Phase I Engineering Cost Proposal for Improvement of IL Rte 59 and Grand Avenue

March 31, 2011

Prepared by:
Alfred Benesch & Company

DRAFT

Prepared for:
Lake County Division of Transportation

DRAFT

Phase I Design Engineering Cost Proposal for
Improvement of Intersection of IL Rte. 59 and Grand Ave.

Table of Contents

Municipality	LOCAL AGENCY	Illinois Department of Transportation	CONSULTANT	Name: Alfred Benesch & Company
Township				Address: 205 N. Michigan Suite 2400
County: Lake County – Division of Transportation		**Preliminary Engineering Services Agreement For Non-Motor Fuel Tax Funds**		City: Chicago
Section: 10-00279-01-CH				State: IL 60601

THIS AGREEMENT is made and entered into this _____ day of _____ , _____ between the above Local Agency (LA) and Consultant (ENGINEER) and covers certain professional engineering services in connection with the improvement of the above SECTION. Non-Motor Fuel Tax Funds, allotted to the LA ~~by the State of Illinois~~, under the general supervision of the State Department of Transportation, hereinafter called the "DEPARTMENT", will be used entirely ~~or in part~~ to finance ENGINEERING services as described under AGREEMENT PROVISIONS.

Section Description

Name IL59 at Grand Intersection Improvement

Route IL59 Length 0.60 Mi. 3100.00 FT (Structure No. _____)

Termini IL59: 200' s of Moulis Terr to 900' east of Squaw Creek; Grand: 200' w of Devlin to IL59

Description:
Phase I services for the IL 59 and Grand intersection in Fox Lake

Agreement Provisions

The Engineer Agrees,

1. To perform or be responsible for the performance of the following engineering services for the LA, in connection with the proposed improvements herein before described, and checked below:

a. ☒ Make such detailed surveys as are necessary for the preparation of detailed roadway plans

b. ☐ Make stream and flood plain hydraulic surveys and gather high water data, and flood histories for the preparation of detailed bridge plans.

c. ☒ Make or cause to be made such soil surveys or subsurface investigations including borings and soil profiles and analyses thereof as may be required to furnish sufficient data for the design of the proposed improvement. Such investigations are to be made in accordance with the current requirements of the DEPARTMENT.

d. ☒ Make or cause to be made such traffic studies and counts and special intersection studies as may be required to furnish sufficient data for the design of the proposed improvement.

e. ☐ Prepare Army Corps of Engineers Permit, **Lake County Stormwater Management Commission Permit**, Department of Natural Resources-Office of Water Resources Permit, Bridge waterway sketch, and/or Channel Change sketch, Utility plan and locations, and Railroad Crossing work agreements.

f. ☐ Prepare Preliminary Bridge design and Hydraulic Report, (including economic analysis of bridge or culvert types) and high water effects on roadway overflows and bridge approaches.

g. ☐ Make complete general and detailed plans, special provisions, proposals and estimates of cost and furnish the LA with **one (1) copy of each document in both hardcopy and electronic format**. Additional copies of any or all documents, if required, shall be furnished to the LA by the ENGINEER at the ENGINEER's actual cost for reproduction.

h. ☐ Furnish the LA with survey and drafts in **duplicate** of all necessary right-of-way dedications, construction easement and borrow pit and channel change agreements including prints of the corresponding plats and staking as required.

i. ☐ Assist the LA in the tabulation and interpretation of the contractors' proposals

j. ☒ Prepare the necessary environmental documents in accordance with the procedures adopted by the DEPARTMENT's Bureau of Local Roads & Streets.

k. ☒ Prepare the Project Development Report when required by the DEPARTMENT.

l. ☒ **Services as included and/or defined in the attached Scope of Services**.

2. That all reports, plans, plats and special provisions to be furnished by the ENGINEER pursuant to the AGREEMENT, will be in accordance with current standard specifications and policies **of the LA** ~~of the DEPARTMENT~~. It is being understood that all such reports, plats, plans and drafts shall, before being finally accepted, be subject to approval by the LA ~~and the DEPARTMENT~~.

3. To attend conferences at any reasonable time when requested to do so by representatives of the LA ~~or the Department~~.

4. In the event plans or surveys are found to be in error during construction of the SECTION and revisions of the plans or survey corrections are necessary, the ENGINEER agrees that the ENGINEER will perform such work without expense to the LA, even though final payment has been received by the ENGINEER. The ENGINEER shall give immediate attention to these changes so there will be a minimum delay to the CONTRACTOR.

5. That basic survey notes and sketches, charts, computations and other data prepared or obtained by the ENGINEER pursuant to this AGREEMENT will be made available, upon request, to the LA ~~or the DEPARTMENT~~ without cost and without restriction or limitations as to their use.

6. That all plans and other documents furnished by the ENGINEER pursuant to this AGREEMENT will be endorsed by the ENGINEER and will show the ENGINEER's professional seal where such is required by law.

The LA Agrees,

1. To pay the ENGINEER as compensation for all services rendered in accordance with this AGREEMENT according to the following method indicated by a check mark:

a. ☐ A sum of money equal to _____ percent of the awarded contract cost of the proposed improvement as approved by the DEPARTMENT.

b. ☐ A sum of money equal to the percent of the awarded contract cost for the proposed improvement as approved by the DEPARTMENT based on the following schedule:

Schedule for Percentages Based on Awarded Contract Cost

Awarded Cost	Percentage Fees
Under $50,000	_____ (see note)
	_____ %
	_____ %
	_____ %

Note: Not necessarily a percentage. Could use per diem, cost-plus or lump sum.

2. To pay for all services rendered in accordance with this AGREEMENT at the actual cost of performing such work plus ___ percent to cover profit, overhead and readiness to serve - "actual cost" being defined as material cost plus payrolls, insurance, social security and retirement deductions. Traveling and other out-of-pocket expenses will be reimbursed to the ENGINEER at the ENGINEER's actual cost. Subject to the approval of the LA, the ENGINEER may sublet all or part of the services provided in section 1 of the ENGINEER AGREES. If the ENGINEER sublets all or part of this work, the LA will pay the cost to the ENGINEER plus an additional service charge of up to five (5) percent.

"Cost to Engineer" to be verified by furnishing the LA ~~and the DEPARTMENT~~ copies of invoices from the party doing the work. The classifications of the employees used in the work should be consistent with the employee classifications for the services performed. If the personnel of the firm, including the Principal Engineer, perform routine services that should normally be performed by lesser-salaried personnel, the wage rate billed for such services shall be commensurate with the work performed.

The Total Not-to-Exceed Contract Amount shall be $483584.00

3. That payments due the ENGINEER for services rendered in accordance with this AGREEMENT will be made as soon as practicable after the services have been performed in accordance with the following schedule:

   a. Upon completion of detailed plans, special provisions, proposals and estimate of cost - being the work required by section 1 of the ENGINEER AGREES - to the satisfaction of the LA ~~and their approval by the DEPARTMENT~~, 90 percent of the total fee due under this AGREEMENT based on the approved estimate of cost.

   b. Upon award of the contract for the improvement by the LA ~~and its approval by the DEPARTMENT~~, 100 percent of the total fee due under the AGREEMENT based on the awarded contract cost, less any amounts paid under "a" above.

   By Mutual agreement, partial payments, not to exceed 90 percent of the amount earned, may be made from time to time as the work progresses.

4. That, should the improvement be abandoned at any time after the ENGINEER has performed any part of the services provided for in sections 1 and 3 of the ENGINEER AGREES and prior to the completion of such services, the LA shall reimburse the ENGINEER for the ENGINEER's actual costs plus ___ percent incurred up to the time the ENGINEER is notified in writing of such abandonment -"actual cost" being defined as in paragraph 2 of the LA AGREES.

5. That, should the LA require changes in any of the detailed plans, specifications or estimates except for those required pursuant to paragraph 4 of the ENGINEER AGREES, ~~after they have been approved by the DEPARTMENT~~, the LA will pay the ENGINEER for such changes on the basis of actual cost plus ___ percent to cover profit, overhead and readiness to serve -"actual cost" being defined as in paragraph 2 of the LA AGREES. It is understood that "changes" as used in this paragraph shall in no way relieve the ENGINEER of the ENGINEER's responsibility to prepare a complete and adequate set of plans and specifications.

It is Mutually Agreed,

1. That any difference between the ENGINEER and the LA concerning their interpretation of the provisions of this Agreement shall be referred to a committee of disinterested parties consisting of one member appointed by the ENGINEER, one member appointed by the LA and a third member appointed by the two other members for disposition and that the committee's decision shall be final.

2. This AGREEMENT may be terminated by the LA upon giving notice in writing to the ENGINEER at the ENGINEER's last known post office address. Upon such termination, the ENGINEER shall cause to be delivered to the LA all surveys, permits, agreements, preliminary bridge design & hydraulic report, drawings, specifications, partial and completed estimates and data, if any from traffic studies and soil survey and subsurface investigations with the understanding that all such material becomes the property of the LA. The ENGINEER shall be paid for any services completed and any services partially completed in accordance with section 4 of the LA AGREES.

3. That if the contract for construction has not been awarded one year after the acceptance of the plans by the LA ~~and their approval by the DEPARTMENT~~, the LA will pay the ENGINEER the balance of the engineering fee due to make 100 percent of the total fees due under this AGREEMENT, based on the estimate of cost as prepared by the ENGINEER and approved by the LA ~~and the DEPARTMENT~~.

4. That the ENGINEER warrants that the ENGINEER has not employed or retained any company or person, other than a bona fide employee working solely for the ENGINEER, to solicit or secure this contract, and that the ENGINEER's has not paid or agreed to pay any company or person, other than a bona fide employee working solely for the ENGINEER, any fee, commission, percentage, brokerage fee, gifts or any other consideration, contingent upon or resulting from the award or making of this contract. For Breach or violation of this warranty the LA shall have the right to annul this contract without liability.

IN WITNESS WHEREOF, the parties have caused the AGREEMENT to be executed in triplicate counterparts, each of which shall be considered as an original by their duly authorized officers.

Executed by the LA:

County of Lake of the
(~~Municipality/Township/~~County)

ATTEST:

By _____

Lake County Clerk

(Seal)

State of Illinois, acting by and through its

County Board

By _____

Title Chairman of the County Board

RECOMMENDED FOR EXECUTION

Martin G. Buehler, P.E.
Director of Transportation/County Engineer

Lake County

Executed by the ENGINEER:

Alfred Benesch & Company
Engineering Firm
205 No. Michigan Suite 2400
Street Address
Chicago, IL 60601
City, State

ATTEST:

By _____

Title Vice President

By _____

Title Senior Vice President

DRAFT

Note: Three (3) Original Executed Contracts – (2) LCDOT; (1) Consultant

Detailed Scope of Services

WORK PLAN

PHASE I DESIGN ENGINEERING SERVICES FOR IMPROVEMENT OF INTERSECTION OF IL ROUTE 59 AND GRAND AVENUE

INTRODUCTION

The scope of work is presented to Lake County Division of Transportation (LCDOT) for the Phase I portion of this project includes engineering services to perform tasks associated with the preparation of the preliminary engineering report and NEPA environmental documentation for the improvement of the intersection of IL Route 59 and Grand Avenue in Fox Lake.

It is anticipated that the study will be processed as a Categorical Exclusion (CE Group II) by the Illinois Department of Transportation (IDOT) and Federal Highway Administration (FHWA). The study will include the necessary services and reports to obtain design approval from the Illinois Department of Transportation (IDOT) and to provide the County with an opinion of probable cost.

PROJECT TEAM

Alfred Benesch & Company (Benesch) will serve as the prime consultant for the project and will be responsible for the roadway, structural, traffic and hydraulic elements of the project. The following firms have been added to the team for the work identified:

Firm	Responsibility
Huff & Huff, Inc. (H&H)	Preliminary Environmental Site Assessment (PESA), soil sampling and analysis (if required from PESA), air quality analysis, wetlands
Rubino Engineering (Rubino)	Geotechnical services and pavement investigations

PROJECT STUDY LIMITS

Based on a review of the project site and its surroundings, the anticipated area of study for the projects is described below. An aerial photo exhibit is provided at the end of this scope identifying these limits.

- **IL Route 59 Phase I Engineering Study Limits:**
  200 feet south of Moulis Terrace to 900 feet east of IL-59 bridge over Squaw Creek

- **Washington Street**
  IL 59 to 200 feet south of Moulis Terrace

- **Grand Avenue Study Limits:**
  200 feet west of Devlin Road to IL 59

GENERAL SCOPE OF SERVICES

The Scope of Services is divided into the work tasks listed below:

1. Data Collection and Early Coordination

2. Design Survey
3. Traffic/Crash Analysis and Intersection Design Study
4. Utility Coordination
5. Public Involvement
6. Alternative Analysis (Value Planning)
7. Environmental Studies
    a. PESA
    b. Environmental Survey Request
    c. Noise Analysis and Technical Report
    d. Air Quality Analysis
    e. Wetlands
8. Geotechnical Investigations
9. 30% Plan and Profile Drawings
10. Hydraulic/Drainage Studies
11. Cost Management
12. Project Development Report
13. Traffic Management Plan
14. Project Administration/ Management
15. Coordination
16. Quality Assurance/Quality Control

DETAILED WORK TASK DESCRIPTIONS

This section provides a detailed description for each of the major work tasks identified above.

1. Data Collection and Early Coordination

Benesch will gather, compile, organize and review the following information as necessary for the Phase I tasks of field investigations, drainage studies, Project Development Report and other reports:

<u>Available information to be gathered and assembled</u>

- as-built roadway and intersection plans, as available
- digital aerial orthro photography (to be supplied by County GIS)
- crash reports- last 3 years (to be obtained from the County)
- FEMA floodplain and floodway mapping
- ROW information
- future development plans, municipal and regional comprehensive plans
- existing sign inventory
- previous inspection reports for roadway and drainage system (if available)
- parcel information (County GIS information and tax maps)
- 2040 traffic projections (CMAP projections)

In addition, Benesch will conduct traffic counts (manual intersection counts). It is anticipated that intersection counts will be required at the following intersections:

- Grand/IL59/Washington (ex. signalized intersection)
- Grand Avenue at Devlin

- High School entrance at IL59

As part of the work, Benesch will inspect the project site, roadways, utilities and traffic patterns for the study area. These inspections will occur as necessary to make recommendations in the completed Phase I documents. Also, additional data will be obtained by our subconsultants, which Benesch will review.

The coordination effort with the County and affected agencies will be started early in the project. This early coordination will provide an opportunity to assess the potential impacts of the proposed improvements on agency facilities and operations. This assessment will be important during the alternatives analysis process and will lead to incorporating mitigation measures required in the final recommendations. The agencies contacted may include, but will not be limited to: IDOT, Village of Fox Lake, Fox Waterway Agency, local school transportation, emergency service providers and public transit agencies.

The project coordination will include phone contacts, meetings, requests for information and distribution of project information. This effort will continue throughout the duration of Phase I. This task will also include meetings with the subconsultants on the project and ongoing effort to complete and review project deliverables.

***Deliverables*:** Data collected in support of the project
Coordination with the County, various agencies and subconsultants
Responsible Firm: Alfred Benesch & Company

2. Design Survey

This project will be completed utilizing ground surveys in the locations shown on the exhibit provided. In an effort to economize on survey costs, ground topographic surveys will be completed from right of way to right of way along the project corridor to be used for Phase II purposes as well. The survey will also include the anticipated area of impacts beyond the existing right of way. Topographic information will be gathered to 10' past the right of way or as needed to develop a suitable DTM.

Benesch will perform survey work required to provide design data for this project. We are assuming that design will be performed utilizing Illinois State Plane Coordinates, East Zone. Survey information will be generated using traditional survey equipment (when required for accuracy) and RTK-GPS equipment where conditions and requirements permit. Benesch can tie the survey into the local benchmark system or County GIS benchmarks where feasible and if available nearby.

These tasks will include:

- Traverse (includes ties to State Plane Coordinates) - Points will be established at approximately 1,000 foot intervals along the project corridors. These points will be intervisable and of a rather durable nature. A traverse will be run through these points and the resultant State Plane Coordinate values computed

for these points will be used to control the horizontal components of the design.

- Level Circuit (panel elevations to be done with level run) - USGS Benchmarks in the vicinity will be researched and recovered and used to control the vertical components of the design. Level circuits will be run from the recovered control through all traverse points previously established in the corridor. This will provide three dimensional controls for all future work.

- Cross-sections – Cross sections will be taken at 50' intervals for the project corridor. Additional sections will be taken at critical locations such as driveways and culverts.

- Alignment (tie centerline of existing right-of-way to aerial traverse) - The physical location of the pavement will be established by pavement splits and available monumentation. The pavement split values will be compared to the original design alignment for verification and, if possible, to reestablish the original stationing.

- Topographic Survey (type, size, location of vegetation and landscaping elements, utilities, manholes, etc.) - Benesch will perform topographic survey, as required, to locate the utilities within the corridor. A reasonable attempt will be made to determine the depth of existing utilities where possible. This information will be recorded in field books.

- Existing Right-of-Way Determination - Section and Quarter- section corners will be researched and recovered in order to correlate the original alignment and Right-of-Way to the Illinois Public Land Survey System. Extraneous evidence of the right of way will be searched for and tied to the coordinate system.

- Datum Correlation of Flood Insurance Data - Benesch shall obtain available FIRM maps and research and recover as many RMS benchmarks as possible. These RMS benchmarks shall be tied to the design vertical control system established for the project

- Plotting of Existing Topography including all Utilities and Drainage Elements

Assumptions:
1. 1,300 feet along Grand Avenue (full topo)
2. 5,500 feet along IL 59 (full topo)
3. 2,000 feet along Washington
4. Intersections and Entrances

Deliverables: Electronic survey and copies of field books.
***Responsible Firm*:** Alfred Benesch & Company

3. Traffic/Crash Analysis and Intersection Design Study

Benesch will analyze existing and forecasted year 2040 traffic for both a roundabout and traditional intersection. Roundabout analysis will be accomplished utilizing SIDRA and intersection analysis will be accomplished with Synchro/SimTraffic and HCS. A Vissim simulation will be developed to analyzing queuing of traffic for the roundabout. Traffic analysis will consider the potential redistribution of traffic with a partial or complete closure of Washington Street and Devlin Road.

Benesch will compile, organize and analyze traffic and crash data to be obtained via the County's on line crash management system. crash reports will be obtained for the last 3 years. This task includes conducting existing and design year capacity analyses, summarizing crash experience, preparation of collision diagrams, identifying crash trends and developing potential measures to increase safety.

It is anticipated that an Intersection Design Study (IDS) will be required for the intersection of IL59 at Grand/Washington. This scope includes cost for the preparation of an IDS at this location.

These will be completed in accordance with IDOT and LCDOT standards.

Assumptions:
Crash information is available from the County's online system.

***Deliverables*:** Capacity analyses (existing and proposed) for IDS.
IDS and associated traffic analyses
Responsible Firm: Alfred Benesch & Company

4. Utility Coordination

Benesch will gather utility atlases and field verify locations where possible. Affected utility crossings will be identified. The information will be plotted on an electronic base survey file. Major utility conflicts will be identified and coordinated with individual utilities to establish conceptual parameters for relocation.

In addition, Benesch will work with County staff to identify utility contacts, and will request design locates to be surveyed and included in the base files for the project.

***Deliverables*:** Plot of Utilities and Electronic File
Responsible Firm: Alfred Benesch & Company

5. Public Involvement (PI)

Key elements of the proposed public involvement approach include:

Stakeholder Involvement Plan: A draft stakeholder involvement plan will be developed for review and approval by the County. This plan will outline the public involvement to carry through Phase II Engineering. This includes an action plan, timeline, identification of stakeholders and stakeholder groups, public meetings,

materials to be produced, website (information to be posted on the County's site), media strategy and deliverables.

Stakeholder Coordination Meetings (up to 6 meetings): The consultant team will meet with key stakeholders to discuss study issues, concerns and alternatives. Stakeholders could include elected officials and municipal officials, affected property owners and agencies in the study area and others as identified during the project process. These meetings are intended to address smaller group issues and would not necessarily be open public meetings with extensive invitation lists.

Any community group or stakeholder that shows interest in the project will be added to the stakeholder list, ensuring that they receive meeting invitations, newsletters and project updates. The project team will also be available to meet with organizations on a one-on-one basis throughout the project.

Project Study Group (up to 3 meetings): A Project Study group will be formed to provide an opportunity to coordinate with the local agencies. This will include the Village of Fox Lake and the local School District.

Public Meetings (2-3): Open public meetings will be held as necessary to convey information and gather project input at various milestone points as follows:

1. Initial Project Introduction Meeting – this will serve to meet the community, collect contact information and gauge sentiment toward the project need and constraints.
2. Present Alternatives Evaluation Findings
3. Final Public Meeting (if required) for Recommended Alternative.

The first and second meetings will be held to gather initial input for the project and comply with NEPA requirements. Depending on the level of public involvement and degree of impacts, it may be necessary to separate meetings on the Alternatives from the Recommended Alternative. The project team will coordinate the venue for the meeting, advertise the meeting and provide a court reporter as necessary to document the meetings.

The meetings will be held to present the findings and recommendations of the study team to the general public. The public meetings will be held to achieve three goals: to inform the public about the project process and milestones; gather input on needs and issues facing the area; and analyze the information gathered to help develop the final report.

Public Response and Communication: Throughout this study, direct public comments will be gathered via email, standard mail, phone calls and comment forms from meetings and briefings. These will be addressed either on an individual basis via email or formal letter,. These will be delivered to the County for review within one week of receipt and forwarded to the public once the response is approved.

Comprehensive Media Strategies: Policies and procedures for working with the media will be established by the Project Team. A log will be maintained of media contacts, which will be included in the description of the public involvement process in the final report. Invitations to public meetings will be extended to all media on the contact list. Prior to each public meeting, a press packet will be prepared for distribution to media staff. This will include graphics and maps on a CD for publication, and talking points to provide the project message. A pre-meeting briefing will be held if desired to provide updates to the press as appropriate to ensure fair and accurate reporting of the project proceedings.

Website:

- A public project website will be established by the consultant to serve as the central source of project information.
- The website will be located on a separate internet domain acquired by the consultant and linked to via Lake County's website. Site address will be a project-specific domain name related to the project name, and incorporate graphics and marketing messages developed for the project.
- Website content will be developed and maintained throughout the Phase I process/contract by consultant's project staff, and approved by Lake County prior to posting.
- The website will include, but is not limited to, the following functions:
    - Collect information from stakeholders; name, address, email address
    - Notify subscribers of public meetings
    - Allow submittal of public comments
    - Provide access to displays, documents, renderings, schedules etc. which have been prepared for public information purposes
    - Address frequently asked questions
- At the conclusion of the Phase I process, the website and domain ownership will be assumed by the Lake County Division of Transportation unless otherwise specified. Web pages are to be provided in .asp, .html or SharePoint format and include all related images, documentation, and files.

Visualization Techniques: The ability to effectively show the public and decision-makers how a planned transportation improvement will look when it is completed is a critical element in today's public and agency participation process. Up to three 3-dimensional renderings/visualizations will be developed to demonstrate project alternatives and details, and an additional 5 2-dimensional exhibits will be developed to convey project details.

***Deliverables*:** Stakeholders Involvement Plan (SIP), public meeting support materials, website, visualizations

Responsible Firm: Alfred Benesch & Company

6. Alternative Analysis (Value Planning)

Benesch proposes to accomplish this task by conducting Value Planning (VP) Workshops in the early stages of the project to assist in studying the potential

alternatives and to help identify the extent, impacts, and planning level costs for intersection alternatives. Value Planning Workshop # 1 will accomplish the following items: Information Phase, Speculation Phase, Preliminary Screening of Alternatives and Define Evaluation Criteria. From Value Planning Workshop #1 it is assumed that up to three distinct alternatives for the intersection will emerge for further evaluation. These three alternatives will then be developed in detail.

Value Planning Workshop #2 will accomplish the following: Present and discuss results of studies, Finalize Alternatives for Evaluation, Finalize Evaluation Criteria and Evaluate alternatives.

The following list summarizes the components and procedure for the Value Planning Process:

- **Value Planning**
  - Prepare for Workshop #1
  - Value Planning Workshop #1 (1 Days)
  - Value Planning Workshop #2 (2 Days)
  - Prepare Draft Value Planning Report/Submit for review
  - Value Planning Review Meeting
  - Submit Final Value Planning Report

- **Plan Studies, including alignment and geometrics**
  - Establish Existing Alignments in Microstation using Geopak
  - Establish Horizontal Design Criteria
  - Establish Horizontal Alignments for 3 alternates

- **Profile Studies**
  - Establish and plot existing profiles
  - Establish Vertical Design Criteria
  - Establish Vertical Alignments for 3 alternates

- **Cross Section Studies**
  - Establish and plot existing and proposed critical cross sections
  - Develop Critical Cross Sections for 3 alternatives

- **Plot Proposed R.O.W. (including stations and offsets for all break points)**
  - Establish existing R.O.W.
  - Establish preliminary proposed R.O.W. for each alternative based on limits construction

- **Develop and Update Preliminary Construction Cost Estimate**
  - Develop comparative cost estimates for 3 alternatives for evaluation

- **MOT for alternates**

- Each alternate will include a conceptual exhibit and written description of the proposed construction staging/MOT for the work to be completed. This will include advantages and disadvantages.

Assumptions for Estimate:

1. Four Benesch staff members will participate in the VP workshops along with County engineering staff if they desire.
2. Three distinct alternatives will be developed and evaluated out of the VP process.

Deliverables: Draft and Final Value Planning Report
Responsible Firm: Alfred Benesch & Co

7. Environmental Studies

The following environmental tasks will be completed:

a) **PESA**

The project limits will be screened for potential areas of environmental contamination. The screening process will follow general protocols associated with ASTM E1527-00, the standard environmental site assessment methodology, and the protocols consistent with the Preliminary Site Assessment (PESA) procedures outlined by the Illinois Department of Transportation in the *"Manual for Conducting Preliminary Environmental Site Assessments for Illinois Department of Transportation Highway Projects"* and is consistent with the newly issued "*Special Waste Procedures for Local Highway Improvements #04-09."* This assessment will consist of:

- Historical Research
- Site Evaluation
- Records Review (research available databases)

If the PESA identifies areas that should be tested for contamination, Huff and Huff will coordinate with Rubino to conduct soil sampling and testing. If required this effort will include:

- Determine sampling locations.
- Attend a site visit to mark borehole locations.
- Attend one meeting for coordination.

The following constituents would be analyzed from the borings.

- **Volatile organic compounds (VOCs)** Samples will be collected continuously and screened with a photoionization detector (PID) in a separate sample. The sample with the highest PID reading from each boring will be screened and, depending upon records review, will be analyzed for VOCs. If leaking underground storage tanks are located, up to 16 BTEX samples may be collected.

- **Arsenic, Lead, Chromium, and Soil pH** – Samples will be collected from the existing railroad right of way for these three metals. Arsenic and chromium are associated with historical herbicide applications analysis. In addition, lead concentrations have historically been associated with railroad operations. Approximately eight samples will be collected near track areas. In addition, full RCRA metals will be analyzed in 12 samples.

- **SPLP Lead, and SPLP Arsenic** – SPLP lead and SPLP arsenic will be analyzed on those samples exceeding the pH specific remediation objectives for lead and arsenic. This cost estimate assumes SPLP analysis on up to 16 samples.

- **PNAs**– Up to 24 PNA samples will be analyzed from 16 borings based on field observations.

- **Pesticides/Herbicides –**Up to one sample will be collected for pesticides/herbicides in the top four feet of four (4) borings.

For purposes of this scope, the following constituents will be analyzed with an estimated number of samples.

16 – Volatile organic compounds (VOCs)
8 – Arsenic, Lead, Chromium, and Soil pH
24 – Polynuclear aromatic compounds (PNAs)
8 – Pesticide/ Herbicide
16 – BTEX
12 – Soil pH
16 – SPLP Lead
8 – SPLP Arsenic
12 – RCRA Metals

The PESA will include sampling within proposed areas of acquisition or soil disturbance. The analytical costs represent maximum values as the exact number of samples and parameters of analysis will be determined when the records review is complete.

Report Preparation: A report summarizing the results of the data collection activities will be prepared. The following information will be included in this report:

- The project location and description, including the past and current land use at the property and adjacent properties.
- The site geology and hydrology.
- The environmental status of the project corridor in regard to environmental features and conditions, including: chemical use and storage, underground and aboveground storage tanks, solid waste, special waste, hazardous waste, wastewater, and PCBs.
- The environmental records review conducted for the site and surrounding properties.
- An analysis of the site inspection.

- A summary of the findings regarding any environmental concerns. This will include IDOT's PESA Risk Assessment process.

Deliverables: Draft and Final PESA Report,
Sampling and Testing Report (if required)
Responsible Firm: Alfred Benesch & Co, Huff & Huff, Inc.

b) **Environmental Survey Request**
It is anticipated that this project will be processed by the Federal Highway Administration (FHWA) as a Categorical Exclusion. The Environmental Survey Request Form (ESRF) will be submitted to obtain signoffs on biological, wetlands and cultural issues. This work effort will consist of preparation of an aerial base photo with existing right-of-way and areas for screening (conservative estimate of future right-of-way/easements) identified. IDOT requirements include submittal of general ground level photos and individual photos of all structures over 50 years old. The ESRF and support documents will be submitted electronically to IDOT Bureau of Local Roads for processing. This task will also include incidental coordination related to the ESR submittal and review.

Deliverables: Electronic submittal of ESR form and documents with paper copy to County
Responsible Firm: Alfred Benesch & Company

c) **Noise Analysis and Technical Report**
IDOT and FHWA policies require a noise analysis for projects that either result in additional through lanes or have a significant change in either horizontal or vertical alignment. Since the scope of the final alternative is not yet known, a noise analysis may be required. Residential areas are located on both sides of IL 59 as well potential sensitive receptors (School) near the intersection. The consultant would identify potential sensitive receptors and utilize the TNM model to analyze existing and proposed traffic noise levels and any potential abatement options. The Consultant will prepare a traffic noise study report in accordance with the Illinois Department of Transportation, Division of Highways policies and procedures. Noise receptors will be determined based upon screening distances and field review. It is assumed that there will be no alignment change with either railroad and as such, a noise and vibration analysis to assess impacts from train traffic will not be included as part of the scope. If warranted, Benesch will analyze potential abatement strategies. Cost estimates for abatement options will be prepared and submitted with the likely traffic noise abatement strategies and mitigation measures. A comparison of the total costs versus the number of receivers benefited and the reduction in noise levels achieved will be included in the analysis of abatement strategies. These costs will be derived from IDOT unit costs.

Deliverables: Traffic Noise Report and analysis for inclusion in the Project Development Report (PDR)
Responsible Firm: Alfred Benesch & Company

d) **Air Quality Analysis**

An air quality analysis may be needed for the intersection depending upon traffic volumes. The Pre-Screen to COSIM and COSIM will be used for the initial alternatives screening and preferred alternative analysis. It is anticipated that the air quality modeling using CAL3QHC will not be conducted as the air quality results obtained through the COSIM modeling should be sufficient. IDOT will perform actual Pre-Screen and COSIM analysis. This task is limited to developing the necessary input worksheets for IDOT analysis.

Deliverables: Pre-Screen data and COSIM data for inclusion in the Project Development Report (PDR)
Responsible Firm: Alfred Benesch & Company/Huff & Huff, Inc

e) **Wetland Delineation**

A review of potential wetland and natural resources will be completed. Wetland investigations will be completed by a Certified Wetland Specialist (CWS).

To complete the environmental documentation, H&H will perform an investigation within the project limits to determine if any areas within the project area will be considered wetlands. To perform this task, a review of published data will be conducted to determine the current status. A site visit will be conducted and wetlands encountered in the field will be delineated. In addition to assessing the areas mapped as wetlands by the NWI Map and the Lake County ADID Map, areas containing hydric soils according to the Soil Survey will be investigated to determine if unmapped wetlands are located in these areas. Areas exhibiting characteristics of wetlands will be delineated.

Work will be coordinated with the Lake County SMC.

Off-site Record/Document Review: The following records/documents will be reviewed prior to conducting the field investigation. Soils information will be reviewed to determine the soil types encountered during the delineation procedures. The maps reviewed and to be used include:

- U.S. Geological Survey Topographic Maps
- National Wetlands Inventory Maps
- Lake County Advanced Identification Maps
- Lake County Soil Survey
- Hydric Soils of the United States
- Flood Insurance Rate Maps

The Natural Resource Conservation Service (NRCS) Wetland Map will be obtained and reviewed to determine if the NRCS has determined wetlands to be present. This will require obtaining a copy of this map from Lake County Soil and Water Conservation District.

On-Site Investigation (Field Inventory): The on-site investigation will be conducted by our environmental staff experienced in Federal methods for conducting wetland delineations. Our staff will classify and define hydric soils, hydrophytic vegetation, and evidence of hydrology to determine if wetlands are present. The wetland perimeters will be located and flagged for completion of field survey by others. The delineation must be completed during the growing season (approximately April 15 to October 15) if permitting is anticipated through either the COE or Lake County.

Wetlands found will be classified according to type using the "Classification of Wetlands and Deep Water Habitats of the United States" by Cowardin. Wetland boundaries will be defined using the Corps of Engineers Wetlands Delineation Manual (1987). This includes a soil investigation to determine the presence or absence of hydric soils and an analysis of the dominant plant species. Field observations will be made on any evidence indicating the hydrology of the area and on water sources that are supporting these wetlands. Functions of these wetlands will be evaluated from field observations.

In addition to the areas mapped as wetlands by the NWI and Lake County ADID Maps, the entire length of the project will be investigated in the event that unmapped wetlands are present. As the NWI maps were developed to be used as a general planning tool, detailed field investigations are required to ascertain whether or not wetlands are present. All areas exhibiting wetland characteristics within the project area will be investigated.

Detailed plant sampling within quadrats will be conducted to assess the floristic quality of all wetlands encountered. This Floristic Quality Index is required by the COE for all wetlands. The field investigation will be restricted to the areas within the proposed project area.

Surveying the perimeters of delineated wetlands will be required. H&H will flag the perimeters. H&H will not conduct the survey of the wetlands but will coordinate with Benesch surveyors to assure accuracy of the wetland boundaries. This will include a meeting in the field with the survey crew, if necessary.

This task includes completing and submitting an ECOCAT for the project area to the Illinois Department of Natural Resources (IDNR) and also submitting a letter to the Illinois Historic Preservation Agency (IHPA) to obtain sign-off. If a Phase 1 archeological report is required by IHPA, a separate cost estimate will be prepared.

Deliverables: Wetland report
Responsible Firm: Alfred Benesch & Company/Huff & Huff, Inc

f) **Vegetation Survey**

A tree survey will be performed along the project corridor once the right-of-way is determined. This survey will be conducted in accordance with current IDOT policies and D&E-18. The limited number of trees within the project area will reduce the need to include representative transects, lines, or qualitative assessments normally used in densely vegetated areas

Trees will be surveyed to provide station and offset, and size during the project survey and will be later identified for type, structure and condition of the trees within the proposed right-of-way. After all trees are evaluated, a tabulation of trees will be compiled which summarizes trees and potential impacts. A summary will be prepared which documents impacts to trees. This will include all trees six (6) inches in diameter or greater and smaller individuals when planted for landscape purposes

Deliverables: Vegetation survey
Responsible Firm: Alfred Benesch & Company/Huff & Huff, Inc

8. Geotechnical Investigations

Pavement cores will be taken to verify existing roadway structure for pavement design purposes. In addition soil borings in areas of potential pavement widening or realignment will be provided based on IDOT criteria (approximately every 300 feet.) Area soil maps indicate the presence of potentially poor soils. Recommendations will be provided by Rubino Engineering for subgrade or soil treatments to mitigate the presence of poor soils.

Deliverables: Pavement cores, laboratory testing, Geotechnical Report
Responsible Firm: Alfred Benesch & Company/Rubino Engineering

9. 30% Plan and Profile Drawings

Benesch will work with LCDOT and IDOT to develop roadway horizontal alignments and profiles that meet stakeholder needs, desires and constraints. Geometric requirements determined by the intersection design study will be incorporated into the alignment. Preliminary cross-sections will be evaluated at 50-foot intervals and at critical locations to establish ROW impacts.

Studies will meet applicable LCDOT, IDOT and FHWA requirements and standards.

Assumptions for Estimate: Plan and profile sheets will be completed for the roadway profiles.

Deliverables: Horizontal and vertical alignment, proposed ROW and easement limits, and Electronic File of Final Approved Phase I Documents.
Responsible Firm: Alfred Benesch & Company

10. Hydraulic/Drainage Studies

A Location Drainage Study will be performed for the project.. The tasks associated with this study will include:

- Existing Drainage System
  - General Location Drainage Map
  - Existing Drainage Plan
  - Identified Drainage Problems
  - Identified Base Floodplains (none anticipated)
  - Field Reconnaissance
  - Major Drainage Features
- Proposed Drainage System
  - Design Criteria
  - Outlet Evaluation
  - Stormwater Detention Analysis (if required)
  - Right-of-Way Analysis
  - Drainage Alternatives
  - Local & Other Agency Coordination
  - Proposed Drainage Plan
  - Floodplain Encroachment Evaluation (none anticipated)
  - Erosion and Sediment Control Data References
- Narrative
- Study Assembly

Assumptions: Labor Hour and Fee Estimates assume that existing sewer system is ***not*** a combined sewer system and that there are no significant flooding problems.

Deliverables: Location Drainage Study Report
Responsible Firm: Alfred Benesch & Company

11. Cost Management

A cost structure will be created to identify cost centers of the project. This will be based on the ASTM cost management standards. The backup to these cost centers (groupings of similar elements) will be expandable to include more detail as planning progresses.

- Develop comparable cost estimates for those elements that alternatives are being considered. The costs will be one of the criteria considered in the evaluation process.
- Track changes to cost and provide variance along with reasons and/or comments for these changes. As the project progresses, we will track the cost of the project elements as design progresses and also the alternatives under consideration, review them against previous estimates to identify and document the changes and compare the cost to the County's programmed amounts. This document will be reviewed with the County at progress meetings. Significant deviations will be brought immediately

to the County's attention. We will also develop suggestions on how to control costs and stay within programmed estimates.

- Work with the County to identify an approach for a cost-benefit or life-cycle cost analysis. Elements of the project that we would consider for a cost-benefit analysis are:
  - Non-standard applications
  - Construction contract sequencing and schedules
  - Advance work and fabrication contracts

***Deliverables**:* Opinion of probable cost by element, Preliminary list of Pay Items and Items Requiring Non Standard Special Provisions

Responsible Firm: Alfred Benesch & Company

12. Project Development Report (Draft & Final)

A draft Project Development Report (PDR) in IDOT BLR format (BLR22110) will be developed and will incorporate the environmental, coordination, public involvement and engineering aspects of the project. A Draft PDR will be developed prior to the formal public meeting and will be distributed to the County for review. Comments received by the County will be incorporated and the Draft PDR will be submitted to IDOT BLR District 5 for review. Revisions, if necessary will be made after the District review. Upon IDOT review (District and Central Office) and upon completion of the final Public Meeting/Public Hearing, a Final PDR will be developed and submitted to the County and IDOT for review and approval.

13. Traffic Management Plan (TMP)

a) Preliminary Construction Staging/Maintenance of Traffic

The Construction Staging/MOT task will define the overall strategy for accommodating traffic during construction. This task will address the preferred traffic control method, alternative traffic control applications, geometric design criteria, the impact traffic will have on other facilities, local concerns and the cost effectiveness of various alternatives. This effort will include the following elements in the decision making process

- Constructability review and work zone area requirements
- Determination of Construction Phase (partial closure, complete detour, combination)
- Construction Scheduling
- Public Relations/Information
- Cost Analysis (partial closure vs. detour, detour user costs)

Field Inspection & Coordination of Probable Detour Routes – Routes and MOT plans will be coordinated with the local business community to address access concerns and business operations.

Report – A memorandum style MOT report will be developed to present the plan for construction staging and detours throughout the duration of the project. The table of contents will include:

- Summary
- Traffic Characteristics
- Design
- Alternatives
- Coordination
- Draft Exhibits – including Typical sections, detour routes and concept MOT plans

Deliverables: Maintenance of Traffic Report and Exhibits
***Responsible Firm*:** Alfred Benesch & Company

14. Project Administration/Management

Administration consists of project management responsibilities such as: development of a QA/QC Plan, project scheduling activities, invoicing, staffing resource management and internal project team meetings to provide a quality product on schedule and within budget. Benesch will prepare progress reports and invoices on a four-week cycle. These progress reports and invoices will be in a format acceptable to the County.

Benesch will prepare a project schedule, including a breakdown of the major tasks depicting the project's key milestones and deliverables for Phase I. The design schedule will be updated monthly and at a minimum, will include:

- Key milestones in the Phase I process including identification of and the acceptance date for the preferred alternative, coordination with public officials, and submittal of project reports, preparation of right-of-way documents and agency review meetings.
- Critical path items

The schedule will be presented and reviewed at every project meeting with the County.

The development of a Quality Management Plan (QMP) is included within the proposed administration scope. The draft QMP will be submitted one week after notice to proceed and the Final QMP incorporating comments by the County will be submitted three weeks after notice to proceed.

***Deliverables*:** Project Work Plan, QMP, Progress Reports, Invoices and Project Schedule
Responsible Firm: Alfred Benesch & Company

15. Quality Assurance/Quality Control

Included is the effort to implement the QMP plan during the Phase I schedule.

This task will include the internal processes necessary to ensure consistency and accuracy of documents and deliverables. Deliverables will be checked by independent peer reviews prior to delivery to the County. Documentation of QA/QC procedures will be maintained, and will be furnished upon request to the County.

***Deliverables*:** Internal QA/QC monitoring forms and documentation binders will be maintained and furnished for review if requested by the County.
Responsible Firm: Alfred Benesch & Company.


IL. 59
Grand Avenue
Washington Street
Study Limits

Estimated Hours and Costs
(Alfred Benesch and Company)

COST ESTIMATE OF CONSULTANT SERVICES

Sheet: 1 of 1

Project: Phase I IL at Grand Ave - Washington St.

Section:

Firm: ALFRED BENESCH & COMPANY

Date: March 18, 2011

County: Lake

Overhead Rate: 151.68

Complexity Factor: 0

Job No.:

Estimate Prepared By: State Firm X

Item	Number of Staff hours (A)	Estimated Cost In Dollars									Percent Of Grand Total (I)
		Adjusted Hourly Rate (A1)	Payroll (B)	Overhead Fringe Benefits (C)	Eligible Direct Costs (D)	Subtotal (E)	Profit (F)	Ineligible Direct Costs (D1)	Services By Others* (G)	Total (H)	
PROJECT TASKS											
1. Data Collection and Early Coordination	220	30.30	6,675	10,125	0	16,800	2,436	2,690		21,926	4.5
2. Design Survey	458	38.21	17,486	26,523	0	44,009	6,381	2,484		52,874	10.9
3. Traffic/Crash Analysis and Intersection Design Study	328	32.62	10,699	16,229	0	26,928	3,905	50		30,883	6.4
4. Utility Coordination	64	28.24	1,807	2,741	0	4,548	659	100		5,307	1.1
5. Public Involvement	785	38.18	29,969	45,457	0	75,425	10,937	4,235		90,597	18.7
6. Alternative Analysis and Value Planning Geometric Studies	310	42.64	13,219	20,050	0	33,269	4,824	0		38,093	7.9
7. Environmental Studies	256	42.92	10,989	16,667	0	27,656	4,010	315	24,978	56,959	11.8
8. Geotechnical Investigations	24	39.63	951	1,443	0	2,394	347	45	20,225	23,011	4.8
9. 30% Plan & Profiles	320	37.14	11,884	18,025	0	29,909	4,337	0		34,245	7.1
10. Location Drainage Study	378	36.09	13,643	20,694	0	34,337	4,979	290		39,606	8.2
11. Cost Management	96	37.28	3,579	5,429	0	9,008	1,306	0		10,314	2.1
12. Project Development Report	168	39.78	6,683	10,137	0	16,820	2,439	200		19,459	4.0
13. Traffic Maintenance Plan	116	37.09	4,302	6,525	0	10,827	1,570	45		12,442	2.6
14. Administration	272	41.43	11,270	17,094	0	28,363	4,113	360		32,836	6.8
15. QA/QC	112	46.57	5,216	7,911	0	13,127	1,903	0		15,030	3.1
Sub-totals	3,907	37.98	148,371	225,049	0	373,421	54,146	10,814	45,203	483,584	100.0

* See attached sheets for Cost Estimate of Sub-consultant Services

4.2% DBE/WBE Participation

AVERAGE HOURLY PROJECT RATES

Project: Phase I IL at Grand Ave - Washington St.

Section:

Firm: ALFRED BENESCH & COMPANY

County: Lake

Date: March 18, 2011

Job No.:

Sheet: 1 of 4

PAYROLL CLASSIFICATION	AVERAGE HOURLY RATES* (2011)	1. Data Collection			2. Design Survey			3. Traffic/Crash & IDS			4. Utility Coordination		
		HOURS	% PART	WGTD RATE	HOURS	% PART	WGTD RATE	HOURS	% PART	WGTD RATE	HOURS	% PART	WGTD RATE
SR. PROJECT MANAGER	$64.75	0	0.00	$0.00	23	5.00	$3.24	0	0.00	$0.00	3	5.00	3.24
PROJECT MANAGER I	$47.19	0	0.00	$0.00	0	0.00	$0.00	0	0.00	0.00	0	0.00	0.00
SR. PROJECT ENGINEER	$43.90	22	10.00	$4.39	0	0.00	$0.00	0	0.00	0.00	0	0.00	0.00
PROJECT ENGINEER II	$38.62	0	0.00	$0.00	0	0.00	$0.00	33	10.00	3.86	0	0.00	0.00
PROJECT ENGINEER I	$33.87	88	40.00	$13.55	0	0.00	$0.00	131	40.00	13.55	26	40.00	13.55
SR. DESIGNER	$34.95	0	0.00	$0.00	0	0.00	$0.00	0	0.00	0.00	0	0.00	0.00
DESIGNER II	$30.67	0	0.00	$0.00	0	0.00	$0.00	131	40.00	12.27	0	0.00	0.00
SR. TECHNICAL SPECIALIST	$35.85	0	0.00	$0.00	0	0.00	$0.00	0	0.00	0.00	0	0.00	0.00
SR. TECHNOLOGIST	$35.85	0	0.00	$0.00	0	0.00	$0.00	0	0.00	0.00	16	25.00	8.96
TECHNOLOGIST SPECIALIST I	$24.60	88	40.00	$9.84	0	0.00	$0.00	33	10.00	2.46	0	0.00	0.00
PROJECT ASSISTANT I	$20.70	22	10.00	$2.07	0	0.00	$0.00	0	0.00	0.00	6	10.00	2.07
SURVEYOR	$38.40				229	50.00	$19.20					10.00	
SR. PARTY CHIEF	$33.80				206	45.00	$15.21					10.00	
Sub-Totals		220	100.00	29.85	458	100.00	37.65	328	100.00	32.14	64	100.00	27.82
WGTD RATE WITH ESCALATION*	1.50%			$30.30			$38.21			$32.62			$28.24

AVERAGE HOURLY PROJECT RATES

Project: Phase I IL at Grand Ave - Washington St.

Section:

Firm: ALFRED BENESCH & COMPANY

County: Lake

Date: March 18, 2011

Job No.:

Sheet: 2 of 4

PAYROLL CLASSIFICATION	AVERAGE HOURLY RATES* (2011)	5. Public Involvement			6. Alt. Analysis & VP Geometric			7. Environmental Studies			8. Geotech Investigations		
		HOURS	% PART	WGTD RATE	HOURS	% PART	WGTD RATE	HOURS	% PART	WGTD RATE	HOURS	% PART	WGTD RATE
SR. PROJECT MANAGER	$64.75	79	10.00	$6.48	62	20.00	12.95	51	20.00	$12.95	1	5.00	3.24
PROJECT MANAGER I	$47.19	79	10.00	$4.72	31	10.00	$4.72	51	20.00	9.44	2	10.00	4.72
SR. PROJECT ENGINEER	$43.90	0	0.00	$0.00	31	10.00	$4.39	0	0.00	0.00	2	10.00	4.39
PROJECT ENGINEER II	$38.62	0	0.00	$0.00	47	15.00	$5.79	0	0.00	0.00	6	25.00	9.66
PROJECT ENGINEER I	$33.87	79	10.00	$3.39	0	0.00	$0.00	26	10.00	3.39	0	0.00	0.00
SR. DESIGNER	$34.95	236	30.00	$10.49	62	20.00	$6.99	38	15.00	5.24	10	40.00	13.98
DESIGNER II	$30.67	157	20.00	$6.13	62	20.00	$6.13	26	10.00	3.07	2	10.00	3.07
SR. TECHNICAL SPECIALIST	$35.85	0	0.00	$0.00	0	0.00	$0.00	0	0.00	0.00	0	0.00	0.00
SR. TECHNOLOGIST	$35.85	118	15.00	$5.38	0	0.00	$0.00	51	20.00	7.17	0	0.00	0.00
TECHNOLOGIST SPECIALIST I	$24.60	0	0.00	$0.00	0	0.00	$0.00	0	0.00	0.00	0	0.00	0.00
PROJECT ASSISTANT I	$20.70	39	5.00	$1.04	16	5.00	$1.04	13	5.00	1.04	0	0.00	0.00
Sub-Totals		785	100.00	37.61	310	100.00	42.01	256	100.00	42.29	24	100.00	39.05
WGTD RATE WITH ESCALATION*	1.50%			$38.18			$42.64			$42.92			$39.63

AVERAGE HOURLY PROJECT RATES

Project: Phase I IL at Grand Ave - Washington St.

Section:

County: Lake

Firm: ALFRED BENESCH & COMPANY

Date: March 18, 2011

Job No.:

Sheet: 3 of 4

PAYROLL CLASSIFICATION	AVERAGE HOURLY RATES* (2011)	9. 30% Plan & Profiles			10. Location Drainage Study			11. Cost Management			12. Project Dev. Report		
		HOURS	% PART	WGTD RATE	HOURS	% PART	WGTD RATE	HOURS	% PART	WGTD RATE	HOURS	% PART	WGTD RATE
SR. PROJECT MANAGER	$64.75	0	0.00	$0.00	0	0.00	0	0	0.00	$0.00	17	10.00	6.48
PROJECT MANAGER I	$47.19	0	0.00	$0.00	0	0.00	0	10	10.00	4.72	17	10.00	4.72
SR. PROJECT ENGINEER	$43.90	64	20.00	$8.78	76	20.00	$8.78	10	10.00	4.39	17	10.00	4.39
PROJECT ENGINEER II	$38.62	80	25.00	$9.66	0	0.00	$0.00	19	20.00	7.72	0	0.00	0.00
PROJECT ENGINEER I	$33.87	0	0.00	$0.00	113	30.00	$10.16	0	0.00	0.00	0	0.00	0.00
SR. DESIGNER	$34.95	96	30.00	$10.49	113	30.00	$10.49	34	35.00	12.23	84	50.00	17.48
DESIGNER II	$30.67	80	25.00	$7.67	76	20.00	$6.13	24	25.00	7.67	34	20.00	6.13
SR. TECHNICAL SPECIALIST	$35.85	0	0.00	$0.00	0	0.00	$0.00	0	0.00	0.00	0	0.00	0.00
SR. TECHNOLOGIST	$35.85	0	0.00	$0.00	0	0.00	$0.00	0	0.00	0.00	0	0.00	0.00
TECHNOLOGIST SPECIALIST I	$24.60	0	0.00	$0.00	0	0.00	$0.00	0	0.00	0.00	0	0.00	0.00
PROJECT ASSISTANT I	$20.70	0	0.00	$0.00	0	0.00	$0.00	0	0.00	0.00	0	0.00	0.00
Sub-Totals		320	100.00	36.59	378	100.00	35.56	96	100.00	36.73	168	100.00	39.19
WGTD RATE WITH ESCALATION*	1.50%			$37.14			$36.09			$37.28			$39.78

AVERAGE HOURLY PROJECT RATES

Project: Phase I IL at Grand Ave - Washington St.

Section:

Firm: ALFRED BENESCH & COMPANY

County: Lake

Date: March 18, 2011

Job No.:

Sheet: 4 of 4

PAYROLL CLASSIFICATION	AVERAGE HOURLY RATES* (2011)	13. Traffic Management Plan			14. Administration			15. QQ/QC					
		HOURS	% PART	WGTD RATE	HOURS	% PART	WGTD RATE	HOURS	% PART	WGTD RATE	HOURS	% PART	WGTD RATE
SR. PROJECT MANAGER	$64.75	6	5.00	$3.24	27	10.00	$6.48	22	20.00	$12.95		0.00	0.00
PROJECT MANAGER I	$47.19	0	0.00	$0.00	0	0.00	$0.00	22	20.00	9.44		0.00	0.00
SR. PROJECT ENGINEER	$43.90	0	0.00	$0.00	82	30.00	$13.17	45	40.00	17.56		0.00	0.00
PROJECT ENGINEER II	$38.62	0	0.00	$0.00	68	25.00	$9.66	11	10.00	3.86		0.00	0.00
PROJECT ENGINEER I	$33.87	0	0.00	$0.00	0	0.00	$0.00	0	0.00	0.00		0.00	0.00
SR. DESIGNER	$34.95	0	0.00	$0.00	82	30.00	$10.49	0	0.00	0.00		0.00	0.00
DESIGNER II	$30.67	0	0.00	$0.00	0	0.00	$0.00	0	0.00	0.00		0.00	0.00
SR. TECHNICAL SPECIALIST	$35.85	58	50.00	$17.93	0	0.00	$0.00	0	0.00	0.00		0.00	0.00
SR. TECHNOLOGIST	$35.85	46	40.00	$14.34	0	0.00	$0.00	0	0.00	0.00		0.00	0.00
TECHNOLOGIST SPECIALIST I	$24.60	0	0.00	$0.00	0	0.00	$0.00	0	0.00	0.00		0.00	0.00
PROJECT ASSISTANT I	$20.70	6	5.00	$1.04	14	5.00	$1.04	11	10.00	2.07		0.00	0.00
Sub-Totals		116	100.00	36.54	272	100.00	40.82	112	100.00	45.88		0.00	0.00
WGTD RATE WITH ESCALATION*	1.50%			$37.09			$41.43			$46.57			$0.00

WORKHOURS AND DIRECT COST ESTIMATE
CATEGORICAL EXCLUSION
IL Route 59 at Grand Avenue- Washinton Street
Lake County Division of Transportation

Item 1.	**Data Collection and Early Coordination**	**Estimated Work hours**	**Estimated Direct Costs**
1.1	Data Collection (Land Use, Zoning, School Districts, Park Districts, Fire Districts, Sanitary Districts, Etc.)	16	$50.00
1.2	Obtain, review and analyze record traffic count data and ADT data from IDOT and other source	8	
1.3	Conduct traffic counts (Miovision camera) at the following locations: IL-59 at Grand Avenue IL-59 at H.S. Driveways(2) Grand Avenue at Devlin Road Washington Street at Moulis Terrance IL-59 at Moulis Terrace	63	$2,500.00
1.4	Obtain, review and analyze plans and other engineering data from IDOT, Village and other agencies (FEMA, LCSMC, FWA)	16	$50.00
1.5	Obtain and review existing structure data (IL-59 over Squaw Creek)	8	
1.6	Summarize information and charts of data collected	24	
1.7	Field Trips to Area (Assume 2 @ 6 hrs/trip * 2 ppl)	24	$90.00
1.8	Prepare Project Mosaics (aerial base imagery from Lake County) Set for base engineering sheets & correlation with aerial base sheet (approximately 6,800 roadway)/600'/sheet*4 hours/sheet	45	
1.9	Add base layer information and reference GIS layers into CAD	16	
	TOTAL WORK HOURS =	220	
	ESTIMATED DIRECT COSTS =		$2,690.00

Item 2.	**Design Survey (Benesch)**	**Estimated Work hours**	**Estimated Direct Costs**
	Topographic Ground Surveys (6,800 ft. roadway + parking lots at int.)		
2.1	Research and establish centerline alignment (record search and field work) Direct cost = $200 allowance for reimbursement for record document charges (county recorder's office and other gov't agency reproduction charges) plus field crew (2 days) vehicle charge (4 vehicle days @ $45/day)	32	$180.00
2.2	Traverse (include ties to state plane coordinates) 2 crew days @ 10 hrs ea. Direct cost = 4 vehicle days vehicle charge @ $45/day	32	$180.00
2.3	Level circuit (closed and checked) Direct cost vehicle charge	80	$450.00
2.4	Cross-sections and topo (roadway, driveway, culverts) 6800ft./500 ft. per day*2 ppl	218	$1,224.00
2.5	Existing Right-of-Way Determination (direct cost = vehicle charges)	48	$270.00
2.6	Datum Correlation of FIRM data	8	$180.00
2.7	Plotting of Existing roadway topography including all Utilities and Drainage Elements	40	
	TOTAL WORK HOURS =	458	
	ESTIMATED DIRECT COSTS =		$ 2,484.00

Item 3.	**Traffic/Crash Analysis and Intersection Design Study**	**Estimated Work hours**	**Estimated Direct Costs**

3.1	Balance adjust and develop existing and year 2040 AM and PM peak hour intersection voumes. Develop existing and project 2040 peak hour volumes for closure/partial closure of Washington Street and Devlin Road.	24	
3.2	Conduct capacity analyses for intersection alternatives (assume 2 alternatives- AM & PM analysis at 4 hrs ea. For existing and yr 2040)	16	
3.3	Conduct SIDRA analysis for AM and PM (existing and year 2040 with and w/o Washington St./Devlin modifications) Conduct Vissim for queueing analysis of roundabouts	80	
3.4	Translate capacity analysis and queuing reports into IDS format. Fill out volume tables, notes, CAD work for IDS presentation.	16	
3.5	Prepare submit and revise IDS (IL59 at Grand/Washington only)	120	$50.00
3.6	Review Crash Data and Tabulate (For 3 years Data) Coordinate and direct subconsultant	16	
3.7	Develop and Write Analysis (For initial 3 years of data)	32	
3.8	Prepare Accident Exhibits	24	
	TOTAL WORK HOURS =	328	
	ESTIMATED DIRECT COSTS =	$ 50.00	

Item 4.	**Utility Coordination**	**Estimated Work hours**	**Estimated Direct Costs**
4.1	Develop initial submittal to area utility companies to obtain atlases and inventory of above ground and underground utilities in area. Review responses and translate into CAD	24	$50.00
4.2	Develop submittal of preferred alternative to utilty companies to ascertain potenial conflicts and relocation issues. Document results	16	$50.00
4.3	Utility company coordination meeting allowance	24	
	TOTAL WORK HOURS =	64	
	ESTIMATED DIRECT COSTS =	$ 100.00	

Item 5	**Public Involvement (Benesch)**	**Estimated Work hours**	**Estimated Direct Costs**
5.1	Stakeholder involvement plan (SIP) and updates	16	
5.2	Stakeholder Coordination Meetings (up to 6) 2 ppl * 4 hr ea	48	
5.3	Project Study Group (PSG) meetings (up to 3) 3 ppl * 4 hr ea	36	
5.4	PSG exhibits (assume 2 exhibits per meeting * 8 hrs ea)	48	
5.5	Public Meeting (3)		
	Identify, reserve and set up meeting sites & dates; public meeting planning, equipment rental	12	
	Meeting attendance materials - sign-in sheets, badges	12	
	Develop and design PowerPoint and script (16 * 3 mtgs)	48	
	Meeting technical exhibits (3 mtgs w/8 exhibits @ 4 hrs ea.) Direct costs = printing, mounting exhibits (3 mtgs * $400ea)	96	$1,200.00
	Attend Dry Run (3 ppl * 3 mtgs * 4 hrs)+ vehicle charge	48	$135.00
	Attend Public Meetings (3 mtgs * 5 ppl * 4 hrs)	60	
	Prepare meeting minutes/summary document (3 hrs per meeting * 3 mtgs)	9	
5.6	Project Website (80 hrs to develop + 8 hrs per month * 24 months)	272	$2,400.00
5.7	Aesthetic Concepts/Renderings		
	Prepare 2D and 3D renderings for alternatives. Assume one concept rendering/plan for each alternative and one final concept plan for preferred alternative. Direct cost for plotting, mounting	80	$500.00
	TOTAL WORK HOURS =	785	
	ESTIMATED DIRECT COSTS =	$4,235.00	

Item 6.	**Alternate Analysis & Value Planning Geometric Studies**	**Estimated Work hours**	**Estimated Direct Costs**
6.1	Develop horizontal alignments & intersection geometrics (3 alternatives)	72	
6.2	Develop and analyze vertical alignments	46	
6.3	Critical Cross section analysis	24	
6.4	**Value Planning/ Evaluation of Alternatives (Benesch)**		
	Evaluation of Alternatives- Develop Value Planning evaluation criteria (based on performance, acceptance and cost). Performance to include impacts and operational criteria (measurable), acceptance (input from PI process) and cost from cost management. Present results in form of technical memorandum. Value Planning workshop = 32 hrs * 4 consultant staff + 40 hrs for report	168	
	TOTAL WORK HOURS =	310	
	ESTIMATED DIRECT COSTS =	0	

Item 7.	**Environmental Studies**	**Estimated Work hours**	**Estimated Direct Costs**
	Existing and Future Land Use, Agriculture, Developments	4	
	Define and Analyze Social and Economic Factors	4	
	Completion of the ESRF and exhibits (aerials and CADD drawings with anticipated proposed ROW and some follow-up. The IDOT Central Office will perform the necessary coordination with the following agencies and provide the appropriate results for inclusion in the Project Report) Archaeological/Historic/Architectural (IHPA) Prime Farmland (USDA/NRCS, IDA) Wetlands (IDNR, USACE) Stream Crossings (IDNR, USACE) Biological Survey (INHS, IDNR, USDOI/F & WS) Special Waste Survey (ISGS)	16	
	Historic/Archeological Structures Photo and Documentation (photolog) Direct cost = vehicle @ $45/day - 1 day	16	$45.00
	Air Quality/ Noise/ Construction Noise sites & receptors ID & documentation. Direct cost = vehicle @ $45/day. Develop and submit COSIM pre-screening worksheets	16	$45.00
	Vegetation and Tree Tabulation (by H&H) Hours for coord. By Benesch	4	
	Coordinate subconsultant- wetlands delineation. Review report and submit to IDOT with WIE	16	$45.00
	Develop and submit noise analysis and report	180	$180.00
	TOTAL WORK HOURS =	256	
	ESTIMATED DIRECT COSTS =	$315.00	

Item 8.	**Geotechnical Investigations (Rubino)**	**Estimated Work hours**	**Estimated Direct Costs**
	Coordinate subconsultant, layout of borings, pick up of actual locations (8 hrs. coord. + 1 person survey crew 2 half days. Direct cost vehicle+ 8hrs review report findings and conclusions.)	24	$45.00
	TOTAL WORK HOURS =	24	
	ESTIMATED DIRECT COSTS =	$45.00	

Item 9.	30% Plan and Profile Sheets	Estimated Work hours	Estimated Direct Costs
	Typical Sections	24	
	Plan and Profiles (10 shts @ 12hrs/sht)	120	
	Intersection Details	40	
	Cross Sections 6800'/50' per section = 136 sections@ 1 hr/section	136	
		TOTAL WORK HOURS =	320
		ESTIMATED DIRECT COSTS =	

Item 10.	Location Drainage Study (Benesch)	Estimated Work hours	Estimated Direct Costs
	Intersection LDS (Benesch)		
10.1	Existing Drainage System		
	General Location Drainage Map	4	
	Existing Drainage Plan	24	
	Identify Drainage Problems	16	
	Identify Base Floodplains	4	
	Field Reconnaissance - 2 days x 2 ppl x 10 MH/day. Direct cost = vehicle charges	20	$90.00
	Major Drainage Features	8	
10.2	Proposed Drainage System		
	Design Criteria	4	
	Outlet Evaluation	24	
	XP-SWMM Model/detention analysis	40	
	Right-of-Way Analysis	8	
	Drainage Alternatives	16	
	Proposed Drainage Plan - 10 sheets x 8 hrs/sheet	80	
10.3	Local & Other Agency Coordination	16	
10.4	Permitting	16	
10.5	Floodplain Encroachment Evaluation	40	
	Quantities	12	
10.6	Erosion and Control and Data Reference	6	
10.7	Narrative	24	
	Study Assembly & Printing	16	200
		TOTAL WORK HOURS =	378
		ESTIMATED DIRECT COSTS =	$290.00

Item 11.	Cost Management (Benesch)		
	Cost Management- Develop planning level cost estimates of three alternatives during study process. Identify cost centers (where majority of costs are coming from) and update throughout project. Assume 3 alternative cost estimates and 1 final estimate for final preferred alternatives. 3 alternatives @ 24 hrs. ea. + 1 @ 24 (final)	96	
		TOTAL WORK HOURS =	96
		ESTIMATED DIRECT COSTS =	$0.00

Item 12.	**Project Development Report (Draft & Final)**	**Estimated Work hours**	**Estimated Direct Costs**
12.1	Present and discuss alternative analysis/preferred Alternate, document evaluation and selection process (tables, exhibits)	40	
12.2	Write Report (BLR 22110), Proof read and edit.	80	
12.3	Print, Bid and Deliver	24	200
12.4	Revisions	24	
	TOTAL WORK HOURS =		168
	ESTIMATED DIRECT COSTS =		200

Item 13.	**Traffic Maintenance Plan (TMP) (Benesch)**	**Estimated Work hours**	**Estimated Direct Costs**
13.1	Determination of Traffic Maintenance Requirements		
	Work zone type, reconstruction staging, detours, combination	16	
	Estimation of delays of various work zone strategies, alternatives	16	
	On-site & off-site strategies	4	
	Cost analysis	16	
13.2	Field inspection of probable detour routes. Direct cost = vehicle charge	8	$45.00
13.3	Write up	24	
13.4	Exhibits	32	
	TOTAL WORK HOURS =		116
	ESTIMATED DIRECT COSTS =		45

Item 14.	**Administration**	**Estimated Work hours**	**Estimated Direct Costs**
14.1	Project Manager functions – project coordination and management issues – 8 hours per month for 24 months	192	
14.2	Attendance at LCDOT quarterly meetings and preparation and distribution of minutes at 2 attendees at 4 hours per meeting plus 2 hours for minutes. Direct cost vehicle charge	80	$360.00
	TOTAL WORK HOURS =		272
	ESTIMATED DIRECT COSTS =		$360.00

Item 15.	**Quality Assurance/Quality Control**		
15.1	Develop Quality Management Plan	8	0
15.2	Benesch QA/QC	80	0
15.4	Benesch QA/QC of Huff and Huff	16	0
15.4	Benesch QA/QC of Rubino	8	0
	TOTAL WORK HOURS =		112
	ESTIMATED DIRECT COSTS =		0

SUMMARY OF WORKHOURS AND DIRECT COSTS

		Estimated Work hours	Estimated Direct Costs*
Item 1.	Data Collection and Early Coordination	220.3	$2,690.00
Item 2.	Design Survey (Benesch)	457.6	$2,484.00
Item 3.	Traffic/Crash Analysis and Intersection Design Study	328.0	$50.00
Item 4.	Utility Coordination	64.0	$100.00
Item 5	Public Involvement (Benesch)	785.0	$4,235.00
Item 6.	Alternate Analysis & Value Planning Geometric Studies	310.0	$0.00
Item 7.	Environmental Studies	256.0	$315.00
Item 8.	Geotechnical Investigations (Rubino)	24.0	$45.00
Item 9.	30% Plan and Profile Sheets	320.0	$0.00
Item 10.	Location Drainage Study (Benesch)	378.0	$290.00
Item 11.	Cost Management (Benesch)	96.0	$0.00
Item 12.	Project Development Report (Draft & Final)	168.0	$200.00
Item 13.	Traffic Maintenance Plan (TMP) (Benesch)	116.0	$45.00
Item 14.	Administration	272.0	$360.00
Item 15.	Quality Assurance/Quality Control	112.0	$0.00
	TOTAL ALL TASKS =	**3906.9**	**$10,814.00**

Estimated Hours and Costs
(Huff & Huff, Inc.)

Huff & Huff, incorporated
environmental engineers
and consultants

915 Harger Road, Suite 330
Oak Brook, IL 60523
Phone (630) 684-9100
Fax (630) 684-9120
Website: http://huffnhuff.com

March 17, 2011

Mr. Michael Magnuson, P.E.
Senior Project Manager
Alfred Benesch & Company
205 North Michigan
Suite 2400
Chicago, Illinois 60601

PESA, Wetland Delineation, Vegetation / Tree Survey
Intersection Improvements of IL-59 at Grand Avenue
Fox, Lake, Illinois
Proposal No. T11-027PTW

Dear Mr. Magnuson:

Huff & Huff, Inc. (H&H) is pleased to submit this proposal to perform a Preliminary Environmental Site Assessment (PESA), wetland delineation, and vegetation/tree survey for the Grand Avenue and Washington Street intersection in Fox Lake, Illinois. This proposal presents our project understanding, the scope of services, cost, and schedule for completing the project. A tiered approach to the wetlands and PESA is utilized to efficiently address potential impacts.

1. PROJECT UNDERSTANDING

H&H has been requested to provide various environmental services for the parcel located at the intersection of Grand Avenue and Washington Street in Fox Lake, Illinois.

2. SCOPE OF SERVICES

Task 1 - Preliminary Environmental Site Assessment (PESA)

H&H will prepare a Preliminary Environmental Site Assessment for Grand Avenue and adjacent areas identified in the attached Location Map *with the exception of Illinois Route 59. IDOT will conduct the PESA for the state route portion.* The process will follow general protocols associated with ASTM E1527-05, which is a standard environmental site assessment methodology and IDOT procedures. These protocols are consistent with the "Preliminary Site Assessment (PESA)" procedures outlined by the Illinois Department of Transportation (IDOT) in BDE #66-10 and the "Manual for Conducting Preliminary Environmental Site Assessments for Illinois Department of Transportation Highway Projects."

A. Historical Research

The site's historical land use/ownership record will be developed from standard historical sources. Either historical aerial photographs or historical maps, such as Sanborn Fire Insurance Maps, will be reviewed. The review will identify land use over time and potential areas of environmental concern, such as areas of surface disturbance and outside storage.

B. Site Evaluation

Current environmental features and conditions of sites adjacent to the right-of-way will be evaluated. A site walkover of potential right-of-way areas designated for excavation and/or acquisition will be conducted for first-hand evaluation of current environmental conditions within the project limits. All of the features and conditions listed above will be investigated and, as appropriate, documented in photographs. The land-use and housekeeping practices of adjacent properties also will be evaluated in accordance with ASTM protocols.

C. Records Review

A records review will be conducted to determine potential environmental concerns within the study area. It will include a search of standard state and federal environmental record databases in accordance with the specifications of ASTM standards. This search is based on the outline of the study area.

Specifically, Consultant will search each database to identify any potential sources requiring further investigation. As appropriate, Freedom of Information Act (FOIA) requests will be filed with the Illinois Environmental Protection Agency (IEPA) to obtain additional data pertaining to identified sites. A local source, such as the fire department or building department, will be contacted regarding available records and area history.

D. Report Preparation

One report summarizing the results of the evaluation for both sites will be prepared. The following information will be included in this report:

a) The project location and description
b) Historical uses of corridor.
c) The area geology and hydrology.
d) The environmental status of sites adjacent to the corridor regarding chemical use and storage, underground and aboveground storage tanks, solid waste, special waste, and hazardous waste, wastewater, and PCBs.
e) The environmental records review conducted for the two sites.
f) An analysis of the site inspection.
g) A summary of the findings regarding any environmental concerns. This will include IDOT's per Memo 66-10.

Task E would occur after the PESA is completed and the alternatives are reduced. Given the developed nature of the area, the need for a subsurface investigation is likely and scope and costs are included for that task.

E. Subsurface Investigation

Assuming that soil sampling potentially will be needed due to the developed nature of the intersection, the following sampling is proposed:

Site Safety Plan

H&H will prepare a project specific Site Safety Plan for the Subsurface Investigation.

Identify and Mark Bore Holes

H&H will coordinate soil sampling locations with the driller. Benesch will be the initial point of contact with the LCDOT to coordinate the drilling activities. A utility locate may be needed; however, Benesch may have available information. If coordination with the private property owners is required, Benesch will serve as the point of contact.

The following tasks will be conducted:

- Determine sampling locations.
- Attend a site visit to mark borehole locations and coordinate with local utilities.

Conduct Sampling Through On-site Drilling

Prepare scope of work for drillers identifying the samples to be collected, screening protocols, and chain of custody procedures. Conduct soil borings at variable depths for collecting soil samples. For the purposes of this scope of services, it will be estimated that up to borings might be needed. The total number of borings may be reduced or modified based on the findings of the Preliminary Environmental Site Assessment.

Driller will collect continuous soil samples in appropriate sample jars and provide to H&H. After review of the materials collected and PID readings, H&H will select the sample intervals to be analyzed. The following constituents would be analyzed from the borings. After the PESA screening, the number of analyses needed may be reduced; however, without additional information these constituents are proposed for budgetary purposes.

Volatile organic compounds (VOCs) – The cost estimate is based on 8 borings and one sample per boring. Samples will be collected continuously and screened with a photoionization detector (PID) in a separate sample. The sample with the highest PID reading from each boring will be analyzed for VOCs.

Priority Pollutant Metals with SPLP Lead – In each of the 8 borings, continuous samples will be collected, and composited into one sample for analysis, unless the soil conditions indicate the presence of fill material where discrete samples may be collected.

PNAs – Twelve PNA samples will be analyzed from up to 8 borings based on field observations.

Soil pH – One sample from each boring will be collected for soil pH.

For purposes of this scope, the following constituents will be analyzed with an estimated number of samples. The total number of samples analyzed as well as chemical constituents may be reduced or changed based on the outcome of the Environmental Assessment and PID readings during the Subsurface Investigation.

8 – Volatile organic compounds (VOCs)
8 – RCRA metals with SPLP lead and chromium
12 – Polynuclear aromatic compounds (PNAs)
8 – Soil pH

F. Report Preparation

H&H will prepare a report summarizing the results of the subsurface investigation and laboratory analysis. Contaminated soil will be characterized (special or hazardous) based on the findings of the laboratory analysis, and soil management guidelines will be included in the report. The following information will be included in this report:

a) The project location and description
b) A summary of the findings regarding any environmental concerns from the PESA
c) Subsurface Investigation Acitivities
d) Results of the Investigaion
e) Soil management recommendations

Task 2 – Wetland Screening and Delineation

A. Wetland Screening

An initial screening of wetlands will occur using GPS to determine which areas should be avoided, if possible. H&H will GPS approximate wetland boundaries and provide the survey file to Benesch. If the area is heavily wooded, accurate GPS survey may not be possible during the growing season. This task should be completed as soon as possible, prior to leaf-out of the trees.

B. Off-site Record/Document Review

The following records/documents will be reviewed prior to conducting the field investigation. Soils information will be reviewed to determine the soil types encountered during the delineation procedures. The maps to be reviewed and used include:

- U.S. Geological Survey Topographic Map
- National Wetlands Inventory Map
- Lake County Soil Survey
- Lake County Wetland Inventory
- FEMA Floodplain Maps
- Aerial Photographs

C. On-Site Investigation (Field Inventory)

The on-site investigation will be conducted by our environmental staff experienced in Federal methods for conducting wetland delineations. Our staff will classify and define hydric soils, hydrophytic vegetation, and evidence of hydrology to determine if wetlands are present. The wetland perimeters will be located and flagged for completion of field survey by Benesch.

A wetland delineation of the project site will be conducted that will meet the requirements of Executive Order 11990, "Protection of Wetlands;" Section 404 of the Federal Water Pollution Control Act as amended by the Clean Water Act (Corps of Engineers, Section 404 Permit) and the Illinois Environmental Protection Agency (IEPA Section 401 Guidelines) regulations. These regulations pertain to the placement of fill or alterations of drainage within wetlands of any type and apply to privately as well as publicly owned wetlands. The investigation will meet the requirements of these regulations by identifying the type, functions, and approximate boundaries of the involved wetlands.

Wetlands found will be classified according to type using the "Classification of Wetlands and Deep Water Habitats of the United States" by Cowardin. Wetland boundaries will be defined using the Corps of Engineers Regional Supplement to the COE Wetlands Delineation Manual (USACOE, 2008). This includes a soil investigation to determine the presence or absence of hydric soils and an analysis of the dominant plant species. Field observations will be made on any evidence indicating the hydrology of the area and on water sources that are supporting these wetlands. Functions of these wetlands will be evaluated from field observations.

In addition to the areas mapped as wetlands by the NWI, the entire project area will be investigated in the event that unmapped wetlands are present. The NWI map identifies four wetlands near the proposed project limits. A large palustrine, scrub-shrub, broad-leaved deciduous, seasonally flooded (PSS1C) wetland is mapped within the area between IL 59 and Washington Street. A large palustrine, emergent, semi-permanently flooded (PEMF) wetland is located along the east side of Washington Street. A riverine, lower perennial,

unconsolidated bottom, permanently flooded, excavated (R2UBHx) system is mapped at the IL 59 bridge and extends along the east and north project limits. West of IL 59, a palustrine, unconsolidated bottom, permanently flooded, excavated (PUBHx) wetland is mapped. As the NWI maps are developed to be used as a general planning tool, detailed field investigations are required to ascertain whether or not wetlands are present. All areas exhibiting wetland characteristics within the project limits will be investigated.

There are no farmed areas within the project limits; therefore, a farmed wetland determination will not be required.

Upon completion of the wetland delineations, a wetland delineation report will be prepared summarizing the findings of the formal delineation upon completion. This report will be used for the basis of future permitting.

Wetland delineation data sheets will be included in the report, which summarize the findings of the field investigation.

Specific items to be included are as follows:

a) Map showing the wetland boundaries and project boundaries
b) Aerial photograph with the appropriate limits of delineated wetlands
c) COE data sheets with color photos of the wetlands and the data points
d) Written description of wetland functional classification
e) Permitting summary
f) Mitigation requirements and options, if necessary

As part of the wetland delineation, the project will be evaluated for potential endangered species habitat and a Section 7 Consultation letter will be drafted. In addition, an EcoCat will be submitted to the Illinois Department of Natural Resources. This scope does not include endangered species surveys.

Task 3 – <u>Vegetation / Tree Survey</u>

H&H will prepare a tree survey along the proposed road alignments and existing roadways within the project limits. This survey will be conducted in accordance with current IDOT policies and D&E-18.

The preferred roadway alignment will be staked and or flagged by Benesch in order for H&H to identify the correct survey area. The vegetation survey will include trees along the preferred alignment, as well as along IL 59, Grand Avenue, and Washington Street. Trees will be surveyed by Benesch to provide station and offset, and size during the project survey. H&H will take these data and identify type, structure and condition of the trees within the proposed project limits. Within wooded areas, trees may be identified using transect methodology. Depending on the trees observed, individual specimen trees will be located. After all trees are evaluated, a tabulation of trees will be compiled which summarizes trees and potential impacts. A tree report will be

prepared which documents impacts to trees. This will include all trees six (6) inches in diameter or greater and smaller individuals when planted for landscape purposes.

Task 4 - QA/QC

Time will be allotted to conduct QA/QC reviews of the environmental documents.

Task 5 - Project Management

This task covers items necessary to manage the project, scheduling, and coordination with the prime consultant.

3. PROJECT COST

Costs for these services are presented in the Cost Estimate for Consultant Services (CECS) forms.

4. SCHEDULE

The PESA will be completed within three weeks of the notice to proceed and will include the database review, the site visits and the report preparation. This schedule can be adjusted. The determination of the construction elements needed such as right-of-way acquisition may be dependent on the geometric development. If the PESA identifies the need for a subsurface investigation, an additional four weeks will be needed to coordinate that effort.

The wetland screening will be scheduled within two weeks after Notice to Proceed.

The formal delineation and tree survey will be scheduled within four weeks after the preferred alignment is received. This proposal assumes that the delineation will be completed during the growing season (approximately May 1 to October 1). If the delineation is completed outside of the growing season, additional field visits would be required to verify the wetland boundaries.

5. CONTRACT TERMS

1. CONSULTANT'S SERVICES: The Consultant's (Huff & Huff, Inc.) services shall consist of those tasks described in Section 2.

2. SCHEDULE: The Consultant's work under this Agreement shall begin within five weeks of receipt of written notice to proceed or a signed copy of this scope of services.

3. COMPENSATION: The fee basis for the scope of work, as outlined in Section 3, pertains to the specific scope work.

4. DIRECTION: For work performed under this Agreement, Consultant shall take direction from the CLIENT.

5. CHANGES: This Agreement may only be changed by written amendment which specifies the terms being revised and which has been signed by both parties hereto.

6. PROJECT DATA: The Consultant, in coordination with the CLIENT, shall obtain from the appropriate sources all data and information necessary for the proper and complete execution of the Consultant's services.

7. INDEPENDENT CONSULTANT: The Consultant shall be deemed to be an independent contractor in all its operations and activities hereunder. The employees furnished by Consultant to perform the work shall be deemed to be Consultant employees exclusively, and said employees shall be paid by Consultant for all services in this connection. The Consultant shall be responsible for all obligations and reports covering Social Security, Unemployment Insurance, Workmen's Compensation, Income Tax, and other reports and deductions required by an applicable state or Federal law.

8. RIGHTS OF WORK PRODUCT: CLIENT shall have unlimited rights in all drawings, designs, specifications, notes, and other work developed in the performance of this contract, including the right to use same on any other work without additional cost to the CLIENT. The Consultant shall not be liable for any use or reuse of the drawings, designs, specifications, notes and other work for use other than intended under the terms of this Agreement.

9. INDEMNIFICATION: The Consultant hereby agrees to indemnify and hold harmless the CLIENT and any proper owners whose property it is necessary to access in the performance of this work, against any and all liability, loss, damages, demands, or actions or causes of action, which may result from any damages or injuries sustained by a person or entity in connection with or on account of any negligent act or omission of the Consultant or its employees relating to its obligations pursuant to this Agreement.

10. TERMINATION: CLIENT may terminate this Agreement at any time upon ten (10) days written notice for whatsoever reason, provided CLIENT shall pay the Consultant a reasonable fee for work satisfactorily performed prior to the effective date of termination. In no case, however, shall the total amount paid to Consultant exceed the amount set out above.

11. INSURANCE: The Consultant shall maintain insurance as set forth in the prime contract, if attached, or as set forth below.

    a. Worker's Compensation and Employer's Liability Insurance: Worker's Compensation in compliance with applicable State and Federal laws.
    b. Comprehensive General Liability Insurance for Bodily Injury and Property Damage to a combined single limit of $2,000,000 per occurrence/claim or an umbrella of $3,000,000.
    c. Comprehensive Automobile Liability Insurance, including owned, hired, and non-owned automobiles, for Bodily Injury and Property Damage to a combined single limit of $1,000,000 per occurrence/$2,000,000 aggregate.
    d. Professional liability insurance $2,000,000 on a claims made basis.

12. STANDARD OF CARE: Services performed by the Consultant under this Agreement will be conducted in a manner consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions.

13. RETENTION OF RECORDS: Consultant shall maintain complete records of all hours billed and direct costs incurred under this Agreement so as to accurately reflect the services performed and basis for compensation and reimbursement under this Agreement.

14. LEGAL: This Agreement shall be construed and interpreted solely in accordance with the laws of the State of Illinois.

BOTH PARTIES HERETO WARRANT AND REPRESENT that they have full right, power, and authority to execute this Contract.

IN WITNESS THEREOF, the parties hereto have executed this Agreement as of the day and year first specified above.

	CONSULTANT	CLIENT
	HUFF & HUFF, INC.	ALFRED BENESCH & COMPANY
	Linda L Huff	
	Signature	Signature
By:	Linda L. Huff, P.E.	Mr. Michael Magnuson, P.E.
	Typed Name	Typed Name
	President	Senior Project Manager
	Officer's Title	Officer's Title
	March 17, 2011	
	Date	Date

DRAFT

Illinois Department of Transportation

Payroll Escalation Table
Fixed Raises

FIRM NAME	Huff & Huff, Inc.	**DATE**	03/17/11
PRIME/SUPPLEMENT	Alfred Benesch & Company	**PTB NO.**	

CONTRACT TERM	6	**MONTHS**	**OVERHEAD RATE**		155.00%
START DATE	04/01/11		**COMPLEXITY FACTOR**		0
RAISE DATE	01/01/12		**% OF RAISE**		3.00%

ESCALATION PER YEAR

04/01/11 - 09/30/11				
6				
6				
= 100.00%				
= 1.0000				

The total escalation for this project would be: **0.00%**

Illinois Department of Transportation

Payroll Rates

FIRM NAME Huff & Huff, Inc. **DATE** 03/17/11
PRIME/SUPPLEMENT Alfred Benesch & Company
PTB NO.

ESCALATION FACTOR **0.00%**

CLASSIFICATION	CURRENT RATE	ESCALATED RATE
Principal	$62.37	$62.37
Senior Project Manager	$55.76	$55.76
Senior Engineer III	$41.60	$41.60
Senior Engineer II	$35.42	$35.42
Transportation Planner	$30.76	$30.76
Senior Scientist IV	$41.84	$41.84
Senior Scientist III	$35.86	$35.86
Senior Scientist II	$28.88	$28.88
Senior Scientist I	$24.72	$24.72
Senior Geologist I	$32.68	$32.68
Project Engineer II	$31.68	$31.68
Project Engineer I	$25.52	$25.52
Wetland Scientist III	$0.00	$0.00
Wetland Scientist II	$22.72	$22.72
Wetland Scientist I	$0.00	$0.00
Project Scientist III	$22.68	$22.68
Project Scientist II	$0.00	$0.00
Project Scientist I	$18.76	$18.76
Project Geologist I	$26.78	$26.78
Project Associate	$23.00	$23.00
Senior CADD I	$32.08	$32.08
CADD II	$25.00	$25.00
CADD I	$16.04	$16.04
Admin. Manager I	$29.58	$29.58
Administrative III	$19.32	$19.32
Administrative II	$17.80	$17.80
Administrative I	$11.00	$11.00
		$0.00
		$0.00
		$0.00
		$0.00
		$0.00
		$0.00
		$0.00
		$0.00
		$0.00
		$0.00

Illinois Department of Transportation

Cost Estimate of Consultant Services
(CPFF)

Firm	Huff & Huff, Inc.
Route	IL-59 at Grand Avenue
Section	
County	
Job No.	
PTB & Item	

Date 03/17/11

Overhead Rate **155.00%**

Complexity Factor **0**

Item	Manhours	Payroll	Overhead & Fringe Benefits	In-House Direct Costs	Fixed Fee	Outside Direct Costs	Services By Others	Total	% of Grand Total
PESA	40	1,302.26	2,018.50	91.00	494.71	515.50	0.00	4,421.97	17.70%
Subsurface Investigation	45	1,415.42	2,193.90	102.00	538.14	3,761.60	2,000.00	10,011.06	40.08%
Wetland Delineation	62	1,532.40	2,375.22	232.20	600.27	15.50	0.00	4,755.59	19.04%
Vegetation/Tree survey	48	1,173.84	1,819.45	75.10	444.92	15.50	0.00	3,528.81	14.13%
QA/QC	14	467.10	724.01	0.00	172.71	0.00	0.00	1,363.82	5.46%
Project Management	6	307.24	476.22	0.00	113.60	0.00	0.00	897.06	3.59%
TOTALS	215	6,198.26	9,607.30	500.30	2,364.35	4,308.10	2,000.00	24,978.31	100.00%

Method of Compensation:

Cost Plus Fixed Fee 1	[X]	14.5%[DL + R(DL) + OH(DL) + IHDC]
Cost Plus Fixed Fee 2	[ ]	14.5%[DL + R(DL) + 1.4(DL) + IHDC]
Cost Plus Fixed Fee 3	[ ]	14.5%[(2.3 + R)DL + IHDC]
Specific Rate	[ ]	
Lump Sum	[ ]	

Illinois Department of Transportation

Average Hourly Project Rates

Route IL-59 at Grand Avenue
Section
County **Consultant** **Huff & Huff, Inc.** **Date** 03/17/11
Job No.
PTB/Item **Sheet** 1 **OF** 2

Payroll Classification	Total Project Rates			PESA			Subsurface Investigation			Wetland Delineation			Vegetation/Tree survey			QA/QC		
	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg
Principal	10	4.65%	2.90	2	5.00%	3.12	2	4.44%	2.77							2	14.29%	8.91
Senior Scientist II	16	7.44%	2.15							2	3.23%	0.93	2	4.17%	1.20	10	71.43%	20.63
Senior Scientist I	90	41.86%	10.35							50	80.65%	19.94	40	83.33%	20.60			
Senior Geologist I	62	28.84%	9.42	30	75.00%	24.51	32	71.11%	23.24									
Project Scientist III	4	1.86%	0.42				4	8.89%	2.02									
Project Geologist I	2	0.93%	0.25													2	14.29%	3.83
Senior CADD I	4	1.86%	0.60	2	5.00%	1.60	2	4.44%	1.43									
CADD II	13	6.05%	1.51	3	7.50%	1.88				8	12.90%	3.23	2	4.17%	1.04			
CADD I	2	0.93%	0.15				2	4.44%	0.71									
Administrative III	12	5.58%	1.08	3	7.50%	1.45	3	6.67%	1.29	2	3.23%	0.62	4	8.33%	1.61			
	0																	
	0																	
	0																	
TOTALS	215	100%	$28.83	40	100%	$32.56	45	100%	$31.45	62	100%	$24.72	48	100%	$24.46	14	100%	$33.36

Illinois Department of Transportation

Average Hourly Project Rates

Route IL-59 at Grand Avenue
Section
County **Consultant** **Huff & Huff, Inc.** **Date** 03/17/11
Job No.
PTB/Item **Sheet** 2 **OF** 2

Payroll Classification	Avg Hourly Rates	Project Management Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg
Principal	62.37	4	66.67%	41.58															
Senior Project Manager	55.76																		
Senior Engineer III	41.60																		
Senior Engineer II	35.42																		
Transportation Planner	30.76																		
Senior Scientist IV	41.84																		
Senior Scientist III	35.86																		
Senior Scientist II	28.88	2	33.33%	9.63															
Senior Scientist I	24.72																		
Senior Geologist I	32.68																		
Project Engineer II	31.68																		
Project Engineer I	25.52																		
Wetland Scientist III																			
Wetland Scientist II	22.72																		
Wetland Scientist I																			
Project Scientist III	22.68																		
Project Scientist II																			
Project Scientist I	18.76																		
Project Geologist I	26.78																		
Project Associate	23.00																		
Senior CADD I	32.08																		
CADD I	16.04																		
Admin. Manager I	29.58																		
Administrative III	19.32																		
Administrative II	17.80																		
Administrative I	11.00																		
CADD II	25.00																		
TOTALS		6	100%	$51.21	0	0%	$0.00	0	0%	$0.00	0	0%	$0.00	0	0%	$0.00	0	0%	$0.00

SUMMARY OF INHOUSE DIRECT COSTS

Project: Benesch - Fox Lake

									DIRECT
Task 01 - PESA									
Trips - Company	50 miles	x	2	x	$	0.51	=	$	51.00
Reproduction	5 sets	x	150	x	$	0.03	=	$	22.50
Color copies	5 sets	x	25	x	$	0.10	=	$	12.50
Photo sheets	5 sets	x	10	x	$	0.10	=	$	5.00
					Task Total			**$**	**91.00**
Task 01a - Subsurface Investigation									
Trips - Company	50 miles	x	4	x	$	0.51	=	$	102.00
					Task Total			**$**	**102.00**
Task 02 - Wetland Delineation									
Trips - Company	110 miles	x	2	x	$	0.51	=	$	112.20
Reproduction	10 sets	x	100	x	$	0.03	=	$	30.00
Color copies	10 sets	x	10	x	$	0.10	=	$	10.00
Photo sheets	10 sets	x	5	x	$	0.10	=	$	5.00
GPS Rental			1	x	$	75.00	=	$	75.00
					Task Total			**$**	**232.20**
Task 03 - Vegetation / Tree Survey									
Trips - Company	110 miles	x	1	x	$	0.51	=	$	56.10
Reproduction	10 sets	x	50	x	$	0.03	=	$	15.00
Color copies	10 sets	x	2	x	$	0.10	=	$	2.00
Photo sheets	10 sets	x	2	x	$	0.10	=	$	2.00
					Task Total			**$**	**75.10**
Task 04 - QA/QC									
					Task Total			**$**	**-**
Task 05 - Project Management									
					Task Total			**$**	**-**
					GRAND TOTAL			**$**	**500.30**

P:\Proposal-2011\Benesch\[Benesch Fox Lake DC.xls]Inhouse Direct Costs

SUMMARY OF OUTSIDE DIRECT COSTS

Project: Benesch - Fox Lake

							OUTSIDE
Task 01 - PESA							
Record Search / Aerials	1	x	$	500.00	=	$	500.00
Federal Express	1	x	$	15.50	=	$	15.50
				Task Total		**$**	**515.50**
Task 01a - Subsurface Investigation							
Analytical							
PNA	12	x	$	130.00	=	$	1,560.00
RCRA Metals	8	x	$	88.20	=	$	705.60
VOCs	8	x	$	175.00	=	$	1,400.00
soil pH	8	x	$	12.00	=	$	96.00
				Task Total		**$**	**3,761.60**
Task 02 - Wetland Delineation							
Federal Express	1	x	$	15.50	=	$	15.50
				Task Total		**$**	**15.50**
Task 03 - Vegetation / Tree Survey							
Federal Express	1	x	$	15.50	=	$	15.50
				Task Total		**$**	**15.50**
Task 04 - QA/QC							
				Task Total		**$**	**-**
Task 05 - Project Management							
				Task Total		**$**	**-**
				GRAND TOTAL		**$**	**4,308.10**

P:\Proposal-2011\Benesch\[Benesch Fox Lake.xls]AVG 1

SUMMARY OF SERVICES BY OTHERS

Project: Benesch - Fox Lake

			OUTSIDE
Task 01 - PESA			
Driller	$ 2,000.00	$	2,000.00
	Task Total	**$**	**2,000.00**
Task 01a - Subsurface Investigation			
	Task Total	**$**	**-**
Task 02 - Wetland Delineation			
	Task Total	**$**	**-**
Task 03 - Vegetation / Tree Survey			
	Task Total	**$**	**-**
Task 04 - QA/QC			
	Task Total	**$**	**-**
Task 05 - Project Management			
	Task Total	**$**	**-**
	GRAND TOTAL	**$**	**2,000.00**

P:\Proposal-2011\Benesch\[Benesch Fox Lake.xls]AVG 1

Estimated Hours and Costs
(Rubino Engineering, Inc.)

March 17, 2011

To: Michael P. Magnuson, PE, PTOE, LEED AP | Senior Project Manager
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, IL 60601
P 312-565-0450 | **F** 312-565-2497
C 312-672-9479

Re: Proposal - Geotechnical Exploration
Proposed Intersection Improvements
IL-59 and Grand Avenue
Fox Lake, Illinois
Lake County
Proposal No. Q1137g

Via email: mmagnuson@benesch.com

Dear Mr. Magnuson,

Rubino Engineering, Inc. (Rubino) is pleased to submit the following proposal to provide geotechnical engineering services for the above referenced project.

PROJECT UNDERSTANDING

Rubino understands that Alfred Benesch & Company has been selected by the Lake County Division of Transportation (LCDOT) to perform a Phase I Engineering study to improve the intersection of IL-59 at Grand Avenue in Fox Lake. As part of this project, soil borings and pavement cores will be needed. The project will include the potential realignment of Washington Street as well.

Benesch anticipates that the IL-59 and Grand Avenue pavement is concrete in the center and potential bituminous widening. The cores will require traffic control as we want to try and pick up/find center concrete sections.

Signal foundations are planned at the intersection of IL-59 and Grand Avenue. The heights of the signals are not known at this time.

Rubino understands that IDOT permits will be needed prior to mobilizing. Rubino will secure appropriate bonds and prepare paperwork to apply for the permits.

Documents received:

- RFP Email from Mike Magnuson of Alfred Benesch & Company on March 15, 2011
- Aerial photo showing the intersection of IL-59 & Grand Avenue

This proposal is based on site grading including cuts and fills being less than 2 feet.

Should any of the information on which this proposal has been based, including as described above, be inconsistent with the planned construction, Rubino requests to be contacted immediately in order to make any necessary changes to this proposal and scope of work.

SCOPE OF SERVICES

The following sections outline the scope of services developed based on the information provided by the client and the information listed above in order to provide a geotechnical exploration the planned project. The exploration will be performed in general accordance with both the requested proposal information and Rubino's current understanding of the project.

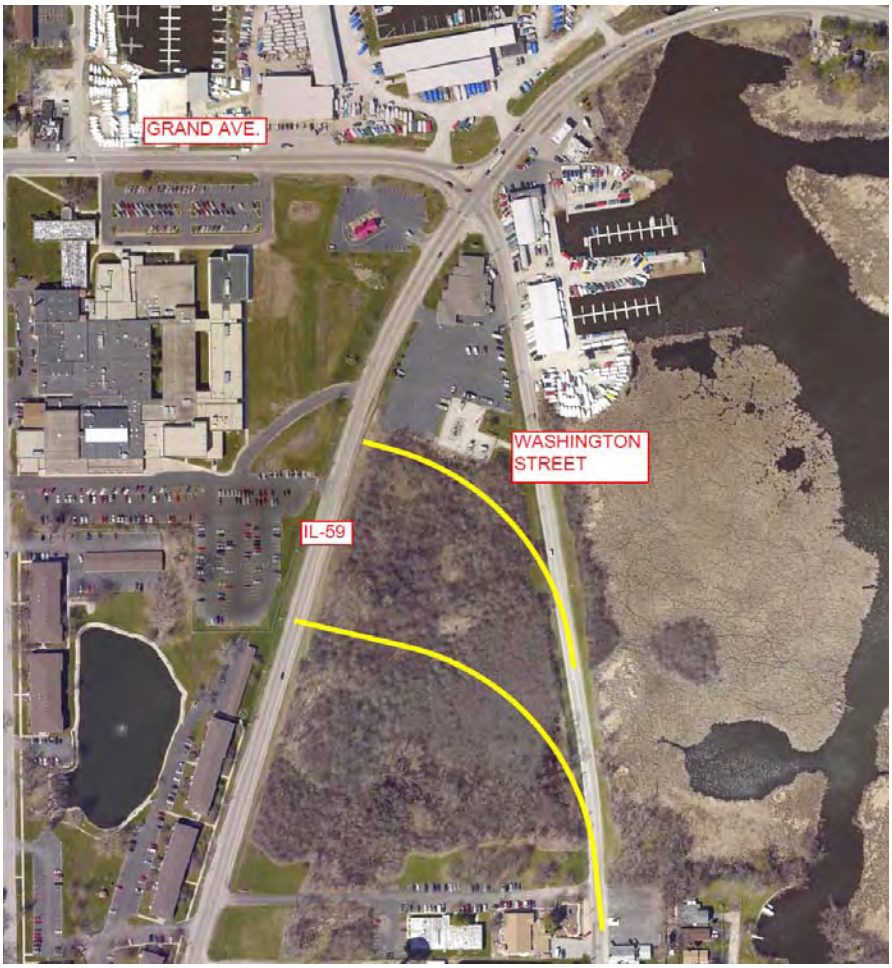
Site Access and Traffic Control

Based on current site topography, surface conditions, and project discussions, Rubino anticipates that the core locations will be accessible to a pickup truck and the soil boring locations performed in the existing shoulder will be accessible to truck-mounted drilling equipment.

Traffic Control during the pavement cores will consist of one full lane closure with approach signage, cones, and flaggers.

Traffic Control during drilling will consist of partial or full lane closure with approach signage, cones, and flaggers, if necessary.

The following aerial photo was provided by Alfred Benesch & Company:



Soil Boring Depths

To obtain data to evaluate subsurface conditions within the proposed development/construction areas, Rubino proposes to drill soil test borings as specified below.

Number of Borings	Depth (feet BEG*)	Location
8	10	Every 300 feet in the shoulder, final locations TBD by client
7	15	Every 300 feet, toward the intersection, final locations TBD by client
		20 feet of additional footage has been included in the scope to account for extending the boring depths, if necessary

*BEG = below existing grade

The borings will be located in the field by measuring distances from known, fixed site features.

Soil Sampling

Soil sampling will include split-barrel samples (ASTM D 1586) or thin-walled tube samples on cohesive soils (ASTM D 1587) at 2 ½ - foot intervals to a depth of 10 feet and 5 - foot intervals thereafter.

If unsuitable bearing soils are encountered within the borings as proposed herein, the borings will be extended an additional 5 feet to attempt to end the borings in suitable soils. If unsuitable soils persist at the end of an additional 5 feet the client will be contacted prior to demobilizing.

Unsuitable soils will be defined by field personnel using the following criteria:

- Cohesive soils with an N value less than or equal to 4
- Granular soils with an N-value less than 10.
- Black cohesive or silty soil with visible signs of organic matter and / or organic odor and low blow counts as described above

Pavement Cores

Pavement Cores will be obtained with a Milwaukee Drill using a 4-inch core barrel. The cores will be taken toward the centerline of IL-59. Thirty (30) cores are planned though Rubino understands that this number may be modified upon authorization.

Number of Cores	**Location**
8	Grand Avenue
6	Washington
8	IL-59 South of Grand
8	IL-59 North of Grand
30	**Total**

Completion of Borings and Cores

Upon completion of drilling and coring, the holes will be backfilled with soil cuttings and capped with asphalt cold patch or similar existing material. Some damage to ground surface may result from the drilling operations near the work areas and along ingress/egress pathways. Rubino will attempt to minimize such damage, but no restoration other than backfilling the soil test borings is included.

It should be noted that over time, some settlement may occur in the bore holes. If Rubino is requested to return to the site for the purpose of filling any bore holes that may have settled, additional time and material charges may apply.

Laboratory Testing

The soil samples obtained during the field exploration program will be transported to the laboratory for classification and a limited number of laboratory tests. The nature and extent of the laboratory testing program is at the discretion of Rubino Engineering, Inc. and will depend upon the subsurface conditions encountered during drilling.

Laboratory testing will be performed in accordance with ASTM procedures and may include examination of selected samples to evaluate the soils' index properties and relative strength characteristics. The following laboratory tests have been budgeted:

Laboratory Test	Quantity
Natural Moisture Content	70
Atterberg Limits	9
Grain Size / Hydrometer	5
Organic Loss on Ignition	8

GEO REPORT

Upon completion of field and laboratory work, Rubino will prepare a geotechnical engineering report using the collected data. The geo report will include the following:

- *Summary of client-provided project information and report basis*
- *Overview of encountered subsurface conditions*
- *Overview of field and laboratory tests performed including results*
- *Geotechnical recommendations pertaining to:*
  - *Subgrade stability and preparation and cut / fill recommendations*
  - *Light pole foundations, including allowable bearing pressure*
- *Construction considerations, including temporary excavation and construction control of water*

Two (2) copies of the report will be provided. The report will be addressed to the Village of North Aurora.

PROJECT SCHEDULE

Rubino proposes to initiate work on this project within 5 working days after receiving written authorization to proceed and we will follow the schedule below in order to complete the project:

Task	Number of Working Days
Utility clearance and rig mobilization	10
Field work including site layout, coring, and drilling	10
Laboratory Testing	7
Preparation of the Geotechnical Report	10

Project schedules can be affected by weather conditions and changes in scope. If the report needs to be delivered by a specific day, please notify us as soon as possible. Preliminary verbal recommendations can be made to appropriate parties upon completion of the field investigation and laboratory testing. Rubino will need to receive a signed copy of this proposal intact prior to mobilizing the drill rig.

SPECIAL INSTRUCTIONS

Rubino will coordinate contacting the Utility "One-Call" for public utility clearance prior to the start of drilling activities. It is Rubino's experience that this service does not mark the locations of privately owned utilities. This proposal is based on private utility lines and other subsurface appurtenances being located in the field by others prior to our mobilization.

FEES

Rubino proposes to charge the fee for performance of the outlined scope of services on a lump-sum basis. Based on the scope of services outlined above, the fees are as follows:

Geotechnical Drilling, Laboratory, and Report Prep (lump sum)	**$ 11,725.00**
Pavement Cores ($120 per core, 30 cores)	**$ 3,600.00**
Pavement Core Traffic Control ($980 per day, 5 days)	**$ 4,900.00**
Total	**$ 20,225.00**

Please see the attached fee schedule for additional unit rates for services requested after issuing the geotechnical report (drawing / spec review, scope or site layout change, etc.).

Scope Limitations

Project services do not include a site evaluation to determine the presence or absence of wetlands, hazardous substances, or toxic materials.

Rock coring is not included in the scope of this exploration, therefore, the character and continuity of refusal materials, if encountered, can be determined only with a more comprehensive scope of services. Therefore, the borings will be advanced to the depths referenced above, or to refusal, whichever is shallower.

Boring, sampling and testing requirements are a function of the subsurface conditions encountered. The proposed lump-sum fee is based on the use of shallow foundations to support the planned construction and the existence of adequate bearing materials being encountered within the proposed boring depths. Should conditions be encountered which

require a deepening of borings or additional investigation, Rubino will notify you to discuss modifying the outlined scope of services. Additional work beyond the lump-sum fee will not be performed without your prior authorization.

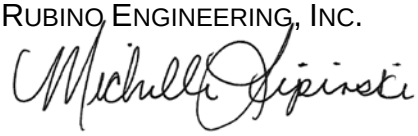
AUTHORIZATION

If this proposal is acceptable to you, Rubino will perform the work in accordance with the attached General Conditions that are incorporated into and made a part of this proposal. Please sign below as notice to proceed and return one copy of this proposal intact to our office. Rubino will proceed with the work upon receipt of authorization.

We appreciate the opportunity to offer our services for this project and we look forward to working with your company. Please contact Rubino with questions pertaining to this proposal or requests for additional services.

Respectfully submitted,

RUBINO ENGINEERING, INC.



Michelle A. Lipinski, PE
President

MAL/file

Attachments: Proposal Acceptance and Data Sheet
Schedule of Services and Fees
General Conditions

**This is an electronic copy. Hard Copies of this proposal are available upon request.

PROPOSAL ACCEPTANCE:

AGREED TO, THIS _____ **DAY OF** _____ **, 2011.**

BY *(please print)*: _____

TITLE: _____

COMPANY: _____

SIGNATURE: _____

PROJECT INFORMATION:

1. Project Name: _____
2. Project Location: _____
3. Your Job No: _____ Purchase Order No.: _____
4. Project Manager: _____ Telephone No.:_____
5. Site Contact:_____ Telephone No.:_____
6. Number and Distribution of Reports:

   ( ) Copies To: _____ ( ) Copies To: _____

   _____ _____

   _____ _____

   Attn: _____ Attn:_____

   Email: _____ **Email:** _____

   ( ) Copies To: _____ ( ) Copies To: _____

   _____ _____

   _____ _____

   Attn: _____ Attn:_____

   Email: _____ **Email:** _____

7. Invoicing Address: _____

   _____

   _____

   Attn: _____

   Email: _____
8. Other Pertinent Information Or Previous Subsurface Information Available:

   _____

   _____

Rubino Engineering, Inc.
2010 Schedule of Geotechnical Services & Fees

ENGINEERING

Professional and Technical Services for site evaluation, field supervision, analysis of test data and engineering recommendations and consultation:

Chief Engineer	Per Hour	$	185.00
Project Engineer/Manager	Per Hour	$	104.00
Engineering/Lab Technician	Per Hour	$	78.63
Secretarial Services	Per Hour	$	54.00

SUBSURFACE EXPLORATION

Mobilization and moving of truck-mounted drilling equipment and crew	Per Trip	$	510.00
Mobilization and moving of All-Terrain-Vehicle (ATV) - mounted drilling equipment and crew	Per Trip	$	660.00
All-Terrain Vehicle (ATV) Usage Surcharge	Per Day	$	195.00
Boring Layout - Two-man crew (2 hour minimum)	Per Hour	$	166.00

Soil Sampling using split-barrel sampler (ASTM D-1586) 2.5-foot intervals to 15 feet and 5-foot intervals thereafter, 3-1/4" E.D. HAS:

Depth Range Feet	Easy Drilling*	Hard Drilling**
0 - 25	$20.50	$23.00
25 - 50	$22.50	$25.00
50 - 72	$24.50	$27.00
75 - 100	$27.00	$29.50

* Less than 50 blows per foot or a Qp of 4 tsf

** 50 blows or more per foot, Qp more than 4 tsf, or strata containing coarse gravel or cobbles

Hourly Rate Drilling (difficult or unusual conditions, hard material, boulders, rubble, etc.	Per Hour	$	275.00
Auger Drilling with profile sampling	Per Foot	$	13.50
Installation of Temporary Casing	Per Foot	$	25.00
Set Up Time per hole in excess of 1/2 hour, stand-by time, or delays	Per Hour	$	190.00
Thin Wall Tubes (ASTM D-1587)	Each	$	50.00

LABORATORY TESTING

Moisture Content Test / Visual Classification	Each	$	6.00
Atterberg Limits Determination (LL, PL)	Each	$	85.00
Combined Hydrometer & Sieve Analysis	Each	$	130.00
Sieve Analysis (washed)	Each	$	85.00
Unconfined Compression Test, Tube Sample	Each	$	35.00
Unconfined Compression Test, with Stress-Strain Curve	Each	$	55.00
Density Determination	Each	$	15.00
Specific Gravity Determination	Each	$	65.00
Organic Content Determination Test (wet combustion)	Each	$	25.00
ASTM D698 - AASHTO T99 (Standard Proctor)	Each	$	195.00
ASTM D1557 - AASHTO T180 (Modified Proctor)	Each	$	215.00
One-Dimensional Consolidation Test (ASTM D-2435)	Each	$	750.00

REMARKS

1) All fees and services are provided in accordance with the attached Rubino General Conditions.
2) Unit prices/rates are in effect for 12 months from the date of this proposal and are subject to change without notice thereafter.
3) Overtime rates are applicable for services performed in excess of 8 hours per day Monday through Friday, before 8:00 AM or after 5:00 PM, and for all hours worked on Saturdays, Sundays and holidays. The overtime rate is 1.5 times the applicable hourly rate.
4) All rates are billed on a portal-to-portal basis.
5) Standby time due to delays beyond Rubino's control will be charged at the applicable hourly rate.
6) Transportation and per diem are charged at the applicable rates.
7) Rates involving mileage (including transportation, mobilization, vehicle and trip charges) are subject to change based upon increases in the national average gasoline price.
8) A minimum charge of 4 hours applies to field testing and observation services.
9) Scheduling or cancellation of field testing and observation services is required no less than the working day prior to the date the services are to be performed. Services cancelled without advance and/or inadequate notice will be assessed a minimum charge of 4 hours.
10) For all Rubino services, a project management/engineering review charge will be billed for all reports issued for the scheduling/supervision of personnel and the evaluation/review of data and reports.
11) The minimum billing increment for time is a half hour.
12) A project set-up charge of a minimum of two hours applies to all projects.
13) Professional services rates are exclusive of expert deposition or testimony time.
14) Drilling and field service rates are based on OSHA Level D personnel protection.
15) For sites where drilling is to occur that are not readily accessible to a truck mounted drill rig, rates for rig mobility, site clearing, crew stand-by time, etc. will be charged as applicable.
16) If applicable the prevailing wage fees charged under this agreement will be adjusted if there is any change in the applicable prevailing wage rate established by the Illinois Department of Labor.
17) Services and fees not listed on this schedule may be quoted on request.

GENERAL CONDITIONS

1. PARTIES AND SCOPE OF WORK: Rubino Engineering, Inc. shall include said company or its particular division, subsidiary or affiliate performing the work. "Work" means the specific geotechnical, analytical, testing or other service to be performed by Rubino Engineering, Inc. as set forth in Rubino Engineering, Inc.'s proposal, Client's acceptance thereof and these General Conditions. Additional work ordered by Client shall also be subject to these General Conditions. "Client" refers to the person or business entity ordering the work to be done by Rubino Engineering, Inc. If Client is ordering the work on behalf of another, Client represents and warrants that it is the duly authorized agent of said party for the purpose of ordering and directing said work. Unless otherwise stated in writing, Client assumes sole responsibility for determining whether the quantity and the nature of the work ordered by the client is adequate and sufficient for Client's intended purpose. Client shall communicate these General Conditions to each and every third party to whom Client transmits any part of Rubino Engineering, Inc.'s work. Rubino Engineering, Inc. shall have no duty or obligation to any third party greater than that set forth in Rubino Engineering, Inc.'s proposal, Client's acceptance thereof and these General Conditions. The ordering of work from Rubino Engineering, Inc., or the reliance on any of Rubino Engineering, Inc.'s work, shall constitute acceptance of the terms of Rubino Engineering, Inc.'s proposal and these General Conditions, regardless of the terms of any subsequently issued document.

2. TESTS AND INSPECTIONS: Client shall cause all tests and inspection of the site, materials and work performed by Rubino Engineering, Inc. or others to be timely and properly performed in accordance with the plans, specifications and contract documents and Rubino Engineering, Inc.'s recommendations. No claims for loss, damage or injury shall by brought against Rubino Engineering, Inc. by Client or any third party unless all tests and inspections have been so performed and unless Rubino Engineering, Inc.'s recommendations have been followed. Client agrees to indemnify, defend and hold RUBINO ENGINEERING, INC., its officers, employees and agents harmless from any and all claims, suits, losses, costs and expenses, including, but not limited to, court costs and reasonable attorney's fees in the event that all such tests and inspections are not so performed or Rubino Engineering, Inc.'s recommendations are not so followed except to the extent that such failure is the result of the negligence, willful or wanton act of omission of Rubino Engineering, Inc., its officers, agents or employees, subject to the limitation contained in paragraph 9.

3. SCHEDULING OF WORK: The services set forth in Rubino Engineering, Inc.'s proposal and Client's acceptance will be accomplished in a timely, workmanlike and professional manner by RUBINO ENGINEERING, INC. personnel at the prices quoted. If Rubino Engineering, Inc. is required to delay commencement of the work or if, upon embarking upon its work, Rubino Engineering, Inc. is required to stop or interrupt the progress of its work as a result of changes in the scope of the work requested by Client, to fulfill the requirements of third parties, interruptions in the progress of construction, or other causes beyond the direct reasonable control of Rubino Engineering, Inc., additional charges will be applicable and payable by Client.

4. ACCESS TO SITE: Client will arrange and provide such access to the site as is necessary for Rubino Engineering, Inc. to perform the work. Rubino Engineering, Inc. shall take reasonable measures and precautions to minimize damage to the site and any improvements located thereon as the result of its work or the use of its equipment; however, Rubino Engineering, Inc. has not included in its fee the cost of restoration of damage which may occur. If Client desires or requires Rubino Engineering, Inc. to restore the site to its former condition, upon written request Rubino Engineering, Inc. will perform such additional work as is necessary to do so and Client agrees to pay Rubino Engineering, Inc. for the cost.

5. CLIENT'S DUTY TO NOTIFY ENGINEER: Client represents and warrants that it has advised Rubino Engineering, Inc. of any known or suspected hazardous materials, utility lines and pollutants at any site at which Rubino Engineering, Inc. is to do work hereunder, and unless Rubino Engineering, Inc. has assumed in writing the responsibility of locating subsurface objects, structures, lines or conduits. Client agrees to defend, indemnify and save Rubino Engineering, Inc. harmless from all claims, suits, loses costs and expenses, including reasonable attorney's fees as a result of personal injury, death or property damage occurring with respect to Rubino Engineering, Inc.'s performance of its work and resulting to or caused by contact with subsurface of latent objects, structures, lines or conduits where the actual or potential presence and location thereof were not revealed to Rubino Engineering, Inc. by Client.

6. RESPONSIBILITY: Rubino Engineering, Inc.'s work shall not include determining, supervising or implementing the means, methods, techniques, sequences or procedures of construction. Rubino Engineering, Inc. shall not be responsible for evaluating, reporting or affecting job conditions concerning health, safety or welfare. Rubino Engineering, Inc.'s work or failure to perform same shall not in any way excuse any contractor, subcontractor or supplier from performance of its work in accordance with the contract documents. Rubino Engineering, Inc. has no right or duty to stop the contractor's work.

7. SAMPLE DISPOSAL: Unless otherwise agreed in writing, test specimens or samples will be disposed immediately upon completion of the test. All drilling samples or specimens will be disposed sixty (60) days after submission of Rubino Engineering, Inc.'s report.

8. PAYMENT: Client shall be invoiced once each month for work performed during the preceding period. Client agrees to pay each invoice within thirty (30) days of its receipt. Client further agrees to pay interest on all amounts invoiced and not paid or objected to for valid cause in writing with said thirty (30) day period at the rate of eighteen (18) percent per annum (or the maximum interest rate permitted under applicable law), until paid. Client agrees to pay Rubino Engineering, Inc.'s cost of collection of all amounts due and unpaid after sixty (60) days, including court costs and reasonable attorney's fees. Rubino Engineering, Inc. shall not be bound by any provision or agreement requiring or providing for arbitration or disputes or controversies arising out of this agreement, any provision wherein Rubino Engineering, Inc. waives any rights to a mechanics' lien, or any provision conditioning Rubino Engineering, Inc.'s right to receive payment for its work upon payment to Client by any third party. These General Conditions are notice, where required, that Rubino Engineering, Inc. shall file a lien whenever necessary to collect past due amounts. Failure to make payment within thirty (30) days of invoice shall constitute a release of Rubino Engineering, Inc. from any and all claims which Client may have, whether in tort, contract or otherwise and whether known or unknown at the time.

9. WARRANTY: RUBINO ENGINEERING, INC.'S SERVICES WILL BE PERFORMED, ITS FINDINGS OBTAINED AND ITS REPORTS PREPARED IN ACCORDANCE WITH ITS PROPOSAL, CLIENT'S ACCEPTANCE THEREOF, THESE GENERAL CONDITIONS AND WITH GENERALLY ACCEPTED PRINCIPLES AND PRACTICES. IN PERFORMING ITS PROFESSIONAL SERVICES, RUBINO ENGINEERING, INC. WILL USE THAT DEGREE OF CARE AND SKILL ORDINARILY EXERCISED UNDER SIMILAR CIRCUMSTANCES BY MEMBERS OF ITS PROFESSION. THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES OR REPRESENTATIONS, EITHER EXPRESSED OR IMPLIED. STATEMENTS MADE IN RUBINO ENGINEERING, INC. REPORTS ARE OPINIONS BASED UPON ENGINEERING JUDGMENT AND ARE NOT TO BE CONSTRUED AS REPRESENTATIONS OF FACT.

SHOULD RUBINO ENGINEERING, INC. OR ANY OF ITS PROFESSIONAL EMPLOYEES BE FOUND TO HAVE BEEN NEGLIGENT IN THE PERFORMANCE OF ITS WORK, OR TO HAVE MADE AND BREACHED ANY EXPRESSED OR IMPLIED WARRANTY, REPRESENTATION OR CONTRACT, CLIENT, ALL PARTIES CLAIMING THROUGH CLIENT AND ALL PARTIES CLAIMING TO HAVE IN ANY WAY RELIED UPON RUBINO ENGINEERING, INC.'S WORK, AGREE THAT THE MAXIMUM AGGREGATE AMOUNT OF THE LIABILITY OF RUBINO ENGINEERING, INC., ITS OFFICERS, EMPLOYEES AND AGENTS SHALL BE LIMITED TO $25,000.00 OR THE TOTAL AMOUNT OF THE FEE PAID TO RUBINO ENGINEERING, INC. FOR ITS WORK PERFORMED WITH RESPECT TO THE PROJECT, WHICHEVER AMOUNT IS GREATER.

NO ACTION OR CLAIM, WHETHER IN TORT, CONTRACT OR OTHERWISE, MAY BE BROUGHT AGAINST RUBINO ENGINEERING, INC., ARISING FROM OR RELATED TO RUBINO ENGINEERING, INC.'S WORK, MORE THAN TWO (2) YEARS AFTER THE CESSATION OF RUBINO ENGINEERING, INC.'S WORK HEREUNDER.

10. INDEMNITY: Subject to the foregoing limitations, Rubino Engineering, Inc. agrees to indemnify and hold Client harmless from and against any and all claims, suits, costs and expenses including reasonable attorney's fees and court costs arising out of Rubino Engineering, Inc.'s negligence to the extent of RUBINO ENGINEERING, INC.'s negligence. Client shall provide the same protection to the extent of its negligence. In the event that Client or Client's principal shall bring any suit, cause of action, claim or counterclaim against Rubino Engineering, Inc., the party initiating such action shall pay to Rubino Engineering, Inc. the costs and expenses incurred by Rubino Engineering, Inc. to investigate, answer and defend it, including reasonable attorney's and witness fees and court costs to the extent that Rubino Engineering, Inc. shall prevail in such suit.

11. TERMINATION: This Agreement may be terminated by either party upon seven (7) days' prior written notice. In the event of termination, Rubino Engineering, Inc. shall be compensated by Client for all services performed up to and including the termination date, including reimbursable expenses and for the completion of such services and records as are necessary to place Rubino Engineering, Inc.'s files in order and/or protect its professional reputation.

12. EMPLOYEES/WITNESS FEES: Rubino Engineering, Inc.'s employees shall not be retained as expert witnesses except by separate written agreement. Client agrees to pay Rubino Engineering, Inc.'s legal expenses, administrative costs and fees pursuant to Rubino Engineering, Inc.'s then current fee schedule for Rubino Engineering, Inc. to respond to any subpoena. Client agrees not to hire Rubino Engineering, Inc.'s employees except through Rubino Engineering, Inc. In the event Client hires a Rubino Engineering, Inc. employee, Client shall pay Rubino Engineering, Inc. an amount equal to one-half of the employee's annualized salary, with Rubino Engineering, Inc. waiving other remedies it may have.

13. HAZARDOUS MATERIALS: Nothing contained within this agreement shall be construed or interpreted as requiring Rubino Engineering, Inc. to assume the status of an owner, operator, generator, storer, transporter, treater or disposal facility as those terms appear within RCRA of within any Federal or State statute or regulation governing the generation, transportation, treatment, storage and disposal of pollutants. Client assumes full responsibility for compliance with the provisions of RCRA and any other Federal or State statute or regulation governing the handling, treatment, storage and disposal of pollutants.

14. PROVISIONS SEVERABLE: The parties have entered into this agreement in good faith and it is the specific intent of the parties that the terms of the General Conditions be enforced as written. In the event any of the provisions of these General Conditions should be found to be unenforceable, it shall be stricken and the remaining provisions shall be enforceable.

15. ENTIRE AGREEMENT: This agreement constitutes the entire understanding of the parties, and there are no representations, warranties or undertakings made other than as set forth herein. This agreement may be amended, modified or terminated only in writing, signed by each of the parties hereto.