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# Terra Engineering

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## Section #1 Executive Summary

Terra Engineering will be wholly owned and operated by Mr. Norm Johnson. Terra Engineering is a proposed Ontario based company which will provide a wide array of environmental consulting services to its market which includes: Site Specific Environmental Services; Permitting; Strategic Planning; Project Design and Management; Technical Third Party Review Services; Environmental Policy Development and Liaison Services. This company will be located in Harthsville, Ontario. Terra Engineering has identified its target market as Territory Governments, organizations and businesses located within Eastern, Southern, and Northern Ontario.

The primary function of Terra Engineering is to contract with Territory governments, organizations and businesses in which the company's environmental consulting services will be delivered to ensure, enhance and protect the environmental affairs of its' target market. The company's principal, Mr. Norm Johnson, will establish an alliance with TAC Associates Limited which is his current employer. TAC is a highly reputable international engineering consulting firm which offers a wide range of technical environmental services to a large number of clients. In establishing this healthy working relationship, Terra Engineering and TAC will realize great business goals which will be key to each one' performance and success. In Canada, the environmental industry is an evolving sector which is comprised of companies and organizations that provide environmental technologies or goods and services which:

- I. Reduce human health risks and ecological damage;
- II. Improve eco-efficiencies and cost-effective in processes; and
- III. Address environmental issues and problems

In total, the Canadian environment industry is represented by over 9,500 firms which range from one person operations like Terra Engineering to large multi-national firms like TAC Associates Limited. Presently, Canadian environment firms average over 26 employees, with a total of average revenues over \$3.9 million. This industry is a large employer of a highly skilled and productive workforce. It is estimated that approximately 221,000 workers are employed within this industry which is 1.6% of total national employment. The environment market in Canada is valued at an approximate \$25.8 billion which represents 2.2% of the Canadian Gross Domestic Product. Key leading sectors within the environmental industry include environmental consulting/engineering like Terra Engineering; waste management; water supply and purification and waste water treatment. Overall, the environmental industry in Canada is certainly a high growth sector.

Market drivers in the environmental industry include such pressures as: pollution prevention and eco-efficiency; performance in managing complex environmental issues and human health. Today citizens, governments, businesses, lenders, investors and organizations are becoming more aware of and placing more pressure on the importance of a healthy environment. As a result, there is a growing demand for environmentally sound processes and solutions to possible present and future problems.

Due to the location of the company, Terra Engineering has an opportunity to service large portion of Ontario's Eastern, Southern and Northern Territory governments. In Ontario, there are 126 Territory governments and of these five are among the twenty largest in Canada. Today, Territory governments, organizations, and businesses are now realizing the importance of environmental due diligence and everything it entails. Moreover, the entire Territorial market has identified the increasing demand for environmental services since similar driving forces as the mainstream market have taken effect.

This is due to a number of key factors such as:

- Increasing number of businesses start-ups and expansions in all industry sectors including primary industry;
- Territory government memberships that are more aware and demand tightened environmentally safe policies and procedures for their governments, businesses and organizations;
- Increasing number of Territory partnerships being established which often require Territorial liaison services and or prefer Territory environmental assistance and expertise of a company like Terra Engineering;
- Major funding programs in Ontario require environmental assessments and or third party reviews in order to meet federal/provincial legal requirements and program criteria before funding is disbursed to Territory members and Communities;
- Territory projects as well as independent businesses which are active or are entering the resource industry understand the cost value of hiring someone full time to fulfill these duties. In short, it is cheaper to hire than to employ as the present time;
- Regulatory gaps between provincial and federal environmental legislation for Territory lands. These gaps need to be addressed properly in order to protect and to abide by these governing legislations.

The company's knowledge and awareness of the driving forces behind the increasing demand for the environmental services like Terra Engineering by its' primary markets will remain invaluable. Presently, the need for environmentally specialized people and businesses to fulfill this need is apparent and has become increasingly large.

Terra Engineering will differentiate its company in the marketplace in 3 specific ways; the principle, Norm Johnson has been employed within the environmental industry for many years and has unmatched skills and knowledge of the industry; centralized location to the company's target market allows for full market reach and serviceability and a vision of growth for the company's primary markets in keeping with the Territory government mindset will enable the application of the contemporary tools to determine solutions from a traditional mindset.

Terra Engineering's sales strategy is three tiered. First the company will plan on achieving first year direct sales of \$82,000 in its primary market. Secondly, the company will plan to achieve a more profitable level of sales equal to or better than \$92,500 in year two and \$102,500 in year three. Thirdly, the company plans to more aggressively promote its services with higher profit margins to allow for

maximized profits. As indicated in the sales projections of Terra Engineering, the company intends to breakeven the first year. In years two and three the company will become more profitable as contracts and clientele increase and as the company learns to become more efficient in operations.

The initial start-up expense for Terra Engineering include: capital \$68,000; marketing \$20,000; and business support \$2,000. Capital funds will be used to purchase building improvements, specialized office equipment software and technical field equipment. Marketing funds will be used for trade show booth design, trade show attendance, company apparel and various print materials and advertisements. Business support funds will be used to hire a management consulting firm to help with financial management.

In order to properly fund the start-up of Terra Engineering, Mr. Johnson has designed a financing package that consists of personal equity, federal assistance and traditional borrowing. Mr. Johnson will invest \$10,500 or 15% of the project's total capital costs. ADCP will be approached to invest \$40,800 or 60% of the project's total capital costs and the remaining balance of \$17,000 or 25% will be financed by a commercial bank or Territory Capital Corporation over a four year term. Bridge financing will be sought from the same institution to ensure cashflow is manageable. ADCP will be asked to contribute 60% and 75% towards the business' marketing and business support costs respectively. The remaining funds will come from revenue generated by the business.

<b>Costs and Financing</b>			
<b>Costs</b>		<b>Financing</b>	
<b><u>Capital Costs</u></b>		<b><u>Capital Financing</u></b>	
Working Capital	\$20,000	Equity (15%)	\$10,200
Office Renovations	\$5,000	ADCP (60%)	\$40,800
Office Equipment/Furniture	\$6,000	Commercial Financing (25%)	<u>\$17,000</u>
Specialized Field Equipment	\$27,000	Total Capital Financing	\$68,000
Specialized Software	<u>\$10,000</u>	<b><u>Marketing Financing</u></b>	
Total Capital Costs	\$68,000	ADCP (60 %)	\$12,000
<b><u>Marketing Costs</u></b>		Funds from Operations (40%)	<u>\$8,000</u>
Start Up / On-going Activities	<u>\$20,000</u>	Total Marketing Financing	\$20,000
Total Marketing Costs	\$20,000	<b><u>Business Support Financing</u></b>	
<b><u>Business Support Costs</u></b>		ADCP (75%)	\$1,500
Accounting / Management support	<u>\$2,000</u>	Funds From Operations (25%)	<u>\$500</u>
Total Business Support Costs	\$2,000	Total Business Support Financing	\$2,000
<b>Total Project Costs</b>	<b>\$90,000</b>	<b>Total Project Financing</b>	<b>\$90,000</b>

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## **SECTION 1.0 INTRODUCTION**

Terra Engineering will provide its market with environmental and engineering consulting services. More specifically, Terra Engineering will provide the following services to its market:

### **1. Site Specific Environmental Services**

- a. Environmental Monitoring Services; Landfills, Groundwater monitoring for industrial activity;
- b. Environmental Site Assessments; (Property Transfer Assessments, Phase 1, Phase 2, and Supplemental);
- c. Environmental Remediation Design/Contracting; and
- d. Site Restoration.

### **2. Environmental Assessment**

- a. Canadian Environmental Assessment Act
- b. Ontario Environmental Assessment Act

### **3. Strategic Planning**

- a. Assist Territorial Governments and Communities to develop economic opportunities in the resource based industry, electricity and mining

### **4. Project Design and Management**

### **5. Provide Technical Third Party Review Services**

### **6. Environmental Policy Development for Territorial Governments and Communities**

### **7. Liaison Services for the Mining Industry in establishing working relationships with Territorial Governments**

Terra Engineering will be located in Harthsville, Ontario. The company will provide high quality technical and engineering services to its clients. Terra Engineering will target Territorial governments, organizations and businesses within Ontario. Terra Engineering will also provide services to non-Territorial companies in the area of environmental assessment and liaison services.

In the short term, Terra Engineering will seek Territorial government contracts. Those contracts will be serviced with the assistance of strategic alliances, both with other engineering companies as well as other Territorial professionals. This will give the company the flexibility it needs to successfully secure and complete projects with varying elements. Mr. Norm Johnson is currently employed within the Environmental Division of TAC Associates Limited and has developed a good working relationship that will continue upon his departure from the company. TAC Associates Limited is a highly reputable international engineering consulting firm which offers a broad range of technical services to an equally broad range of clients. TAC provides geo-science and environmental engineering services to a wide range of industries. TAC will assume a mentoring role for the company providing administrative as well as technical support when necessary.

This working relationship is intended to provide long term benefits to both Terra Engineering and TAC Associates Limited. Terra Engineering will gain technical and administrative support from a multi-national industrial firm. TAC will gain to future large scale projects within the Territorial government

economy through the development of a repertoire of past experience on Territorial projects through this working relationship with Terra Engineering. Both, Terra Engineering and TAC Associates Limited will work together on projects where Territorial communities are strengthened and improved.

With Mr. Johnson's extensive experience within the environmental industry, he understands the environmental issues which exist for both mainstream and Territorial communities alike. Therefore, Mr. Johnson will establish Terra Engineering to alleviate these problems with viable solutions provided by qualified and experienced Territorial peoples.

To establish Terra Engineering, Mr. Johnson has identified a number of key capital, administrative and marketing investments that are required. They are:

- Make a minimal investment into time and cost effective administrative equipment;
- Make a substantial investment into specialized environmental equipment and instrumentation;
- Make minimal investments into office space improvements;
- Invest into industry specific computer software; and
- Devise and implement a large and well targeted promotional campaign to establish a solid client base.

The remainder of this plan will identify the business plan for Terra Engineering. Included is a proposed management plan and analysis of the industry and Territorial marketplace. Also included is a proposed marketing plan, operational plan and detailed financial plan.

## **SECTION 2.0 MANAGEMENT PLAN**

### **Section 2.1 Ownership Structure**

Terra Engineering will be owned and operated as a for profit corporation with Mr. Norm Johnson being the sole shareholder, voter and board member. This management structure is deemed sufficient and best suits the company's needs. Terra Engineering will seek qualified employees as the company begins to succeed in gaining work. As Terra Engineering grows those employees deemed critical to providing technical services to clients will be offered stock options to maintain their continued service. Mr. Johnson will incorporate the company provincially at a cost of \$360 in the spring of 2014.

### **Section 2.2 Management Profile**

Mr. Johnson will draw upon his specialized education and experience to manage the overall operations and direction of the business to ensure its present and future success. For almost a decade, Mr. Johnson has invested time and money into becoming the environmental specialist he is today. Some of the key highlights of Mr. Johnson's employment history, education and relevant experience include:

- Holds a Masters of Applied Science in Geological Engineering from the University of Minnesota;
- Holds a Bachelor of Science and Biology from the University of Chicago;
- Presently employed as a project manager/engineer within the environment division of TAC Associates Limited

- Managing position with Tiller Environmental Institute as an environmental engineer;
- Managing position with Barnes and Borland as chief mining geologist;
- Experienced manager of numerous environmental site assessments;
- Chief Mining engineer with Rogers Environmental;
- Vast experience with various specialized environmental software;
- Certificates in business administration and accounting;
- Knowledgeable of the proper field techniques required for environmental investigations which includes: borehole installation, logging, soil sampling, quality assurance and quality control, groundwater monitoring well installation and sampling, test pit logging, rock core mapping and rock surficial mapping
- Has extensive computer skills with expertise in industry based software packages;
- Developed, reviewed and advised on term of reference and proposals for delineation and remediation of hydrocarbon contaminated sites

As identified, Mr. Johnson has accumulated a number of specialized skills, and managed projects which will assist him in the successful management of the business.

As the owner of the company, Mr. Johnson will be required to fulfill the following key duties and responsibilities:

- Overall management of Terra Engineering;
- Establish and maintain client relationships;
- Maintain the alliances with TAC Associates Limited;
- Provide accurate and timely quotes/proposals as well as sales presentations to potential clients;
- Human resource management;
- Project management and direction;
- Oversee financial activities of the business;
- Provide direction and review work completed by the sub-contractors;
- Deliver and complete all services of the company;
- Maintain all books;
- Maintain the business' assets and buildings.

Another key component to the management team is the proposed alliances with TAC Associates Limited. This alliance will bring technical support, administrative systems and processes that the business needs to operate. Currently, TAC doesn't have a large Territorial government client base in Ontario. The services provided by TAC Associates are in line with the technical background of Mr. Johnson. Projects outside the technical realm of Terra Engineering will be sub-contracted to TAC Associates Limited.

All legal expertise will be provided by Ken Major, who is a commercial lawyer.

As the start-up of this company becomes more tangible, additional duties will arise. These duties can be time consuming and may affect the overall viability of the business. It is for these reasons that Mr. Johnson has hired McGraw Management Consulting to perform the following business support duties.

McGraw Management Consulting will ensure that all reporting requirements and accounting systems are completed and understood by Terra Engineering.

Terra Engineering will hire local and experienced chartered accountant to provide and prepare all financial reporting requirements of the company. This will include:

- Provide updates to lending institutions and government agencies including monthly reports and filing;
- Management of new marketing and administrative techniques; and
- Formalization of accounting systems to provide the necessary annual revenue and expense reports.

The estimated cost for this specialized service is \$2,000 per year. Once these systems are in place, Mr. Johnson will take over these key functions.

Terra Engineering will determine the administrative, technical and drafting needs on an on-going basis. When sufficient work exists to maintain salaried staff in either realm, the appropriate personnel will be hired.

Overall, the management team is well suited to undertake the initiatives detailed in this plan and will provide Terra Engineering with a solid base from which to grow. The proposed management plan has been carefully developed and will be maintained to ensure weaknesses are overcome and a solid foundation is in place for the company's immediate as well as future success.

### **SECTION 3.0 INDUSTRY & MARKET ASSESSMENT**

The following section will provide comprehensive facts regarding the environmental industry in Canada, both mainstream and Territorial. Also included is information regarding the market to be serviced by Terra Engineering along with an analysis of the competitive environment.

#### **Section 3.1 Defining the Industry**

It is important to define and identify the industry in which Terra Engineering will operate and how it is classified in the Canadian Industry. This information was extracted from Statistics Canada data.

Environment companies are defined as:

*"...all companies operating in Canada that are involved in the whole or in part in the production of environmental goods, the provision of environmental services and the undertaking of environment-related construction activities."*

Environmental goods and services are goods and services that are used or can potentially be used to measure, prevent, limit or correct environmental damage (both natural or by human activity) to water, air, soil as well as problems related to waste, noise and ecosystems. They also include clean or resource-efficient (“eco-efficient”) technologies that decrease material inputs, reduce energy consumption, recover valuable by-products, reduce emissions and/or minimize waste disposal problems.

The environment industry is classified as an industry composed of establishments operating in a variety of industries that produce environmental goods and services.

### **3.2 Overview of the Canadian Environment Industry**

The environmental industry is an evolving industrial sector comprised of companies and organizations that provide environmental technologies or goods and services which:

- I. Reduce human health risks and ecological damage;
- II. Improve eco-efficiencies and cost-effectiveness in processes; and
- III. Address environmental issues and problems.

The environmental industry represents a set of enabling tools with environmental applications across all industries, including the primary resource, manufacturing and services sectors, and serving as a catalyst to sustainable development.

The following statistical information was gathered by Statistics Canada in 2011. This information is the most recent available and comes from an Environmental Survey of Business Sectors. The environment industry as it has developed in Canada, has evolved a number of characteristics and dynamics, which are:

#### **(A) Structure**

Canada’s environmental industry in 2011, represented over 9,500 firms and public establishments. Firms in this industry range from one-person operations to large, multi-national firms with less than 500 employees. In 2011, these establishments accounted for 97% of environmental industry firms, 79% of revenues, 77% of exports and 71% of employment. However, most firms employ fewer than 50 people. In 2011, Canadian environmental firms averaged 26 employees, with a total average revenue of \$3.9 million.

#### **(B) Employment**

The Canadian environmental industry employs a highly skill and productive workforce. More than 221,000 workers (1.6% of total national employment) were employed in over 9,500 companies and public establishments in 2011. It was the 3<sup>rd</sup> largest employment sector following pulp and paper and the chemical industry in 2011. Business employment growth in this industry increased 18.5% from 2009 to 2011, far above national employment growth of 5.2% over the same period.

### **(C) Regional Distribution**

Firms are often located near natural resource industries or industrial markets serviced by these industries. Across Canada, the environment industry is broadly represented with 32% of firms in Ontario, 30% in the Western Provinces, 25% in Quebec, 12% in Atlantic Canada and 1% in the North Territories.

Regional distribution, based on industry revenues in 2011, shows Ontario companies accounted for about 42% of revenues, the Western Provinces 30%, Quebec 23%, and Atlantic Canada 5%.

### **(D) Business Information**

The number of business establishments reporting environmental revenues in 2011 reached 6,294, up 10% from 2009.

Quebec, Alberta, British Columbia and Nova Scotia accounted for three quarters of all new environmental businesses created from 2009 to 2011, partly reflecting the presence of vibrant emerging clusters in water, fuel cells and alternative fuel systems, and marine technologies and geomatics, respectively. The number of firms in Ontario regressed due to mergers and market consolidation. The Atlantic Provinces experienced relatively steep rises in the rate of business formation over the same period.

### **(E) Domestic Activity**

The environmental industry in Canada is quite clearly a high growth sector. The Canadian environmental market is valued at \$25.8 billion, representing roughly 2.2% of Canadian GDP. Total domestic supply of environmental goods and services in 2011 was composed of commercial sales of \$14.3 billion, business own account production of \$2.9 billion, government production of \$5.2 billion and imports of \$3.5 billion in 2011.

Domestic commercial sales of environmental goods and services reached \$14.3 billion in 2011, having grown at an average rate of 14% per year from 2009 to 2011, well above the corresponding GDP growth rate of 4.5% per year.

As in other leading economy sectors, the trend towards value-added services is manifest. In 2011, services (including construction) accounted for 60% of total industry revenues with goods and equipment dropping from 46% in 2009 to 40% in 2011.

Statistics Canada estimates that the manufacturing sub-sector contributed about \$5.7 billion to the industry's total 2011 production. Construction activities associated with the provision of environmental goods and services amounted to almost \$2.3 billion, accounting for 16% of the value of domestic production.

With 26% of total business sales, the waste sector was the largest sub-component of the Canadian environment industry in 2011, followed by environmental construction at 16%, engineering at 14% and

water supply and waste water treatment at 13%. However, the fastest growing environmental sectors in Canada since 2006, have been renewable energy, engineering, water, and analytics.

#### **(F) Leading Sectors**

Important sub-sectors of the industry include environmental consulting engineering, waste management, water supply and purification, and waste water treatment.

Canadian firms have gained international recognition for their expertise in developing water and waste water treatment technologies, handling liquid and solid wastes, manufacturing environmental equipment such as shredders, as well as for their environmental engineering and consulting expertise.

This industry is maturing, undergoing rationalizing and consolidation, and many small firms are merging to form larger, more integrated and internationally competitive entities.

#### **(G) Cross-cutting Impacts**

The environment industry is an enabling industry that exerts multiplier impacts across all sectors of the Canadian economy. The industry's ability to improve energy and process efficiency, sustainable resource management, and process monitoring and control will lead to important output and eco-efficiency gains for corporations. The industry's success in developing efficient solutions for its domestic clients will be critical not only to its own long-term international competitiveness, but also to the productivity and competitiveness of many other Canadian Industrial sectors.

#### **(H) Sustainable Development**

The federal government and its agencies have focused on strengthening the capabilities of the environmental industry so that it can more effectively deploy its critically important technologies. This helps to ensure that more Canadians enjoy clear air and water, and safer places to live, while creating jobs through domestic and international sales of Canadian environmental solutions.

A competitive, strategically focused Canadian environment industry can provide products and services that foster resource efficiency, high productivity and sustainable growth. On the success of this industry ride many aspirations for sustainable development, as it has the opportunity to serve as an engine for simultaneous economic growth, environmental protection and social stability both domestically and globally.

### **3.3 Evolving Market Drivers in the Environment Industry**

Markets are created and driven by demand. The forces driving the demand for environmental products and series continue to undergo change. Companies in the industrialized world are increasingly moving towards integrated environmental and economic solutions that contribute to the core business objectives of increased profits, reduced liability, enhanced market share and overall improvement for shareholder value.

The pressures that lie behind the evolving environmental demand include:

- I. Pollution prevention and eco-efficiency
- II. Performance in managing complex environmental issues; and
- III. Human health

Governments are similarly shifting their focus from regulatory driven pollution management to more voluntary approaches and pollution prevention, as a means to secure agreements from industry to limit releases of toxins and eliminate polluting activities. This is spurring an increasing emphasis on re-engineering industrial processes to reduce the amount of pollution produced at source, rather than at “the end of the pipe”. This creates strong incentives for environmental firms to develop new, more efficient and pollution prevention and conservation technologies. These cleaner production technologies and services which enable firms to improve their resource use efficiency while eliminating the production and release of toxins, are critical to sustainable development.

In its 2011 estimates for environmental protection spending by industry, Statistics Canada noted that investment in integrated pollution prevention processes was 141% higher than in 2009. Firms are realizing both the importance of being environmentally responsible, as well as the important cost savings in implementing production processes and technologies that reduce pollution at source. It is increasingly important for Canadian companies doing business internationally to be able to demonstrate that they are environmentally responsible.

Citizens, governments, lenders and investors concerned about possible liability actions, are placing increasing pressures on firms in all sectors to achieve higher standards of environmental performance. As a result, there is a growing demand for pollution control technologies and integrated processes that will help firms efficiently improve their environmental performance.

### **3.4 Industry Challenges**

The environment industry is subject to ongoing and rapid change in its technology and markets. Environmental firms that wish to be competitive in both the domestic and international marketplace must be aware of these changing conditions and respond accordingly.

Canada has spurred considerable environmental R & D, especially in niche technologies, as well as many successful start-up companies in emerging clusters in promising niches. However, despite strong academic and institutional research support, the magnitude of private and public investment in technology commercialization still falls short of the real global opportunity.

While the industry continues to make a significant contribution to the Canadian economy and to sustainable development worldwide, some segments of this industry are in transition due to heightened competition, growing customer sophistication, pricing pressures, market share consolidation, and greater merger and acquisition activity.

Some of the key generic drivers of this industry include:

#### **Market Forces**

Market demand, demographic growth and the sustainability of natural resources and ecosystems are driving environmental growth and innovation

#### **Market Drivers and Influences**

The focus is shifting from pollution management towards pollution prevention as standards, incentives and voluntary initiatives become new drivers of the industry

#### **Health and the Environment**

The links between the environment and health are shaping public opinion

#### **International Agreements**

Global environmental problems such as ozone depletion, loss of bio-diversity, water quality and climate change can only be addressed through international actions.

#### **Infrastructure and Urban Growth**

Population growth and aging infrastructure are driving global demand for integrated solutions.

#### **Industrial Eco-efficiency**

Competitiveness is a function of sustainable resource management and process efficiency.

#### **Ecosystems Monitoring**

Sustainable economic development is contingent upon environmental effects monitoring, risk assessment and communications.

### **3.5 Industry and Market Growth**

While the bulk of the industry's revenues come from domestic markets, in recent years, the Canadian export market has grown almost twice as fast as the domestic market, a reflection of the Canadian environmental industry's increasing globalization.

Canadian firms have generated significant export earnings and gained international recognition for technological leadership in:

- Water and waste water treatment technologies;
- Liquid and solid waste management;
- Environmental instrumentation, geomatics and analysis;
- Energy efficiency and renewable energy;
- Engineering and consulting services

As identified above, engineering and consulting services like Terra Engineering are becoming serious contributors to the industry, both domestically and internationally.

### **3.6 Ontario Territorial Governments and Their Environmental Needs**

There are 126 Territorial governments in Ontario with a total population of 72,265. Of the Territorial governments there are 5 which are among the 20 largest communities in Canada. The names of these Territories are provided below.

- I. Little Rock
- II. Harthsville
- III. Quincy's Bay
- IV. Waking River
- V. Benson Lake

As discussed above, Terra Engineering will be located in Harthsville which is the largest Territorial government in Canada. Throughout the early stages of the business' operations, Terra Engineering will focus heavily on the Territorial governments within Southern Ontario. Once the business establishes a solid client base and builds a reputation for quality service, Terra Engineering will expand into the Northern and Eastern Territories of Ontario. A

Terra Engineering's target market includes Territorial governments, organizations and businesses within Territorial governments of Ontario. Other clients interested in developing projects close to Territorial communities will also be targeted. The Canadian Environmental Assessment Act as well as Ontario's environmental assessment process has proven the need for specialized services for Territorial communities. Out of this target market group, there are thousands of potential clients.

To successfully service the target markets identified above, it is important that Terra Engineering understands the needs of Ontario's Territorial governments, organizations and businesses. Therefore, the following information outlines the more pressing environmental issues that exist for this target market. They include:

- a) Funding and financing organizations within the Territorial economic development sector require that environmental assessments/screenings must be completed to receive funds. Also, environmentally sound production processes must be in place for financing approval by these organizations;
- b) Many Territorial governments may not have qualified environmental person (s) or departments in place to maintain and develop the environmental needs of their communities. Therefore, environmental services are being sought from independent consultants and companies;
- c) Independent Territory business owner's entering resource industries such as mining, forestry, water treatment, oil and energy have identified a growing need for environmental consulting services. More specifically, it is not feasible to employ a full time expert in environmental services and techniques and therefore, contracts are often completed by private companies;

- d) Territory community leaders have identified the need for Territorial environmental service groups to provide services to ensure their communities get the service it deserves;
- e) There are regulatory gaps between Ontario's environmental legislation and Federal environmental legislation. The cost of waste disposal is increasing for territory communities. The combination of ineffective Federal environmental legislation, poor monitoring, increasingly stringent waste disposal guidelines and regulations for Territory communities, as well as increased waste disposal costs may lead to unregulated waste disposal on Territorial communities becoming a major issue. Territory communities will need assistance to develop alliances with Provincial forces as well as access to Federal services to ensure these communities do not become Ontario's dumping grounds.
- f) The historic inability of provincial and federal authorities to resolve environmental issues has the Territory governments and the industry to deal with on a project by project basis. The mining industry will continue to seek for mineral reserves to bring to market. Territory communities are increasingly vocal in gaining economic benefits from these activities, which seem to operate blind to those Rights. Between these two forces there lies common ground. The ability to provide guidance to both parties and attempt to provide mutually beneficial agreements is necessary. This is a risk management issue for mining companies and an issue of Nationhood for those Territory communities. Terra Engineering believes it can provide assistance to both parties;
- g) Territorial governments are increasingly becoming more involved in the economy of Ontario as well as Canada. They are seeking to develop projects geared towards establishing true economies.

Overall, the awareness for Territorial governments, businesses and organizations to protect their resources has become an important priority area. Therefore, the need for environmentally specialized people with knowledge of Territorial communities to fulfill this growing need has become increasingly large.

### **3.7 Potential Clients**

Terra Engineering has conducted initial research into potential clients it can service once established and from this has developed a list of potential client contacts. The people identified are personal and professional contacts of Mr. Johnson who can place Terra Engineering in direct contact with the type of clients the company is seeking.

Once a contract is completed to satisfaction for a client, the likelihood of attaining repeat business from that client is good. It is estimated that over 50% of clients that Terra Engineering successfully services, additional contracts will arise.

### 3.8 Competitive Environment

Within the mainstream environment industry in Ontario, the competitive environment is quite intense and the number of competitors is large. However, Terra Engineering is proposing to enter an industry which very few Territorial owned and operated companies exist and operate. Over the past decade or so, the need for Territorial owned and operated environmental services companies has increased dramatically and only now is the industry showing signs of meeting supply with demand for Territory governments, organizations and businesses in Canada.

Terra Engineering has identified a few Territorial owned and operated companies as its competition. However, like the construction industry, the environmental industry will utilize the existing competition to complete jobs faster, cheaper, and to attain larger contracts. The following companies which currently operate within the Territorial environment services industry are:

- I. Terrance Tobber and Associates
- II. Murphy and Associates
- III. Dante and Associates
- IV. Wood Clarence Associates
- V. Charles Snider and Associates
- VI. Canadian Geo Association
- VII. Territorial One Engineering

As mentioned before, these people and companies may compete with or actually partner with Terra Engineering on any given project. The approach in dealing with these companies will be to establish good working relationships. Moreover, Terra Engineering will treat them as potential partners or sub-contractors.

Working relationships will be achieved by utilizing a careful and focused approach in demonstrating that alliances with these competitors will become important at some point. Each company's work will be reviewed to determine the type of projects they complete and the quality of the work. Meetings will be sought and held to discuss future opportunities. This will be an important relationship building exercise and may take some time to generate revenues from these contracts. Once relationships are established, Terra Engineering will not get too involved with any one company as this may put the company at risk of becoming too dependent on one company.

After conducting some initial research, Terra Engineering has identified a few key competitive advantages it has over its competitors. They include:

- I. The technical knowledge is with the sole shareholder of the company;
- II. Already established alliance with TAC Associates Limited which will allow the company to effectively compete on a wide range of contracts;
- III. Experienced and qualified management team in place;
- IV. Competitive pricing as the company will be utilizing a market entry based pricing strategy;
- V. Central office location to the market (s) to be serviced;

- VI. A vision of growth for Territorial communities in keeping with the Territorial mind set will enable the application of contemporary tools to determine traditional solutions.

## **SECTION 4.0    MARKETING PLAN**

The following section will outline the key consulting services, pricing strategies, distribution methods and proposed promotional strategy of Terra Engineering. Also included is the survival strategy for the company.

### **4.1    Key Consulting Services**

Terra Engineering will provide a diverse set of specialized environmental consulting services to its market (s). The set of services that will be provided are among the industry's norm. Below is a list of the business' key environmental consulting services.

1. Environmental Site Assessment;
2. Strategic Planning and Policy Development;
3. Project Design and Management;
4. Resource Design and Management;
5. Environmental Monitoring and Reporting;
6. Peer Review Services for Third Party Issues or Proposed Developments;
7. Site Restoration; and
8. Liaison Services to Territorial communities

#### **1. Environmental Site Assessments**

Environmental Site Assessment (ESA) is the assessment of a property in accordance with Canadian Standards Association requirements. Depending on the jurisdiction, either provincial or federal this work must be completed within standards. In general the CSA standard CSA Z768-01 for ESA Phase I and the CSA Z769-00 for ESA Phase II's will be met for work completed for federal clients. For those clients having to meet Ontario provincial standards the Ministry of Environments, Guidelines for Use on Contaminated Sites in Ontario, Revised Sept 2006 with its accompanying appendices will be complied with. This work will be completed for Territorial clients.

With the increased economic strength of First Nation communities rising, there is a potential to "buy" someone else's problem. This is a strong motivator for completing an ESA.

Environmental permitting can be as simple as completing a paper to identify what the environmental impacts are going to be and how these impacts will be mitigated. It can also involve a full scale panel review of a project within either the provincial or federal regime. The intent is to get permits to complete a project. Both Territorial communities and those companies intending to develop a project with impacts to Territorial communities will need to be able to work within the environmental regimes to ensure their projects are permitted.

## **2. Strategic Planning and Policy Development**

All Territorial communities have a plan to succeed. Where those plans have their roots will define when and if they will in fact succeed. It is not Terra Engineering's intention to develop plans for the future of Territorial governments and communities. It is Terra Engineering's intention to offer the technical skills of today to those communities with a vision and a desire to succeed. Terra Engineering will work with clients with a "vision" and help to develop this vision. Strategic planning for Territorial communities cannot be done by those communities not from or familiar with Territorial governments and communities. There are too many communication gaps as well as a deeper understanding of those communities required to be overcome in the short time frame and pace with which projects proceed in today's reality.

Policy development speaks to the legislative gaps which exist between the federal and provincial legislative regimes. There are constitutional issues and genuine problems that Territorial communities need to guard against. The irony is with an increasingly rigid provincial environmental regime, waste disposal on Territorial lands will become extremely lucrative. Territorial communities will need to be able to prevent this activity. They will need to be able to do this in the face of legislative voids as well as finances, the challenges are great but not insurmountable. Terra Engineering will be able to help in this regard.

## **3. Project Design and Management**

This is relatively straight forward. Schools, housing, infrastructure, planning, economic development, each of these will involve being versed in the technical capacity of design and management. Further, project management for Territorial communities will need to understand certain funding program and criteria. They will also need to understand project management capacity of the Territorial community to ensure projects serve their intended purpose and are developed within the identified budget.

## **4. Resource Design and Reporting**

All Territorial lands have resources. They need to understand what those resources mean to their members and understand how those resources flow to meet the needs of people. They need to have the confidence to choose what to do with those resources, how to manage them and they need to be confident in their "ways" to know what they are correct in how resources are used to satisfy the needs of today's generation with a mind for the needs of those yet to come. Technology has a mind-set, and with Territorial governments that mind sets looks far into the future. Communities will need a consultant who shares that perspective.

## **5. Environmental Monitoring and Reporting**

Landfills, environmental restoration and decommissioning programs all require a certain degree of monitoring capacity. These monitoring activities involve submitting samples, soil, water or air for analysis to ensure there are no contaminants in addition to submitting a report. Further, Territorial

communities will need to establish a waste management regime. This regime will be necessary to ensure that waste generated off reserve does not end up in their landfills.

## **6. Peer Review Services for Third Party Issues of Proposed Developments**

Terra Engineering will give Territorial communities a technical option for reviewing the work of others. Engineering can be a language unto itself. The ability to speak that language takes a number of years to master. It is understandable that communities get overwhelmed with some of the technical reports as well as what they mean. There is a need to provide communities with an informed voice.

Terra Engineering will operate this aspect of the business on a retainer basis. If a community requests Terra Engineering to represent the interest of the community, a fee schedule will be worked out with the client.

## **7. Site Restoration**

Site restoration in its simplest form is taking a detrimentally impacted site and restoring it to what the province or the federal government would deem to be clean. It is heavily legislated and can involve working with a number of ministries or departments. In the end, the client is looking for a piece of land that will not present an environmental liability to the client.

## **8. Liaison Services to Territorial Governments**

There are a number of industries which are striving to communicate with the Territorial communities. Whether it is a result of environmental assessment processes, gaining access to resources on community lands, resource based industries and companies will require an ability to communicate with Territorial governments. Terra Engineering will assist those industries and companies in this regard provided they are willing to follow a protocol of involvement.

### **4.2 Key Consulting Services**

Terra Engineering will utilize pricing strategies that will allow for the opportunity to gain small to medium sized projects designed to build reputation. The pricing strategy that will be utilized by this company is multiplier based pricing. The pricing strategy is one that is used widely throughout the industry and is accepted by its market.

The following price breakdown will be the client charge out rate, obviously it will depend on the nature of the work required:

	Hourly Rate
Project Management	\$85 to \$120
Engineering	\$85 to \$120
Field Technician	\$65 to \$85
Administrative	\$45
Printing	\$45

This pricing strategy is very competitive compared to its mainstream and more importantly its Territorial competition. This is based on a multiplier of 2.5. The salaried or wage rate will be as follows:

	Salary
Project Management	\$34 to \$48
Engineering	\$34 to \$ 48
Field Technician	\$26 to \$34
Administrative	\$18
Printing	\$18

Travel costs and disbursement will be billed as extra. These costs will include a 5% administrative charge.

The following table illustrates the average price of small, medium and large projects to be completed by Terra Engineering.

<b>Average Project Size Per Consulting Service</b>	
<b>Table #1</b>	
<b>Service</b>	<b>Project Size</b>
Environmental Site Assessment	Small - \$2,500 to \$5,000 Medium - \$5,000 to \$15,000 Large - \$15,000 and up
Strategic Planning and Policy Development	Small - \$20,000 to \$30,000 Medium - \$30,000 to \$40,000 Large - \$40,000 and up
Project Design and Management	Small - \$5,000 to \$15,000 Medium - \$15,000 to \$30,000 Large - \$30,000 and up
Resource Design and Reporting	Small - \$5,000 to \$10,000 Medium - \$10,000 to \$20,000 Large - \$20,000 and up
Environmental Monitoring and Reporting	Small - \$5,000 to \$15,000 Medium - \$15,000 to \$25,000 Large - \$25,000 and up
Peer Review Services	Small - \$1,000 to \$10,000 Medium - \$10,000 to \$20,000 Large - \$20,000 and up
Site Restoration	Small - \$10,000 to \$20,000 Medium - \$20,000 to \$40,000 Large - \$40,000 and up
Liaison Services	Small - \$10,000 to \$20,000 Medium - \$20,000 to \$40,000 Large - \$40,000 and up

The above price ranges includes disbursements and expenses with Terra Engineering's charge out. Each of the above projects will differ with respect to the intensity of "knowledge based" advice. Those services requiring subcontractors such as drilling, excavation, and analytical laboratory work will impact the environmental assessment and site restoration activities the most.

Average Project Size Per Consulting Service Table #2	
Service	Project Size
Environmental Site Assessment	Small - \$1,000 to \$3,000 Medium - \$3,000 to \$10,000 Large - >\$10,000
Strategic Planning and Policy Development	Small - \$15,000 to \$20,000 Medium - \$20,000 to \$30,000 Large - >\$30,000
Project Design and Management	Small - \$3,000 to \$10,000 Medium - \$10,000 to \$20,000 Large - >\$20,000
Resource Design and Reporting	Small - \$3,000 to \$6,000 Medium - \$6,000 to \$12,000 Large - >\$12,000
Environmental Monitoring and Reporting	Small - \$4,000 to \$12,000 Medium - \$12,000 to \$18,000 Large - >\$18,000
Peer Review Services	Small - \$1,000 to \$8,000 Medium - \$8,000 to \$16,000 Large - >\$20,000
Site Restoration	Small - \$5,000 to \$10,000 Medium - \$10,000 to \$20,000 Large - >\$20,000
Liaison Services	Small - \$8,000 to \$16,000 Medium - \$16,000 to \$34,000 Large - >\$40,000

Typically an environmental site assessment and site restoration project can be broken down as follows:

	Small Project	Medium Project
Project Management	\$250	\$800
Engineering and Reporting	\$750	\$2,400
Field Technician	\$1,250	\$4,000
Administrative	\$125	\$400
Printing	\$125	\$400

### **4.3 Distribution Strategy**

The business will seek and retain environmental contracts. Once the work is completed, the consultant will deliver the work either by regular mail, e-mail, or in person. For any projects where the services need to be completed on-site, the business will do so. It is estimated that approximately 20%-30% of the business' projects will need to be completed on-site.

The distribution strategies of the business are very time and cost effective and well within the industry norm.

### **4.3 Promotional Strategy**

In terms of promotion, Terra Engineering needs to meet a certain level of activity and market reach given the geographic spread of its primary markets. The businesses' Southern Michigan and Southern Ontario markets can be reached by using the local mediums and attain solid market reach.

However, for the business' Northern and Eastern markets, other forms of advertising mediums will be needed to successfully reach full market exposure. The incremental and on-going promotional strategy of Terra Engineering will accomplish the following goals and objectives:

- Ensure that Terra Engineering has and maintains an image of professionalism and quality;
- Ensure that Terra Engineering's Southern; Northern and Eastern markets are well educated of the entire service portfolio of Terra Engineering. Also, Terra Engineering's markets will be provided with the required contact information to make project enquiries;
- Successfully position the business within the communities environmental services industry;
- Assist in generating a consistent level of revenues for the business.

Below are the incremental and on-going promotional activities that Terra Engineering will implement upon opening the business.

Initially, the business will invest into the design and implementation of an identity package. This identity package will be completed by a local and reputable professional. More specifically, the identity package will include a company logo, business cards, company profile, letterhead, and envelopes.

Although very straightforward, this will be done to demonstrate the professionalism of Terra Engineering. The identity package items will be purchased in quantities deemed sufficient by Mr. Johnson.

Secondly, the business will design and implement a direct marketing campaign. This will be done through general mail. Direct mailing will be made to the corporate market to initiate project enquiries. Both TAC Associates Limited and Barnard and Barry Environmental have agreed to supply Terra Engineering with a mailing list of targeted clients. This direct mailing campaign will consist of a complete company portfolio and will also contain important contact information. This activity will be completed during the first three months of business operation. This medium will mainly focus on the Southern Markets.

Thirdly, Terra Engineering will invest into the development of a trade show booth and will begin attending trade shows within South Western United States and Southern Ontario. The business will have its trade show booth professionally designed by a reputable company in Detroit. It is estimated that Terra Engineering will attend approximately two trade shows per year throughout its first three years of operation.

The two trade shows that Terra Engineering will attend in 2005 are: Southern Michigan Technical Trade Show and Environmental Engineering Conference 2005. Within the environmental services industry, this form of promotion is very effective and used widely by all active competitors. The costs outlined below for the trade show participation include travel costs.

Next, the business will invest into the development of professionally designed company apparel. The company apparel will display the company logo and name along with other important information. The company apparel will consist of outdoor clothing such as pants, golf shirts, wind jackets, and sweaters. This will be done to add to the professional image of the business and provide a uniform presence. This will be a one-time purchase and will be done as employees are hired so that they can be properly fitted.

As with all businesses, Terra Engineering, once it has successfully attained and completed projects for its market, will begin to receive word of mouth advertising. This form of advertising is the best form; however, the business will not rely solely on this form of advertising.

The total costs for incremental and on-going promotional activities are as follows:

Identity Package	\$2,000
Direct Mailing Campaign	\$2,000
Trade Show Booth Development	\$5,000
Trade Show Participation	\$10,000
Company Apparel	<u>\$1,000</u>
<b>Total Costs</b>	<b>\$20,000</b>

#### **4.3 Survival Strategy**

During the initial two years of operation there will be a focus on retaining clients requiring environmental assessments as well as liaison services. These are knowledge based services which require a focus on advisory services, reporting and administration. Gaining a minimum of two medium sized projects in those knowledge based realms and one medium sized project in the project management realm will be the initial focus of the company.

This will provide approximately 800 hours in chargeable time. Assuming there is approximately 2000 hours available per year. This will leave approximately 1200 hours to conduct marketing and proposal writing.

## **SECTION 5.0 OPERATIONAL PLAN**

The following section will identify the proposed operational plan for Terra Engineering. Included are the general operating procedures, human resources, insurance, and working capital requirements of the business. Also included is a table outlining the office space requirements, asset acquisition and an outline of Terra Engineering's operational work flow.

### **5.1 General Operating Hours**

Terra Engineering intends to operate Monday thru Friday from 9 am to 5 pm. Terra Engineering will be operational year round.

### **5.2 Human Resources**

Mr. Johnson will be the sole employees of Terra Engineering for the first two years of operation. When additional human resources are needed, Terra Engineering has identified the persons qualified and able to assist on a contract basis for the same rate as the owner. They include:

Mr. Wes Aaron and environmental engineering technician will be sub-contracted to complete work as needed. It is estimated that Mr. Aaron will eventually be hired full time by Terra Engineering once demand warrants growth.

Mrs. Leanne White holds a Masters in Environmental Engineering and will also be sub-contracted to perform work for the company. Eventually, Terra Engineering intends to hire Mrs. White full time.

Mr. Charles Pearson holds a Bachelor's of Science Degree in Environmental Engineering and has a vast technical experience base in the environmental assessment area and will be retained when needed.

Once the business reaches 60% of its operational capacity this will represent 1300 hours, Terra Engineering will offer the above environmental professionals full time positions. Also at this time, an administrative assistant will be sought.

A professional user of Auto Cad will be sought to perform various jobs for the company. It is unknown at this time who will fill this position, however, job advertisements will be put in the local papers and organizations to attract a good pool of respondents.

Once hired, all employees will be covered by the Workers Safety and Insurance Board and covered for Employment Benefits.

### **5.3 Insurance Requirements**

Terra Engineering will have to incur costs for business liability insurance. The estimated cost for this requirement is \$4,000 per year.

### **5.4 Working Capital Requirements**

Due to the demands imposed at start up, Terra Engineering will require that the business have sufficient working capital to meet all operational responsibilities of the business for the first three months. It is estimated that the business will need approximately \$20,000 in working capital to sustain and ensure the business meets all opening and on-going financial obligations.

Also, throughout the year there tends to be periods of low activities. Consequently, the company will experience financial pressures during these months. While much of this time will be spent developing proposals and marketing strategies, there will be a need to maintain sufficient working capital to cover these periods.

A long term strategy to maintain a positive cash flow during these periods will be to diversify the company and develop environmental training programs for certain communities. These training programs will be given during these months.

### **5.5 Office Requirements and Asset Acquisitions**

Terra Engineering will lease office space on located at:

459 Duncan Avenue, Suite 1003  
Harthsville, Ontario  
POR 5G9

The office space is leased and will accommodate the necessary office equipment such as computers, fax machine, photo copier, and other engineering equipment. This facility will require an estimated \$5,000 to renovate in a style that is aesthetically pleasing to the clients as well as the owners.

These facilities will be leased at \$500 per month. In addition, Terra Engineering will require specialized environmental equipment. These are the estimated costs associated with those investments:

<b>Terra Engineering Capital Requirements Table #3</b>	
<b>Description</b>	<b>Costs</b>
Office Renovations	\$5,000
Office Equipment and Furniture (2 Computers, peripherals, phones, fax machines, filing cabinets and chairs)	\$6,000
Specialized Field Equipment (Dedicated laptop, Piezometers, Survey Equipment, PID, Gas Tech, Water Level Finders and Inter Face Probes)	\$27,000
Specialized Software	\$10,000
<b>Total Capital Costs</b>	<b>\$48,000</b>

The above noted capital purchases will increase work effectiveness, enhance professionalism and will prepare the business for the forecasted demand for services. Further, the equipment may be leased out to partner associates during times of low activity.

## **5.6 Operational Workflow**

As with any consulting firm, the operational workflow for the business is quite uniform and simple to follow. The following is a step by step outline of how contracts are completed on a regular basis:

- Step 1** Terra Engineering will respond to a request for proposal (RFP) with a professionally prepared proposal for service;
- Step 2** At this point, the potential contract is awarded to either Terra Engineering or other companies which submitted proposals for services. Therefore, communication is made by the contract to the successful consulting firm. If Terra Engineering is successfully selected to perform the work, the contract is then triggered to begin;
- Step 3** Terra Engineering will collect a deposit from the client and will begin the project. Deposit values vary depending upon the size and location of the project;
- Step 4** Terra Engineering will go ahead and start the project while keeping communication with the client. Once the project reaches 60% - 70% completion, funds will be given to the business by the client to complete the rest of the work;

**Step 5** Once the work is completed to the satisfaction of both, Terra Engineering and the client, the final payment for the contract will be made.

The above operational workflow is very standard, easy to understand and within industry's norm.

Terra Engineering will accept cash, cheque and visa payments. These payments are well within industry standards. The business will provide credit to larger account holders. It is estimated that the length and terms of payments are net 30 for all clients. This will allow the business to avoid cash flow problems. Late payment charges are 2% of the projects outstanding balance.

## SECTION 6.0 FINANCIAL PLAN

In order to properly start up Terra Engineering, Mr. Norm Johnson has proposed a financing package that includes a combination of owner's equity, government assistance and traditional borrowing. Table #4 illustrates the proposed costs and financing for the project.

<b>Costs and Financing</b>			
<b>Costs</b>		<b>Financing</b>	
<b><u>Capital Costs</u></b>		<b><u>Capital Financing</u></b>	
Working Capital	\$20,000	Equity (15%)	\$10,200
Office Renovations	\$5,000	ADCP (60%)	\$40,800
Office Equipment/Furniture	\$6,000	Commercial Financing (25%)	<u>\$17,000</u>
Specialized Field Equipment	\$27,000	Total Capital Financing	\$68,000
Specialized Software	<u>\$10,000</u>		
Total Capital Costs	\$68,000	<b><u>Marketing Financing</u></b>	
		ADCP (60 %)	\$12,000
<b><u>Marketing Costs</u></b>		Funds from Operations (40%)	<u>\$8,000</u>
Start Up / On-going Activities	<u>\$20,000</u>	Total Marketing Financing	\$20,000
Total Marketing Costs	\$20,000		
		<b><u>Business Support Financing</u></b>	
<b><u>Business Support Costs</u></b>		ADCP (75%)	\$1,500
Accounting / Management support	<u>\$2,000</u>	Funds From Operations (25%)	<u>\$500</u>
Total Business Support Costs	\$2,000	Total Business Support Financing	\$2,000
<b>Total Project Costs</b>	<b>\$90,000</b>	<b>Total Project Financing</b>	<b>\$90,000</b>

Mr. Johnson will make a personal cash equity injection into the business in the amount of \$10,200 or 10% of the projects total capital costs. Mr. Johnson will ask that ADCP contribute \$40,800 or 60% of the projects total capital costs. Mr. Johnson will also ask that ADCP contribute \$12,000 or 60% of the start-up marketing costs and \$1,500 or 75% of the identified business support costs. These percentages are well within the programs guidelines and this project meets all eligible requirements of ADCP. Contributions made by ADCP will be in the form of a non-repayable contribution.

The remaining 25% or \$17,000 of the projects capital costs will be sought from Mr. Johnson's personal banking institution. It is expected that this loan will be financed over 4 years at 10%. This banking institution will hold lien on the assets of the business as ADCP does not require the assets to be used as collateral. Due to the funding disbursement process of ADCP, Mr. Johnson will require a bridge loan financing for the amount requested from ADCP. It is anticipated that Mr. Johnson will take approximately 1 month to submit a claim to ADCP for the entire amount. This means that Mr. Johnson can repay the bridge loan in month 3.

## **6.2 FINANCIAL PROJECTION AND NOTES**

The following pages contain notes to the financial projections. Also included are a 12 month cash flow projection, 3 year projected income statement, 3 year projected balance sheet, 3 year sources and uses of funds, amortization schedule and a mortgage amortization schedule.

### **CASH FLOW**

The cash flow of the business remains healthy throughout the first three years of operations. Without the government contribution and loan, the business would not survive. Cash flow must be continually monitored and compared to projections to ensure that operational costs and other expenses were not seriously over or understated.

### **SALES**

The business will generate sales by providing a wide array of environmental services. In year one, it is projected that approximately 800 hours will be charged out to market. In years 2 and 3 it is estimated that 900 and 1000 hours will be charged out to market respectively. These sales projections are very conservatively calculated.

Due to the industry, Mr. Johnson will need to retain the services of other specialized people. Therefore, the business will initially receive the monies allotted for these sub-contractors, but then this money will be paid out in full. This is the same for direct travel. The business will charge approximately 5% of each project attained towards administrative fees. This money will be funneled back into the business to cover these costs.

### **COST OF SALES**

In order to show the magnitude of the need for subcontractors and administration costs (IE: travel) and their impact on cash flow, a cost of sales section has been included. It should be noted that Mr. Norm Johnson will bill these costs directly to the client on an actual basis and therefore, in effect cancel out on the cash flow statement. This line has been used to assess the cash flow requirements of the company and to illustrate how Mr. Johnson will flow the money for these expenses. The real sales figure relevant to Mr. Johnson is the billable hours by Terra Engineering.

## **EXPENSES**

Expenses were based on the following facts and assumptions.

### Capitalization Expense

As per the schedule illustrated in the operational plan.

### Marketing Activities and Trade Show Activities

As per the promotional plan detailed in the marketing plan.

### Salary Expense

As per the human resource requirements detailed in the operational plan.

### Utilities/Communications/Repairs and Maintenance

Based on estimates in all three years

### Insurance Expense

Based on estimates in all three years

### Provincial Incorporation Expense

Based on actual incorporation costs.

### Travel Expense

Based on estimates in all three years

### Leasing Expense

Based on actual costs identified in lease agreements

### Office Supplies

Based on estimates in all three years.

### Bank Charges and Interest

Based on estimates in all three years.

### Bridge Loan Repayment

Based on the amount borrowed.

### Loan and Interest Expense

Based on a 4 year loan financed at 10% annually.

### Professional Fees

Based on specialized services needed and identified in the management plan.

### Amortization Expense

Based on the attached schedule.

## **ASSETS, LIABILITIES AND OWNER'S EQUITY**

The assets and liabilities of the business have been well documented throughout the plan. The assistance from federal government departments provides Mr. Johnson with a healthy level of equity. It should be noted that only contributions to the capitalization of the project are included on the balance sheet. Mr. Johnson will not payout any dividends throughout all three years.

<b>Terra Engineering</b>													
12 Month Cashflow Statement													
	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Total
<b>Cash In</b>													
Opening Cash Balance	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Billable Hours	\$5,500	\$5,500	\$8,500	\$8,500	\$8,500	\$8,500	\$9,000	\$9,000	\$9,000	\$3,000	\$3,000	\$4,000	\$82,000
Payment for Subcontractors	\$2,750	\$2,750	\$4,250	\$4,250	\$4,250	\$4,250	\$4,500	\$4,500	\$4,500	\$1,500	\$1,500	\$2,000	\$41,000
Payment for Travel	\$825	\$825	\$1,275	\$1,275	\$1,275	\$1,275	\$1,350	\$1,350	\$1,350	\$450	\$450	\$600	\$12,300
Administrative Fees	\$413	\$413	\$638	\$638	\$638	\$638	\$675	\$675	\$675	\$225	\$225	\$300	\$6,153
Share Purchase	\$100												\$100
Cash Equity	\$10,200												\$10,200
ADCP			\$40,800		\$8,500				\$5,000				\$54,300
Bridge Loan	\$40,800												\$40,800
Commercial Loan	\$17,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$17,000
<b>Total Cash In (1)</b>	<b>\$77,588</b>	<b>\$9,488</b>	<b>\$55,463</b>	<b>\$14,663</b>	<b>\$23,163</b>	<b>\$14,663</b>	<b>\$15,525</b>	<b>\$15,525</b>	<b>\$20,525</b>	<b>\$5,175</b>	<b>\$5,175</b>	<b>\$6,900</b>	<b>\$263,853</b>
<b>Cost of Goods Sold / Cost of Sales</b>													
Sub-Contractor Fees	\$2,750	\$2,750	\$4,250	\$4,250	\$4,250	\$4,250	\$4,500	\$4,500	\$4,500	\$1,500	\$1,500	\$2,000	\$41,000
Labour, Materials - Landscaping Jobs	\$825	\$825	\$1,275	\$1,275	\$1,275	\$1,275	\$1,350	\$1,350	\$1,350	\$450	\$450	\$600	\$12,300
<b>Total Costs of Goods Sold (2)</b>	<b>\$3,575</b>	<b>\$3,575</b>	<b>\$5,525</b>	<b>\$5,525</b>	<b>\$5,525</b>	<b>\$5,525</b>	<b>\$5,850</b>	<b>\$5,850</b>	<b>\$5,850</b>	<b>\$1,950</b>	<b>\$1,950</b>	<b>\$2,600</b>	<b>\$53,300</b>
<b>(3) Gross Profit (1 - 2 = 3)</b>	<b>\$74,013</b>	<b>\$5,913</b>	<b>\$49,938</b>	<b>\$9,138</b>	<b>\$17,638</b>	<b>\$9,138</b>	<b>\$9,675</b>	<b>\$9,675</b>	<b>\$14,675</b>	<b>\$3,225</b>	<b>\$3,225</b>	<b>\$4,300</b>	<b>\$210,553</b>
<b>Cash Out</b>													
Capitalization Activities	\$48,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$48,000
Marketing Activities	\$7,250	\$250	\$250	\$250	\$250	\$250	\$250	\$250	\$250	\$250	\$250	\$250	\$10,000
Trade Show Participation	\$0	\$0	\$0	\$5,000	\$0	\$0	\$0	\$5,000	\$0	\$0	\$0	\$0	\$10,000
Salary	\$4,167	\$4,167	\$4,167	\$4,167	\$4,167	\$4,167	\$4,167	\$4,167	\$4,167	\$4,167	\$4,167	\$4,167	\$50,004
Utilities	\$120	\$120	\$120	\$120	\$120	\$120	\$120	\$120	\$120	\$120	\$120	\$120	\$1,440
Communications	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$2,400
Repairs and Maintenance	\$0	\$0	\$0	\$0	\$0	\$500	\$0	\$0	\$0	\$0	\$0	\$0	\$500
Insurance	\$2,000	\$0	\$0	\$0	\$0	\$2,000	\$0	\$0	\$0	\$0	\$0	\$0	\$4,000
Provincial Incorporation Expense	\$360	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$360
Travel Expense	\$150	\$150	\$150	\$150	\$150	\$150	\$150	\$150	\$150	\$150	\$150	\$150	\$1,800
Leasing Expense	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$6,000
Office Supplies	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$1,200
Bank Charges and Interest	\$30	\$30	\$30	\$30	\$30	\$30	\$30	\$30	\$30	\$30	\$30	\$30	\$360
Bridge Loan Repayment	\$0	\$0	\$40,800	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$40,800
Loan Interest	\$142	\$139	\$137	\$134	\$132	\$129	\$127	\$124	\$122	\$119	\$117	\$114	\$1,536
Principle Repayment	\$289	\$292	\$294	\$297	\$299	\$302	\$304	\$307	\$309	\$312	\$315	\$317	\$3,637
Professional Fees	\$1,000	\$0	\$1,000	\$0	\$0	\$0	\$0	\$0	\$0	\$1,000	\$0	\$1,000	\$4,000
<b>Total Cash Out (4)</b>	<b>\$64,308</b>	<b>\$5,948</b>	<b>\$47,748</b>	<b>\$10,948</b>	<b>\$5,948</b>	<b>\$8,448</b>	<b>\$5,948</b>	<b>\$10,948</b>	<b>\$5,948</b>	<b>\$6,948</b>	<b>\$5,949</b>	<b>\$6,948</b>	<b>\$186,037</b>
<b>(5) Net Cashflow (3 - 4 = 5)</b>	<b>\$9,705</b>	<b>-\$35</b>	<b>\$2,190</b>	<b>-\$1,810</b>	<b>\$11,690</b>	<b>\$690</b>	<b>\$3,727</b>	<b>-\$1,273</b>	<b>\$8,727</b>	<b>-\$3,723</b>	<b>-\$2,724</b>	<b>-\$2,648</b>	<b>\$24,516</b>
<b>(6) Cumulative Cashflow</b>	<b>\$9,705</b>	<b>\$9,670</b>	<b>\$11,860</b>	<b>\$10,050</b>	<b>\$21,740</b>	<b>\$22,430</b>	<b>\$26,157</b>	<b>\$24,884</b>	<b>\$33,611</b>	<b>\$29,888</b>	<b>\$27,164</b>	<b>\$24,516</b>	

<b>Terra Engineering</b>			
3 Year Projected Income Statements			
	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>
<b>Revenues</b>			
Billable Hours	\$82,000	\$92,250	\$102,500
Payment for Subcontractors	41000	69188	102500
Payment for Travel	12300	16144	20500
Administrative Fees	<u>\$6,150</u>	<u>\$8,072</u>	<u>\$10,250</u>
<b>Total Revenues</b>	<b>\$141,450</b>	<b>\$185,654</b>	<b>\$235,750</b>
<b>Cost of Goods Sold</b>			
Sub Contractor Fees	\$41,000	\$69,188	\$102,500
<b>Direct Travel</b>	<u>\$12,300</u>	<u>\$16,144</u>	<u>\$20,500</u>
<b>Total Costs of Goods Sold</b>	<b><u>\$53,300</u></b>	<b><u>\$85,332</u></b>	<b><u>\$123,000</u></b>
<b>Gross Margin</b>	<b>\$88,150</b>	<b>\$100,322</b>	<b>\$112,750</b>
<b>Selling &amp; Admin. Expenses</b>			
Marketing Activities	\$10,000	\$5,000	\$5,000
Trade Show Participation	\$10,000	\$10,000	\$10,000
Salary	\$50,000	\$55,000	\$60,000
Utilities	\$1,440	\$1,512	\$1,588
Communications	\$2,400	\$2,520	\$2,646
Repairs and Maintenance	\$500	\$525	\$551
Insurance	\$4,000	\$4,250	\$4,500
Provincial Incorporation Expense	\$360	\$0	\$0
Travel Expense	\$1,800	\$1,980	\$2,178
Leasing Expense	\$6,000	\$6,000	\$6,000
Office Supplies	\$1,200	\$1,320	\$1,452
Bank Charges and Interest	\$360	\$360	\$360
Loan Interest	\$1,536	\$1,155	\$735
Professional Fees	\$4,000	\$2,000	\$2,000
Depreciation	\$3,600	\$3,600	\$3,600
<b>Total Selling &amp; Admin. Expenses</b>	<b>\$97,196</b>	<b>\$95,222</b>	<b>\$100,610</b>
Net Profit (Loss) from Operations	(\$9,046)	\$5,100	\$12,140
Add: Contributions for Operations	\$13,500	\$0	\$0
<b>Net Profit (Loss) from Operations</b>	<b><u>\$4,454</u></b>	<b><u>\$5,100</u></b>	<b><u>\$12,140</u></b>

<b>Terra Engineering</b>			
Projected Sources and Uses of Funds			
	<b>Year 1 Ending</b>	<b>Year 2 Ending</b>	<b>Year 3 Ending</b>
Net Profit	\$4,454	\$5,100	\$12,141
Add: Depreciation	\$3,600	\$3,600	\$3,600
Dividends Paid	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>
<b>Cash from Operations</b>	<b>\$8,054</b>	<b>\$8,700</b>	<b>\$15,741</b>
<b>Financing Activities</b>			
Government Sources	\$40,800		
Shareholder Equity Injection	\$10,200		
Share Purchase	\$100		
Term Debt	\$17,000		
Less: Repayment of Debt	<u>\$3,638</u>	<u>\$4,019</u>	<u>\$4,439</u>
<b>Total Financing</b>	<b>\$64,462</b>	<b>-\$4,019</b>	<b>-\$4,439</b>
<b>Capitalization Activities</b>			
Capitalization Activities	<u>\$48,000</u>	<u>\$0</u>	<u>\$0</u>
<b>Total Capitalization Activities</b>	<b>\$48,000</b>	<b>\$0</b>	<b>\$0</b>
Net Cash from Operations	\$24,516	\$4,681	\$11,302
Beginning Cash	<u>\$0</u>	<u>\$24,516</u>	<u>\$29,197</u>
<b>Ending Cash</b>	<b><u>\$24,516</u></b>	<b><u>\$29,197</u></b>	<b><u>\$40,499</u></b>

<b>Terra Engineering</b>				
3 Year Projected Balance Sheets				
	<b>Opening</b>	<b>Year 1 Ending</b>	<b>Year 2 Ending</b>	<b>Year 3 Ending</b>
<b>Assets</b>				
<b>Current Assets</b>				
Cash	\$20,100	\$24,516	\$29,197	\$40,499
Accounts Receivable	\$0	\$0	\$0	\$0
Other	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>
<b>Total Current Assets</b>	<b>\$20,100</b>	<b>\$24,516</b>	<b>\$29,197</b>	<b>\$40,499</b>
<b>Fixed Assets</b>				
Leasehold Improvements	\$5,000	\$5,000	\$5,000	\$5,000
Office Equipment and Furniture	\$6,000	\$6,000	\$6,000	\$6,000
Specialized Field Equipment	\$27,000	\$27,000	\$27,000	\$27,000
Specialized Software	\$10,000	\$10,000	\$10,000	\$10,000
Less: Accumulated Depreciation	\$0	\$3,600	\$7,200	\$10,800
Plus: Land				
<b>Total Fixed Assets</b>	<b>\$48,000</b>	<b>\$44,400</b>	<b>\$40,800</b>	<b>\$37,200</b>
<b>Total Assets</b>	<b><u>\$68,100</u></b>	<b><u>\$68,916</u></b>	<b><u>\$69,997</u></b>	<b><u>\$77,699</u></b>
<b>Liabilities</b>				
<b>Current Liabilities</b>				
Accounts Payable	\$0	\$0	\$0	\$0
Current Portion of Loan	\$3,637	\$4,019	\$4,439	\$4,904
<b>Long-Term Liabilities</b>				
Long-Term Portion of Debt	<u>\$13,362</u>	<u>\$9,343</u>	<u>\$4,904</u>	<u>\$0</u>
<b>Total Liabilities</b>	<b>\$16,999</b>	<b>\$13,362</b>	<b>\$9,343</b>	<b>\$4,904</b>
<b>Owner's / Partner's Equity</b>				
ADCP	\$40,800			
Contributed Equity	\$0			
Cash Equity	\$10,200	\$51,100	\$55,554	\$60,654
Common Shares (100@1\$)	\$100	\$0	\$0	\$0
Net Income	\$0	\$4,454	\$5,100	\$12,140
Less: Dividends	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>
<b>Total Owner's or Partner's Equity</b>	<b>\$51,100</b>	<b>\$55,554</b>	<b>\$60,654</b>	<b>\$72,794</b>
<b>Total Equity and Liabilities</b>	<b><u>\$68,099</u></b>	<b><u>\$68,916</u></b>	<b><u>\$69,997</u></b>	<b><u>\$77,698</u></b>