# From Vine to Wine: An Exploration into the Relationship between Landscape Architecture and Viticulture

by

Allyson Bissky

A Practicum submitted to the Faculty of Graduate Studies of
The University of Manitoba
in partial fulfilment of the requirements of the degree of

MASTER OF LANDSCAPE ARCHITECTURE

Department of Landscape Architecture
University of Manitoba
Winnipeg

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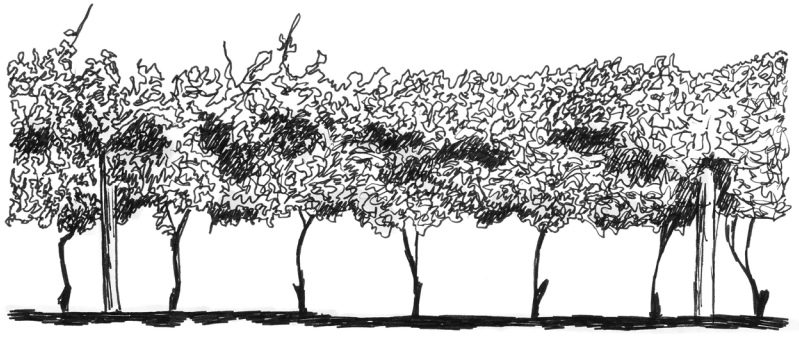

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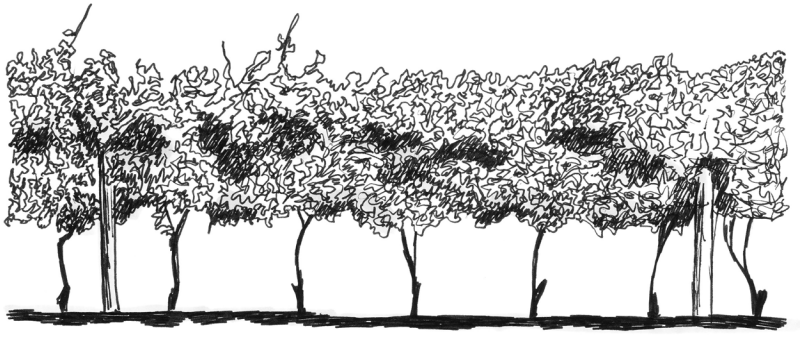
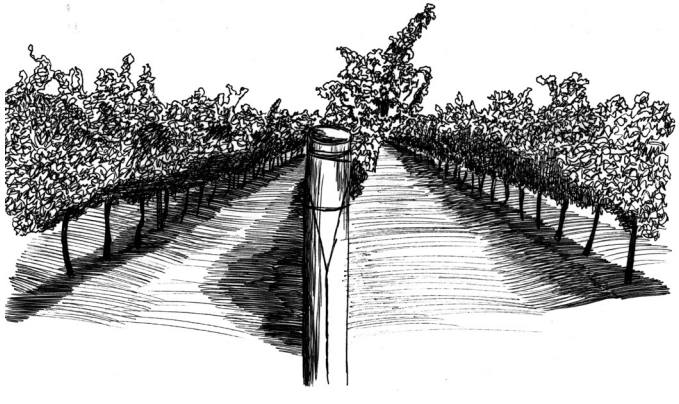


# ABSTRACT



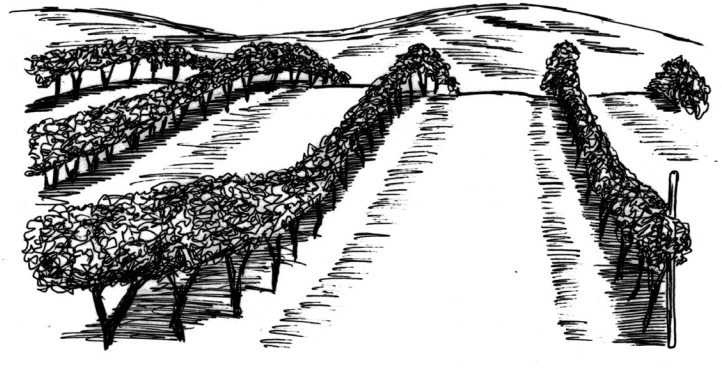
ABSTRACT

Landscapes are defined and manipulated in response to human desires. Humankind has cultivated landscapes to work for them, to become productive machines. Vineyards are perhaps one of the most attractive and recognizable productive landscapes, comprising 12 000 hectares of Canada's 998 467 000 hectares of total land area. These unique and beautiful landscapes are characterized by their distinctive site planning, unique micro-climates and an understanding of the terroir of the land. However, the profession of landscape architecture remains tenuously connected to viticulture and vineyard designs. Very few landscape architects are involved with vineyard designs and little to no literature has been written on the interface between these two professions.

This practicum examines how landscape architecture can contribute to viniculture (the cultivation of grapes for wine making) and enhance not only the experience of being in a vineyard setting but also the wine tourism industry. The intent of this practicum is to bridge the gap of knowledge between wine-tourism, wine production and landscape architecture. The result is a design for a winery and vineyard site in the Okanagan Valley that employs strategies for improving tourism by enhancing visitor experience.

Research for this practicum extends across a variety of disciplines including tourism, viticulture and agriculture to bring relevant knowledge into the realm of landscape architecture. The case study analysis of winery and vineyard sites provides an understanding about the current state of landscape design in vineyards and offers design guidance and strategies for the improvement of wineries. The intention of this practicum is to articulate and demonstrate the important contribution that landscape architecture can make to viticulture by examining aesthetic values that link site and terroir to create an overall vineyard experience.

# ACKNOWLEDGEMENTS



**THANK YOU...**

To my committee:

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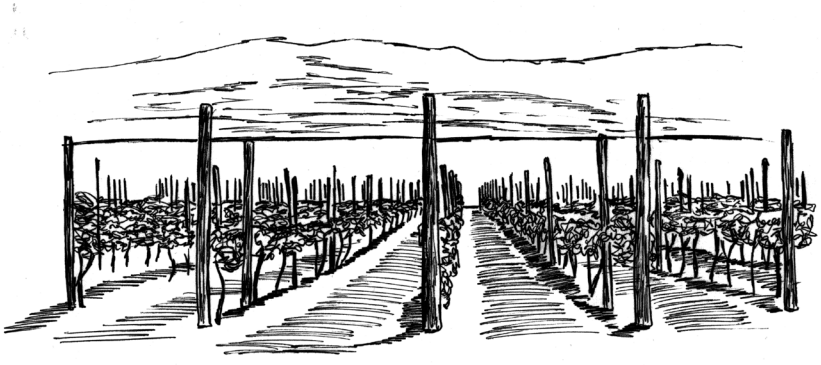
# CONTENTS

All photographs and illustrations, unless otherwise stated, are original work of the author

*The images at the beginning of each chapter are sketches of vineyards from site visits to both the Niagara and Okanagan wine regions. They describe not only the delicate process involved in the growing and cultivation of grapes, but also seek to illustrate the character of vineyard landscapes from first-hand experience.

# CHAPTER 1

## **CULTIVATE** AN INTRODUCTION



# INTRODUCTION

*"The grape is the beautiful warehouse of all the elements the vine creates before harvest - sugar, acid, pectin, tannins and aromas - along with the water and minerals that the roots extract from the earth. This marvellous alchemy has allowed mankind to extract the best from the sky and the earth for thousands of years."*
- Miguel Torres, Spanish wine maker (Woods, 2001, p. 32)

Vineyards are arguably the most beautiful human-made landscape settings in the world. There is something enchanting about the elegantly ordered rows of grapevines, demonstrating how the utilitarian organization of the land can also be aesthetically pleasing. Perhaps it is the way in which the rows appear to go on forever, touching the horizon, or maybe it is the elegant straight procession of grapevines running over an undulating landscape. The notion of the land's terroir (the unique physical characteristics of an environment in which grapes are grown) emphasizes the specific qualities of each site, making these sites not only ideal for growing grapes but also providing a distinct sense of place. These productive landscapes, much like other agricultural terrain, become a part of the cultural heritage that people are familiar with. It is these unique sites that drew my attention and curiosity, and have captivated my thoughts for the last year.

Productive landscapes are a critical part of Canada's land use. Agriculture, forestry and various forms of energy production all compose the fecund landscapes of Canada. However, "while we depend on productive landscapes, they are a less visible part of landscape architectural practice. Typically located outside of densely populated urban centres, they are literally not on view. Nor are they deemed highly "designed" landscapes from an aesthetic point of view" (Grounded Magazine, 14).

Definitions:
viticulture - the cultivation of grapevines
viniculture - the cultivation of grapevines for wine making

The intended focus of this practicum was to examine Canadian winescapes. According to Agriculture and Agri-Foods Canada (2007), vineyards comprise approximately 12 thousand hectares of land area in Canada. Though this number might seem small compared to the amount of land used in France, Italy, the United States of America and Germany, Canada's number of vineyards is expected to continue increasing since the number of acres used for viticulture has seen a growth of 39 per cent between 2000 and 2006.

While researching winescapes, it became evident that there was a lack of information detailing how landscape architecture can improve or contribute to viticulture (the cultivation of grapes). In recent years, there has been a shift in the wine industry as winery architecture has gained momentum. Many wineries are hiring architects to design retail and production facilities to create brand-identity for their wines. I began to question why this seemingly perfect pairing of vineyard design and landscape architecture had been overlooked. This begged the inevitable question: how can landscape architecture contribute to viticulture?

Through the course of this research I have investigated a variety of areas including viniculture, agriculture and tourism. Travelling to Canada's two largest wine producing locations, the Niagara Peninsula and the Okanagan Valley, allowed me the opportunity to conduct case studies, all with the intent of gaining a further and richer understanding of these regions. As I examined vineyard landscapes the following questions intrigued me: How can landscape architecture enhance the experience of being in a vineyard? How can the design of the visitor experience benefit wineries' businesses? How can productive landscapes be revealed and understood by visitors? It is these questions that I intend to answer through this practicum.

# CHAPTER 2

**PLANT** TURNING THE VINE TO WINE

## INTRODUCTION

The process of how grapes are transformed to wine is a delicate, precise and challenging action. Careful consideration of a number of factors including such aspects as site selection, grape varieties and production measures all contribute to the success or failure of a wine. This chapter will provide a brief explanation of how wine is produced, starting with an introduction to *vitis vinifera*, the common grapevine variety used in North America. The chapter then provides information about the traditional layout of North American vineyards and growing conditions required for the harvesting and process of creating wine.

## THE TRADITIONAL DESIGN OF A VINEYARD

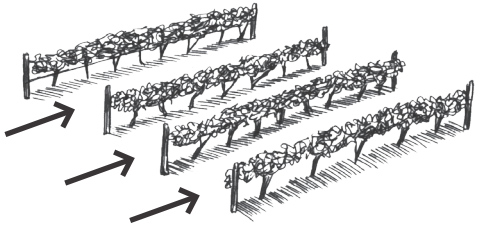
When vineyards are planted, there are a variety of site design decisions that need to be made to achieve specific goals. These include developing the maximum production potential for vines, preventing soil erosion, and facilitating management of vine canopies and equipment operations .

The location of rows, roads and storage facilities are determined first. Large fields are divided up and separated with large avenues to allow for air movement. It is critical to have proper air movement through the avenues to cool the grapes down and to moderate the temperature. The direction of the rows are determined based upon the need for light exposure, wind speed and the slope of the land. Rows running in a north-south orientation receive more light than the east-west rows. The rows are orientated parallel to the predominant wind. The main avenues and head alleys are generally 6 metres or wider to give farm machinery room to make turns. The vineyard block spacing is standard for normal farm operations.

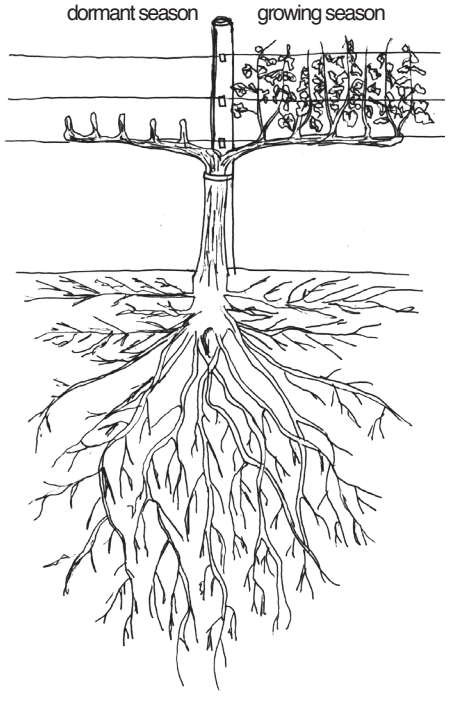
The spacing of rows is dependent upon the proposed training and trellising systems that are used within the vineyard. In the Niagara and Okanagan regions, the spacing is 2.5 to 3 metres to accommodate the post and wire trellising system, the most common system used. This system consists of two types of support posts, which are often made out of wood or metal, one to support the wire and the other to support the vines. The wire that is usually used is a 9 to 12 gauge that runs the length of the row. It is generally thought that the spacing is dependent upon the machinery used, however, advances in technology have produced powerful tractors that are able to even navigate between 1 to 1.5 metres. Having wider rows is also ideal for air circulation and in-row mowing.

The spacing of the vines is determined by the approximate full-grown size of the vine as well as the vigor of the cultivar. When the vines are planted close together, this increases the number of buds produced per unit of land. Shoot crowding and shade must be avoided so as not to affect the desired quality of the grapes. In the Niagara and Okanagan, the general spacing for the cultivars is approximately 2 to 2.5 metres.

A rectangular form is generally used for laying out the vineyard. This is done for a variety of reasons including maximizing the surface area for planting and avoiding the turns required for machinery. In the Niagara Peninsula, since the topography is fairly flat and the irrigation is commonly done through drip irrigation or a soil soaker, the vineyards can be planted in long straight rows. The opposite is found in the Okanagan Valley where the topography varies greatly and the irrigation is often done by overhead or drip systems. The vineyard rows have to be between 90 to 180 metres and tend to follow the topography, which can lead to them becoming somewhat winding.



Above:
Figure 2.1: Vineyard rows orientated parallel to prevailing winds




Above:
Figure 2.2: A cordon-trained vine showing the dormant and growing season changes

## STRUCTURE AND FUNCTION OF VINES

The shape of the cultivated grapevine is created by the training and pruning of the vine into a specific arrangement. These arrangements are known as the training systems. There are a variety of training systems used, however the most common in North America is the cordon-trained system. Figure 2.2 illustrates the grapevine during two distinct times in the year, the dormant season and the growing season.

## THE ANNUAL LIFE CYCLE OF THE VINE

The annual life cycle of the grapevine involves many processes. The timing and duration of these developments in the northern hemisphere are subject to variations in response to seasonal weather fluctuations, local climate and grape variety.

April: The first stage of the annual cycle of the vine is the bud break. The bud break is known as *activation* which occurs when the average temperature is 11°C. During this time, the buds begin to swell and eventually shed their sheaths, revealing a green skin. Green shoots also begin to form from the buds. This process of shedding the sheaths leads to this act being called *bud break*.

May: After the *activation* period, the vine enters the *debourement* stage. At this time rapid growth of the shoots occurs and the shoots enter into pre-bloom.

June: The bloom period occurs when the temperature reaches 20°C. The flower formation, known as

*anthesis*, happens when the blossoms lose their calyptras and begin to self-fertilize. The bloom period is very fragrant and can last between 14 to 21 days.

July: During this time the growth begins to slow as the grapes develop.

August: *Veraison* occurs when the unripe grapes soften, change colour and their sugar content increases. The white grapes become translucent and coloured grapes begin to develop red pigment and eventually change colour. Besides *veraison*, *aoutement* takes place in which the rate of growth of the vine stops and the woodiness develops while the shoots and leaves change colour.

September to October: At this stage of development the fruit reaches maturity and the grapes are harvested.

November to February: Between these months in the northern hemisphere, ice wine is harvested and the vines are pruned and enter dormancy and deactivation until the springtime.

THE PRODUCTION OF WINE

Once the grapes have been harvested, they begin the process of becoming wine. The stages of wine production are: harvesting, crushing, pressing, fermentation, clarification and maturation.

Harvesting

Once the grapes have ripened and have developed enough sugar and concentrated flavors in the vineyards, the berries are harvested. This generally occurs between late September and early October.

The harvesting is often done on cool days or early in the morning to avoid yeasts and bacteria from developing on the grapes. The harvesting can be done by hand (which is accurate but slow and labour intensive) or by mechanical harvesters (which can pick an average of five tonnes of grapes an hour).

Crushing

Once the grapes are brought inside the wine production facility, they are weighed and tested. The berries are then dropped into a hopper and transported by an auger to a crusher/destemmer that removes the skins from the grapes as well as the stalks which contain the bitter tasting tannin. In the process called carbonic maceration, the berries are left to ferment longer and then destemmed.

Pressing

After the berries are crushed, the pure grape juice (known as 'must') is strained from the skins, pulps and seeds. Generally, grapes are pressed with a basket press, which is the most gentle way. Once the berries are pressed, the 'must' is pumped into tanks for the fermentation process.

Fermentation

A biochemical reaction that allows the sugar from grapes to ferment and produce alcohol and carbon dioxide is the basis for all wine. The act of fermentation occurs when yeast comes in contact with the sugar in the grape juice. Different wine styles (sweet, dry and sparkling) all require a different method of fermentation. Red and white wines are treated in a different way during fermentation. Red wines are fermented with their skins on to extract the colour, tannin and other characteristics. White wine are fermented without the skins.

Clarification

Clarification takes place after the fermentation process as a way to rid the wines of tiny suspended particles left in the wines. There are a variety of different methods for this process including racking, fining and filtering. Racking allows the wine to be clarified by movement through a series of tubes known as siphoning. Another method known as fining is the addition of a coagulant (often egg white or bentonite) that causes suspended particles to settle at the bottom of the tank. Filtration is done through the use of cellulose meshes and screens which remove unwanted particles.

Maturation

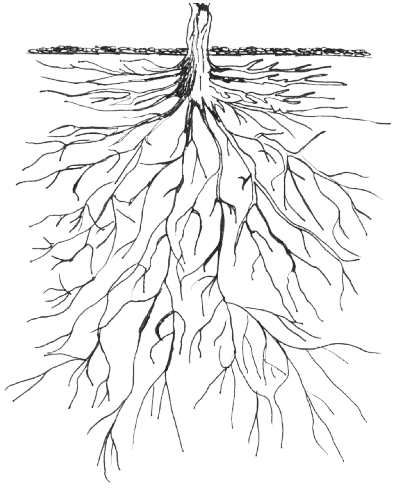
Red and white wines are both stored in order to improve their quality. Red wines are generally stored in oak barrels while white wines are aged in stainless steel tanks. Both types of wine are stored in cool, dry locations as wine ages faster in warm conditions. After the wines have been aged, they are bottled and corked. A typical bottling line includes stations for the filtering, filling, corking and labeling. A variety of different corking methods are used including screw caps, natural corks and other synthetic stoppers.

CONCLUSION

Understanding this unique process between the specific growing requirements of grapes to the harvesting, fermentation and maturation reveals the unique setting required for the practice of wine production. The combination of the characteristics and design of the vineyard, grapevine and the production process makes each winery distinct, let alone each bottle of wine produced. Allowing this unique process to be understood, combined with a distinctive visitor interaction, can enrich the experience of being in wineries and vineyards.

# CHAPTER 3

**GROW** TERROIR AND TOURISM



## INTRODUCTION

The intent of this chapter is twofold, first to introduce the role of terroir and briefly to describe the wine tourism industry, and second, to examine how these topics relate to landscape architecture. By bringing together research in the fields of viniculture and tourism, current theories can be related to landscape architecture for the design of a vineyard landscape.

## WHAT IS TERROIR?

The concept of terroir is central to understanding wine. The term *terroir* is derived from the French word *terre* which means 'land'. Though the definition of terroir has been debated consistently and can vary significantly, for the purposes of this chapter it will be viewed as "the possession by a wine of a sense of place, or 'somewhereness'; that is, a wine from a particular patch of ground expresses characteristics related to the physical environment in which the grapes are grown" (Goode, 2005, p. 25). The intent of this chapter is to describe the concept of terroir and how it relates to landscape architecture.

## DESCRIBING A 'SENSE OF PLACE'

As expressed in *The Science of Wine: from Vine to Glass* by Jamie Goode, "wine [is the] embodiment of a vineyard's site, climate, the cultivar and the culture of those who work within it. By understanding the environment, the vineyard can be managed differently to produce wines that have a sense of place. Terroir is the philosophical framework that the wine grower works within" (Goode, 2005: 29). Wine expresses flavor characteristics which are influenced by the properties of the vineyard or region from which it comes.

Cornelis Van Leeuwen and Gerard Seguin's article *The Concept of Terroir in Viticulture* (2006), discusses the role of terroir in the production of wine. Van Leeuwen and Seguin state that "terroir is concerned with the relationship between the characteristics of an agricultural product (quality, taste, style) and its geographic origin, which might influence these characteristics" (p.1). In order to comprehend terroir, an understanding of the interactive ecosystems in a specific place that contribute to terroir must be understood (p.1). Both natural and human factors play a role in terroir. The natural factors include: climate (both meso and micro), soil and geology. In cool-climate viticulture, climatic variability, particularly topo-climatic variability, becomes an important factor. The climatic changes due to the altitude, aspect and slope of a location influence the quality of the grapes produced. Soils have a major influence on the growth of vines. It is widely thought that wines grow best in poor soil conditions, however, vines do have a tendency to grow vigorously in deep, rich soils. The geology and pedology also play a role in the terroir. Since geology and pedology examine the rock types and sedimentary strata of a given location, soils are connected as they describe the types of rocks that have developed.

Human factors such as history and socioeconomics, as well as viticultural and enological techniques are also a part of terroir (Van Leeuwen & Seguin, 2006, p.1). Human interaction is critical when understanding the nature of terroir because no vineyard can exist without human involvement. Most definitions of terroir take human involvement out of the equation. The term *typicite* was created to take into account humans' participation in this process. It is also important to note that

> in today's wine production, a distinction should be made between 'terroir wines' and 'branded wines'. Terroir wines are produced in a specific location which remains the same over the years. They owe their specific characteristics to the influence of climate and soils on vine behavior and wine quality. Branded wines are produced by blending wine or grapes from larger areas and from a variety of sources, which may vary from

year to year. (Van Leeuwen & Seguin, 2006, p. 3)

The concept of terroir can be applied at a variety of scales. Wines that are harvested from various locations within the same vineyard or vicinity can have different tastes. The scale of the region can yield wines with very different characteristics such as colour and dryness/ sweetness tastes.

## THE APPEAL OF WINE REGIONS

The allure of geographic regions that grow vines goes beyond the ideal climates and natural beauty of the land. As described in *Wine Spectator*, "anybody who loves wine knows, the regions where the finest wine is made are special places – even magical" (August, 1997). What is it about these landscapes that makes them appealing and desirable places to visit? The experience of being in these unique locations is much more than just visiting wineries, it is a culmination of a variety of experiences such as the ambience of the area, the atmosphere, the environment, the local culture including the cuisine and the distinct wine styles and varieties (Williams, 2001, p. 9). As Bruwer (2003) discussed, the appeal of wine regions is often based on the 'difference of place' that the uniqueness of these winescapes draw tourists. Wine regions are often established in enchanting countryside locations and provide a scenic backdrop to their experience. These rural landscapes form a vital aspect of the wine tourism experience; "Tourists view tourist sites and landscapes with much greater sensitivity to the visual elements of the landscape than is normally found in everyday life... there is romance in the rural setting, in rural livelihoods in the winery and vineyards, as well as the romance and sensual feeling associated with drinking wine" (Carmichael, 2005, p.188). Hall and Mitchell (2002) coined the term 'touristic terroir' as a way to describe the combination of physical, cultural and natural environments that give each region its distinctive appeal as a destination for wine tourists.

## WHAT IS WINE TOURISM?

Wine tourism research grew steadily during the early twenty-first century as a sub-field of tourism. The documentation and analysis of wine tourism has been explored in a variety of different locations in both the 'Old World' and 'New World' including: Australia, Canada, Chile, France, Hungary, Italy, New Zealand, Spain, South Africa, the United States of America and the United Kingdom. The two seminal texts on wine tourism, Getz (2002) and Hall, Sharples, Cambourne and Macionis (2000) explore the destination development and demand- related issues surrounding this sub-field of tourism (Getz & Brown, 2006, p.147).

As a result of the varied research about wine tourism, there is yet to be a uniform definition for the term. Chartes and Ali-Knight (2002) describe wine tourism as " travel for the purpose of experiencing wineries and wine regions and their links to lifestyle" (p. 312). This special-interest tourism has also been "defined in terms of activities and motives, such as visitation to vineyards, wineries, wine festivals, and wine shows where wine tasting and experiencing the attributes of a wine region are the prime motivating factors for visitors, and more comprehensively as a combination of consumer behavior, a destination development strategy, and a marketing opportunity for the wine industry" (Taylor, C., Barber, N., & Deale, C., 2010, p.15). Wine tourism incorporates various aspects of the tourism experience including appreciating a different lifestyle, education, wine and local cuisine.

## THE WINE TOURIST

The term 'wine tourist' is often used to describe people who visit wineries. However, this broad term is often misleading as “there is no single, stereotypical 'wine tourist'- nor therefore, a unilateral definition of him or her” (Charters & Ali-Knight, 2002, p. 312). According to Cambourne, Macionis, Hall and Sharples (2000) “wine can provide a major motivating factor for tourists to visit a destination as, more often than not, wine regions tend to be attractive places, and the vineyards themselves are aesthetically pleasing” (p. 297). The experience for wine tourists can be provided in a variety of ways including but not limited to “events and festivals, cultural heritage, dining, hospitality, education, tasting and cellar door sales, and winery tours” (Charters & Ali-Knight, 2002, p. 312).

In Charters and Ali-Knight' s research on the wine tourism industry in ‘New World’ wineries, with a specific focus on Australia and New Zealand, they identified and classified wine tourists behaviour into four categories: the wine lover, the connoisseur, the wine interested and the wine novice. The wine lovers have extensive knowledge in wine education. The wine connoisseurs are those tourists who are highly knowledgeable and highly interested in wine. The wine interested are those with little background in wine education but are interested in gaining more knowledge about wine and its production. The final classification, the wine novice, is considered to be a 'curious tourist', someone who is interested in learning but to whom a relaxing, enjoyable time is a top priority. Understanding the needs and expectations of these four unique user groups will inevitably inform the programming and design of the spaces needed for not only the wine production facility but the customer service areas in the vineyard and winery.

In Dr. Liz Thach's article *Trends in Wine Tourism*, wine critics consider *10 different reasons why wine tourists visit vineyards* (www.winebusiness.com). These are:

1. to taste wine
2. to gain wine knowledge
3. to experience the wine setting (including the vineyards, cellars, etc.)
4. to be in a rural setting (experiencing the beauty of vineyards, learn about the wine business)
5. to match food and wine- culinary tourism
6. to have fun (wine festivals and events)
7. to enjoy wine culture (romance and elegance)
8. to appreciate the architecture and art
9. to learn about the 'green' aspects and ecotourism
10. to enjoy the health aspects of wine

Essentially all of the reasons that people visit vineyards can be enhanced by landscape architecture. In particular, to experience the wine setting, to be in a rural setting (experiencing the beauty of vineyards, learn about the wine business), to enjoy wine culture (romance and elegance) and to appreciate the architecture and art can all be ameliorated by landscape architecture and can thus strengthen a visitor's experience.

CONCEPT OF THE WINE ROUTE

The wine route can be described as "a tourist route that connects several wine estates and wineries in a given area" (Bruwer, 2003, p. 242). This route is often distinguished by natural attractions including scenery, physical attractions such as the wineries, vineyards and signage used to direct the tourists.

The wine routes can therefore be thought of as the roads to the wine attractions; the wineries and the vineyards (p. 242). A great majority of wine routes are also considered to be beyond just the scope of a road and become known as the demarcated geographical area or wine region. These regions have an identity in the form of a name and branding such as Champagne, France or Stellenbosch, South Africa. Since wine routes are regionally based, they often seek to describe the local attributes or unique features of an area to provide a trademark or brand identity.

The wine route can also create the desire for investigation and discovery as "It requires a journey during which a range of unexpected experiences may be encountered. This expectation is encouraged by (advertised) claims of distinctive attributes that are particular to the wine route. A wine route allows the tourist to engage with the diversity of the natural cultural features of the landscape" (p. 242). These routes allow tourists to recognize and value the differences in the landscape and winescapes as they move between wineries, thus forming an integral part of the experience for visitors and the tourism industry.

REVOLUTION IN THE WINE INDUSTRY

Fowlow and Stanwick argue that, "there is a revolution currently under way in the world of wine as both established and new wineries discover the dual marketing advantage of coupling exquisite, brand-name designer architecture with the winery tour" (Fowlow & Stanwick, 2010, p.11). Many new wineries and vineyards are being situated in not only ideal growing conditions but close to other attractions to draw tourists. As the wine industry changes to meet the needs of its users, the architecture of the winery develops and changes to reflect these needs. Traditionally, the wine making process took precedence over the design of the architecture. The buildings were simply used to house the process.

They only provided a shell for the activities to take place in. However, economic and cultural forces have transformed the wine production industry. Over the past few decades, an increased interest in the notion of lifestyle has developed, as well as the tourism industry is experiencing rapid growth. This concept of savoring life was discussed by Carl Honore's narrative *In Praise of Slow.* Honore discusses the cult of speed in contemporary cities which has become a societal standard throughout the world. Honore also introduces the 'Slow Movement': "In this fast paced digital age, more and more people feel a desire for balance in their lives. There is a recognition that quality of life is important, and with this comes the interest in, and demand for, lifestyle choices. One of those choices is wine. Wine tours and tasting both at home and at specialty stores and events, is rapidly becoming a growth area driven by a design-conscious, mobile public increasingly focused on life-style and environment" (Fowlow & Stanwick, 2010, p. 15). Along with this life-style movement came the desire for branding and identity for wineries. Brand conscious consumers could now choose a brand-name image which suited their desires. As Bruwer (2003) stated in *South African Wine Routes: Some Perspectives on the Wine Tourism Industry's Structural Dimensions and Wine Tourism Product* "the increased focus on winery cellar-doors is a move that coincides with a rapid growth in wine tourism. It is all about relationship-building and getting the brand across to consumers and creating brand awareness" (p. 423).

As interest in wine, its production, branding and identity of wineries grew, so did the need for housing wine-production. As a result, many new hybrid types of architectural form have been generated to meet the needs of new buildings for wineries. An example is the Loisium Visitor Centre, the Wine and Spa Resort Hotel designed by architect Steven Holl. This winery is considered to be a cross between a museum, tasting bar and retail outlet. As expressed in *Wine by Design*: "The public identity of vintners is taking on a higher profile as interest in wine grows and, with it, interest in the buildings themselves... vintners understand, now more than ever, that they must invest in the culture of their product and

respond not only to the palette of the senses, but also to our aesthetic palette by promoting the space of wine; a place of ambience, of life-style, of architecture" (p. 21). It is becoming increasingly important for the architecture to be the identifying trademark for the wineries, often including the winery building in the marking and labeling of the wine bottles.

As Fowlow and Stanwick (2010) noted, "the notion of terroir in the wine making industry pairs the characteristics of the land with the specific traits of the wine produced, and now, increasingly, with the architecture" (p. 14). The connection between the architecture and land demonstrates the unique collaboration between the earth and human involvement during the process of turning grapes into wine. It is this 'identity', the specific terroir of a site, that gives a location its character. Architecture itself creates an image, however, the unique sense of place, a combination of the climate, terroir and land, creates a lasting identity for a winery. Perhaps wine label designer William J. Fox stated it best when recalling one experience he had and how he learned to describe a sense of place on the labels he designed:

> *David and I are sitting in Dave and Robin's living room, at their coffee table, across which is spread a phenomenal array of some of the world's great pinots. Dave says to us, "I want you to taste these pinots. We're going to walk through these so you understand the terroir from which each of these wines comes."*
>
> *From the start, there was nothing about blackberries and chocolate and all that nonsense. It was all about where the berries are grown, how the vines are treated, how the berries are picked, and so on. It was really about terroir: land, place, and our connection to it. Dave explained that the first release was going to be called Roads End, because that's a particular beach he and Robin went to that for them represented Oregon and the aspiration they had for the wine.*
>
> *In that first conversation, it was clear that we had to write about place and climate, and that*

*our label would have nothing to do with all of these California affectations about how we describe taste in terms of other foods. We weren't going to go there. We weren't going to become this analog wine. We wanted to be true to where the wine is produced and where the berries are grown.*

*That's how I learned how to describe wine: writing the back labels of wine for Carlton Cellars. They have their own vineyard now, and it's an exquisite site. It reminds me of Wallace Stevens's "jar upon a hill" around which the landscape is ordered — there is a tree around which this vineyard is ordered.*

*Their wines show a sensitivity, in both the wine-making and, hopefully, also the writing, to the soil and the climate. We thought about it in terms of the clay to sand to volcanic mixtures and how that affects what the berries express, what direction the wind comes from, and the temperatures at certain times of the year — in particular, how close can you get to freezing to intensify the sugars at that crucial moment when the fruit is coming to a state of ripeness.*

(Land, Language and Wine Labels: An Interview with William L. Fox)

CONCLUSION

With such attention being paid to the architecture of the winery, the exterior space must also become an important aspect of the total experience for the users. The architecture of the winery cannot simply stand alone in the vineyards. Landscape must become the medium through which the unique experience of the vineyard is combined with the programmatic elements, spatial qualities and each sites' distinct terroir necessary for the source of tourist value.

# CHAPTER 4

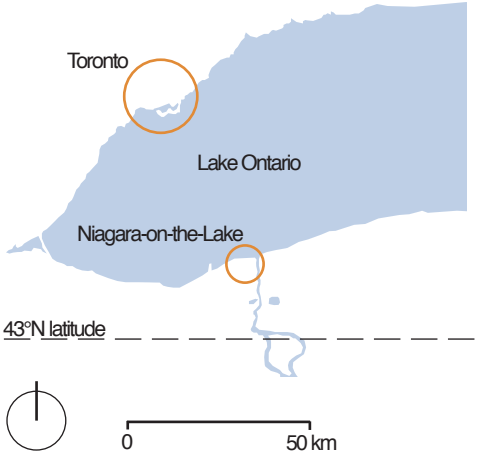
**HARVEST** UNDERSTANDING THE LAND

## INTRODUCTION  CANADIAN VINEYARDS

The ideal locations for vineyards are highly localized areas within regions that have suitable latitudes, topographical elevations, hydrology and climates as described in Chapter 2  Making the Vine to Wine.  In Canada, approximately 11, 000 hectares of land are suitable for the growth of vines (www.wineinstitute.com).  Compared to other wine producing nations such as France, Italy, the United States of America and Germany, Canada is not considered to be a large producer.  However, the amount of land designated for viticulture has seen a dramatic increase in the last few years. The 11,000 hectares of viable viticultural land are spread between four predominant locations in the provinces of Nova Scotia , Quebec, Ontario and British Columbia.  The two largest areas are Ontario's Niagara region (approximately 6870 hectares of land used for vineyards) and the Okanagan Valley in British Columbia (approximately 6475 hectares of land used for vineyards).  These two locations will be examined according to their physiographic conditions including hydrology, topography and soils, growing season requirements, growth and maintenance practices and grape varieties produced, the climatic limitations of each area and the land uses suitable for the region.

Opposite page:
Figure 4.1: Viticultural areas in Canada


Okanagan Valley
Niagara Region




Above:
Figure 4.2: Location of Niagara-on-the-Lake in relation to Toronto

Opposite page:
Figure 4.3: Map of Niagara region



## NIAGARA REGION

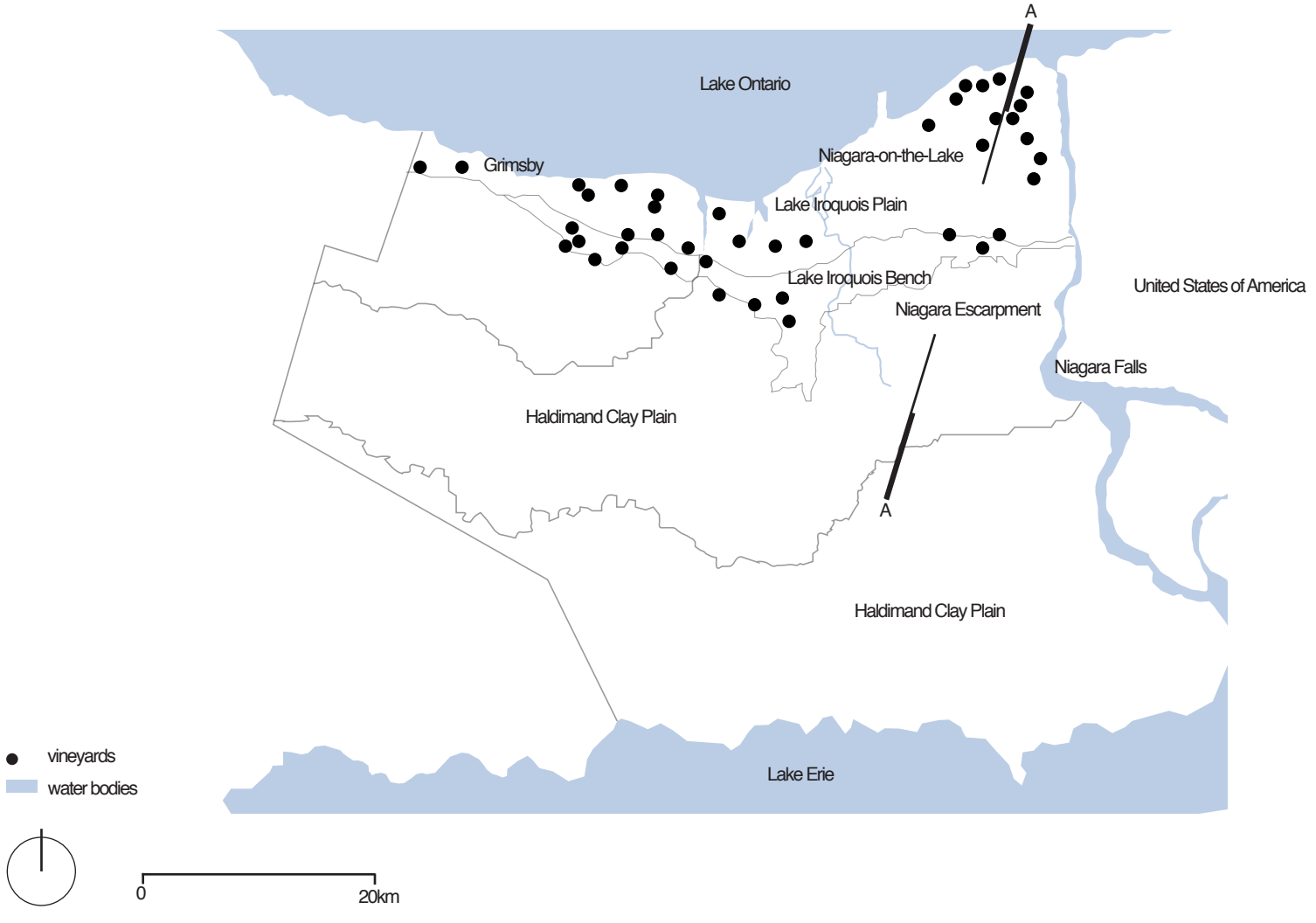
### INTRODUCTION

Land used for Vineyards: approximately 6870 hectares

Number of Wineries in region (according to 2010 statistics): 75

Since specific geographical features create favorable conditions for the growth of vines, the Vintners Quality Alliance of Ontario (VQAO) has four Designated Viticultural Areas known as DVAs for the production of wine. The four areas are the Niagara Peninsula, Lake Erie North Shore, Pelee Island and Prince Edward Country. The Niagara region is a 40 kilometre stretch of land between Grimsby and Niagara-on-the-Lake (see Figure 4.3). Considered to be the most densely concentrated winery location in Canada, Niagara produces more wine than any other region in Canada. The Niagara region is located along the 43°N latitude, in the middle of the world's northern wine belt, between 41°N to 44°N. Niagara has the same latitude as Burgundy and northern California and has many of the same climatic attributes as those regions.

Due to its northern latitude and distinct geological location, the Niagara Peninsula is considered to be a cool-climate viticulture region (Ziraldo, 1995, p. 6). According to Anthony Shaw, a cool-climate region is "one that is capable of imparting certain distinct sensory nuances to its wines as well as possessing a unique combination of climate characteristics… the coolest regions have the most frequent deviations from optimum conditions for maturing the fruit" (Shaw, 2005, p. 81). Cool climate wines tend to be higher in acids due to the longer maturation process. Put simply, a cool-climate region is defined as a location in which the mean temperature of the warmest month of the growing season is less than 20°C. Cool-climate regions can often be difficult for winemakers. Winter temperatures can cause damage


A
Lake Ontario
Grimsby
Niagara-on-the-Lake
Lake Iroquois Plain
Lake Iroquois Bench
United States of America
Niagara Escarpment
Niagara Falls
Haldimand Clay Plain
A
Haldimand Clay Plain
Lake Erie
vineyards
water bodies
0
20km

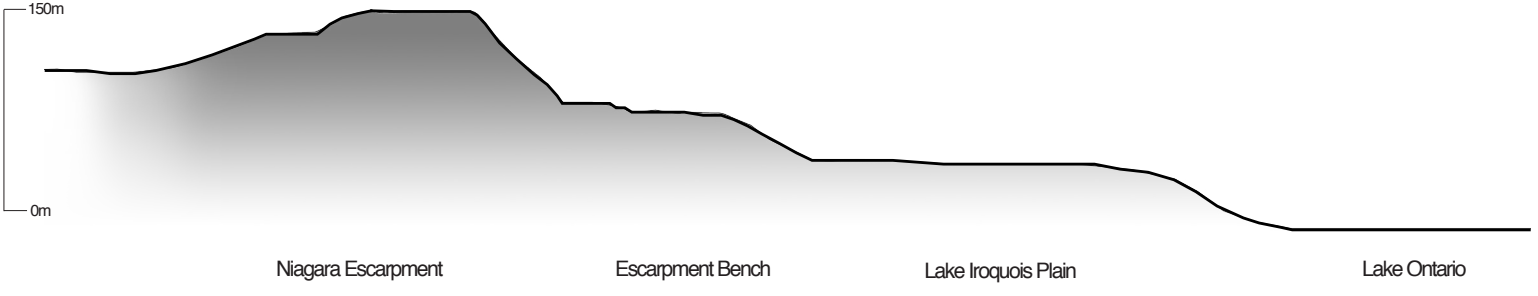
or even destroy vines if temperatures fall below -20°C. Low summer temperatures can inhibit the proper ripening of grapes. Frosts in late spring and early fall can reduce or wipe out yields. Climate remains the most important aspect in the location of viticultural regions, however, this is influenced by the mesoclimates and topographic characteristics combined with soils, geology and cultural practices (Shaw, 2005, p. 80). It is the combination of these elements that creates the unique characteristics of a place and formed the Niagara region.

## PHYSICAL CONDITIONS

The Niagara Escarpment and Lake Ontario define the Niagara Peninsula. This land was once the lakebed of the ancient Lake Iroquois. The bedrock in the Niagara region consists of strata that developed over 500 million years as marine sediments in a warm shallow inland sea. Glaciers have had a tremendous impact on the Niagara Peninsula and have carved a variety of landforms in the region. The Niagara Escarpment's thick dolostone rock has protected the land from erosion due to glaciers. Underneath the dolostone are the softer rock layers, which have been affected by weathering and water erosion. The last glacier to move through the Niagara Peninsula left behind lacustrine and glaciofluvial deposits that smoothed out the topography. The deposits from these glaciers form the Halton clay till that composes the soils and subsoil of the area . There are three physiographic regions in the Niagara Peninsula, which determine the suitability for grape growing. These areas are known as the Lake Iroquois Plain located by Lake Ontario, the Niagara Escarpment situated below the Lake Iroquois Plain, and the southern most regions known as the Haldimand Clay Plain (Shaw, 2005, p. 86). The Lake Iroquois Plain stretches 306 kilometres between the Niagara River and the Trent River. The presence of Lake Iroquois has left rich mineral deposits. The predominant soil structure is composed of Halton clay till over the Queenston shale rock bed, while in the areas surrounding Lake Ontario the soil

Opposite page:
Figure 4.4: Section through Niagara region

is composed of deep lacustrine fine sandy loam and fine sandy loam clay till (p. 86). These particular soils have a high capacity for holding water, which helps vines during the dry summer months. The area of land at the southern end of the Niagara Escarpment declines towards Lake Ontario. According to Anthony Shaw (2005), "approximately 90 per cent of this area has long, gentle, north-facing slopes with gradients less than 3 per cent; consequently, the entire area receives uninterrupted sunlight throughout the growing season. Several streams that cross this area to Lake Ontario enhance the drainage of excess moisture from adjacent vineyards. During the early spring, they flow vigorously, but in the summer most become dry beds" (p. 87). The Niagara Escarpment is located between the Iroquois Plain and the Haldimand Clay Plain. The escarpment has predominantly north facing slopes, which vary in their appropriateness for cultivation. Some of the north-facing slopes are much too steep for cultivation while other areas are best reserved for manual labor (p. 88). The presence of the Niagara Escarpment influences the winds and temperature of the Lake Ontario Plains. Under prevailing winds from the south-west, the escarpment acts as a shelter belt creating a protected zone that may vary from about 0.3 kilometres to 2.5 kilometres from the base of the escarpment. The size of this protected zone




Section A - A: Topographical section through the Niagara region

corresponds to the strength of the winds and the angle at which the winds cross the escarpment. Low wind speeds and moderate temperatures characterize this protected zone. Two terraces commonly known as Beamsville and St. David's benches, compromised of glacial till and lacustrine sediments are collectively called the Lake Iroquois Bench (p. 88). Located between the Niagara Escarpment and Lake Erie is the third physiographic region called the Haldimand Clay Plains. This area is marked with a high elevation point located by the Niagara Escarpment known as the Fonthill and the Short Hills (p. 88). As a result of its well-drained and light textured soils this area is ideal for the growth of crops including peaches, sour cherries, apples and *Vitis labruca* grapes (p. 88). Moving southward towards Lake Erie, the land levels off into a flat plain with a few ridges created by glacial migration.

The Great Lakes have a tremendous impact on climate of the region. The area is located between three bodies of water; Lake Ontario to the north, Lake Erie to the south and the Niagara River on the east. "However, its position between the cooler waters of Lake Ontario to the north and the eastern end of Lake Erie to the south exposes the region to strong lake breezes that help to cool the summer temperatures. Continental polar air masses that frequently invade the Niagara region from the north in the winter are moderated by the relatively warm surface of Lake Ontario before arriving on its south shore. In the spring and summer, the prevailing south-westerly winds traverse the full length of Lake Erie and moderate temperatures in the southern half of the region" (Shaw, 2005, p. 86). Lake Ontario raises the temperatures in the winter months as the water retains heat from the summer. During the summer, the lake helps cool down the region, preventing early buds from forming until after the final winter frosts. The Niagara Escarpment is a 335 metre high ridge that extends from Queenston Ontario to Michigan in the United States for 725 kilometres (www.canadianvintners.com). The Niagara Escarpment acts as a ledge and helps benefit the vineyards by creating a constant air flow. This prevents cold air from settling on the vineyards during periods of frost. The vineyards in the area are

located on a dolostone composed of a carbonate of calcium and magnesium. The unique hydrology, topography and soils, along with specific climatic conditions, have formed patches of land suitable for use as vineyards and the grapes and wine produced here.

## CLIMATIC LIMITATIONS

Climate is the most important factor for the location of viticulture. The climate of the Niagara region is anything but consistent. Factors including slope, elevation, wind patterns, and distance from the lakes all contribute to the mesoclimates. As noted by Shaw, "the climate of this area is not homogeneous. Such factors as distance from the lake, slope, elevation and air flow patterns have created a range of mesoclimates with varying degrees of risk and growing conditions with respect to grape production" (Shaw, 2005, p. 87). These mesoclimates determine the ideal locations for the vineyards situated in the central region of the Niagara Peninsula. Lake Ontario provides a temperate continental climate for the region. Continental polar air masses from the north during the winter months are moderated by the warm surface of Lake Ontario. The prevailing southwesterly winds during the spring and summer sweep over Lake Erie and moderate the southern portion of the Niagara Region. These factors, combined with the steep north-facing slopes of the Niagara Escarpment, create unique mesoclimates that are ideal for the growth of the commonly grown grape varieties *Vitis labrusca* and *Vitis viniferea*. These particular varieties thrive best if no rain falls between the blooming period and harvest. The amount of growing days in a season can vary greatly. The range in climate temperature goes between a low of -10°C to 25°C. This diverse range in temperature allows a large variety of grapes to be planted and harvested including grapes ideal for Ice wine. As a result of Lake Ontario to the north and Lake Erie to the south, Niagara experiences warm summer temperatures with long daylight hours and cool winters. The Niagara region has an average rainfall of 700 to 800 millimetres with unpredictable

rains in September and October (Ziraldo, 1995, p. 12). These factors cause budding to occur in late May to early June and harvesting to begin in mid-August and extend into January for Ice wine (www.canadianvintners.com). Snow in winter helps to protect the vines from damage caused by to extreme temperatures. The vines are trained to grow low, which allows them to be covered by snowfall in the winter. To combat frost and cold temperatures, wind machines are used to push warm air down onto vines. Similar to the propellers on a helicopter, the large blades rotate and push warm air down onto the vines. This helps to raise temperatures up to 5°C.

GROWTH AND MAINTENANCE: PRACTICES AND GRAPE VARIETIES PRODUCED

The common form of training and trellising used in this region is the post and wire trellis, discussed in Chapter 3: Terroir and Tourism. This method is ideal for the Niagara region as it is efficient in its construction and it allows the most amount of light to reach the grapes which facilitates photosynthesis.

Hand or machine harvesting is common in the Niagara region. After the harvest, the graft of the vine is covered with earth to protect it from winter damage. The harvesting of Ice wine is done when temperatures are guaranteed to fall below -8°C. This is done to ensure that the grapes are frozen on the vine and will remain frozen when picked and pressed. Pruning usually happens between December and April before the first bud break. The pruning methods are often changed due to temperature fluctuations. A variety of different practices is used to avoid freeze damage including "site selection, delayed pruning, canopy management, multiple trunks, reduced crop load and wind machines" (Shaw, 2005, p. 89).

Opposite page:
Table 4.1: Grape varieties used in the Niagara region

There are approximately 60 different varieties of grape grown in the Niagara region. The *Vitis riparia*

is the native species well adapted to the cool climates in North America and can be found growing in shady and moist locations throughout the Niagara region. There are two permanently grown introduced species of grapes in the Niagara region; *Vitis labrusca* and *Vitis vinifera*. Both species are grown on the post and wire tressels which allow for the most quality and quantity of grapes. Since the species have potential to grow to great heights, annual spring pruning controls their growth. The *V. labrusca* has berries that are larger and come in a variety of different colours including black, red and white. The four predominant species of white grapes include Chardonnay, Auxerrois (petite Chardonnay), Riesling, and Gewurztraminer while the four common red varieties include Cabernet Franc, Pinot Noir, Cabernet Sauvignon and Merlot. The specific growing details for the species are as follows:

Table 4.1: Grape varieties used in the Niagara region

| Type of Grape | Harvest | Soils | Climate | Yields |
|---|---|---|---|---|
| Chardonnay | mid season- September to October | clay- limestone | cool climates | low (40-60 hectalitre) |
| Auxerrois | early- September | clay, clay/loam | cool climates | moderate (60-80 hectalitre) |
| Riesling | late- September to late October | deep, fertile loam | cool climates | low (40-65 hectalitre) |
| Gewurztraminer | mid season- September | deep, fertile loam | cool climates | low (45-65 hectalitre) |
| Cabernet Franc | late ripening- mid to late October | clay | moderate | moderate (55-65 hectalitre) |
| Pinot Noir | mid season ripening- early October | well drained, calcareous soils | cool climates | very low (25-40 hectalitre) |
| Cabernet Sauvignon | late ripening- mid to late October | less fertile, well drained | moderate | low (35-50 hectalitre) |
| Merlot | mid season ripening- mid October | clay | moderate | high (70-80 hectalitre) |

## LAND USES

The unique geographical conditions of the Niagara region allow a variety of different land uses. The predominant uses are orchard and vineyard growing, crop production and built-up areas. The towns of Niagara-on-the-Lake and St. Catherines are the main areas of settlement located in the region. The vineyards and orchard lands are predominantly found between Niagara-on-the-Lake and St. Catherines where the soils and topography contibute to ideal mesoclimates. The orchard areas tend to be located along the edges of Lake Ontario and the Niagara River while the vineyards are found in the middle of the peninsula and south of St. Catherines. Field crop systems such as row crops, corn, wheat and cereal grain, hay and pasture and specialty crop growing (including vegetable and berry growing and nurseries) are found interspersed between the areas of vineyard and orchard growing where the soil is most suitable.


Above:
Figure 4.5: Location of Okanagan Valley in relation to Vancouver and Victoria

Opposite page:
Figure 4.6: Map of Okanagan region

# OKANAGAN REGION

## INTRODUCTION

Land used for Vineyards: approximately 6475 hectares

Number of Wineries in region (according to 2010 statistics): 66

In central British Columbia "located between the Monashee Mountains to the east and the Coast Mountain range to the west, the Okanagan Valley is home to over 150 wineries spread over five regions- the Okanagan, Similkameen, Frazer Valley, Vancouver Island and the Gulf Islands. Lying in a natural rain shadow, making it warmer and more arid than Napa, this northern extension of the Pacific Northwest wine appellation produces more than 12 million litres of wine annually." (Datz & Kullmann, 2010, p. 144). Stretching for approximately 130 kilometres from Lake Osoyoos to the top of the Okanagan Lake, the Okanagan Region is Canada's second largest wine producing area. This area is situated along a narrow strip of farmland and is divided into three regions: the North (located in Vernon), Central (centered between Kelowna and Penticton) and South regions (extending past Penticton). The valley is at the same latitude as Germany's Rhine Valley and France's Champagne region (Ziraldo, 1995, p. 47). This region was once cereal croplands but was more economically viable to be used for fruit production and came to be known as the 'fruit basket of Canada'. The Okanagan region is located on the 49°N parallel, just under the 50°N parallel that viticultural regions Rheingau and Mittelrhein in Germany and the Champagne in France are located on. Just as the VQA standardizes the wines produced in the Niagara Peninsula, the BC VQA guarantees that the wine is 100 per cent made in Britsih Columbia. The BC VQA is an 'Appellation of Origin' system that is put in place to guarantee the quality, production and certification of the wine in British Columbia.


vineyards
water bodies
communities

0 10km

## PHYSIOGRAPHY AND SOILS

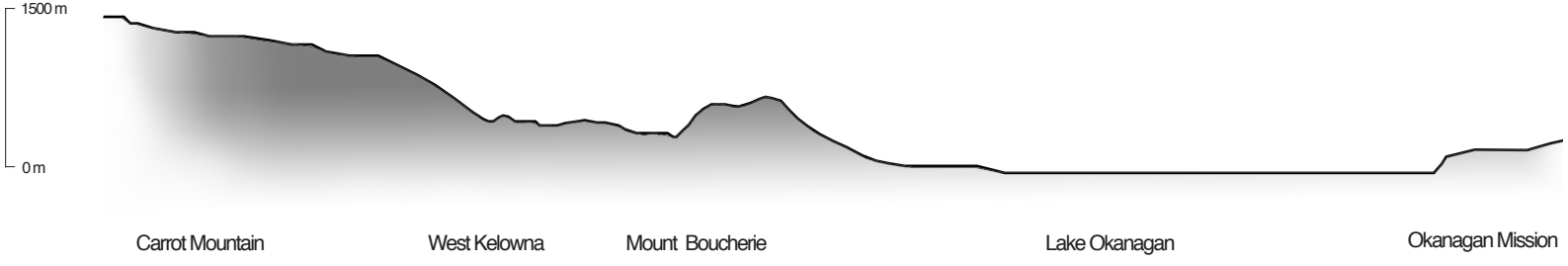
The Okanagan Valley is a north-south trench located in the Interior Plateau of British Columbia. The complex geographical history of this region has lead to a diverse terrain in the Okanagan Valley. The Okanagan Highlands, which are located to the east of the Okanagan Valley are formed from the Monashee Gneiss which lifted during the Cretaceous period (Bowen, Bogdanoff & et al. 2005, p. 162). West of the Okanagan Valley, the bedrock geology is composed of granites and volcanic sedimentary rocks, which came from the Okanagan Highlands during the Ecocene era (162). A network of fault lines, known as the Okanagan Fault, were formed from the separation of the plains. Sedimentary rocks which include conglomerate, sandstone, siltstone and minor amounts of coal were all deposited around the volcanic regions which form the bedrock found underneath the vineyards. Glacial advances have eroded the bedrock and have redistributed materials around the area. The entire valley drains south to the Columbia River. These geological processes have created a variety of different bedrocks. Due to the glaciers' movement over the valley, "the soil in the north is generally composed of glacial stone, fine sand, silt and clay, while the south is predominantly sand and gravel." (www.canadianvintners.com).

## CLIMATIC LIMITATIONS

The Cascade Mountain Range to the southwest and the Monashee Mountains to the east have varying elevations ranging from 1200 to 1500 metres above sea level with summits as low as 2150 to 2400 metres below sea level. Due to these dramatic changes in elevation, the valley has the climatic effect known as the rain-shadow. The rain-shadow effect brings the dry, hot summer conditions and mild, wet winter weather. Because of the valley's location, it receives very low annual rainfall,

Opposite page:
Figure 4.7: Section through Okanagan Valley

approximately 400 mm in the northern area of the Okanagan Valley down to 152 mm per year in the southern portion (Clarke, 2002, p. 268). The summer temperatures are very warm with average temperatures around 30°C. The long summer daylight hours help the grapes ripen due to prolonged daytime photosynthesis. The temperatures in winter can often drop below 0°C and are moderated by the region's lakes. These climatic influences enable a variety of vegetation to thrive. The higher elevations are ideal for fruit producing tree species and orchards.




Section A - A: Topographical section through the Okanagan Valley

## GROWTH AND MAINTENANCE: PRACTICES AND GRAPE VARIETIES PRODUCED

The trellising systems that are most widely used in the Okanagan are the post and wire trellis and the cordon-trained system, the same methods used in the Niagara region. Vineyards in the Okanagan are irrigated, most often by overhead irrigation systems. This method is most commonly used because it offers protection from frost. Other vineyards do use drip and microjet systems as well.

Due to the fact that there is a "wide variation in climate in the Okanagan Valley many different kinds of grapes are grown here" (www.canadianvintners.com). Similar to the Niagara region, *Vitis vinifera* varieties are predominantly produced along with minimal amounts of *Vitis labrusca*. There is a variety of different grapes grown in the Okanagan; with a ratio of 49 per cent white and 51 per cent red according to the BC VQA. The top produced white wines include Sauvignon Blanc, Gewurztraminer, Chardonnay and Pinot Gris. Pinot Noir, Merlot, Cabernet Sauvignon and Syrah are the four most widely grown red grape varieties. The specific growing conditions for each grape varieties and are described in Table 4.2.

Opposite page:
Table 4.2: Grape varieties used in Okanagan Valley region

Table 4.2: Grape varieties used in the Okanagan Valley region

| Type of Grape | Harvest | Soils | Climate | Yields |
|---|---|---|---|---|
| Sauvignon Blanc | late ripening- mid to late October | less fertile, well drained | cool climates | low (35-50 hectalitre) |
| Gewurztraminer | mid season- September | deep, fertile loam | cool climates | low (45-65 hectalitre) |
| Chardonnay | mid season- September to October | clay- limestone | cool climates | low (40-60 hectalitre) |
| Pinot Gris | mid season- September to October | well drained, clay | cool climates | low (40-60 hectalitre) |
| Pinot Noir | mid season ripening- early October | well drained, calcareous soils | cool climates | very low (25-40 hectalitre) |
| Merlot | mid season ripening- mid October | clay | moderate | high (70-80 hectalitre) |
| Cabernet Sauvignon | late ripening- mid to late October | less fertile, well drained | moderate | low (35-50 hectalitre) |
| Syrah | mid season- early to mid October | well drained | cool climates | low (40-60 hectalitre) |

LAND USES

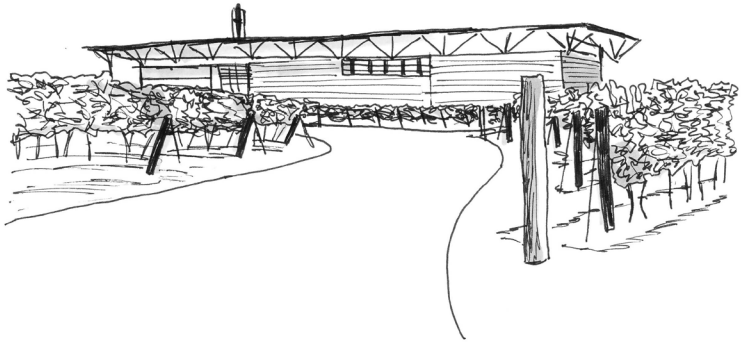
The Okanagan's topography is significant in the way that it has played a role in limiting the patterns of human development in the area. The Okanagan Valley is remarkably different from its surroundings bordered by the Cascade Mountain Range to the southwest and the Monashee Mountains on the east. Due to the mesoclimates in the valley, orchards and vineyards are located along the edges of the Okanagan Lake, around Kalamaik Lake and Wood Lake to the north-east and Skaha Lake and Vasaux Lake to the south. There are six areas of development located along the valley, beginning with Vernon in the north, Lake Country, Kelowna, Westbank and Penticton around the center of Okanagan Lake, and Osoyoos in the south close to the United States border.

## CONCLUSION

The respective characteristics of the Niagara and the Okanagan wine regions provide each area with a distinctive terroir. As discussed in Chapter 3: Terroir and Tourism, the terroir creates a sense of place through the combination of features including the climate, soils and geology. Though both areas are considered to be cool-climate viticultural regions, the terroirs are completely different. The relatively flat Lake Iroquois plain, with a variety of microclimates from the surrounding lakes and a soil structure composed primarily of Halton clay till over the Queenston shale rock bed or deep lacustrine fine sandy loam and fine sandy loam clay till provide the Niagara region with its terroir, generating wines known for being hardy and well adapted to cool-climates. In contrast, the sloping hills of the Okanagan Valley, combined with a soil composed of fine sand, silt and clay and the microclimates generated from the rain shadow effect of the area being located in a valley gives the Okanagan a drastically unique terroir, yielding wines known to be suited for cool-climates. It is these distinctive terroir characteristics which define the regions and their wines.

# CHAPTER 5

**FERMENTATION** CASE STUDIES



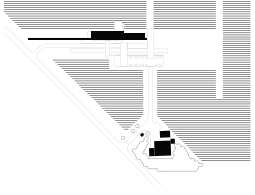
## INTRODUCTION CASE STUDY METHOD

The case study method, according to Mark Francis (1999), is "a well-documented and systematic examination of the process, decision-making and outcomes of a project, which is undertaken for the purpose of informing future practice, policy, theory and/or education" (Francis, 1999, p. 2). As a way to investigate and begin to understand the relationship between landscape architecture and current vineyard designs, the case study method will provide a way to dissect and observe contemporary design strategies. Through the use of this research method, a greater understanding of the current connection between landscape architecture and vineyard design can be examined and open up the conversation of how to improve or realize opportunities for vineyard designs. A selection of three case studies, two from the Niagara Peninsula and one from the Okanagan Valley, were selected based upon a list of criteria including the vineyards' scale, setting of built elements, pedestrian and vehicular circulation, connection to wine routes and design uniqueness as a new vineyard landscape. Site visits to the three case studies allowed for a firsthand understanding of the way the sites were designed and how they suit the needs of their users. Conversations with the landscape designers, individuals working in the facilities and visitors to the wineries all contributed to the analysis of these sites. The case studies were all examined upon their context, project development, original design concept and site analysis.

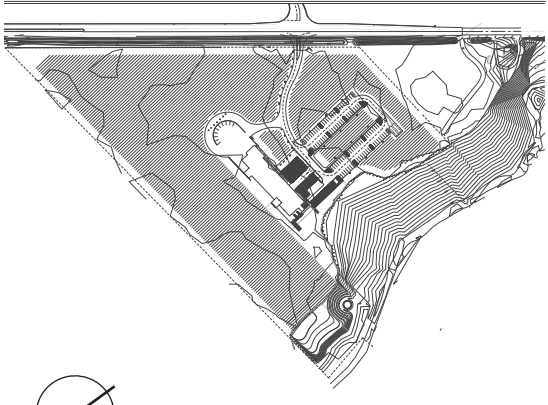
Opposite page:
Figure 5.1: Case studies

CASE STUDIES

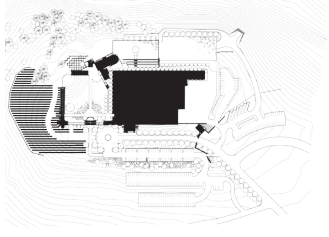
Southbrook Vineyards Niagara Region



Jackson-Triggs Estate Winery Niagara Region



Mission Hill Estate Winery Okanagan Valley

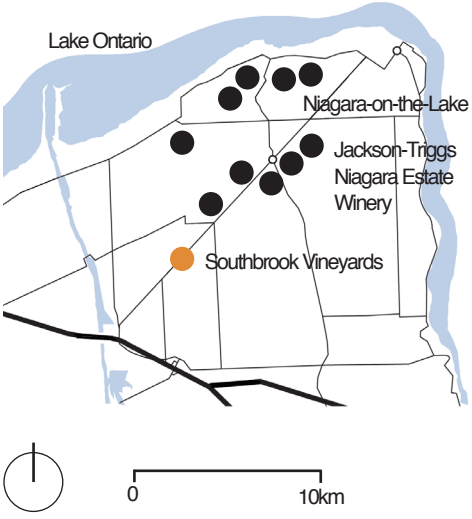


0 150 m


Figure 5.2: View of Niagara region

NIAGARA-ON-THE-LAKE  ONTARIO

Nestled in the largest region of wine production in Canada, Southbrook Vineyards and Jackson-Triggs Estate Winery are precedents which demonstrate how landscape architecture, along with architecture, can enhance the experience of being in a vineyard.  From the moment the visitor enters both Southbrook Vineyards and Jackson-Triggs Estate Winery, the landscape design begins to reveal the process of wine production within an attractive landscape.  Each case study approaches the site in a unique way, demonstrating how architecture in relation to vineyard planting and landscape can be designed differently to create a distinct experience for the visitor.




## SITE 1: SOUTHBROOK VINEYARDS

**Project name:** Southbrook Vineyards

**Location:** 581 Niagara Stone Road, Niagara-on-the-Lake, Ontario, Canada

**Size:** 6.7 hectares

**Landscape architects:** du Toit Allsopp Hillier Ltd.

**Client:** Southbrook Vineyards owners Marilyn and Bill Redelmeier

**Architects and Engineers:** Diamond and Schmitt Architects, MMM Group and Martin Conboy Lighting Design

**Date designed/planned:** Project began in 2005

**Construction completed:** Project completed in 2008

**Managed by:** Southbrook Vineyards

**Visitor policy:** Open Monday to Saturday 10 am - 5 pm and Sunday 11 am - 5 pm

Above:
Figure 5.3: Location of Southbrook Vineyards

## CONTEXT

Southbrook Vineyards is the southernmost vineyard situated along the bucolic Niagara Stone Road. This vineyard acts as a gateway to the rest of the Niagara-on-the-Lake wine country and was designed to highlight the specific site location. In Chapter 4: Understanding the Land, the Niagara region was described as having a unique topography with a variety of soil types. Southbrook is located in the Lake Iroquois Plain region which is characterized by lacustrine silty clay. The site is situated between Lake Ontario to the north and the Niagara River to the east.

Southbrook Vineyards includes the main building known as the hospitality pavilion, parking facility, vineyards and a wine production compound. The design of both the architecture and landscape was inspired by the distinct conditions of the site and reinforces the horizontality of the Lake Iroquois Plain topography and repetitive nature of the vine plantings. Southbrook Vineyard serves as an example of the way in which landscape architecture can enhance a vineyard site, creating a unique, sustainable and engaging space.

## PROJECT DEVELOPMENT

The site was previously used as a vineyard, so when it was purchased in 2005 by Marilyn and Bill Redelmeier, little work had to be done to the existing vineyard. The Redelmeier's intention for the site, which was to be Canada's first organic and biodynamic winery (a form of organic viticulture which generated from Austrian philosopher Rudolf Steiner that combines cosmic energies, ecology and the spiritual in nature), presented its own unique requirements and challenges for the design team to combine into the architecture and landscape. The design team included landscape architecture firm du

Toit Allsopp Hillier Ltd., Diamond and Schmitt Architects, MMM Engineering Group, and Martin Conboy Lighting Design. The project began in 2005 and was completed in spring 2008. The collaboration between all disciplines allowed the project to meet the requirements to achieve a Leadership in Energy Efficient Design (LEED) Gold certification and a variety of other design awards including a Canadian Society of Landscape Architecture (CSLA) award.

ORIGINAL DESIGN CONCEPT

The design for the site was heavily influenced by the fact that this winery was going to be organic and biodynamic. With these guidelines in mind, the design team needed to integrate sustainable aspects such as a wetland treatment system, a bio-swale and use of native plant species. The design was also intended to have a harmonious relationship with the land. As noted by du Toit Allsopp Hillier Ltd. (DTAH), "the landscape design is completely deferential to its setting. Arrival, parking and strolling to the entry provides a sequence of panoramic vantage points of the pavilion within its simple, delineated landscape" (www.dtah.com).

SITE ANALYSIS

The dominant feature on the site is a massive horizontal 200 metre periwinkle coloured wall (see Figure 5.5), which protrudes from the building and runs parallel to the vineyards extending to Niagara Stone Road. This visual element guides the visitor along an access road lined with wildflowers and a bioswale, used for treating on site stormwater that had once been a problem (see Figure 5.7). The access road leads to a parking area, which is visually separated from the building and the surrounding vineyards by columnar poplars. Used as a vertical element to contrast visually with the horizontality of the rows of

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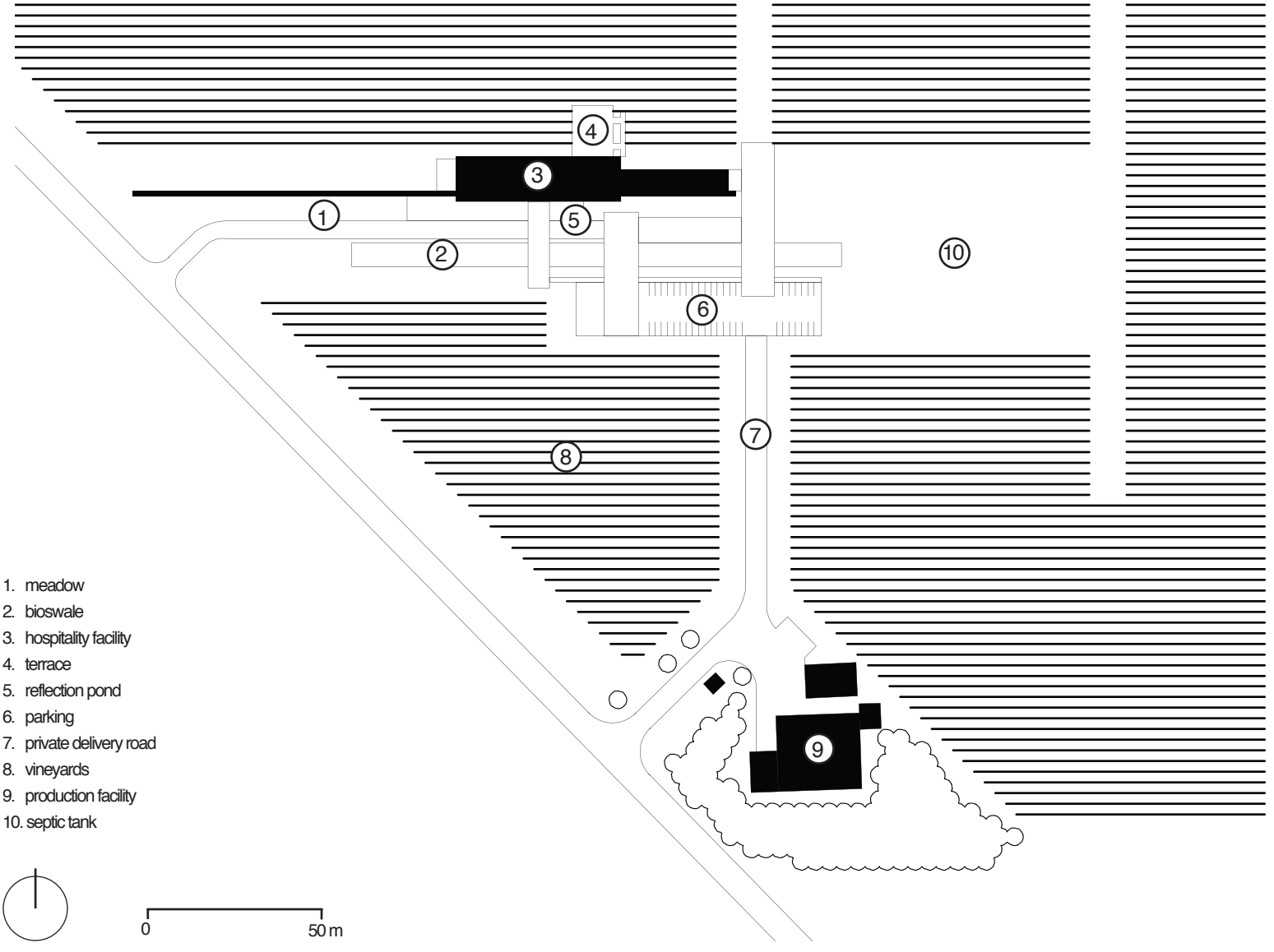
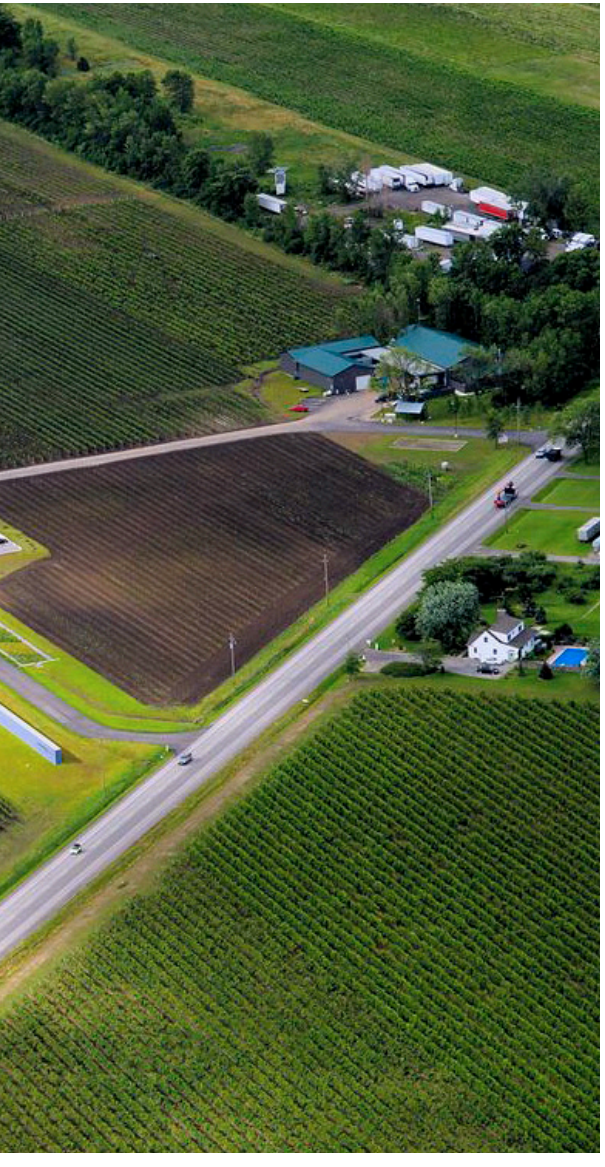
Figure 5.4: Plan of Southbrook Vineyards


1. meadow
2. bioswale
3. hospitality facility
4. terrace
5. reflection pond
6. parking
7. private delivery road
8. vineyards
9. production facility
10. septic tank
0
50 m

Current page:
Figure 5.5: Periwinkle wall marking entrance to Southbrook Vineyards
Figure 5.6: Aerial photograph of Southbrook Vineyards

Opposite page:
Figure 5.7: Bioswale and mix of native flowers
Figure 5.8: Reflecting ponds and entrance to winery
Figure 5.9: Planting along periwinkle wall and bike racks
Figure 5.10: Visual cohesion between winery and vineyard



vines and the building, the columnar poplars were specifically chosen because of their formal structure. An 8000 square foot hospitality pavilion, designed by Diamond and Schmitt Architects, houses a retail space, a wine tasting room, wine library, storage facility and administration areas. A single walkway allows for access to the front of the building over a reflecting pond (see Figure 5.8). Along the eastern front of the pavilion is a line of columnar poplar trees, wildflower beds, meadow grasses and bike racks (see Figure 5.9). The planting was designed to draw the views to the rows of vines which extend out on either end of the pavilion. DTAH gave detailed consideration to the vegetation used on site. The "planting includes both wet and dry meadow native wildflower mixes for the bioswales, mixed with clusters of red and yellow dogwood and building grounds. Linear beds of yarrow, sedum, lavender and calamagrostis are used in the forecourt garden. Poplar wind rows extend the built form while clump maple and amelanchier groves soften the production compound" (www.dtah.com). Located at the back of the main building is an outdoor patio, which is used as a restaurant that allows visitors to be amongst the vines. A terrace located adjacent to the patio is used for larger outdoor events (see Figure 5.10). Extending out from this terrace are the rows of vines, which are grouped according to grape varieties grown including Merlot, Cabernet Franc, Cabernet Sauvignon, Chardonnay, Syrah, Petit Verdot and Vidal.

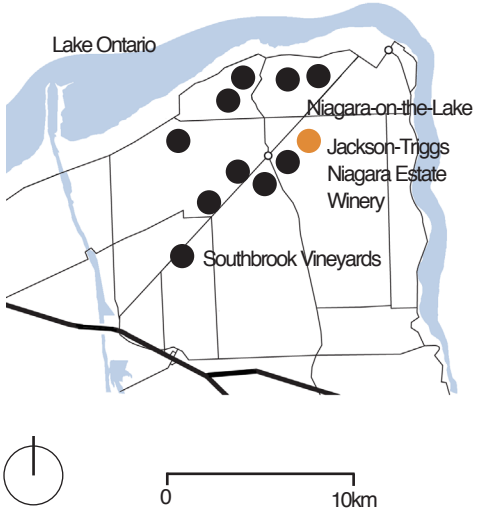
DESIGN REVIEW

The design of Southbrook Vineyards creates the illusion that the winery and landscape arose seamlessly from the vineyard. Most wineries do not engage directly with the wine route, however, Southbrook Vineyards was able to achieve this. The giant periwinkle wall acts as a threshold for visitors to the wine region. The design is integrated with the vineyard and surrounding context, creating the illusion that they are one entity. The elegant and strategic placement of all elements running parallel with

the rows of vines creates an interesting juxtaposition when they come in contact with the highway. The choice of vegetation from the wildflower mix along the front access road to the linear planting beds at the front of the building complement and provide a vertical element to contrast the many horizontal aspects. The arrival experience on the site could have been heightened had the building not been visible upon entry to the vineyard. Since the parking lot is located so close to the entry to the visitor pavilion, the visitor does not have a chance to build up a sense of anticipation upon arrival, unlike other case studies analyzed.

## CONCLUSION

As a gateway to the Niagara-on-the-Lake wine country, Southbrook Vineyards plays an important role along the wine route, unlike most other wineries and vineyards. The seamlessness between the architecture, landscape and vineyards allows visitors to become submerged within the site through opportunities to engage with the vineyard. The elegance and thoughtful gestures in the design of the landscape at Southbrook Vineyards merits its place along with the other case studies.




SITE 2: JACKSON-TRIGGS NIAGARA ESTATE WINERY

**Project name:** Jackson-Triggs Niagara Estate Winery

**Location:** 2145 Niagara Stone Road, Niagara-on-the-Lake, Ontario, Canada

**Size:** 4.7 hectares

**Client:** Don Triggs, co-founder of Jackson-Triggs

**Landscape Architects:** Janet Rosenberg + Associates

**Architects and Engineers:** Kuwabara Payne McKenna Blumberg Architects (KPMB) Blackwell Engineering Ltd. (structural), Keen Engineering Co. Ltd. (mechanical), Carinci Burt Rogers Engineering, Inc. (electrical), Kerry T. Howe Engineering (civil)

**Date designed/planned:** Project began in1998

**Construction completed:** Project was completed in 2001

**Managed by:** Vincor International Inc.

**Visitor policy:** Open daily 10 am - 6 pm

Above:
Figure 5.11: Location of Jackson-Triggs Niagara Estate Winery in the Niagara region

CONTEXT

Located at 2145 Niagara Stone Road in the heart of Niagara wine country, Jackson-Triggs Niagara Estate Winery occupies 4.7 hectares of land. The entrance to the winery is  a winding access road through rows of demonstration vines.  At the center of the site is a garden and winery with an outdoor patio space.  Surrounding the main building on all sides is the vineyard.  The winery was positioned to leave the most amount of desirable vineyard land available.  Dense vegetation from the Two Mile Creek edge surrounds the site on the eastern side.

PROJECT DEVELOPMENT

This winery and vineyard were constructed in 2001 for Don Triggs.  An integrated design team was assembled which included Kuwabara Payne McKenna Blumberg Architects (KPMB), Blackwell Engineering Ltd. (structural), Keen Engineering Co. Ltd. (mechanical), Carinci Burt Rogers Engineering, Inc. (electrical), Kerry T. Howe Engineering (civil) and landscape architecture firm Janet Rosenberg + Associates. The winery has received many notable awards and recognition within the design community for its unique and innovative design including Canadian Architect Award of Excellence (1999), Ontario Association of Architects Award of Excellence (2002) and Winery of the Year from Wine Access Magazine (2003).

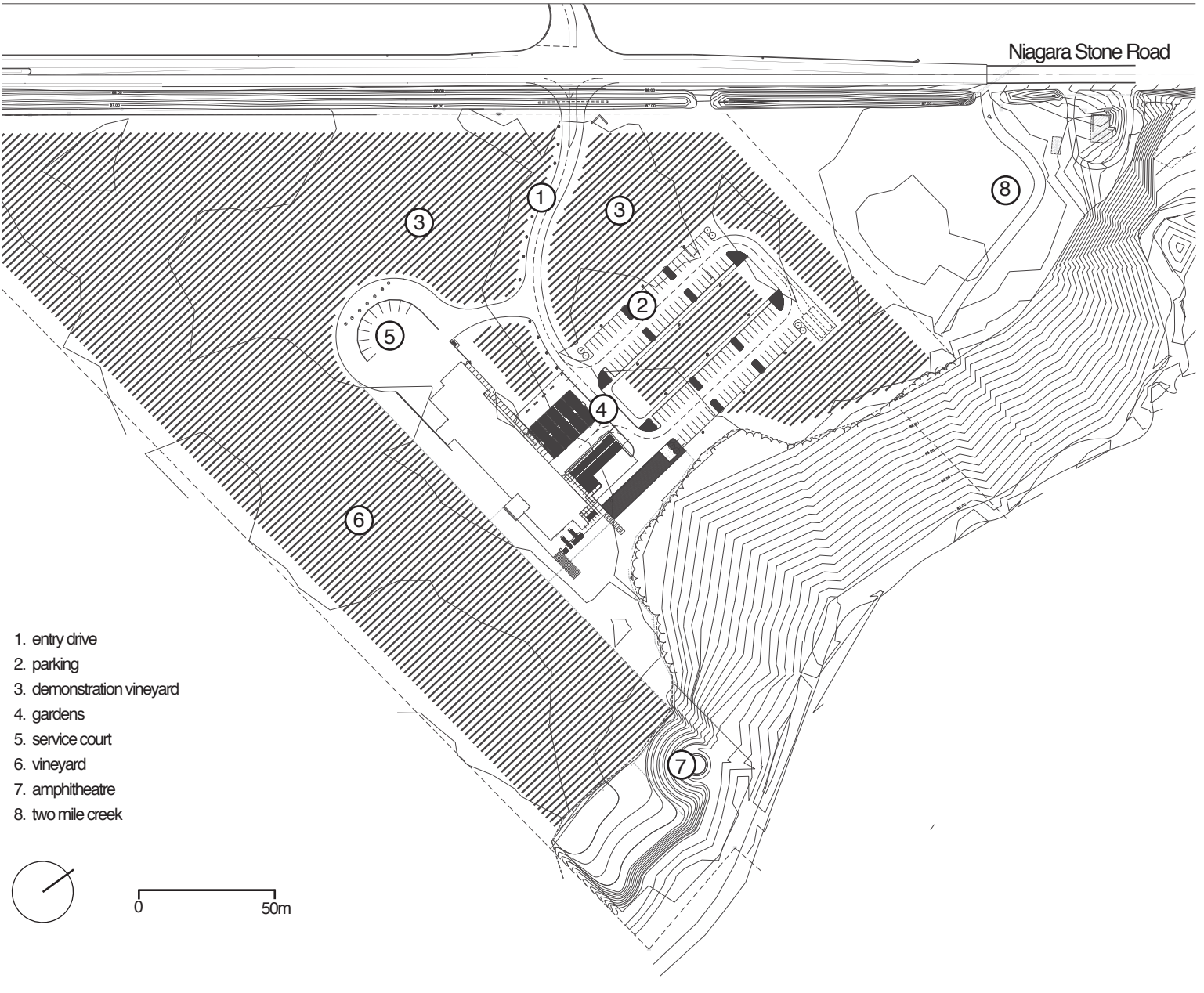
## ORIGINAL DESIGN CONCEPT

The architecture of the winery and the landscape architecture were inspired by the rural agricultural elements. According to Kuwabara Payne McKenna Blumberg Architects (KPMB), the design of the building "inspired by the French notion of terroir embodies geographic characteristics and agricultural typologies [sic] of Southern Ontario" (www.kpmb.com). Landscape architecture firm Janet Rosenberg + Associates stated that the landscape was "inspired by the regional characteristics of the agricultural industry in the Niagara Peninsula. The winery's landscape consists of a simple palette of materials that include stone, wood, gravel, steel, and concrete. An agrarian patchwork of blocks of foliage reflecting the colouring of burgundy wines and a calming, stone water trough welcomes visitors" (www.jrala.ca). The site was also designed to be experienced on a walking tour, revealing aspects of the process of wine making as one engages and moves around the site.

## SITE ANALYSIS

The approach to this particular vineyard is unique as the visitor is submerged and weaved through the rows of demonstration vines on the way to the winery building (see Figure 5.15). This is very unusual as most other vineyards separate the approach into the property from the vines. Allowing the visitor to become immersed within the landscape creates a sense of anticipation as the building becomes visible. The tree-lined parking lot (see Figure 5.16) is separated from the main building by a landscaped area, which has minimalist garden plots, a linear water feature and outdoor seating. The landscape was intended to blend in seamlessly with the 4000 square metres wine making facility, which was influenced by rural agricultural elements such as old barn doors (see Figure 5.14). Architects Kuwabara Payne McKenna Blumberg Architects, stated that the design of the building was a

Opposite page:
Figure 5.12: Plan of Jackson-Triggs Estate Winery


Niagara Stone Road
1. entry drive
2. parking
3. demonstration vineyard
4. gardens
5. service court
6. vineyard
7. amphitheatre
8. two mile creek
0
50m

Current page and center:
Figure 5.13: Jackson-Triggs Niagara Estate Winery vineyard
Figure 5.14: Entrance to Jackson-Triggs Niagara Estate Winery

Opposite page:
Figure 5.15: Entrance through demonstration vines to Jackson-Triggs Niagara Estate Winery
Figure 5.16: Parking lot
Figure 5.17: Ramp at back of winery
Figure 5.18: Vineyard

> simple, extended horizontal barn-like form is sited parallel to the escarpment to maximize exposure to north and south light. Production and hospitality functions are united under a continuous roof supported by full-span wood trusses. A two-storey Great Hall creates a common space between the working winery and hospitality facilities. Materials (stone, wood, and steel) are left in their natural state, with finishes restricted to clear sealers. The building is framed in structural steel and clad in oversized cement board panels (clapboard). Exterior walls reinterpret the local vernacular of fieldstone bases with the substitution of low-cost, discarded strata from the regional quarry beds of Owen Sound at the northern tip of the Niagara Escarpment. (www.kpmb.com).

Elements such as the parking lot, garden space and main building are all designed to be perpendicular to the rows planted in the vineyards. This allows all the views out from the building and landscape towards the vineyards to create the illusion that the rows continue to the horizon.

The design of the building has created many opportunities for the visitor to engage with the landscape as well as the building. The terrace at the front of the building, located beside the minimalist gardens, extends through the main entrance, and "large sliding gates enable the two-storey entrance hall to be completely opened out" (Datz & Kullmann, 2006: 18) to the vineyards at the back. This allows for an open vista through to the vineyards and creates a visual connection for the visitors coming from the parking lot and front entrance. Along the back of the building is an exterior ramp that winds around the property (see Figure 5. 17). The ramp gives the viewers an exceptional experience of viewing the vineyard (see Figure 5.18) as they move up to the production facilities in the second level of the building. At the entrance to the ramp, a tasting gallery allows visitors to experience the site by overlooking the vineyards. Located just beside the tasting gallery is an outdoor picnic area, with benches, chairs and umbrellas to provide shade from the sun. A winding pathway from the main building accesses an outdoor grassed amphitheatre, located between woodlands and the vineyard. The amphitheatre is the

site for concerts, theatrical performances and gatherings during the spring and summer months.

DESIGN REVIEW

Without a doubt, the winery building stands as the focal point within the Jackson-Triggs Niagara Estate Winery site. Its overpowering presence on the site causes the landscape to be miniaturized in comparison. The most intriguing element in the design of this vineyard is the winding pathway into the site. Since most other vineyards are located close to the road, there is little anticipation that the visitor experiences when entering the vineyards. With the winding access road, the entrance now becomes a part of the total experience. The location of the parking lot actually blends in with the surrounding demonstration vines, which allows the winery building to remain the focal point. A linear pedestrian access works well to move visitors from the parking, through the minimalist garden, into the winery and out the other side to the vineyard. This sequence of spatial organization works well to provide a seamless transition from exterior to interior back to exterior spaces. Along with circulation, the spatial organization of the vineyard and winery allow visitors to begin to understand the process of producing wine, as they are led through the stages of production. Most wineries do not show the aspects of production for the visitor or are only offered on a guided tour. What makes Jackson-Triggs Niagara Estate Winery unique is that from the moment that visitors drive onto the site, they are engaged in the production process with the demonstration vines and it becomes up to them to discover the other stages of production by simply wandering. This offers a unique experience for the visitor, one that is very different from other vineyards and wineries.

## CONCLUSION

Jackson-Triggs Niagara Estate Winery has many unique elements within the design of the landscape, which makes this an interesting case study. One of the most intriguing elements is the approach to the site through a series of demonstration vines. This act of completely immersing the visitor in the vineyard creates a sense of anticipation and begins to frame views to the entrance of the main building. Another interesting element of this case study is the garden located at the front of the building which visually extends through to the vineyard on the opposite side. The careful alignment of these features frames the rows of vines in such a way that they appear to go on for eternity. The third element, which enhances the experience of being in this winery, is the ramp that is located at the back of the main structure. The ramp leads visitors up to the second level, but on the way offers breathtaking views out towards the vineyards. This ramp levels off on a number of occasions, which causes the visitor to stop and view the surrounding landscape. What makes Jackson-Triggs Niagara Estate Winery an interesting case study is not simply the elements such as the winding pathway or the minimalist garden, but the way in which these elements come together to create a continuous, choreographed transition through the various stages of wine production.

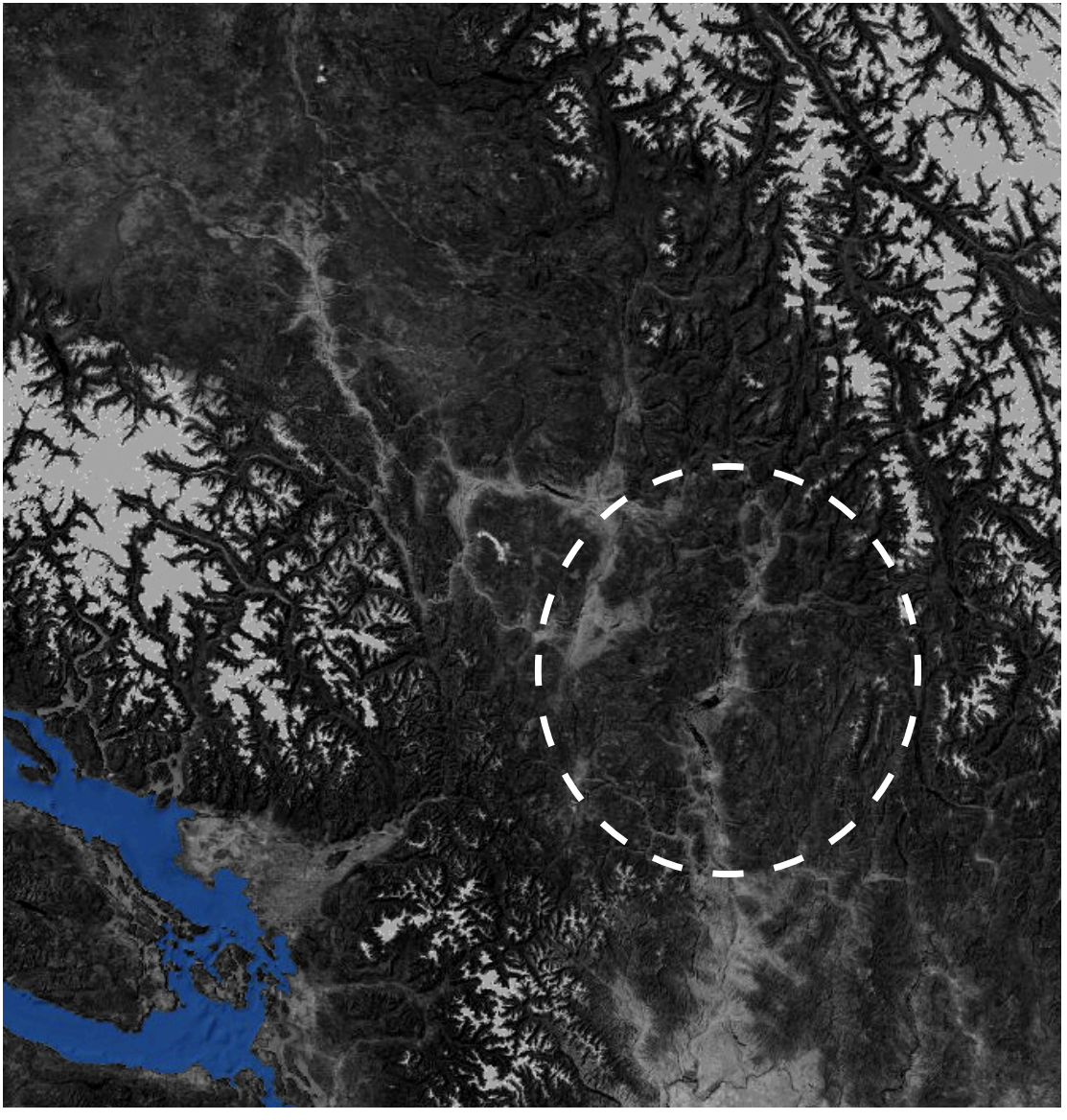
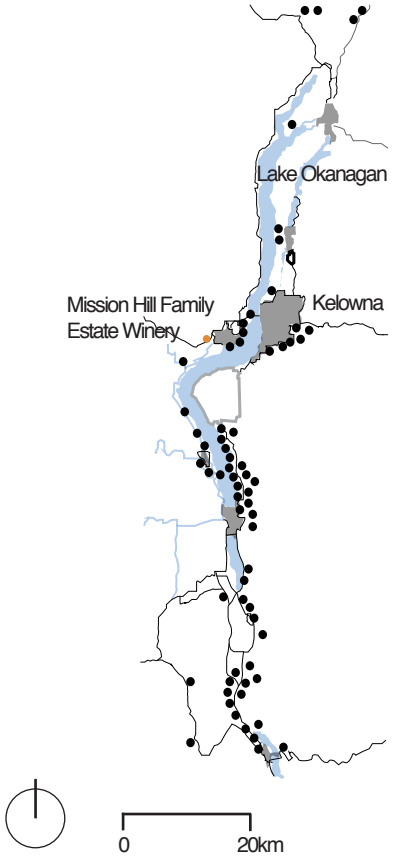



Figure 5.19: Vew of Okanagan region

OKANAGAN VALLEY  BRITISH COLUMBIA

Canada's second largest wine producing region, the Okanagan Valley, is host to a variety of wineries. With growing and site conditions very different from the Niagara region, the design of the Okanagan Valley vineyards offers examples of winescapes in steep and rolling terrain. Mission Hill Family Estate Winery is an extraordinary precedent in which the design integrates architecture and landscape to create memorable experiences for visitors. This predecent was intended to take advantage of borrowed landscape through careful site planning to allow viewers to appreciate the beauty of the region and the vineyards.




SITE 3: MISSION HILL FAMILY ESTATE WINERY

**Project name:** Mission Hill Family Estate Winery

**Location:** 1730 Mission Hill Road, Westbank, British Columbia

**Size:** 5 hectares of winery and 1950 hectares of vineyards

**Client:** owner Anthony von Mandl

**Landscape Architects:** Olsen Sundberg Kundig Allen Architects

**Architects and Engineers:** Olsen Sundberg Kundig Allen Architects

**Date designed/planned:** Project began in 1996

**Construction completed:** Project was completed in 2002

**Managed by:** Owner Anthony von Mandl and winemaker John Simes

**Visitor policy:** Open daily 10 am - 6 pm

Above:
Figure 5.20: Location of Mission Hill Family Estate Winery

## CONTEXT

Mission Hill Family Estate Winery is located on 5 hectares of an inactive volcano, Mount Boucherie, above Lake Okanagan in central British Columbia. As described by Christian Datz and Christof Kullmann in *Winery Design* (2005), Mission Hill Family Estate Winery is "like a medieval castle or monastery estate, the winery rests majestically on a hill above Lake Okanagan" (p. 14). Since the winery is located on Mount Boucherie, it is visible from all around Westbank and has become a landmark.

## PROJECT DEVELOPMENT

Owner Anthony von Mandl purchased the site in 1981 and in 1996 hired design team Olsen Sundberg Kundig Allen Architects to transform the industrial facility on the site into a vineyard and winery.

According to architect Tom Kundig,

> the existing facility was an older worn out warehouse that actually was founded as a brewery, then was turned into a winery. The owner wanted the site to be transformed and frankly I thought it more as healing the site, while the owner thought of it as transforming the site into a place that people would remember for the rest of their lives. It had that sort of memory resonance that was important to the winery owners so that they would carry back those memories when they would be in a retail or dining establishing and would remember the Mission Hill Family Estate Winery (www.olsonkundigarchitects.com).

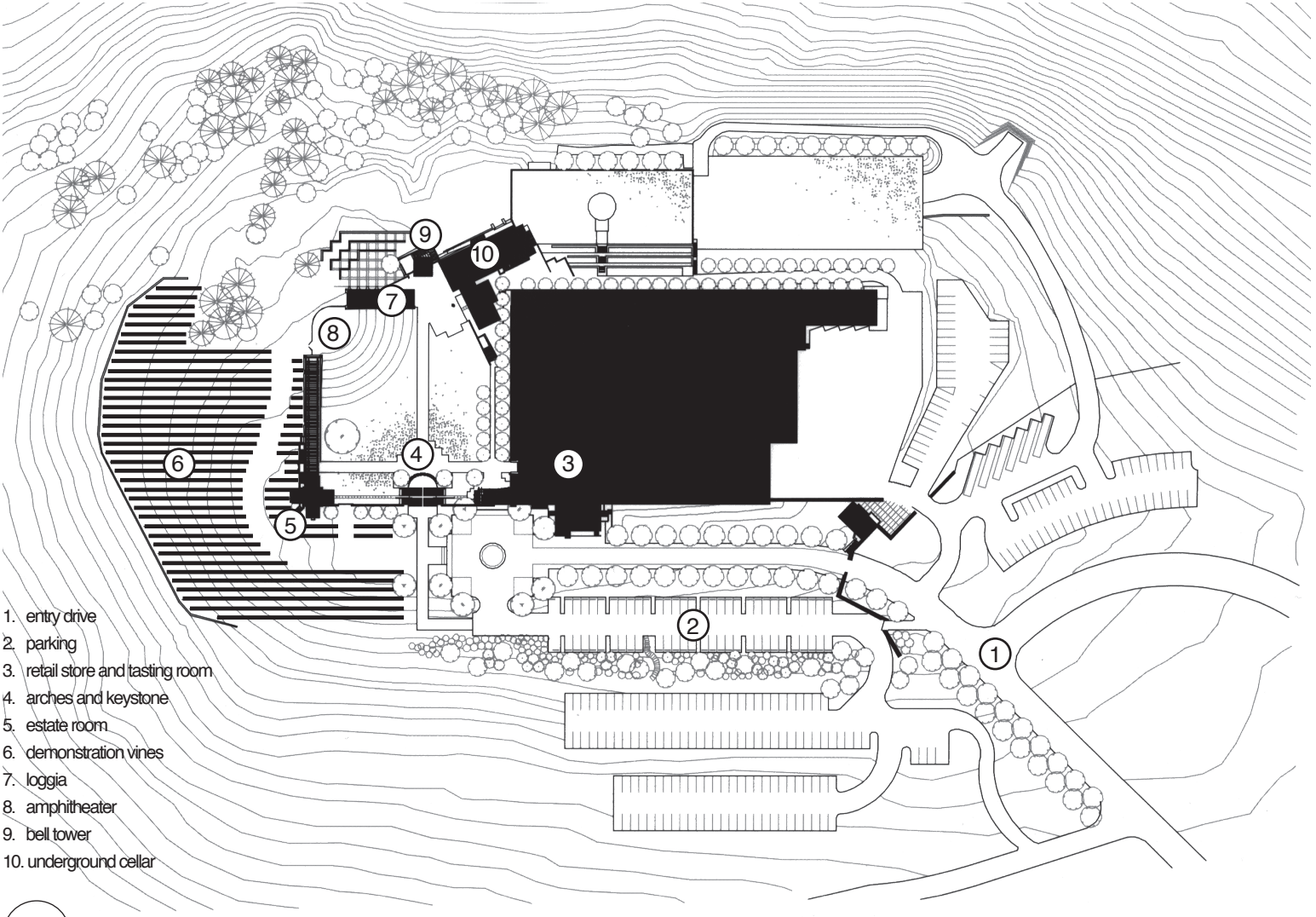
The design and construction of Mission Hill Family Estate Winery took approximately six years to complete.

## ORIGINAL DESIGN CONCEPT

Tom Kundig's "design muse was found in the 'cellar to sky' process that traces a direct path from the rustic brick cellars and bell towers of Europe through to the crystal blue skies and pristine hills of the modern Okanagan wine region." (Datz, & Kullmann, 2010: 146). He felt that the design of this winery and landscape was about the design of an experience. The concept for the design of Mission Hill Family Estate Winery was to establish a place that did not compete with the natural surroundings but which complemented and drew attention to the natural beauty of the surroundings. There had been a considerable amount of neglect to the site when it was used as a brewery, such as the facilities being allowed to deteriorate. It became an important challenge for the designers to renovate the site and to create an opportunity to make the winery a landmark in the Okanagan. As Kundig noted

> the driving idea of the design came from the found landscape or borrowed landscape. You can't help arriving at the site and realizing that the most spectacular moment on site is actually the place it is in, the Okanagan Valley overlooking Lake Okanagan and the mountains beyond. And so for the design team, that is the underlying ideas to somehow weave that vista that view onto the site, and in a sense create an experience that unfolds that view as you progress from the car to the center of the site, which is the green. In that sense, the architecture takes second position to the borrowed landscape and the architecture's intent is to frame and shape that experience of the view overlooking Lake Okanagan and the mountains beyond. The initial ideas that inspired the architecture and the experience of the site would be more natural experiences, like walking through a forest for example or a canyon where the views unfold as you experience that pathway through a forest or through a slot canyon so that there is a series of vinyets that open up or a sense of mystery as you walk the site. Initially we developed that idea so that the borrowed landscape unfolded as you walk the site (www.olsonkundigarchitects.com).

Opposite page
Figure 5.21: Plan of Mission Hill Family Estate Winery




1. entry drive
2. parking
3. retail store and tasting room
4. arches and keystone
5. estate room
6. demonstration vines
7. loggia
8. amphitheater
9. bell tower
10. underground cellar

0 50 m

Opposite page:
Figure 5.22: Parking lot
Figure 5.23: Entrance to Mission Hill Family Estate Winery
Figure 5.24: Demonstration vines

Center and current page:
Figure 5.25: Keystone archway into the winery
Figure 5.26: Courtyard and bell tower
Figure 5.27: Amphitheater

The site is designed for visitors to have a sequential experience as they move through various areas of the landscape by framing the surrounding area. The landscape and architecture were designed to be a series of interior and exterior rooms. On the way to the top of the hill where the winery is located, the visitor drives through an allée of mature oak trees and a rose garden (Datz & Kullmann, 2010: 146) which leads to the parking area. The parking area (see Figure 5.22) is divided into three areas going down the hill which are connected with staircases. There are approximately 4000 native trees and shrubs that have been carefully integrated into the site design (www.missionhillswinery.com). From the parking lot, the visitor moves through a series of demonstration vines and a view of Lake Okanagan in the distance (see Figure 5.24). A massive curved stone archway (see Figure 5.25) signals the formal entrance to the vineyard and winery at the peak of the hill. After passing through the demonstration vineyard, the visitor passes through the archway and into a courtyard. From this point, a 12-storey bell tower is visible as well as the a grassed amphitheater (see Figure 5.27) that frames views of the Monashee Mountain range (Fowlow & Stanwick, 2010: 147). The bell tower (see Figure 5.26) extends down below into the wine cellar, creating a connection below with the landscape above. To the side of the bell tower is a terrace that allows for panoramic views of Lake Okanagan. Buildings are strategically placed around the site in a way that allows the gaps between the buildings to frame views of the surrounding landscape. Off the main winery building is a terrace that allows for views of the rows of vine-plantings. Beside the terrace is an amphitheater, which faces Lake Okanagan. Along the amphitheater, the loggia frames views out towards the Okanagan Valley and Lake Okanagan and acts as a shelter during the rainy months. Upon exiting the loggia, a piazetta is located that offers views down towards a private garden with a seventeenth century fountain, imported from Italy.

DESIGN REVIEW

Similar to Southbrook Vineyards and Jackson-Triggs Niagara Estate Winery, the success of the vineyard and winery design comes from the careful spatial sequencing from the moment the visitor arrives on the site. The visitor is greeted by the allée of trees, transitions into the parking lot, walks through the demonstration vines, through the threshold of the archway and is thrust into the main grassed area surrounded by attractions such as the restaurant, bell tower, outdoor seating space and finally the tasting facility. Unlike the other two case studies, the main tasting facility at Mission Hill Family Estate Winery is intentionally hidden from the visitors' view, until all the other areas, such as the demonstration vines, the restaurant and the bell tower have revealed themselves to the visitor. The designers use architectural and landscape elements to provide much of the spatial sequencing and framing of spaces, such as allées of trees and the archway. Another important aspect of this winery is that it feels a part of the site. The design of the facility allows visitors to be completely surrounded by the beauty of the Okanagan through the use of carefully framed views and vistas.

CONCLUSION

Mission Hill Family Estate Winery has embraced its unique location through the design of the architecture and landscape on the site. This winery, when compared to Southbrook Vineyard and Jackson-Triggs Niagara Estate Winery, has created the most engaging sequenced experience for the visitors from the moment they enter the premises. They are led through a variety of different spaces. Views and vistas provide breathtaking views of the scenery around the site including Lake Okanagan

and the Okanagan Valley.

APPLICATION

Through the process of analyzing a variety of case studies, certain issues became apparent in many of the precedents. Some of these aspects include, but are not limited to, the use of the borrowed landscape and the importance of views and vistas, establishing and creating an experience for the visitor from the moment they enter the establishment, a conscious and well planned spatial sequencing that allows the landscape to reveal itself to the viewer, designing to enhance the senses, the importance and understanding of the unique landscapes and the connection between the site and built structures. However, what truly makes a vineyard and winery an interesting place to be is enhanced by the landscape in which one experiences the fruits of the land.

Many of the lessons gained from these three case studies can be applied to the design of a winery and vineyard landscape. The first lesson learned is the importance of engaging the wine route. In Southbrook Vineyards, the large periwinkle wall acts as a gateway into the wine route and wine country as well as serving as a landmark for the winery. By connecting with the wine route, the winery and vineyard can have a unique identity that draws people to come and explore while creating a distinct character for that portion of the route. Second, there is a need to create a sequenced experience for the users from the moment they arrive at the winery and vineyard. At Mission Hill Family Estate Winery, the choreographed movement between spaces heightens the visitors anticipation as they move through the landscape towards the main building. As visitors through the large opening gates, they are strategically moved from one setting to another revealing different parts of the site. This sequenced experience not only allows the landscape to be revealed in a particular way, such as framing views

and vistas of the surrounding region, but also allows for a build up of excitement for the visitor. The third lesson, providing opportunities for the visitors to engage with the site, builds onto the need to create a sequenced experience. Designing areas for the visitors to sit, relax and enjoy the unique landscapes, apart from the main hospitality building, allows the visitor to understand the landscape in a different way. Providing the opportunity for the visitors to discover these unique settings for themselves offers a distinct experience as opposed to being told where to go and what to see. Simply not being able to engage with the site is sadly the case at most wineries in both Niagara and the Okanagan. Fourth, having a connection between the architecture and the landscape is critical to the quality of a winery and vineyard experience. Placing a large architectural gesture onto a vineyard site does not by itself create a lasting vineyard encounter. The visitors in this circumstance would simply drive onto the site, go into the building and leave, without gaining a better understanding of the site, the way the grapes were grown or simply spending time in these beautiful landscapes. When the architecture and the landscape architecture come together, this allows for more opportunities for the visitors to become absorbed within these sites and to create lasting experiences. The fifth lesson from the case studies is to allow the visitor to understand the process of producing wine from the site's terroir to the formal structures of the grape growing on the vines. In this case, signage only goes so far to explain the delicate process. What is far more effective is allowing the elements of the landscape that create the ideal locations for the vines to grow to be experienced by the visitor, thus revealing the terroir, by having them spend time and engage with the site.

By employing the case study method, one can understand the role that landscape architecture plays within the experience of a vineyard landscape. These concepts and strategies will be applied in the design of a vineyard site. The five lessons outlined from the case studies will be explored and considered when designing. It is critical to examine the location and plan the site to allow for the best

suitable use of land and built form. Once the site has been planned and elements situated, designing the site to reveal what is unique about this particular landscape and its terroir is of utmost importance. This can be achieved through the use of spatial sequencing from the moment the visitor arrives on site, careful and deliberate framing of views and vistas to the surrounding areas and by creating opportunities for individuals to enjoy and experience the site.

The role that landscape architects should play in the design of vineyards and wineries is that of a skilled site planner and thoughtful designer to create rich, unique places. This concept has proven to be effective in each of Southbrook Vineyards, Jackson-Triggs Niagara Estate Winery and Mission Hill Family Estate Winery as the landscape architects wove together the architecture and surrounding vineyard to create an experience. The object-centric architecture of many wineries in Canada and elsewhere leaves the visitor with an unwelcome, often harsh encounter. These buildings that are placed upon the land do not create a connection with the landscape. They simply discourage the visitor from truly appreciating, experiencing and understanding vineyard terroir and landscape. The disadvantage of wineries that do not consider the immediate and surrounding landscape makes the visitor experience fall short, limiting lasting impressions and potentially discouraging a return visit. However, by using strategies employed in the case studies analyzed, a more appropriate response to the design of vineyard landscapes can be achieved.

Figure 5.28: Current condition of Konzelmann Estate Winery in Niagara Region
Figure 5.29: Sumac Ridge Winery entrance in Okanagan Valley
Figure 5.30: Entrance to Volcanic Hill Estate Winery in Okanagan Valley

## CONCLUSION

Visiting and analyzing Southbrook Vineyards, Jackson-Triggs Niagara Estate Winery and Mission Hill Family Estate Winery has allowed for a deeper understanding of the important role that landscape architects should have in the design of vineyard landscapes. The visitor experience and monetary

success of the case studies analyzed goes beyond the quality of the wine produced. The vineyard landscapes are very much desirable places to visit and experience. In Chapter 3, tourist researcher Liz Thach was quoted discussing the *10 Different Reasons Why Tourists Visit Vineyards*. Arguably all the reasons that Thach described would not be present in a winery without an engaging landscape design. Table 5.1 provides a matrix analyzing Thach's reasons and compares them to the experiences at the three different case studies examined.

A great variety of the wineries visited in both the Niagara and Okanagan areas, did not have a well designed landscape. Many wineries were simply on the side of the highway with a gravel parking lot and a warehouse facility for the visitors. It became evident through visiting these facilities that when a winery is not designed with a landscape, the visitors simply park their cars, enter the building and leave as soon as they taste and/or purchase the wine - if they stop at all. The visitor simply does not spend time and engage in the site (demonstrated in Figure 5.28, Figure 5.29 and Figure 5.30). Allowing the visitor to become captivated with the site means that they will spend a longer time on the vineyard; probably spend more money in the winery and restaurant; tell others about their positive experience, and make return visits. This strategy was witnessed time and time again in all three case studies. Without the benefits of landscape design on vineyards, these experiences simply do not happen.

As this practicum moves from the case study analysis into a design proposal for a vineyard landscape, the exploration of these case studies will provide a starting point to consider what elements of the designs are critical to creating engaging spaces for visitors in vineyard landscapes.

Table 5.1: Matrix Comparing Thach's *10 Different Reasons Why Wine Tourists Visit Vineyards* compared with the Case Study Vineyards

| **10 Different Reasons Why Wine Tourists Visit Vineyards** | **Case Study Vineyards** | | |
|---|---|---|---|
| | S V | J T | M H |
| To taste wine | ● | ● | ● |
| To gain wine knowledge | ● | ● | ● |
| To experience the wine setting | | ● | ● |
| To be in a rural setting | ● | ● | ● |
| To match food with wine | | ● | ● |
| To have fun | ● | ● | ● |
| To enjoy wine culture | ● | ● | ● |
| To appreciate the architecture and art | ● | ● | ● |
| To learn about the green aspects and ecotourism | ● | ○ | ○ |
| To enjoy the health aspects of wine | ○ | ○ | ○ |

S V: Southbrook Vineyards

J T: Jackson-Triggs Niagara Estate Winery

M H: Mission Hill Family Estate Winery

● surpassed expectations

● above expectations

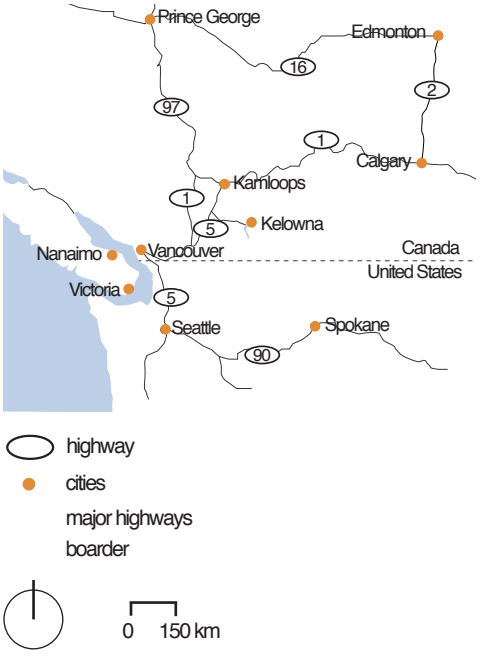
met expectations

○ did not meet expectations

Table 5.1: Matrix comparing Thach's *10 Different Reasons Why Wine Tourists Visit Vineyards* to the three case studies analyzed

# CHAPTER 6

**SAVOUR** DESIGN OF A VINEYARD




Above:
Figure 6.1: Location of Kelowna in relation to other major cities
Opposite page:
Figure 6.2: Plan of wine route and regions

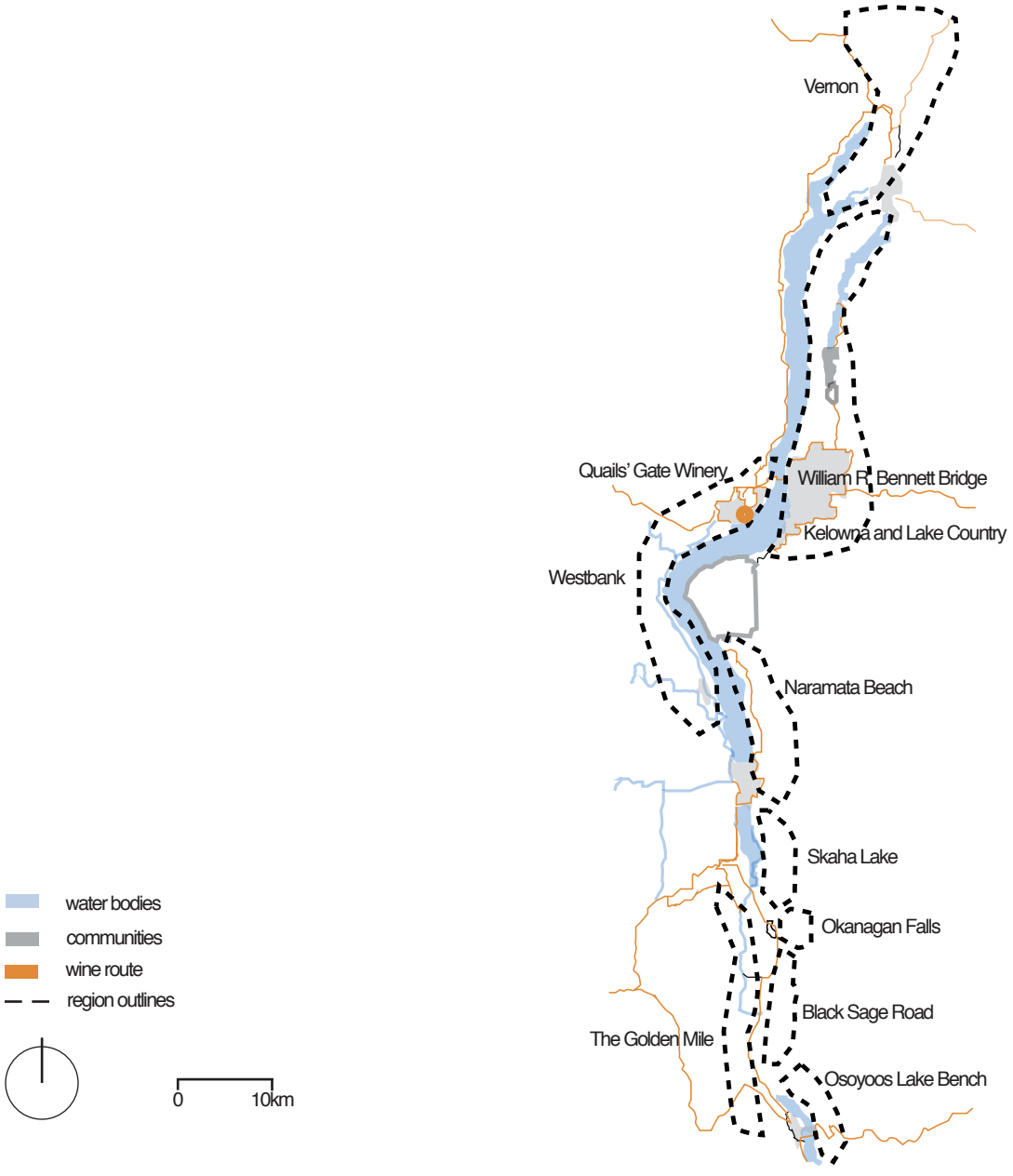
## INTRODUCTION

As described in Chapter 4, the Okanagan Valley is Canada's second largest wine producing region. The Okanagan Valley's unique soil conditions, microclimates and terrain create ideal growing conditions for a variety of grape species. Quails' Gate Winery, an existing winery and vineyard located along the slopes of Mount Boucherie, is the location for a design.

## LOCATION

Quails' Gate Winery is located in Westbank along the Okanagan Valley. This site is accessible by car from other major cities along Highway 1 from Calgary and Highway 5 from Kamloops and Vancouver (see Figure 6.1). Westbank is across Lake Okanagan from Kelowna, connected by Highway 97 crossing the William R. Bennett Bridge, the only bridge spanning Lake Okanagan.

The site is situated on the Okanagan wine route which connects nine separate regions together. These areas (from north to south) include Vernon, Kelowna and Lake Country, the slopes of Mount Boucherie, Summerland and Peachland, Naramata Bench, Skaha Lake, Okanagan Falls, Black Sage Road, the Golden Mile and Osoyoos (see Figure 6.2). Each area has distinctive characteristics leading not only to the landscape being different but also to the terroir of each area being unique. The portion of the wine route that Quails' Gate Winery is located on is known as the slopes of Mount Boucherie. This area is approximately twenty minutes by car from Kelowna on an inactive volcano, the most notable landmark in the northern part of the Okanagan. This area possesses many distinct qualities that not only make it an ideal place for grapevines to grow but also a breathtaking location in the Okanagan Valley.

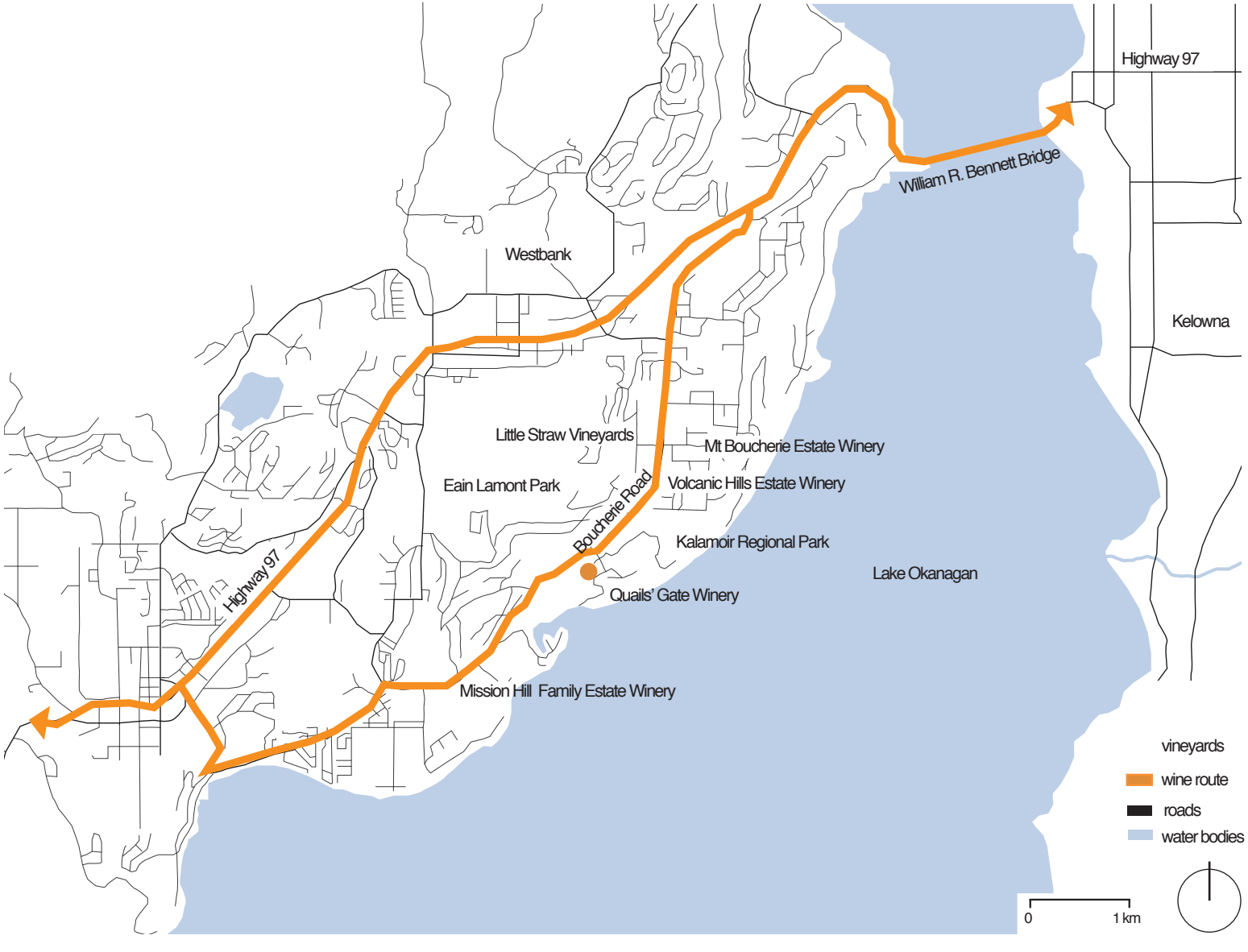

Vernon
Quails' Gate Winery
William R. Bennett Bridge
Kelowna and Lake Country
Westbank
Naramata Beach
Skaha Lake
Okanagan Falls
Black Sage Road
The Golden Mile
Osoyoos Lake Bench
water bodies
communities
wine route
region outlines
0
10km

## PHYSICAL FEATURES

The slopes of Mount Boucharie have a variety of unique physical features and vary a great deal from the southern portion of the wine route. The northern Okanagan receives more rain as a result of the rain shadow effect caused by the mountains in this region compared to the dry, desert-like conditions found in the southern portion of the Okanagan. This causes the climate in this area to be cooler. Mount Boucherie was a stratovolcano 60 million years ago during the early Tertiary time. The form of Mount Boucherie was a result of different lava flows over the centuries. Mount Boucherie is primarily composed of rhyolite, andesite and dacite. Rhyolite and andesite give the mountain a yellow, tan and pinkish hue on the north and south. On the east side of Mount Boucherie, the rock is black and dark grey due to the presence of crystalline dacite. Mount Boucherie is considered to be a physical landmark for the Northern Okanagan because of its height and steep slopes. The steeper slopes are located along the water's edge and gradually slope up to the winery.

This region is situated on what can be described as a forested subalpine ecosystem. The most common tree species in the area are coniferous which includes *Pinus ponderosa* (Ponderosa Pine), *Pseudotsuga menziesii* (Douglas Fir), *Abies lasiocarpa* (Rocky Mountain Fir) and *Picea engelmanii* (Engelmann Spruce). Herbaceous vegetation found in the region includes *Agropyron spicatum* (Bluebunch Wheat Grass), *Artemisia tridentata* (Sage Bush), *Purshia tridentata* (Antelope Bush), *Calamagrostis rubescens* (Pine Grass), *Balsamorhiza sagittata* (Arrowleaf Balsamroot), *Opuntia fragilis* (Little Prickly Pear) and *Lewisia rediviva* (Bitter Root). The crops that were traditionally grown in this area were apple, cherry, grape, peach, apricot, pear, plum, hay and alfalfa.

Opposite page:
Figure 6.3: Plan of wine route and location of vineyards in Kelowna and Westbank


Highway 97
William R. Bennett Bridge
Westbank
Kelowna
Little Straw Vineyards
Mt Boucherie Estate Winery
Eain Lamont Park
Volcanic Hills Estate Winery
Boucherie Road
Kalamoir Regional Park
Highway 97
Lake Okanagan
Quails' Gate Winery
Mission Hill Family Estate Winery
vineyards
wine route
roads
water bodies
0
1 km

## SITE FUNCTIONS

The site of Quails' Gate Winery was acquired by Richard Stewart in the 1950 and is now owned by Stewart's four children. The vineyard was planted in 1956 and converted to European varieties in 1975. Quails' Gate Winery produces 45 000 cases of wine a year. They produce a variety of different wines but are best known for their Pinot Noir and Chardonnay. The winery is open daily 9 am - 7 pm during the summer, 9 am - 6 pm in October and 10 am - 5 pm from November through Spring. Since the site is open year round, different tours are offered frequently throughout the year.

Quails' Gate Winery sits on 50 hectares of vineyards located off of Boucherie Road. The site is steep, changing elevations from 344 metres at the water's edge to 452 metres at its highest point (see Figure 6.11 for sections of site). It is situated among other wineries and vineyards including St. Mount Boucherie Estate Winery, Little Straws Vineyard, Volcanic Hills Estate Winery and Mission Hill Family Estate Winery (see Figure 6.13). Between each vineyard are residential communities located just off the winding Boucherie Road (see Figure 6.5). An Okanagan wine route sign (see Figure 6.4) identifies the winery from the road. Another sign marks the entrance to the winery. These two markers are the only interaction that the site has with the wine route. There are currently two entrances to the site, both from Boucherie Road. One entrance goes directly into the parking lot while the other entrance is for employees only and leads to the loading facilities. The visitor parking lot extends along Boucherie Road and leads visitors directly into the main hospitality building, limiting the visitors' chance of interaction with the site. The winery has a variety of buildings including a hospitality centre (see Figure 6.6) which has a wine tasting room, gift shop and private dining room. Allison House is an existing historic wine shop which since the opening of the new hospitality centre has become a private tasting facility. There is also the Old Vines Restaurant, which is open daily for lunch and dinner, as well as wine production facilities.

The restaurant provides outdoor seating, but only has a limited view of Lake Okanagan. The back of the hospitality building is an outdoor space which makes accessing the vineyard possible, but not inviting (see Figure 6.7). Visitors can wander through the vineyards, however there is no path, destination points or physical draws. A small grassed area is cluttered with picnic benches most of the time, but is also used as a site for weddings, yoga classes and outdoor events (see Figure 6.8). This location offers breathtaking views of Lake Okanagan and is the site from which professional photographers regularly take pictures of the lake. At the far side of the property are two areas which seem to rise up from the sea of vineyards and which were deemed unsuitable for vineyard growth and were left uncultivated. At the edge of the property is a stretch of land that meets the shore of Lake Okanagan and that is scattered with residences. The site of Quails' Gate Winery has potential to be a destination to visit and learn about the terroir which creates their wine. However, it currently falls short and does not fulfill its potential because the landscape is not incorporated into the experience of the vineyard.


WINERY
QUAILS' GATE
ESTATE WINERY

Opposite page:
Figure 6.4: Wine route sign indicating Quails' Gate Winery
Figure 6.5: Wine route leading to Quails' Gate Winery
Figure 6.6: Hospitality building and parking lot

Current page:
Figure 6.7: Hospitality building and outdoor patio
Figure 6.8: Grassed entertainment space
Figure 6.9: View of Quails' Gate vineyards from wine route
Figure 6.10: Vineyards with view to Lake Okanagan

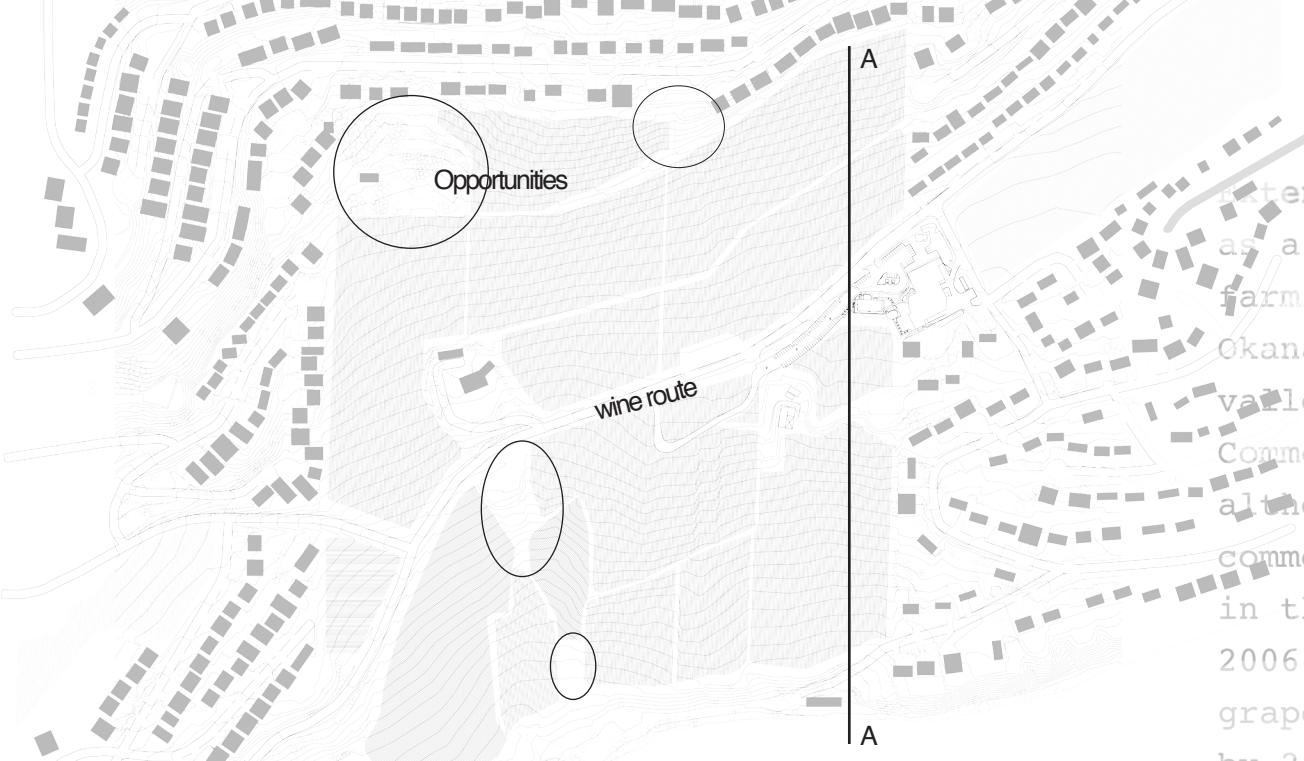
## APPLICATION

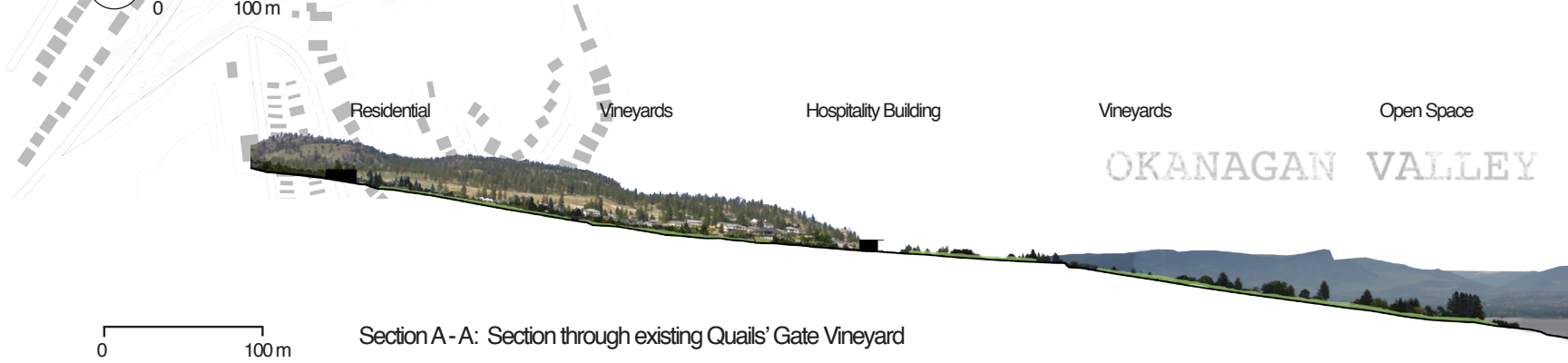
Looking at the physical features of the Mount Boucherie area and current conditions of the site , the new design for the landscape of Quails' Gate Winery should take the following points into consideration:

1. Placing emphasis on the views out towards Lake Okanagan and allowing visitors to spend time and marvel at them to enhance the overall experience
2. Engaging the wine route through a design that will encourage people to visit Quails' Gate Winery and create an identity for the winery from the road
3. Taking advantage of the undesirable growing locations on the site, such as the area by the shore and the two hill locations, to become destination points for the visitors within the vineyard
4. Sequencing movement throughout the site to reveal the site's unique characteristics to visitors
5. Using local building materials and plant materials to respond to the local character
6. Allowing for pedestrian movement around the site while working with the existing vineyard layout without impacting the production process
7. Allow the design to become a part of the site, enhancing the natural features already present by not distracting from the setting
8. Create an inviting and congenial place for patrons to visit
9. Provide spaces for the functional requirements of the winery including such elements as parking and locations for events
10. Perhaps most importantly, to seek to describe the terroir of the site through a design that will foster the experience of the landscape by allowing the patron to engage the site

It is critical that all elements of the site must work together, including the architecture, the landscape, the topography and the layout of the grapevines. The design intention and programme for Quails' Gate Winery will be informed by the application of these points as well as the lessons learned from the case studies.

Following page:
Figure 6.11: Graphic analysis of existing conditions at Quails' Gate Winery




Section A - A: Section through existing Quails' Gate Vineyard

BC ecosystems has occurred
of activities. Livestock
vince in the 1840s and
In the 1860s. The Okanagan






egan in the late 1800s. By
out 2600 hectares of wine
anagan valley. This increased
2006, and the overall
ted to peak at over 4000 ha.

Lake Okanagan

## DESIGN INTENTION

The intent of this practicum is to demonstrate how landscape architects can improve the experience of being in vineyard landscapes. In addition to the site planning requirements, landscape architects have the ability to design the exterior spaces of wineries not only to offer unique opportunities to be in these exceptionally beautiful places but also to allow the viewer to experience vineyards in a new way. What makes each vineyard different is the terroir of the site, that is the characteristics of the land that yield a specific quality in the grape that is distinct. The terroir encompasses all the precise conditions of each growing year. This is something that will never be the same again.

Through a variety of lessons from the Canadian case studies and an understanding of the wine tourism industry, a design for a winery and vineyard landscape seeks to bring this knowledge and apply it to the site design. The intent is to demonstrate how this knowledge can be applied to an existing vineyard, such as Quails' Gate Winery, to improve the current condition of the visitor experience and promote additional tourism.

After examining the physical features of the Mount Boucherie area and current conditions of the site, changes needed to Quails' Gate Winery were identified. The design is intended to achieve three key aims:

1. to provide a way for people to move sequentially through and experience the vineyard
2. revealing and explaining the site and its distinct terroir
3. satisfying functional requirements (such as providing outdoor gathering spaces and re-orientation of buildings and parking lots)

The elements in the design programme were determined through the case study analysis, and the information about vineyard design, the wine tourism industry and the local conditions of the Okanagan Valley in Chapters 2, 3 and 4. The programme was determined through a careful selection of locations that would relate to the existing vineyards and buildings on the site as well as the site's topography and the desire to create a sequenced experience for the visitor as they move through the site.

MASTER PLAN

The intention of the design is to capture and reveal the essence of the sites's distinct terroir. Through a series of pathways, passages and lookouts, the visitor is able to explore the views, soils, light and topography of Quails' Gate Winery. The redesign now offers the visitor an interactive experience with viticulture and the process of wine production.

WINE ROUTE

As the tourists head south along Mount Boucherie Road, the visitor leaves the residential communities and as the road slightly descends, they are immediately surrounded by vineyards on both sides of the road. A large bridge acts as a threshold signaling the entrance to Quails' Gate Winery. The vines extend out towards the road, creating a consistent rhythm of production rows for the length of the entire site.

PARKING

Off from the main wine route is a road which leads up the side of the site towards the parking facility. Consisting of three tiered sections which respond to the topography of the site, the parking facility is lined

with *Pinus ponderosa* (Ponderosa Pine) at the edges of the parking tiers. The parking is located at the top of the site, causing the visitor to move through the demonstration vineyards before reaching the hospitality building, hotel and production facilities. A linear path runs through the middle of the parking facility, gradually moving the visitors down towards the demonstration vines and eventually over Mount Boucherie Road and into the winery.

PINOT NOIR DEMONSTRATION VINES

A linear descending pathway leads into the fields of pinot noir demonstration vines. Quails' Gate Winery is best known for their pinot noir, which is a terroir focused wine. It is one of the most difficult vines to grow and only grows in very specific locations. The site of Quails' Gate Winery has the perfect combination of cool climate, ideal geology and mineral content in the soil ideal for pinot noir. The undulating ground plane exaggerates the natural contours of the site, slowing the visitor down and focusing their attention to the rolling and rugged topography. A field of pinot noir vines greets visitors as they move down towards the winery. The visitors are able to slowly move through the rows of vines, allowing them to view the grapevines up close and to see how the grapes are grown.

BRIDGE

A bridge moves the visitor from the parking facility to the demonstration vines on the northern part of the site safely to the other side of Mount Boucherie Road ending on the top of the hospitality building. The bridge changes the visitors perception of the vines, and provides views out towards the Okanagan Valley. This bridge acts not only as a way for visitors to move around the site but also stands as a distinct feature along the wine route.

Opposite page:
Figure 6.12: Master plan of proposed changes to Quails' Gate Winery


1. wine route
2. parking facility
3. vineyards
4. demonstration vines
5. bridge
6. hospitality building
7. production facility
8. transportation facility
9. underground cellar
10. hotel
11. ramp
12. pathways through vineyards
13. dock
14. boardwalk
15. grassland
16. orchard
17. existing residence
18. dry/rain shadow forest
19. ponderosa pine forest and lookout
20. pathways through vineyards
Residential
Residential
0
100 m
Lake Okanagan
perspective through vineyards


Above:
Figure 6.13: Plan of Quails' Gate Winery
Opposite page:
Figure 6.14: Detailed plan of entrance to Quails' Gate Winery
Figure 6.15: Section through Quails' Gate Winery

## ENTRANCE

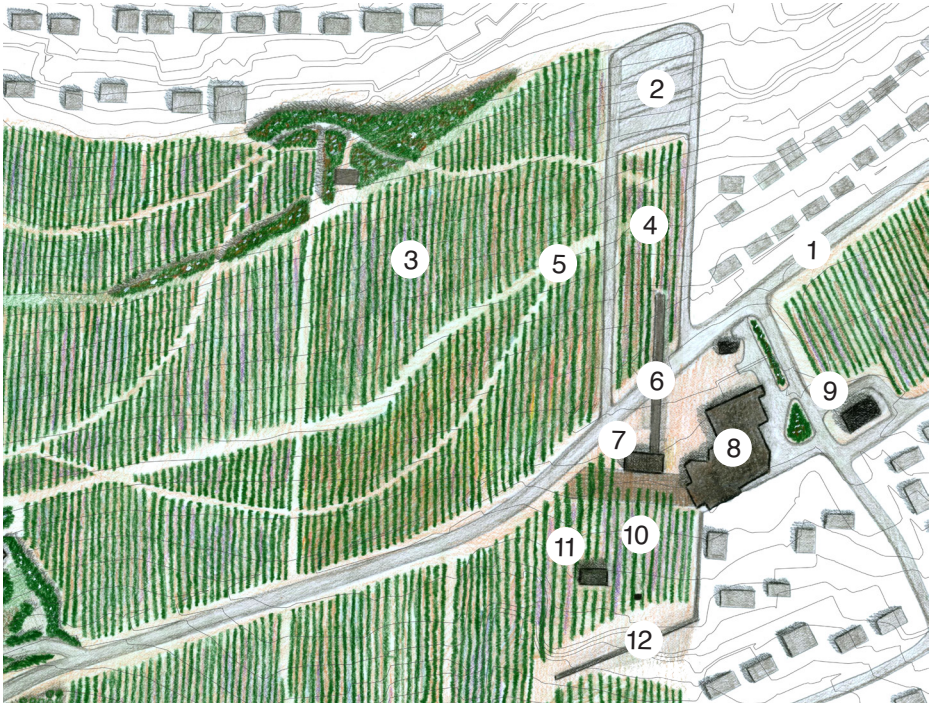
The bridge brings the visitor over Mount Boucherie Road and onto the top of the hospitality building. At this point, the visitor is orientated towards the views of the Okanagan valley. The visitor is then able to go inside the hospitality building and access the retail and tasting area.

## BUILDINGS ON SITE

The hospitality building allows the visitor to taste, learn about and purchase wine. Located to the right of the hospitality building is the restaurant and wine production facility where the warehousing and storage of wine is done. The wine transportation facility, which was once located in the center of the vineyard, has been relocated to be closer to the production facility. Visitors are able to stay over night at the hotel, completely surrounded by the vines, close to the main hospitality building.

## UNDERGROUND PASSAGE AND WINE CELLARS

Access is provided to the wine cellars behind the main hospitality building. This passage descends underground to the cellars and rises back up to the vineyards and belvedere. The underground passage reveals the soils - the rocks and earth - to the visitor as well as the process of barrel aging wine. As the light fades, a faint glimpse of light is visible at the other end of the pathway, leading the visitor through the cellar.




1. wine route
2. parking facility
3. vineyards
4. demonstration vines
5. pathway through vineyards
6. bridge
7. hospitality building
8. production facility
9. transportation facility
10. underground cellar
11. hotel
12. ramp

0 100 m


0 100 m

Section B - B: Section through Quails' Gate Vineyard

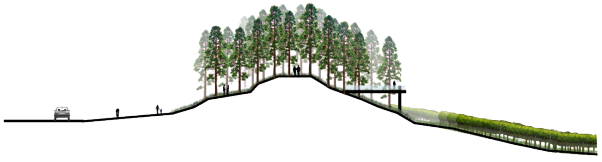

## BELVEDERE AND RAMP

Once emerging from the underground wine cellar, the visitor enters a belvedere which provides uninterrupted views of the vineyards and Lake Okanagan. At the end of the belvedere, a ramp provides access from the upper vineyards down to the surrounding site. Cut into the side of the hill, the ramp allows visitors to have views out towards the vineyards and Lake Okanagan.

## PATHWAYS THROUGH VINEYARDS

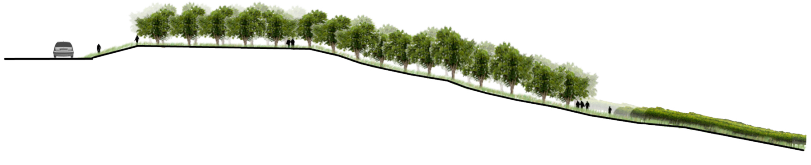
The parallel pattern of the vineyard rows creates enclosed pathways down towards the lake's edge. To allow for routes and circulation through the vineyard, a network of pathways has been carved out of the trellising system connecting a variety of spaces on the site. By removing a section of the trellising system, visitors are able to bisect the rows of vineyards, weaving their way through the site. *Pinus ponderosa* (Ponderosa Pine) which are found throughout the entire Okanagan Valley, act as landmarks in the vineyard, that grow up from the carpet of vines, to lead the visitor through the site. The pathways allow the visitor towards destination islands, the surrounding residential areas and boardwalk beside Lake Okanagan. Passing through each destination space, the path establishes a pattern of movement through the vineyards and rest at the destinations. Visitors can take a variety of different walks through the vineyard, staying along the designated path or choosing to wind through the vineyard rows. The various pathways allow the visitors to choose a different path each time they visit, changing their perception and understanding of the site through discovery.

Above:
Figure 6.16: Plan of Quails' Gate Winery
Opposite page:
Figure 6.17: Sections and perspectives of destination islands



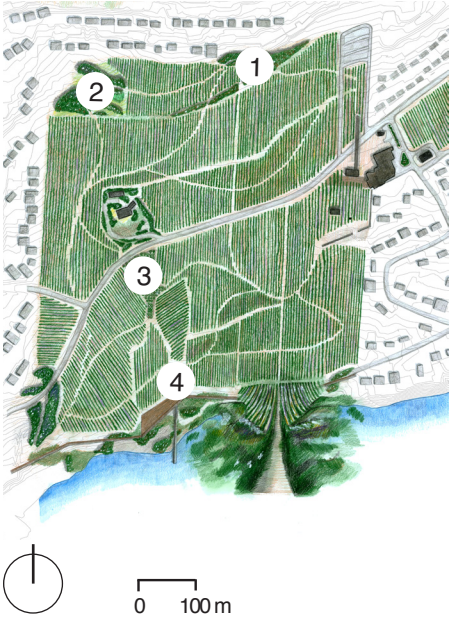
Section A - A: Through the Ponderosa Pine thicket to the lookout

Section B - B: Dry/ rain shadow grove



Section C - C: Orchard

Section D - D: Grassland docks




Above:
Figure 6.18: Location of destination islands

## DESTINATION ISLANDS

These once undesirable plots of land for grapevine production become reinterpreted as vegetated destination points throughout the vineyard. The islands are arranged by growing conditions around the site. These four areas represent the very distinct environmental characteristics of the Okanagan Valley. These sites, which were deemed undesirable for grapes to be grown, now provide destination points for the visitor to explore and understand the terroir of the site and the surrounding region. These island areas, linked together through the network of pathways, stand as landmarks in a sea of vineyards, acting as destinations for the visitor to explore.

### 1. The Ponderosa Pine Thicket

This site is located at the most northern part of the vineyards and provides excellent views out towards Quails' Gate Winery as well as Lake Okanagan. The vegetation on this site is typically found in the northern part of the Okanagan Valley, the forested subalpine ecosystem. The visitor is led through a thicket of densely planted *Pinus ponderosa* (ponderosa pines) with their glowing brick-red bark and green needles. After weaving through the pines, a lookout point is found nestled into the back of the vineyard, providing views out towards the rest of the site. The lookout allows the visitor to experience the entire site from a different perspective.

### 2. Dry/ Rain Shadow Grove

Bridging the space between the residential community and the northern vines is the dry/rain shadow grove. This grove has a variety of different vegetation including sage bush, antelope bush, bunch grass and scattered ponderosa pines.

3. Orchard

Located beside Mount Boucherie Road, an orchard of apples runs in a grid formation over the steep topography. The tight grid of apple trees provides a well shaded area, ideal for picnic sites and allows for views of the entire site as well as Lake Okanagan.

4. Grassland Dock

Running through the centre of the grasslands is a pathway which leads the visitor down the side of the hill and towards a dock which extends out into Lake Okanagan. Bunchgrass, fescue, cheatgrass and sagebrush create a carpet over the rolling hill. The hill appears green in the spring and changes to be a vibrant gold as the seasons change. A dock extends from the grasslands and reaches out into Lake Okanagan. The dock now allows visitors to access the site from Lake Okanagan.

BOARDWALK

A boardwalk connects the west and east sides of the site along Lake Okanagan, which was previously inaccessible. At the point were the dock extends into the water, the boardwalk is widened to become a gathering space to handle the influx of visitors coming to the site.

## CONCLUSION

The intention of the design for Quails' Gate Winery is to improve the current condition of the visitor experience and promote additional tourism by revealing the site's distinct terroir. By sequencing the experience for the visitor through a series of pathways, passages and lookouts, the visitor is able to explore the views, soils, light and topography of Quails' Gate Winery. The design now offers the visitor an interactive experience with viticulture and the process of wine production.

# CHAPTER 7

**EXPERIENCE** CONCLUSION

# CONCLUSION

The intention of this practicum was to examine Canadian vineyard landscapes and though the design of a site, to demonstrate the ways in which landscape architecture can contribute to enhancing the overall experience of being in a vineyard. I began my research with asking my self the following question: How can landscape architecture contribute to viticulture?

Through the course of this practicum, it has become evident that landscape architecture can offer an inevitable benefit to viticulture. Landscape architecture has the ability to reveal the unique characteristics of a landscape, allow for opportunities to interact with the site and create memorable experiences for visitors. Vineyard landscapes must be functional at a variety of different levels to meet the needs of the visitor, the winery staff and the grapes themselves. These spaces must create an identity to the wine route (and subsequently to the rest of the wine region), provide an inviting and hospitable environment for visitors and staff without impacting and disturbing the production process.

The redesign of Quails' Gate Winery in the Okanagan Valley creates a site that embraces the notion of the site's terroir. Through a sequence of spaces, the beauty of the surrounding valley is revealed, paths are provided to explore the vineyards and visitors are able to spend time in this truly unique site. Quails' Gate Winery now offers more than just wine tasting, the redesign of the site creates a chance to see where the wine has been grown by experiencing the vineyard in a new way.

As the Canadian wine industry continues to grow, there remains an opportunity for landscape architects to be involved with the transformation of the industry. Having an understanding of viticulture and the purpose of the formal layout of the vineyard landscape, allows the landscape architect the ability to

design areas to enhance the visitor experience.

During the course of this practicum, I have been able to explore Canadian vineyards, which were a productive landscape that was completely foreign to me. Through the research and design for my site, I was able to apply the skills that I have learned throughout my education in the Master of Landscape Architecture program. I have gained a tremendous appreciation for these spaces, not only for their beauty but also for the benefit that productive landscapes serve.

# LIST OF FIGURES AND TABLES

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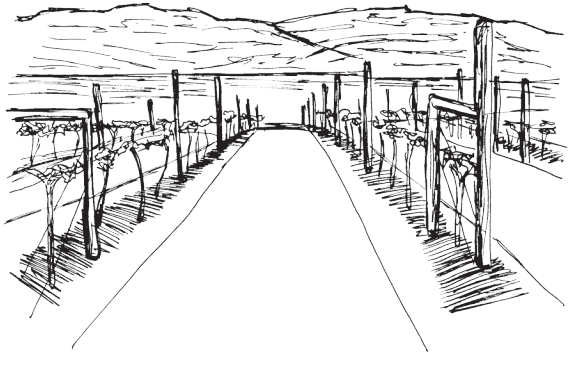

## FIGURES AND TABLES

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CHAPTER 1: **CULTIVATE** AN INTRODUCTION

No figures or tables

CHAPTER 2: **PLANT** TURNING THE VINE TO WINE

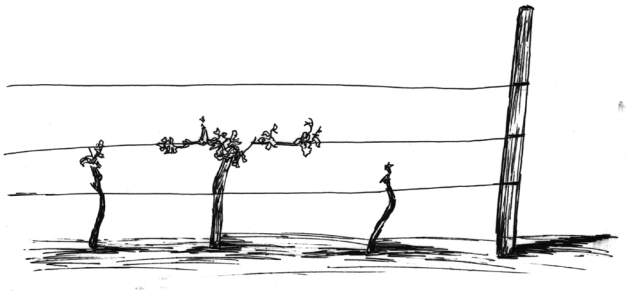


CHAPTER 3: **GROW** TERROIR AND TOURISM

No figures or tables

CHAPTER 4: **HARVEST** UNDERSTANDING THE LAND

# BIBLIOGRAPHY



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CHAPTER 6: **SAVOR** DESIGN OF A VINEYARD

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CHAPTER 7: **EXPERIENCE** CONCLUSION

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