

CITY OF HIGH POINT

AGENDA ITEM



Title: Evaluation of Alternatives for Arnold Koonce City Lake Dam

From: Terry Houk – Public Services Director
Derrick Boone – Public Services Asst. Director

Meeting Date: July 17, 2017

Public Hearing: N/A

Advertising Date: N/A
Advertised By: On-Call

Attachments: Formal Bid Recommendation
Attachment A – Proposal for Evaluation of Alternatives for City Lake Dam

PURPOSE:

The Public Services Department has identified the need for the evaluation of alternatives to rehabilitate the Arnold Koonce City Lake Dam. The objective of the study is to develop a topographic and boundary survey of the site, evaluate the subsurface conditions at the dam, perform updated hydrologic and hydraulic analyses, calculate the stability of the existing dam under various loading conditions, and evaluate alternatives to address dam safety deficiencies identified at the dam.

BACKGROUND:

The City Lake Dam was designed by William C. Olsen and originally constructed in 1926. The dam impounds a reservoir that is used for water supply and provides a recreational amenity to the surrounding community. Based on the height of the dam and the extent of downstream development, the dam is classified as a Large-Size, High Hazard dam under the dam safety criteria of the State of North Carolina. Per the NC dam safety regulations, a dam with this classification should have sufficient spillway capacity to convey three-quarters of the probable maximum precipitation (PMP). The hydrologic and hydraulic analyses performed to develop the Emergency Action Plan (EAP) for the dam indicate that the spillway does not have sufficient capacity to convey flows from this storm without overtopping the dam.

BUDGET IMPACT:

Funds for this project are available in the 2017-2018 Budget.

RECOMMENDATION / ACTION REQUESTED:

The Public Services Department recommends approval and asks for the Council to award the professional engineering services to Schnabel Engineering South, P.C. in the amount of \$186,720.00.



**FORMAL BID RECOMMENDATION
REQUEST FOR COUNCIL APPROVAL**

DEPARTMENT: **Public Services Department**

COUNCIL AGENDA DATE: **July 17, 2017**

BID NO.: CONTRACT NO.: DATE OPENED:

DESCRIPTION:

The Public Services Department has identified the need for the evaluation of alternatives to rehabilitate the Arnold Koonce City Lake Dam.

PURPOSE:

The objective of the study is to develop a topographic and boundary survey of the site, evaluate the subsurface conditions at the dam, perform updated hydrologic and hydraulic analyses, calculate the stability of the existing dam under various loading conditions, and evaluate alternatives to address dam safety deficiencies.

COMMENTS:

RECOMMEND AWARD TO: **Schnabel Engineering South, P.C.** AMOUNT: **\$186,720**

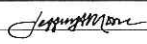
JUSTIFICATION:

ACCOUNTING UNIT	ACCOUNT	ACTIVITY	CATEGORY	BUDGETED AMOUNT
421779	527101	421181029020	40205	\$186,720
TOTAL BUDGETED AMOUNT				

DEPARTMENT HEAD: **Terry Houk** Digitally signed by Terry Houk
DN: cn=Terry Houk, o=City of High Point, ou=Public Services, email=terry.houk@highpointnc.gov, c=US
Date: 2017.06.29 10:34:35 -0400 DATE: **Jun 29, 2017**

The Purchasing Division concurs with recommendation submitted by the **Public Services** and recommends award to the lowest responsible, responsive bidder **Schnabel Engineering S.** in the amount of \$ **186,720.00**.

PURCHASING MANAGER: **Erik Conti** Digitally signed by Erik Conti
DN: cn=Erik Conti, o=City of High Point, ou=Public Services, email=erik.conti@highpointnc.gov, c=US
Date: 2017.06.30 14:17:34 -0400 DATE: **Jun 30, 2017**

Approved for Submission to Council
FINANCIAL SERVICES DIRECTOR:  Digitally signed by Jeffrey A. Moore
DN: cn=Jeffrey A. Moore, o=City of High Point, ou=Financial Services Director, email=jmoore@highpointnc.gov, c=US
Date: 2017.07.06 17:25:31 -0400 DATE: **Jul 6, 2017**

CITY MANAGER: **Greg Demko** Digitally signed by Greg Demko
DN: cn=Greg Demko, o=High Point, ou=High Point, email=greg.demko@highpointnc.gov, c=US
Date: 2017.07.07 11:29:47 -0400 DATE: **Jul 7, 2017**

May 25, 2017

Mr. Derrick Boone
Assistant Public Services Director
City of High Point
211 South Hamilton, Room 206
High Point, NC 27260

**Subject: Proposal for Evaluation of Alternatives for City Lake Dam
High Point, North Carolina (Schnabel Reference P4821083.00)**

Dear Mr. Boone:

SCHNABEL ENGINEERING SOUTH, P.C. (Schnabel) is pleased to submit this updated proposal to develop a topographic survey, perform hydrologic and hydraulic analyses and stability analyses, and evaluate alternatives to address identified dam safety deficiencies at City Lake Dam in High Point, NC.

PROJECT DESCRIPTION

The City Lake Dam was designed by William C. Olsen and originally constructed in 1926. The dam is owned by the City of High Point, NC. The dam impounds a reservoir that is used for water supply and also provides a recreational amenity to the surrounding community. The dam is located immediately east of Scientific Road and just north of W. Main Street in City Lake Park.

The dam consists of a cyclopean concrete gravity dam founded on bedrock with an earthen embankment on the right side of the dam (looking downstream) which ties out to the right abutment. The majority of the concrete dam is taken up by the overflow spillway with a length of 312 feet. The spillway includes 28 ungated bays divided by piers serving as supports for a service bridge. The dam height is approximately 49.5 feet from the crest of the dam to the creek bed elevation at the downstream toe. The length of the dam is approximately 618 feet including the earth and concrete portions. According to available record drawings, the upstream slope of the concrete dam section is vertical, and the downstream slope is 9 horizontal to 12 vertical (9H:12V). The ungated concrete ogee section discharges onto nine level landings. The flow over the right five landings discharges onto a grouted rock spillway apron that slopes to a concrete-lined outlet channel. The flow over the left three landings discharges across sloping concrete into the concrete-lined outlet channel. A buttressed concrete wall with an exposed height of approximately 10 feet is constructed along the downstream right side of the grouted apron. It appears that the outlet channel is lined with concrete from the toe of the dam's concrete gravity section to the end of the apron. An unlined outlet channel extends from the end of the apron to beneath the bridge on W. Main Street, located approximately 600 feet downstream of the toe of dam. The water supply intake tower

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is a concrete structure located in the reservoir on the upstream face of the dam approximately 150 feet from the left end of the dam.

According to available record drawings, the earthen embankment on the right side of the dam has a crest width of 18 feet, an upstream slope of 3 horizontal to 1 vertical (3H:1V), and a downstream slope of 2H:1V. The embankment is reportedly 150 feet long, constructed of homogeneous earthfill, and has a 90-foot long concrete core wall near its centerline that extends to rock.

Based on the height of the dam and the extent of downstream development, the dam is classified as a Large-Size, High Hazard dam under the dam safety criteria of the State of North Carolina. According to the NC dam safety regulations, a dam with this classification should have sufficient spillway capacity to convey three-quarters of the probable maximum precipitation (PMP). The hydrologic and hydraulic analyses performed to develop the Emergency Action Plan (EAP) for the dam indicate that the spillway does not have sufficient capacity to convey flows from this storm without overtopping the dam. The previous analyses show that the service bridge and right earthen embankment overtop by a maximum of about 8.9 feet during the $\frac{3}{4}$ PMP, the Spillway Design Storm (SDS).

In addition, the U.S. Army Corps of Engineers (USACE) Phase 1 Inspection Report for City Lake Dam dated 1979 indicates that the dam does not meet stability requirements for all loading conditions. The report includes a recommendation that the stability of the dam be re-evaluated.

OBJECTIVE AND SCOPE OF SERVICES

The objective of this study is to develop a topographic and boundary survey of the site, evaluate the subsurface conditions at the dam, perform updated hydrologic and hydraulic analyses, calculate the stability of the existing dam under various loading conditions, and evaluate alternatives to address dam safety deficiencies identified at the dam. This study will be performed under the supervision of a Professional Engineer registered in the State of North Carolina.

Our proposed scope of services includes the following tasks:

Task 1: Develop a Topographic and Boundary Survey

Schnabel will subcontract with Davis-Martin-Powell & Associates, Inc. (DMP) to complete a topographic and boundary survey at the dam site. This survey will serve as the baseline for evaluating existing conditions and developing design alternatives. In subsequent phases, the topographic survey will serve as the basis for developing drawings to implement recommended repairs. The boundary survey will document legal boundaries such as property lines, easements, or right of ways for use during the design phase of the project.

The survey will be provided in both hard copy (sealed by the surveyor) and electronic formats (including ASCII files of all points collected by the surveyor). The survey will be referenced to the appropriate State Plane coordinate system for horizontal control and to the North American Vertical Datum of 1988 (NAVD88) for vertical control. These references will be noted on the drawings. Survey monuments will be established for use in design and future phases of the project. The approximate limits of the proposed survey are provided on Figure 1 in Attachment 1.

Task 2: Spillway Capacity Analysis

During the development of the EAP for City Lake Dam, Schnabel developed the inflow design storm, routed it through the reservoir and spillway, and performed dam breach analyses and downstream flood routing. As part of the scope of work for this alternatives evaluation, Schnabel will review and refine these previous analyses to confirm the available spillway capacity. This will include a more rigorous evaluation of the discharge capacity of the existing spillway considering its shape, geometry, and the effects of the service bridge piers. Calculations for flow over the top of dam will also be revised based on the results of the topographic survey performed. The developed Spillway Design Storm (SDS) will be used in subsequent phases of this project to evaluate various alternatives to provide sufficient spillway capacity to meet state dam safety regulations.

Task 3: Subsurface Investigation

We will perform a geotechnical investigation to evaluate the condition of the earthen embankment and concrete dam. Schnabel will subcontract with a test boring contractor to perform the drilling. The subsurface investigations will be performed under the observation of a geotechnical engineer or geologist from Schnabel. This individual will be responsible for logging the test borings, field classification of soil, concrete, and rock samples, monitoring and documenting water levels, and collecting samples for laboratory testing.

For the investigation of the existing earth embankment, we propose three test borings. Two borings will be advanced from the crest of the embankment and one will be performed near the downstream toe of the embankment adjacent to the right spillway training wall. The three borings will be advanced with hollow stem augers to refusal on rock, and it is expected that 10 feet of rock will be cored in each of the borings. Standard Penetration Tests (SPTs) and split spoon sampling will be performed at the ground surface and at 5-foot depth intervals while drilling through the embankment and foundation soils. Temporary water observation wells / piezometers will be installed in one of the borings at the crest of the embankment and in the boring near the toe of the dam. Water level readings from the wells / piezometers will be obtained immediately following drilling and installation of the well. Additional readings will be obtained after installation to estimate static water levels within the embankment.

In addition, we propose to core three borings from the service bridge through the concrete dam and into the bedrock foundation using specialized methods to adequately distribute the weight of the drilling equipment across the bridge deck and into the service bridge piers. Drilling from the reservoir on barge-mounted equipment is not preferred due to difficult access conditions. We propose to use Red Dog Drilling (Red Dog) of Midland, NC for the subsurface exploration. Schnabel has successfully worked with Red Dog on numerous projects and Red Dog is familiar with similar access and drilling constraints.

We recommend drilling and sampling using a core barrel with an inner liner that is capable of retrieving 2.5-inch-diameter (HQ) cores through the dam and into the rock foundation. Continuous cores of the concrete and rock will be collected for evaluation and testing. We proposed to perform 150 feet of coring, which includes roughly 110 feet of concrete and roughly 40 feet of rock. It is anticipated that packer tests will be performed in select locations in the borings. The packer tests will be used to test the leakage through the concrete or the dam foundation as appropriate. Upon completion of the drilling, all borings will be backfilled with a cementitious grout.

The proposed test boring locations in the concrete dam and embankment are shown on Figure 2 in Attachment 2.

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Laboratory testing of soil samples will be performed by Schnabel's geotechnical laboratory in Blacksburg, Virginia. It is expected that rock testing will be performed on select core samples at a lab subcontracted to perform these specialized tests. For budgeting purposes, we have assumed the number and types of tests listed below will be performed.

SUMMARY OF PROPOSED LAB TESTING

TEST NAME	NO. OF TESTS
Natural Moisture Content	10
Atterberg Limits	4
Mechanical Analysis - Sieve	8
Mechanical Analysis - Sieve & Hydrometer	2
Specific Gravity	2
Unconfined Compression - Concrete	3
Unconfined Compression - Rock	3
Unit Weight Testing for Each Compression Test	6
Direct Shear at Concrete/Rock interface or Lift Lines	3
Direct Shear at Discontinuity in Rock	2
Splitting Tensile Tests of Concrete Core	2
Direct Tensile Tests of Intact Rock Core	2

We will contact *North Carolina 811* prior to mobilizing any drilling or excavating equipment to the project site. *North Carolina 811* will contact the appropriate public utility companies (or their contract locators) to mark their utilities on the project site. Between 48 and 72 hours are typically required to clear utilities on a site. We will not be responsible for damage or disruption of utilities or other subsurface features not indicated to us in advance.

Upon completion of the subsurface investigation and laboratory testing program, we will prepare a Geotechnical Data Report (GDR) summarizing the data gathered during the investigation, including subsurface concrete, soil, and rock conditions, water levels, packer test results, and laboratory test results

Task 4: Stability Analysis

The criteria used for stability analysis of the dam will be obtained from the appropriate USACE manuals and in accordance with NC dam safety guidelines. We will use material strengths for the dam based on the results of the subsurface investigation laboratory tests, and our experience on similar projects. The geometry for the dam will be selected based on available record drawings and confirmed with field measurements and the results of the topographic survey. In addition, we will develop required loading conditions including Usual (normal pool), Unusual (unusual flood, operational basis earthquake), and Extreme (maximum credible earthquake and PMP). Minimum factors of safety along potential failure planes will be assigned to each load condition category for use in the stability analyses of the structure.

A two-dimensional proprietary spreadsheet developed by Schnabel based on static equilibrium analysis will be used to calculate sliding and overturning stability for a typical spillway section. A parametric analysis will be performed to evaluate the sensitivity of the model to various material and strength properties.

Task 5: Evaluation of Alternatives

Schnabel will evaluate up to three alternatives to rehabilitate City Lake Dam. The rehabilitated structure will be designed to meet USACE factors of safety for stability (static and seismic) and will provide sufficient spillway capacity to safely convey the required SDS. If dam replacement appears to be a viable and cost competitive option, one of the alternatives may consist of developing a conceptual layout for a replacement dam.

Schnabel will perform hydraulic routings to develop the rehabilitation and replacement alternatives. Schnabel will develop conceptual drawings (i.e., figures) for each alternative. These figures will include a plan and typical section view of each alternative sufficient to show the intent and general layout.

Schnabel will discuss potential water supply impacts, construction schedule, temporary stream diversion, control of water issues, aesthetics, perceived permitting/environmental impacts, and other factors with City personnel to evaluate how they may affect the project cost and selection of the recommended alternative. Preliminary cost ranges will be developed for each alternative considering the factors discussed above and estimated quantities from the conceptual layouts.

A report outlining the potential rehabilitation / replacement alternatives will be provided. The report will include the analysis of the existing conditions and alternatives, concept drawings, and preliminary cost estimates developed for each alternative. Our scope includes one face-to-face meeting with the City to discuss the results of the alternatives analysis.

EXCLUSIONS

Services not specifically identified above are not included in the scope of services under this agreement. The following services are not included in our proposed scope, but can be provided upon request:

- Updated Emergency Action Plan or inundation mapping
- Environmental studies

SCHEDULE

We plan to begin fieldwork, including the survey and subsurface investigation, within about 3 weeks of receipt of a purchase order or written notice-to-proceed (NTP). We will provide a draft of our alternatives evaluation report to you for review within 3 months after completion of our field investigation.

LUMP SUM FEE

Our lump sum fee for the proposed services is **\$186,720.00**. A breakdown of this fee by task is included in the table below. This fee is for the specific scope of services detailed herein. If the conditions encountered during our subsurface exploration are different from those anticipated, we may recommend that additional borings and/or tests be performed. We will base the fee for these additional services on our current unit prices at the time you authorize the services.

Task	Fee
Task 1 – Topographic and Boundary Survey	\$24,430
Task 2 – Spillway Capacity Analysis	\$7,450
Task 3 – Subsurface Investigation	\$101,700
Task 4 – Stability Analysis	\$8,090
Task 5 – Evaluation of Alternatives	\$45,050
LUMP SUM FEE	\$186,720

PAYMENTS

Services will be billed monthly as a percentage of completion of the lump sum fee. Payment will be due on receipt of our invoices and will be considered past due 30 days after the invoice date. Interest will be charged at 1.5 percent per month on all overdue accounts. Payments will not be contingent upon receipt of funds from third parties.

GENERAL

The Standard Contract Terms and Conditions included in our Master Agreement for On-Call Professional Engineering Services dated August 9, 2013 (included as Attachment 3 for reference) will apply to services to be provided under this proposed agreement. Consultation after submission of our report will be provided at your request at our standard hourly rates in effect at the time. We assume the City will provide a Supplemental Service Agreement referencing the Master Agreement. This proposal is valid for 90 days from the date shown.

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We appreciate the opportunity to submit our proposal for these services and are looking forward to working with you on this project. Please contact us if you have any questions regarding this proposal.

Sincerely,

SCHNABEL ENGINEERING SOUTH, P.C.



Thomas J. Fitzgerald, PE
Principal

TJF:JMP

Attachments: (1) Proposed Topographic and Boundary Survey Limits, Figure 1
(2) Proposed Test Boring Location Plan, Figure 2
(3) Master Agreement for On-Call Professional Engineering Services



Topographic
Survey Limits

100 50 0 100
Feet

Scale: 1:1,200

Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the
GIS User Community
ESRI MediaKit (2009&2010) / Projection: NAD 1983 StatePlane North Carolina FIPS 3200 Feet



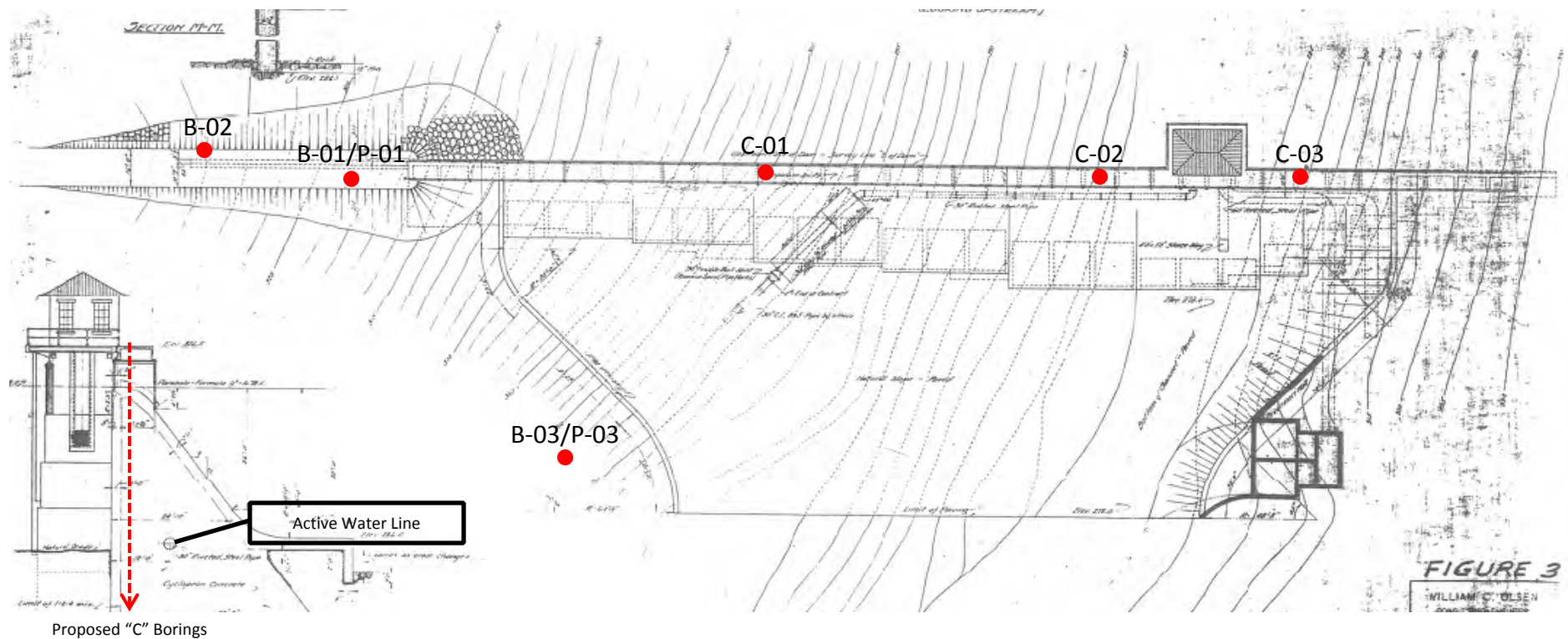
CITY LAKE DAM
CITY OF HIGH POINT
HIGH POINT, NC
PROJECT NUMBER P4821083.00

TOPOGRAPHIC AND
BOUNDARY SURVEY
LIMITS

ATTACHMENT FIGURE 1

01/11/11

City Lake Dam Proposed Boring Location Plan



Financial Services

Purchasing Division

TRACEY ADAMS, BUYER



August 26, 2013

Schnabel Engineering South, P.C.
11A Oak Branch Drive
Greensboro, NC 27407
lbroughden@schnabel-eng.com

Re: RFQ #17-121212
Master Agreement for On-Call Professional Services
Public Services Department

Enclosed is your copy of the executed Master Agreement for the On-Call Professional Services,
Public Services Department for the City of High Point.

Please feel free to call if you have any questions.

Sincerely,

A handwritten signature in purple ink that reads "Tracey Adams". The signature is written in a cursive, flowing style.

Tracey Adams
Buyer

Enc. 1

**CITY OF HIGH POINT
GUILFORD COUNTY, NORTH CAROLINA**

**MASTER AGREEMENT
FOR
ON-CALL PROFESSIONAL ENGINEERING SERVICES
PUBLIC SERVICES DEPARTMENT**

THIS AGREEMENT made this 9 day of August, 2013 by and between the City of High Point, North Carolina (hereinafter called "the CITY") and Schnabel Engineering South, P.C., for itself and its successors and assigns ("the CONSULTANT").

WHEREAS, the CITY desires to engage the CONSULTANT to provide On-Call Engineering Services ("Services") in accordance with terms set forth in Request for Qualifications # 17-121212 (RFQ); and with this Master Agreement ("Agreement") and any and all Supplemental Agreements negotiated per the terms of this agreement;

WHEREAS, the CONSULTANT desires to render these Services as described in SECTION II, SCOPE OF SERVICES, and has the experience, staff, and resources to perform such Services;

NOW, THEREFORE, the CITY and the CONSULTANT, in consideration of their mutual covenants, herein agree as follows:

SECTION I EMPLOYMENT OF CONSULTANT

- A. The CONSULTANT shall perform the services set forth in SECTION II, GENERAL SCOPE OF SERVICES, and the CITY shall pay the CONSULTANT for the performance of such Services as set forth herein.

SECTION II SCOPE OF SERVICES

- A. The CONSULTANT will provide On-Call Professional Engineering Services in the following areas of work: engineering and design services related to Surveying; Water Distribution; Wastewater Collection; Plant Improvements; Water & Wastewater Pump Stations; Water Tanks; SCADA; Stormwater studies, compliance, and projects; Roadway Study/Design; Solid Waste, and other projects pertaining to the Public Services Department. On-Call Engineering Services for each assigned phase or task as set forth in the RFQ which shall be made a part of this Agreement as if fully set forth herein. Tasks to be performed under this agreement will be assigned by a Scope of Services Supplemental Agreement ("Supplemental Agreement"), which shall be made a part of this Agreement as if fully set forth herein. Requests for services are contingent upon funding approved by the City Council.
- B. The CONSULTANT shall provide services defined by each Supplemental Agreement for the lump sum fee based on the negotiated price for each assigned task.
- C. The CITY shall determine which tasks are to be lump sum and which are to be hourly. The maximum total fee earned by the CONSULTANT for services rendered in the fulfillment of assigned tasks shall not exceed the amount negotiated in each Supplemental Agreement.
- D. Work requested by the City but not included in the RFQ or any Supplemental Agreement is not included in this Agreement. This work will be classified as additional services. Additional services will be negotiated on an individual project basis and awarded by separate contract.

SECTION III RESPONSIBILITIES OF CONSULTANT AND CITY

- A. RESPONSIBILITY OF THE CONSULTANT

1. The CONSULTANT shall be responsible for the professional quality, technical accuracy, and the coordination of all documents and other services furnished by the CONSULTANT under this Agreement and all Supplemental Agreements.
2. The CONSULTANT agrees to provide Project and Task Schedule progress reports, as defined in each Supplemental Agreement, in a format acceptable to the CITY and at intervals established by the CITY. The CITY will be entitled at all times to be advised, at its request, as to the status of services being done by the CONSULTANT and of the details thereof. The CONSULTANT shall maintain coordination with representatives of the CITY.
3. In the event there are delays on the part of the CITY as to the approval of any of the materials submitted by the CONSULTANT, or if there are delays occasioned by circumstances beyond the control of the CONSULTANT which delay the Project or Task Schedule completion date as specified in a Supplemental Agreement, the CITY may grant to the CONSULTANT an extension of the contract time equal to the aforementioned delays, provided there are no changes in compensation or scope of services.
4. It shall be the responsibility of the CONSULTANT to ensure at all times that sufficient contract time remains within which to complete services for each assigned task, and for the Project. In the event there have been delays which would affect completion of the task or the Project, the CONSULTANT shall submit a written request to the CITY, which identifies the reason(s) for the delay and the amount of time, related to each reason. The CITY will review the request and make a determination as to granting all or part of the requested extension.
5. In the event contract time expires and the CONSULTANT has not requested, or if the CITY has denied, an extension of the completion date, partial progress payments will be stopped on the date time expires. No further payments for the assigned task or the Project will be made until a time extension is granted or all services have been completed and accepted by the CITY.
6. The CONSULTANT shall maintain an adequate and competent professional staff within the State of North Carolina and may associate with it such specialists (subconsultants), for the purpose of its Services hereunder, without additional cost to the CITY, other than those costs stipulated within the limits and terms of this Agreement. Should the CONSULTANT desire to utilize specialists, the CONSULTANT is fully responsible for satisfactory completion of all subcontracted services. It is understood and agreed that the CITY will not, except for such Services so designated in the Supplemental Agreement, permit or authorize the CONSULTANT to perform less than the total contract services with other than its own organization.
7. All final plans, documents, reports, studies, and other data prepared by the CONSULTANT will bear the endorsement or seal of a person in the full employ of the CONSULTANT or its subconsultants and duly licensed and registered in the appropriate professional category.
8. The CONSULTANT shall submit to the CITY such Project documentation and deliverables as agreed to by the CONSULTANT and the CITY in the applicable Supplemental Agreement. The CONSULTANT shall not be liable for use by the CITY of said plans, documents, studies, or other data for any purpose other than those intended by the terms of this Agreement and Supplemental Agreements.
9. All plans, specifications, analytical tools, maps, documents and/or reports prepared or obtained under this Agreement shall be considered services made for hire and shall become the property of the CITY without restriction or limitation on their use, except as limited in Section III, Paragraph A.8 and Section VI, Paragraph A; and shall be made available, upon request, to the CITY at any time during normal business hours. Records of costs incurred under terms of this Agreement shall be maintained and made available upon request to the CITY at all times during the period of this Agreement and for five (5) years after final payment is made. Copies of these documents and records shall be furnished to the CITY upon request.
10. Records of costs incurred include the CONSULTANT's general accounting records and the Project records, together with supporting documents and records, of the CONSULTANT and all subconsultants performing services on the Project, and all other records of the CONSULTANT and subconsultants considered necessary by the CITY for a proper audit of Project costs.

11. The general cost principles and procedures for the negotiation and administration, and the determination or allowance of costs under this contract shall be as set forth in the Code of Federal Regulations, Titles 23, 48, and 49 and other pertinent Federal, State, and City Regulations, as applicable, with the understanding that there is no conflict between City, State, and Federal Regulations and, in the event there is a conflict, the more restrictive of the applicable regulations will govern.
12. Reimbursement for travel costs will be determined during negotiation of Supplemental Agreement(s).
13. The CONSULTANT shall make reasonable efforts to comply with the goals and objectives of the City of High Point's M/W/DBE Program, and shall provide documentation of such efforts upon request.
14. The CONSULTANT shall comply with all Federal, State, and Local laws and ordinances applicable to the services or payment for services thereof, and shall not discriminate on the grounds of race, color, religion, sex, age, disability, or national origin in the performance of services under this Agreement.

B. RESPONSIBILITIES OF CITY

1. The CITY shall designate and fully authorize an appointed representative(s) to act on behalf of the CITY with respect to this Agreement. The representative's instructions, requests, and decisions on behalf of the CITY will be binding to all matters pertaining to this Agreement.
2. The CITY shall provide existing data, plans, reports, and other information known to, in possession of, or under control of the CITY which are relevant to the execution of the duties of CONSULTANT under this Agreement, and shall provide information regarding project and task objectives, constraints, criteria, relationships, flexibility, systems, site features, and other requirements that exist at the time of the signing of any Supplemental Agreement or which may develop during the execution of this Agreement, and shall assist the CONSULTANT in obtaining needed information from CITY's files.
3. The CITY shall furnish or cause to be furnished data prepared by others, or services of others except those which are to be provided by the CONSULTANT under the Supplemental Agreement.
4. The CITY will give prompt written notice to the CONSULTANT if the CITY observes or otherwise becomes aware of any fault or defect in the services or in the CONSULTANT's conformance to this Agreement.

SECTION IV PERIOD OF SERVICE

A. DURATION

Contract is for an initial period of two (2) years with an automatic renewal of (3) three additional one-year periods for a total contract agreement of five years. Master contractual agreements are anticipated to begin in April 2013 and expire in March 2018. Upon written mutual agreement between the City and the Consultant this contract may be extended annually for an additional five-year period with the total contract time not to exceed ten (10) years.

B. NOTICE TO PROCEED

The CITY will issue a written Notice to Proceed ("NTP") following execution of each specific Supplemental Agreement. The CONSULTANT will not commence the Services set forth in the related Supplemental Agreement until such NTP is received. The City of High Point may renew its Request for Statement of Qualifications for On-Call Consultants following the initial five-year period, as necessary.

SECTION V COMPENSATION

The CITY agrees to pay the CONSULTANT compensation as detailed and approved in Supplemental Agreement(s), and consistent with the hourly fees included herein as Attachment 1. Invoices for fees or other compensation for Services or expenses shall be submitted to the CITY in detail sufficient to process the invoice for payment and for a proper preaudit and postaudit thereof.

A. INVOICES

1. Submittal

Invoices to the CITY for compensation shall be submitted in accordance with the terms of the specific Supplemental Agreement.

2. Payment

Payment terms are Net 30 Days after receipt of invoice.

3. Disputed Items

If any items in any invoices submitted by the CONSULTANT are disputed by CITY for any reason, including the lack of supporting documentation, CITY shall promptly notify the CONSULTANT of dispute and request clarification and/or remedial action. After any dispute has been settled, CONSULTANT shall include the disputed item on a subsequent regularly scheduled invoice or on a special invoice for the disputed item only.

B. AUDIT OF RECORDS

The CONSULTANT agrees to maintain all books, documents, papers, accounting records, and other evidences pertaining to Services performed under this Agreement and to make such materials available for audit or inspection at its office during the Agreement period and for five (5) years from the date of final payment.

SECTION VI GENERAL CONSIDERATIONS

A. REUSE OF DOCUMENTS AND EQUIPMENT

Any reuse of products (drawings, plans, calculations, specifications, studies, electronic data and information, software programs, etc.) on any extension of the Project or on any other project by the CITY without written verification or adaptation by the CONSULTANT for the specific purpose intended will be at the CITY's sole risk and without liability or legal exposure to the CONSULTANT. To the extent allowed by law the CITY hereby agrees to indemnify and hold harmless the CONSULTANT from all damages, losses and costs to the CITY arising out of any such reuse.

B. CONTROLLING LAW

This Agreement is to be governed by the laws of the State of North Carolina.

C. SUCCESSORS AND ASSIGNS

The CITY and the CONSULTANT, respectively, bind themselves, their partners, successors, assigns, and legal representatives to the other party to this Agreement and to the partners, successors, assigns, and legal representatives of such other party with respect to all covenants of this Agreement. Neither the CITY nor the CONSULTANT shall assign, sublet, or transfer any interest in this Agreement without the written consent of the other.

D. CHANGES

The parties agree that neither change nor modification to this Agreement, nor any attachments hereto, shall have any force or affect unless the change is reduced to writing, dated, executed and made part of this Agreement. The execution of the change shall be authorized and signed in the same manner as for this Agreement.

E. INSURANCE COVERAGE

1. General Insurance Requirements

The CONSULTANT shall have and maintain, for any and all periods covered by this Agreement, Worker's Compensation and Employer's Liability Insurance with a company or companies authorized to do business in the State of North Carolina, for the protection of the CONSULTANT's employees, as required by law of any employer.

The CONSULTANT shall also provide and maintain in full force and effect for any and all periods covered by this Agreement, insurance (including but not limited to insurance covering the operation of automobiles and other vehicles) in a company satisfactory to the CITY, protecting the CONSULTANT and the CITY against liability from damages because of injuries, including death, suffered by any person or persons other than employees of the CONSULTANT, and liability or damages to property, arising from or growing out of the CONSULTANT's operations in connection with the performance of this Agreement. Such insurance covering personal and bodily injuries or death shall be in the sum of not less than One Million Dollars (\$1,000,000) for one person and not less than One Million Dollars (\$1,000,000) for any one occurrence. Insurance covering damage to property shall be in the sum of not less than One Million Dollars (\$1,000,000) for any one occurrence, and Two Million Dollars (\$2,000,000) aggregate.

The CONSULTANT shall include as Attachment 2 to this Agreement an executed copy of the Certificate of Insurance showing proof of insurance for Worker's Compensation Insurance, General Liability Insurance and Automobile Insurance naming the City of High Point as the additional insured on the General Liability Policy.

2. Professional Liability Insurance

The CONSULTANT shall also provide and maintain Professional Liability Insurance for any and all periods covered by this Agreement to protect the CITY from liability arising out of the performance of professional services, if any, under this Agreement. Such coverage shall be in the sum of not less than One Million Dollars (\$1,000,000).

The CONSULTANT shall include as Attachment 3 to this Agreement an executed copy of the Certificate of Insurance showing proof of insurance for Professional Liability Coverage.

3. Indemnification and Hold Harmless

The CONSULTANT shall indemnify and hold harmless the CITY and all of its officers, agents, or employees from all suits, actions, and liabilities to the extent caused by any negligent act, error or omission of the CONSULTANT, its Subconsultants, agents, or employees.

F. NOTICES

Any notices to be given under this Agreement shall be given by enclosing the same in a sealed envelope, postage prepaid, and depositing the same in the United States Postal Service, addressed to CONSULTANT at its address stated herein, and to the CITY at its address stated herein.

G. DISPUTES

All Services shall be performed by the CONSULTANT to the standard of care within the industry. The City Manager shall decide all questions, difficulties, and disputes pertaining to the services that may arise under or by reason of this Agreement, and the prosecution and fulfillment of the services hereunder (excluding the CONSULTANT's fulfillment of the standard of care). The City Manager's decision upon claims, questions, and disputes shall be final and binding upon the parties hereto, subject to judicial review. Adjustments of compensation and contract time because of any major changes in the services that may become necessary or desirable as the services progresses shall be left to the discretion of the City Manager and Supplemental Agreement(s) of such a nature as required may be entered into by the parties in accordance herewith.

H. DISCLOSURE

The CONSULTANT agrees that it shall make no statements, press releases or publicity releases concerning this Agreement or its subject matter or otherwise disclose or permit to be disclosed any of the data or other information obtained or furnished in compliance with this Agreement, or any particulars, thereof, during the period of the Agreement, without first notifying the CITY and securing its consent in writing. The CONSULTANT also agrees that it shall not publish, copyright or patent any of the data furnished in compliance with this Agreement, it being understood that, under Section III, Paragraph A.7, Paragraph A.8, Paragraph A.9, and Section VI, Paragraph A, hereof, such data or information is the property of the CITY.

SECTION VII TERMINATION OF AGREEMENT

A. DEFAULT

This Agreement may be terminated in whole or in part in writing by either party at any time for default; provided that no termination for default may be affected unless the other party is given a ten (10) calendar day cure period after written notice of intent to terminate (delivery by Certified Mail, Return Receipt Requested).

B. TERMINATION FOR CONVENIENCE OF THE CITY

The CITY may terminate this Agreement in whole or in part in writing (delivered by Certified Mail, Return Receipt Requested) at any time the interest of the CITY requires such termination. If the Agreement is terminated the CONSULTANT shall be paid for the portion of services satisfactorily performed at time of termination.

C. DISCONTINUE SERVICE AND DELIVER DOCUMENTS

Upon any termination, the CONSULTANT shall (1) promptly discontinue all Services affected (unless a termination notice from the CITY directs otherwise), and (2) deliver or otherwise make available to the CITY all documents, data, drawings, specifications, reports, estimates, summaries, and such other information and materials as may have been accumulated by the CONSULTANT in performing this Agreement, whether completed or in process.

D. CITY MAY PROSECUTE SERVICES

Upon termination pursuant to Paragraphs A or B above, the CITY may take over the services and prosecute the same to completion by agreement with another party or otherwise.

SECTION VIII MEETINGS

A. As provided in the Supplemental Agreement(s), the CONSULTANT will make such reviews, attend such meetings, and make such contacts as are necessary to maintain the project schedule and for proper preparation of plans, documents, specifications, and special provisions.

B. The CONSULTANT may be required to meet with representative(s) of the CITY to review the status of the project. These meetings will not be required unless problems arise that cannot be resolved during the regular visits. The meetings, if needed, shall be held at the CITY's office or at the project site as appropriate.

SECTION IX PROFESSIONAL ENDORSEMENT

All final plans, documents, reports, studies, and other data prepared by the CONSULTANT will bear the endorsement or seal of a person in the full employ of the CONSULTANT or its subconsultants and duly registered in the appropriate professional category. Specifications for this endorsement may be made in a specific Supplemental Agreement.

SECTION X PAYMENT

A. PURPOSE

This section describes the provisions, limits, and method of compensation to be made to the CONSULTANT for Services as set forth in a Supplemental Agreement. The services are to be provided for the duration of the services specified in SECTION IV of the CONSULTANT Agreement and Supplemental Agreements.

B. FEES

For the satisfactory completion of services detailed in this Agreement or any Supplemental Agreement, the CONSULTANT shall receive compensation in the form of (1) a basic lump sum fee payment, or (2) payment in accordance with the hourly rate schedule contained in Attachment 1 of this Master Agreement.

C. PAYMENT PROCEDURES

1. Payment requests will be detailed:

a) The CONSULTANT shall submit monthly invoices in a format and with supporting cost documentation acceptable to the CITY. Instructions for invoice submittal shall be provided in the Supplemental Agreement.

b) Bills for fees and other compensation for services or expenses shall be submitted to the CITY in detail sufficient for a proper audit thereof.

2. Method of Payment

a) Basic Lump Sum Fee

Payment for basic lump sum services shall be determined and made to the CONSULTANT in an amount equal to the percentage of the lump sum services that has been satisfactorily performed and documented on each month's progress report and invoice, as approved by the CITY.

b) Hourly Rate

Payment for hourly rate service shall be made in accordance with the rate schedule included as Attachment 1 of this Agreement.

3. Details of Costs and Fees

Details for the performance of the CONSULTANT's services shall be addressed in the Supplemental Agreement, as appropriate and consistent with the terms of this Agreement.

ATTACHMENT 1

HOURLY FEE SCHEDULE



SCHEDULE OF PERSONNEL FEES – GREENSBORO, NORTH CAROLINA
Effective until December 31, 2013

Corporate Consultant	\$266.00/hr
Principal	239.00/hr
Senior Associate	204.00/hr
Associate	176.00/hr
Senior Resident Project Representative	171.00/hr
Construction Resident Engineer	204.00/hr
Senior Engineer/Scientist	157.00/hr
Project Engineer/Scientist	124.00/hr
Senior Staff Engineer/Scientist	110.00/hr
Staff Engineer/Scientist/Technologist	92.00/hr
Construction Resident/Technician	84.00/hr
Certified Welding Inspector	100.00/hr
Senior Technician II (see note 3)	92.00/hr
Senior Technician I (see note 3)	73.00/hr
Technician III (see note 3)	65.00/hr
Technician II (see note 3)	55.00/hr
Technician I (see note 3)	47.00/hr
CADD III	108.00/hr
CADD II	99.00/hr
CADD I	85.00/hr
Clerical/Admin	68.00/hr

NOTES:

1. Personnel fees will be based upon the actual hours charged times the appropriate hourly rate.
2. Travel by auto to and from jobs will be charged at the current IRS prevailing rate, plus a markup of 15% to cover handling, insurance and overhead. Travel by air or rail, lodging and meal expense for personnel in the field will be billed at cost plus a 15% markup.
3. Overtime for Technicians is time for work on Saturday, Sunday and national holidays, time in excess of 8 hours per day and time between the hours of 7:00 P.M. and 7:00 A.M. A surcharge of \$20/hr is added to the above rate for overtime.
4. Subcontracts for subsurface explorations, bulldozers, surveys, etc., and other non-labor project expenses are marked up 15% to cover the cost of handling, insurance and overhead.
5. Field density testing using the sand cone method is included in hourly rates. An additional fee of \$45.00/day will apply for the use of nuclear density equipment.

ATTACHMENT 2

**CERTIFICATE(S) OF INSURANCE FOR
WORKER'S COMPENSATION, GENERAL LIABILITY, AUTOMOBILE LIABILITY**



CERTIFICATE OF LIABILITY INSURANCE

OP ID: .i

DATE (MM/DD/YYYY)

08/06/2013

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Scott Insurance (Rich) 1700 Bayberry Court Ste. 200 Richmond, VA 23226 Hutch Mauck-Richmond		Phone: 804-545-2200 Fax: 804-545-2201	CONTACT NAME: Joanie Denton, CIC PHONE (A/C, No, Ext): 804-545-2223 FAX (A/C, No): 434-455-8939 E-MAIL ADDRESS: jdenton@scottins.com PRODUCER CUSTOMER ID #: SCHNA-1	
INSURED	Schnabel Dam Engineering, Inc. Schnabel Engineering South, PC Attn: Carla Sherwood 11 Oak Branch Drive Greensboro, NC 27407	INSURER(S) AFFORDING COVERAGE		NAIC #
		INSURER A: Charter Oak Fire Ins Co (A+)		25615
		INSURER B: Travelers Indemnity-Amer (A+)		25666
		INSURER C: Travelers Prop Cas of Amer (A+)		25674
		INSURER D:		
		INSURER E:		
		INSURER F:		

COVERAGES**CERTIFICATE NUMBER:****REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL SUBR INSR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	GENERAL LIABILITY	X	6304B488542COF13	04/01/2013	04/01/2014	EACH OCCURRENCE \$ 1,000,000
	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY					DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 500,000
	<input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR					MED EXP (Any one person) \$ 10,000
	<input checked="" type="checkbox"/> Contractual					PERSONAL & ADV INJURY \$ 1,000,000
	<input checked="" type="checkbox"/> Per project aggre		GENERAL AGGREGATE \$ 2,000,000			
	GEN'L AGGREGATE LIMIT APPLIES PER:		PRODUCTS - COMP/OP AGG \$ 2,000,000			
	<input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PROJECT <input type="checkbox"/> LOC					
B	AUTOMOBILE LIABILITY	X	8106B695876TIL13	04/01/2013	04/01/2014	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000
	<input checked="" type="checkbox"/> ANY AUTO					BODILY INJURY (Per person) \$
	<input type="checkbox"/> ALL OWNED AUTOS					BODILY INJURY (Per accident) \$
	<input type="checkbox"/> SCHEDULED AUTOS					PROPERTY DAMAGE (Per accident) \$
	<input type="checkbox"/> HIRED AUTOS					
	<input type="checkbox"/> NON-OWNED AUTOS					
C	UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR	X	CUP6B696050TIL13	04/01/2013	04/01/2014	EACH OCCURRENCE \$ 10,000,000
	<input checked="" type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE					AGGREGATE \$ 10,000,000
	<input type="checkbox"/> DEDUCTIBLE					
	<input checked="" type="checkbox"/> RETENTION \$ 10,000					
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY	Y/N <input checked="" type="checkbox"/> N	PHUB4B42051113	04/01/2013	04/01/2014	<input checked="" type="checkbox"/> WC STATUTORY LIMITS <input type="checkbox"/> OTHER
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH)					E.L. EACH ACCIDENT \$ 500,000
	If yes, describe under DESCRIPTION OF OPERATIONS below					E.L. DISEASE - EA EMPLOYEE \$ 500,000
						E.L. DISEASE - POLICY LIMIT \$ 500,000
A	Equipment Floater		6304B488542COF13	04/01/2013	04/01/2014	Rented Eq deductibe 75,000 2,500

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)
Master Agreement for On-Call Professional Services
RFQ#17-121212

CERTIFICATE HOLDER

CITOHIG

City of High Point
P.O. Box 230
211 South Hamilton Street
High Point, NC 27261

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Kirstina McGue

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NOTEPAD

INSURED'S NAME Schnabel Dam Engineering, Inc.

SCHNA-1
OP ID: .i

PAGE 2
DATE 08/06/13

Per policy provisions, notice of cancellation is at least 30 days except for non-payment of premium.
Umbrella Policy applies over General Liability, Auto Liability and Employers Liability.
If required by written contract, the following provisions apply:
Additional Insureds are included for General Liability including Ongoing and Completed Operations, for General Liability for work performed by the Named Insured; & for Auto & Umbrella Liability, on a primary, noncontributory basis.
Waiver of Subrogation in favor of Additional Insureds for General Liability, Auto Liability and Workers Compensations/Employers Liability.
For leased/rented equipment, vehicles or Business Personal Property:
Certificate holder is included as Additional Insured and Loss Payee as their interest may appear.

ADD ATTACHMENT 3 HERE

CERTIFICATE OF INSURANCE - PROFESSIONAL LIABILITY INSURANCE

Terra Insurance Company
(A Risk Retention Group)
Two Fifer Avenue, Suite 100
Corte Madera, CA 94925



CERTIFICATE OF INSURANCE

DATE

08/06/13

NAME AND ADDRESS OF INSURED

Schnabel Engineering South, PC
11A Oak Branch Drive
Greensboro, NC 27407

This certifies that the "claims made" insurance policy (described below by policy number) written on forms in use by the Company has been issued. This certificate is not a policy or a binder of insurance and is issued as a matter of information only, and confers no rights upon the certificate holder. This certificate does not alter, amend or extend the coverage afforded by this policy.

The policy of insurance listed below has been issued to the insured named above for the policy period indicated. Notwithstanding any requirement, term or condition of any contract or other document with respect to which this certificate may be issued or may pertain, the insurance afforded by the policy described herein is subject to all the terms, exclusions and conditions of such policy. Aggregate limits shown may have been reduced by paid claims.

TYPE OF INSURANCE

Professional/Environmental Liability

POLICY NUMBER

213053

EFFECTIVE DATE

01/01/13

EXPIRATION DATE

12/31/13

LIMITS OF LIABILITY

\$1,000,000 EACH CLAIM

\$1,000,000 ANNUAL AGGREGATE

PROJECT DESCRIPTION

Master Agreement for On-Call Professional Services

CANCELLATION: If the described policy is cancelled by the Company before its expiration date, the Company will mail written notice to the certificate holder thirty (30) days in advance, or ten (10) days in advance for non-payment of premium. If the described policy is cancelled by the insured before its expiration date, the Company will mail written notice to the certificate holder within thirty (30) days of the notice to the Company from the insured.

CERTIFICATE HOLDER

City of High Point
Attn: Tracey Adams
P.O. Box 230
High Point, NC 27261

ISSUING COMPANY:

TERRA INSURANCE COMPANY
(A Risk Retention Group)

A handwritten signature in blue ink, appearing to read "David C. Cook", is written over a horizontal line.

President

Signature Page for Incorporated Firms

IN WITNESS THEREOF, the parties hereto have caused this Agreement to be executed in 6 original copies on the day and year first above written.

Schnabel Engineering South, P.C.

Consultant

By: [Signature]

Sr. Vice President

Robert P. Cannon, PG

Name above (Typed or Printed)

Title: Sr. Vice-President/Principal

11A Oak Branch Drive

Street Address

Greensboro, NC 27407

City/State

ATTEST

In witness whereof, said corporation has caused this instrument to be executed by its President and attested by its Secretary this the 6 day of Aug, 2013.

Schnabel Engineering South, P.C.

Corporate Name

By: [Signature]

Sr. Vice President (Signature)

Attest: [Signature]

Secretary (Signature)



STATE OF North Carolina

COUNTY OF Guilford

I, Carla Sue Sherwood, a Notary Public of the County and State aforesaid, certify that Thomas Fitzgerald personally came before me this day and acknowledge that he/she is the SECRETARY of Schnabel Engineering South, P.C. a corporation organized in the state of North Carolina and that by authority duly given and as the act of the corporation, the foregoing instrument was signed in its name by its President, sealed with its corporate seal and attested by him/her as its Secretary.

Witness my hand an official seal or seal, this the 6 day of Aug, 2013

Carla Sue Sherwood (Notary Public)

My Commission Expires: 10-6-13



CITY OF HIGH POINT, NORTH CAROLINA

The City

P O Box 230, High Point, NC 27261

Address

By: [Signature]


Bernita Sims, Mayor

[Signature]
Lisa Vierling, City Clerk



APPROVAL BY CITY ATTORNEY

Approved as to form and legality:



JoAnne L. Carlyle, City Attorney

Date: 8/19/13

APPROVAL BY FINANCE OFFICER

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



Jeffrey A. Moore, Director of Financial Services

Date: 8/12/2013