

FEE PROPOSAL FOR ENGINEERING SERVICES

FOR:

SPRINGFIELD STATION HOME OWNERS ASSOCIATION
**PLAN AND DESIGN AND OBTAIN PERMITS FOR THE
REHABILITATION OF THE ASSOCIATION'S SPORT COURTS AND ADJACENT AREA
ARLEY DROVE (VA ROUTE 4554)
SPRINGFIELD, FAIRFAX COUNTY, VIRGINIA 22153**

Prepared for:

**Ms. DONNA McCRAITH
SPRINGFIELD STATION HOMEOWNERS'S ASSOCIATION
8712 WHITSON COURT
SPRINGFIELD, VA 22153**

Prepared by:



GeoEnv Engineers

10875 Main Street, Suite 213
Fairfax, Virginia 22030

GEE Proposal No. 2010-1682

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Date:

August 25, 2010



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Ms. DONNA McCRAITH
SPRINGFIELD STATION HOMEOWNERS'S ASSOCIATION
8712 WHITSON COURT
SPRINGFIELD, VIRGINIA 22153

Re: FEE PROPOSAL FOR ENGINEERING SERVICES
PLAN, DESIGN AND OBTAIN PERMITS FOR THE REHABILITATION OF THE
SPRINGFIELD STATION HOMEOWNERS ASSOCIATION (SSHA) SPORT COURT AND ADJACENT
AREAS ARLEY DRIVE (ACROSS FROM 8733 ARLEY DRIVE)
SPRINGFIELD, VA 22153
SPRINGFIELD DISTRICT: AREA: 1.804 ACRES; TAX MAP NO. 89-3-((6))-A; ZONE: R-3C
GEE PROPOSAL No. FFC-2010-8-1682

GeoEnv Engineers & Consultants, LLC (GEE) is pleased to provide you with a fee proposal to perform the Statement of Work for the Development of Capital Plan to upgrade the SSHA Tennis Court and Basketball Court. As a part of the anticipated tasks, GEE will perform record searches, establish the vertical controls and perform a field run topographic survey, field locate the Resources Protection Area (RPA), prepare the conceptual design plans and cost estimate, present the plans to the Board and at the General Membership meeting, and provide professional recommendations on the most viable option. Upon approval of one of the options, GEE will prepare the detailed design and cost estimate for the selected option, prepare required environmental studies (WQIA, Flood Plain, wetland), prepare the final site plans and associated construction documents, assist in obtaining required county, state and federal permits, and assist in obtaining qualified and responsive bids. If requested, GEE can provide construction phase stakeout services and quality control inspection services. These can be provided under a separate fee proposal. Our proposed scope of work is based on the statement of work provided to us, observations during our field review visits, preliminary assessment of the problem, understanding of Fairfax County DPW&EM requirements, experience with similar projects, and accepted engineering practices.

GEE is a multi-disciplined firm with expertise in all aspects of the services required by this project. We have capability and capacity to take development projects from the conceptual phase to the construction phase). These include surveying, civil engineering, environmental, Geotechnical, tree conservation, cost estimating, permit process, bid support, and construction phase quality control services. GEE offices are ideally located in Fairfax City with close proximity to the project site and Fairfax County offices. GEE inhouse professional staff include registered surveyors, professional civil and geotechnical engineers, certified arborists, and environmental engineers, estimators, value engineers, construction managers, and quality control inspectors. We believe that all of these expertises are required for this project. As with all our clients, GEE will work closely with SSOHA for the duration of the project to insure that the design meets the county requirements, while controlling the construction cost. GEE employs the value engineering concept during design to insure that the functional requirements of the project are met at the lowest

possible life cycle cost.

Our preliminary review of the records revealed that the site contains approximately 1.8 acres, zoned R-3C, and located entirely within the 2003 resources protection area (RPA). The property is currently improved by a tennis court, and basketball courts, trails. A storm culvert runs under the eastern part of the site. The site was partially disturbed during the installation of the pipe culverts. The tennis court and the basketball courts appear to have been partially constructed on uncontrolled fills, and significant settlements and associated cracks are evident on the existing slabs. These are typically the result of unstable subgrade and possibly the presence of plastic clay within the upper two feet below the finish grades.

Based on our field observations and experience with similar projects, we believe that the existing courts are supported on unstable subgrade requiring comprehensive Geotechnical investigations in order to determine the engineering characteristics and depth of the uncontrolled fill. We understand that a study was done in the past and we wish to review the data in order to assess the root problem and design a cost effective permanent solution. Also, there appears to be a drainage problem contributing to the developed conditions. Upon completion of the topographic survey, we will determine the most economically feasible approach to remediate the developed conditions. In accordance with the scope of work envisioned by the board and stated in the Statement of Work, we propose the followings:

SCOPE OF SERVICES

PHASE I:

I. LIMITED RECORD SEARCH

GEE will perform a limited record search at the Fairfax County Courthouse (Registry of Deeds), Fairfax County Department of Public Works and Environmental Management (DPW&EM), Department of Waste Management, and various agencies in order to obtain available environmental and site utility records. GEE will obtain a copy of the subdivision plat and recorded deed, easements, water and sewer information, storm drainage system, soil, RPA, wetland, flood plain, and other environmental constraints. These must be included on the existing site plans.

II. ESTABLISHMENT OF THE VERTICAL CONTROLS AND TOPOGRAPHIC SURVEY

GEE will check the existing boundary corners, establish the vertical controls and perform a field run topographic survey for the property. As part of this task, GEE will establish the vertical control benchmark, complete a field run topography survey using a Total Station instrument, locate existing surface features (tennis and basketball courts, fences, storm structures, curb & gutters, clearing limits, and major topographic features). GEE will calculate the MSL elevations, and prepare a plan showing existing site topography with spot elevations and 2-ft contour intervals at 20-ft scale. The Survey will include up to 20-foot overlap around the peripheral boundary included in the topo survey area of the property. Large trees and other physical features within the survey area will be field located and shown on the existing condition plan. Spot elevations and physical features, including edges of pavements, curb-and-gutter, sewer manhole, storm drain inlets, water and gas gates, and other relevant features within the limits of the survey will be identified for inclusion on the existing conditions plan. The topographic survey will be run using a Total Station

and will be of a level of accuracy acceptable by Fairfax County and useful for the preparation of the Existing Site Plan. Based on our field review visits, we believe that adequate controls exist in the field to perform the topo survey.

III. Existing Vegetation Map:

GEE will prepare the existing vegetation map for depiction of the existing conditions Site Plan. We will locate the limits of existing trees, shrubs, and other vegetation for inclusion of the site plan.

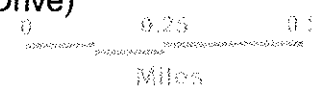
IV. Establishment of the Actual RPA Limits:

GEE will establish the Resources Protection Area (RPA) per Fairfax County letter to industry (Ltr 08-2009). GEE will establish the limit of the shore line, perform a field run survey to locate the 50-ft and 100-ft setback from the shore line, and will locate the RPA limits in accordance with current county requirements.

V. PREPARE THE EXISTING SITE PLAN PER EXISTING RECORDS AND FIELD RUN SURVEY

GEE proposes to prepare the **Existing Conditions Site Plans** per records and the Field Run topographic survey. The Site Plan will depict existing improvements, surface features, including the tennis and basketball courts, existing trail, stream, SWM structures, curb&gutters, the centerline of existing road, existing poles, trees and shrubs, and other existing features. The Site Plan will also show the soil type, RPA limits, established wetland and flood plain limits (if any). Calculation of the impervious and disturbed areas will be included. A factual Pre-Development Land-use Narrative with computations of weighted runoff coefficients and derivation of the time of concentration will be provided for an evaluation of the existing improvements. The existing Site Plan will be prepared in accordance with the Fairfax County DPW & EM requirements, and accepted engineering practices, it will include.

1. Lot layout, Lot number, area, and subdivision
2. Established boundaries with bearing and distances, per recorded deed
3. Establish elevation benchmark, roadway centerline, curb and gutter and other survey benchmark
4. Existing improvements, recorded easements, and surface features
5. Soil identifications and boundaries
6. Zoning and establish building restriction lines
7. Existing 2-ft contour with spot elevations
8. Limits of Clearing and Grading
9. Existing utilities (in the lot and within the right-of-way of Arley Drive)
10. Impervious area calculations
11. Required Erosion and Sediment Control Devices
12. Legal Lot Certification
13. Watershed for the site and disturbed areas in the watershed
14. Tree cover computations
15. Other information required or relevant to the plan approval.



The Site Plan will be prepared and sealed by a Virginia Registered Professional Engineer.

VI. PREPARE THE CONCEPTUAL PLANS PER OPTIONS OUTLINED IN THE STATEMENT OF WORK:

GEE will prepare the conceptual plans for each of the options stated in the statement of work. As a part of this task, GEE will review the subsurface study that was performed for the site by a geologic engineering firm. GEE will review the boring logs, laboratory data and recommendations of the completed Geotechnical study in order to assess the characteristics and bearing capacity of the subsurface soils, depth and characteristics of the onsite fills, and the possibility to stabilize the base materials using stabilization agents such as cement, lime or dynamic compaction. GEE will prepare the conceptual plans and associated cost estimate for each of the three (3) requested remedial options stated in the Statement of Work. These include:

Option I: Retain sufficient court surfaces as a foundation for one tennis court and a general purpose court using Versa court or similar products. The remaining area of the courts will be landscaped.

Option II: Retain sufficient court surfaces as a foundation for a general purpose court overlay using Versa court or similar product. Remove the rest of the courts and landscape the remaining area.

Option III: Remove all courts and landscape the entire area as a park.

The conceptual plans and associated cost estimate and bond estimate for each option will be prepared with sufficient details and backup data so that the Board can make an informed decision during the selection process. It should be noted here that Fairfax County will require the board to complete a Conservation agreement and post a conservation bond for the selected option. This cash bond will remain with the county until the works has been completed.

VII: PRESENTATION OF THE THREE CONCEPT AND COST ESTIMATES TO THE BOARD :

GEE will present the three conceptual design options with associated cost estimates to the Board. The presentation will be color coded with advantage and disadvantage of each option.

VIII: SHORT WRITTEN DESCRIPTION FOR EACH OPTION:

GEE will prepare a short description of each option's concept design and cost estimate, suitable for transmission to each member in preparation for a general membership meeting. The written description will be clear, concise, and intended to present the options in simple and easy to understand format. The written description will be accompanied by colored plats for easy understanding.

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IX: PRESENTATION OF EACH OF THE THREE CONCEPTS AND COST ESTIMATES TO THE MEMBERSHIP:

GEE will coordinate closely with the Board to present the three (3) options and associated cost estimates to the membership at a general membership meeting. The presentation will be performed by the project engineer (PE) that prepared the three concepts. The engineer will present the designs, clarify the advantage and disadvantage of each of the options, and will

respond to questions from the general membership as required.

FIX FEE FOR PHASE I: \$9,800.00

PHASE II:

I. WATER QUALITY IMPACT ASSESSMENT (WQIA):

Since that the site is located within the mapped RPA limits, a WQIA will be required for any site disturbances within the RPA. If required, GEE will prepare the WQIA for the selected option in accordance with Section 118 of the Fairfax County Code. This will involve calculations of disturbed areas within the RPA, impacted vegetation, impact of disturbances on the water body and various environmental aspects, compliance with Standards, and proposed remedial measures. The WQIA will establish remedial measures for soil stabilization, establishment of a vegetative buffer in accordance with Section 118-3, determine the number and species of trees and shrubs to be planted, general site restoration approach and compliance with criteria contained in the Fairfax County Public Facility Manual. The WQIA report and associated plan must be submitted to the Fairfax County for approval prior to implementation. If the disturbed area is located within the 50-ft radius of the shore line, then the RPA encroachment may involve a special permit that requires a public hearing.

II. TREE CONSERVATION PLAN (TCP)

Per Fairfax County new requirements, as of January 1, 2009, a Tree Conservation Plan (TCP) is required for all plans exceeding 2,500 square feet of disturbed areas. The TCP plan must be prepared by a Certified Arborist and approved by Fairfax County as a part of the Site Grading and Development Plans. The TCP plan will include existing tree inventory, identifications of size and name of existing trees, calculation of existing and proposed tree covers, new trees and shrubs, planting layout, and specifications. The TCP will also include condition of major trees, trees to be saved, trees to be removed, and tree protection measures. The TCP will be signed and sealed by a certified Arborist, and ready for county submittal.

III. PERFORM ENGINEERING ANALYSIS AND PREPARE THE FLOOD STUDY FOR THE SITE

GEE will prepare the drainage area map to determine the need for a flood study. If needed, GEE will perform a field run survey to tie the site to previous studies, establish cross-section across the existing stream, establish the existing 100-yr flood plain reference, analyze the cross-sections along the existing stream, prepare the 2-yr, 10-yr and 100-yr water surface elevations (WSEL), perform computer analysis to establish the peak flow for the drainage area, prepare cross-sections for the upper and lower 300-ft of stream run, and locate the 100-year flood plain limits for the site. GEE will prepare narratives, study description, calculation of drainage area, establishment of the vertical and horizontal extent of cross sections, prepare the plans showing the 100-year flood limits, established the buffer area, and location the limit of proposed construction within the establish flood lines.

IV. TYPE IV B SOIL CERTIFICATION:

As required by Fairfax County, GEE will perform limited soil test borings and certify that the soil of the site in conformance with Fairfax County requirements. The Geotechnical Engineer's Certification for Type IVB soil will be included on the Site Grading plans. If Type A soil is

encountered, then a Geotechnical report must be approved by the county prior to site plan submittal.

V. ADEQUATE OUTFALL ANALYSIS AND EROSION & SEDIMENT CONTROL CHECKLIST

If required, GEE will perform outfall analysis for the site in order to ensure that the site has an adequate outfall in accordance with the PFM and Northern Virginia Handbook. The outfall analysis will include pre-development, construction phase, and post-construction phase. GEE will perform field review of existing drainage pattern, set drainage divide, perform required analysis and calculations, and assess the adequacy of the outfall for the site. The Outfall Narrative will include:

- Site-specific Narrative with description of the elements of storm drainage system and adjoining properties.
- Outfall Locations Map with contributing drainage areas and detailed hydrological and hydraulic calculations.
- Extent of the outfall analysis per PFM 6-0203.6.
- Up to five (5) cross-sections based on field run contour intervals and spot evaluations to verify the outfall adequacy.
- Permissible velocity, based on roughness coefficient, soil classification, pipe materials, cover material and channel lining (if any).
- Design velocities compared with the permissible channel velocities (as applicable).
- Observed erosion conditions along the downstream channel and the presence of erosive conditions.
- Adequacy of outfall to the bed and banks of the receiving stream.
- Engineer's Certification Statement regarding the adequacy of the outfall for the study site.
- Sediment & Erosion Control Checklist (signed & sealed by a Virginia Licenced Engineer)

VI. DETAILED DESIGN & COST ESTIMATE FOR SELECTED OPTION

Upon selection of the preferred option, GEE will prepare the detailed design plans, specifications, and cost estimate for the proposed remedial option, with back-up plans as required. The design documents will be in accordance with Fairfax County Public Facility Manual, Standing Codes and Regulations.

GEE has extensive experience with the county requirements for the Final Site Grading plans and permit process. These requirements will be included on the **Final Site Grading and Development Plans** for the county approval. A factual Pre-Development Land-use Narrative with computations of weighted runoff coefficients and derivation of the time of concentration will be provided for an evaluation of the proposed improvements. The Site Grading Plan will include.

1. Cover sheet with signature blocks
2. Existing and proposed Contours
3. Final location of the selection option.
4. Existing and proposed elevations
5. Proposed construction entrance
6. Limits of clearing and grading
7. Impervious area calculations
8. Determination of watershed and proposed impervious areas

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9. Required erosion and sediment control devices
10. Site development and sequences of construction notes
11. Impervious area analysis
12. Legal lot certification
13. Watershed for the site and disturbed areas in the watershed
14. Tree cover
15. Soil map and soil type
16. Frontage cover
17. Wetland Certification
18. Standard Construction Details and Certifications
19. Other information required or relevant to the plan approval.
20. Bond Estimate

The Site Grading & Development Plan will be prepared and sealed by a Virginia Registered Professional Engineer. GEE will respond to county comments within the scope of work at no additional cost.

VI. COUNTY SUBMITTAL AND PERMIT SERVICES

If requested, GEE will prepare the permit applications, assist the board in obtaining required signatures, submit the plans to Fairfax County for approval, and obtain the construction permit. All county submittal fees, review fees, pro-rata and conservation agreements, VDOT, Corps of Engineers, and other fees are to be paid directly by the client. GEE will provide the board with the amounts prior to each submittal. Upon payments, GEE will provide the client with a receipt for all direct cost expenses.

VII. ASSEMBLY OF THE INFORMATION INTO BID DOCUMENTS

Upon approval of the Site Plans by Fairfax County and other concerned agencies, GEE will assemble the construction plans and specifications into bid documents to be provided to qualified bidders. If the project is to be completed in phases, GEE will work with the client to assemble the construction documents into bid packages that reflect available funding, while maintaining the integrity of the project.

FEE: NOT TO EXCEED \$17,500.00

GENERAL NOTES:

I. REIMBURSABLE ITEMS:

Outside services, printing, plotting, delivery, courier, shipping and mailing services/expenses are reimbursable items that will be billed separately at cost, plus 15%, at the time incurred.

II. TERMINATION OF SERVICES

Upon written request from the client, GEE will immediately stop work on any phase or item of work that the client desires to suspend. The client shall pay GEE for any portion of the suspended work that was completed or partially completed prior to notification. Payment for the completed portion

of the suspended work shall be on the basis of the estimated percent of completion, plus all authorized extras and additional work. GeoEnv reserves the right to suspend work when invoices are unpaid longer than thirty (30) days. If, during the course of the project, revisions to laws, regulations, policies or ordinances occur that affect any aspect of the above services, the fees for the affected items are subject to renegotiation. This Proposal is effective for 45 days from the date above, after which time it is renegotiable. All work will be performed pursuant to the conditions defined herein.

III. Meetings and Conferences

We will attend meetings and conferences required by the county, the owner and/or other authorized representative so designated. If these meetings are outside the scope of work, then these will be invoices at our standard fee rate schedule.

IV. Payment Policy

Invoices are due and payable within 10 days of receipt. Any invoice remaining unpaid after 30 days from the date of receiving the invoice by the owner date is subject to a 1½% monthly charge (18% per annum). Court costs and reasonable attorney fees will be added in cases requiring court collection procedures. Plan review fees, permit fees, bonds, etcetera, are not covered by this Proposal and are the responsibilities of the client.

EXCLUSIONS

GEE will perform its work in accordance with accepted engineering practices, and will exercise usual and customary professional care in our efforts to comply with applicable federal, state, and local laws, codes, ordinances, and regulations which are in effect as of the date of the Contract. The following services are specifically excluded for this Contract and are listed herewith to avoid potential conflicts:

- ▶ County Fees
- ▶ Geotechnical Studies
- ▶ Construction Phase Services
- ▶ Construction Management & Inspection Services
- ▶ Any other services not specifically stated herein.

The above services can be provided by this office, upon request and approval of separate fee proposals. Meetings and Trips to the County offices, beyond the scope of this proposal, will be on a time basis. This contract is finished when the building plans are approved by the county. Our standard rates for services performed on a time (hourly) basis or for any services not covered in this agreement is as follow:

Principal Engineer (P.E.)	@ \$105.00/Hr
Senior Engineer (P.E.)	@ \$90.00/Hr
Survey Crew (2)	@ 135.00/Hr
Design Engineer	@ \$75.00/Hr
Drafter/CADD Tech	@ \$60.00/Hr
Field Technician:	@ \$40.00/Hr
Mileage:	@ \$0.45/Mile

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PROPOSAL NOTES:

1. This proposal is subject to GEE Standard General Conditions
2. Any work not listed in the above outline or the referenced Scope of Services received from the Owner, or extra work will be performed on an hourly basis in accordance with the current hourly rates.
3. Excluded from this Proposal are the layout and design of telephone, electric, cable television, gas and similar utilities and service connections. However, existing aboveground utilities will be shown on the topographic survey. New underground utilities defined by the Owner will also be shown on the Site Plan.
4. Plan review fees, permit fees, bonds, Geotechnical fees, etc. are not covered by this Proposal and are the responsibility of the client.
5. Items not specifically listed, such as inspection services, wetlands analysis, hazardous waste analysis, etc. are not provided as part of this contract.
6. This Proposal/Contract does not in any manner provide for inspection or site supervision services, either express or implied, unless contracted specifically.

It is our understanding that access to the site is cleared to perform the field activities. If you find our fees and terms satisfactory, please sign and date the attached "**PROPOSAL ACCEPTANCE SHEET**," as appropriate. Upon your signature at the bottom, this proposal will become our contractual agreement for this project. We will give this project a priority to accelerate the approval process, where possible. If we can be of any further assistance at this time, or if you have questions, please do not hesitate to call the undersigned at (703) 591-7170 or (703) 593-8090.

Very truly yours,

A. Chehab 5/22/2010

Ibrahim (Abe) Chehab, P.E.
Principal Engineer

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