy Activities, the CONTRACTOR consultant will develop a draft final report summarizing the results of the various investigations. This summary will likely include hydrologic/hydraulic investigations, flood mitigation alternatives, benefit/cost analysis, stakeholder input, draft flood response implementation plan, and draft flood early warning system plan. The draft report will include technical description of engineering analyses, methodologies, assumptions and modeling notes as well as improvement alternative costs, easement requirements (if applicable), phasing and implementation plan, floodplain maps and other applicable exhibits.

The draft final report will be made available on the project website, and links distributed to each participating community. A final public meeting will be conducted to present the draft final report. Following the public meeting and incorporation of public input, the draft final report will be submitted to TWDB for review. Upon addressing TWDB review comments, the final report will be submitted to TWDB.

There are seven (7) stakeholder coordination meetings envisioned as part of the above scope of work and four (4) public meetings.

EXHIBIT C

TASK AND EXPENSE BUDGETS

TASK BUDGET

| TASK | DESCRIPTION | AMOUNT |
|--------------|--|---------------------|
| 1 | Collection and Review of Baseline Information | \$8,172.00 |
| 2 | Development of a Base Map | 4,865.00 |
| 3 | Assessment of Environmental Constraints | 11,603.00 |
| 4 | Identification of Flood Early Warning System Improvements | 24,331.00 |
| 5 | Identification of Flood Response Strategies | 4,869.00 |
| 6 | Initial Identification of Flood Problem Areas | 8,728.00 |
| 7 | Perform Field Survey | 76,741.00 |
| 8 | Develop Hydrologic Model | 89,019.00 |
| 9 | Develop Hydraulic Model | 89,732.00 |
| 10 | Final Identification of Flood Problem Areas, Establishment of Flood Protection Criteria, and Evaluation of Flood Mitigation Alternatives | 6,494.00 |
| 11 | Perform Hydrologic/Hydraulic Analyses of Flood Mitigation Alternatives | 20,992.00 |
| 12 | Develop Benefit/Cost Analysis of Flood Mitigation Alternatives | 15,614.00 |
| 13 | Prepare Implementation and Phasing Plan | 4,808.00 |
| 14 | Prepare Final Report | 5,649.00 |
| 15 | Project Management | 30,421.00 |
| TOTAL | | \$402,038.00 |

EXPENSE BUDGET

| CATEGORY | CONTRACTOR |
|--|---------------------|
| Salaries & Wages ¹ | \$79,039 |
| Fringe ² | 30,505 |
| Travel ³ | 75 |
| Subcontract Services | 279,099 |
| Other Expenses ⁴ (Reproduction) | 248 |
| Equipment (Survey supplies) | 147 |
| Overhead ⁵ | 12,925 |
| Profit | 0 |
| TOTAL | \$402,038.00 |

¹ Salaries and Wages is defined as the cost of salaries of engineers, draftsmen, stenographers, surveymen, clerks, laborers, etc., for time directly chargeable to this CONTRACT.

² Fringe is defined as the cost of social security contributions, unemployment, excise, and payroll taxes, workers' compensation insurance, retirement benefits, medical and insurance benefits, sick leave, vacation, and holiday pay applicable thereto.

³ Travel is limited to the maximum amounts authorized for state employees by the General Appropriations Act, Tex. Leg. Regular Session, 2015, Article IX, Part 5, as amended or superseded

⁴ Other Expenses is defined to include expendable supplies, communications, reproduction, postage, and costs of public meetings directly chargeable to this CONTRACT.

⁵ Overhead is defined as the costs incurred in maintaining a place of business and performing professional services similar to those specified in this CONTRACT.

EXHIBIT D

GUIDELINES FOR AUTHORS SUBMITTING CONTRACT REPORTS TO THE TEXAS WATER DEVELOPMENT BOARD

1.0 Introduction

The purpose of this document is to describe the required format of contract reports submitted to the Texas Water Development Board (TWDB). Our reason for standardizing the format of contract reports is to provide our customers a consistent, and therefore familiar, format for contract reports (which we post online for public access). Another reason for standardizing the format is so that we can more easily turn a contract report into a TWDB numbered report if we so choose. Remember that your report will not only be seen by TWDB staff, but also by any person interested in the results of your study. A professional and high quality report will reflect well on you, your employer, and the TWDB.

Available upon request, we will provide a Microsoft Word template (used to write these instructions) that gives the fonts, spacing, and other specifications for the headings and text of the report. Please follow this template as closely as possible.

2.0 Formatting your report

The TWDB format is designed for simplicity. For example, we use Times New Roman for all text. We use 12 point, single-spaced text, left justification for paragraph text, 18 point bold for first-level headings, and 14 point bold for second-level headings. Page numbers are centered at the bottom of the page. Other than page numbers, please refrain from adding content to the document header or footer. Page setup should use one-inch margins on all four sides.

2.1 Text

The best way to format your document is to use the styles described and embedded in the template document (Authors_Template.dot) that is available on request from the TWDB. To use the Authors_Template.dot file, open it in Word (make sure *.dot is listed under Files of type) and save it as a .doc file. Advanced users can add the .dot file to their computers as a template.

Make sure the formatting bar is on the desktop (to open, go to View→Toolbars→Formatting) or, to view all of the formatting at once, go to Format→Styles and Formatting and select Available Styles from the dropdown box at the bottom of the window. The formatting in the template document provides styles (such as font type, spacing, and indents) for each piece of your report. Each style is named to describe what it should be used for (for example, style names include Chapter Title, Body Text, Heading 1, References, and Figure or Table Caption). As you add to your report, use the dropdown list on the Formatting Toolbar or the list in the Styles and Formatting window to adjust the text to the correct style. The Authors_Template.dot file shows and lists the specifications for each style.

2.1.1 Title

Give your report a title that gives the reader an idea of the topic of your report but is not terribly long. In addition to the general subject (for example, "Droughts"), you may include a few additional words to describe a place, methodology, or other detail focused on throughout the paper (for

example, “Droughts in the High Plains of Texas” or “Evaluating the effects of drought using groundwater flow modeling”). Please capitalize only the first letter of each word except ‘minor’ words such as ‘and’ and ‘of’. Never use all caps. Use headings to help the reader follow you through the main sections of your report and to make it easier for readers to skim through your report to find sections that might be the most interesting or useful to them. The text of the report should include an executive summary and sections outlined in 4.4 of Attachment 1. Headings for up to five levels of subdivision are provided in the template; however, we suggest not using more than three or four levels of subdivision except where absolutely necessary. Please avoid stacked headings (for example, a Heading 1 followed immediately by a Heading 2), and capitalize only the first letter of headings or words where appropriate—never use all caps.

2.2 Figures and photographs

To publish professional-looking graphics, **we need all originals to be saved at 300 dots-per-inch (dpi)** and in grayscale, if possible, or in the CMYK color format if color is necessary. Excessive use of color, especially color graphics that do not also work in grayscale, will prevent us from publishing your report as a TWDB numbered report (color reproduction costs can be prohibitive). Preferred file formats for your original graphics are Adobe Illustrator (.ai), Photoshop (.psd), EPS with .tiff preview, .jpg, .png, or .tiff files. Refrain from using low resolution .jpg or .gif files. Internet images at 72 dpi are unacceptable for use in reports. All graphics shall be submitted in two forms:

1. Inserted into the Microsoft Word document before you submit your report. Ideally, inserted graphics should be centered on the page. Format the picture to downsize to 6 inches wide if necessary. Please do not upsize a graphic in Word.
2. Saved in one of the formats listed above.

2.2.1 Other graphics specifications

It is easiest to design your figures separately and add them in after the text of your report is more or less complete. Graphics should remain within the 1-inch page margins of the template (6.5 inches maximum graphic width). Be sure that the graphics (as well as tables) are numbered in the same order that they are mentioned in the text. Figures should appear embedded in the report after being called out in the text. Also, remember to include a caption for each graphic in Word, not as part of the graphic. We are not able to edit or format figure captions that are part of the figure. For figures and photographs, the caption should appear below the graphic. For tables, the caption should appear above.

2.2.2 Creating publication-quality graphics

When designing a graphic, make sure that the graphic (1) emphasizes the important information and does not show unnecessary data, lines, or labels; (2) includes the needed support material for the reader to understand what you are showing; and (3) is readable (see Figures 1 and 2 for examples). Edward R. Tufte’s books on presenting information (Tufte, 1983; 1990; 1997) are great references on good graphic design. Figures 1 through 3 are examples of properly formatted, easy to understand graphics. Do not include fonts that are less than 6 points.

For good-looking graphics, the resolution needs to be high enough to provide a clear image at the size you make them within the report. In general, 300 dpi will make a clear image—200 dpi is a minimum. Try to create your figures at the same size they will be in the report, as resizing them in

Word greatly reduces image quality. Photographs taken with at least a two-megapixel camera (if using digital) and with good contrast will make the best images. Save the original, and then adjust color levels and size in a renamed image copy. Print a draft copy of your report to double-check that your figures and photographs have clear lines and show all the features that you want them to have.

Figures and photographs should be in grayscale. Color greatly adds to the cost of printing, so we are trying to keep it to a minimum. Also remember that your report may be photocopied, scanned, or downloaded and printed in black and white. For this reason, you should use symbols or patterns, or make sure that colors print as different shades in black and white. All interval or ratio data (data measuring continuous phenomena, with each color representing an equal interval) need to be displayed in a graded scale of a single color (Figure 3). This way your figures will be useful even as a photocopy.

If you need help with your graphics or have questions, please contact the TWDB graphics department at (512)936-0129.

2.2.3 Using other people's graphics

Figures and photographs (and tables) need to be your own unless you have written permission from the publisher that allows us to reprint them (we will need a copy of this permission for our records). Avoid using any figures or photographs taken off the Internet or from newspapers or magazines—these sources are difficult to cite, and it is often time-consuming and expensive to gain permission to reproduce them.

2.3 Tables

Tables should be created in Microsoft Word (see Table 1). Tables should include a minimal amount of outlining or bold font to emphasize headings, totals, or other important points. Tables should be numbered separately from figures, and captions should appear above the text of the table.

Table 1: A sample table. Note caption above table.

| Table text heading* | | | | | | | | |
|---------------------|------|------|------|------|------|------|------|------|
| Table text | 1940 | 1950 | 1960 | 1970 | 1980 | 1990 | 2000 | %GW |
| Table text | 15 | 441 | 340 | 926 | 196 | 522 | 83 | 97.4 |
| Table text | 64 | 944 | 626 | 173 | 356 | 171 | 516 | 99.9 |
| Total | 79 | 1385 | 966 | 1099 | 552 | 693 | 599 | |

* A footnote should look like this using 10 point Times New Roman.

%GW = percent groundwater

Be sure to describe any abbreviations or symbols, and, unlike in this table, be sure to note the units!

3.0 Units

Measurements should be in English units. Metric units may be included in parentheses after the English units. All units of geologic time should conform to the most recent geologic timescale (Gradstein and others, 2004). A summary of this timescale is available from the International Commission on Stratigraphy's website at <http://stratigraphy.org/chus.pdf>.

4.0 Citations and references

It is important to give credit where credit is due. Therefore, be sure to use the appropriate citations and include references in your paper.

4.1 In-text citations

Each piece of information you use in your report that comes from an outside source must be cited within the text using the author's last name and the year of publication. If there are two authors, list the last name of each followed by the year, and if there are more than two authors, list the last name of the first author followed by "and others" and the year. For example: the end of the Jurassic Period occurred approximately 145.5 million years ago (Gradstein and others, 2004).

4.2 References

All sources that are cited within the report should be listed at the end of the paper under the heading References. The references should follow the guidelines in "Suggestions to Authors of the Reports of the United States Geological Survey" (Hansen, 1991). These are available online at http://www.nwrc.usgs.gov/lib/lib_sta.html (a link to the chapter "Preparing references for Survey reports," p. 234-241, is found here). Several examples of complete reference citations are listed at the end of these guidelines. Be sure that any citations that appear in tables or figures are included in the reference list. Also, before submitting the report, please check that all the citations in the report are included in the reference list and all references in the reference list are cited in the report. If at all possible, avoid web-based citations. These materials are often transient and therefore useless to future readers.

5.0 Submitting your report

Before you submit your report, proofread it. Look for spelling and grammatical errors. Also, check to see that you have structured the headings, paragraphs, and sentences in your paper so that it is easy to follow and understand (imagine you are a reader who does not already know the information you are presenting!).

6.0 Conclusions

Following the instructions above and providing accurate and readable text, tables, figures, and citations will help to make your report useful to readers. Scientists may read your report, as well as water planners, utility providers, and interested citizens. If your report successfully conveys accurate scientific information and explanations to these readers, we can help to create more informed decisions about the use, development, and management of water in the state.

7.0 Acknowledgments

Be sure to acknowledge the people and entities that assisted you in your study and report. For example:

We would like to thank the Keck Geology Consortium, the American Society of Civil Engineers, and the Texas Bar CLE for providing examples to use in developing these guidelines. In addition, we appreciate Mike Parcher for providing information on how to create publication-quality graphics, Shirley Wade for creating the data used in sample Figure 1, and Ian Jones for providing sample Figure 3.

8.0 *References*

- Gradstein, F.M., J.G. Ogg, and A.G. Smith, eds., 2005, *A geologic time scale 2004*: Cambridge, Cambridge University Press, 610 p.
- Hansen, W.R., ed., 1991, *Suggestions to authors of the reports of the United States Geological Survey* (7th ed.): Washington, D.C., U.S. Government Printing Office, 289 p.
- Tufte, E. R., 1983, *The visual display of quantitative information*: Cheshire, C.T., Graphics Press, 197 p.
- Tufte, E. R., 1990, *Envisioning information*: Cheshire, C.T., Graphics Press, 126 p.
- Tufte, E. R., 1997, *Visual explanations*: Cheshire, C.T., Graphics Press, 156 p.

9.0 *Examples of references*

- Arroyo, J. A., and Mullican, III, W. F., 2004, *Desalination*: in Mace, R. E., Angle, E. S., and Mullican, W. F., III, editors, *Aquifers of the Edwards Plateau*: Texas Water Development Board Report 360, p. 293-302.
- Bates, R. L., and Jackson, J. A., 1984, *Dictionary of geological terms*: Anchor Press/Doubleday, Garden City, New York, 571 p.
- Blandford, T. N., Blazer, D. J., Calhoun, K. C., Dutton, A. R., Naing, T., Reedy, R. C., and Scanlon, B. R., 2003, *Groundwater availability of the southern Ogallala aquifer in Texas and New Mexico—Numerical simulations through 2050*: contract report by Daniel B. Stephens and Associates, Inc., and the Bureau of Economic Geology, The University of Texas at Austin to the Texas Water Development Board, variably paginated.
- Fenneman, N. M., 1931, *Physiography of Western United States* (1st edition): New York, McGraw-Hill, 534 p.
- Hubert, M., 1999, Senate Bill 1—The first big bold step toward meeting Texas's future water needs: *Texas Tech Law Review*, v. 30, no. 1, p. 53-70.
- Kunianski, E. L., 1989, *Precipitation, streamflow, and baseflow in West-Central Texas, December 1974 through March 1977*: U. S. Geological Survey Water-Resources Investigations Report 89-4208, 2 sheets.
- Mace, R. E., Chowdhury, A. H., Anaya, R., and Way, S.-C., 2000, *A numerical groundwater flow model of the Upper and Middle Trinity aquifer, Hill Country area*: Texas Water Development Board Open File Report 00-02, 62 p.
- Maclay, R. W., and Land, L. F., 1988, *Simulation of flow in the Edwards aquifer, San Antonio Region, Texas, and refinements of storage and flow concepts*: U. S. Geological Survey Water-Supply Paper 2336, 48 p.
- For more examples of references, see p. 239-241 of “*Suggestions to Authors of the Reports of the United States Geological Survey*” at http://www.nwrc.usgs.gov/lib/lib_sta.html.

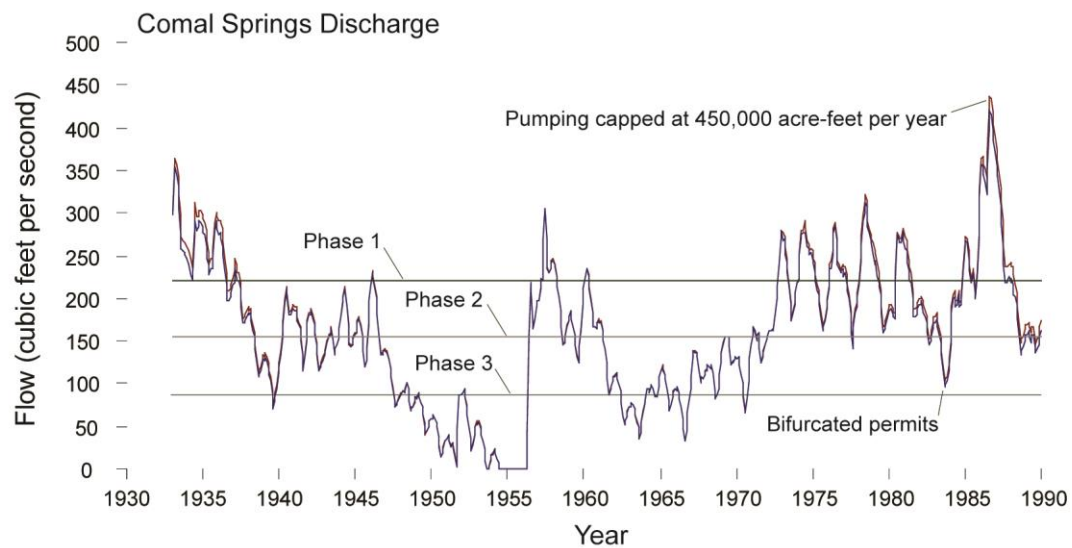


Figure 1. A sample figure showing only the information needed to help the reader understand the data. Font size for figure callouts or labels should never be less than 6 point.

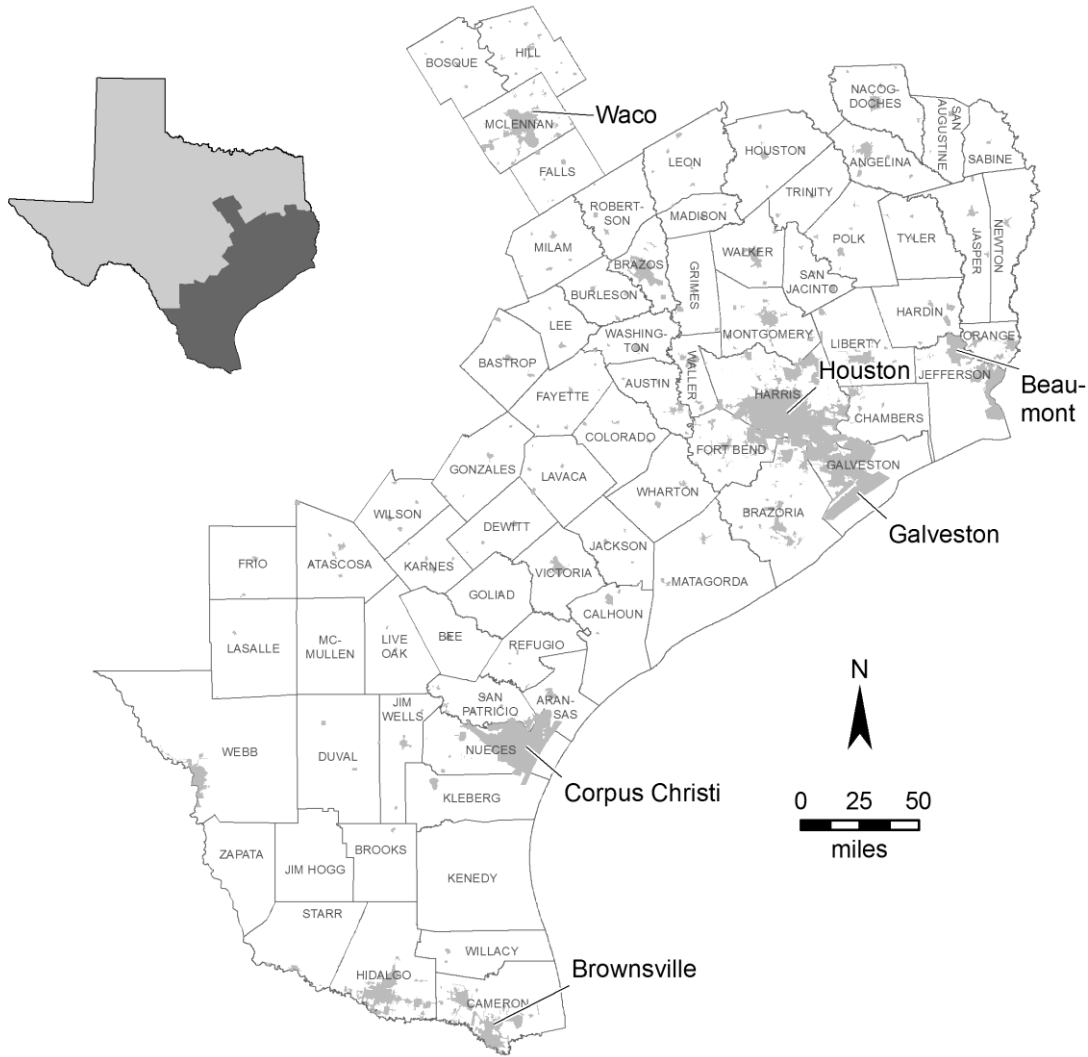


Figure 2. A sample subject area map, giving the reader enough information to understand the location being discussed in this conference. For map figures, be sure to include a north arrow to orient the reader, a scale, and, if needed, a submap that places the figure in greater geographic context. Be sure that text is readable and that any citations listed on the figure or in the figure caption are included in the reference list. Font size should never be less than 6 pt.

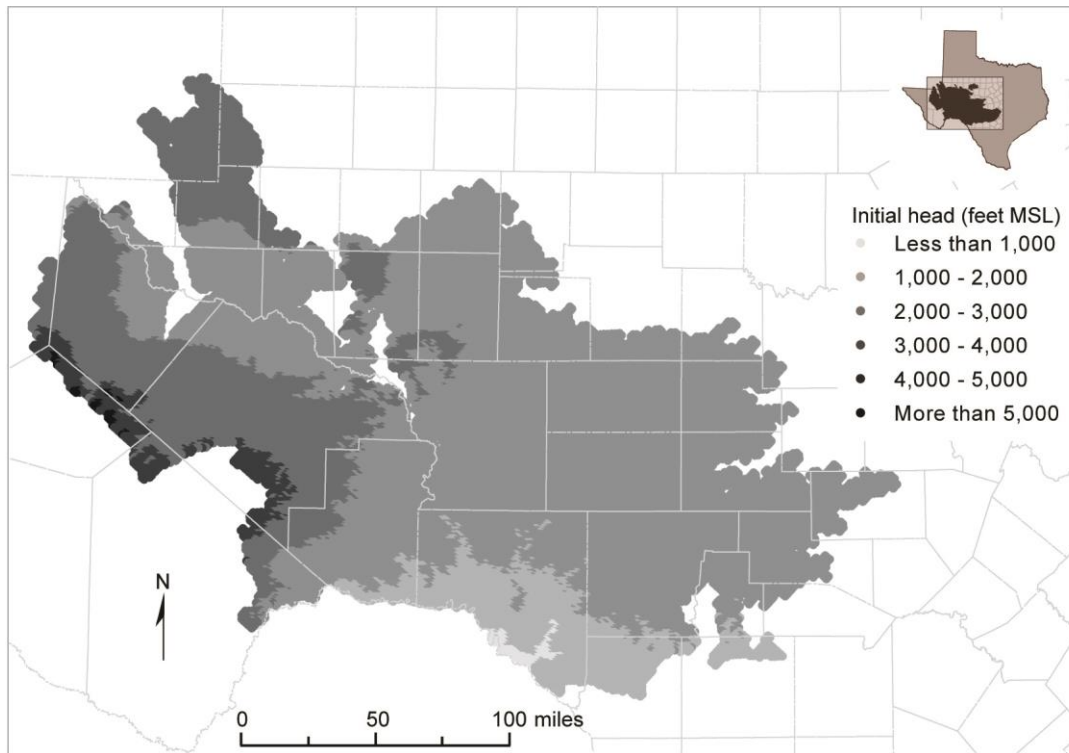


Figure 3. Initial hydraulic heads used in model simulations for layer 1. Note the use of grayscale shading to show differences.

EXHIBIT E

TWDB GUIDELINES FOR A PROGRESS REPORT

Texas Water Development Board Contractors are required by their contracts to provide Progress Reports according to the ***"Payment Request Schedule"***.

The progress report should contain the following standard elements:

- Date: Date the memo is sent
- To: Name and position of the reader
- From: Name and position of the writer
- Subject: TWDB Contract Number and the period that this report covers (i.e. Progress Report 09/01/11 – 11/30/11)

Work Completed: (The next section of a progress report explains what work has been done during the reporting period by Scope of Work task. Specify the dates of the reporting period and use active voice verbs to report progress made)

For Example:

Task 1: Completed 3 draft chapters and all appendices. Met with subcontractors on their chapters

Task 2: Completed sample collection throughout river reach.

Task 3: No work completed in reporting period.

Problems:

If the reader is likely to be interested in the glitches you have encountered along the way, mention the problems you have encountered and explain how you have solved them. If there are problems you have not yet been able to solve, explain your strategy for solving them and give tell the reader when you think you will have them solved.