

# vertigrow

Vertical Gardens



3/2/2011

Business Plan



Vertical gardens are first and foremost a strong business investment. By significantly reducing the number of sick days and increasing worker productivity and satisfaction, vertical gardens provide a clear bottom-line benefit to businesses. Studies by NASA and various universities have demonstrated the capability of vertical gardens to dramatically improve workers' health by cleaning the air that they breathe. Vertigrow has developed industry-leading technology, minimizing maintenance and increasing longevity, and provides a comprehensive service plan with fixed costs and guaranteed results. Vertigrow's vertical gardens are a beautiful and profit-generating tool for businesses to showcase their commitment to environmentally sustainable practises.

## CORE COMPETENCIES

One of Vertigrow's key strengths is in recognizing our weaknesses. Since the backgrounds of Vertigrow's founders are highly technical, key functions will be design, installation and maintenance. Design and installation will be performed by the CEO and CTO initially, with additional labour contracted as required. Maintenance will be performed by part-time contractors working with a scalable service-matching application. Marketing will initially be handled in-house, but will be outsourced after we reach the mainstream market. The function of HR will also be handled in-house. Vertigrow has developed an innovative revenue-sharing remuneration structure which will attract top employees, while limiting Vertigrow's risk exposure if sales are lower than expected. Legal, accounting and marketing functions will all be outsourced. Manufacturing will also be outsourced, allowing us to focus primarily on design, sales, and company expansion.

## MARKETING

Vertigrow's marketing consists of two phases: the initial niche market, which will be targeted by heavy guerrilla marketing, and the early mainstream adopters, which will be targeted by a combination of networking and traditional promotions. Vertigrow's main guerrilla marketing technique will be in the form of a portable model. With the portable model, we have shrunk our large, semi-permanent installations into a powerful selling tool. The portable model can be placed on its own in busy areas or it can be used as a sales tool for a potential customer to evaluate the product. Early marketing materials will be limited to brochures, business cards, and the like, with the bulk of marketing occurring via intermediaries such as architects, interior designers, and marketing firms. By collaborating with these professionals, Vertigrow can achieve one-to-many marketing effects and build upon the trust and credibility between these professionals and their customers. The intermediaries benefit from working with Vertigrow by being able to offer unique premium products that their competition doesn't. Once Vertigrow has solidified its position in the niche market, we will target the mainstream market with more traditional marketing methods. At this point, the majority of our marketing will be outsourced to specialized firms.



## FINANCES

Vertigrow is currently not seeking external funding. Revenue will come from customers in the form of installation fees, garden rentals, and maintenance fees. An up-front deposit will cover most of the cost of the installations, while rentals and maintenance will provide positive cash flow with every transaction. Revenues for the Ottawa branch's first year are expected to be approx. \$450k, reaching \$1.4M by Year 3. With the inclusion of revenues from satellite offices in Toronto, Montreal, and Vancouver, Vertigrow's Year 4 revenue is expected to reach \$5.8M. With a firm commitment to acquiring maintenance contracts with every garden sold, Vertigrow is aiming to achieve margins of 28%.

## EXPANSION

Vertigrow is pursuing a strategy of aggressive expansion. Vertigrow will launch a satellite office in Toronto in April 2012, followed by offices in Montreal, and Vancouver in 2013. Vertigrow will leverage this experience to expand internationally, first to existing markets in the United States and Europe, and soon thereafter to emerging markets in South America and Asia. Mature markets will allow Vertigrow to grow its expertise and reputation, but the true growth potential lies in the emerging markets, and it is our ultimate goal to corner these markets. There are currently no internationally dominant players in the vertical garden industry. Vertigrow plans to develop aggressively and grow quickly to become the international market leader.



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## VERTIGROW

Vertigrow is in the business of designing, building, and maintaining vertical gardens: majestic installations that bring life to the space they inhabit. Aside from their beauty, vertical gardens are a proven benefit to businesses in reducing employee sick days and increasing productivity. A vertical garden can be installed on any wall, in any building. It is the most effective way to bring plant life into an office and takes up less space than a bookshelf. We start by putting a growing medium on the wall. The growing medium provides structure for the plants, much like soil does in nature. The nutrients necessary for plant life are provided through a hydroponic irrigation system. Subtle, but powerful grow lights are installed to recreate that plants' natural environment as closely as possible. Vertical gardens also lend themselves to premium features such as waterfalls, natural light pipes, and the incorporation of company logos. Customers are offered three options for their vertical gardens: installations, portable units, or rentals.

## INSTALLATIONS

For customers looking to reap the maximum fiscal and social benefits from their vertical gardens, permanent installations are the ideal choice. By attaching the vertical garden to the building's structure, there is much more flexibility in the garden's design. Installation size can range from the size of a door to seven stories and beyond. With a permanent installation, it becomes possible to integrate the vertical garden in the building's ventilation system, providing health benefits for occupants far beyond the immediate vicinity by removing toxins throughout the building. Installations can also have more interesting features and plants because of the stability provided by the structure. With an installation you can grow larger plants, incorporate fountains, waterfalls and aquariums, and other options. Installations can be divided into sections of different plants with different growing conditions. For companies looking to differentiate themselves, installations can include elaborate plant work, such as the inclusion of a company's logo.

## PORTABLE UNITS

We initially developed a self-contained prototype that would allow us to showcase our work and test out plant configurations, growing materials and irrigation systems. Due to strong demand, we have made this unit available to customers. By improving on our prototype, we have developed a self-contained unit for use by the customer. In its current form, the portable unit is designed to fit through the average door and in a typical elevator. Future designs will allow for a modular design, allowing for much larger, more flexible portable walls.

With the idea of portable units realized, temporary usage becomes a viable revenue stream. Renting a vertical garden for an event is feasible, and we foresee a great demand for this service. Likely events would include weddings, conferences, home stagings, and so on.



## MAINTENANCE

Like traditional gardens, vertical gardens require maintenance. While it is not unfeasible for customers to perform the maintenance on their vertical garden, Vertigrow offers a comprehensive maintenance package backed by a wealth of expertise that will keep the wall in peak shape. Plants that don't adapt to the wall will be replaced, nutrient levels will be maintained, light conditions will be optimized, and pests and moulds will be actively prevented. In addition, a comprehensive monitoring system will be used to ensure that possible causes of failure - such as a sudden drop in temperature - are caught early enough to be corrected.

## VALUE PROPOSITION

It has become a cliché to say that a company's most valuable resource is its people. It is important for us to remember that human capital is among the greatest costs, and the greatest drivers of revenue for all businesses. It is therefore important for businesses to maximize their return on investment.

It can be difficult to achieve this as employees are distracted by personal issues, frequently sick, and always ready to leave for a better offer. Performance-based incentives can be effective in the short-term, but they greatly increase stress and contribute to hostile work environment in longer-term.

Every business wants a "magic bullet" solution that will substantially and sustainably increase worker performance, while maintaining or increasing satisfaction. According to numerous studies, a vertical garden does just this<sup>1</sup>.

There are two main ways in which a vertical garden will help your business: it will make your employees healthier and it will make them more productive.

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## HEALTHIER

Indoor air is polluted by fumes given off by plastics, computers, paints, carpets, and office furniture. This toxic cocktail causes "Sick Building Syndrome", a condition where people who use the building suffer from more headaches, sore throats, and allergies, among other symptoms. By breaking down these toxins and reducing the level of airborne mould and bacteria<sup>2</sup>, vertical gardens greatly reduce the causes of your employees' illnesses. In a study released by the Joint Commission on Accreditation of Healthcare Organizations, SBS was found to contribute

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<sup>1</sup> "Interior Plants May Improve Worker Productivity and Reduce Stress in a Windowless Environment" - Lohr, Pearson-Mims, Goodwin. Washington State University

<sup>2</sup> "Plants And Soil Microorganisms: Removal of Formaldehyde, Xylene, and Ammonia from the Indoor Environment" Wolverton and Wolverton. Wolverton Environmental Services



to 40 % of worker sick days<sup>3</sup>. Vertigrow vertical gardens will virtually eliminate the causes of SBS, and reduce sick days by at least 20%<sup>4</sup>.

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## MORE PRODUCTIVE

It has been shown that people working with houseplants in their line of vision perform tasks 12% faster than in an environment without plants<sup>5</sup>. Particularly for workers who sit at a computer for 4 or more hours per day, attentiveness and performance are greatly increased while stress and fatigue are decreased.

It cannot be stressed enough that a vertical garden provides significant bottom-line benefit to almost all businesses. Take the example of an organization that is unconcerned with its “green” image, and that employs low-cost labour, such as a call centre. The business argument in favour of a vertical garden is undeniable, solely on the basis of missed work due to sick days. With the range of sizes and financing options available, there is to reason for any office not to install a vertical garden.

## BUSINESS MODEL

- Scalable service model
- Multiple revenue streams
- Customers of customers

One of Vertigrow’s strengths is the scalable nature of its maintenance branch. By matching up part-time maintenance workers with the work, Vertigrow is able to have as many employees and on whatever basis is required. The main benefit to the Maintenance Matching application is that the installed garden square footage increases at a much faster rate than the work required to administer the maintenance.

Another of Vertigrow’s key strengths is the multiple sources of revenue streams it will be pursuing. By pursuing the installation, rental, and maintenance revenue streams, Vertigrow has a mix of recurring revenue and high-value transactions.

Using customers of customers, Vertigrow will be able to advertise vertical gardens to everyone who visits a site with a vertical garden installed. Law offices, bank branches, and accountants will all become salespeople for Vertigrow by merely using our services.

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<sup>3</sup> Joint Commission on Accreditation of Healthcare Organizations

<sup>4</sup> “The Effect of Indoor Foliage Plants on Health and Discomfort Symptoms among Office Workers” - Dr. Tove Fjeld. Agricultural University of Oslo.

<sup>5</sup> “Interior Plants May Improve Worker Productivity and Reduce Stress in a Windowless Environment” - Lohr, Pearson-Mims, Goodwin. Washington State University



The full business model diagram is included in Appendix A.

## COMPANY

### CORE COMPETENCIES

Vertigrow will initially be a boutique operation. Core competencies will be design, installation, and maintenance. HR will be handled internally as well. Design of walls will be handled by the CTO and CEO jointly. Additional labourers will be added for the construction of the gardens, with part-time contractors filling in the maintenance requirements as needed. Legal, accounting, and marketing functions will be hired out. All manufacturing, save for final assembly will be outsourced.

### EXPANSION PLANS

Communication between Vertigrow's head office and the respective satellite offices will be minimal and high-level. This will allow for creativity and adaptation to local markets as well as generation of new ideas and best-practices to be spread company-wide. Vertigrow will place a strong emphasis on "hiring up", bringing in the smartest and most creative employees that we can find, and giving them great latitude in their actions. All Vertigrow employees - with the exception of maintenance workers - will be included in an innovative revenue sharing plan, which will foster dedication, collaboration, and competition.

## INDUSTRY

### CORPORATE CLIENTS

Corporate spending on environmentally sustainable or "green" initiatives has seen large growth in recent years. The economic downturn in late 2008 promised to reveal whether this trend would disappear when money was tight. Shortly after the Dow Jones Industrial Average dropped by over 25% in November 2008, Panel Intelligence LLC conducted a survey of Fortune 500 executives. This survey found that over 80% of the companies surveyed intended to maintain or increase their sustainability-related spending in 2009<sup>6</sup>.

It has also been demonstrated that companies have moved away from seeing "green" initiatives as a public relations ploy, and are now reaping the benefits of sustainability as they reduce costs and increase profits<sup>7</sup>.

According to Fortune magazine, companies such as Intel, Microsoft, Wal-Mart, and Ikea took a long-term view of the recession and continued to invest in sustainable initiatives. The bottom line is that "green" initiatives are here

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<sup>6</sup> <http://www.businesswire.com/news/home/20081125005830/en/Panel-Intelligence-Survey-Finds-Corporate-%E2%80%9CGreen%E2%80%9D-Spending>

<sup>7</sup> [http://money.cnn.com/2009/01/19/magazines/fortune/do\\_gooder.fortune/index.htm](http://money.cnn.com/2009/01/19/magazines/fortune/do_gooder.fortune/index.htm)



to stay, and with stock markets approaching pre-recession levels, spending is on the rise. General Electric alone spent \$1.5 Billion on clean R&D in 2010<sup>8</sup>.

Although some sustainability spending has been purely philanthropic, business are placing strong focus on “green” initiatives which will cut their costs and boost their profits. Vertical gardens are a strong example of this category due to their proven abilities to reduce absenteeism, and the equally real - if slightly more difficult to quantify - productivity boost that they inspire.

It is also important to consider the growing trend of green building and LEED (Leadership in Energy and Environmental Design) certification across North America. It has been seen that green building practises add only 2% to the cost of a building (more for higher-level LEED certification), and that these up-front costs are easily offset by energy and utility savings. Estimates show total savings at \$10 - 14 per square foot over a 20 year period<sup>9</sup>. Vertical gardens have been awarded LEED credits in several new buildings across North America, and will remain popular as companies continue to look to save money and improve employees’ health through green building techniques.

## RESIDENTIAL SPENDING

The residential vertical garden industry is almost brand new, and as such, data is widely unavailable. However, we can estimate what the industry might look like by looking at home renovation spending. The Canada Mortgage and Housing Corporation publishes annual reports on home renovations. Of the top ten major urban centres in Canada, Ottawa ranks second in percentage of homeowners who completed home renovations, with 57% of households doing a renovation in 2009. Of these, 74% of the renovations were improvements or alterations, giving us a base of approximately 42% who completed home improvement renovations. Broken down by type, the relevant renovation types are remodelling of rooms (34%), interior walls and ceilings (14%). 51% of renovations were completed to update or add value, while 8% were made to create a more energy efficient home, an indication that green spending is perhaps low. Another important statistic is the number of people who fully contracted the work (46%) and the number of people who partially contracted the work (31%). The average cost of a renovation was \$10,826.

Another important area of investigation is the average spending on new homes, a particularly important area of research as a strategic partnership with developers is beneficial. In the Ottawa-Gatineau region, from 2000-2009, new house construction has varied from 7,000 to just over 10,000 houses a year. Ottawa accounts for between 4 and 9 percent of all new houses in Canada, and is on an upward trend in recent years, indicating a local strength in the industry for new houses.

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<sup>8</sup> [http://money.cnn.com/2009/01/19/magazines/fortune/do\\_gooder.fortune/index.htm](http://money.cnn.com/2009/01/19/magazines/fortune/do_gooder.fortune/index.htm)

<sup>9</sup> <http://www.green-buildings.com/content/78485-commercial-green-building-trends-leed-and-energy-star>



## COMPETITION

### PRIMARY

#### NEDLAW

- Based in Breslau, Ontario, one hour west of Toronto
- Based on research by Dr. Darlington at Waterloo University. Nedlaw, a roofing company, purchased Dr. Darlington's research and established a vertical garden division run by Dr. Darlington
- Primary focus is on research and technical performance, aesthetics are low priority
- Poor marketing efforts
- Wall size tends to be very large, customers tend to be large organizations
- "Living wall engineers"

#### GREEN OVER GREY

- Based in Vancouver, British Columbia
- New firm with limited experience
- High-end installations
- Aesthetics are high priority, benefits are stressed but data on performance is unavailable
- Wall size tends to be small to medium
- "Living wall artists"

### SECONDARY

#### FINE INTERIOSCAPE & MAINTENANCE

- Providers of "plantscaping" services to office buildings
- Strong customer base
- Low cost
- Maintenance-intensive
- Limited air quality benefits, take up more floor space

#### ELT

- Providers of mass-produced DIY vertical gardens
- Low quality
- Limited air quality benefits
- Maintenance-intensive for consumer; no service provided
- Low price



## MARKETING

- Re-modellers, Greenleaders & Venues
- Crossing the chasm
- Downloading design duties

## TARGET SEGMENTS

The initial target segments will be companies with a proven intent to design/redesign their spaces (“Re-modellers”), companies with a reputation for being “green” (“Greenleaders”) and event venues that host conferences, weddings, and other large events on a regular basis (“Venues”).

### RE-MODELERS

Re-modellers will be targeted by dealing with the consultants they deal with: interior designers and architects. Re-modellers have already expressed an interest in either creating a unique space or changing their current space, and vertical gardens fit well with either choice. By communicating with the consultants rather than the customers, we get an exponential increase in output from our marketing effort. Consultants have a relationship with their clientele, and by dealing with them directly we will be able to capitalize on this relationship while gaining access to a much larger client base than would have initially been possible. Incentives will be provided to the consultants for sales on a commission basis. The consultants also benefit from having a new and innovative tool at their disposal.

### GREENLEADERS

Greenleaders, while more difficult to track down and communicate with, will be more likely to purchase a vertical garden, either based on a genuine interest in making their space more natural or based on a desire to make a statement about their green intentions. In all likelihood, it will be a combination of both that drives the Greenleaders to purchase a vertical garden. Local entities such as Bridgehead Coffee and the University of Ottawa, who is installing a seven floor wall on campus, demonstrate the niche demand for vertical gardens.

### VENUES

Venues will be approached to include renting vertical gardens as an option for the clients. By offering vertical gardens, they will differentiate themselves from other venues, and Vertigrow gains a revenue stream that also promotes the concept of vertical gardens to professionals and business owners in attendance at the events at the venues.



## CROSSING THE CHASM

One major marketing issue will be what technology guru Geoffrey Moore calls “crossing the chasm”; the phenomenon of bringing an innovative or disruptive product from the niche market of early adopters to the early majority. It will be necessary for Vertigrow to saturate a niche demographic to build credibility, experience, and reputation. After Vertigrow has solidified itself in a niche market, the next target will be the early majority. To target the early majority, direct sales efforts will be aimed toward traditionally “conservative” businesses such as law firms, accounting firms, and banks. To convince these businesses of the value of vertical gardens, the problems arising from working in sealed environments will be highlighted. Vertigrow will discuss options for solving the problems, and present vertical gardens as the optimal solution. By achieving some level of penetration in this market, industry peers will have a reference point on which to base their own decisions. With their peers adopting vertical garden technology, they will have less of an issue adopting it themselves. Vertigrow will also be able to use a maintenance contract to get an initial sale; with Vertigrow performing the maintenance of other plants in a company’s office, a relationship is built. It is up to Vertigrow to capitalize on this and promote the benefits of vertical gardens.

Guerrilla marketing will play a vital role in Vertigrow’s initial promotional strategy. Initially the advertising budget will be very small, limited to the cost of the prototype, website, and promotional materials such as business cards and brochures.

The portable model will serve as Vertigrow’s primary guerrilla marketing strategy. By being able to place the vertical garden directly in the customer’s environment, we can employ the traditional foot in the door technique, and use the portable model to sell for us without requiring our presence. It also creates a dialogue with the customer as we talk to them about the wall and find out what they like about it, what they don’t like, how much they would be willing to pay, etc. Even if the customer decides not to buy a garden, this marketing data will be very valuable to Vertigrow. Of course, Vertigrow has the option of just placing the wall anywhere there is high traffic. Areas with high volumes of business people, such as lunch spots, museums, and other such venues would be ideal targets.

Networking, currently in progress, will play a crucial role in the propagation of the Vertigrow brand. Interest in Vertigrow’s product offering is strong, and Vertigrow has lined up appointments with architects, home-stagers, and up-and-coming businesses. Interior designers currently offering high-end services are the next group that Vertigrow will target. Targeting these intermediaries who deal with a large number of end users allows Vertigrow to solve the one-to-one dilemma by building on the trust these individuals and groups have established with their clients. By selling one architect or interior designer on the idea of vertical gardens, we will effectively have sold the idea to their entire client base as they promote it to them as an innovative option. Social networking, phone calls, references, and in-person contact will be the primary drivers for networking, with a website and other social media supplementing these interactions. A blog, carefully maintained with a focus on professionalism and insight, will make Vertigrow.ca a valuable resource in and of itself.

Once Vertigrow has established market awareness via guerrilla marketing, more traditional promotional methods will be employed. A strong online presence will be maintained, and marketing services will be commissioned in



addition to in-house efforts. Promoting events, online advertising, and print advertising are all probable promotions venues.

With a product that is as infinitely customisable as vertical gardens, time spent on collaboration between our designers and our customers will be at a premium. To reduce the time spent by our design team, and to provide customers with custom outputs from standard inputs, a drag-and-drop vertical garden design tool called VertiScheme will be provided on Vertigrow.ca. Users can choose from a selection of existing designs, or create the custom vertical garden of their dreams with our building blocks of plants and premium features. Users can then submit their design to Vertigrow's design team, who will add the required structural, lighting, and irrigation specifications before passing the project on to our manufacturing and installation team.

## PRICING

Vertigrow's premium product offering will call for premium prices. Current players in the vertical garden market are very protective of their prices; as such, there is no industry standard - this will allow Vertigrow to set the perceived value. This plays to Vertigrow's favour as we will be able to achieve high margins at first, which will fuel our operations. Development of technology will allow us to maintain high profits on walls while giving us leeway to react to potential competitors with different margins.

## OPERATIONS PLAN

### IMPLEMENTATION SCHEDULE

- Solidify Ottawa operations
- Canadian expansion
- International targets

The implementation schedule for Vertigrow Inc., summarized in Appendix B, is based on an aggressive expansion plan. Once operations are solidified in Ottawa, satellite operations will follow in Toronto, Montreal, and Vancouver, before expanding to target markets in the United States, Europe, and Asia.

Vertigrow will launch in earnest on April 1, 2011. In this initial phase, marketing efforts will commence in parallel with perfection of vertical garden technology and creation of sample vertical garden designs for clients. During the first two months of our launch phase, we expect to sell two vertical gardens per month at an average size of 50 sq. ft.

Beginning in June 2011, we expect to begin selling four units per month as a result of our refined sales tactics and growing reputation and visibility. This will continue until January 2012, when we will increase the average size of our installations to 75 sq. ft., with an average 5 units sold per month.

From the beginning, we will implement a comprehensive product testing and acclimatization program. The modular sections of our installations will be pre-assembled in our workshop, and the vertical gardens will undergo a two week testing and trial phase while the plants acclimatize to their new environment, and we optimize the



chemical balance, irrigation, and lighting. This strategy will not only ensure the quality of our work, but will allow us to install and unveil our clients' vertical gardens in the space of one day.

Our expansion will commence in the new year, with a satellite office opening in Toronto for April 1, 2012. We will expect to follow a similar sales progression as in Ottawa, but will remain flexible to adapt to opportunities and threats in the new markets.

Vertigrow will launch two new satellite offices on April 1, 2013 - one in Montreal, and one in Vancouver. As in Toronto, we will plan to follow a similar sales progression to Ottawa, but will remain flexible to adapt to opportunities and threats in the new markets.

In 2014 and onward, Vertigrow will be looking to leverage the expertise and success that we have acquired in Canada to expand internationally. We will look to markets in the United States, as well as Europe and Asia. As the choice of timing and location depends heavily on economic conditions and Vertigrow's results to date, it is difficult to provide precise details on this phase of our operations, though Hong Kong and London are likely expansion targets.

## RESOURCE ACQUISITION SCHEDULE

- Bootstrapping
- Need for employees
- Managing managers

Vertigrow will use bootstrapping strategies to minimize initial investment and maintain positive cash flow. In the initial 6 months of operations (March - August, 2011), Vertigrow will leverage its partnership with the Faculty of Engineering at the University of Ottawa. Through the Brunfield Engineering Student Projects and Entrepreneurship Centre, Vertigrow is provided with rent-free work space and tools. As operations increase in size, it will become impractical to remain in this space, so Vertigrow will look to rent a small warehouse or garage for its product assembly and testing facilities. Each of the satellite operations will launch out of a similar facility, centrally located, in the target city.

In Vertigrow's first two months of operations, the only personnel will be the two founding partners, acting as CEO and CTO, as well as two commissioned sales representatives. In the second phase of operations, commencing May 1, Vertigrow will take on two full-time assembly and installation labourers. These new personnel will allow the CEO and CTO to focus on growth, strategy, and product development, while downloading responsibilities for day-to-day operations. As the base of installed vertical gardens grows, maintenance workers will be trained and contracted through the Maintenance Matching system. These workers will be remunerated on a "per job" basis, and will work as many or as few jobs as they wish. These contractors will stand separately from Vertigrow's full-time employees.

Vertigrow's satellite offices will employ a general manager, responsible for communications with head office and general oversight of satellite operations. The satellite offices will also begin operations with 1 manufacturing and installation manager, 2 commissioned sales representatives, and one installation/maintenance labourer. In the third month of operations at the satellite offices they will add 1 additional labourer. Maintenance will be performed by contract-workers through the Maintenance Matching system.



## SUPPLIER RELATIONSHIPS

- Modular outsourcing
- Nursery relationships

Vertigrow's vertical gardens will use a modular design consisting of 1 square foot independent and interchangeable sections which incorporate the air chamber, growing medium, plants, and irrigation. The manufacturing of the air chambers will be outsourced to Acrylics.ca or a similar, Canadian plastics manufacturer. This will reduce the complexity of work to be done by Vertigrow. By dealing exclusively with Acrylics.ca and buying in large volumes, we will obtain preferential pricing and terms. Long-term plans include sourcing foreign plastics manufacturers to further reduce costs. Felt for the growth layers will be obtained from The Brand Felt Ltd. By dealing with a Canadian supplier we will save on shipping and brokerage fees, and by dealing exclusively and buying in large volumes, they will agree to cut the felt down to the sizes we require and give us preferential terms and pricing.

Reliable local plant suppliers will be of utmost importance to Vertigrow. It will be important to minimize the time that the plants spend between the greenhouse and installation in the vertical gardens. The business of plant supply is seasonal by nature, and in order to obtain the selection and quantity of plants that we will need, it will be important for Vertigrow to build relationships with multiple local nurseries, such as Richmond Nursery, Peter Knippel Nursery, and Carleton Place Nursery in Ottawa, and similar nurseries in our expansion locations.

## DISTRIBUTOR RELATIONSHIPS

Due to the intricacy of vertical garden systems and the sensitivity of live plants, Vertigrow will perform all installations and maintenance in-house. If warranted, Vertigrow will license its vertical garden technology to manufacturers selling to the home market, but will not be directly involved in the mass-production market.

## OUTSOURCING

Based on the positive experience Vertigrow has had in the outsourcing of our logo and website design, Vertigrow will use outsourced labour as the foundation of its customer service and telephone support operations.



## FINANCES

Financing for Vertigrow will be provided by the co-founders. Further financing will be obtained from the traditional supplier credit, especially for hydroponic equipment and acrylic pre-fabricated units.

<b>Vertigrow Inc.</b>		
<b>Proforma Income statement</b>		
<b>Year ended Dec. 31, 2011</b>		
Sales		
Installations	425,000.00	
Cost of goods sold		
Direct Labour	51,000.00	
Design costs	6,800.00	
Materials	170,000.00	197,200.00
Maintenance Revenue	20,250.00	
Cost of maintenance		
Nutrients	\$4,050.00	
Labour	4,050.00	12,150.00
Gross Profit		209,350.00
Expenses		
Advertising, Marketing	25,500.00	
Salaries	25,500.00	
Insurance	9,000.00	
Rent, Facilities	8,000.00	
Research & Development	21,250.00	
Less: CRA Research Tax Credit	(12,750.00)	
Legal fees	2,000.00	
Sales Commissions	38,250.00	
Total expenses		116,750.00
Net income before taxes		92,600.00

Table 1 - Income Statement, Ottawa Branch, 2011



Beyond this initial finance requirement, a quick analysis of Figure 1 shows installations will be the major source of revenue for Vertigrow. Maintenance revenues will provide stable recurring revenue that will provide positive cash flow for Vertigrow in future years.

<b>Vertigrow Inc.</b>		
<b>Proforma Income statement</b>		
<b>Year ended Dec. 31, 2014</b>		
Sales		
Installations	4,875,000.00	
Cost of goods sold		
Direct Labour	585,000.00	
Design costs	78,000.00	
Materials	1,950,000.00	2,262,000.00
Maintenance Revenue	925,875.00	
Cost of maintenance		
Nutrients	185,175.00	
Labour	185,175.00	555,525.00
Gross Profit		2,817,525.00
Expenses		
Advertising, Marketing	292,500.00	
Salaries	292,500.00	
Insurance	12,000.00	
Rent, Facilities	12,000.00	
Research & Development	243,750.00	
Less: CRA Research Tax Credit	(146,250.00)	
Legal fees	2,000.00	
Sales Commissions	438,750.00	
Total expenses		1,147,250.00
Net income before taxes		1,670,275.00

Table 2 - Income statement Vertigrow, 2014

Based on the expansion plans outlined in the operations section, and summarized in Table 2, revenues are expected to reach \$2.8M in year 4, with a net income before taxes of \$1.7M. Detailed income statements are included in Appendix C.



## ENVIRONMENTAL ANALYSIS

### LEGAL ENVIRONMENT

#### RISK OF LEGAL THREATS

It has become common in Canada for incumbent market leaders to employ litigious strategies, forcing smaller competitors to spend their time and capital on legal services, with the goal of driving these competitors out of business. This is a risk inherent to any commercial venture, but Vertigrow is taking certain steps to counteract this eventuality. Primarily, Vertigrow is being meticulous in not violating any patents held by our competitors. Vertigrow will also be insured against the eventuality of falling victim to such a strategy. This notwithstanding, the current market dynamics are such that demand greatly exceeds supply. This reduces our competitor's incentive to employ a litigious strategy, and significantly lowers the risk profile of this venture.

#### RISK OF PRODUCT FAILURE

Vertigrow will be proactive in addressing the risks of product failure. In the installation contract, as well as the maintenance contract, it will be explicitly agreed upon which aspects of the vertical garden are the customer's responsibility, and which are Vertigrow's responsibility. For example, customers will be responsible for maintaining ambient temperatures at appropriate levels, preventing vandalism of the wall, and maintaining the water level in the reservoir (if not integrated into the building's plumbing system). Under the maintenance package, Vertigrow will be responsible for chemical and nutrient balance, maintenance of plant life, preventing pests and moulds, as well as all mechanical and structural components of the wall. Vertigrow's maintenance team will fix any problems that arise from situations beyond Vertigrow's control, but will charge appropriately.

Liability insurance will protect Vertigrow in the event of damage caused by a failure of one of the gardens. The precise amount of coverage is yet to be determined.

### TECHNOLOGY ENVIRONMENT

Vertigrow's technological edge is due to its stackable and interchangeable modular system. This technology is currently in the final phases of development and will be patented as soon as it is complete. Research and development will remain a strong focus for Vertigrow, and we will continue to patent new developments to maintain our technical advantage. Vertigrow will experiment with the configuration of different plant and moss species to combat specific pollutants and for aesthetic effect. Vertigrow will also look to improve its technological advantage by developing integrated sensor control systems, which will monitor moisture and nutrient conditions on the vertical garden and make appropriate corrective adjustments without the need for human intervention.



## MANAGEMENT TEAM

### DUANE VAN GAALEN, DIRECTOR BUSINESS DEVELOPMENT

B.A.Sc. Mechanical Engineering, Queen's University

B.Com Accounting (in progress), Telfer School of Business at University of Ottawa

Duane comes from a heavily science based background. In high school he took all the math and science courses Regiopolis Notre-Dame Secondary School had to offer. He carried this through to university where he studied engineering. When he found the detail focus of engineering to be too specific and constraining, he decided to pursue his passion for entrepreneurship. Duane brings a mix of technical expertise and business insight to the team; the fine details of the big picture. With degrees in mechanical engineering and accounting, he is a force to be reckoned with.

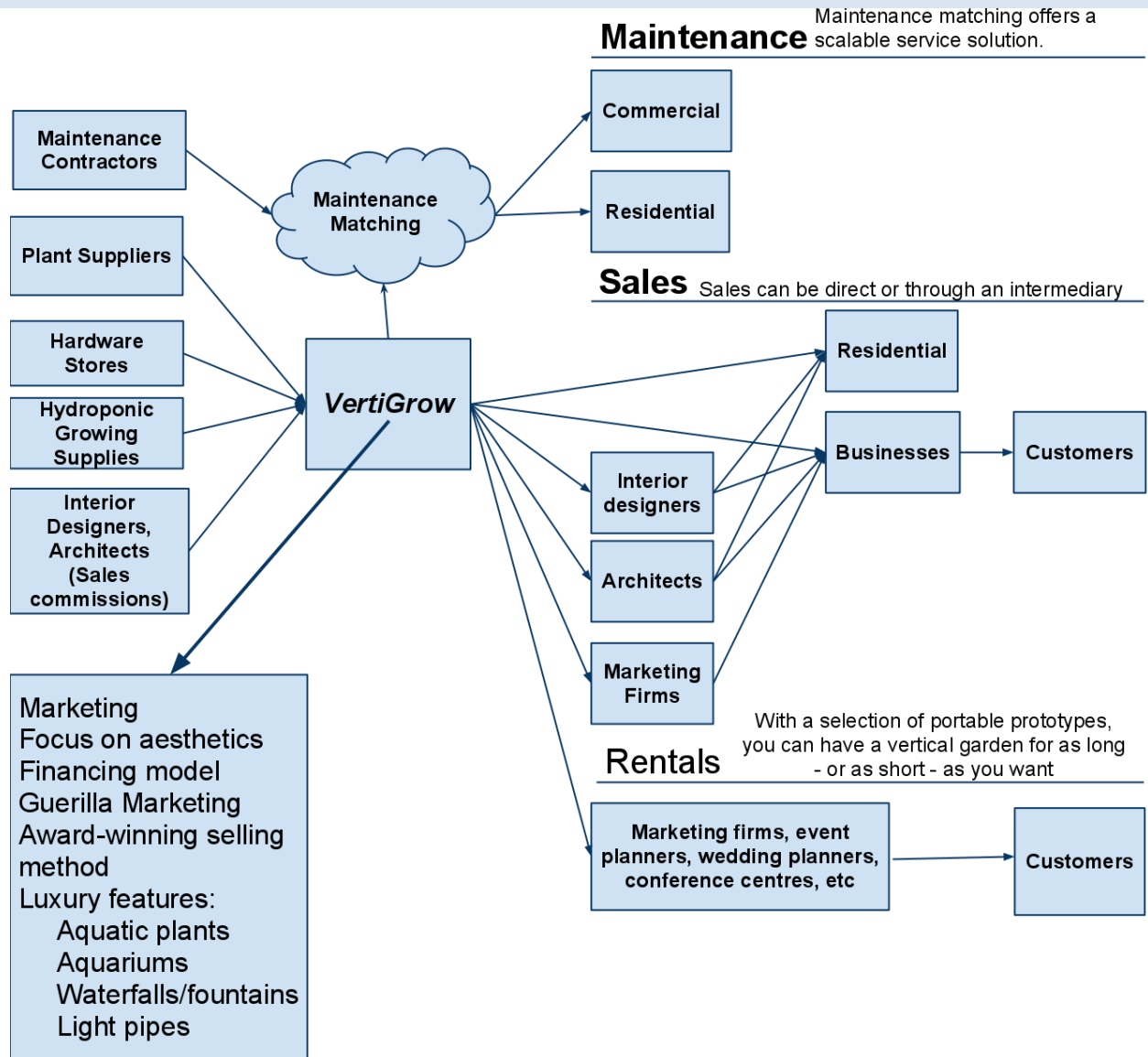
### LUC LENDRUM, DIRECTOR OF TECHNICAL OPERATIONS

B.A.Sc. Civil Engineering (in progress), Option in Environmental and Water Resources, University of Ottawa

Luc has worked in landscaping from the age of 13, and has been gardening as a hobby ever since. His studies in civil engineering, notably the environmental option, fascinate him. In particular he focuses on bioreactors, systems that harness natural forces to clean our air, water, and soil. The application of vertical gardens to clean the air we breathe is a perfect intersection of his interests. Luc has shown an entrepreneurial flair from a young age, and intends to build Vertigrow into the international gold standard for vertical garden technology.

**APPENDICES**

**APPENDIX A, BUSINESS MODEL DIAGRAM**





## APPENDIX B, SCHEDULE OF OPERATIONS

Company Launch Date: March 1

Note: In all operations, maintenance will be performed by contract-workers, working through the Maintenance Matching system.

### **Ottawa Office**

#### **April 1 , 2011**

Sales target: 2 / month @ 50 sq. ft. / wall

Personnel requirement:

- 1 Chief Executive Officer
- 1 Chief Technology Officer
- 2 Sales representatives

#### **May 1 - December 31, 2011**

Sales target: 4 / month @ 50 sq. ft. / wall

Personnel requirement:

- 1 Chief Executive Officer
  - 2 Sales representatives
- 1 Chief Technology Officer
  - 2 Manufacturing & Installation labourers

#### **January 1, 2012 onward**

Sales target: 5 / month @ 75 sq. ft. / wall

Personnel requirement:

- 1 Chief Executive Officer
  - 2 Sales representatives
- 1 Chief Technology Officer
  - 2 Manufacturing & Installation labourers

### **Satellite Offices**

Launch date: April 1, 201x

#### **April 1 - May 31, 201x**

Sales target: 3 / month @ 50 sq. ft. / wall

Personnel requirement:

- 1 General manager
  - 2 Sales representatives
- 1 Manufacturing & installation manager
  - 1 Manufacturing & Installation labourer

#### **June 1 - December 31, 201x**

Sales target: 5 / month @ 75 sq. ft. / wall

Personnel requirement:

- 1 General manager
  - 2 Sales representatives
- 1 Manufacturing & installation manager
  - 2 Manufacturing & Installation labourers

#### **January 1, 201(x+1) onward**



Sales target: 6 / month @ 75 sq. ft. / wall

Personnel requirement:

1 General manager

2 Sales representatives

1 Manufacturing & installation manager

2 Manufacturing & Installation labourers



APPENDIX C, FINANCIAL STATEMENTS, OTTAWA BRANCH

Assumptions		
Installation Price	\$250.00	/sq. ft.
Maintenance Price	\$2.50	/sq. ft.
Commission	9%	of sales
Labour/sq. ft.	2	hours
Management commission	6.00%	of sales
Marketing budget	6.00%	of sales
R&D	5.00%	of sales

Costs		
		/sq.
Nutrients	\$0.50	ft./month
Materials	\$100.00	/sq. ft.
Labour wage/hr.	\$15.00	
		/sq.
Maintenance labour	\$0.50	ft./month
Design cost/sq. ft.	\$4.00	
Rent, /month	\$1,000.00	
Insurance, /month	\$1,000.00	
Legal fees, /year	\$2,000.00	



Schedule of wall sales, 2011				
Month	Qty	Size (sq. ft.)	Sq. ft.	Months of maintenance
January-11	0	0	0	12
February-11	0	0	0	11
March-11	0	0	0	10
April-11	2	50	100	9
May-11	4	50	200	8
June-11	4	50	200	7
July-11	4	50	200	6
August-11	4	50	200	5
September-11	4	50	200	4
October-11	4	50	200	3
November-11	4	50	200	2
December-11	4	50	200	1
Total to date	34		1700	



<b>Vertigrow Inc.</b>		
<b>Proforma Income statement</b>		
<b>Year ended Dec. 31, 2011</b>		
Sales		
Installations	425,000.00	
Cost of goods sold		
Direct Labour	51,000.00	
Design costs	6,800.00	
Materials	170,000.00	197,200.00
Maintenance Revenue	20,250.00	
Cost of maintenance		
Nutrients	\$4,050.00	
Labour	4,050.00	12,150.00
Gross Profit		209,350.00
Expenses		
Advertising, Marketing	25,500.00	
Salaries	25,500.00	
Insurance	9,000.00	
Rent, Facilities	8,000.00	
Research & Development	21,250.00	
Less: CRA Research Tax Credit	(12,750.00)	
Legal fees	2,000.00	
Sales Commissions	38,250.00	
Total expenses		116,750.00
Net income before taxes		92,600.00



Schedule of wall sales, 2012				
Month	Qty	Size (sq. ft.)	Sq. ft.	Mths of maintenance
Jan-12	5	75	375	12
Feb-12	5	75	375	11
Mar-12	5	75	375	10
Apr-12	5	75	375	9
May-12	5	75	375	8
Jun-12	5	75	375	7
Jul-12	5	75	375	6
Aug-12	5	75	375	5
Sep-12	5	75	375	4
Oct-12	5	75	375	3
Nov-12	5	75	375	2
Dec-12	5	75	375	1
Total to date	94		6200	



<b>Vertigrow Inc.</b>		
<b>Proforma Income statement</b>		
<b>Year ended Dec. 31, 2012</b>		
Sales		
Installations	1,125,000.00	
Cost of goods sold		
Direct Labour	135,000.00	
Design costs	18,000.00	
Materials	450,000.00	522,000.00
Maintenance Revenue	124,125.00	
Cost of maintenance		
Nutrients	24,825.00	
Labour	24,825.00	74,475.00
Gross Profit		596,475.00
Expenses		
Advertising, Marketing	67,500.00	
Salaries	67,500.00	
Insurance	12,000.00	
Rent, Facilities	12,000.00	
Research & Development	56,250.00	
Less: CRA Research Tax Credit	(33,750.00)	
Legal fees	2,000.00	
Sales Commissions	101,250.00	
Total expenses		284,750.00
Net income before taxes		311,725.00



Schedule of wall sales				
Month	Qty	Size (sq. ft.)	Sq. ft.	Mths of maintenance
Jan-13	5	75	375	12
Feb-13	5	75	375	11
Mar-13	5	75	375	10
Apr-13	5	75	375	9
May-13	5	75	375	8
Jun-13	5	75	375	7
Jul-13	5	75	375	6
Aug-13	5	75	375	5
Sep-13	5	75	375	4
Oct-13	5	75	375	3
Nov-13	5	75	375	2
Dec-13	5	75	375	1
Total to date	154		10700	



<b>Vertigrow Inc.</b>		
<b>Proforma Income statement</b>		
<b>Year ended Dec. 31, 2013</b>		
Sales		
Installations	1,125,000.00	
Cost of goods sold		
Direct Labour	135,000.00	
Design costs	18,000.00	
Materials	450,000.00	522,000.00
Maintenance Revenue	259,125.00	
Cost of maintenance		
Nutrients	51,825.00	
Labour	51,825.00	155,475.00
Gross Profit		677,475.00
Expenses		
Advertising, Marketing	67,500.00	
Salaries	67,500.00	
Insurance	12,000.00	
Rent, Facilities	12,000.00	
Research & Development	56,250.00	
Less: CRA Research Tax Credit	(33,750.00)	
Legal fees	2,000.00	
Sales Commissions	101,250.00	
Total expenses		284,750.00
Net income before taxes		392,725.00



APPENDIX D, FINANCIAL STATEMENTS, VERTIGROW

It should be noted that satellite offices are expected to follow a similar growth rate to the Ottawa branch.

<b>Vertigrow Inc.</b>		
<b>Proforma Income statement</b>		
<b>Year ended Dec. 31, 2012</b>		
Sales		
Installations	1,550,000.00	
Cost of goods sold		
Direct Labour	186,000.00	
Design costs	24,800.00	
Materials	620,000.00	719,200.00
Maintenance Revenue	144,375.00	
Cost of maintenance		
Nutrients	28,875.00	
Labour	28,875.00	86,625.00
Gross Profit		805,825.00
Expenses		
Advertising, Marketing	93,000.00	
Salaries	93,000.00	
Insurance	12,000.00	
Rent, Facilities	12,000.00	
Research & Development	77,500.00	
Less: CRA Research Tax Credit	(46,500.00)	
Legal fees	2,000.00	
Sales Commissions	139,500.00	
Total expenses		382,500.00
Net income before taxes		423,325.00



**Vertigrow Inc.**  
**Proforma Income statement**  
**Year ended Dec. 31, 2013**

Sales		
Installations	3,100,000.00	
Cost of goods sold		
Direct Labour	372,000.00	
Design costs	49,600.00	
Materials	1,240,000.00	1,438,400.00
Maintenance Revenue	423,750.00	
Cost of maintenance		
Nutrients	84,750.00	
Labour	84,750.00	254,250.00
Gross Profit		1,692,650.00
Expenses		
Advertising, Marketing	186,000.00	
Salaries	186,000.00	
Insurance	12,000.00	
Rent, Facilities	12,000.00	
Research & Development	155,000.00	
Less: CRA Research Tax Credit	(93,000.00)	
Legal fees	2,000.00	
Sales Commissions	279,000.00	
Total expenses		739,000.00
Net income before taxes		953,650.00



<b>Vertigrow Inc.</b>		
<b>Proforma Income statement</b>		
<b>Year ended Dec. 31, 2014</b>		
Sales		
Installations	4,875,000.00	
Cost of goods sold		
Direct Labour	585,000.00	
Design costs	78,000.00	
Materials	1,950,000.00	2,262,000.00
Maintenance Revenue	925,875.00	
Cost of maintenance		
Nutrients	185,175.00	
Labour	185,175.00	555,525.00
Gross Profit		2,817,525.00
Expenses		
Advertising, Marketing	292,500.00	
Salaries	292,500.00	
Insurance	12,000.00	
Rent, Facilities	12,000.00	
Research & Development	243,750.00	
Less: CRA Research Tax Credit	(146,250.00)	
Legal fees	2,000.00	
Sales Commissions	438,750.00	
Total expenses		1,147,250.00
Net income before taxes		1,670,275.00