

SCOPE OF SERVICES & FEE

Pineda Causeway North WTM RR Crossing Design Assistance and Permitting Project February 9, 2024

Owner: City of Cocoa
Consultant: CHA Consulting, Inc.

I. INTRODUCTION

The City of Cocoa's (City) water transmission main from Wickham Road to the US Route 1 interchange at SR 414 (Pineda Causeway) was recently completed as part of the Pineda Causeway WTM project.

Completion of the crossing under the FEC Railway right-of-way was not completed due to new facilities installed between the time the crossing was designed and the time of construction. Currently the water mains are stubbed on either side of the FEC Railway right-of-way.

CHA has prepared this scope of services to include administrative and technical services required to complete the Pineda Causeway North WTM RR Crossing Design Assistance and Permitting Project (Project) based on the scope of services described herein. Note that construction phase services are not included at this time; it is anticipated that those services will be included in a future amendment.

II. SCOPE OF WORK

The scope of work includes the following tasks, which are detailed in this section:

TASK 1 – PROJECT ADMINISTRATION

TASK 2 – FINAL DESIGN

TASK 3 – PERMITTING SERVICES

TASK 4 – BIDDING SERVICES

TASK 5 – SUPPORT SERVICES

TASK 1 – PROJECT ADMINISTRATION

Subtask 1.1 Attendance of Kickoff Meeting – CHA will prepare for and attend a project “kick-off” meeting with the City to discuss an overview of the project and project requirements. CHA will coordinate and lead the meeting and will prepare and distribute a meeting summary.

Subtask 1.2 Attendance at Monthly Design Progress Meetings – CHA will prepare for and attend up to four (4) monthly design progress meetings with the City to discuss the progress of the project.

Subtask 1.3 General Project Administration – CHA will perform the following:

1. Perform general project coordination and management activities, including administrative activities for this authorization and coordination with the City.
2. Prepare and submit to the City progress reports and invoices for this assignment. Progress reports will be prepared and submitted monthly to advise and highlight the overall progress of the permitting, design, and construction administration tasks, as well as identify activities which are completed, on-going, or pending.

Task 1 Deliverables:

- ◆ Attendance at “Kick-Off” meeting; meeting summary.
- ◆ Attendance at monthly progress meetings; meeting summaries.
- ◆ Monthly progress reports with monthly invoices.

TASK 2 – FINAL DESIGN

Subtask 2.1 Preparation of Design Development Phase (60% design) documents – CHA will prepare design development phase (60% design) documents. CHA will perform the following:

1. Prepare design development phase package with 60% design information. Completed draft specifications (including Division 1 specifications) will be included with the package.
2. Perform 60% design phase coordination and permitting activities and prepare 60% design phase drawings, diagrams, and design basis memos.

3. Submit design development phase (60% design) documents to the City for review and comment.
4. Provide an opinion of probable construction cost (OPCC) for the project.
5. Attend a design development (60% design) review meeting with the City. CHA will provide meeting agenda, summary and action items resulting from the meeting. This scope of services assumes this meeting will be held virtually via MS Teams or similar service.
6. Respond to the City's comments and outline revisions to be made to the documents.

Subtask 2.2 Preparation of Construction Document Phase (90% and 100% design) documents – CHA will prepare construction document phase (90% and 100% design) documents. CHA will perform the following:

1. Perform 90% design phase coordination, permitting, and design fix-up activities and prepare 90% design phase drawings, specifications, and updated design calculations.
2. Submit 90% design phase documents for review and comment.
3. Provide an updated OPCC for the project.
4. Attend a 90% design review meeting with the City. CHA will provide meeting agendas, summaries and action items resulting from the meeting. This scope of services assumes this meeting will be held virtually via MS Teams or similar service.
5. Respond to City comments and outline revisions to be made to the documents.
6. Perform 100% design phase coordination, permitting, and design fix-up activities and prepare final construction documents (100% complete bid-ready) including drawings and specifications.
7. Submit 100% complete bid-ready documents to the City.

Task 2 Deliverables:

The Engineer will provide the City the following deliverables:

- Electronic (PDF) copy of Opinions of Probable Construction Costs at 60% and 90% design.
- Electronic (PDF) of drawings at the scheduled 60 and 90 percent Final

Design for review by the City.

- Electronic (PDF) of technical specifications at the scheduled 60 and 90 percent Final Design for review by the City.
- Review meeting agendas and summaries.
- Electronic (electronically signed and sealed) PDF files of the 100 percent drawings.
- Electronic (electronically signed and sealed) PDF files of the 100 percent technical specifications.

TASK 3 – PERMITTING SERVICES

CHA will lead the following efforts and associated meetings and presentations. FDOT permit is not required.

Subtask 3.1 FDEP Permitting – CHA will perform the following:

1. Submit permitting drawings and technical specifications with the applicable permit application and fees to FDEP for a “Specific Permit to Construct PWS Components”. FDEP permit fee of \$650 paid by CHA shall be reimbursed by City.
2. Prepare responses for up to two (2) Requests for Additional Information (RAIs) provided by FDEP during the permit review process (if applicable).

Subtask 3.2 RR Crossing Permitting – CHA will perform the following:

1. Submit permitting drawings and technical specifications with the applicable permit application and fees to Florida East Coast Railway for a “Utility Crossing Permit”. FEC Railway permit fees of \$9,000 paid by CHA shall be reimbursed by City.
2. Prepare responses for up to three (3) Requests for Additional Information (RAIs) provided by FEC during the permit review process (if applicable).

Subtask 3.3 Brevard County ROW Permitting – CHA will perform the following:

1. Submit Permitting set of drawings and technical specifications with the applicable permit application to Brevard County Public Works for a Right-of-Way/Easement Permit in up to two (2) separate submittals. Brevard County permit fees up to \$40,000 paid by CHA shall be reimbursed by City.

2. Prepare responses for up to two (2) Requests for Additional Information (RAIs) per submittal provided by Brevard County during the permit review process (if applicable).

Task 3 Deliverables:

- ◆ FDEP permit application and documents for signature by the City.
- ◆ Electronic permit application submittal for FDEP review.
- ◆ Brevard County permit application and documents for signature by the City.
- ◆ FEC Railway Utility Crossing Application

TASK 4 – BIDDING SERVICES

Subtask 4.1 Attendance at Pre-bid Conference - CHA will attend a pre-bid conference at a location selected by the City.

Subtask 4.2 Question Response – CHA will prepare responses for up to four (4) rounds of contractor questions received during the pre-bid and bid processes. CHA will also prepare addenda for distribution to bidders.

Subtask 4.3 Conformed Documents – CHA will prepare conformed documents incorporating bid question responses and addenda information.

Task 4 Deliverables:

- ◆ Bidder question responses.
- ◆ Electronically signed and sealed version (PDF) of the Conformed Documents.

TASK 5 – SUPPORT SERVICES

Subtask 5.1 Surveying Services - CHA will utilize ECHO UES for surveying services, to include topographical survey, utility designation, and up to ten utility verification test holes within the limits identified below. Scope of services includes FEC Right of Entry permit and FEC watchman as required for conducting survey work with the FEC right-of-way.



Subtask 5.2 Geotechnical Engineering Services

CHA will utilize Terracon for geotechnical engineering services, scope of which consists of field exploration, laboratory testing, and engineering/project delivery.

Field Exploration

The field exploration program is expected to be completed with 2 days of on-site activities after boring layout and utility clearances and includes three subsurface borings along the proposed water main alignment to a planned depth of 50 feet and two subsurface borings at the pipe entry and exit points to a planned depth of 25 feet:



Boring Layout: Terracon will use handheld GPS equipment to locate borings with an estimated horizontal accuracy of +/-20 feet. Field measurements from existing site features may be utilized.

Subsurface Exploration Procedures: Prior to drilling, Terracon will subcontract GPR services in areas of suspected utility conflict. Terracon will advance borings with an mini-track or truck-mounted drill rig using rotary wash boring techniques. Five samples will be obtained in the upper 10 feet of each boring and at intervals of 5 feet thereafter. Soil sampling is typically performed using split-barrel sampling procedures. The split-barrel samplers are driven in accordance with the standard penetration test (SPT). The samples will be placed in appropriate containers, taken to our soil laboratory for testing, and classified by a Geotechnical Engineer. In addition, Terracon will observe and record groundwater levels during drilling and sampling.

The exploration team will prepare field boring logs as part of standard drilling operations including sampling depths, penetration distances, and other relevant sampling information. Field logs include visual classifications of materials observed during drilling and interpretation of subsurface conditions between samples. Final boring logs, prepared from field logs, represent the Geotechnical Engineer's interpretation and include modifications based on observations and laboratory tests.

Laboratory Testing

The geotechnical engineer will review field data and assign laboratory tests to understand the engineering properties of various soil strata. Exact types and number of tests cannot be defined until completion of fieldwork, but the following laboratory testing may be performed:

- Water content
- Atterberg limits
- Grain size analysis

The laboratory testing program often includes examination of soil samples by an engineer. Based on the results of our field and laboratory programs, Terracon will describe and classify soil samples in accordance with the Unified Soil Classification System (USCS).

Engineering and Project Delivery

The results of the field and laboratory programs will be evaluated, and a geotechnical engineering report will be prepared under the supervision of a licensed professional engineer. The geotechnical engineering report will provide the following:

- Boring logs with field and laboratory data
- Stratification based on visual soil classification
- Groundwater levels observed during drilling

- Site Location and Exploration Plans
- Subsurface exploration procedures
- Description of subsurface conditions
- Estimated seasonal groundwater fluctuations
- Geotechnical soil conditions as they relate to horizontal directional drilling installation of the proposed water main.

COST BREAKDOWN

For the professional services set forth in this Scope of Service, the City shall compensate CHA Companies, Inc. a lump sum fee for Tasks 1 through 5 on a percent completed basis as follows:

Task	Cost
1 – PROJECT ADMINISTRATION	\$15,240
2 – FINAL DESIGN	\$41,818
3 – PERMITTING SERVICES	\$79,690
4 – BIDDING SERVICES	\$10,136
5 – SUPPORT SERVICES	\$57,018
Total Cost	\$203,902

III. SCHEDULE

The proposed project schedule is summarized below:

- Design complete within 180 days from Notice to Proceed
- Bid period 90 days after design completion.

IV. SERVICES NOT INCLUDED

The following are examples of some specific additional services that may be required, but are not included within this Scope of Services.

- Utility easement acquisition services.
- Environmental investigations.
- Preparation of bidding documents (Div 0) other than assistance with the Bid Form.
- Material testing during construction.
- Contractor selection or contract administration services.
- Construction related services that result from a delay in completing construction by the Contractor.
- Resident Project Representative (RPR) services or periodic site visits in excess of times specified herein.

These and other services can be provided, if desired by the City, under separate Scope of Service(s) or by an amendment to this Scope of Services. Services performed will be on an as-directed basis in accordance with a written Notice to Proceed from the City.

October 30, 2023

Mark K. Worsham, P. E.
Principal Engineer VI
CHA

PROPOSAL FOR TOPOGRAPHICAL SURVEY and SUBSURFACE UTILITY ENGINEERING SERVICES

Project: Water Main River Crossing, Pineda Causeway, City of Cocoa, Brevard County, FL

Change Order #3

Dear Mr. Worsham:

At ECHO UES, Inc. (ECHO) we value your consideration and appreciate the opportunity to provide a technical proposal for the provision of professional services. This technical proposal, inclusive of an economical offer and schedule, details the approach we consider the most suitable for this project.

Project Synopsis: Based on the information made available to ECHO, we understand the project consists of design services for the installation of a Water Main (WM) along Pineda Causeway in Melbourne. This proposal serves as a Change Order (#3) to the previous project for the same WM installation along Pineda Causeway and across N. Wickham Rd. in Melbourne. ECHO's professional services were requested to provide topographic survey and subsurface utility engineering services within the area in which the new WM will be designed and constructed.

This proposal letter addresses Change Order #3 for performing additional design survey and subsurface utility engineering per provided graphic exhibits and direction provided by the EOR.

ECHO will perform the additional field work; update the existing survey and utility information and obtain any necessary Railroad ROW permits to perform the field work.

Approach, methodology and limitations shall remain unchanged from the original proposal letter.

Fee: ECHO's competitive offer, which is inclusive of all field, office, materials, supplies, and equipment costs is detailed below.

- **Subsurface Utility Engineering and Topographic Survey, Fixed Fee: \$34,950.00**

The fee above is inclusive of up to 10 utility verification test holes, FEC Right Of Entry permit and FEC watchman requested for surveying within the FEC R/W.

Acceptance: We will honor this proposal for 90 days. If accepted, please return to our attention together with a professional services agreement/task work order authorization and official Notice to Proceed.

At ECHO UES, Inc. we believe in collaboration and communication with our clients and are driven to understand their needs and provide time-efficient and cost-effective solutions. ECHO strives to provide quality utility and survey reliable data to design better, build faster, and safely enhance Engineering, Design, Construction and Maintenance of infrastructure.

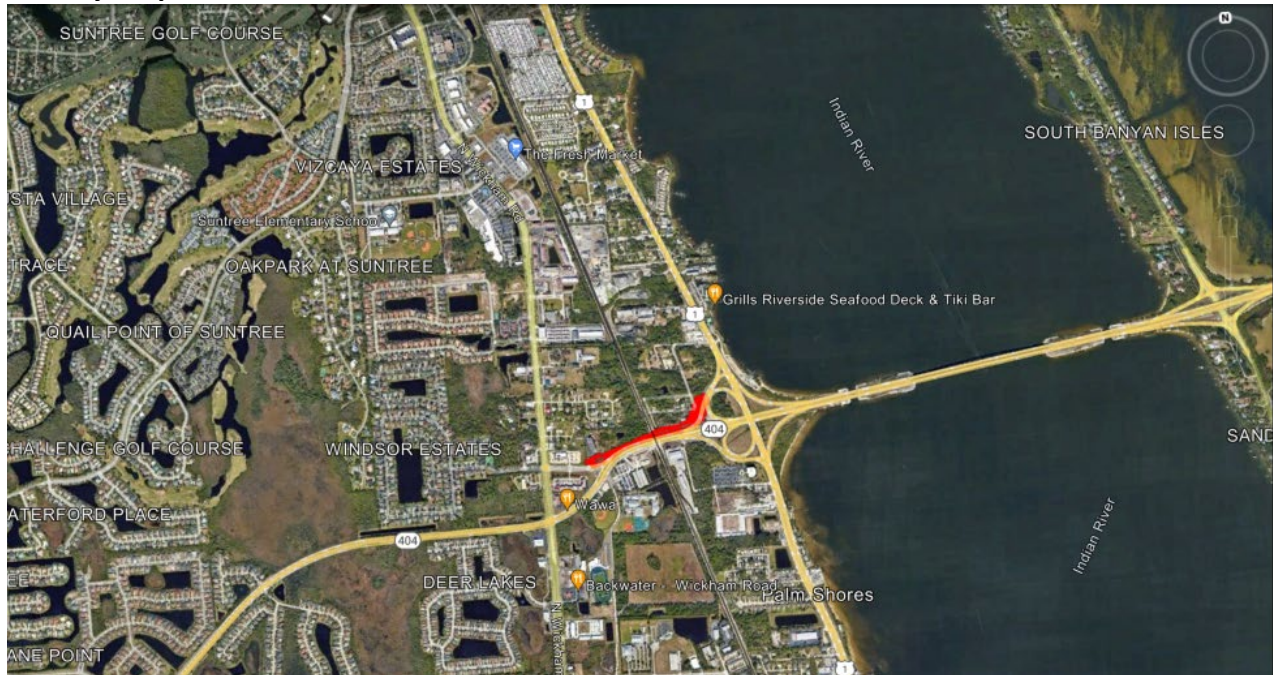
Thank you for considering ECHO for this important project and please do not hesitate to contact me directly should you have any questions or concerns.

Sincerely,



Carlo Pilia
Vice President
ECHO UES, Inc.

Vicinity Map:



Project Limits:





1675 Lee Road
Winter Park, FL 32789
P (407) 740-6110
Terracon.com

November 20, 2023

CHA Consulting, Inc.
1016 Spring Villas Pointe, Suite 103
Winter Springs, Florida 32708

Attn: Mr. Jeff Grant, P.E.

P: 407-679-5358

E: JGrant@chasolutions.com

RE: Revised Proposal for Geotechnical Engineering Services
Water Main Crossing Florida East Coast Railroad
Along Pineda Way
Brevard County, Florida
Terracon Proposal No. PH1235328

Dear Mr. Grant:

We appreciate the opportunity to submit this revised proposal to CHA Consulting, Inc. (CHA) to provide Geotechnical Engineering services for the above referenced project. This proposal has been revised since October 26, 2023 to include additional borings requested by the City of Cocoa. The following exhibits are attached:

Exhibit A	Project Understanding
Exhibit B	Scope of Services
Exhibit C	Compensation and Project Schedule
Exhibit D	Site Location and Nearby Geotechnical Data
Exhibit E	Anticipated Exploration Plan

Our base fee to perform the Scope of Services described in this proposal is \$12,960 (including subcontracted private utility location fees) with an anticipated delivery date of 6 weeks after notice to proceed. If needed, ROW permitting and MOT is an additional \$3,750. Exhibit C includes details of our fees and a general breakdown of our anticipated schedule.

Your authorization for Terracon to proceed in accordance with this proposal can be issued by providing a purchase order and notice to proceed.

Sincerely,

Terracon

Shenna McMaster, P.E.
Senior Geotechnical Engineer

Jay Casper, P.E.
Senior Principal

Exhibit A – Project Understanding

Our Scope of Services is based on our understanding of the project as described by CHA and the expected subsurface conditions as described below. We have not visited the project site to confirm the information provided. Aspects of the project, undefined or assumed, are highlighted as shown below. We request CHA and/or the design team verify all information prior to our initiation of field exploration activities.

Planned Construction

Item	Description
Information Provided	Aerial plan and profile of anticipated water main alignment
Project Description	The project involves installation of an 850 lineal foot 16 inch force main by horizontal directional drilling methods below the Florida East Coast Railroad north of Pineda Causeway. The maximum depth of the pipe installation is anticipated to be 40 feet below existing grade.

Site Location and Anticipated Conditions

Item	Description
Parcel Information	The project is located Along Pineda Way in Brevard County, Florida. Latitude/Longitude (approximate) 28.204214° N; 80.667078° W (See Exhibit D)
Existing Improvements	North right of way area of Pineda Causeway. The area is mostly cleared with grass cover. A drainage ditch is also present.
Existing Topography	Existing ground surface elevations in the project alignment is near +25 to +30 feet.
Site Access	We expect the site, and all exploration locations, are accessible with our truck or mini-track-mounted drilling equipment and support vehicles. We anticipated that clearing will not be required for drill rig access.
Expected Subsurface Conditions	Our experience near the vicinity of the proposed development and review of geologic maps indicates subsurface conditions consist of sand with varying amounts of silt and shell. Groundwater levels are anticipated to be a few feet below existing grade.

Exhibit B - Scope of Services

Our proposed Scope of Services consists of field exploration, laboratory testing, and engineering/project delivery. These services are described in the following sections.

Field Exploration

The field exploration program is expected to be completed with 2 days of on-site activities after boring layout and utility clearances and includes subsurface borings as described below:

Number of Borings	Planned Boring Depth (feet)	Planned Location ¹
3	50	Along the proposed water main alignment
2	25	Endpoints of proposed alignment

1. The planned boring locations are shown on the attached **Anticipated Exploration Plan**.

Boring Layout: We will use handheld GPS equipment to locate borings with an estimated horizontal accuracy of +/-20 feet. Field measurements from existing site features may be utilized. d.

Subsurface Exploration Procedures: Prior to drilling, we will subcontract GPR services in areas of suspected utility conflict. We will advance borings with an mini-track or truck-mounted drill rig using rotary wash boring techniques. Five samples will be obtained in the upper 10 feet of each boring and at intervals of 5 feet thereafter. Soil sampling is typically performed using split-barrel sampling procedures. The split-barrel samplers are driven in accordance with the standard penetration test (SPT). The samples will be placed in appropriate containers, taken to our soil laboratory for testing, and classified by a Geotechnical Engineer. In addition, we will observe and record groundwater levels during drilling and sampling.

Our exploration team will prepare field boring logs as part of standard drilling operations including sampling depths, penetration distances, and other relevant sampling information. Field logs include visual classifications of materials observed during drilling and our interpretation of subsurface conditions between samples. Final boring logs, prepared from field logs, represent the Geotechnical Engineer's interpretation and include modifications based on observations and laboratory tests.

Property Disturbance: Terracon will take reasonable efforts to reduce damage to the property. However, it should be understood that in the normal course of our work some disturbance could occur including rutting of the ground surface and damage to landscaping.

We will backfill borings with grout upon completion. Our services do not include repair of the site beyond backfilling our boreholes. Excess auger cuttings will be dispersed in the general vicinity of the borehole.

Safety

Terracon is not aware of environmental concerns at this project site that would create health or safety hazards associated with our exploration program; thus, our Scope considers standard OSHA Level D Personal Protection Equipment (PPE) appropriate. Our Scope of Services does not include environmental site assessment services, but identification of unusual or unnatural materials observed while drilling will be noted on our logs.

Exploration efforts require borings into the subsurface, therefore Terracon will comply with local regulations to request a utility location service Sunshine State One Call of Florida (SSOCOF). We will consult with the landowner/client regarding potential utilities or other unmarked underground hazards. Based upon the results of this consultation, we will consider the need for alternative subsurface exploration methods as the safety of our field crew is a priority.

Private utilities should be marked by the owner/client prior to commencement of field exploration. Terracon will not be responsible for damage to private utilities not disclosed to us.

Terracon proposes to subcontract with a private utility locating service. Fees associated with this service are included in our Scope of Services.

The detection of underground utilities is dependent upon the composition and construction of the utility line; some utilities are comprised of non-electrically conductive materials and may not be readily detected. The use of a private utility locate service would not relieve the landowner/client of their responsibilities in identifying private underground utilities.

Site Access: Terracon must be granted access to the site by the property owner. Without information to the contrary, we consider acceptance of this proposal as authorization to access the property for conducting field exploration in accordance with the Scope of Services. Our proposed fees do not include time to negotiate and coordinate access with landowners or tenants. Terracon will conduct field services during normal business hours

(Monday through Friday between 7:00am and 5:00pm). If our exploration must take place over a weekend or at night, please contact us so we can adjust our schedule and fee.

Right of way permitting may be required by FDOT. FDOT ROW permitting efforts can be performed if required. Maintenance of Traffic (MOT) including signs and barricades may be required is also included in the scope. However, we anticipate that the geotechnical field work will remain outside the railroad easement and permitting with the railroad easement is not included.

Laboratory Testing

The project engineer will review field data and assign laboratory tests to understand the engineering properties of various soil strata. Exact types and number of tests cannot be defined until completion of fieldwork, but we anticipate the following laboratory testing may be performed:

- Water content
- Atterberg limits
- Grain size analysis

Our laboratory testing program often includes examination of soil samples by an engineer. Based on the results of our field and laboratory programs, we will describe and classify soil samples in accordance with the Unified Soil Classification System (USCS).

Engineering and Project Delivery

The results of our field and laboratory programs will be evaluated, and a geotechnical engineering report will be prepared under the supervision of a licensed professional engineer. The geotechnical engineering report will provide the following:

- Boring logs with field and laboratory data
- Stratification based on visual soil classification
- Groundwater levels observed during drilling
- Site Location and Exploration Plans
- Subsurface exploration procedures
- Description of subsurface conditions
- Estimated seasonal groundwater fluctuations
- Geotechnical soil conditions as they relate to horizontal directional drilling installation of the proposed water main.

Proposal for Geotechnical Engineering Services

Water Main Crossing Florida East Coast Railroad | Brevard County, Florida
November 20, 2023 | Terracon Proposal No. PH1235328



In addition to an emailed report, your project will also be delivered using our **Client Portal**. Upon initiation, we provide you and your design team the necessary link and password to access the website (if not previously registered). Each project includes a calendar to track the schedule, an interactive site map, a listing of team members, access to the project documents as they are uploaded to the site, and a collaboration portal. We welcome the opportunity to have project kickoff conversations with the team to discuss key elements of the project and demonstrate features of the portal. The typical delivery process includes the following:

- Project Planning – Proposal information, schedule and anticipated exploration plan
- Site Characterization – Findings of the site exploration and laboratory results
- Geotechnical Engineering Report

When services are complete, we upload a printable version of our completed Geotechnical Engineering report, including the professional engineer's seal and signature, which documents our services. Previous submittals, collaboration, and the report are maintained in our system. This allows future reference and integration into subsequent aspects of our services as the project goes through final design and construction.

Exhibit C - Compensation and Project Schedule

Compensation

Based upon our understanding of the site, the project as summarized in Exhibit A, and our planned Scope of Services outlined in Exhibit B, our base fee is shown in the following table:

Task	Estimated Fee
Subsurface Exploration, Private Utility Locates ¹ , Laboratory Testing, Geotechnical Consulting and Reporting	\$12,960
Additional Effort for ROW Permitting and MOT	\$3,750
Total ³	\$16,710

1. We will subcontract a private utility locating firm and/or utilize geophysical equipment. The detection of underground utilities is dependent upon the composition and construction of utility lines. Some utilities are comprised of non-electrically conductive materials and may not be readily detected. The use of a private locate service does not relieve the owner of their responsibilities in identifying private underground utilities.

A detailed scope of services and fee estimate is attached.

Our Scope of Services does not include services associated with wet ground conditions, tree or shrub clearing, or repair of/damage to existing landscape. If such services are desired by the owner/client, we should be notified so we can adjust our Scope of Services.

Unless instructed otherwise, we will submit our invoice(s) to the address shown at the beginning of this proposal. If conditions are encountered that require Scope of Services revisions and/or result in higher fees, we will contact you for approval, prior to initiating services. A supplemental proposal stating the modified Scope of Services as well as its effect on our fee will be prepared. We will not proceed without your authorization.

Project Schedule

We developed a schedule to complete the Scope of Services based upon our existing availability and understanding of your project schedule. However, our schedule does not account for delays in field exploration beyond our control, such as weather conditions, delays resulting from utility clearance, permitting or lack of permission to access the

Proposal for Geotechnical Engineering Services

Water Main Crossing Florida East Coast Railroad | Brevard County, Florida

November 20, 2023 | Terracon Proposal No. PH1235328



boring locations. In the event the schedule provided is inconsistent with your needs, please contact us so we may consider alternatives.

Delivery on Client Portal	Schedule ^{1, 2, 3}
Kickoff Call with Client	2 days after notice to proceed
Site Characterization	30 days after notice to proceed
Geotechnical Engineering	40 days after notice to proceed

1. Upon receipt of your notice to proceed we will activate the schedule component on **Client Portal** with specific, anticipated dates for the delivery points noted above as well as other pertinent events.
2. Standard workdays. We will maintain an activities calendar within on **Client Portal**. The schedule will be updated to maintain a current awareness of our plans for delivery.
3. Dependent on ROW permitting

SCOPE OF SERVICES AND FEE ESTIMATE
16" WATER MAIN CROSSING FLORIDA EAST COAST RAILROAD
ALONG PINEDA CAUSEWAY
BREVARD COUNTY, FLORIDA
TERRACON PROPOSAL NO. PH1235328

DESCRIPTION OF WORK	QTY.	RATE	UNIT	AMOUNT
I. FIELD EXPLORATION				
A. Mobilization of Crew and Equipment	1	\$ 1,000.00	lump sum	\$ 1,000.00
B. Standard Penetration Test (SPT) Borings (3 to 50', 2 to 25')				
- 0 to 50 feet	200	\$ 15.00	per l.f.	\$ 3,000.00
- 50 to 100 feet	0	\$ 16.50	per l.f.	\$ -
C. Grout Seal Borings (3 to 50', 2 to 25')				
- 0 to 50 feet	200	\$ 6.50	per l.f.	\$ 1,300.00
- 50 to 100 feet	0	\$ 8.00	per l.f.	\$ -
D. Drill Crew Time (Difficult Access, Standby Time)	3	\$ 275.00	per hour	\$ 825.00
E. Per Diem (2 man crew)	2	\$ 230.00	per day	\$ 460.00
F. Site Reconnaissance/Coordinate Field Work				
-- Senior Engineering Technician	8	\$ 65.00	per hour	\$ 520.00
G. Ground Penetrating Radar (GPR) Utility Clearance	1	\$ 1,200.00	lump sum	\$ 1,200.00
Subtotal				\$ 8,305.00
II. LABORATORY TESTING				
A. Wash Sieve No. 200 Grain Size Analysis	6	\$ 60.00	per test	\$ 360.00
B. Atterberg Limits	3	\$ 100.00	per test	\$ 300.00
C. Organic Content	3	\$ 40.00	per test	\$ 120.00
D. Natural Moisture Content	12	\$ 15.00	per test	\$ 180.00
Subtotal				\$ 960.00
III. ENGINEERING AND TECHNICAL SERVICES				
A. Principal Engineer	4	\$ 225.00	per hour	\$ 900.00
B. Senior Geotechnical Engineer	8	\$ 175.00	per hour	\$ 1,400.00
C. Project Engineer	8	\$ 120.00	per hour	\$ 960.00
D. CADD Operator	3	\$ 95.00	per hour	\$ 285.00
E. Technical Secretary	2	\$ 75.00	per hour	\$ 150.00
Subtotal				\$ 3,695.00
TOTAL BASE FEE ESTIMATE FOR GEOTECHNICAL SERVICES				\$ 12,960.00
IV. ROW PERMITTING AND MOT				
A. Senior Geotechnical Engineer	6	\$ 175.00	per hour	\$ 1,050.00
B. Permitting Fee			estimate	\$ 300.00
C. Maintenance of Traffic (MOT)	2	\$ 1,200.00	per day	\$ 2,400.00
Subtotal				\$ 3,750.00
TOTAL FEE ESTIMATE FOR GEOTECHNICAL SERVICES				\$ 16,710.00

Proposal for Geotechnical Engineering Services

Water Main Crossing Florida East Coast Railroad | Brevard County, Florida

November 20, 2023 | Terracon Proposal No. PH1235328



Exhibit D – Site Location

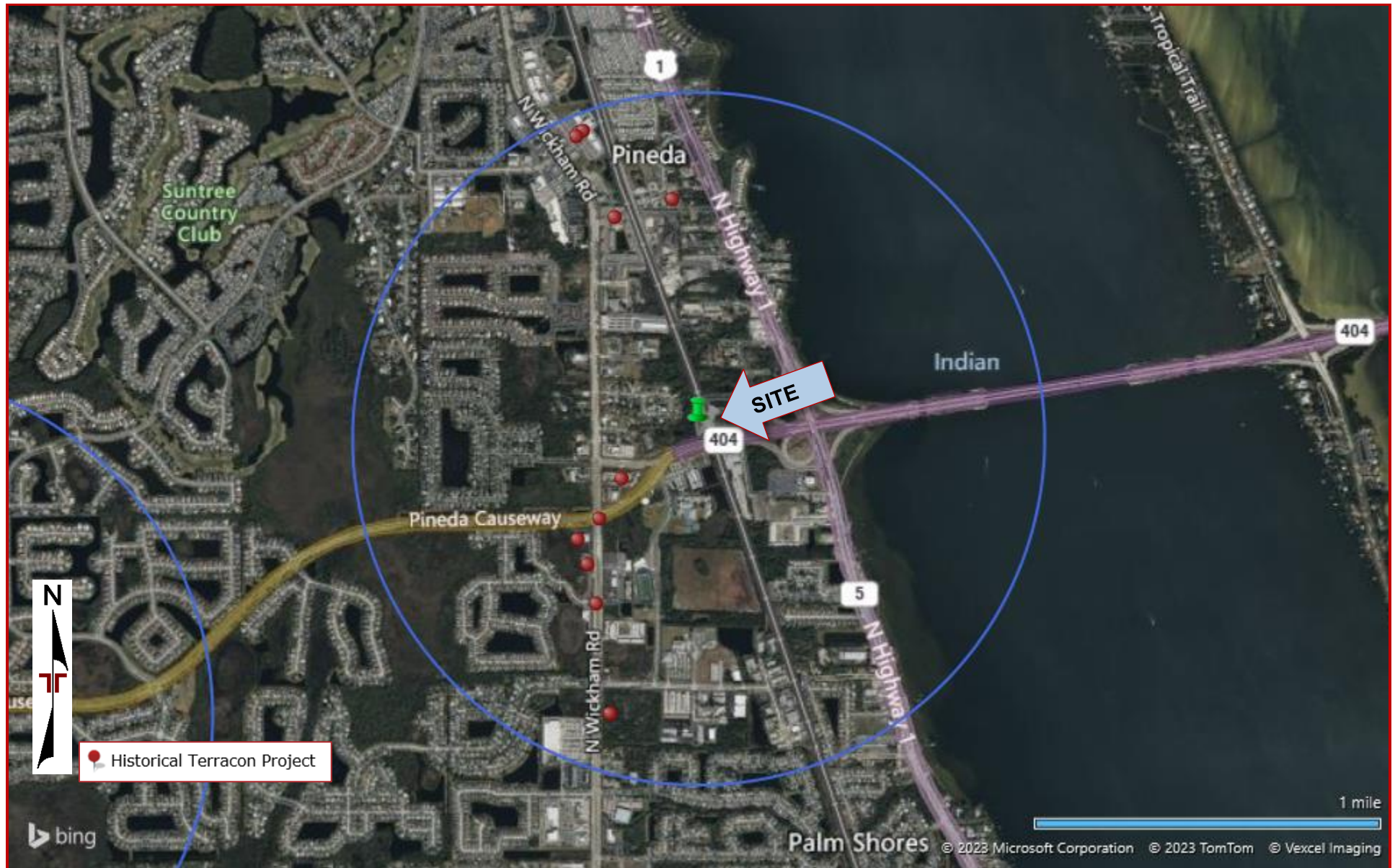
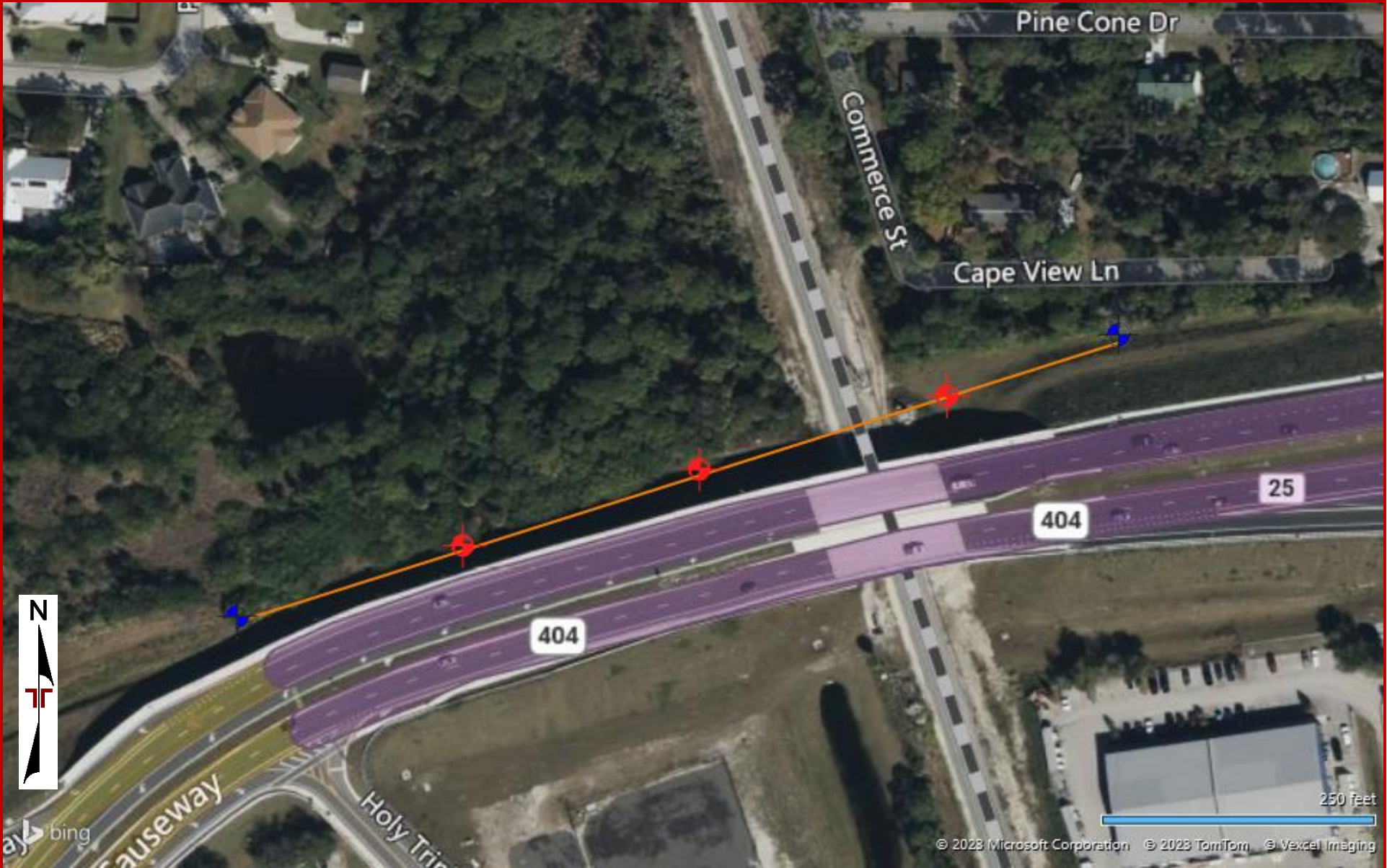


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

MAP PROVIDED BY MICROSOFT BING MAPS

Exhibit E – Anticipated Exploration Plan



City of Cocoa Pineda Causeway North WTM RR Crossing

2/9/2024

	Technical Services Leader (QA/QC)		Senior Project Manager		Project Engineer VI		Project Engineer III		Designer/CADD Manager		Senior Inspector		PMA		Subtotal	Subtotal Hours	Hourly Rate	
TASK DESCRIPTION	Rate = \$290		Rate = \$256		Rate = \$222		Rate = \$135		Rate = \$140		Rate = \$140		Rate = \$105					
	Hours	Cost	Hours	Cost	Hours	Cost	Hours	Cost	Hours	Cost	Hours	Cost	Hours	Cost				Cost
TASK 1 - PROJECT ADMINISTRATION	0	\$0	52	\$13,312	4	\$888	0	\$0	0	\$0	0	\$0	8	\$840	\$15,040	64	\$235.00	
1.1 - Attendance to Kickoff Meeting		\$0	10	\$2,560	0	\$0		\$0		\$0		\$0		\$0	\$2,560	10	\$256.00	
1.2 - Attendance at Monthly Design Progress Meetings (4)		\$0	24	\$6,144	4	\$888		\$0		\$0		\$0		\$0	\$7,032	28	\$251.14	
1.3 - General Project Administration		\$0	18	\$4,608		\$0		\$0		\$0		\$0	8	\$840	\$5,448	26	\$209.54	
TASK 2 - FINAL DESIGN (4 Mo.)	8	\$2,320	14	\$3,584	72	\$15,984	70	\$9,450	72	\$10,080	0	\$0	0	\$0	\$41,418	236	\$175.50	
2.1 - 60% Design Phase incl OPCC	4	\$1,160	8	\$2,048	40	\$8,880	40	\$5,400	40	\$5,600		\$0		\$0	\$23,088	132	\$174.91	
2.6 - 90%/100% Design Phase incl OPCC	4	\$1,160	6	\$1,536	32	\$7,104	30	\$4,050	32	\$4,480		\$0		\$0	\$18,330	104	\$176.25	
TASK 3 - PERMITTING SERVICES (Concurrent)	6	\$1,740	40	\$10,240	0	\$0	104	\$14,040	28	\$3,920	0	\$0	0	\$0	\$29,940	178	\$168.20	
3.1 - FDEP Permitting	2	\$580	12	\$3,072		\$0	24	\$3,240		\$0		\$0		\$0	\$6,892	38	\$181.37	
3.2 - FEC RR Permitting	2	\$580	16	\$4,096		\$0	48	\$6,480	16	\$2,240		\$0		\$0	\$13,396	82	\$163.37	
3.3 - Brevard Co. Permitting	2	\$580	12	\$3,072		\$0	32	\$4,320	12	\$1,680		\$0		\$0	\$9,652	58	\$166.41	
TASK 4 - BIDDING SERVICES	4	\$1,160	10	\$2,560	8	\$1,776	20	\$2,700	8	\$1,120	0	\$0	4	\$420	\$9,736	54	\$180.30	
4.1 - Attendance at Pre-bid Conference		\$0	4	\$1,024		\$0	4	\$540		\$0		\$0		\$0	\$1,564	8	\$195.50	
4.2 - Question Response		\$0	4	\$1,024	8	\$1,776	12	\$1,620		\$0		\$0		\$0	\$4,420	24	\$184.17	
4.3 - Conformed Drawings	4	\$1,160	2	\$512		\$0	4	\$540	8	\$1,120		\$0	4	\$420	\$3,752	22	\$170.55	
TASK 5 - SUPPORT SERVICES	0	\$0	6	\$1,536	6	\$1,332	6	\$810	12	\$1,680	0	\$0	0	\$0	\$5,358	30	\$178.60	
6.1 - Surveying Services		\$0	4	\$1,024	4	\$888	4	\$540	10	\$1,400		\$0		\$0	\$3,852	22	\$175.09	
6.2 - Geotechnical Engineering Services		\$0	2	\$512	2	\$444	2	\$270	2	\$280		\$0		\$0	\$1,506	8	\$188.25	
BUDGET TOTALS	18	\$5,220	122	\$31,232	90	\$19,980	200	\$27,000	120	\$16,800	0	\$0	12	\$1,260	\$101,492	562		
Percent Breakdown	5%		31%		20%		27%		17%		0%		1%			100%		
TOTAL SUM FEE COMPUTATIONS																		
Labor																		
Other Direct Costs (ODCs)																		
Subconsultants																		
Total Lump Sum Fee																		

Travel	Photocopies & Printing	Permit Fee	Total ODC	ECHO	Terracon	Sub Consultant Total	TOTAL TASK COST
Cost	Cost	Cost	Cost	Cost	Cost	Cost	
\$ 200.00	\$ -	\$ -	\$200.00	\$ -	\$ -	\$0.00	\$15,240.00
\$ 200.00			\$200.00			\$0.00	\$2,760.00
			\$0.00			\$0.00	\$7,032.00
			\$0.00			\$0.00	\$5,448.00
\$ -	\$ 400.00	\$ -	\$400.00	\$ -	\$ -	\$0.00	\$41,818.00
	\$ 100.00		\$100.00			\$0.00	\$23,188.00
	\$ 300.00		\$300.00			\$0.00	\$18,630.00
\$ -	\$ 100.00	\$ 49,650.00	\$49,750.00	\$ -	\$ -	\$0.00	\$79,690.00
		\$ 650.00	\$650.00		\$0.00	\$0.00	\$7,542.00
	\$ 100.00	\$ 9,000.00	\$9,100.00			\$0.00	\$22,496.00
		\$ 40,000.00	\$40,000.00			\$0.00	\$49,652.00
\$ 200.00	\$ 200.00	\$ -	\$400.00	\$ -	\$ -	\$0.00	\$10,136.00
\$ 200.00			\$200.00	\$0.00	\$0.00	\$0.00	\$1,764.00
			\$0.00			\$0.00	\$4,420.00
	\$ 200.00		\$200.00			\$0.00	\$3,952.00
\$ -	\$ -	\$ -	\$0.00	\$ 34,950.00	\$ 16,710.00	\$51,660.00	\$57,018.00
			\$0.00	\$34,950.00		\$34,950.00	\$38,802.00
			\$0.00		\$16,710.00	\$16,710.00	\$18,216.00
\$400	\$700	\$49,650	\$50,750	\$34,950	\$16,710	\$51,660	\$203,902
BUDGET							
Labor							
Other Direct Costs (ODCs)							
Subconsultants							
Total Lump Sum Fee							