WithersRavenel
Our People. Your Success.

March 25, 2020

Johnnie Hill
Coordinator Construction Projects
City of Greensboro
2602 South Elm-Eugene St
Greensboro, NC 27406

RE: City of Greensboro Stormwater Culvert Inspection Project

Dear Mr. Hill:

WithersRavenel is pleased to submit this task order to the City of Greensboro, NC for updating the City's Stormwater Culvert Inspection Project. This scope includes the core tasks that the Consultant Team believes are the most crucial for this project.

We look forward to working with you on this project. Please feel free to contact me should you require any clarification regarding this proposal.

Sincerely,
WithersRavenel

Brandon Inscore
GIS Manager & Greensboro Branch Office Leader

WithersRavenel
Our People. Your Success.

Greensboro Stormwater Culvert Inspection Project Proposal for Professional Services

The "CONSULTANT" referred to in this Agreement shall be WithersRavenel, Inc. and its sub-consultants

The "CLIENT" or "CITY" referred to in this Agreement shall be the City of Greensboro, North Carolina

The "PROJECT" referred to in the Agreement shall be the City of Greensboro Stormwater Culvert Inspection Project

A. Project Description

The City of Greensboro, NC is seeking inspections and assessments on a specified set of stormwater culvert systems as part of the organization's culvert inspection program that takes place every five (5) years. These assessments include the condition of in-service culvert and storm drain systems to ensure system safety and performance. The project includes project management, the development of an assessment form that meets the requirements of the client, mobile GIS field application development, a detailed field inspection and assessment of the culverts in each defined location, a report of results that identifies deficiencies and recommendations for immediate repair and on-going preventative maintenance, and a File Geodatabase that contains the inspection and recommendations data.

The CONSULTANT will provide the following services for the stormwater system as detailed below in Section B, Scope of Services.

B. Scope of Services

Task 1 – Project Management

The Consultant will provide the following services as part of this task:

- Conduct a kickoff meeting at the CITY to obtain any additional necessary background information and identify CITY subject matter experts. Direction from the CITY and communication to/from the CITY will route through the CITY's designated Project Representative. The CITY has designated Johnnie Hill as the Project Representative for the Project.
- Participate in monthly conference calls with City staff to discuss project progress,
- Establish the PROJECT in the Basecamp web application for team communication and collaboration.
- Administer the project.
- Manage project processes, communication, and resources.

It is assumed that the duration of this project will be approximately 13 months.

Project Management Breakdown:
Project Management @ $4,780/month x 13 months = $62,140.00

Task 2 – GIS Mobile Field Application Development

The CONSULTANT will work with the sub-consultant Alpha and Omega Group (A&O) to develop a form that will meet the culvert inspection task requirements and will develop a mobile application for use in the field to collect the appropriate data using Mobile ESRI technology. This task will include testing, deployment, data management, and support throughout the field data collection process.

GIS Form Development, Application Development, Testing, and Deployment Hours:

Tasks	GIS Manager ($175/hr)	GIS PM ($135/hr)	GIS Specialist ($120/hr)	GIS Tech II ($95/hr)	Total Hours	Budget
GIS Application Development	10	24	36	120	190	$ 20,710.00
Total	**10**	**24**	**36**	**120**	**190**	**$ 20,710.00**

Task 3 – Culvert Inspections

Using the GIS Mobile Application developed for this project the CONSULTANT will utilize A&O (Small Professional Services Firm/SPSF), Simpson Engineering and Associates (SEA) (Minority Business Enterprise/MBE), and CH Engineering (Woman Business Enterprise/WBE) to perform inspections of up to 609 culvert locations. The inspection team will review previous inspection reports to understand the type, number and size of the culverts to be inspected. The team will then develop a plan and schedule to inspect each culvert documenting the following items.

Site information for each culvert will include: culvert location, street crossing classification and GIS equipment ID. Information about the culvert will also be verified or collected including the following: number of barrels, approximate barrel length, approximate barrel slope, barrel shape (diameter, span and rise as needed), Barrel material type and end treatments. The number and type of utilities (if identifiable) will be recorded along with the depth of water flowing through each barrel

The culvert will be inspected for the following condition categories: Invert Deterioration, Cross-section Deformation, Joints & Seams, Pipe Penetrations, Cracking, Spalling, Mortar & Masonry, Headwall / Wingwall, Inlet condition, Outlet Condition and Energy Dissipator. The culverts will then be assigned a rating for each of these categories. The rating scale will be good, fair, poor, critical and unknown. A good rating is only minor defects noted, a fair rating will be defects noted but not affecting the function of the culvert, a poor rating will be defects that prevent the culvert from functioning as it should, a critical rating will be for defects that are preventing the culvert from functioning creating other severe problems. If the category cannot be inspected then unknown will be used. If the category of the defect does not apply the rating will be left blank.

The inspection team will identify any performance problems during the inspection are as follows: Debris / Vegetation Blockage (% Blockage), Poor Channel Alignment, Local Outlet scour, Channel Degradation / Headcut, Sedimentation Blockage (% Blockage), Exposed Footing, Barrel Undermining, Visual Evidence of Undermining, Embankment Slope Instability and NC Access/ Buried / Submerged.

An overall rating will be assigned to the culvert using a Good, Fair, Poor, Critical, Unknown and Performance Problems. A good rating is only minor defects noted, a fair rating will be defects noted but not affecting the function of the culvert, a poor rating will be defects that prevent the culvert from functioning as it should, a critical rating will be for defects that are preventing the culvert from functioning creating other severe

problems. If the category cannot be inspected, then unknown will be used. If the category of the defect does not apply, the rating will be left blank.

Photos of each culvert will be taken to give an overall view of the structure. At a minimum the culvert structure photos will be Inlet Elevation, Outlet Elevation, Roadway Above, View Upstream and View Downstream. Additional culvert structure photos will be taken as needed to document the components of the culvert. Representative photos of defects that are found will be taken and included in the report. Any critical items found will have photos to go along with the written notes.

The inspection team will note and report structural problems. Structural defects will be graded on a scale from 1 to 5 with 5 needing immediate attention. If a structural defect is found that requires immediate attention the CONSULTANT team will contact the client and arrange for an onsite meeting to review the findings. A rating of 4 will need to be repaired in the next six months. A rating of 3 will need to be repaired in in the next two years. A rating of 1 to 2 would need to be programmed in to maintenance as funds become available.

A&O Sub-consultant Hours:

Tasks	PIC ($260/hr)	SrPM ($210/hr)	PM ($155/hr)	PE ($115/hr)	EI ($100/hr)	TA ($80/hr)	Total Hours	Budget
Culvert Inspection	12		238	946	238	946	2380	$ 248,280.00
QA/QC	40	120					160	$ 35,600.00
Expenses								$ 4,040.00
Total	**52**	**120**	**238**	**946**	**238**	**946**	**2540**	**$ 287,920.00**

Simpson Engineering Sub-consultant Hours (MBE 17% and MWBE Total Utilization on Project = 23%):

Tasks	PIC ($232.20/ hour)	SrPM ($181.58/ hour)	PM ($170.78/ hour)	PE ($164.03/ hour)	EI ($108/ hour)	TA ($82.35/ hour)	Total Hours	Budget
Culvert Inspection	12	12		307	204	175	710	$ 91,765.82
QA/QC			24					$ 4,098.72
Expenses								$ 1,677.60
Total	**12**	**12**	**24**	**307**	**204**	**175**	**734**	**$ 97,540.43**

CH Engineering Sub-consultant Hours (WBE 6% and MWBE Total Utilization on Project = 23%):

Tasks	PSS ($163.02/ hour)	ASC ($117.26/ hour)	SCL ($82.94/ hour)	SCT ($94.38/ hour)	SCM ($65.78/ hour)	Total Hours	Budget
Culvert Inspection	14	27	163		163	367	$ 29,689.66
QA/QC				27		27	$ 2,548.26
Expenses							$ 564.16
Total	**14**	**27**	**163**	**27**	**163**	**394**	**$ 32,802.08**

***Part of mentor/protégé arrangement with A&O as mentor and Ch Engineering as protégé**

Task 4 – Data Delivery and Report

A. GIS Data Delivery

The CONSULTANT will post-process data and complete a thorough QA/QC process on the data prior to the report generation. The consultant will make use of ESRI's Data Reviewer Extension for ArcGIS Desktop and other internal standard QA/QC processes to ensure data integrity. The result will be a GIS File Geodatabase that can be integrated into the City's existing Enterprise GIS Database. The database will include the information collected in the field as well as defects, overall ratings, and recommendations that will be in the final report. This task will include support hours for the City's Water Resources GIS Staff for successful GIS data integration into the City's GIS Database.

GIS Data Post-Processing, Data QA/QC, and Data Delivery Hours:

Tasks	GIS Manager ($175/hr)	GIS PM ($135/hr)	GIS Specialist ($120/hr)	GIS Tech II ($95/hr)	Total Hours	Budget
Data Delivery	12	24	36	80	152	$ 17,260.00
Total	**12**	**24**	**36**	**80**	**152**	**$ 17,260.00**

B. Stormwater Culvert Inspection Report

The CONSULTANT will provide a comprehensive .pdf report, reporting on each culvert location. An overall rating for each culvert using a Good, Fair, Poor, Critical, Unknown and Performance Problems. A good rating is only minor defects noted, a fair rating will be defects noted but not affecting the function of the culvert, a poor rating will be defects that prevent the culvert from functioning as it should, a critical rating will be for defects that are preventing the culvert from functioning creating other severe problems. If the category cannot be inspected then unknown will be used. If the category of the defect does not apply the rating will be left blank.

The report will include photos of each culvert taken to give an overall view of the structure. At a minimum the culvert structure photos will be Inlet Elevation, Outlet Elevation, Roadway Above, View Upstream and View Downstream. Additional culvert structure photos will be included as needed to document the components of the culvert. Representative photos of defects that are found will be included in the report. Any critical items found will have photos to go along with the written notes.

The report will provide information related to structural defects graded on a scale from 1 to 5 with 5 needing immediate attention. A rating of 4 will need to be repaired in the next six months. A rating of 3 will need to be repaired in in the next two years. A rating of 1 to 2 would need to be programmed in to maintenance as funds become available.

Maintenance items will be categorized as those needing prompt attention (within 30 days), Special Maintenance and Preventative Maintenance.

A&O Sub-consultant Culvert Inspection Report Hours:

Tasks	PIC ($260/hr)	SrPM ($210/hr)	PM ($155/hr)	PE ($115/hr)	EI ($100/hr)	TA ($80/hr)	Total Hours	Budget
Report	32	64	124	160	0	0	380	$ 59,380.00
Expenses								$ 2,000.00
Total	**32**	**64**	**124**	**160**	**0**	**0**	**380**	**$ 61,380.00**

C. Additional Services

Services that are not included in Section B or are specifically excluded from this Agreement shall be considered Additional Services if those services are able to be performed by CONSULTANT, they are requested in writing by the CLIENT, and accepted by the CONSULTANT. The CONSULTANT shall undertake Additional Services only upon receipt of written authorization from the CLIENT and agreement of additional fees. Fees for Additional Services may be lump sum or based on the hourly rates for project personnel as based on the WithersRavenel Fee Schedule (Exhibit II), subject to agreement between CONSULTANT and CLIENT. Such additional services may include (but not be limited to) any of the following which are not included in this proposal:

- Data cleanup to address deficiencies in data
- Pilot/Full Data migration
- Field work
- GIS Support Services
- Scanning as-builts or other record drawings
- Georeferencing and Scan-linking existing electronic documents
- Automated or Manual Geometric Network Connectivity Improvements
- Class A Survey of any structures where there is GPS interference
- GPS Field Collection Beyond Pilot Project Area
- Survey, CCTV or SUE
- Design Services
- Permitting Services
- Cost Opinions
- Preparation of Sketches or Construction Drawings
- Modelling Services (such as for Stormwater, Water, Wastewater)
- Asset Management Criteria Development or Asset Management Planning
- Capital Improvement Project Planning
- Environmental Services (such as wetland delineations, buffers, or permitting)
- Financial/Funding Analysis (such as for Utility Rate Studies or Grant Consultation)
- Additional On-site Meetings
- Public Meetings and Presentations

D. Client Responsibilities

During the performance of the CONSULTANT'S services under this AGREEMENT, the CLIENT shall:

- Provide full information as to its requirements for the PROJECT.
- Assist the CONSULTANT by providing all available information pertinent to the PROJECT, including previously completed studies, assessments, previous inspection data and reports, maps, old drawings, maintenance records and any other data relative to the PROJECT and prior to the CONSULTANT beginning work.
- Provide all public notification for field work and meetings.
- Provide full and complete comments during submittals for review (review cycles). Unless a separately established maximum number of review cycles is specifically noted in the scope of services for an individual task, the CONSULTANT assumes that one review cycle will be taken by the CLIENT for items noted in the scope as requiring review. Additional submittals or review cycles may require additional fees.
- Examine all studies, reports, sketches, estimates, specifications, drawings, proposals and other documents presented by the CONSULTANT and render in writing decisions pertaining thereto within a reasonable time so as not to delay the services of the CONSULTANT.

- Designate a person in writing authorized to act and make binding decisions on behalf of the CLIENT with respect to the scope of work covered under this PROJECT.
- CLIENT shall be responsive and engaging throughout the project by providing timely responses to inquiries made by the CONSULTANT
- Give prompt written notice to the CONSULTANT whenever the CLIENT observes or otherwise becomes aware of any defect in the PROJECT.
- Pay all submittal, regulatory, permit, advertising, and public notice fees and charges.
- Coordinate with applicable project stakeholders to provide third party information on adjacent projects under the City's purview and required for completion of the Basic Services listed above.
- Provide assistance regarding any matters relating to the PROJECT and requiring an attorney at law.

E. Expenses

Expenses shall be considered reimbursable in accordance with our attached fee schedule or specified in the tables for each task as it relates to Sub-consultants. Anticipated expenses may include, but are not limited to, the following:

- Courier Trips
- Prints/Mylars
- Mileage

F. Compensation for Services

Task Number	Task Name	Cost
1	Project Management	$ 62,140.00
2	GIS Mobile Field Application Development	$ 20,710.00
3	Culvert Inspections	$ 418,262.51
4	Data Delivery and Report	$ 78,640.00
	Lump Sum Total	**$ 579,752.51**

G. Timeline for Services

It is anticipated that Phase One will be completed in 13 months after the CONSULTANT receives the Notice to Proceed.

H. Acceptance

Submitted by CONSULTANT:

WithersRavenel, Inc.
115 MacKenan Drive
Cary, NC 27511

Accepted by CLIENT:

City of Greensboro
300 West Washington Street
Greensboro, NC 27401

Authorized Signature	Authorized Signature
Printed Name	Printed Name
Title	Title
Email Address	Email Address
Phone	Phone

PREAUDIT STATEMENT: *This instrument has been preaudited in the manner required by the Local Government Budget and Fiscal Control Act (NC G.S. 159-28(a)).*

Signature of Finance Officer: _____

Printed Name: _____

Date: _____

Attachments:
Exhibit I – Standard Terms and Conditions
Exhibit II – Fee & Expense Schedule

WithersRavenel
Our People. Your Success.

Exhibit I
Standard Terms and Conditions
WithersRavenel, Inc.

The proposal submitted by WithersRavenel, INC. ("CONSULTANT") is subject to the following terms and conditions (collectively referred to as the "Agreement") and, by accepting the proposal, the services, or any part thereof, the CLIENT agrees and accepts the terms and conditions outlined below:

1. **Payment:**

   a) The CLIENT will pay CONSULTANT for services and expenses in accordance with periodic invoices to CLIENT and a final invoice upon completion of the services. Each invoice is due and payable in full upon presentation to CLIENT. Invoices are past due after 30 days. Past due amounts are subject to interest at a rate of one and one-half percent per month (18% per annum) on the outstanding balance from the date of the invoice.

   b) If the CLIENT fails to make payment to the CONSULTANT within 45 days after the transmittal of an invoice, the CONSULTANT may, after giving 7 days written notice to the CLIENT, suspend services under this Agreement until all amounts due hereunder are paid in full. If an invoice remains unpaid after 90 days from invoice date, the CONSULTANT may terminate the Agreement and/or initiate legal proceedings to collect the fees owed, plus other reasonable expenses of collection including attorney's fees.

2. **Notification of Breach or Default:** The CLIENT shall provide prompt written notice to the CONSULTANT if CLIENT becomes aware of any breach, error, omission or inconsistency arising out of CONSULTANT's work or any other alleged breach of contract by the CONSULTANT. The failure of CLIENT to provide such written notice within ten (10) days from the time CLIENT became aware of the fault, defect, error, omission, inconsistency or breach, shall constitute a waiver by CLIENT of any and all claims against the CONSULTANT arising out of such fault, defect, error, omission, inconsistency or breach. Emails shall be considered adequate written notice for purposes of this Agreement.

3. **Standard of Care:** CONSULTANT shall perform Agreement for CLIENT in a professional manner, using that degree of care and skill ordinarily exercised by and consistent with the standards of professionals providing the same services in the same or a similar locality as the project. THERE ARE NO OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE THAT WILL OR CAN ARISE OUT OF THE SERVICES PROVIDED BY CONSULTANT OR THIS AGREEMENT.

4. **Waiver of Consequential Damages/Limitation of Liability:** CLIENT agrees that CONSULTANT's aggregate liability for any and all claims that may be asserted by CLIENT is limited to $50,000 or to the fee paid to CONSULTANT under this Agreement, whichever is greater. Both CLIENT and CONSULTANT hereby waive any right to pursue claims for consequential damages against one another, including any claims for lost profits.

5. **Representations of CLIENT:** CLIENT warrants and covenants that sufficient funds are available or will be available upon receipt of CONSULTANT's invoice to make payment in full for the services rendered by CONSULTANT, and that such payments shall be made in a timely fashion.

6. **Ownership of Instruments of Service:** All reports, plans, specifications, field data and notes and other documents, including all documents on electronic media, prepared by the CONSULTANT as instrument of service, shall remain the property of the CONSULTANT. The CONSULTANT shall retain all common law, statutory and other rights, including the copyright thereto. In the event of termination of this Agreement and upon full payment of fees owed to CONSULTANT, CONSULTANT shall make available to CLIENT copies of all plans and specifications.

7. **Change Orders: CONSULTANT** will treat as a change order any written or oral order (including directions, instructions, interpretations or determinations) from CLIENT which request changes in the Agreement or CONSULTANT's scope of work. CONSULTANT will give CLIENT written notice within ten (10) days of a Change Order of any resulting increase in CONSULTANT's fees.

8. **Opinion of Cost/Cost Estimates:** Since the CONSULTANT has no control over the cost of labor, materials, equipment of services furnished by others, or over methods of determining prices, or over competitive bidding or market conditions, any and all opinions as to costs rendered hereunder, including but not limited to opinions as to the costs of construction and materials, shall be made on the basis of its experience and qualifications and represent its best judgment as an experienced and qualified professional familiar with the construction industry; but the CONSULTANT cannot and does not guarantee the proposals, bids or actual costs and will not vary significantly from opinions of probable costs prepared by it. If at any time the CLIENT wishes greater assurances as to the amount of any costs, he shall employ an independent cost estimator to make such determination.

9. **Assignment and Third Parties:** Nothing under this Agreement shall be construed to give any rights or benefits in this Agreement to anyone other than the CLIENT and CONSULTANT, and all duties and responsibilities undertaken pursuant to this Agreement will be for the sole and exclusive benefit of the CLIENT and the CONSULTANT and not for the benefit of any other party. Neither the CLIENT nor the CONSULTANT shall assign, sublet, or transfer any rights under or interests in this Agreement without the written consent of the other which shall not be unreasonably withheld. However, nothing contained herein shall prevent or restrict the CONSULTANT from employing independent subconsultants as the CONSULTANT may deem appropriate to assist in the performance of services hereunder.

10. **Project Site:** Should CLIENT not be owner of the project site, then CLIENT agrees to notify the site owner of the possibility of unavoidable alteration and damage to the site. CLIENT further agrees to indemnify, defend and hold CONSULTANT harmless against any claims by the CLIENT or persons having possession of the site through the Owner which are related to such alteration or damage.

11. **Access to Site:** CLIENT is responsible for providing legal and unencumbered access to site, including securing all necessary site access agreements or easements, to the extent necessary for the CONSULTANT to carry out his services.

12. **Survival:** All of CLIENT's obligations and liabilities, including but not limited to, its indemnification obligations and limitations, and CONSULTANT's rights and remedies with respect thereto, shall survive completion of the expiration or termination of this Agreement.

13. **Termination:** Either party may terminate the Agreement with or without cause upon ten (10) days advance written notice, if the other party has not cured or taken reasonable steps to cure the breach giving rise to termination within the ten (10) day notice period. If CLIENT terminates without cause or if CONSULTANT terminates for cause, CLIENT will pay CONSULTANT for all costs incurred, non-cancelable commitments, and fees earned to the date of termination and through demobilization, including any cancellation charges of vendors and subcontractors, as well as demobilization costs.

14. **Severability:** If any provision of this Agreement, or application thereof to any person or circumstance, is found to be invalid then such provision shall be modified if possible, to fulfill the intent of the parties as reflected in the original provision, the remainder of this Agreement, or the application of such provision to persons or circumstances other than those as to which it is held invalid, shall not be affected thereby, and each provision of this Agreement shall be valid and enforced to the fullest extent permitted by the law.

15. **No Waiver:** No waiver by either party of any default by the other party in the performance of any provision of this Agreement shall operate as or be construed as a waiver of any future default, whether like or difference in character.

16. **Merger, Amendment:** This Agreement constitutes the entire Agreement between the CONSULTANT and the CLIENT and all integrated negotiations, written and oral understandings between the parties are merged herein. This Agreement can be supplemented and/or amended only by a written document executed by both the CONSULTANT and the CLIENT

17. **Unforeseen Occurrences:** If, during the performance of services hereunder, any unforeseen hazardous substance, material, element of constituent or other unforeseen conditions or occurrences are encountered which, affects or may affect the services, the risk involved in providing the service, or the recommended scope of services, CONSULTANT will promptly notify CLIENT thereof. Subsequent to that notification, CONSULTANT may: (a) if practicable, in CONSULTANT's sole judgment and with approval of CLIENT, complete the original scope of services in accordance with the procedures originally intended in the Proposal; (b) Agree with CLIENT to modify the scope of services and the estimate of charges to include study of the previously unforeseen conditions or occurrences, such revision to be in writing and signed by the parties and incorporated herein; or (c) Terminate the services effective on the date of notification pursuant to the terms of the Agreement.

18. **Force Majeure:** Should completion of any portion of the Agreement be delayed for causes beyond the control of or without the fault or negligence of CONSULTANT, including force majeure, the reasonable time for performance shall be extended for a period at least equal to the delay and the parties shall mutually agree on the terms and conditions upon which Agreement may be continued. Force majeure includes but is not restricted to acts of God, acts or failures of governmental authorities, acts of CLIENT's contractors or agents, fire, floods, epidemics, riots, quarantine restrictions, strikes, civil insurrections, freight embargoes, and unusually severe weather.

19. **Safety:** CONSULTANT is not responsible for site safety or compliance with the Occupational Safety and Health Act of 1970 ("OSHA"). Job site safety remains the sole exclusive responsibility of CLIENT or CLIENT's contractors, except with respect to CONSULTANT'S own employees. Likewise, CONSULTANT shall have no right to direct or stop the work of CLIENT's contractors, agents or employees.

20. **Dispute Resolution/Arbitration:** Any claim or other dispute arising out of or related to this Agreement shall be subject to Arbitration under the Federal Arbitration Act. Such claims and disputes shall first be subject to non-binding mediation, and if mediation is unsuccessful, shall be subject to Arbitration in accordance with the Construction Industry Arbitration Rules of the American Arbitration Association currently in effect. Any demand for Arbitration shall be filed in writing with the other party and with the American Arbitration Association.

21. **Independent Contractor:** In carrying out its obligations, CONSULTANT shall be acting at all times as an independent contractor and not an employee, agent, partner or joint venturer of CLIENT. CONSULTANT's work does not include any supervision or direction of the work of other contractors, their employees or agents, and CONSULTANT's presence shall in no way create any liability on behalf of CONSULTANT for failure of other contractors, their employees or agents to properly or correctly perform their work

22. **Hazardous Substances:** CLIENT agrees to advise CONSULTANT upon execution of this Agreement of any hazardous substances or any condition existing in, on or near the Project Site presenting a potential danger to human health, the environment or equipment. By virtue of entering into the Agreement or of providing services, CONSULTANT does not assume control of, or responsibility for, the Project Site or the person in charge of the Project Site or undertake responsibility for reporting to any federal, state or local public agencies, any conditions at the project site that may present a potential danger to the public, health, safety or environment except where required of CONSULTANT by law. In the event CONSULTANT encounters hazardous or toxic substances or contamination significantly beyond that originally represented by CLIENT, CONSULTANT may suspend or terminate the Agreement. CLIENT acknowledges that CONSULTANT has no responsibility as a generator, treater, storer, or disposer of hazardous or toxic substances found or identified at a site and CLIENT agrees to defend, indemnify, and hold harmless CONSULTANT, from any claim or liability, arising out of CONSULTANT's performance of work under the Agreement and made or brought against CONSULTANT for any actual or threatened environmental pollution or contamination except to the extent that CONSULTANT has negligently caused such pollution or contamination.

23. **Choice of Law:** The validity, interpretation, and performance of this Agreement shall be governed by and construed in accordance with the law of the State of North Carolina, excluding only its conflicts of laws principles.

24. **Construction Services:** If construction administration and review services are requested by the CLIENT, CLIENT agrees that such administration, review, or interpretation of construction work or documents by CONSULTANT shall not relieve any contractor from liability in regard to its duty to comply with the engineering standards for the Project, and shall not give rise to a claim against a contractor's failure to hold in accordance with the applicable plans, specifications or standards.

25. **Field Representative:** If CONSULTANT provides field services or construction observation services, the presence of the CONSULTANT's field personnel will only be for the purpose of providing observation and field testing of specific aspects of the Project. Should a contractor be involved in the Project, the CONSULTANT's responsibility does not include the supervision or direction of the actual work of any contractor, its employees or agents. All contractors should be so advised. Contractors should also be informed that neither the presence of the CONSULTANT's field representative nor the observation and testing by the CONSULTANT shall excuse contractor in any way for defects in contractor's work. It is agreed that the CONSULTANT will not be responsible for job or site safety on the Project and that the CONSULTANT does not have the right to stop the work of any contractor.

26. **Submittals:** CONSULTANT's review of shop drawings and other submittals is to determine conformity with the design concept only. Review of shop drawings and submittals does not include means, methods, techniques or procedures of construction, including but not limited to, safety requirements.

WithersRavenel
Our People. Your Success.

Exhibit II
Fee & Expense Schedule
WithersRavenel, Inc.

Description	Rate
Engineering/Landscape Architecture Project Mgmt.	
Principal	$ 205
Client Experience Manager	$ 190
Senior Project Manager	$ 175
Project Manager	$ 160
Assistant Project Manager	$ 145
Engineering	
Senior Technical Consultant	$ 190
Senior Project Engineer	$ 175
Project Engineer III	$ 160
Project Engineer II	$ 145
Project Engineer I	$ 135
Staff Professional III	$ 125
Staff Professional II	$ 115
Staff Professional I	$ 95
Senior Project Coordinator	$ 110
Project Coordinator	$ 95
Senior Designer	$ 140
Designer II	$ 120
Designer I	$ 110
Senior CAD Technician	$ 115
CAD Technician II	$ 100
CAD Technician I	$ 90
Landscape Architecture/Planning	
Zoning Specialist	$ 225
Senior Landscape Architect	$ 165
Landscape Architect III	$ 150
Landscape Architect II	$ 135
Landscape Architect I	$ 125
Landscape Designer II	$ 115
Landscape Designer I	$ 105
Senior Planner	$ 155
Planner III	$ 135
Planner II	$ 115
Planner I	$ 105
Planning Technician	$ 95
Construction Administration	
Senior Construction Manager	$ 155
Construction Manager II	$ 135
Construction Manager I	$ 125
Senior Resident Project Representative	$ 115
Resident Project Representative II	$ 105
Resident Project Representative I	$ 95

Description	Rate
Geomatics	
Principal	$ 200
Senior Technical Consultant	$ 185
Geomatics Senior Manager	$ 175
Geomatics Project Manager II (SR PM)	$ 145
Geomatics Project Manager I	$ 135
Geomatics Project Professional II	$ 140
Geomatics Project Professional I	$ 125
Geomatics CAD III	$ 110
Geomatics CAD II	$ 95
Geomatics CAD I	$ 75
Geomatics GIS Specialist	$ 120
Geomatics GIS Tech III	$ 105
Geomatics GIS Tech II	$ 90
Geomatics GIS Tech I	$ 75
Geomatics Remote Sensing Crew (2-Man)	$ 255
Geomatics Remote Sensing Crew (1-Man)	$ 180
Geomatics SUE Crew (2-Man)	$ 225
Geomatics SUE Crew (1-Man)	$ 160
Geomatics Survey Crew III (3-Man)	$ 200
Geomatics Survey Crew II (2-Man)	$ 160
Geomatics Survey Crew I (1-Man)	$ 130
Geomatics Survey Tech IV	$ 105
Geomatics Survey Tech III	$ 95
Geomatics Survey Tech II	$ 70
Geomatics Survey Tech I	$ 45
Funding and Asset Management	
F&AM Principal Consultant	$ 165
F&AM Senior Project Manager	$ 135
F&AM Project Manager	$ 125
F&AM Project Consultant II	$ 100
F&AM Project Consultant I	$ 90
F&AM Staff Professional	$ 70

Description	Rate
Environmental / Geology	
Principal	$ 200
Senior Technical Consultant	$ 185
Environmental Project Professional V	$ 170
Environmental Project Professional IV	$ 155
Environmental Project Professional III	$ 140
Environmental Project Professional II	$ 130
Environmental Project Professional I	$ 120
Environmental Staff Professional III	$ 115
Environmental Staff Professional II	$ 105
Environmental Staff Professional I	$ 95
Environmental Technician II	$ 90
Environmental Technician I	$ 75
Senior Biologist/Wetlands Scientist	$ 145
Biologist/Wetlands Scientist III	$ 125
Biologist/Wetlands Scientist II	$ 115
Biologist/Wetlands Scientist I	$ 105
Senior Hydrogeologist	$ 165
Project Geologist II (Sr. Proj. Geologist)	$ 140
Project Geologist I	$ 120
Staff Geologist II	$ 110
Staff Geologist I	$ 100
Administrative	
Office Administrator III	$ 100
Office Administrator II	$ 95
Office Administrator I	$ 90
Administrative Assistant III	$ 80
Administrative Assistant II	$ 70
Administrative Assistant I	$ 65
Expenses	
Bond Prints (Per Sheet)	$ 1.75
Mylar Prints (Per Sheet)	$ 11.00
Mileage	Per IRS
Delivery – Project Specific (Distance & Priority)	
Subcontractor Fees (Markup)	1.15
Expenses / Reprod. / Permits (Markup)	1.15

Effective January 1, 2020 – Schedule is subject to change

Founded 1998
ALPHA & OMEGA GROUP
CIVIL | STRUCTURAL | WATER RESOURCES

March 31, 2020

Re: City of Greensboro Culvert Inspections

Alpha & Omega Group (A&O) Scope of Services:

Task 1 – Project Management

The inspection team will review previous inspection reports to understand the type, number and size of the culverts to be inspected. The team will then develop a plan and schedule to inspect each culvert and assist WithersRavenel (WR) with coordinating inspection assignments with Simpson Engineers and Associates (SEA) and CH Engineering (CHE). A&O will work with CHE in a Mentor/Protégé arrangement to develop CHE capabilities in culvert inspections and the use of mobile applications. CHE will provide team assistants for the inspection of 45 culvert locations. Costs associated with Task 1 are included in Tasks 3 and 4.

Task 2 – GIS Mobile Field Application Development

A&O will assist WR in the development of a mobile app that will be utilized during inspection to capture the inspection data using Mobile ESRI technology. A&O will field test the app during development to ensure full functionality prior to scheduling any culvert inspections. A&O will meet with WR and City staff to discuss all relevant items to be collected during the culvert inspections and assist in defining the types of work orders that will be initiated through the app. Costs associated with Task 2 are included in Tasks 3 and 4.

Task 3 – Culvert Inspections for 517 culvert locations

Site information for each culvert will include: culvert location, street crossing classification and GIS equipment ID. Information about the culvert will also be verified or collected including the following: number of barrels, approximate barrel length, approximate barrel slope, barrel shape (diameter, span and rise as needed), Barrel material type and end treatments. The number and type of utilities (if identifiable) will be recorded along with the depth of water flowing through each barrel

The culvert will be inspected for the following condition categories: Invert Deterioration, Cross-section Deformation, Joints & Seams, Pipe Penetrations, Cracking, Spalling, Mortar & Masonry, Headwall / Wingwall, Inlet condition, Outlet Condition and Energy Dissipator. The culverts will then be assigned a rating for each of these categories. The rating scale will be good, fair, poor, critical and unknown. A good rating is only minor defects noted, a fair rating will be defects noted but not affecting the function of the culvert, a poor rating will be defects that prevent the culvert from functioning as it should, a critical rating will be for defects that are preventing the culvert from functioning creating other severe problems. If the category cannot be inspected then unknown will be used. If the category of the defect does not apply the rating will be left blank.

The inspection team will identify any performance problems during the inspection are as follows: Debris / Vegetation Blockage (% Blockage), Poor Channel Alignment, Local Outlet scour, Channel Degradation / Headcut, Sedimentation Blockage (% Blockage), Exposed Footing, Barrel Undermining, Visual Evidence of Undermining, Embankment Slope Instability and NC Access/ Buried / Submerged.

An overall rating will be assigned to the culvert using a Good, Fair, Poor, Critical, Unknown and Performance Problems. A good rating is only minor defects noted, a fair rating will be defects noted but not affecting the function of the culvert, a poor rating will be defects that prevent the culvert from functioning as it should, a critical rating will be for defects that are preventing the culvert from functioning creating other severe problems. If the category cannot be inspected then unknown will be used. If the category of the defect does not apply the rating will be left blank.

Photos of each culvert will be taken to give an overall view of the structure. At a minimum the culvert structure photos will be Inlet Elevation, Outlet Elevation, Roadway Above, View Upstream and View Downstream. Additional culvert structure photos will be taken as needed to document the components of the culvert. Representative photos of defects that are found will be taken and included in the report. Any critical items found will have photos to go along with the written notes.

The inspection team will note and report structural problems. Structural defects will be graded on a scale from 1 to 5 with 5 needing immediate attention. If a structural defect is found that requires immediate attention A&O will contact the client and arrange for an onsite meeting to review the findings. A rating of 4 will need to be repaired in the next six months. A rating of 3 will need to be repaired in in the next two years. A rating of 1 to 2 would need to be programmed in to maintenance as funds become available.

Alpha & Omega Group Culvert Inspection Hours:

Tasks	PIC ($260/hr)	SrPM ($210/hr)	PM ($155/hr)	PE ($115/hr)	EI ($100/hr)	TA ($80/hr)	Total Hours	Budget
Culvert Inspection	12		238	946	238	946	2380	$248,280.00
QA/QC	40	120					160	$ 35,600.00
Expenses								$ 4,040.00
Total	52	120	238	946	238	946	2540	$287,920.00

Task 4 – Data Delivery and Report

B. Stormwater Culvert Inspection Report

A&O will provide a comprehensive .pdf report, reporting on each culvert location. An overall rating for each culvert using a Good, Fair, Poor, Critical, Unknown and Performance Problems. A good rating is only minor defects noted, a fair rating will be defects noted but not affecting the function of the culvert, a poor rating will be defects that prevent the culvert from functioning as it should, a critical rating will be for defects that are preventing the culvert from functioning creating other severe problems. If the category cannot be inspected then unknown will be used. If the category of the defect does not apply the rating will be left blank.

The report will include photos of each culvert taken to give an overall view of the structure. At a minimum the culvert structure photos will be Inlet Elevation, Outlet Elevation, Roadway Above, View Upstream and View Downstream. Additional culvert structure photos will be included as needed to

document the components of the culvert. Representative photos of defects that are found will be included in the report. Any critical items found will have photos to go along with the written notes.

The report will provide information related to structural defects graded on a scale from 1 to 5 with 5 needing immediate attention. A rating of 4 will need to be repaired in the next six months. A rating of 3 will need to be repaired in in the next two years. A rating of 1 to 2 would need to be programmed in to maintenance as funds become available.

Maintenance items will be categorized as those needing prompt attention (within 30 days), Special Maintenance and Preventative Maintenance.

Alpha & Omega Group Inspection Report Hours:

Tasks	PIC ($260/hr)	SrPM ($210/hr)	PM ($155/hr)	PE ($115/hr)	EI ($100/hr)	TA ($80/hr)	Total Hours	Budget
Report	32	64	124	160			380	$ 59,380.00
Expenses								$ 2,000.00
Total	32	64	124	160	0	0	380	$ 61,380.00

SIMPSON ENGINEERS & ASSOCIATES

5640 Dillard Drive, Suite 200
Cary, NC 27518
(919) 852-0468 (Office)
(919) 852-0598 (Fax)

April 8, 2020

Re: City of Greensboro Culvert Inspections

Simpson Engineers and Associates (SEA) Scope of Services:

Task 3 – Culvert Inspections for 92 Locations

Site information for each culvert will include: culvert location, street crossing classification and GIS equipment ID. Information about the culvert will also be verified or collected including the following: number of barrels, approximate barrel length, approximate barrel slope, barrel shape (diameter, span and rise as needed), Barrel material type and end treatments. The number and type of utilities (if identifiable) will be recorded along with the depth of water flowing through each barrel.

The culvert will be inspected for the following condition categories: Invert Deterioration, Cross-section Deformation, Joints & Seams, Pipe Penetrations, Cracking, Spalling, Mortar & Masonry, Headwall / Wingwall, Inlet condition, Outlet Condition and Energy Dissipator. The culverts will then be assigned a rating for each of these categories. The rating scale will be good, fair, poor, critical and unknown. A good rating is only minor defects noted, a fair rating will be defects noted but not affecting the function of the culvert, a poor rating will be defects that prevent the culvert from functioning as it should, a critical rating will be for defects that are preventing the culvert from functioning creating other severe problems. If the category cannot be inspected, then unknown will be used. If the category of the defect does not apply the rating will be left blank.

The inspection team will identify any performance problems during the inspection are as follows: Debris / Vegetation Blockage (% Blockage), Poor Channel Alignment, Local Outlet scour, Channel Degradation / Headcut, Sedimentation Blockage (% Blockage), Exposed Footing, Barrel Undermining, Visual Evidence of Undermining, Embankment Slope Instability and NC Access/ Buried / Submerged.

An overall rating will be assigned to the culvert using a Good, Fair, Poor, Critical, Unknown and Performance Problems. A good rating is only minor defects noted, a fair rating will be defects noted but not affecting the function of the culvert, a poor rating will be defects that prevent the culvert from functioning as it should, a critical rating will be for defects that are preventing the culvert from functioning creating other severe problems. If the category cannot be inspected, then unknown will be used. If the category of the defect does not apply the rating will be left blank.

Photos of each culvert will be taken to give an overall view of the structure. At a minimum the culvert structure photos will be Inlet Elevation, Outlet Elevation, Roadway Above, View Upstream and View Downstream. Additional culvert structure photos will be taken as needed to document the components of the culvert. Representative photos of defects that are found will be taken and included in the report. Any critical items found will have photos to go along with the written notes.

The inspection team will note and report structural problems. Structural defects will be graded on a scale from 1 to 5 with 5 needing immediate attention. If a structural defect is found that requires immediate attention A&O will contact the client and arrange for an onsite meeting to review the findings. A rating of 4 will need to be repaired in the next six months. A rating of 3 will need to be

repaired in in the next two years. A rating of 1 to 2 would need to be programmed into maintenance as funds become available.

Simpson Engineering and Associates Hours:

Tasks	PIC ($232.20/hr)	SrPM ($181.58/hr)	PM ($170.78/hr)	PE ($164.03/hr)	EI ($108.00/hr)	TA ($82.35/hr)	Total Hours	Budget
Culvert Inspection	12	12		307	204	175	710	$ 91,764.22
QA/QC			24				24	$ 4,098.60
Expenses								$ 1,677.60
Total	12	12	24	307	204	175	734	$ 97,540.42

CH ENGINEERING

March 31, 2020

Re: City of Greensboro Culvert Inspections

CH Engineering (CHE) Scope of Services:

Task 3 – Culvert Inspections for 45 Locations

Under a Mentor/Protégé arrangement, CHE will assist Alpha & Omega Group (A&O) in providing team assistants for the culvert inspections. Site information for each culvert will include: culvert location, street crossing classification and GIS equipment ID. Information about the culvert will also be verified or collected including the following: number of barrels, approximate barrel length, approximate barrel slope, barrel shape (diameter, span and rise as needed), Barrel material type and end treatments. The number and type of utilities (if identifiable) will be recorded along with the depth of water flowing through each barrel

The culvert will be inspected for the following condition categories: Invert Deterioration, Cross-section Deformation, Joints & Seams, Pipe Penetrations, Cracking, Spalling, Mortar & Masonry, Headwall / Wingwall, Inlet condition, Outlet Condition and Energy Dissipator. The culverts will then be assigned a rating for each of these categories. The rating scale will be good, fair, poor, critical and unknown. A good rating is only minor defects noted, a fair rating will be defects noted but not affecting the function of the culvert, a poor rating will be defects that prevent the culvert from functioning as it should, a critical rating will be for defects that are preventing the culvert from functioning creating other severe problems. If the category cannot be inspected then unknown will be used. If the category of the defect does not apply the rating will be left blank.

The inspection team will identify any performance problems during the inspection are as follows: Debris / Vegetation Blockage (% Blockage), Poor Channel Alignment, Local Outlet scour, Channel Degradation / Headcut, Sedimentation Blockage (% Blockage), Exposed Footing, Barrel Undermining, Visual Evidence of Undermining, Embankment Slope Instability and NC Access/ Buried / Submerged.

An overall rating will be assigned to the culvert using a Good, Fair, Poor, Critical, Unknown and Performance Problems. A good rating is only minor defects noted, a fair rating will be defects noted but not affecting the function of the culvert, a poor rating will be defects that prevent the culvert from functioning as it should, a critical rating will be for defects that are preventing the culvert from functioning creating other severe problems. If the category cannot be inspected then unknown will be used. If the category of the defect does not apply the rating will be left blank.

Photos of each culvert will be taken to give an overall view of the structure. At a minimum the culvert structure photos will be Inlet Elevation, Outlet Elevation, Roadway Above, View Upstream and View Downstream. Additional culvert structure photos will be taken as needed to document the components of the culvert. Representative photos of defects that are found will be taken and included in the report. Any critical items found will have photos to go along with the written notes.

The inspection team will note and report structural problems. Structural defects will be graded on a scale from 1 to 5 with 5 needing immediate attention. If a structural defect is found that requires immediate attention A&O will contact the client and arrange for an onsite meeting to review the findings. A rating of 4 will need to be repaired in the next six months. A rating of 3 will need to be repaired in in the next two years. A rating of 1 to 2 would need to be programmed in to maintenance as funds become available.

CH Engineering Hours:

Tasks	PSS ($163.02/hr)	ASC ($117.26/hr)	SCL ($82.94/hr)	SCT ($94.38/hr)	SCM ($65.78/hr)	Total Hours	Budget
Culvert Inspection	14	27	163		163	367	$ 29,689.66
QA/QC				27		27	$ 2,548.26
Expenses							$ 564.16
Total	14	27	163	27	163	394	$ 32,802.08