

CONTRACT FOR THIRD FORK CREEK STREAM RESTORATION

This contract is dated, made, and entered into as of the ____ day of _____, 20____, by the City of Durham (“City”) and Wildlands Engineering, Inc., (“Contractor”), an S-Corporation organized and existing under the laws of the State of North Carolina, and registered and licensed to operate in the State of North Carolina.

Sec. 1. Background and Purpose. The focus area for this stream restoration project is Third Fork Creek, a City of Durham stream within the Jordan Lake watershed. The project area is situated downstream of bridge on Martin Luther King Jr. Parkway (MLK Bridge) with Hope Valley Road (Hwy 751) on the west and South Roxboro Street on the east. The study site includes approximately 1200 linear feet of the oxbow channels and approximately 3000 linear feet of original Third Fork Creek. The first problem area occurs downstream of MLK bridge where sediment deposition occurs on the trail surface making it unusable. This is likely due to channel capacity issues or debris blocking the culvert under the trail. In the second problem area, original Third Fork Creek channel has left the main stem and formed oxbow (braided) channels through the floodplain. Concrete bridges were added to the greenway trail during construction to cross these oxbow channels. Increased flow from the main channel to these oxbows has caused erosion of banks and scour around the concrete bridges as well as the greenway trail section. This causes potential hazards for the trail users as well as critical infrastructure such as sanitary sewer and trail in the vicinity. Severe erosion of oxbow channels is likely exacerbating water quality issues such as increased turbidity and sediment associated pollutants being transported downstream from channel bed and banks. Flow diversion from the original channel could ultimately impact the overall ecological services of Third Fork Creek.

Stormwater & GIS Services Division has implemented temporary bank stabilization measures to ensure pedestrian safety, continued use of the trail, and protecting sewer infrastructure. However, a long-term solution is needed to avoid recurring implementation of temporary measures. Under this contract, the contractor will provide design and construction management services for Third Fork Creek Stream Restoration. These services will include permitting, development of contract documents, and construction management for restoration, enhancement, creation and preservation of stream, buffer, and wetland areas. The project will also include facilitating public meeting, if necessary.

Sec. 2. Services and Scope to be Performed. Presumption that Duty is Contractor’s. The Contractor shall perform the work detailed in the Third Fork Creek Stream Restoration Scope of Work provided as Exhibit A pursuant to the agreed upon project schedule provided as Exhibit B, entitled, “Third Fork Creek Restoration Project Schedule”. In this contract, “Work” means the services that the Contractor is required to perform pursuant to this contract and all of the Contractor’s duties to the City that arise out of this contract. Unless the context requires otherwise, if this contract states that a task is to be performed or that a duty is owed, it shall be presumed that the task or duty is the obligation of the Contractor.

Sec. 3. Reserved.

Sec. 4. Complete Work without Extra Cost. Except to the extent otherwise specifically stated in this contract, the Contractor shall obtain and provide, without additional cost to the City, all labor, materials, equipment, transportation, facilities, services, permits, and licenses necessary to perform the Work.

Sec. 5. Contractor’s Billings to City. Compensation. The Contractor shall send invoices to the City on a monthly basis for the amounts to be paid pursuant to this contract. Each invoice shall document, to the reasonable satisfaction of the City: such information as may be reasonably requested by the City. The monthly invoice will provide the details of labor and expense charges by subtask, a summary of labor and expense charges by task, an account summary, and completed SDBE Participation Forms. A monthly project status report shall accompany each invoice, which will provide a summary of the budget status (including overall percent spent by task and overall percent spent for the project), work progress, schedule updates, and a description of contract issues and how they have been resolved. Within twenty days after the City receives an invoice, the City shall send the Contractor a check in payment for all undisputed amounts contained in the invoice. The City shall pay the Contractor for the Work on a time-and-materials basis not to exceed an amount of \$ 250,000. The City shall not be obligated to pay the Contractor any payments, fees, expenses, or compensation other than those authorized by this section.

Sec. 6. Prompt Payment to Subcontractors. (a) Within 7 days of receipt by the Contractor of each payment from the City under this contract, the Contractor shall pay all Subcontractors (which term includes subconsultants and suppliers) based on work completed or service provided under the subcontract. Should any payment to the Subcontractor be delayed by more than 7 days after receipt of payment by the Contractor from the City under this contract, the Contractor shall pay the Subcontractor interest, beginning on the 8th day, at the rate of 1% per month or fraction thereof on such unpaid balance as may be due. By appropriate litigation, Subcontractors shall have the right

to enforce this subsection (a) directly against the Contractor, but not against the City of Durham.

(b) If the individual assigned to administer this contract for the City (in this section, titled “Prompt Payment to Subcontractors,” he or she will be referred to as the “Project Manager”) determines that it is appropriate to enforce subsection (a) in this manner, the City may withhold from progress or final payments to the Contractor the sums estimated by the Project Manager to be

- (i) the amount of interest due to the Subcontractor under subsection (a), and/or
- (ii) the amounts past-due under subsection (a) to the Subcontractor but not exceeding 5% of the payment(s) due from the City to the Contractor.

This subsection (b) does not limit any other rights to withhold payments that the City may have.

(c) Nothing in this section (titled “Prompt Payment to Subcontractors”) shall prevent the Contractor at the time of invoicing, application, and certification to the City from withholding invoicing, application, and certification to the City for payment to the Subcontractor for unsatisfactory job progress; defective goods, services, or construction not remedied; disputed work; third-party claims filed or reasonable evidence that such a claim will be filed; failure of the subcontractor to make timely payments for labor, equipment, and materials; damage to the Contractor or another subcontractor; reasonable evidence that the subcontract cannot be completed for the unpaid balance of the subcontract sum; or a reasonable amount for retainage not to exceed 10%.

(d) The Project Manager may require, as a prerequisite to making progress or final payments, that the Contractor provide statements from any Subcontractors designated by the Project Manager regarding the status of their accounts with the Contractor. The statements shall be in such format as the Project Manager reasonably requires, including notarization if so specified.

Sec. 7. Insurance.

Insurance Requirement –Architect/Engineer Design Services

Contractor shall purchase and maintain insurance coverage for not less than the following:

Commercial General Liability, covering:

- Premises/operations
- Products/completed operations (two years minimum, from project completion)
- Broad form property damage
- Contractual liability
- Independent contractors, if any are used in the performance of this contract
- City of Durham must be named additional insured, and an original of the endorsement to effect the coverage must be attached to the certificate (if by blanket endorsement, then agent may so indicate in the GL section of the certificate, in lieu of an original endorsement)
- Combined single limit not less than \$2,000,000 per occurrence, with an annual aggregate on not less than \$4,000,000.

Commercial Auto Liability, covering:

- Symbol 1, all vehicles
 - Owned, hired, or borrowed vehicles
 - Employee vehicles if used in performance of this contract
- Combined single limit of \$2,000,000
- City of Durham must be named additional insured

Professional Liability, covering

- engineers and architects (employed or engaged by Contractor)
- covering claims arising out design work, calculations and estimates, and any other professional services performed in connection with this contract
- self-insured retentions/deductibles in excess of \$50,000 must be approved by City Finance Director
- coverage may be provided either by specific policy or as part of the Commercial General Liability Policy
- combined single limit not less than \$1,000,000 per claim; aggregate limit not less than \$2,000,000 per year

Workers' Compensation Insurance, covering:

- Statutory benefits;
- Covering employees; covering owners partners, officers, and relatives (who work on this contract) (this must be stated on the certificate)

- Employers' liability, \$1,000,000
- Waiver of subrogation in favor of the City of Durham

Insurance shall be provided by:

- Companies authorized to do business in the State of North Carolina
- Companies with Best rating of A-VIII or better.

Insurance shall be evidenced by a certificate:

- Providing notice to the City of not less than 30 days prior to cancellation or reduction of coverage
- Certificates shall be addressed to:
City of Durham, North Carolina
Attention: Public Works Department
101 City Hall Plaza
Durham, NC 27701

Sec. 8. Performance of Work by City. If the Contractor fails to perform the Work in accordance with the schedule referred to in section 2 above, the City may, in its discretion, in order to bring the project closer to the schedule, perform or cause to be performed some or all of the Work, and doing so shall not waive any of the City's rights and remedies. Before doing so, the City shall give the Contractor notice of its intention. The Contractor shall reimburse the City for additional costs incurred by the City in exercising its right to perform or cause to be performed some or all of the Work pursuant to this section.

Sec. 9. Exhibits. The following exhibits are made a part of this contract:

- Exhibit A- Scope of Work containing 8 pages.
- Exhibit B- Project Schedule containing 1 page.
- Exhibit C- Project Team containing 1 page.
- Exhibit D-Fee Schedule by Task

In case of conflict between an exhibit and the text of this contract excluding the exhibit, the text of this contract shall control.

Sec. 10. Notice. (a) All notices and other communications required or permitted by this contract shall be in writing and shall be given either by personal delivery, fax, UPS, Federal Express, or certified United States mail, return receipt requested, addressed as follows. The parties are requested to send a copy by email.

To the City:

Sujit Ekka
Civil Engineer
Stormwater & GIS Services
City of Durham
101 City Hall Plaza
Durham, NC 27701-3329
The fax number is (919)-560-4316.
Email: Sujit.Ekka@DurhamNC.gov

To the Contractor:

John Hutton, Vice President
Wildlands Engineering, Inc.
5605 Chapel Hill Road - Suite 122
Raleigh, NC 27607
The fax number is (919) 851-9987
Email: JHutton@WildlandsEng.com

(b) Change of Address. Date Notice Deemed Given. A change of address, fax number, or person to receive notice may be made by either party by notice given to the other party. Any notice or other communication under this contract shall be deemed given and sent at the time of actual delivery, if it is personally delivered or sent by fax. If the notice or other communication is sent by United States mail, it shall be deemed given upon the third calendar day following the day on which such notice or other communication is deposited with the United States

Postal Service or upon actual delivery, whichever first occurs.

Sec. 11. Indemnification. (a) To the maximum extent allowed by law, the Contractor shall defend, indemnify, and save harmless Indemnitees from and against all Charges that arise in any manner from, in connection with, or out of this contract as a result of acts or omissions of the Contractor or subcontractors or anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable. In performing its duties under this subsection "a," the Contractor shall at its sole expense defend Indemnitees with legal counsel reasonably acceptable to City. (b) Definitions. As used in subsections "a" above and "c" below -- "Charges" means claims, judgments, costs, damages, losses, demands, liabilities, duties, obligations, fines, penalties, royalties, settlements, and expenses (included without limitation within "Charges" are (1) interest and reasonable attorneys' fees assessed as part of any such item, and (2) amounts for alleged violations of sedimentation pollution, erosion control, pollution, or other environmental laws, regulations, ordinances, rules, or orders -- including but not limited to any such alleged violation that arises out of the handling, transportation, deposit, or delivery of the items that are the subject of this contract). "Indemnitees" means City and its officers, officials, independent contractors, agents, and employees, excluding the Contractor. (c) Other Provisions Separate. Nothing in this section shall affect any warranties in favor of the City that are otherwise provided in or arise out of this contract. This section is in addition to and shall be construed separately from any other indemnification provisions that may be in this contract. (d) Survival. This section shall remain in force despite termination of this contract (whether by expiration of the term or otherwise) and termination of the services of the Contractor under this contract. (e) Limitations of the Contractor's Obligation. If this section is in, or is in connection with, a contract relative to the design, planning, construction, alteration, repair or maintenance of a building, structure, highway, road, appurtenance or appliance, including moving, demolition and excavating connected therewith, then subsection "a" above shall not require the Contractor to indemnify or hold harmless Indemnitees against liability for damages arising out of bodily injury to persons or damage to property proximately caused by or resulting from the negligence, in whole or in part, of Indemnitees.

Sec. 12. Miscellaneous

(a) Choice of Law and Forum; Service of Process. (i) This contract shall be deemed made in Durham County, North Carolina. This contract shall be governed by and construed in accordance with the law of North Carolina. The exclusive forum and venue for all actions arising out of this contract shall be the North Carolina General Court of Justice, in Durham County. Such actions shall neither be commenced in nor removed to federal court. This subsection (a) shall not apply to subsequent actions to enforce a judgment entered in actions heard pursuant to this subsection. (ii) If the Contractor is not a natural person (for instance, the Contractor is a corporation or limited liability company), this subsection (ii) applies. "Agent for Service of Process" means every person now or hereafter appointed by the Contractor to be served or to accept service of process in any State of the United States. Without excluding any other method of service authorized by law, the Contractor agrees that every Agent for Service of Process is designated as its non-exclusive agent for service of process, summons, and complaint. The Contractor will instruct each Agent for Service of Process that after such agent receives the process, summons, or complaint, such agent shall promptly send it to the Contractor. This subsection (ii) does not apply while the Contractor maintains a registered agent in North Carolina with the office of the N. C. Secretary of State and such registered agent can be found with due diligence at the registered office.

(b) Waiver. No action or failure to act by the City shall constitute a waiver of any of its rights or remedies that arise out of this contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach thereunder, except as may be specifically agreed in writing.

(c) Performance of Government Functions. Nothing contained in this contract shall be deemed or construed so as to in any way estop, limit, or impair the City from exercising or performing any regulatory, policing, legislative, governmental, or other powers or functions.

(d) Severability. If any provision of this contract shall be unenforceable, the remainder of this contract shall be enforceable to the extent permitted by law.

(e) Assignment, Successors and Assigns. Without the City's written consent, the Contractor shall not assign (which includes to delegate) any of its rights (including the right to payment) or duties that arise out of this contract. The City Manager may consent to an assignment without action by the City Council. Unless the City otherwise agrees in writing, the Contractor and all assignees shall be subject to all of the City's defenses and shall be liable for all of the Contractor's duties that arise out of this contract and all of the City's claims that arise out of this contract. Without granting the Contractor the right to assign, it is agreed that the duties of the Contractor that arise out of this contract shall be binding upon it and its heirs, personal representatives, successors, and assigns.

(f) Compliance with Law. In performing all of the Work, the Contractor shall comply with all applicable law.

(g) Notice of City Policy. THE CITY OPPOSES DISCRIMINATION ON THE BASIS OF RACE AND

SEX AND URGES ALL OF ITS CONTRACTORS TO PROVIDE A FAIR OPPORTUNITY FOR MINORITIES AND WOMEN TO PARTICIPATE IN THEIR WORK FORCE AND AS SUBCONTRACTORS AND VENDORS UNDER CITY CONTRACTS.

(h) EEO Provisions. During the performance of this Contract the Contractor agrees as follows: (1) The Contractor shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, national origin, political affiliation or belief, age, or handicap. The Contractor shall take affirmative action to insure that applicants are employed and that employees are treated equally during employment, without regard to race, color, religion, sex, national origin, political affiliation or belief, age, or handicap. Such action shall include but not be limited to the following: employment, upgrading, demotion, transfer, recruitment or advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship. The Contractor shall post in conspicuous places, available to employees and applicants for employment, notices setting forth these EEO provisions. (2) The Contractor shall in all solicitations or advertisement for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, political affiliation or belief, age, or handicap. (3) The Contractor shall send a copy of the EEO provisions to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding. (4) In the event of the Contractor's noncompliance with these EEO provisions, the City may cancel, terminate, or suspend this contract, in whole or in part, and the City may declare the Contractor ineligible for further City contracts. (5) Unless exempted by the City Council of the City of Durham, the Contractor shall include these EEO provisions in every purchase order for goods to be used in performing this contract and in every subcontract related to this contract so that these EEO provisions will be binding upon such subcontractors and vendors.

(i) SDBE. The Contractor shall comply with all applicable provisions of Article III of Chapter 18 of the Durham City Code (Equal Business Opportunities Ordinance), as amended from time to time. The failure of the Contractor to comply with that article shall be a material breach of contract which may result in the rescission or termination of this contract and/or other appropriate remedies in accordance with the provisions of that article, this contract, and State law. The Participation Plan submitted in accordance with that article is binding on the Contractor. Section 18-59(f) of that article provides, in part, "If the City Manager determines that the Contractor has failed to comply with the provisions of the Contract, the City Manager shall notify the Contractor in writing of the deficiencies. The Contractor shall have 14 days, or such time as specified in the Contract, to cure the deficiencies or establish that there are no deficiencies." It is stipulated and agreed that those two quoted sentences apply only to the Contractor's alleged violations of its obligations under Article III of Chapter 18 and not to the Contractor's alleged violations of other obligations.

(j) No Third Party Rights Created. This contract is intended for the benefit of the City and the Contractor and not any other person.

(k) Principles of Interpretation and Definitions. (1) The singular includes the plural and the plural the singular. The pronouns "it" and "its" include the masculine and feminine. References to statutes or regulations include all statutory or regulatory provisions consolidating, amending, or replacing the statute or regulation. References to contracts and agreements shall be deemed to include all amendments to them. The words "include," "including," etc. mean include, including, etc. without limitation. (2) References to a "Section" or "section" shall mean a section of this contract. (3) "Contract" and "Agreement," whether or not capitalized, refer to this instrument. (4) "Duties" includes obligations. (5) The word "person" includes natural persons, firms, companies, associations, partnerships, trusts, corporations, governmental agencies and units, and other legal entities. (6) The word "shall" is mandatory. (7) The word "day" means calendar day. (8) The word "Work" is defined in Section 2. (9) A definition in this contract will not apply to the extent the context requires otherwise.

(l) Modifications. Entire Agreement. A modification of this contract is not valid unless signed by both parties and otherwise in accordance with requirements of law. Further, a modification is not enforceable against the City unless it is signed by the City Manager, a deputy or assistant City Manager, or, in limited circumstances, a City department director. This contract contains the entire agreement between the parties pertaining to the subject matter of this contract. With respect to that subject matter, there are no promises, agreements, conditions, inducements, warranties, or understandings, written or oral, expressed or implied, between the parties, other than as set forth or referenced in this contract.

(m) City's Manager's Authority. To the extent, if any, the City has the power to suspend or terminate this contract or the Contractor's services under this contract, that power may be exercised by City Manager or a deputy or assistant City Manager without City Council action.

Sec. 13. Termination for Convenience ("TFC"). (a) *Procedure*. Without limiting any party's right to terminate for breach, the parties agree that the City may, without cause, and in its discretion, terminate this contract for convenience by giving the Contractor written notice that refers to this section. TFC shall be effective at the time

indicated in the notice. (b) *Obligations*. Upon TFC, all obligations that are still executory on both sides are discharged except that any right based on prior breach or performance survives, and the indemnification provisions and the section of this contract titled Trade Secrets and Confidentiality, if any, shall remain in force. At the time of TFC or as soon afterwards as is practical, the Contractor shall give the City all Work, including partly completed Work. In case of TFC, the Contractor shall follow the City's instructions as to which subcontracts to terminate. (c) *Payment*. The City shall pay the Contractor an equitable amount for the costs and charges that accrue because of the City's decisions with respect to the subcontracts, but excluding profit for the Contractor. Within 20 days after TFC, the City shall pay the Contractor one hundred dollars as a TFC fee and shall pay the Contractor for all Work performed except to the extent previously paid for. Work shall be paid for in accordance with the method (unit prices, hourly fees, etc.) to be used for payment had the Work been completed except to the extent it would be inequitable to either party, and if Work was to be paid for on a lump-sum basis, the City shall pay the part of the lump sum that reflects the percentage of completion attained for that Work. The Contractor shall not be entitled to any payment because of TFC except as stated in this section, whether on the basis of overhead, profit, damages, other economic loss, or otherwise.

Sec. 14. Trade Secrets; Confidentiality. The request for proposals (RFP) section titled "Trade Secrets and Confidentiality" shall apply to any Trade Secrets disclosed to the City during the process leading to the parties' entering into this Contract (including all of the Contractor's responses to the RFP). This section (titled "Trade Secrets; Confidentiality") shall remain in force despite termination of this contract (whether by expiration of the term or otherwise) and termination of the services of the Contractor under this contract. For purposes of this contract, the word "candidate" in the RFP section just cited shall mean the "Contractor."

Sec. 15. E-Verify Compliance. The contractor represents and covenants that the contractor and its subcontractors comply with the requirements of Article 2 of Chapter 64 of the North Carolina General Statutes (NCGS). The City is relying on this E-Verify Compliance section in entering into this contract. The parties agree to this section only to the extent authorized by law. If this section is held to be unenforceable or invalid in whole or in part, it shall be deemed amended to the extent necessary to make this contract comply with NCGS 160A-20.1(b).

IN WITNESS WHEREOF, the City and the Contractor have caused this contract to be executed under seal themselves or by their respective duly authorized agents or officers.

This instrument has been preaudited in the manner required by the Local Government Budget and Fiscal Control Act.

City's finance officer

Date

END OF CONTRACT

Wildlands Engineering, Inc.

By: John Hutton

Title of Office: Vice President

(Affix Corporate Seal)

State of North Carolina

ACKNOWLEDGMENT BY CORPORATION

County of Wake County

I, a notary public in and for the aforesaid county and state, certify that John Hutton personally appeared before me this day and stated that he or she is Vice President of Wildlands Engineering, Inc., an S-Corporation, and that by authority duly given and as the act of the corporation, he or she signed the foregoing contract or agreement with the City of Durham and the corporate seal was affixed thereto.

This the _____ day of _____, 20____.

My commission expires:

Notary Public

Contract for Third Fork Creek Stream Restoration

ATTEST:

CITY OF DURHAM

By: _____

preaudit certificate, if applicable _____

Exhibit A
Third Fork Creek Stream Restoration Scope of Work

This Scope of Work describes the services and work products that will be provided by the Wildlands Team to assist the City of Durham Stormwater and GIS Services staff (City) with development of the Third Fork Creek Stream Restoration Project. The Scope of Work consists of the following tasks:

Phase 1: Planning, Survey and Data Collection

- Task 1 – Preliminary Stream Restoration Concept Plan
- Task 2 – Perform a Topographic and Site Survey
- Task 3 – Perform Jurisdictional Determination
- Task 4 – Field Data Collection

Phase 2: Construction Documents and Permitting

- Task 5 – Perform Hydrologic and Hydraulic Modeling
- Task 6 – Prepare Construction Documents
- Task 7 – Permitting
- Task 8 – Provide Support for Bidding

Phase 3: Construction Administration (Optional/Contingent)

- Task 9 – Construction Oversight

Phase 1: Planning, Survey and Data Collection

Task 1: Preliminary Stream Restoration Concept Plan – Identify and evaluate alternatives for restoration, enhancement, creation, and preservation of stream channels, forested buffers, and wetland areas and improvement of water quality in consultation with City staff. For each alternative, estimate the water quality benefits (i.e., ability to reduce nitrogen, phosphorus, and sediment loads) of proposed stream restoration measures and stormwater control measures and rank alternatives based on estimated cost per pound of pollutant removed. The water quality benefits for stream restoration measures will be based on the crediting procedures recommended for the North Carolina Piedmont (Tetra Tech, 2013). Determine sources of sediment and reasons for deposition on the greenway at MLK Drive. Assess potential solutions to this problem. Generate a planning-level cost estimate for each alternative. Facilitate a meeting with City staff to select a preferred alternative.

Prepare a Draft Concept Plan (color rendering) of the preferred alternative and a Fact Sheet (readable and understandable at a Flesch-Kincaid score of 8.0) explaining the project components and benefits, expected project schedule, and impacts to use of the Third Fork Creek Greenway Trail during construction. Present the Draft Concept Plan and distribute the Fact Sheet at the following meetings to gain input and build consensus:

- Two meetings with other City departments (e.g., Water Management, General Services, Parks and Recreation)
- Pre-application meeting with Federal and State regulatory agencies to determine permitting requirements
- Public meeting with local residents and key stakeholders

Prepare the Final Concept Plan based on input received during these meetings. Use the Final Concept Plan to identify the limits of topographical survey, data collection, and modeling in subsequent tasks.

Deliverables:

- A brief memorandum summarizing the alternative analysis and selection of the preferred alternative to restore Third Fork Creek
- Draft and Final Concept Plan and Fact Sheet
- Public Notice to announce purpose, location, and date/time for public meeting
- Meeting notes from each meeting

Assumptions and Requested Assistance/Data from City for Task 1:

- Coordinate meeting with staff from other City Departments
- Determine the location of and reserve the meeting room for meetings listed above
- Distribute public notice for public meeting
- Provide GIS data for the project area, including:
 - Watershed boundaries
 - Planimetric features
 - Two foot contours
 - Hydrography
 - Impervious cover
 - Land use
 - Soils, including presence and location of hydric soils
 - Road centerlines
 - Sanitary sewer, water, and other utility locations and easements
 - Parcels boundaries with owner information
 - FEMA regulated floodplain and floodway boundaries
 - Zoning
 - Conditioned digital elevation model (DEM)
 - Land cover data
 - Aerial photographs

Task 2: Perform a Topographic and Site Survey - Conduct a detailed survey of the site topography and physical features within the project limits sufficient to support the design, modeling, and permitting tasks. Survey should capture features such as property boundaries, greenway trail, trees with 12-inch or greater DBH, extent and boundaries of tree lines, stream channel cross-sections, representative longitudinal stream profiles, and all utilities within the project limits. Survey information shall include survey of FEMA mapped cross-sections and base mapping data needed to perform hydrologic and hydraulic modeling required in Task 5. Topographic survey shall be prepared, signed, and sealed by a professional land surveyor in accordance with the North Carolina General Statute and Standards of Practice set by forth by the North Carolina Board of Examiners for Engineers and Surveyors.

Deliverables:

- Two signed and sealed paper copies and an electronic copy (AutoCAD Civil 3D 2013 or higher) of all topographic and site survey data collected.

Assumptions and Requested Assistance/Data from City for Task 2:

- Provide any known geodetic control in the project vicinity.
- Provide digital survey data from the Greenway Record Drawings.
- Survey scope includes the following:
 - 3.2 acres of detailed topographic survey;
 - 3,500 linear feet of detailed stream survey;
 - 1,720 linear feet of stream channel to be filled;
 - 10-12 H&H FEMA cross-sections;
 - One double pedestrian bridge crossing over Third Fork Creek and two bounding stream cross-sections.

Task 3: Perform Jurisdictional Determination - Delineate waters of the United States, including streams and wetlands, using the U.S. Army Corps of Engineers (USACE) Wetlands Delineation Manual (Environmental Laboratory, 1987), and the most recent supplementary technical literature for indicators of hydric soil, wetland hydrology, hydrophytic vegetation, and field indicators. Mark all jurisdictional boundaries in the field with sequentially numbered flags. Record all necessary data in the field to complete the wetland delineation data sheets and the USACE Rapanos Forms. Classify the wetlands using the NC Wetland Assessment Method (NCWAM). Apply the DWR protocol to classify each of the stream reaches within the project limits as ephemeral, intermittent, or perennial.

Prepare and submit the Jurisdictional Determination (JD) package to the USACE for a preliminary confirmation of the jurisdictional waters. The report will include data sheets and Rapanos Forms, a summary of findings and characteristics of the site, and the site map depicting the data point locations and the jurisdictional boundaries.

Attend one on-site meeting with the USACE to verify the delineation and obtain preliminary verification of the delineation. Any edits to the delineated jurisdictional boundaries requested by the USACE will be completed and the final JD package will be resubmitted.

Deliverables:

- One draft review copy and one final copy of the JD package identifying any jurisdictional waters within the project limits

Assumptions and Requested Assistance/Data from City for Task 3:

- City to provide letter authorizing USACE to review jurisdictional determinations on City owned property

Task 4: Field Data Collection - Collect geomorphic and riparian vegetation data within the project limits necessary to support the design, modeling, and permitting tasks. Geomorphic data collection will include representative cross sectional surveys, stability assessments, pebble

counts, Bank Erosion Hazard Index (BEHI) and Near Bank Stress (NBS) assessments, and sediment analyses within the degraded and abandoned stream channels.

Install a vertical series of evenly spaced bank pins and survey baseline bank profile to measure erosion rates at representative areas along Third Fork Creek and tributaries within the project limits. Measure bank pin length of exposure bimonthly for up to one year to estimate annual sediment loading for evaluation of water quality benefits under Task 6.2. Bank pin installation will occur during Task 1 to allow for adequate monitoring time.

Deliverables:

- Completed field data sheets, photo logs, and digital photographs.
- Up to one year of bi-monthly stream bank and bed sediment erosion data (the streambank sediment loading analysis will be summarized in the findings report produced in Task 6.2)

Assumptions and Requested Assistance/Data from City for Task 3:

- City to provide one staff member during field data collection phase.

Phase 2: Construction Documents and Permitting

Task 5: Perform Hydrologic and Hydraulic (H&H) Modeling - Create an H&H model using HEC-RAS for Third Fork Creek within the project limits to develop design criteria and satisfy FEMA requirements. The modeling results may be used to: (i) determine design flows for the stream and trail stabilization measures; (ii) evaluate the effects of proposed design elements on the regulated floodplain and floodway; (iii) conduct velocity and shear stress analysis of existing stream and proposed measures.

Assess sediment loading from the watershed using a combination of the GIS based watershed assessment and in-situ HEC 20 analysis. Use sediment transport functions within the HEC-RAS model to verify sediment transport capacity of the restored stream channels. This assessment will ensure that the sand load from Triassic Basin soils will be transported through the restored channels.

Deliverables:

- An H&H model (framework and application) for Third Fork Creek within the project limits sufficient to develop design flows and assess impacts to the regulated floodplain, including all data input files and output files.
- A “no-impact” certification or a Conditional Letter of Map Revision (CLOMR) including application and flood study documentation to the county or North Carolina Floodplain Mapping Program, for the proposed construction.
- Subsequent to construction, preparation of the “no-impact” certification to the county or Letter of Map Revision (LOMR) to the North Carolina Floodplain Mapping Program.

Assumptions and Requested Assistance/Data from City for Task 5:

- This scope of work assumes that the FEMA model correctly represents the current stream locations and no major revisions to the effective model will be required.
- Application fees for CLOMR/LOMR are not included in this Scope of Work

- Sediment transport results will be summarized in the preliminary engineering report produced in Task 6

Task 6: Prepare Construction Documents - Develop preliminary and final construction documents following the latest version of City of Durham's Reference Guide for Development, City of Durham Water and Sewer Standards, NCDOT standards and specifications, and NCDENR sediment and erosion control planning and design manual. All design and construction documents shall be prepared, signed, and sealed by a professional engineer in accordance with the North Carolina General Statute and Standards of Practice set by forth by the North Carolina Board of Examiners for Engineers and Surveyors.

Task 6.1 - Preliminary Site Plan – Prepare Preliminary Site Plan that consists of 60% design drawings with topographic survey, existing conditions, site layout, grading plan, stormwater drainage plan, sediment and erosion control plan, utility plans, and any details and other drawings required for permitting. Coordination of pre-submittal meetings with approving authorities will be part of this task. These will include but are not limited to the Engineering and Stormwater and GIS Services. If greenway trail realignments are proposed, pre-submittal meetings will also be conducted with the Transportation Division and the Durham City-County Planning Department.

Deliverables:

- Preliminary engineering report with discussion on selected design criteria and alternatives analysis, supporting design calculations, preliminary bid tabulation, mitigation requirements, and opinion of probable cost.
- Approved site plan from the City of Durham - one signed and sealed paper copy, one electronic copy of all documents submitted and approved in their native file formats (e.g., AutoCAD, HEC-RAS, SWMM, MS-Word, MS-Excel).

Task 6.2 - Evaluate Water Quality Benefits/Credits – Third Fork Creek has an existing total maximum daily load (TMDL) for turbidity/total suspended solids (TSS) that was approved by EPA in 2005. The impaired segment is between New Hope Creek and a point 2.0 miles upstream of NC Highway 54. As a result, a maximum TSS load of 0.75 ton/day is required in Third Fork Creek. Jordan Lake has an existing TMDL for total nitrogen and total phosphorus that was approved by EPA in 2007. The TMDL requires that Durham achieve a 35% reduction in total nitrogen and a 5% reduction in total phosphorus loads compared to 1997-2001 baseline loads.

Use the results of the bank pin monitoring (Task 4) and the crediting procedures recommended for the North Carolina Piedmont to evaluate the water quality credits that may result from the proposed restoration project.

Deliverables:

- Draft and Final report documenting the potential benefits, if any, to receive a water quality credit for the Third Fork Creek TMDL and the Jordan Lake TMDL from state agencies.

Task 6.3 – Final Construction Documents - Perform any required geotechnical testing as part of the final design. Final design documents will be consistent with the City of Durham’s Reference Guide for Development, City of Durham Water and Sewer Standards, NCDOT standards and specifications, and NC sediment and erosion control planning and design manual. The final construction documents will be the 100% design drawings, final bid tabulation, and technical specifications ready for bidding purposes. These include details, plans and profiles for the horizontal and vertical design components. Coordination with approving authorities will be part of this task.

Deliverables:

- Construction drawings approved by the City of Durham and any other jurisdiction involved.
- Final report with supporting design calculations.
- Final bid tabulation and engineer’s opinion of probable cost.
- Project Manual including contractual and procurement sections consistent with City of Durham bid documents and standard contracting procedures and technical specifications in Consultant format.
- Copy of the geotechnical report, if testing was required.

Task 6.4 – Grant Funding Assistance – Assist City staff with grant applications for construction funding. Potential grant opportunities include: Clean Water Management Trust Fund, EPA 319 program, and Division of Water Resources. Assistance will include discussions with grant agencies to determine applicability and preparing grant applications.

Deliverables:

- Up to three completed grant applications.

Assumptions and Requested Assistance/Data from City for Task 6:

- The scope assumes that minimal geotechnical testing will be required at no more than 3 bridge crossing locations along the greenway. If no testing is required the City will not be charged for this component. The fee estimate is based on \$4,000 in geotechnical testing.
- The City will pay any permit application fees such as the Land Quality permit application.
- Task 6.4 includes 80 hours of staff time for grant applications assistance.

Task 7: Permitting – Prepare applications for the following Federal, State, County, and Local permits:

- Clean Water Act Section 404/401 Permits
- Stream Buffer Permitting
- Floodplain Study
- Floodplain Development Permit through the City

- Erosion and Sediment Control Permit through the NC Division of Natural Resources, Land Quality Section.

Provide on-going coordination with each permitting agency, through meetings, phone calls, and emails, until permit approval is obtained.

Deliverables:

- Applications for permits required by Federal, State, County, and Local permit for the project. Wildlands will submit permit applications after City review.
- Documents and construction plans required for permit applications produced under Tasks 3, 5, and 6.

Assumptions and Requested Assistance/Data from City for Task 7:

- The City will pay any permit application fees such as the Land Quality permit application, City plan review, and CLOMR/LOMR application fees.
- Permit coordination is limited to 80 hours of professional staff.

Task 8: Provide Support for Bidding – City will advertise the Invitation for Bids. Assist the City by preparing copies of the documents produced in Task 6.3, attending the pre-bid and bid opening meetings, reviewing the bids received, and preparing meeting minutes for both meetings.

Deliverables:

- Compile final bid package with project manual and engineer’s estimate (produced in Task 6).
- Attend the pre-bid meeting and respond to the prospective bidder’s questions.
- Attend the bid opening and review bids.
- Prepare meeting minutes.

Phase 3: Construction Administration (Optional/Contingent) – This task is contingent upon funding available for construction. This task may be jointly administered with the City staff. For example, City may setup the project in Primavera to manage the contract and City inspector would conduct routine inspections but seek input from design engineer at key milestones and for resolution of field construction issues that may arise.

Task 9: Construction Oversight – Construction administration services may be needed from the construction contractors notice to proceed until the completion of construction and may include the following:

- Meetings – Attend the pre-construction meeting and weekly/monthly progress meetings.
- Construction oversight – Provide weekly field observations and oversight during key portions of construction phase, prepare summaries of field observations. Provide geotechnical testing services such as compaction testing as needed.
- Field engineering support – In case of field construction issues and conflicts provide support to successfully resolve the problem.
- Review punchlist and attend final inspection with City staff and contractor.

- Prepare record drawings.

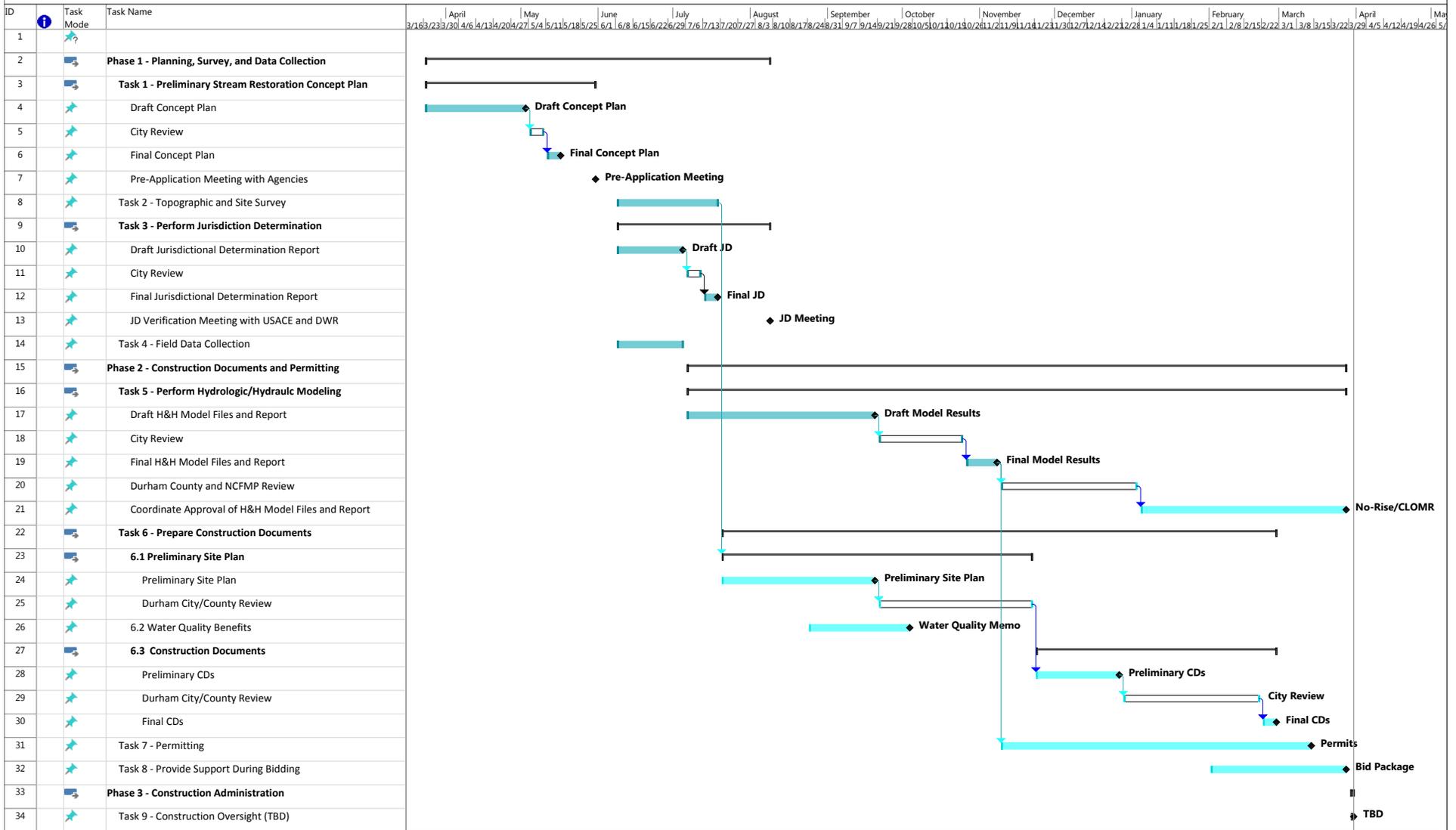
Deliverables:

- Written summaries of field observations.
- One copy of report for any geotechnical tests conducted during construction signed and sealed by a North Carolina professional engineer.
- One paper copy of the record drawings signed and sealed by a North Carolina professional engineer.
- One electronic copy of the record drawings (AutoCAD 2013 or higher).

Assumptions and Requested Assistance/Data from City for Task 9:

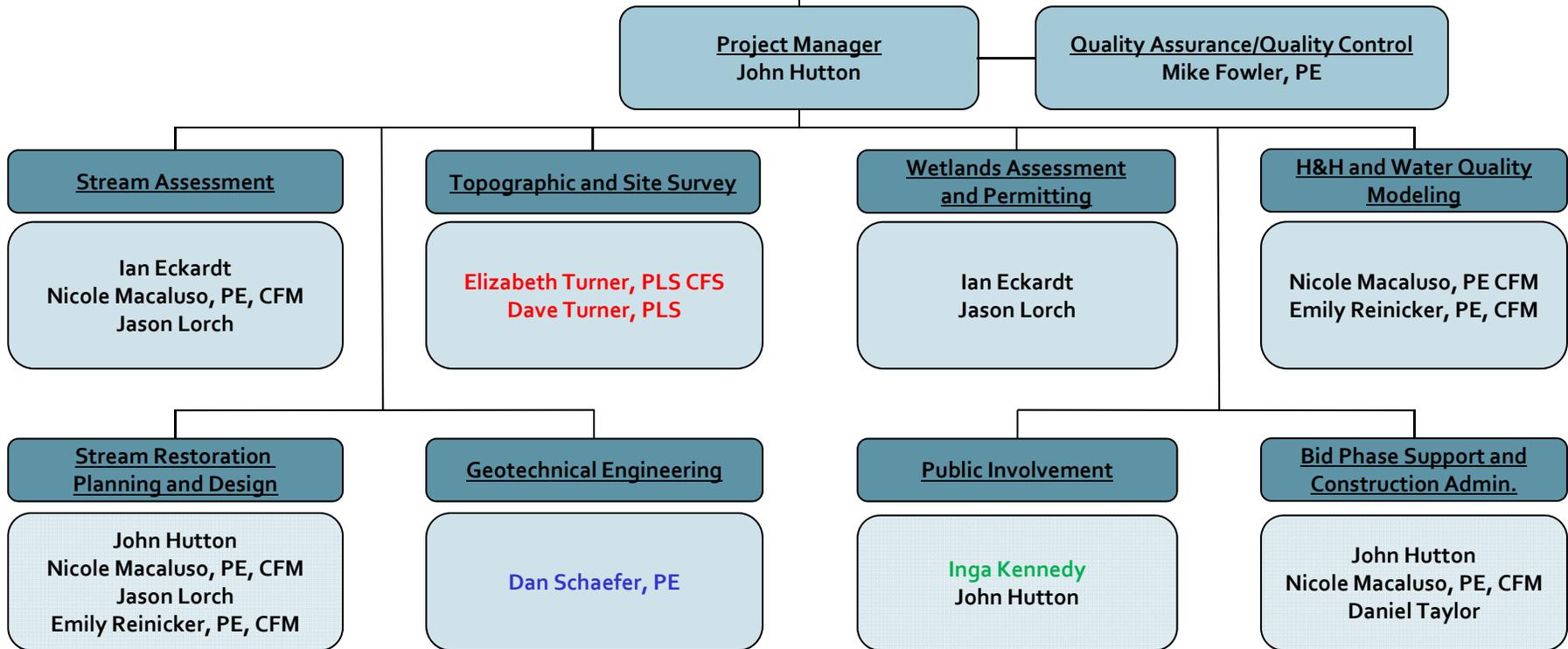
- Construction Phase is assumed to last no more than 12 weeks.
- The fee estimate is based on one meeting per week, lasting 4 hours, for the 12 week construction phase (48 hrs).
- The fee estimate is based on 12 hours per week of construction oversight and field engineering support for the 12 week construction phase (144 hours).
- The fee estimate is based on attending one punch list development meeting on site and one final inspection meeting (8 hours).
- The fee estimate is based on \$4,000 in geotechnical testing. If no testing is required, this amount will not be billed to the City. If a design approach is selected that would result in a greater need for geotechnical testing, this will be added as a line item to the construction contract.

Exhibit B
Third Fork Creek Restoration Project Schedule



Project: Third Fork Creek Resto	Split Project Summary		Inactive Summary		Manual Summary Rollup	█ Finish-only	□	Deadline	↓
	Milestone	◆ Inactive Task	█ Manual Task	█ Manual Summary	█ External Tasks	█ External Milestone	◆	Manual Progress	█	█
	Summary	█ Inactive Milestone	○ Duration-only	█ Start-only	█	█	█	█	█	█

Exhibit C - Project Team for
Third Fork Creek Stream Restoration Project



Black Font = Wildlands Engineering Staff
 Red Font = Turner Land Surveying Staff
 Green Font = PEQ Staff
 Blue Font = Froehling & Robertson Staff

**EXHIBIT D
THIRD FORK CREEK STREAM RESTORATION FEE SCHEDULE BY TASK**

	Task	Wildlands Labor (\$)	Wildlands Expenses (\$)	Subconsultants Labor (\$)			Total Fee by Task
				Turner	PEQ	F&R	
1	Concept Plan	\$ 16,410	\$ 800	\$ -	\$ 8,500	\$ -	\$ 25,710
2	Site Survey	\$ 1,580	\$ 50	\$ 27,050	\$ -	\$ -	\$ 28,680
3	Jurisdictional Determination	\$ 6,195	\$ 625	\$ 3,500	\$ -	\$ -	\$ 10,320
4	Field Data Collection	\$ 13,550	\$ 750	\$ -	\$ -	\$ -	\$ 14,300
5	H&H Modeling	\$ 32,780	\$ 1,000	\$ -	\$ -	\$ -	\$ 33,780
6	Prepare Construction Documents	\$ 76,320	\$ 820	\$ -	\$ -	\$ 4,000	\$ 81,140
7	Permitting	\$ 6,800	\$ 250	\$ -	\$ -	\$ -	\$ 7,050
8	Support for Bidding	\$ 5,240	\$ 450	\$ -	\$ -	\$ -	\$ 5,690
9	Construction Oversight	\$ 38,130	\$ 1,200	\$ -	\$ -	\$ 4,000	\$ 43,330
TOTALS		\$ 197,005	\$ 5,945	\$ 30,550	\$ 8,500	\$ 8,000	\$ 250,000