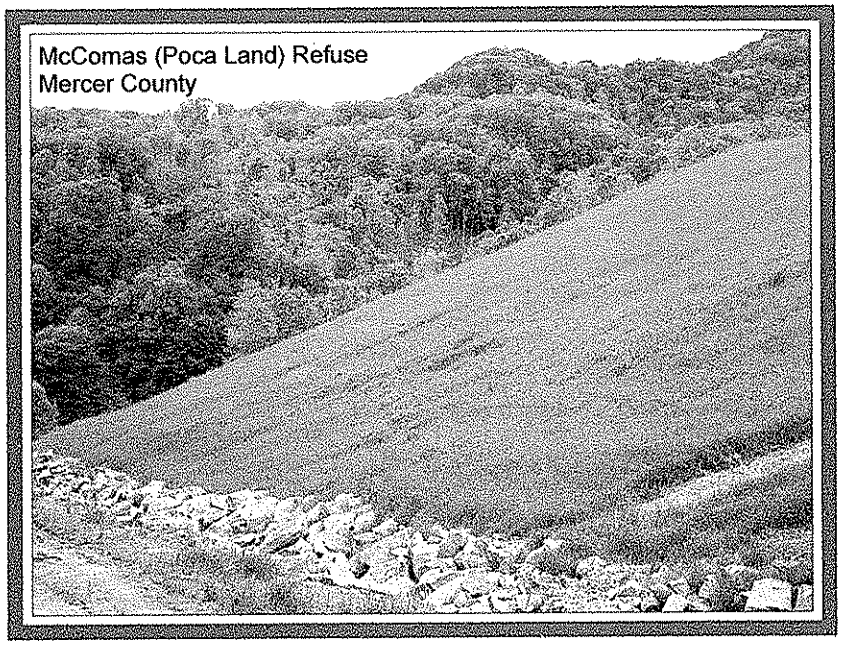
TECHNICAL PROPOSAL

FOR

ENGINEERING SERVICES REQUIRED FOR THE ABATEMENT OF PROBLEMS ARISING FROM THE

SUGARCAMP RUN BURNING REFUSE

JUNE 16, 2010
RFQ NUMBER: DEP15064



WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF ABANDONED MINE LANDS AND RECLAMATION
CHARLESTON, WEST VIRGINIA

STAFFORD
CONSULTANTS
INCORPORATED
Engineering, Design and Consulting
Planning and Environmental Services

Post Office Box 5849
1105 Mercer Street
Princeton, West Virginia 24740

Phone (304) 425-9555
Fax (304) 425-9557

ENGINEERING
A PEOPLE SERVING PR(

STAFFORD
A CLIENT SERVING COMPANY

STAFFORD CONSULTANTS INCORPORATED

Engineering, Design, and Consulting
Planning and Environmental Services

June 15, 2010

File: 9998

Mr. Chuck Bowman
State of West Virginia
Department of Administration
Purchasing Division
2019 Washington Street, East
Charleston, WV 25305-0130

Dear Mr. Bowman:

RE: RFQ No. DEP15064
Sugarcamp Run Burning Refuse
Opening 6-16-10 at 1:30 p.m.

Stafford Consultants, Inc. is very pleased to have the opportunity to make this proposal in response to RFQ No. DEP15064 of May 13, 2010 for professional services in connection with the Department of Environmental Protection – Sugarcamp Run Burning Refuse. Enclosed is one original, one (1) convenience copy, and a CD as required by the RFQ.

As described in the RFQ, this project consists of a burning refuse pile on the south side of Sugarcamp Run near Enon, Nicholas County.

We recently completed a similar project for the AML. The McComas (Poca Land) Refuse Pile in Mercer County consisted of the regrading of a five acre refuse pile. Drainage control, consisting of a riprap channel and culvert road crossing, was also included. This project is complete and photos are attached.

In addition, in 1988 we prepared reclamation plans for the Canebrake Complex in McDowell County. This project contained several refuse areas, one of which was burning. This project is complete and photos are attached which show pre and post reclamation of the burning pile.

Our firm and members of the project team are in compliance with all regulations called for in the RFQ and we carry professional liability insurance (errors and omissions) insurance in the amount of $1,000,000.

1105 Mercer Street • Post Office Box 5849 • Princeton, West Virginia 24740
Telephone (304) 425-9555 • Fax (304) 425-9557

We are a 25 member firm with five (5) registered professional engineers.

We believe our project team approach and quality assurance/constructibility review results in projects being constructed on time and in budget.

If you need additional information, please contact me.

Sincerely,

Edward L. Shutt, P.E.
Vice President

ELS/krc

Enclosures

WORK DESCRIPTION AND RELEVANT EXPERIENCE

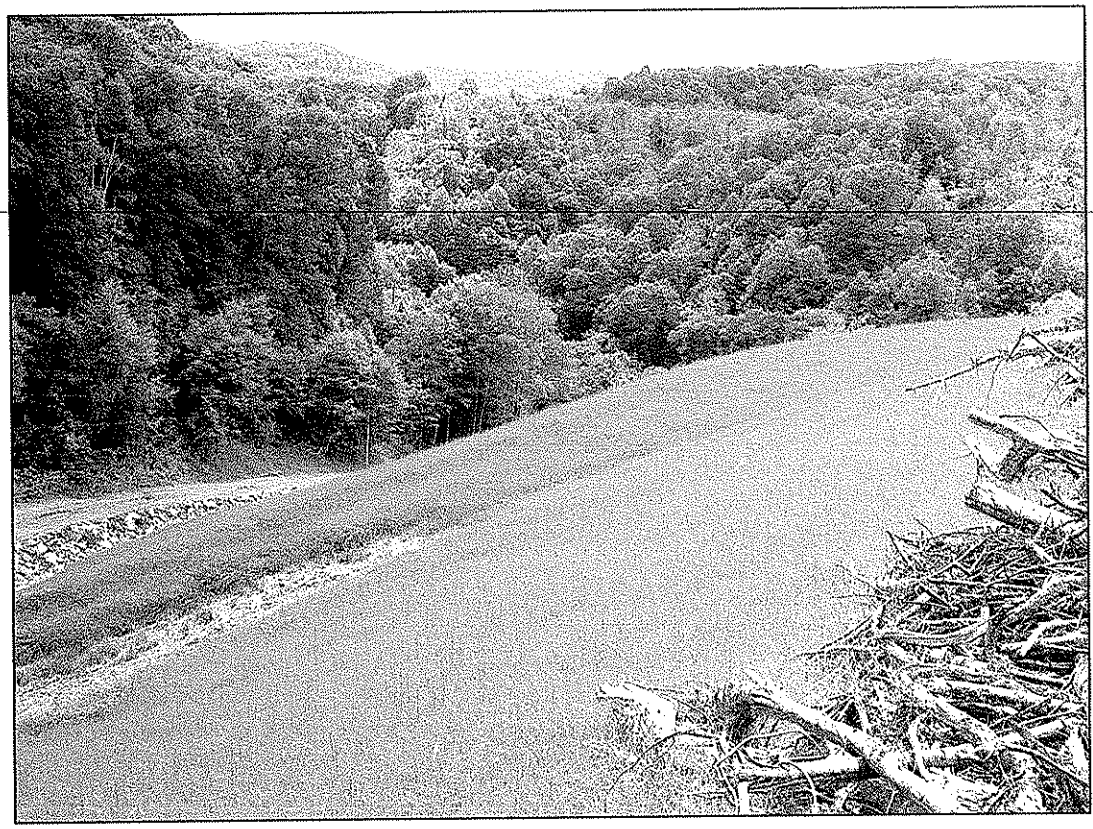
According to the RFQ, the Sugarcamp Run Burning Refuse project is located on the south side of Sugarcamp Run. The area of the pile is not given. The pile is partially vegetated and the extent of burning is unknown.

Stafford Consultants recently completed a project involving regrading of a refuse pile. The McComas (Poca Land) Refuse Pile was approximately five acres in size. It was regraded, topsoiled, and seeded. The hollow at the toe of the pile was shaped and a riprap lining installed to safely convey runoff down the hollow to a pipe arch culvert that was installed to carry the flow through adjacent property and under the county road.

In addition, in 1988 we prepared reclamation plans for the Canebrake Complex in McDowell County. This site had numerous areas to be reclaimed, one of which was a large side hill refuse area. Some sections of this pile was burning.

Please see the attached photographs showing pre and post regraded views of both the McComas and Canebrake piles.

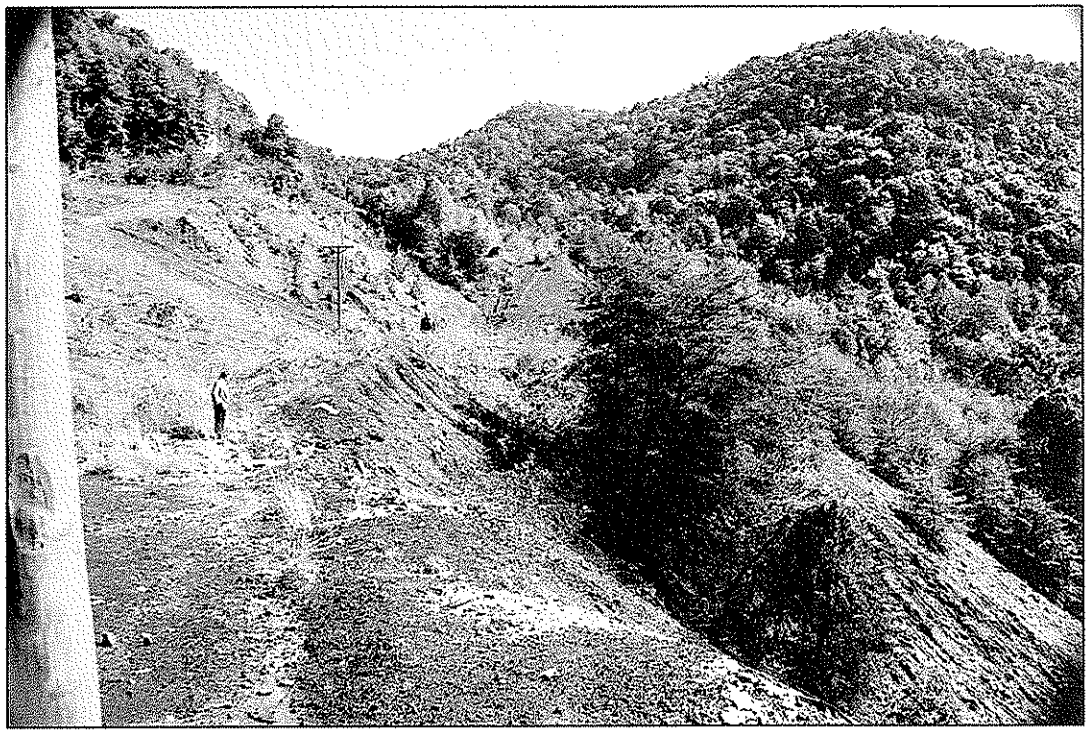
McCOMAS (POCA LAND) REFUSE PILE – MERCER COUNTY
LOOKING DOWN HOLLOW FROM ROAD AT TOP OF REFUSE PILE



McCOMAS (POCA LAND) REFUSE PILE – MERCER COUNTY
LOOKING DOWN AT RECLAIMED PILE FROM ROAD

McCOMAS (POCA LAND) REFUSE PILE – MERCER COUNTY
LOOKING UP HOLLOW, OLD REFUSE PILE ON LEFT

McCOMAS (POCA LAND) REFUSE PILE – MERCER COUNTY
LOOKING UP HOLLOW OF RECLAIMED SITE



CANEBRAKE COMPLEX – McDOWELL COUNTY
ABANDONED REFUSE PILE (PORTIONS WERE BURNING)

CANEBRAKE COMPLEX – McDOWELL COUNTY
RECLAIMED REFUSE PILE

TECHNICAL PROPOSAL
for
ENGINEERING SERVICES REQUIRED FOR THE ABATEMENT OF PROBLEMS ARISING FROM THE

SUGARCAMP RUN BURNING REFUSE

JUNE 16, 2010

RFQ NUMBER: DEP15064

WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
Office of Abandoned Mine Lands and Reclamation
601 57TH STREET SE
Charleston, West Virginia 25304
Phone: 304-926-0499

Table of Contents

1 PURCHASING AFFIDAVIT

2 CONSULTANT CONFIDENTIAL QUALIFICATION QUESTIONNAIRE (Stafford Consultants)

3 CONSULTANT CONFIDENTIAL QUALIFICATION QUESTIONNAIRE (True Line, Inc.)

4 CONSULTANT CONFIDENTIAL QUALIFICATION QUESTIONNAIRE (H. C. Nutting Co.)

5 AML & RELATED PROJECT EXPERIENCE MATRIX

6 ABANDONED MINE LANDS EXPERIENCE

7 PROPOSED PROJECT MANAGEMENT PLAN

8 PROJECT QUALITY CONTROL

9 PROJECT COST CONTROL

10 RESUMES

RFQ No. DEP15064

STATE OF WEST VIRGINIA
Purchasing Division

PURCHASING AFFIDAVIT

West Virginia Code §5A-3-10a states: No contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and the debt owned is an amount greater than one thousand dollars in the aggregate

DEFINITIONS:
"Debt" means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon.

"Debtor" means any individual, corporation, partnership, association, Limited Liability Company or any other form or business association owing a debt to the state or any of its political subdivisions. "Political subdivision" means any county commission; municipality; county board of education; any instrumentality established by a county or municipality; any separate corporation or instrumentality established by one or more counties or municipalities, as permitted by law; or any public body charged by law with the performance of a government function or whose jurisdiction is coextensive with one or more counties or municipalities. "Related party" means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceed five percent of the total contract amount.

EXCEPTION: The prohibition of this section does not apply where a vendor has contested any tax administered pursuant to chapter eleven of this code, workers' compensation premium, permit fee or environmental fee or assessment and the matter has not become final or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement.

Under penalty of law for false swearing (West Virginia Code §61-5-3), it is hereby certified that the vendor affirms and acknowledges the information in this affidavit and is in compliance with the requirements as stated.

WITNESS THE FOLLOWING SIGNATURE

Vendor's Name: Stafford Consultants Incorporated

Authorized Signature: _____ Date: June 15, 2010

State of West Virginia

County of Mercer, to-wit:

Taken, subscribed, and sworn to before me this _____ day of _____, 20 _____

My Commission expires _____, 20_____.

AFFIX SEAL HERE **NOTARY PUBLIC** _____

12. A. Is your firm experienced in Abandoned Mine Lands Remediation/Mine Reclamation Engineering?

YES Description and Number of Projects: Landslide Correction (2), Burning Refuse Piles (2), Refuse Pile Reclamation (7), Shaft Sealing (1), Portal Sealing (5), Highwall Elimination (4)

NO

B. Is you firm experienced in Soil Analysis?

YES Description and Number of Projects:

NO Any soils parameters required will be determined by our geotechnical engineer, H. C. Nutting.

C. Is your firm experienced in hydrology and hydraulics?

YES Bridge and dam hydraulics evaluation as related to design and permitting using HEC-RAS, HEC-1 and HEC-2. Storm runoff, drainage and pond design and routing using HydroCAD.

NO

D. Does your firm produce its own Aerial Photography and Develop Contour Mapping?

YES

NO Contour mapping will be developed in-house or by our surveyor, True Line, Inc.

E. Is your firm experienced in domestic waterline design? (Include any experience your firm has in evaluation of aquifer degradation as a result of mining.)

YES Over 50 water distribution and treatment projects throughout West Virginia, with one being a treatment plant at Danese PSD for AML. Seven studies of water quality and mining practices to determine adverse affect of mining on supply an quality: Maplewood, Summersville (Rt. 39), Mod-Mahan, Keystone (Rt. 52), and three in McDowell County PSD served areas. We provided design, construction administration and resident project representation for the AML funded New Haven PSD project, the McDowell County PSD project, and the Windmill Gap waterline project

NO

F. Is your firm experienced in Acid Mine Drainage Evaluation and Abatement Design?

YES Description and Number of Projects: Heizer Creek "A", severe acid mine drainage isolation and collection. Mason County Bond Forfeiture, acid mine drainage collection and treatment with a biological wetland. (Wetland planned but not constructed)

NO

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR AML PROJECT DESIGN (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
Upton, C. Dean President	3	33	33

Brief Explanation of Responsibilities

Mr. Upton is President of Stafford Consultants. As principal in charge, he monitors the planning, design, construction and financing of all projects. He designs and supervises public works projects such as water and wastewater systems and treatment plants, industrial parks, airports, dams, storm drainage, community planning and athletic and recreational projects. His management experience consists of design and construction projects such as large water and wastewater collection and treatment facilities. His design experience is primarily related to sanitary projects. However, he is experienced in all areas of civil engineering.

EDUCATION (Degree, Year, Specialization)

BS / 1973 / Civil Engineering / Marshall University

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
National Society of Professional Engineers, Past President, West Virginia Society of Professional Engineers	Civil/1978/WV Civil/1986/VA

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR AML PROJECT DESIGN (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
Shutt, Edward L. Vice President	20	34	34

Brief Explanation of Responsibilities

Mr. Shutt is the Chief Environmental Engineer and is responsible for all water and wastewater projects and quality assurance. As a principal of the firm, he is the Chief Operations Officer. Some of Mr. Shutt's projects include design and construction administration of wastewater treatment plants, lift stations and sewage collection systems, design of water treatment plants, distribution systems and storage tanks. Project manager for AML funded water projects at Windmill Gap in Mercer County, New Haven PSD in Fayette County, and Glade Creek in Nicholas County. He has served as an expert witness concerning construction claims, change orders and engineering standards of practice. He was project manager for a WVDoH highway project. He has provided quality assurance and constructability reviews of all AML design projects.

EDUCATION (Degree, Year, Specialization)

BS / 1969 / Civil Engineering / Virginia Polytechic Institute

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
National Society of Professional Engineers, American Water Works Association, WV Land Surveyors Assoc., WV Society of Professional Engineers, WV Rural Water Assoc.	Sanitary/1977/WV PLS/1996/WV

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR AML PROJECT DESIGN (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
Crowe, Kenneth R. Chief Structural Engineer	21	31	0

Brief Explanation of Responsibilities

Mr. Crowe is responsible for all structural and roadway design required for bridge and highway projects. He has been project manager and chief designer for all 20 AML projects Stafford Consultants has completed. In addition, he performed all structural design for the $6 million Merriman Athletic Facility at Virginia Tech, structural design for the private box additions to WVU football stadium and structural design of the Chuck Mathena Center for the Performing Arts in Princeton.

EDUCATION (Degree, Year, Specialization)

BS / 1976 / Civil Engineering / West Virginia Institute of Technology

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
Tau Beta Pi	Civil/1980/WV Civil/1981/VA Civil/1982/KY

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR AML PROJECT DESIGN (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
Fowler, Stacy A.	1	1	14

Brief Explanation of Responsibilities

EDUCATION (Degree, Year, Specialization)

MS / 2007/ Civil Engineering / University of Central Florida; BS / 1995 / Civil Engineering Technology / Bluefield State College

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
National Society of Professional Engineers	Civil/2002/WV Civil/2007/FL

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR AML PROJECT DESIGN (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
Parsons, Don E. CADD Operator	11	16	0

Brief Explanation of Responsibilities

Mr. Parsons is our Chief Draftsman and primarily performs CADD work on bridge and roadway projects. He has also does CADD work on water and sewer treatment plants, buildings and airports.

EDUCATION (Degree, Year, Specialization)

Tazewell High School; Tazewell, VA/1968
Woodrow Wilson Rehabilitation Center; Fishersville, VA /1970 (School of Drafting – Technology) – Diploma

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR AML PROJECT DESIGN (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
Smith, Kevin G. CADD Operator	0	29	19

Brief Explanation of Responsibilities

Mr. Smith presently assists in the roadway design/grading required for industrial parks, bridge and highway projects. He has experience in earthwork calculations and drainage runoff and facility design. He is an advanced CADD operator and very knowledgeable in the usage of InRoads SelectCAD and AutoCAD Civil 3D, advanced 3D earthwork modeling programs primarily used for roadway design, but applicable to any project with cut and fill work.

EDUCATION (Degree, Year, Specialization)

Certificate for Civil Technology I and II/1979/Raleigh County Vocational Education Center

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR AML PROJECT DESIGN (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
Kemp, Reggie K. CADD Operator	0	16	14

Brief Explanation of Responsibilities

Mr. Kemp primarily performs CADD work on water and wastewater projects.

EDUCATION (Degree, Year, Specialization)

AAS/1987/Wytheville Community College/Mechanical and Machine Drafting

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR AML PROJECT DESIGN (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
Wyatt, Timothy D. Resident Project Representative	0	30	34

Brief Explanation of Responsibilities

Mr. Wyatt presently serves as a resident project representative overseeing water projects including line installation, tank installation and treatment plant construction. He has served as a superintendent for an earthmoving contractor and has performed permitting of mining facilities.

EDUCATION (Degree, Year, Specialization)

AS/1977/Civil and Mining Engineering Technology/Bluefield State College

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR AML PROJECT DESIGN (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
Berry, Howard Designer/Contract Administrator	0	22	22

Brief Explanation of Responsibilities

Mr. Berry primarily assists in water and wastewater project design including line layout, quantity calculations, permitting and CADD work. In addition he has extensive experience in contract administration including change orders, processing pay requests, substantial and final completion inspections and project closeout. He also has several years experience as a resident project representative on both water and wastewater projects.

EDUCATION (Degree, Year, Specialization)

BA/1994/West Virginia Institute of Technology AS/1980/Mining Technology/Beckley College

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR AML PROJECT DESIGN (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
Burns, Sidney P. Sr. Resident Project Representative	20	49	27

Brief Explanation of Responsibilities

Mr. Burns presently serves as a senior resident project representative overseeing water projects including line installation, tank installation and treatment plant construction. These include current AML funded water facilities in Nicholas County. As an inspection supervisor with the WVDoH he worked on several sections of I-64, I-77 and Corridor L.

EDUCATION (Degree, Year, Specialization)

1958/Diploma/Greenbrier High School

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)

14. PROVIDE A LIST OF SOFTWARE AND EQUIPMENT AVAILABLE IN THE PRIMARY OFFICE WHICH WILL BE USED TO COMPLETE AML DESIGN SERVICES.
AutoCAD Civil 2010 and AutoCAD Civil 3D 2010 – General drafting and earthwork modeling software.
HEC-RAS – US Army Corps of Engineers River Analysis System. Used for channel relocation or design.
HEC-1 and 2 – US Army Corps of Engineers Flood Hydrograph and Water Surface Profile programs.
HYDRAIN – FHWA family of hydraulics programs. Includes runoff calculations, pipe sizing, etc.
WinTR-55 – USDA Small Watershed Hydrology software.
EXCEL & WORD – Industry standard spreadsheet and word processing software.
WaterCAD – Waterline Design and Analysis software
HydroCAD – Surface runoff calculations and pond and retention structure analysis.
RETWALL, FOOTING, BeamPro, General Frame Analysis, etc. – Various structural design programs.
HP800, HP2800, and Oce TDS320 plotters for final tracing plotting on paper, vellum or film.
Leitz Set 4 total station with Carlson Explorer data collector.

15. CURRENT ACTIVITIES ON WHICH YOUR FIRM IS THE DESIGNATED ENGINEER OF RECORD

PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	NATURE OF YOUR FIRM'S RESPONSIBILITY	ESTIMATED CONSTRUCTION COST	PERCENT COMPLETE
Jumping Branch/Nimitz PSD Madams Creek Water Project Summers County, WV	Jumping Branch/Nimitz PSD P.O. Box 69 Nimitz, WV 25978	Report - Preliminary Engineering Report	N/A	Report 90%
Mercer County Commission South Eastern Mercer Water Study Mercer County, WV	Mercer County Commission 1501 W. Main Street Princeton, WV 24740	Preliminary Engineering Report	N/A	Report - 95%
City of Summersville Glade Ck - Phase IIA Waterline Nicholas County, WV	City of Summersville P.O. Box 525 Summersville, WV 26651	Report, Design, Construction Administration & Resident Project Representation	$6,000,000	Report - 100% Design – 10%
New Haven PSD Contracts 15/16 Water Fayette County, WV	New Haven PSD Route 1, Box 123C Fayetteville, WV 25840	Report, Design, Construction Administration & Resident Project Representation	$3,200,000	Design - 75%
City of Welch Indian Ridge/Industrial Park McDowell County, WV	City of Welch 88 Howard Street Welch, WV 24901	Report, Design, Construction Administration & Resident Project Representation	$6,800,000	Report - 100% Design - 100% Bidding/Negotiations - 50% Construction - 0%
Town of Alderson Water Plant Improvements Greenbrier County, WV	Town of Alderson P.O. Box 179 Alderson, WV 24910	General Consulting	N/A	As Needed
Logan County PSD Phase IIA Sewer Logan County, WV	Logan County PSD P.O. Box 506 Logan, WV 25601	Report, Design, Construction Administration & Resident Project Representation	$6,000,000	Design - 100%
McDowell County PSD Coalwood Wastewater Treatment & Collection System McDowell County, WV	McDowell County PSD HC 31 Box 436 J Welch, WV 24801	Feasibility Study	$2,500,000	Feasibility Study - 100%
McDowell County PSD Iaeger Water System Replacement McDowell County, WV	McDowell County PSD HC 31 Box 436 J Welch, WV 24801	Design, Construction Administration & Resident Project Representation	$2,800,000	60%
Big Bend PSD Ballangee, Barger Springs & Forest Hill Water System Summers County, WV	Big Bend PSD P.O. Box 114 Talcott, WV 24981	Report and Study	$4,300,000	Report - 100%
Town of Renick / Falling Springs Renick Water System Greenbrier County, WV	Falling Springs Corporation P.O. Box 116 Renick, WV 24966	Report, Design, Construction Administration & Resident Project Representation	$2,390,000	Report - 100% Design - 100%
Logan County PSD Northfork Water Logan County, WV	Logan County PSD P.O. Box 506 Logan, WV 25601	Plan, Design and Construction phase engineering for waterline extension.	$2,000,000	40%

15. CURRENT ACTIVITIES ON WHICH YOUR FIRM IS THE DESIGNATED ENGINEER OF RECORD

PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	NATURE OF YOUR FIRM'S RESPONSIBILITY	ESTIMATED CONSTRUCTION COST	PERCENT COMPLETE
Coalfields Expressway Highway & Bridge Design McDowell County, WV	WV Division of Highways Building 5, Room A317 1900 Kanawha Boulevard E. Charleston, WV 25305	Design and preparation of contract documents for 5.25 miles of four-lane highway including two bridges and two access roads.	$150,000,000	Design - 80%
City of Princeton Wastewater Treatment Plant Expansion Princeton, WV	Princeton Sanitary Board 227 South Wickham Avenue Princeton, WV 24740	Design and preparation of contract documents needed to expand existing aeration capacity and construct additional aerobic digester.	$6,500,000	Study - 100%
Glade Springs Utilities, East Beckley, WV	Cooper Land Development 903 North 47th Street Rogers, AR 72756	Design and preparation of Contract Documents for waterline construction.	$6,700,000	55%
Douthat Water Extension Alleghany County, VA	Alleghany County Low Moore, VA	Plan, Design and Construction phase engineering for waterline extension and booster station.	$1,200,000	50%
Big Bend PSD Armory/Wiggins Water Summers County, WV	Big Bend PSD P.O. Box 114 Talcott, WV 24981	Plan, Design and Construction phase engineering for waterline extension.	$1,000,000	30%
Rolfe Arch Bridge Bridge Replacement Project Rolfe, McDowell County, WV	WV Division of Highways Building 5, Room A317 1900 Kanawha Boulevard E. Charleston, WV 25305	Design and preparation of contract documents for a new bridge over North Fork of Elkhorn Creek at Rolfe.	$900,000	Design – 100% Construction – 20%
Cass Arch Bridge Bridge Replacement Project Cass, Pocahontas County, WV	WV Division of Highways Building 5, Room A317 1900 Kanawha Boulevard E. Charleston, WV 25305	Design and preparation of contract documents for a new bridge over the Greenbrier River at Cass.	$1,100,000	98%

TOTAL NUMBER OF PROJECTS: 19

TOTAL ESTIMATED CONSTRUCTION COSTS: $204,890,000

16. CURRENT ACTIVITIES ON WHICH YOUR FIRM IS SERVING AS A SUB-CONSULTANT TO OTHERS

PROJECT NAME, TYPE AND LOCATION	NATURE OF FIRM'S RESPONSIBILITY	NAME AND ADDRESS OF OWNER	ESTIMATED COMPLETION DATE	ESTIMATED CONSTRUCTION COST	
				ENTIRE PROJECT	YOUR FIRMS RESPONSIBILITY
Epic Event Center Mercer County, WV	Feasibility Study -- Site Civil and Utilities	City of Princeton 100 Courthouse Road Princeton, WV 24740	January 2009	$60,000,000	$20,000,000

17. COMPLETED WORK WITHIN LAST 5 YEARS ON WHICH YOUR FIRM WAS THE DESIGNATED ENGINEER OF RECORD

PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST	YEAR	CONSTRUCTED (YES OR NO)
Oakvale Road PSD Contract No. 1 - Pisgah Road/Old Athens Road Waterline / Booster Station Mercer County, WV	Oakvale Road PSD P.O. Box 1061 Princeton, WV 24740	$1,380,000	2003	Yes
Oakvale Road PSD Contract No. 2 - Water Storage Mercer County, WV	Oakvale Road PSD P.O. Box 1061 Princeton, WV 24740	$240,000	2003	Yes
Oakvale Road PSD Contract No. 4 - Water Storage Mercer County, WV	Oakvale Road PSD P.O. Box 1061 Princeton, WV 24740	$181,700	2003	Yes
Summers County Commission Sand Knob/Cave Ridge Waterline Summers County, WV	Summers County Commission P.O. Box 97 Hinton, WV 25951	$482,000	2003	Yes
Oakvale Road PSD Contract no. 3 - Waterline Summers County, WV	Oakvale Road PSD P.O. Box 1061 Princeton, WV 24740	$650,000	2003	Yes
Danese PSD Water System Ext. & Replacement Fayette County, WV	Danese PSD P.O. Drawer C Danese, WV 25831	$1,200,000	2003	Yes
Garrett Fork Water System Extension Project Logan County, WV	Logan County PSD P.O. Box 506 Logan, WV 25601	$1,800,000	2003	Yes
Lewisburg City Hall Renovations Project Greenbrier County, WV	City of Lewisburg P.O. Box 548 Lewisburg, WV 24901	$1,120,000	2003	Yes
Camden Avenue I-77 Bridge Bridge Widening Project Wood County, WV	WV Division of Highways Building 5, Room A317 1900 Kanawha Boulevard Charleston, WV 25305	$2,500,000	2003	No
New Haven PSD - Contract 12 Saturday Road Waterline Fayette County, WV	New Haven PSD Route 1 Box 123 C Fayetteville, WV 25840	$1,290,000	2004	Yes
New Haven PSD - Contract 12/13 Paint Creek / Plum Orchard Fayette County, WV	New Haven PSD Route 1 Box 123 C Fayetteville, WV 25840	$1,067,000	2004	Yes
New Haven PSD Phases IIIA/IIIB Waterline/Storage Tank Fayette County, WV	New Haven PSD Route 1 Box 123 C Fayetteville, WV 25840	$5,752,500	2004	Yes

17. COMPLETED WORK WITHIN LAST 5 YEARS ON WHICH YOUR FIRM WAS THE DESIGNATED ENGINEER OF RECORD				
PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST	YEAR	CONSTRUCTED (YES OR NO)
Wilderness PSD Old Nicholas Road/Hominy Falls Waterline/Storage Tank Nicholas County, WV	Wilderness PSD P.O. Box 37 Mt. Nebo, WV 26679	$3,500,000	2004	Yes
City of Hinton Area Sewer Extension - Phase IIIB - Armory - Route 3 Waterline Summers County, WV	Hinton Sanitary Board 322 Summers Street Hinton, WV 25951	$1,450,000	2004	Yes
City of Summersville Regional Water Plant/Intake Contracts 1, 2 and 3 Nicholas County, WV	City of Summersville P.O. Box 525 Summersville, WV 26651	$9,100,000	2004	Yes
Logan County PSD Huff Creek Water System Extension Logan County, WV	Logan County PSD P.O. Box 506 Logan, WV 25601	$3,775,000	2004	Yes
Town of Oakvale Road Public Service District Sidewalk & Drainage Improvement Project Oakvale, Mercer County, WV	Town of Oakvale Road Public Service District P.O. Box 187 Oakvale, WV 24739	$210,000	2004	Yes
Grapevine Creek Bridge Bridge Replacement Project Near Matewan Mingo County, WV	WV Division of Highways Building 5, Room A317 1900 Kanawha Boulevard E. Charleston, WV 25305	$861,000	2004	Yes
Hutchinson Branch Bridge Bridge Replacement Project Gilboa, Nicholas County, WV	WV Division of Highways Building 5, Room A317 1900 Kanawha Boulevard E. Charleston, WV 25305	$1,225,000	2004	Yes
Wiggins Bridge Bridge Replacement Project Hinton, WV	WV Division of Highways Building 5, Room A317 1900 Kanawha Boulevard E. Charleston, WV 25305	$1,415,000	2004	Yes
Town of Matoaka - Sewer System Improvements Project Mercer County, WV	Town of Matoaka P.O. Box 528 Matoaka, WV 24736	$600,000	2005	Yes
Town of Athens Wastewater Plant Athens, WV	Town of Athens 202 State Street Athens, WV 24712	$3,500,000	2005	Yes

17. COMPLETED WORK WITHIN LAST 5 YEARS ON WHICH YOUR FIRM WAS THE DESIGNATED ENGINEER OF RECORD				
PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST	YEAR	CONSTRUCTED (YES OR NO)
Weight Training Facility Marshall University Huntington, WV	Marshall University Sorrell Maintenance Building 20th Street Huntington, WV 25755	$2,900,000	2006	Yes
Chapmanville High School Site Development Logan County, WV	Logan Co. Board of Education Logan, WV 25601	$150,000	2006	Yes
Oakvale Road PSD Pisgah Road - Elgood Water Extension Project Mercer County, WV	Mercer County Commission 1501 W. Main Street Princeton, WV 24740	$800,000	2006	Yes
Center PSD WWTP Improvements Wyoming County, WV	Center PSD P.O. Box 760 Pineville, WV 24874	$200,000	2006	Yes
Logan County PSD Caney-Rocky Waterline Extension Project Logan County, WV	Logan County PSD P.O. Box 506 Logan, WV 25601	$2,000,000	2006	Yes
Rolfe Arch Bridge Bridge Replacement Project Rolfe, McDowell County, WV	WV Division of Highways Building 5, Room A317 1900 Kanawha Boulevard, E. Charleston, WV 25305	$900,000	2007	No
City of Princeton Various Sidewalk Projects Mercer County, WV	City of Princeton 100 Courthouse Road Princeton, WV 24740	$350,000	2005-2007	On going
City of Welch Tom's Mountain Water/Sewer McDowell County, WV	City of Welch 88 Howard Street Welch, WV 24901	$2,300,000	2007	Yes
Glade Springs Village - West Water & Sewer Raleigh County, WV	Cooper Land Development 903 North 47th Street Rogers, AR 72756	$2,000,000	2007	Yes
Paradise Park Grading and Utilities Princeton, WV	P&G Hospitality, LLC P.O. Box 1715 Princeton, WV 24740	$500,000	2007	Yes

17. COMPLETED WORK WITHIN LAST 5 YEARS ON WHICH YOUR FIRM WAS THE DESIGNATED ENGINEER OF RECORD

PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST	YEAR	CONSTRUCTED (YES OR NO)
Welch Sewer Improvements Welch, WV	City of Welch 88 Howard Street Welch, WV 24801	$1,000,000	2007	Yes

18. COMPLETED WORK WITHIN LAST 5 YEARS ON WHICH YOUR FIRM HAS BEEN A SUB-CONSULTANT TO OTHER FIRMS (INDICATE PHASE OF WORK FOR WHICH YOUR FIRM WAS RESPONSIBLE)

PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST OF YOUR FIRM'S PORTION	YEAR	CONSTRUCTED (YES OR NO)	FIRM ASSOCIATED WITH
N/A					

19. Use this space to provide any additional information or description of resources supporting your firm's qualifications to perform work for the West Virginia Abandoned Mine Lands Program.

Please refer to the following attachments:

Attachment 19A – Abandoned Mine Lands Experience (TAB 6)
Attachment 19B – Proposed Project Management Plan (TAB 7)
Attachment 19C – Project Quality Control (TAB 8)
Attachment 19D – Project Cost Control (TAB 9)
Attachment 19E – Resumes (TAB 10)

20. The foregoing is a statement of facts.

Signature: _____ Title: Vice President

Date: June 15, 2010

Printed Name: Edward L. Shutt, P.E.

WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
AML CONSULTANT CONFIDENTIAL QUALIFICATION QUESTIONNAIRE

PROJECT NAME	DATE (DAY, MONTH, YEAR)	FEIN
Sugarcamp Run Burning Refuse **RFQ No. DEP15064**	**16 June 2010**	**55-0651663**

1. FIRM NAME	2. HOME OFFICE BUSINESS ADDRESS	3. FORMER FIRM NAME
True Line, Inc.	**P. O. Box 85, Rt. 103** **Thorpe, WV 24888**	None

4. HOME OFFICE TELEPHONE	5. ESTABLISHED (YEAR)	6. TYPE OWNERSHIP	6a. WV REGISTERED DBE (Disadvantaged Business Enterprise)
(304) 448-2116	**1985**	Individual ✓ **Corporation** Partnership Joint-Venture	**NO**

7. PRIMARY AML DESIGN OFFICE: ADDRESS/ TELEPHONE/ PERSON IN CHARGE/ NO. AML DESIGN PERSONNEL EACH OFFICE

P.O. Box 85, Thorpe, WV 24888 / 304-448-2116 / Dwight Gillespie / Surveying only

8. NAMES OF PRINCIPAL OFFICERS OR MEMBERS OF FIRM	8a. NAME, TITLE, & TELEPHONE NUMBER - OTHER PRINCIPALS
Dwight Gillespie – President **Vera Gillespie - Secretary & Treasurer**	**John E. Caffrey, P.E. & PLS** **James H. Corner, EIT & PLS** **Stacey B. Mullens, P. E.**

9. PERSONNEL BY DISCIPLINE (Bold Lettering Indicates Minimum Design Team Members)

___ ADMINISTRATIVE	___ ECOLOGISTS	___ LANDSCAPE ARCHITECTS	___ STRUCTURAL ENGINEERS
___ ARCHITECTS	___ ECONOMISTS	___ MECHANICAL ENGINEERS	2 **SURVEYORS**
___ BIOLOGISTS	___ ELECTRICAL ENGINEERS	2 **MINING ENGINEERS**	___ TRAFFIC ENGINEERS
6 **CADD OPERATORS**	___ ENVIRONMENTALISTS	___ PHOTOGRAMMETRISTS	___ OTHER
___ CHEMICAL ENGINEERS	___ ESTIMATORS	___ PLANNERS: URBAN / REGIONAL	
1 **CIVIL ENGINEERS**	___ GEOLOGISTS	___ SANITARY ENGINEERS	
___ CONSTRUCTION INSPECTORS	___ HISTORIANS	___ SOILS ENGINEERS	
___ DESIGNERS	___ HYDROLOGISTS	___ SPECIFICATION WRITERS	25 TOTAL PERSONNEL
___ DRAFTSMEN			

TOTAL NUMBER OF WV REGISTERED PROFESSIONAL ENGINEERS IN PRIMARY OFFICE: 2

* RPEs other than Civil and Mining must provide supporting documentation that qualifies them to supervise and perform this type of work.

None

10. HAS THIS JOINT-VENTURE WORKED TOGETHER BEFORE? **YES**

11. OUTSIDE KEY CONSULTANTS/SUB-CONSULTANTS ANTICIPATED TO BE USED. Attach "AML Consultant Confidential Qualification Questionnaire".

NAME AND ADDRESS: **N/A**	SPECIALITY:	WORKED WITH BEFORE _______ Yes _______ No
NAME AND ADDRESS:	SPECIALITY:	WORKED WITH BEFORE _______ Yes _______ No
NAME AND ADDRESS:	SPECIALITY:	WORKED WITH BEFORE _______ Yes _______ No
NAME AND ADDRESS:	SPECIALITY:	WORKED WITH BEFORE _______ Yes _______ No
NAME AND ADDRESS:	SPECIALITY:	WORKED WITH BEFORE _______ Yes _______ No
NAME AND ADDRESS:	SPECIALITY:	WORKED WITH BEFORE _______ Yes _______ No
NAME AND ADDRESS:	SPECIALITY:	WORKED WITH BEFORE _______ Yes _______ No
NAME AND ADDRESS:	SPECIALITY:	WORKED WITH BEFORE _______ Yes _______ No
NAME AND ADDRESS:	SPECIALITY:	WORKED WITH BEFORE _______ Yes _______ No

12. A. Is your firm experienced in Abandoned Mine Lands Remediation/Mine Reclamation Engineering?

YES Description and Number of Projects: Surveying only

NO

B. Is you firm experienced in Soil Analysis?

YES Description and Number of Projects: Surveying only

NO

C. Is your firm experienced in hydrology and hydraulics?

YES Surveying only

NO

D. Does your firm produce its own Aerial Photography and Develop Contour Mapping?

YES Surveying and Contour Mapping

NO

E. Is your firm experienced in domestic waterline design? (Include any experience your firm has in evaluation of aquifer degradation as a result of mining.)

YES Surveying only

NO

F. Is your firm experienced in Acid Mine Drainage Evaluation and Abatement Design?

YES Description and Number of Projects: Surveying only

NO

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR AML PROJECT DESIGN (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
James H. Corner	**0**	**6**	**0**

Brief Explanation of Responsibilities

Plot Surveys
Produce Site plans
Overburden calculations
Hydrologic designs
Property Plats
Gas Well Plats

EDUCATION (Degree, Year, Specialization)

B.S. Civil Engineering (Graduation Dec. 2004)
B. S. Mining Engineering (Graduation Dec. 2006)

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
WV Secretary of Professional Surveyors	**Professional Surveyor (2006) WV# 213750** **Engineer Intern (2004) WV# 8649**

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR AML PROJECT DESIGN (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
Stacey B. Mullens	**0**	**17**	**0**

Brief Explanation of Responsibilities

Plot Surveys
Produce Site plans
Overburded calculations
Hydrologic designs

EDUCATION (Degree, Year, Specialization)

B.S. Civil Engineering (Graduation 1995)
B. S. Mining Engineering (Graduation 2007)

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
None	**Professional Engineer (2002) WV# 15423** **Professional Engineer (2003) VA# 039682**

14. PROVIDE A LIST OF SOFTWARE AND EQUIPMENT AVAILABLE IN THE PRIMARY OFFICE WHICH WILL BE USED TO COMPLETE AML DESIGN SERVICES.
Leica Single Frequency GPS System
Sokkia Set 610 Total Station
Sokkia Set 630R Total Station
Sokkia Set 4B Total Station
Carlson Explorer Data Collector (SurvCE 2.0 software)
HP 48 / SMI Data Collector (version 5.0 software)
AutoCAD 2005
SurvCADD 2006 for Auto CAD (COGO, DTM, Profile & Mining Modules)
SKI GPS Post Processing Software
SEDCAD 4.0
Corpscon 6 (Coordinate Conversion Software)

15. CURRENT ACTIVITIES ON WHICH YOUR FIRM IS THE DESIGNATED ENGINEER OF RECORD				
PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	NATURE OF YOUR FIRM'S RESPONSIBILITY	ESTIMATED CONSTRUCTION COST	PERCENT COMPLETE
	Surveying only			

16. CURRENT ACTIVITIES ON WHICH YOUR FIRM IS SERVING AS A SUB-CONSULTANT TO OTHERS

PROJECT NAME, TYPE AND LOCATION	NATURE OF FIRM'S RESPONSIBILITY	NAME AND ADDRESS OF OWNER	ESTIMATED COMPLETION DATE	ESTIMATED CONSTRUCTION COST	
				ENTIRE PROJECT	YOUR FIRMS RESPONSIBILITY
Bradshaw School / Road Re-location		Potesta & Associates, Inc. 7012 MacCorkle Ave., S.E. Charleston, WV 25304	11/01/07		Project Oversite
City of Welch water tank site		Clark Construction Group 101 Federal Drive Welch, WV 24801	2007		Surveying

17. COMPLETED WORK WITHIN LAST 5 YEARS ON WHICH YOUR FIRM WAS THE DESIGNATED ENGINEER OF RECORD				
PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST	YEAR	CONSTRUCTED (YES OR NO)
		Surveying only		

18. COMPLETED WORK WITHIN LAST 5 YEARS ON WHICH YOUR FIRM HAS BEEN A SUB-CONSULTANT TO OTHER FIRMS (INDICATE PHASE OF WORK FOR WHICH YOUR FIRM WAS RESPONSIBLE)

PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST OF YOUR FIRM'S PORTION	YEAR	CONSTRUCTED (YES OR NO)	FIRM ASSOCIATED WITH
Toms Mountain Wastewater Collection system extension project	Stafford Consulting P. O. Box 5849 Princeton, WV 24740		2005		Surveying
Layout weight room at Marshall University	Stafford Consulting P. O. Box 5849 Princeton, WV 24740		2005		Surveying
Logan County PSD, Phase II	Stafford Consulting P. O. Box 5849 Princeton, WV 24740		2006		Surveying
Logan County PSD, North Fork Water distribution System extension	Stafford Consulting P. O. Box 5849 Princeton, WV 24740		2007		Surveying

19. Use this space to provide any additional information or description of resources supporting your firm's qualifications to perform work for the West Virginia Abandoned Mine Lands Program.

True Line, Inc. has been providing surveying, mapping, site design and permit surface coal mining applications for operations in McDowell and Wyoming counties since 1985. The applications include overburden balance and storage areas, ditch and culvert designs, sediment structure designs and final reclamation plans.

True Line, Inc. has also provided pre-surveying and post surveying services and mapping for several companies that have been awarded contracts to complete AML projects in southern West Virginia for over ten years.

20. The foregoing is a statement of facts.

Signature: Dwight K Gillespie Title: President

Printed Name: Dwight Gillespie

Date: June 16, 2010

WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
AML CONSULTANT QUALIFICATION QUESTIONNAIRE **Attachment "B"**

PROJECT NAME	DATE (DAY, MONTH, YEAR)	FEIN
Sugarcamp Run Burning Refuse RFQ DEP15064	16 June 2010	31-0394550

1. FIRM NAME	2. HOME OFFICE BUSINESS ADDRESS	3. FORMER FIRM NAME
H. C. Nutting A Terracon Company	611 Lunken Park Drive, Cincinnati, OH 45226	

4. HOME OFFICE TELEPHONE	5. ESTABLISHED (YEAR)	6. TYPE OWNERSHIP	6a. WV REGISTERED DBE (Disadvantaged Business Enterprise)
513.321.5816	1921	Individual **Corporation** Partnership Joint-Venture	YES **NO**

7. PRIMARY AML DESIGN OFFICE: ADDRESS/ TELEPHONE/ PERSON IN CHARGE/ NO. AML DESIGN PERSONNEL EACH OFFICE

PRIMARY AML DESIGN OFFICE: 912 Morris Street, Charleston, WV 25301 / 304.344.8021 / John Blair / 38

ALL OTHER H.C. NUTTING/TERRACON OFFICES:

611 Lunken Park Drive, Cincinnati, OH 45226 / 513.321.5816 / Jess A. Schroeder / 101
790 Morrison Road, Columbus, OH 43230 / 614.863.3113 / Prasad Rege / 32
349 Walnut Street, Suite 8, Lawrenceburg, IN 47025 / 812.539.4300 / Fred Erdmann / 1
470-B Conway Court, Suite B-8, Lexington, KY 40511 / 859.455.8530 / Jess A. Schroeder / 9
1414 E Schaaf Rd, Brooklyn Heights, OH 44131 / 216.459.8378 / Jim Princic / 20

8. NAMES OF PRINCIPAL OFFICERS OR MEMBERS OF FIRM	8a. NAME, TITLE, & TELEPHONE NUMBER - OTHER PRINCIPALS
R. Jackson Scott, James P. Cahill, Jess A. Schroeder, George C. Webb, Ronald J. Ebelhar, Swaminathan Srinivasan, Terry Stransky, Jason Sander, Ron Lech	

9. PERSONNEL BY DISCIPLINE

12 ADMINISTRATIVE	— ECOLOGISTS	— LANDSCAPE ARCHITECTS	— STRUCTURAL ENGINEERS
— ARCHITECTS	— ECONOMISTS	— MECHANICAL ENGINEERS	— **SURVEYORS**
— **BIOLOGIST**	— ELECTRICAL ENGINEERS	1 **MINING ENGINEERS**	— TRAFFIC ENGINEERS
2 CADD OPERATORS	6 ENVIRONMENTALISTS	— PHOTOGRAMMETRISTS	17 OTHER
— CHEMICAL ENGINEERS	— ESTIMATORS	— PLANNERS:URBAN/REGIONAL	
8 CIVIL ENGINEERS	3 **GEOLOGISTS**	— SANITARY ENGINEERS	
107 CONSTRUCTION INSPECTORS	— HISTORIANS	41 SOILS ENGINEERS	
— DESIGNERS	4 HYDROLOGISTS	— SPECIFICATION WRITERS	201 TOTAL PERSONNEL
1 DRAFTSMEN			

TOTAL NUMBER OF WV REGISTERED PROFESSIONAL ENGINEERS IN PRIMARY OFFICE: 3

***RPEs other than Civil and Mining must provide supporting documentation that qualifies them to supervise and perform this type of work.**

10. HAS THIS JOINT-VENTURE WORKED TOGETHER BEFORE? ☐ YES ☐ NO

11. OUTSIDE KEY CONSULTANTS/SUB-CONSULTANTS ANTICIPATED TO BE USED.

NAME AND ADDRESS: **None Anticipated**	SPECIALTY:	WORKED WITH BEFORE _____ Yes _____ No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE _____ Yes _____ No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE _____ Yes _____ No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE _____ Yes _____ No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE _____ Yes _____ No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE _____ Yes _____ No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE _____ Yes _____ No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE _____ Yes _____ No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE _____ Yes _____ No

12. A. Is your firm experienced in Abandoned Mine Lands Remediation/Mine Reclamation Engineering?

X YES Description and Number of Projects: HCN has extensive experience on site grading and landslide repair projects, many of them associated with AML projects. HCN routinely performs mine subsidence investigations for the Ohio Mine Subsidence Insurance Underwriting Association, and has designed several mine grouting programs to mitigate the effects of future mine subsidence in Kentucky, Ohio and West Virginia.

B. Is your firm experienced in Soil Analysis?

X YES Description and Number of Projects: Over 80 years experience on thousands of projects in Geotechnical, Environmental and Materials Engineering.

NO

C. Is your firm experienced in hydrology and hydraulics?

X YES Description and Number of Projects: Commercial, industrial, and residential storm water drainage projects for landfill development and closure, dam/lake spillway structures, site development drainage design, erosion and sediment control, stormwater pollution prevention plans. Dam spillway structures.

NO

D. Does your firm produce its own Aerial Photography and Develop Contour Mapping?

YES Description and Number of Projects: _____

_____

X NO

E. Is your firm experienced in domestic waterline design? (Include any experience your firm has in evaluation of aquifer degradation as a result of mining.)

YES Description and Number of Projects: _____

_____

X NO

F. Is your firm experienced in Acid Mine Drainage Evaluation and Abatement Design?

YES Description and Number of Projects: _____

_____

X NO

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR AML PROJECT DESIGN (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
Bruce, Rome E.	0	30	0

Brief Explanation of Responsibilities

Responsibilities include conceptual and final design, report and drawing preparation, development of construction specifications, construction bidding and contract documents, coordination and management of construction observation, volume and cost estimate calculations, hydrologic analysis, and hydraulic analysis of drainage channels, spillways, and detention ponds.

EDUCATION (Degree, Year, Specialization)

Bachelor of Science, CEE, University of Wisconsin-Madison 1979
A.A.S., Civil, Gateway Technical Institute, Racine, WI 1974

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

American Society of Civil Engineers
Solid Waste Assoc. of North America

REGISTRATION (Type, Year, State)

Professional Engineer in Indiana 1991, Kentucky 1995, Michigan 1988, Ohio 1988, and Wisconsin 1982

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES **RESPONSIBLE FOR AML PROJECT DESIGN** (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
Erdmann, Fred W.	1	42	0

Brief Explanation of Responsibilities

Senior Consultant
West Virginia Experience in Mining Engineering, Geotechnical Engineering, Groundwater Engineering, and Waste Management.

EDUCATION (Degree, Year, Specialization)

B.S., 1967, Geological Engineering
M.S., 1971, Geological Engineering

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

Association of Engineering Geologists

American Institute of Professional Geologists

REGISTRATION (Type, Year, State) P.E., 1982, West Virginia/P.E., 1982, Ohio/P.E., 1989, Florida/P.E., 1982, Kentucky/P.E., 1990, Pennsylvania/P.E., 1990, Indiana/P.G., 1993,Kentucky/ P.E., 1982, Missouri/ P.G., 1988, Tennessee

14. PROVIDE A LIST OF SOFTWARE AND EQUIPMENT AVAILABLE IN THE PRIMARY OFFICE WHICH WILL BE USED TO COMPLETE AML DESIGN SERVICES
AutoCAD 2007 / Land Development Desktop
Microstation Version 8
Microsoft 2003 Office Suite – (Word, Excel, Access, PowerPoint, Publisher)
Slope Stability Analyses (Visual Slope, STABL, ReSLOPE, etc.)
SHAKE2000 – Seismic Site Response Analyses
PLAXIS – Finite Element Analysis Software
AutoCAD Workstations (4)
Desktop Computers (100+)
Laptop Computers (200+)
Laser Printers (50)
Plotters – HP750C (Color) (3) OCE TDS450 Plotter – Large Format Flat Bed Scanner (1 ea.)
FLAC 3D Finite Difference Analysis Software

15. CURRENT ACTIVITIES ON WHICH YOUR FIRM IS THE DESIGNATED ENGINEER OF RECORD

PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	NATURE OF YOUR FIRM'S RESPONSIBILITY	ESTIMATED CONSTRUCTION COST	PERCENT COMPLETE
US 65 Iowa Falls Bridge	Iowa Department of Transportation	Retaining Wall Design	2M	0%

TOTAL NUMBER OF PROJECTS: 1

TOTAL ESTIMATED CONSTRUCTION COSTS: $2M

16. CURRENT ACTIVITIES ON WHICH YOUR FIRM IS SERVING AS A SUB-CONSULTANT TO OTHERS

PROJECT NAME, TYPE AND LOCATION	NATURE OF FIRMS RESPONSIBILITY	NAME AND ADDRESS OF OWNER	ESTIMATED COMPLETION DATE	ESTIMATED CONSTRUCTION COST	
				ENTIRE PROJECT	YOUR FIRMS RESPONSIBILITY
Coalfields Expressway, Helen, WV	Geotechnical Engineering Analysis and Design	WVDOH, M. C. S & T		Unknown	$29,000
Appalachian Corridor H - Section 6, Moorefield, WV	Geotechnical Engineering Analysis and Design	WVDOH c/o Michael Baker, Jr., Inc.		Unknown	$14,000
Corridor H - Bismarck to Forman Section, Bismarck, WV	Geotechnical Engineering Analysis and Design	WVDOH c/o Chapman Technical Group		Unknown	$14,000
Corridor H Bismarck RTO Form, Grant County, WV	Geotechnical Engineering Analysis and Design	WVDOH C/O Buchart Horn, Inc .		Unknown	$150,000
Six Proposed Design Build Bridges, Charleston, WV	Geotechnical Engineering Analysis and Design	WWOH c/o Wilbur Smith Associates		Unknown	$30,000
WV 10 - Dabney to Stollings, Dabney, WV	Geotechnical Engineering Analysis and Design	WVDOH C/O Chapman Technical Group		Unknown	$97,000
South Branch Bridge Abutment 1 Slope Protection, Moorefield, WV	Geotechnical Engineering Analysis and Design	WVDOH C/O Michael Baker, Jr., Inc.		Unknown	$23,000

17. COMPLETED WORK WITHIN LAST 5 YEARS ON WHICH YOUR FIRM WAS THE DESIGNATED ENGINEER OF RECORD

PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST	YEAR	CONSTRUCTED (YES OR NO)
Proposed New Dormitories, Mine Subsidence Assessment and Grouting Specifications	Hocking College, Nelsonville, Ohio	$110K	2006	Yes
Mine Grouting Specifications for the Proposed Marion County 911 Building, Fairmont, WV	WVDOH C/O Burgess & Niple 4424 Emerson Avenue Parkersburg, West Virginia 26104	Unknown	2006	No
Ventilation Tunnel Remediation and Sealing, Marathon Fuel Terminal, Covington, KY	Marathon Petroleum, LLC Finlay, Ohio	Unknown	2006	Yes
Mine Subsidence Assessment, Melody Mountain Development Project, Ashland, KY	R.G. Properties 8163 Old Yankee Road Suite B Dayton, Ohio 45458	$200K	2006	No
Peoples Bank of Mullens, Mine Subsidence Assessment and Preparation of Grouting Specifications	Peoples Bank of Mullens P.O. Box 817 Mullens, WV 25882	Unknown	2007	No
James Rumsey Potomac River Bridge Shepherdstown, West Virginia and Sharpsburg, Maryland	West Virginia DOT	$600K	2006	Yes
St. Anthony Falls I-35W Bridge St. Anthony Falls, Minnesota	Minnesota DOT	$40,000	2007	Yes

18. COMPLETED WORK WITHIN LAST 5 YEARS ON WHICH YOUR FIRM HAS BEEN A SUB-CONSULTANT TO OTHER FIRMS (INDICATE PHASE OF WORK FOR WHICH YOUR FIRM WAS RESPONSIBLE)

PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST OF YOUR FIRM'S PORTION	YEAR	CONSTRUCTED (YES OR NO)	FIRM ASSOCIATED WITH
McComas AML Coal Mine Refuse Pile Mercer County, West VA	West Virginia Office of Abandoned Mined Lands and Reclamation.	$28,000	2008	Yes	Stafford Consultants Incorporated, Princeton, WV
Mine Subsidence Assessment, Mountain View High School Addition, Welch, WV	Mountain View High School	Unknown	2006	Yes	ZMM, Inc.
Highwall Stability Assessment and Rock Fall Protection Design, Welch, WV	U.S. Bureau of Prisons	$172K	2006	Yes	DMJM Harris
Stabilization of Mine Spoil by Dynamic Compaction for Substations and Transmission Towers.	GenPower Longview Power Project Maidville, WV and Dunkard, PA	Unknown	2006	Not Yet	Beta Engineering
Marmet Locks and Dam Construction Belle, West Virginia	USACE	$100K	2008	Yes	Kokosing Fru-Con

19. Use this space to provide any additional information or description of resources supporting your firm's qualifications to perform work for the West Virginia Abandoned Mine Lands Program.

20. The foregoing is a statement of facts.

Signature: _____ Title: Office Manager-Charleston, WV

Date: June 15, 2010

Printed Name: John T. Blair

AML and RELATED PROJECT EXPERIENCE MATRIX

PROJECT	Exp. Basis C=Corp P=Personal *	Additional Info Provided in Section(s) **	PROJECT EXPERIENCE REQUIREMENTS															PRIMARY STAFF PARTICIPATION/CAPACITY *** M=Management P=Professional					
			Abandoned Surface Mine Reclamation	Abandoned Deep Mine Reclamation	Portal/Shaft Closure	Hydrologic/Hydraulic Design/Evaluation	Remining Evaluation	Mine/Refuse Fire Abatement	Subsidence Investigation/ Mitigation	Hazardous Waste Disposal	Project Specifications	Water Quality Evaluation/ Mitigation/Replacement	Construction Inspection/ Management	Water Treatment	Equipment/Structure Removal	Stream Restoration	Geotechnical/Stability	Jack D. Stafford, P.E.	C. Dean Upton, P.E.	Edward L. Shutt, P.E.	Kenneth R. Crowe, P.E.	James R. Bolton, P.E.	
Williamson Nursing Home Slide	C	19		X	X						X		X				X	M			P	P	
Mason County Bond Forfeiture	C	19	X	X	X	X					X	X		X	X			M			P		
Weyanoke Portals	C	19		X	X						X							M		P	P		
Sarah Ann Drainage	C	19	X	X	X						X				X			M		P	P		
Heizer Creek "A"	C	19		X	X	X					X	X						M		P	P	P	
Canebrake Complex	C	19		X	X			X			X				X		X	M		P	P		
Millersville Road Refuse	C	19	X	X	X						X							M		P	P		
Milburn Red Dog	C	19						X			X						X	M		P	P		
Charleston Portals	C	19		X	X						X							M		P	P		
Mill Branch Refuse	C	19									X					X	X	M			P		
Ameagle Complex	C	19								X	X				X			M		P	P		
Cabin Branch Refuse	C	19									X						X	M		P	P		
Shoemaker Landslide	C	19									X						X	M			P		
Birds Creek Refuse	C	19	X	X	X						X							M			P		
Kermit (Hatcher) Drainage	C	19									X							M			P		
Maplewood Study	C	19										X						M			P		
Summersville (Rt 39) Study	C	19										X						M			P		
Mod-Mahan Study	C	19										X						M		P	P		
Danese Water Treatment Plant	C	19									X			X				M		P		P	
Blue Pennant Complex	C	19		X	X		X				X				X		X	M		P	P		
Keystone (US 52) Study	C	19										X							M	P	P		
New Haven PSD	C	19									X		X	X									
McDowell PSD	C	19											X	X					P	M/P		M/P	
Logan County PSD	C	19											X	X					P			M	
McComas Refuse	C	19			X						X						X		M		P		
McDowell County Feasibility Studies	C	19										X							M	P	P		
Thompson, Young, & Crespo Drainage	C	19			X						X						X		M		P		

* List whether project experience is corporate or personal based or both. ** Use this area to provide specific sections or pages if needed for reference.

*** List Primary Design personnel and their functional capacity for the projects listed.

ATTACHMENT 19A

ABANDONED MINE LANDS EXPERIENCE

ABANDONED MINE LANDS EXPERIENCE

Stafford Consultants has performed Engineering and Design for twenty four (24) projects for the West Virginia Department of Environmental Protection – Division of Abandoned Mine Lands and Reclamation. Each design was delivered on schedule and within budget. These projects are as follows:

1) **Williamson Nursing Home Slide** (Mingo County): This project consisted of corrections to a major slide that was endangering the building and parking lot at the Williamson Nursing Home. Stafford provided subsurface investigations, preparation of contract plans and specifications, and construction inspection. Final design fee was 76 percent of the approved design fee.

2) **Mason County Bond Forfeiture:** This project involved several areas of unreclaimed highwalls, spoil piles, and mine portals, and is unique because a large pond was relocated and acid drainage is being treated by the use of a biological wetland, planted with specialized plants. This project is extensive in nature and size. Final design fee was 83 percent of the approved design fee.

3) **Weyanoke Portals** (Mercer County): This project consisted of sealing existing portals and providing for draining which was being used for a water supply. This project involved both dry and wet seals, and was constructed within budget and on time. Final design fee was 40 percent of the approved design fee.

4) **Sarah Ann Drainage** (Logan County): This project consisted of elimination of several highwalls, a refuse pile, entries and an abandoned shaft. The project is complete and is an excellent example of Abandoned Mine Reclamation at its best. This project utilized pneumatic backstowing in its construction. Final design fee was 88 percent of the approved design fee.

5) **Heizer Creek "A"** (Putnam County): This project consisted of elimination of four large entries that were discharging acid mine water. In addition to these, more than 15 other openings were eliminated. This project involved wet and dry seals, grading and major water problems. The project is complete and looks very good. Final design fee was 67 percent of the approved design fee.

6) **Canebrake Complex** (McDowell County): This project includes several large refuse piles (one of which is burning) placed on very steep mountainsides, and the removal of abandoned mining structures. Also, this work is adjacent to a stream whose banks and water must be protected. Final design fee was 58 percent of the approved design fee.

7) **Millersville Road Refuse** (Upshur County): This project consisted of elimination of refuse piles, highwalls, and spoil piles located in a hollow directly above a populated area. It also included the consideration that a mine directly below the piles was full of water. Although it proved that mine water was not a serious problem, provisions were made in the design to deal with the problem if it had arisen. That project is complete

and is very attractive. The final design fee was 86 percent of the approved design fee. We have included this projects' Plans and Specifications as an example of our work.

8) **Milburn Red Dog Refuse Pile** (Fayette County): This refuse pile lies along the side of the WV Turnpike and has been burning and slipping for several years. The final design fee was 39 percent of the approved design fee.

9) **Charleston Portals** (Kanawha County): This project consists of the elimination of some fifteen mine openings located above a populated area. The work consists of wet and dry seals and grading. The final design fee was 83 percent of the approved design fee.

10) **Mill Branch Refuse Piles** (Wyoming County): This project consists of the elimination of two refuse piles placed on a steep mountainside above Bud, West Virginia. This was a straightforward grading, drainage and revegetation project, but required extreme care because of the steepness of the terrain. The final design fee was 81 percent of the approved design fee.

11) **Ameagle Complex** (Raleigh County): This project consists of the removal of a large coal preparation plant and associated facilities and several refuse piles. This would be a relatively straightforward demolition project. Except that the area is very cramped and the plant was sided with asbestos panels. The final design fee was 85 percent of the approved design fee.

12) **Cabin Branch Refuse Piles** (Logan County): This project consists of the grading, drainage, relocation and revegetation of three refuse piles. Extreme care was required because the piles were located on both sides of a road serving a community, gas compressor station and mining operation. Also, a stream runs along the piles and was protected. The final design fee was 66 percent of the approved design fee.

13) **Shoemaker Landslide** (Upshur County): This project included the construction of a soldier pile retaining wall and regrading of a previously reclaimed fill area which was slipping. The final design fee was 66 percent of the approved design fee.

14) **Birds Creek Refuse** (Preston County): Two refuse piles and 1200 linear feet of highwall were reclaimed in this project. Final design fee was 85 percent of the approved design fee.

15) **Kermit (Hatcher) Drainage** (Mingo County): This was not your normal AML project. An existing structure was located over a draining mine slope. The work consisted of installing a drainage pipe from the slope, through the building, and tying into the local storm sewer system. Some interior remodeling was also performed. Final design fee was 59 percent of the approved design fee.

16) **Maplewood (Route 41) Waterline Feasibility Study** (Fayette County): This study was conducted to determine if pre-1977 mining activity contributed to the degradation of the water supply for the Danese Public Service District. Final study fee was 64 percent of the approved study fee.

17) **Mod-Mahan Road Waterline Feasibility Study** (Marion County): This study was conducted to determine if pre-1977 mining activity contributed to the water quality problems of the wells used for water supply of the local residents. Final study fee was 64 percent of the approved study fee.

18) **City of Summersville (Route 39) Waterline Feasibility Study** (Nicholas County): This preliminary investigation was performed to determine if pre-1977 mining activities affected the local water supply wells. This project was completed using only 54 percent of the approved fee.

19) **Danese Water Treatment Plant Modifications** (Fayette County): As a result of the findings of project 16 (above) a new 350-gpm plant was designed. The old plant was in very poor shape and had insufficient capacity to meet the system demands. This project is complete and we used only 50 percent of the approval fee.

20) **Blue Pennant Complex** (Boone County): This reclamation project consists of the regrading of three refuse sites, one of which was burning. Several old conveyors and structures will also be demolished. Our effort on this project consumed only 81 percent of the approved fee.

21) **Keystone (US Route 52) Feasibility Study** (McDowell County): This preliminary investigation was performed to determine if pre-1977 mining activities affected the supply wells for the Town of Keystone's municipal water system. This project was completed using only 25 percent of the approved fee. (The fee included the Phase 2 study as well which was not required due to results of Phase 1 Study).

22) **McComas (Poca Land) Refuse Pile** (Mercer County): This reclamation projects consists of regrading a refuse pile, installing wet seals into two abandoned mine portals, and installing site drainage improvements. Plans have been completed on this project and construction is underway. To date, only 76 percent of the approved fee has been invoiced.

23) **Rockridge, Little Slate Creek, Route 80, Baker Ridge, Whittaker Ridge, State Line Ridge and US52 Water Systems Feasibility Study** (McDowell County): This preliminary investigation was performed in areas than can be, or are, covered by McDowell County PSD to determine if pre-1977 mining activities affected the water supply in the Rockridge, Little Slate Creek, Route 80, Baker Ridge, Whittaker Ridge, and State Line Ridge areas where there are presently no public water systems; and the water sources for several old coal company systems in the eastern end of McDowell County along and adjacent to US52. This investigation is complete, and only 55 percent of the approved fee was invoiced. (The fee included Phase 2 studies as well, but only Rockridge proceeded to that phase).

24) **Thompson (McComas), Young (Matoaka), and Crespo (Matoaka) Drainage** (Mercer County): The Thompson project entailed sealing two draining portals while maintaining a water supply source for one local resident. Stability of a potentially unstable slope immediately behind a house was also included. The Young and Crespo projects consist of sealing draining mine portals and construction of collection ditches.

Plans have been completed on this project and the pre-bid conferences are scheduled. To date, only 48 percent of approved fee has been invoiced.

Our Design Fee Experience has been exceptional with no overruns. The maximum Design Fee used to date is 88% of the approved fee. All projects done to date have been completed on schedule.

In addition to these projects, we have provided design, construction administration and/or resident project representation for AML funded water projects for New Haven Public Service District, Logan County Public Service District, McDowell County Public Service District, City of Summersville, and Bluewell PSD.

ATTACHMENT 19B

PROPOSED PROJECT MANAGEMENT PLAN

PROPOSED PROJECT MANAGEMENT PLAN

Project Management

An organizational chart for this AML project is included to graphically depict Stafford Consultants' plans for management and reporting.

Because we take this work very seriously, we have placed Mr. C. Dean Upton, P.E., our President, in the direct line as principal in charge. This does not mean that the heavy cost of the firm's president will be born on a full time basis by the State of West Virginia; what this means is that no work will be submitted without review by Mr. Upton. Also, cost and schedules will be reviewed by Mr. Upton. Because of his strong qualifications in Quality Assurance/Constructability Review, Mr. Edward L. Shutt, P.E. will review all aspects of the project.

Mr. Kenneth R. Crowe, P.E. will manage the project on a day-to-day basis and have direct professional responsibility. Final approval of the project will be made only after review by both Mr. Shutt and Mr. Upton.

Experience has proven that not all projects can be controlled in the same manner. As a result of this experience, we employ several management systems such as CPM, GANTT, Bar Chart, and simple coordinate charts. Our personnel are trained and experienced in all of these methods, and we will use the method that is most practical and acceptable to the State.

A. Project Team

We have established a project team for this AML project which reflects the required technical expertise and available management time. Enclosed is a flow chart of our proposed project team.

We have also enclosed a draft work flow chart for completion of the project.

Once a scope of work and fees are agreed upon, we will prepare a Gantt Project Summary Report which identifies each activity (tasks) to be performed to achieve the project's objectives. This will identify who is responsible for the specific activity, starting and ending dates, manhours/expenses estimated (used), unit cost and total costs for each activity.

This Project Summary Report will be updated monthly to monitor task completion versus schedule and costs.

The information input for the Project Summary Chart will generate a Project Schedule Chart which will provide a bar chart over time for each activity to indicate actual or planned schedule, milestone, and the time increments.

We have monthly staff meetings to review each project. We also recommend client project meetings at least monthly to review the status and issues associated with each project.

Should the work of subconsultants be required, those we will utilize we have worked with as a team for at least ten (10) years. This generates the ability to promptly respond to our client's needs.

We are experienced in management as indicated by our record of many successful construction projects. We are prepared to provide a Gantt report in as much detail as the Department of Environmental Protection may require. These reports will consist of reports for construction progress, anticipated completion dates and milestones, cost control and a summary of problem areas with recommendations for solutions.

B. **Location of Facilities**

Stafford Consultants, Incorporated is located at 1105 Mercer Street, (P.O. Box 5849), Princeton, West Virginia. Our office is within easy driving distance to this project.

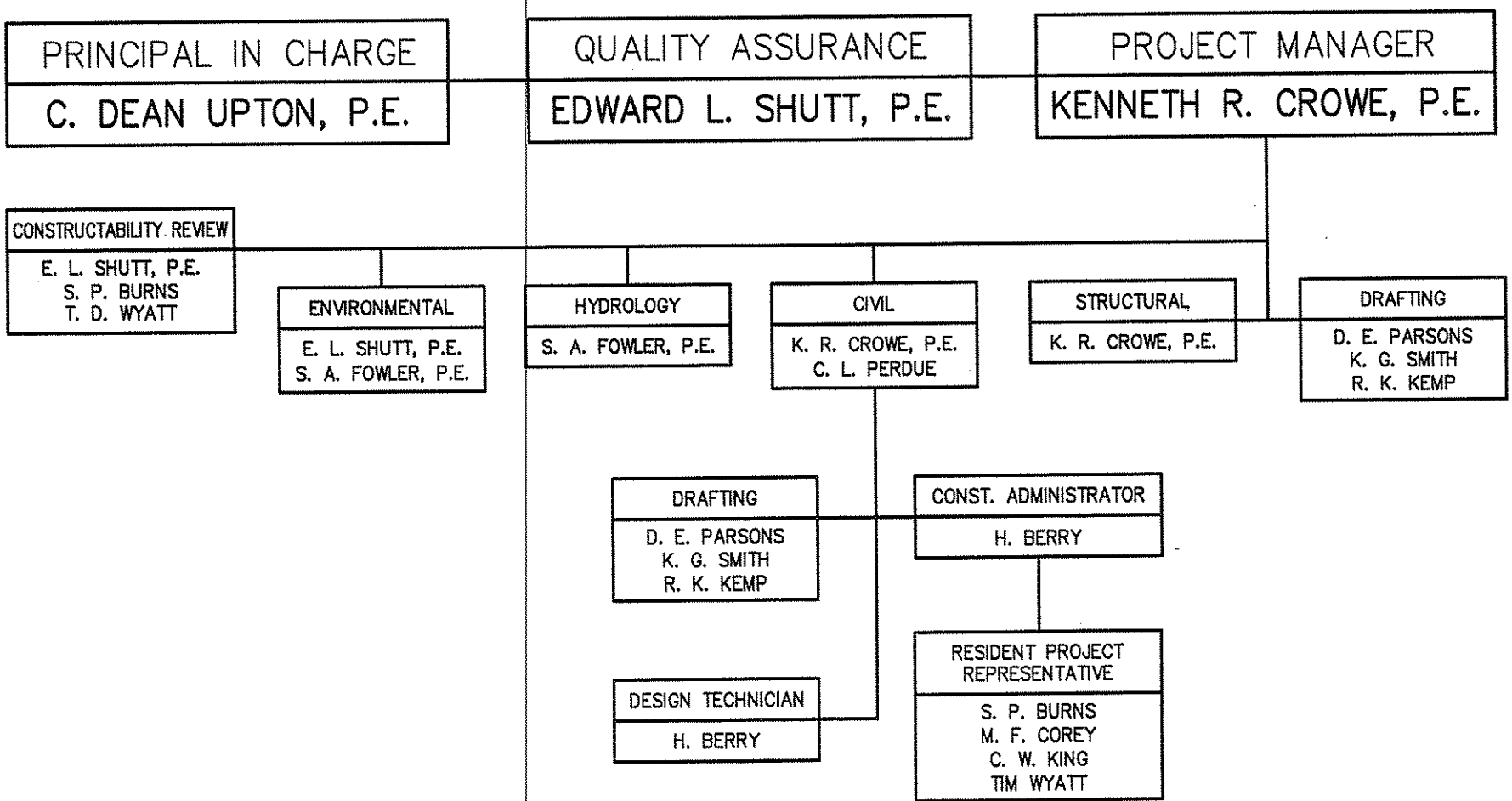
All work associated with AML projects will be performed in our office in Princeton, West Virginia. Work subcontracted to consultants will be performed in the following locations:

1. True Line, Inc. – Thorpe, West Virginia
2. H. C. Nutting Company – Charleston, West Virginia

DEPARTMENT OF ENVIRONMENTAL PROTECTION

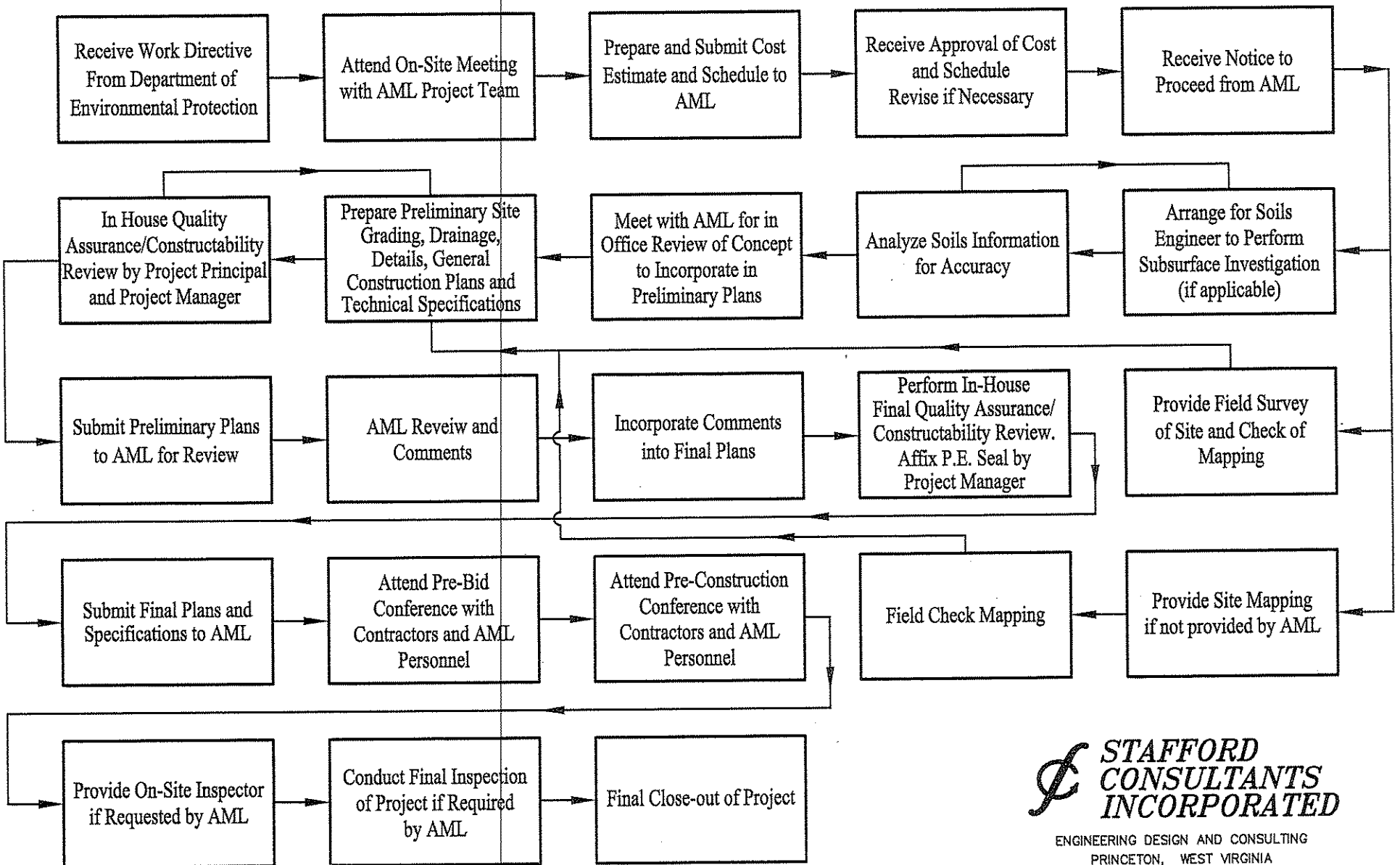
ABANDONED MINE LANDS AND RECLAMATION

STAFFORD CONSULTANTS PROJECT TEAM



STAFFORD CONSULTANTS INCORPORATED

WORK FLOW CHART



STAFFORD CONSULTANTS INCORPORATED

ENGINEERING DESIGN AND CONSULTING
PRINCETON, WEST VIRGINIA

ATTACHMENT 19C

PROJECT QUALITY CONTROL

PROJECT QUALITY CONTROL

General: The following are general statements which are the underpinning of our quality control program. From planning to project completion, the emphasis must be on quality control.

I. PLANNING

Planning is the beginning. Quality in work is not an accident. The end result of such a program is a plan which guides the firm toward the delivery of quality professional services and a profitable operation.

II. ORGANIZING

Organize to determine, specify and structure tasks which will accomplish the desired objective – quality services. The clear assignment of responsibility and assumption of authority by those in each position in the firm, is the beginning of the implementation of the quality control program. The establishment of performance standards, policies and procedures by which tasks are to be performed, must be stated with clarity.

III. STAFFING

The careful selection and training of personnel to perform the specified tasks is essential.

IV. DIRECTING

Directing is the responsibility of management – firm and project – to coordinate performance of each and every task to make the quality control programs function as planned, organized and staffed.

V. CONTROLLING

Controlling is a top management responsibility. It is monitoring and measuring to assure that the "actual" results are consistent with the "planned" results. A critical element is the implementation of immediate corrective action when results are not in compliance with the planned predetermined program objectives.

VI. COORDINATION

The success of Stafford's quality control program depends on coordination among parties involved or individual projects. Professional associates – in-house or outside consultants – must be included in the decision making process during design and construction. Good communication and well-structured coordination are essentials to a successful project.

VII. RECORDATION AND RETENTION

All discussions with all parties – clients, outside consultants, contractors – should be recorded in **objective** detail and those records retained in the project file.

Summary: In summary, a quality control program is effective only if management is committed to it. Management is not only the principals but also design professionals at all levels with the firm. Achievement of quality control is first and last a management attitude transmitted to all within the firm.

Several elements are required for delivery of quality professional services. Following are the elements normally utilized by Stafford Consultants, Incorporated.

SECTION A

PRE-PROPOSAL SCOPE EVALUATION

I. ANALYSIS OF PROJECT CHARACTERISTIC

A. Pre-Proposal scope meeting with client.

B. Pre-Proposal site meeting to review clients' objectives and goals.

C. Verify ability to perform including:

1. Licensed Professionals

2. Project Team Personnel

a. knowledge
b. experience
c. current workload

SECTION B

I. PROJECT PRE-SCHEDULING

A. Outline of estimated work effort of each engineering discipline and prepare Gantt project summary charts.

1. ~~Prime professional will not commit to schedule or budget limitations prior to~~ coordination with consultants.

B. Analyze Project

1. List basic information required to perform each phase of the project.

2. Designate priority of services by discipline.

SECTION C

I. CONTRACT NEGOTIATIONS / EXECUTION

A. Prepare clearly written scope of work for clients approval.

B. Prepare a clearly written Project Schedule with project milestones including client reviews.

C. Prepare an estimate of all fees anticipated and costs for any additional services.

D. Use an accepted engineering agreement.

SECTION D

PROJECT MANAGER AND DESIGN TEAM SYSTEM

General: Because the performance of most Engineering designs require the efforts of more than one individual and since a number of people will be working on a project simultaneously over an extended period of time, it is usually advisable to develop a team approach for accomplishing the work, with a project manager as team leader. The team approach offers a degree of continuity, awareness of the status of a project and a formal mechanism for exchange of information amount team members, whether they be in-house or outside consultants.

I. MANAGEMENT CONSIDERATIONS

A. A Project Manager and a representative of each applicable design discipline comprise the design team.

B. It is likely that an individual may simultaneously perform in more than one function on more than one design team.

C. It is the responsibility of management to determine that proper assignments have been made to accomplish each required activity for each project.

II. TEAM SELECTION

A. Identify key services to be provided on a project and select team members who are experienced and qualified in those particular areas.

B. The average experience on a project team is a valuable measure of the overall team ability.

1. Compute "Experience Quotient"

$$\text{E.Q.} - \frac{\text{Total Years of Experience (applicable to project)}}{\text{Number of Team Members}}$$

2. As a general rule, if the E.Q. is less than ten (10), consideration should be given to provide closer supervision and/or checking of that project.

C. Experienced personnel should be assigned as lead personnel of large projects.

D. Inexperienced personnel should be carefully assigned and work only under supervision of experienced personnel.

III. TEAM COMPOSITION

The following listed positions are normally designated for a large project:

A. Project Manager

B. Project Engineer

C. Design Engineer

D. Technicians

E. Draftsmen

F. Construction Administrator

G. Estimator/Specification Writer/Cost Estimator

H. Resident Project Representative

A. Project Manager (PM)

1. He is responsible to the client and the firm for the successful execution of the project. He has complete authority and responsibility for the project throughout the duration of the contract. The Project Manager may be an officer of the firm or assigned by the officers of the firm.

2. The Project Manager:

   a. Must be capable and experienced person with authority to speak for the firm in dealing with the client and to direct and expedite the work.

   b. Should be involved early in the negotiations and the establishment of the contracts with the owner.

   c. Should participate in establishing the total time requirements for project completion.

   d. Must be fully aware of the client's objective and must satisfy the client's goals.

   e. Reports to management.

   f. Must analyze the project for its scope and organize the work on the project.

   g. Must determine the skills required.

h. Participate in the selection of the project engineer and design team.

i. Must schedule the project through the office.

j. Should be responsible for recommending outside consultants or additional help.

k. Responsible for coordinating and scheduling outside consultants.

l. Monitors the progress of the project to determine percent complete versus money spent, versus design budget.

m. Is responsible for completing the project on time.

n. Is responsible for adhering to project budget.

o. Receives all information coming into the office on a project and disseminates it to in-house design team and outside consultants.

B. **Team Members**

1. The Project Engineer has the responsibility of carrying out the design work on a project for a specific discipline.

2. The Project Engineer:

a. Is responsible for quality control for the design function.

b. Is responsible to the Project Manager.

c. Establishes the design parameters together with the Project Manager.

d. Provides guidance to other members of that design discipline.

e. Must know the capabilities of the design team in order to obtain specialized help when needed.

f. Is responsible for the accuracy of each segment of the work as it is completed.

g. Is responsible for the final check of work product.

h. Assures that the office design policies, procedures, and standards are followed.

i. Is responsible for adherence to applicable codes.

j. Is responsible for the preparation of the technical specifications.

k. Will be responsible for processing of shop drawings.

l. Will analyze and respond to alternate designs.

m. Will respond to questions during construction and will make field visits.

n. Is responsible for keeping the work on schedule.

o. Establishes the manpower requirements.

p. Shall be registered engineer.

q. Should seal the plans for the team or be willing to do so.

r. Should remain with the project throughout its time in the office.

s. Is responsible for all drafting.

3. The Project Engineer is the vital key to implementation of the quality control program.

4. Other team members should be identified and their responsibilities defined.

SECTION E

WRITTEN PROJECT PROGRAM

General: The written project program follows immediately after the signing of the Owner/Engineering Agreement. A Written Project Program should be prepared for every job regardless of its size. This document will form the basis for all design work performed and should be approved by both the engineer and client.

A definitive outline of the scope of the project should be prepared before starting any work. This outline should be confirmed in writing by the client. It is absolutely essential that both the client and the engineer have a mutual understanding of the project requirements.

The responsibility of developing a written project program rests with the Project Manager. The written program must establish the design parameters for all Engineering disciplines and reflect the client's budgetary limitations.

I. PROJECT PROGRAM

The written Project Program should contain most, if not all, of the following:

A. Client Aims and Concepts

1. Define the function of the project.

2. Provide characteristics of the equipment used.

3. Indicate anticipated future expansion.

4. Set out other items resolved with the owner that would affect the project.

B. Cost Limitations

1. Total project limitations.

2. Cost limitations for the various segments of the project should be developed.

C. Space Requirements

1. Identify each individual function with its associated space requirements.

2. Designate all functional groupings or separations.

3. Describe each space giving occupancy load, ceiling height or head room, access points, crane loads, lighting and electrical requirements, etc.

D. Functional Description and Requirements

1. List construction materials and finishes.

2. Describe all site improvements.

3. Describe all structural, mechanical and electrical requirements.

E. Site Data

1. Boundary and topographical survey.

2. Soils Testing.

3. Location and size of existing utilities.

4. Zoning restrictions.

5. Access and traffic data.

6. Investigate history of drainage features.

F. Master Plan and Expansion

1. Include a drawing showing the location of the proposed facility on the site and show all planned future improvements and possibilities for expansion if the information is available.

G. Code Restrictions – Regulatory Permit Requirements

1. List all applicable codes.

2. List all restrictive code requirements which will affect the project.

H. Time Restriction

1. Establish a project time schedule listing dates for:

   a. Schematic design Phase

   b. Design Development Phase

   c. Contract Documents Phase

   d. Bid Period

   e. Construction Period

   f. Project Completion

2. List lead time required for major items requiring long delivery periods.

3. Consider potential time delays due to reviewing authorities.

I. Bidding and Contract Procedures

1. Determine contractor selection procedure (negotiated contract, competitive bid, and direct selection).

2. Determine client imposed alternates or requirements.

3. Determine A/E responsibilities at contract award.

II. ADMINISTRATION OF PROJECT PROGRAM

A. Distribution of Program

1. Establish a written distribution list with the name and position of each team member, including outside consultants.

2. Include the client or client representative on the distribution list.

B. Changes or Revisions

1. Any change which deviates from the formal written Project Program should be issued and distributed as a numbered and dated addendum to the program.

2. If changes are excessive, the entire program should be reviewed.

3. Clearly indicate to client the impact of requested changes.

C. Program Coordination

1. Responsibility for strict adherence to the program must be acknowledged at all levels including outside consultants.

2. Each discipline, in-house or outside consultant, must be responsible for its own activities.

3. At each distribution of program information, ample time should be given for a thorough review and acknowledgement by all disciplines prior to completion of the project phase.

4. A thorough check of the written Project Program should be accomplished at the completion of each phase and confirmed with the client.

ATTACHMENT 19D

PROJECT COST CONTROL

PROJECT COST CONTROL

Stafford Consultants, Incorporated recognizes the client desires to control project cost during design and construction.

Stafford Consultants, Incorporated has established a project management system which has successfully controlled design and construction costs.

Following is Stafford Consultants, Incorporated's Design Budget and Time Schedule Policy to control cost and insure probability.

SECTION A

DESIGN BUDGET AND TIME SCHEDULE

General: Prior to the preparation of budget and time schedule, the entire scope of the project has been defined, the design fee has been set, the contractual agreement has been signed, the project organization has been formed and the project program has been written and reviewed.

Before work commences, the Project Manager should budget both money and time for each phase thus providing each discipline with a yardstick against which to measure performance and monitor progress. Regardless of the office size or the size of the Project, quality tends to suffer when a Project runs behind schedule and/or over budget.

Point to Remember: Each discipline must agree to its budget of time and money prior to starting work. It should evaluate both budget and schedule against is computed effort, advise the Project Manager of its acceptance or rejection and provide the Project Manager with recommended adjustments as appropriate. This is essential where outside consultants are involved.

I. DESIGN BUDGET

A. Budget Determination

The total design fee should be broken down at the start of the Project to determine the design cost.

1. Design Cost is the budgeted figure for salary cost to all disciplines. Each discipline should receive a proportionate amount depending upon its estimated effort in the Project.

Note: Initial proportioning of design cost to the individual disciplines may be estimated by historical data from comparative past projects, by estimated man hour requirements, by estimated drawings to be produced, by estimated construction dollar values of each discipline, or by other reasonable process.

B. Other Factors Affecting Design Budget

1. Requirements for outside consultants.
2. Requirements for overtime as determined in computing time schedule.
3. The impact of a new project on the schedule of other projects in progress.
4. Project delays due to extended review periods or program changes resulting from such reviews.
    a. Be especially cognizant of potential delays resulting from public agency review and approval procedures.

II. TIME SCHEDULE

A. Review Owner's Requirements

1. The Owner naturally has strong recommendations for early project completion.
2. Management should be very careful at the outset not to "overstate" the capabilities of the firm at the time of negotiations. The client rarely forgets the first date mentioned for design completion.
3. "Fast-tracking" or split contracts is becoming commonplace. Firm should be aware of the great amount of coordination required and the inherent problems of control of manpower and finished product. Extra fees, top quality management and high priority over other projects are necessary for success when designing under these requirements.

B. Review Other In-House Project Commitments

1. Determine if overtime will be required to meet commitments.
2. Work priorities should be established by Firm Management for all projects. Each department or discipline must determine the impact of each new project on its workload. It is **not** up to individual departments or disciplines to establish project priorities.

C. Time schedule should be continually measured against man hour effort computed in budget analysis. This shall be compared to the Gantt Project Summary Report or other management programs being utilized.

III. ADMINISTERING DESIGN BUDGET AND TIME SCHEDULE

A. Distribute final Design Budget and Time Schedule to all disciplines.

B. Require confirmation of both Design Budget and Time Schedule by each discipline.

C. Cost

Distribute and review current costs with each discipline periodically.

1. Compare dollars expended to percentage complete.
2. Do not permit any discipline to overspend without investigation.

D. Project Control

Without proper project control, the entire project may become a "panic situation" leading to "short cutting" and elimination of necessary checking time resulting in undetected errors.

E. Outside Consultants

If outside consultants are required, remember that their performance directly affects your own. Impose the same controls on them as imposed on disciplines within your own organization. Also involve them in the same communication and coordination procedures as applied to the in-house team.

F. Small Jobs

Schedule small jobs carefully. Remember that small projects are just as important to the firm as large projects.

Each employee assigned to the project must complete a daily time sheet which indicates the project name, project number, accounting code to match budget, time worked and description of work. Each employee's time sheet will be approved by the Project Engineer, Project Manager and Vice President.

Each employee must also complete an expense report form for each project which must be approved by Project Engineer, Project Manager and Vice President.

The Project Manager will negotiate a written subconsultant agreement with each subconsultant, which sets forth the scope of work, time schedule, and fees for each project. Prior to beginning work the President or Vice President must execute the Agreement and issue Notice to Proceed.

All subconsultant invoices must be approved by Project Manager and President. These are compared to budget and agreement prior to payment.

Owners also desire to control construction costs and change order costs. Following is Stafford Consultants, Incorporated's Construction Cost Control recommendations to control construction costs.

I. DEVELOP REALISTIC CONSTRUCTION COST ESTIMATE

A. Develop contract bid documents which provide a clear scope of work by in-house and client review which focuses on issues which generate change orders.

B. Value Engineering should be considered.

C. Base estimates on past experience.

D. Use known contractors to discuss cost saving options during design process.

E. Owner has option to employ a specialized, professional estimating firm.

II. CONTINGENCY FUND

A. Provide for a realistic contingency fund to allow for unanticipated conditions.

B. Minimize change orders. Change orders are a normal part of the construction process and consist of the following general categories:

1. Changes in market conditions.
2. Changes in owner's requirements (scope of work).
3. Design errors.
4. Uncovering undisclosed existing conditions.
5. Unknown existing (latent) conditions.
   a. unexpected soil conditions
   b. unknown conditions of an existing structure
6. Changes to initiate better, faster and less costly construction.
7. Design changes to improve final product.
8. Discrepancies in contract documents.
9. Changes in codes and government regulations.
10. Final adjustment of quantities.

NOTE: Change orders are not always bad and do not always result in a negative outcome. Many times the owner is able to provide for a better or expanded project by using available funds to initiate change orders.

III. RESPONSIVE CONSTRUCTION BIDS

This is accomplished by applying several rules.

A. Make sure all known contractors who have performed well on past projects are aware of the project well before bids are due.

B. Conduct mandatory Pre-Bid Conference with all interested contractors.

C. Be available and respond to all of contractors' questions.

D. Amend contract documents by addenda if problems are discovered prior to bidding, or to incorporate changes desired.

E. Select only bids which are **responsive** and **realistic**.

IV. CONSTRUCTION ADMINISTRATION

A. Conduct Pre-Construction Conference with Owner, Contractor, Regulatory Agencies and other affected parties.

B. Require submission of pre-construction videos prior to beginning work.

C. Require Contractor's superintendent to prepare daily field report of construction activities using Stafford standard form.

D. Require Resident Project Representative to prepare daily field report using Stafford standard form.

E. Contractor's superintendent and Resident Project Representative shall agree weekly on quantities installed.

F. Conduct on-site monthly progress meetings to review project and discuss issues required for successful completion of project and review Contractor's monthly requisition for payment.

G. Promptly notify Owner of any potential change orders.

H. Promptly investigate and resolve all Contractor change order requests.

I. Notify Owner of status of change orders.

J. Resident Project Representative shall prepare a preliminary punch list for Contractor's assistance in achieving substantial completion.

K. Conduct substantial completion inspection with Contractor, Owner and Resident Project Representative and issue Definitive Certificate of Substantial Completion.

L. Conduct final inspection with Contractor, Owner and Resident Project Representative and issue recommendation for final payment.

ATTACHMENT 19E

RESUMES

STAFFORD CONSULTANTS INCORPORATED

Engineering, Design and Consulting
Planning and Environmental Services

C. Dean Upton, P.E.
President

Education: Marshall University Bachelor of Science in Civil Engineering, 1973	**Professional Registration Engineer** West Virginia Virginia

Professional Memberships: National Society of Professional Engineers, West Virginia Society of Professional Engineers, 1998 President; American Water Works Association.

Business and Civic Activities: Past President of Marie Ruritan Club and member New Hope United Methodist Church.

Experience:

2004 - Present **Stafford Consultants Incorporated, President**
1997 - 2004 **Stafford Consultants Incorporated, Chief Sanitary Engineer**

Mr. Upton's responsibilities at Stafford Consultants include administrative duties as chief executive officer and project management. Project management duties include the development of projects from conceptual planning through construction and initial operation of facilities.

Representative projects include:

- Water Treatment and Distribution Improvements, Gary Regional Water. Provided design and project engineering for 2.0 MGD plant improvements, three storage tanks, three pumping stations and 50,000 L.F. of water mains.
- Water System Extension, Gary Regional System Phase II, Pageton and Skygusty. Provide design and project engineering for booster station, 400,000-gallon storage tank, and water main extensions for McDowell County PSD.
- Pre-sedimentation Basin, Lewisburg, West Virginia. Provide planning, design, and construction assistance for 500,000 gallon pre-sedimentation basin for water treatment plant.
- City of Hinton, Gold Coast and Brooklin Sewer Extension. Planning and Design phase services for extension of sewer services to residential and commercial areas adjacent to Hinton.
- Center PSD Wastewater Treatment Plant Improvements. Planning, design, and construction engineering for new decanters and UV disinfection system for existing wastewater treatment plant.
- Ansted Wastewater Improvements, Ansted, West Virginia. Prepare planning, design, funding applications and construction engineering for upgrade of 220,000-gpd wastewater plant and eight pumping stations.
- Athens Wastewater Plant Improvements, Athens, West Virginia. Prepare Wastewater Facilities Plan and design services for expansion and upgrade of wastewater plant to 0.5 MGD capacity.
- Wastewater Treatment Plant Modifications, Princeton, WV. Provide design and construction assistance for improvements to 3.6 MGD wastewater plant to enhance nitrification and solids handling.
- Mercer County Regional Sewer Study, Mercer County, West Virginia. Prepare feasibility study for extension of sewer service within the County.

- Marshall University Weight Training Facility, Huntington, WV. Design and construction phase services for 14,000 square foot weight training facility.
- Wastewater Pump Stations, Blacksburg, Virginia. Evaluate existing Shenandoah wastewater pumping station. Design, plans and specifications for Murphy and Highland Park Pump Stations.

1986 - 1997 Anderson & Associates, Project Manager

Responsible for numerous water and wastewater projects from planning through design and construction. Representative projects include:

- Wastewater Pumping Stations, Town of Blacksburg, Virginia. Four new wastewater pumping stations and expansion of the Cedar Run pumping station from 2.6 MGD to 3.1 MGD capacity.
- Alleghany County, Virginia. Four wastewater pumping stations and I/I rehabilitation of existing sewer systems. Three new water storage tanks and rehabilitation of three existing tanks.
- Wastewater Treatment Plant, Rich Creek, Virginia. New 150,000-gpd RBC wastewater treatment facility.
- Water System Improvements, Pearisburg, Virginia. Development of a 220 gpm well, extension of water system, two booster stations, and a 125,000-gallon storage tank.
- Wastewater Treatment Plant Expansion, Shawsville, Virginia. Expansion of plant from 100,000 gpd to 200,000-gpd capacity.
- Foxcroft Avenue Water Improvements, Martinsburg, West Virginia. Distribution system improvements to enhance fire protection.

1981 - 1985 G. A. Tice, Incorporated, Project Engineer/Chief Engineer

- Responsible for planning, design and construction administration for water and wastewater projects. Also responsible for coordination of activities for up to three field survey crews. Major municipal projects for which Mr. Upton provided construction administration services include the Shady Springs PSD's wastewater system and the Town of Pax wastewater system. The Shady Spring system included construction of approximately 50 miles of sanitary sewers, three pumping stations, and a 0.8 MGD wastewater treatment plant.

1974 - 1981 Holley Kenney Schott, Incorporated, Project Engineer

- Prepared wastewater facilities plans, design drawings and specifications for water and wastewater projects. Projects completed included numerous sewer system extensions for the City of Beckley and the North Beckley Public Service District. Facilities plans completed included the City of Beckley - Raleigh County Facilities Plan and the Red Sulphur Public Service District Facilities Plan. Design projects also included water and wastewater extensions to the Red Sulphur PSD system.

1973 - 1974 John E. Harms, Inc., Inspector

- Construction inspector for wastewater collection systems, wastewater pumping station, and storm water systems in Anne Arundel County, Maryland.

STAFFORD CONSULTANTS INCORPORATED

Engineering, Design and Consulting
Planning and Environmental Services

Edward L. Shutt, P.E./P.L.S.
Vice President

Education: Virginia Polytechnic Institute and State University
Bachelor of Science in Civil Engineering, 1969

Studies for graduate degree in Sanitary Engineering VPI 1974 & 1975; Water Storage Facilities Design - 1977, University of Wisconsin; Professional Liability/A/E Quality Control - 1980, Victor O. Schinnerer & Company; EPA Construction Grants Administration - 1980, The Cilren Company; Construction Claims and Disputes - 1984, Engineering News Record; Claims - Anticipation and Avoidance - 1986, WV Rural Water Association; Construction Contract Administration - 1994 American Institute of Architects; Understanding and Managing Risk - 1995 Victor O. Schinnerer and Company; Better Management – Leading Your Firm and it's Project Manager – The Picus Group; Balanced Evaluation of Public/Private Partnerships – AWWA Research Foundation; Management of Public Works Construction Project – American Public Works Association; West Virginia Construction Law: Can This Job Be Saved – Lorman Education Services – Ethics for Engineers – Chitester Management System, Inc. - 2000; Water Storage Tank Inspections – WVACE/WV Rural Water; Modern Contracting Practices for Infrastructure Projects – Professional Development Option. 2001 – Construction Issues in West Virginia – Lorman Education Services; 2005 - Victor O. Schinnerer and Company, Inc.- Contracts for Professional Services / Alternate Methods for Project Delivery / Insurance for Design Professionals / Dispute Prevention and Non-Adjudicative Resolution - Litigation on Arbitration / Planning for Success in the International Project Arena / Concepts in Risk Management / Legal Liability of Design Professionals / Developing the Capacity to Manage Risk / Evaluation of Projects and Clients / Planning Phase and Design Phase Risk Management / Bidding or Negotiation Phase Risk Management / Construction Phase Risk Management.

Professional Registration West Virginia (Engineer)

West Virginia (Surveyor)

Professional Memberships: National Society of Professional Engineers, American Water Works Association, West Virginia Rural Water Association and West Virginia Society of Professional Engineers.

Business and Civic Activities: Member Johnston Chapel Church, Past Member Finance Committee; Johnston Chapel Church, former Sunday School Teacher; Mercer County Democratic Executive Committee, Treasurer; Former member West Virginia Association of Consulting Engineers; Former member West Virginia Association of Consulting Engineers Infrastructure Committee.

Experience: **1985 - Present Stafford Consultants Incorporated, Vice President**

- Operating officer in charge of design, construction administration activities and quality assurance. Responsibilities have involved conceptual planning, preliminary engineering, final design, financing, bidding and negotiations, construction administration, supervision of resident project representation and final closeout for projects ranging from $250,000 to $44,000,000 in size.
- Design/Quality Assurance Review for various projects.
- Expert Witness in construction claims, change orders and engineering standards of practice.

1977 - 1985 **Gates Engineering Company, Chief Environmental Engineer, Chief Sanitary Engineer, Assistant Chief Engineer - Sanitary, and Civil Engineer**

- Responsible for the supervision of civil and sanitary projects, as well as the day-to-day supervision of three engineers and the coordination of designers and draftsmen.
- Assisted clients by performing preliminary engineering studies and cost estimates for grant applications to secure funding from various government agencies, as well as performing detailed work in financing through revenue bonds.
- Prepared feasibility studies, rate studies and operational and maintenance budgets.
- Design and construction administration services for water and wastewater systems.
- Supervised design of 1.1 miles of WV Route 290/1 for the WV Department of Highways.
- Participated in planning and design of the West Virginia University Stadium.
- Participated in planning and design of expansion of Martinsburg Veterans Administration Hospital.
- Provided engineer's services during construction and supervised resident project representatives.

1975 - 1977 **Region I Planning and Development Council, Sanitary Engineer**

- Prepared grant applications and assisted communities in obtaining funding for water and sewer projects.

1975 **Pentree Incorporated, Design Civil Engineer**

- Responsible for design of water treatment plant and distribution system.

1974 - 1975 **Virginia Polytechnic Institute and State University, Graduate Student and Graduate Research Assistant.**

1972 - 1974 **Pentree Incorporated, Design Civil Engineer**

- Coordination and supervision of all survey work. Survey work including topographic surveys, land surveys, control surveys for aerial mapping and construction surveys for contractors in the layout of their work.
- Design of wastewater plant, runway expansion and airport layout.

1970 - 1972 **United States Army, Draftsman**
Honorably discharged with the rank of Sergeant (E5)

Summer 1969 **Frank R. McGuire Construction Company, Draftsman**

- Responsible for preparation and obtaining approval of all working drawings from Architect/ Engineer on the Big Walker Mountain Tunnel Portal Building (I-77) in Wytheville, VA.

Summers 1966, 1967 & 1968 **West Virginia Department of Highways**

- Worked on survey crew in 1966, which was involved in layout of various highway projects. Also surveyed projects for final quantities. Worked as a laborer on bridge repair and as a survey taker for determining traffic counts.

STAFFORD CONSULTANTS INCORPORATED

Engineering, Design and Consulting
Planning and Environmental Services

Kenneth R. Crowe, P.E.
Chief Structural Engineer

Education:	West Virginia Institute of Technology Bachelor of Science in Civil Engineering, 1976	**Professional Registration Engineer**	West Virginia Virginia

Business and Civic Activities: Church Treasurer, Board of Trustees Chairman, and member of New Hope United Methodist Church

Experience:

1985 - Present Stafford Consultants Incorporated, Chief Structural Engineer

Design Engineer and Project Manager for numerous projects, including:

- Bridge design, roadway design and WVDoH coordination for Patterson Creek Bridge, Devils Backbone Bridge, Cassity Bridge, Reeses Mill Bridge, Tabbs Station Bridge, Bowles Bridge, Gardner Truss Bridge, Iaeger/Bradshaw Bridge, Mineral Wells Interchange Overpass Bridge, Camden Avenue I-77 Bridge, Mullens Overhead Bridge, Cass Arch Bridge, Gould Bridge, Wiggins Bridge, Hutchinson Branch Bridge, Grapevine Creek Bridge, Rolfe Arch Bridge, Craigsville Intersection Improvements, Webster Road Intersection Improvements, Hinton Road Intersection Improvements, Bellepoint Road Widening, North Lewisburg Road Widening and 5.25 miles of the four lane Coalfields Expressway in McDowell County.
- Roadway design and WVDoH coordination for Poca Bridge, Pax Bridge, Rock Truss Bridge, Welch Post Office Bridge, Buckhannon Truss Bridge and Buffalo Creek Bridge.
- West Virginia Department of Energy Abandoned Mine Lands reclamation projects including Williamson Nursing Home Slide, Weyanoke Portals, Mason County Bond Forfeitures, Heizer Creek, Sarah Ann Drainage, Canebrake Complex, Milburn Red Dog Pile, Charleston Portals, Millersville Road Refuse Piles, Cabin Branch Refuse Pile, Mill Branch Refuse Piles, Ameagle Complex, Shoemaker Landslide, Kermit Drainage, Birds Creek Refuse, Blue Pennant Complex, McComas (Poca Land) Refuse, McComas (Thompson) Drainage, Matoaka (Young) Drainage), and Matoaka (Crespo) Drainage. Water feasibility studies for Summersville (Rt. 39), Mod-Mahan, Keystone (US 52) and McDowell County PSD.
- Structural design for Mathena Cultural Arts Center in Princeton.
- Structural design for Athletic Facilities Building at Virginia Tech.
- Structural design for skybox addition at West Virginia University.
- Structural design for Princeton Community Hospital's Behavioral Medicine Center.
- Structural design for clarifier at Welch Wastewater Treatment Plant.
- Structural design for sequencing batch reactor at Athens Wastewater Treatment Plant.
- Structural design for flocculator tank at Summersville Regional Water Treatment Plant.
- Preparation of contract plans and bidding documents for pedestrian underpass, Shott Building Elevator and Conley Hall Renovations at Bluefield State College.
- Preparation of contract plans and bidding documents for sidewalk replacement and drainage improvements for the Town of Oakvale.
- Preparation of contract plans and bidding documents for renovations to Married Student Housing Building at Marshall University.
- Preparation of contract plans and bidding documents for sidewalk construction along Stafford Drive, Mercer Street, and Ingleside Road for the City of Princeton.

- Expert testimony on various structural and drainage problems associated with design or construction issues.
- Building, structure, pile foundation design and truss analysis for Celanese Celco Plant, Narrows, Virginia.
- Preparation of contract plans and bidding documents for parapet repair, roofing replacement and canopy construction projects for Princeton Community Hospital.
- Updating of Master Plans for Greenbrier Valley Airport and Mercer County Airport.
- Bridge inspection and rating for United Coal Company.

1981 - 1985 Gates Engineering Company, Principal Consulting Mining Engineer and Civil Engineer II

- Responsible for all mine permitting, including DR-4 Surface Mine Applications, DR-14 Underground Opening Applications, DR-3 Prospecting Applications, NPDES Permit Applications and Department of Mines Opening Approval Applications. Performed all permit related design; haulroads, diversion ditches, sediment ponds, drainage control structures, valley fills and refuse disposal areas.
- Assisted in mine design and refuse disposal area design. Performed property evaluations including coal reserves and reclamation needs. Operated department microcomputer; wrote programs; and provided computer analysis for STRESS and COGO. Assisted on bridge and structural design projects.

1980 - 1981 Westmoreland Coal Company Central Engineering Department, Chief Environmental Engineer

- Responsible for all civil engineering design and mine permitting in Westmoreland's West Virginia Divisions. Supervised three engineers and two draftsmen. Prepared OSM Permit Applications, West Virginia Department of Natural Resources DR-4, DR-14 and DR-23 Surface and Deep Mine Applications, State Water Pollution Control Permit Applications and NPDES Permit Applications. Designed sediment ponds, drainage control structures, concrete footings and walls and steel columns and beams. Prepared run-off hydrographs for drainage design, performed flood routing and performed fill slope design.

1979 - 1980 Westmoreland Coal Company Central Engineering Department, Environmental Engineer

- Prepared OSM Permit Applications, West Virginia Department of Natural Resources DR-4, DR-14 and DR-23 Surface and Deep Mine Applications, State Water Pollution Control Permit Applications and NPDES Permit Applications. Designed sediment ponds, drainage control structures, concrete footings and walls, and steel columns and beams. Prepared run-off hydrographs for drainage design, performed flood routing and performed slope design.

1976 - 1979 Westmoreland Coal Company Imperial Smokeless Division, Mining Engineer

- Performed all steel and concrete design for the division - beams, footings, columns and walls. Performed surveying outside and underground. Prepared NPDES, State Water Pollution Control, and deep and surface mining permits.

STAFFORD CONSULTANTS INCORPORATED

Engineering, Design and Consulting
Planning and Environmental Services

Stacy A. Fowler, P.E.
Project Engineer

Education:	Bluefield State College Bachelor of Science in Civil Engineering Technology, 1995 University of Central Florida MSCE Degree in Civil Engineering (Water Resources), 2007	**Professional Registration Engineer**	West Virginia Georgia Florida

Professional Memberships: National Society of Professional Engineers;
Florida Engineering Society

Experience:

2009 - Present Stafford Consultants Incorporated, Project Engineer

Mr. Fowler's responsibilities at Stafford Consultants include the development of projects from conceptual planning through construction and initial operation of facilities. His education and background (from both the consultant and municipal perspective) give him an exceptional insight to water and wastewater issues.

2004 - 2009 Engineering, Design & Construction, Inc.—Fort Pierce, FL

- Prepared construction drawings for various commercial, institutional, and governmental projects.
- Prepared conceptual drainage designs for multiple ± 3,000 acre properties with numerous internal sub-basins.
- Performed site inspections and prepared reports to various governmental agencies for certification of construction completion.
- Prepared permit applications and followed up on requests for additional information.
- Performed construction site stakeout and prepared digital terrain models for existing and proposed site conditions.
- Performed well flow calculations for consumptive use and pump dewatering calculations for construction activities.
- Prepared horizontal control plans, erosion control plans, and short-form specifications. Prepared bid documents and managed various projects.

2001 - 2004 City of Port St. Lucie Utility Systems Department—Port St. Lucie, FL

- Performed regulatory review of commercial projects. Prepared reports related to anticipated water and sewage flows to various water and wastewater plants. Compiling information to prepare an electronic model of the existing and proposed wastewater infrastructure. Prepared various presentations to procure funds for various engineering projects.

1998 - 2001 Velcon Group, Inc.—Port St. Lucie, FL

- Prepared construction drawings for various commercial, institutional, and governmental projects. Performed drainage calculations, lift station calculation, and water main calculations. Performed site inspections and prepared reports to various governmental agencies for certification of construction completion. Prepared permit applications and followed up on requests for additional information. Performed construction site stakeout and prepared digital terrain models for existing and proposed site conditions.

1998 **Pentree, Inc.—Princeton, WV**

- Prepared digital elevation models of existing and proposed site conditions. Performed earthwork calculations. Prepared cross sections of roadway using CAD software to create balanced earthwork calculations. Prepared roadway plan alternates for public hearings and government section.

1997—1998 **Computects, Inc.—Beckley, WV**

- Performed construction surveying to establish topographic maps of existing conditions. Performed construction stake-out of construction projects. Performed drainage and earthwork calculations along with preparing grading plans, utility plans and horizontal control plans. Additionally, performed structural load and sizing calculations on protective canopies for underground mining equipment.

1997 **Appalachian Engineering & Surveying—Bluefield, WV**

- Performed construction surveying to establish topographic maps of existing conditions. Performed construction stakeout of construction projects.

1995 - 1997 **Visualizations, Inc.—Beckley, WV**

- Coordination of various aspects of design-build projects, included grading, drainage, and site inspections. Managed construction surveying team, performed site stakeout calculations, earthwork calculations, and establishing vertical benchmarks.

STAFFORD CONSULTANTS INCORPORATED

Engineering, Design and Consulting
Planning and Environmental Services

Christopher L. Perdue
Assistant Project Manager

Education:	Bluefield State College Bachelor of Science in Civil Engineering Technology May, 2003	**Professional Registration** **R.L.D.**	Virginia #26145 (Exp. 10-30-09)

Professional Memberships: American Society of Civil Engineers (Since 2001), Engineers and Surveyors Institute (ESI)
Designated Plans Examiner (Fairfax and Loundoun Counties, and City of Alexandria, VA)

Experience:

January, 2008 - Present Stafford Consultants Incorporated, Assistant Project Manager

Mr. Perdue's responsibilities at Stafford Consultants include project design assistance and construction phase assistance for water, wastewater, stormwater management, and development projects.

Assignments include the following projects:

- ***Wastewater Collection System Expansion and Wastewater Plant Improvements, Hinton, WV.*** Preliminary design and project engineering for 2.0 MGD (peak flow) plant improvements, 2 pumping stations and 16,000 L.F. of Gravity Sewer and Sanitary Force Main.
- ***Anchor Road Water System, Logan County, WV.*** Design and project management assistance for $2,500,000 water system expansion project.
- ***Douthat Water System Extension, Alleghany County, Virginia.*** Prepare VMRC and Corps permit applications and assist with construction phase engineering services.

July, 2004 - October, 2007 VIKA, Incorporated, Project Manager/Project Engineer

Project Management responsibilities included; Initial Project Feasibility Studies, conceptual design, Final Design to include Sediment and Erosion Control Plans, Wet Utility Design, Storm Water Management Facilities (Wet and Dry Ponds, regional impoundments, Underground Facilities, etc.), Traffic Control Plans. Responsibilities also included Construction Administration services from construction commencement to project occupancy or completion.

- ***Fort Lincoln Townhomes, Washington, DC.*** Planning, design and construction administration services for 222 townhouse unit development. Project included stormwater management and retaining wall structures.
- ***The Villages at Washington Gateway, Washington, DC.*** Feasibility study and planned urban development preparation for 22 acre tract. Project included development of a regional stormwater management pond.
- ***Stonewall Estates, City of Fairfax, VA.*** Planning, design and construction administration services for 7-lot subdivision. Plan included utilities, roadway and storm water management.
- ***Riverside Park Apartments, Fairfax County, VA.*** Planning for new amenities to existing 1500-unit residential development. Amenities included new clubhouse, amphitheater, two swimming pools, leasing office and other site improvements.
- ***Southeast Federal Center, Washington, DC.*** Preliminary planning, site grading, hydraulic design related to floodplain issues and permitting for roadways and utilities in areas surrounding the Washington Nationals Stadium along the Anacostia River in Southeast D.C.

STAFFORD CONSULTANTS INCORPORATED

Engineering, Design and Consulting
Planning and Environmental Services

Kevin G. Smith
Designer/CAD Technician

Education:	Raleigh County Vocational Education Center, 1979 Lay Minister Certificate, School of Christian Studies of the West Virginia Baptist Convention	**Licensed:**	Civil I and Civil II Certificates

Experience:

1998 - Present Stafford Consultants Incorporated, Designer/CAD Technician

- Design and drafting on bridge and highway road projects throughout the State of West Virginia including Grapevine Creek Bridge, Hutchinson Branch Bridge, Cass Arch Bridge, Mullens Bridge, Coalfields Expressway US 121, Wiggins Bridge, Mineral Wells Interchange Overpass Bridge, US Route 219 Lewisburg Widening, Bellepoint Road Widening, Route 41 and West Webster Road Intersection Improvement, Route 20 and 55 Intersection Improvement, and Gould Bridge.
- Design and drafting for water and wastewater projects including, Summers County Sewer Study for Summers County Commission, Summersville Water Treatment Plant, John Nash Boulevard Sewer for Bluefield Sanitary Board, Brooks Barksdale Water Extension for Mercer/Summers County Commissions.
- Design and drafting on Gardner Industrial Park for Mercer County Commission.
- Design, site layout and drafting for site development for Chapmanville Regional High School, Parkersburg South High School renovations, Parkersburg High School renovations, Williamstown High School renovations, Oak Glen Middle School "Field of Dreams", Bayer Federal Credit Union and Hilltop Elementary School.

1998 Computects and DBD Professional Group, Inc. – Beckley, WV

- Performed civil site design and civil layout of architectural projects including Oak Hill Days Inn, Gary Library and Medical Center, Ronceverte Volunteer Fire Department, Ronceverte City Hall, and Sun Mountain.
- Design and drafting on engineering projects including Glade Springs Sanitary Sewer Relocation.
- Site development for A&E Construction at the NW intersection of US 19 and WV16 north of Beckley.

1992-1997 G. A. Tice Incorporated – Beckley, WV

- Design and drafting on various civil engineering projects including subdivision layouts and Pinecrest Industrial Park at Beckley.
- Highway and roadway storm drainage systems.
- Sanitary sewer collection and extensions systems including Shady Spring PSD, Town of Mount Hope, and North Beckley PSD.
- Water distribution systems including Town of Pax and Crow area water extension project.
- Calculations for many residential, commercial and government survey projects including Canaan Valley State Park for USFW Service and the New River National Park Service.
- Civil site design for commercial and government projects including Beckley Holiday Inn Addition, Haz Mat Facilities Administration Building, Pinecrest Industrial Park, and Cool Ridge Post Office.

1986-1992 ESP Associates - Charlotte, NC

- Development of custom CAD packages for in-house use, including Storm Water, Sanitary Sewer, Subdivision Layout and Staking, and Roadway Design.
- Drafting and design for layout of subdivisions with the responsibility of the layout of lots, roads, sanitary sewer, storm drainage and final plats for recording.
- Calculations for up to four field crews for field layout for Outer Beltway Interstate 485, Sanitary Extension along I-77 North of Charlotte, Widening of Park Road, Relocation of 36" and 42" Gas Transmission at High Point, NC, Rock Hill, SC subdivision development, Widening of US Route 17 in NC, Cabarrus Industrial Complex including I-85 interchange and Airport, Riverrun Subdivision including golf course, Cameron Woods Subdivision Phases III-VII, many other smaller industrial, commercial and residential projects in the Charlotte area.

1981-1986 G. O. Bledsoe, Incorporated – Beckley, WV

- Supervised drawing of plats and maps by other employees. Design and drafting for engineering and surveying projects using CAD. Survey calculations and reductions for many residential, commercial and industrial projects. Advanced from rodman to crew chief to supervisory position.

1980-1981 HKS - Beckley, WV

- Advanced from rodman to instrument man including note keeping and field note reductions for various commercial and industrial projects.

STAFFORD CONSULTANTS INCORPORATED

Engineering, Design and Consulting
Planning and Environmental Services

Don E. Parsons
Draftsman/CAD Technician

Education: Tazewell High School; Tazewell, VA – 1968 - Diploma

Woodrow Wilson Rehabilitation Center; Fishersville, VA - 1968-1970
(School of Drafting – Drafting Technology) - Diploma

Tazewell County Vocational Technical Center; Tazewell, VA - 1971-1975
(Basic Electronics, Auto Mechanics, Carpentry) - Certificates

Southwest Virginia Community College; Richlands, VA - 1976 (Surveying)

AutoCAD Training Certificate, 1985

Bluefield State College; Bluefield, WV - 1986-1987
(BASIC Programming, Electrical Drafting)

Experience: **1990 - Present Stafford Consultants Incorporated, Draftsman/CAD Technician**

Drafting involvement on most bridge, water and sewer projects, including:

- Athens Wastewater Treatment Plant
- Airport Master Plan drawings for Mercer County Airport and Greenbrier Valley Airport.
- Greenbrier Valley Airport runway and apron patching plans and upgrading fencing plans.
- Sewer projects for Bramwell PSD, Sandstone and Welch.
- Building renovations for Pocahontas Land Company, Beckley Housing, Celanese Celco Plant, and Marshall University Married Student Housing Projects I and II.
- Marshall University Football Stadium and Scoreboard.
- Sidewalk improvement projects for the Town of Oakvale, City of Princeton, Town of Athens and the Town of Alderson.
- Bridge plans and drawings for: Hutchinson Branch Bridge, Mullens Bridge, Cassity Bridge, Camden Avenue Bridge, Cass Arch Bridge, Indian Gap (Coalfield Expressway) Bridge, Gardner Truss Bridge, Gould Bridge, Mineral Wells Interchange Overpass Bridge, Wiggins Bridge, Iaeger/Bradshaw Middle School Bridge, Bowles Bridge, Devils Backbone Bridge, Reeses Mill Bridge, Patterson Creek Bridge, Tabbs Station Bridge and Little Marsh Fork Bridge.
- Roadway plans for Buffalo Creek Bridge project, North Lewisburg Widening (turn lane project), Webster Road Intersection (turn lane project) and Hinton intersection (turn lane project).
- Abandoned Mine Lands Reclamation projects including: Shoemaker Landslide, Kermit Drainage, Birds Creek Refuse and Blue Pennant Complex.
- Structural drawings for VPI – Athletic Facility building.
- Conveyor Drawings and Access Bridge Drawings for Celanese Corporation.
- Craigsville Waterline Relocation.

1990 **E. T. Boggess AIA, CAD Technician**

- Detailed drafting on architectural and site plan drawings, including electrical layouts on CAD.

1988 - 1990 Melcher Development Incorporated, CAD Technician

- Prepared detailed architectural building and site plan drawings of doctor's offices complex on AutoCAD. Prepared detailed plans of single dwelling homes including kitchen and bath designs.

1982 - 1987 Swanson Plating and Machine Company, Inc., Chief Draftsman

Responsible for:

- Supervising other draftsmen, all on-site measurements and designing of all coal mining projects, and all new hydraulic jack designs.
- Assisted in other in-house repair and improvements and prepared AutoCAD gear and sprocket drawings.

1970 - 1982 Consolidation Coal Company, Draftsman

Responsibilities included:

- Updating mine workings plots on hardbacks and tracings.
- Transposing survey calculations onto logbooks, calculating mine tonnages and traversing bore hole locations for drillers. Calculating mined areas using a planimeter. Keeping mine ventilation and forecasting maps updated.
- Updating monthly mine tonnage production charts company-wide.

1970 Appalachian Power Company, Draftsman Trainee in Engineering Department

- Calculated and prepared wire sag detail drawings for tower to tower spans and service relocation drawings.
- Made all copies of maps for fieldwork crews.

STAFFORD CONSULTANTS INCORPORATED

Engineering, Design and Consulting
Planning and Environmental Services

Sidney P. Burns
Senior Resident
Project Representative

Education: Greenbrier High School, Ronceverte, WV, 1958

Licensed: Certified Engineering Technician - Level IV

Troxler Certified Nuclear Density Gauge Operator

Experience:

1985 - Present Stafford Consultants Incorporated, Senior Resident Project Representative

- Responsible for inspection and documentation of work performed for various civil engineering construction projects including water treatment plants, wastewater treatment plants, collection lines, distribution lines, plant piping, pump stations, reclamation projects and street replacement. Specific projects include Mercer/Summers Water Project, City of Welch Wastewater Treatment Plant, Town of Alderson Wastewater Treatment Plant, City of Summersville Wastewater Treatment Plant, City of Mullens Streetscape Project, Wilderness PSD Waterline Extension Project, Williamson Nursing Home Slide AML Reclamation Project, and Danville PSD Wastewater Treatment Plant and Collection System.
- Assisted in preparation of cost estimates for construction projects including water plants wastewater plants, collection lines, distribution lines, street and pavement improvement projects.
- Performed field surveys for numerous projects including Mercer/Summers Water Project, Town of Athens Water Project, Oakvale Road PSD Sewer Project, Wilderness PSD Water Project, Greenbrier Valley Airport, Big Bend PSD water tank project, City of Welch Sewer Project, Logan County PSD Water Project, Impoundment for Bluewell PSD, Town of Bramwell Sewer Project, Mason County Bond Forfeiture AML Project, Millersville Road Refuse AML Project, Milburn AML Project, Sarah Ann AML Project, Welch Post Office Bridge Project, Town of Ansted Pump Stations and Big Bend PSD Sewer Project.

1980 - 1985 Gates Engineering Company, Contract Administrator

- Responsible for documentation and contract procedures for various construction projects related to water treatment and wastewater treatment facilities. Specific projects include Crab Orchard-MacArthur PSD Wastewater Treatment Plant, Town of Pineville Water Treatment Plant and distribution lines, and Mercer County Development Authority - Cumberland Industrial Park

1961 - 1980 West Virginia Division of Highways, Project Supervisor

- Responsible for inspection, documentation and testing of all material and work performed on several interstate highway and Appalachian Corridor construction projects.
- Coordinated all construction activities with the general public.
- Prepared all necessary change orders and coordinated construction with funding agencies and the Federal Highway Administration.

1958 - 1961 V. N. Green Company Incorporated

- Laborer and heavy equipment operator, highway construction. Instrument man on survey party at Armco Steel, Ashland, Kentucky. Survey Party Chief for construction stakeout and documentation of work performed on two major highway projects in Marion, Virginia and Grayson, Kentucky.