

City of Vernon

Cemetery Master Plan

LEES
ASSOCIATES



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EXECUTIVE SUMMARY

The City of Vernon commissioned LEES+Associates to prepare a Cemetery Master Plan. This Plan outlines a defensible, robust strategy for enhancing the sustainability of the City's cemetery services, and offers an implementation plan for achieving improved cemetery operations, policies and practices.

KEY FINDINGS + RECOMMENDATIONS

Community Need Trends

Over the past 5 years:

- Vernon's death rate averaged 13.0 deaths per 1,000 residents.
- In Vernon, 87% of residents chose cremation and 13% of residents chose casket burial;
- 93% of Vernon residents that chose casket burial were interred in Pleasant Valley Cemetery, and
- 27% of Vernon residents that chose cremation were interred in Pleasant Valley Cemetery.

Over the next 25 years (2018 to 2042):

- Starting in 2021, the demise of the Baby Boom generation will lead to the slow but steady increase in the demand for cemetery services;
- Over this period, there will be a projected 15,400 deaths in Vernon, resulting in 13,800 cremations and 1,600 casket burials;
- Projected dispositions in Vernon are for 10% of decedents to choose in-ground burial and 90% to choose cremation, and for the percentage of casket burials to decline steadily;
- Based on projected demand, the City will sell cemetery space for 950 casket burials and 1,300 cremation interments;
- This will result in the interment of 1,400 caskets and 3,900 cremated remains at the City's cemetery, and
- This means that 28% of total interments at the City's Cemetery will be for caskets and 72% will be for cremated remains.

Supply + Capacity

- Based on the projections above, **Pleasant Valley Cemetery has approximately 30 years of sales capacity remaining;**
- Pleasant Valley Cemetery makes three times the number of cremated remains interments relative to the number of purchases of in-ground cremation lots. This is reflected in as an above-average number of residents choosing to inter multiple cremated remains in a single lot. This includes interring multiple sets of cremated remains on an existing casket lot, or purchasing a casket lot specifically for the burial of up to 6 sets of cremated remains only;
- If residents were to inter cremated remains in cremated remains burial lots only, the City would have about a decade of sales capacity for in-ground cremation interments;

- The City should prioritize developing a diverse range of cremated remains interment options at the existing cemetery site, including above-ground interment options;
- Approximately **809** casket lots can be developed in the currently undeveloped area;
- Approximately **100 – 150** lots can be developed in a new green burial section in the wooded area visible from Pleasant Valley Road, just north of the entry drive;
- Approximately **165** lots could be created through partial road reclamation;
- Approximately **58** casket lots on west end of Birch Road;
- Up to **104** lots could be developed by extending existing rows of graves, and
- If the City chooses to conduct comprehensive review of unused graves, some additional lots could be returned to active inventory. A preliminary estimate is that at least **50** graves could be reclaimed through this process.

OPERATIONS REVIEW

The key findings include:

- A Standard Operating Procedures Manual should be developed to improve performance management.
- Irrigation and turf care absorbs the bulk of contractor maintenance. Time currently spent on watering and making repairs to the existing irrigation system could be reduced through the installation of a new, up-to-date Irrigation system. Time spent on turf care could also be reduced through new policies re: ornamentation, revisions to the current bylaws and bylaw enforcement, and
- The operations area should be consolidated and screened to reduce the impact of this area on the adjacent interment areas.

FINANCIAL PLAN

The key findings include:

- The majority of City's cemetery rates are below the average market rate at a Regional level, but on par with the typical range of prices Canadian cemeteries;
- The range and diversity of offerings at Pleasant Valley Cemetery is less than the typical range of options at most Canadian cemeteries;
- City cemetery operations generate an annual loss. This annual loss has been steadily decreasing since 2014;
- Under status quo conditions, the City's annual loss will increase to \$173,000 by 2067;
- The City spends \$170,000 per year on site care, or 62% of its annual cemetery operating costs;
- Increasing prices and diversifying cemetery service options is necessary for increasing revenue and achieving more sustainable, long-term financial projections, and
- The City's Perpetual Care Fund is underfunded in terms of its ability to pay for future care and maintenance to the basic level of care expected at inactive Canadian cemeteries.

The following recommendations are expected to improve the City's financial sustainability:

- Increase cemetery rates in 2019 to better align with the regional rate average;
- Increase cemetery rates by a minimum of 10% per year for the next three years. After this, the cemetery should consistently break even. From the point where the cemetery breaks even, prices should increase 3% per year to offset inflation;
- Transfer a portion of future cemetery profits into an extra PCF contribution towards its principal, to accelerate the timeline to achieving financial self-sustainability;
- Transfer a portion of future cemetery profits into a new Development Fund. This would be set up as a trust fund similar to the PCF, but could be used to fund new inventory (such as columbaria niches), and make improvements to site infrastructure, and
- Add new revenue accounts or user-defined fields to the cemetery ledger to enhance the City's ability to track sales and performance by interment type (casket/cremation), residency (resident/non-resident) and time of sale (at-need vs. pre-need), and
- Revisit this Master Plan and its recommendations in 5 years to review and evaluate the community's response to the new offerings, sales trends and changes to operations and maintenance.

CONCEPT + IMPLEMENTATION

Eight key areas were reviewed in detail. *Graphics and costing are provided in the Concept and Implementation Chapter on page. 64.*

In view of Pleasant Valley Cemetery's capacity to serve the needs of the community for another 30 years, it is recommended that the City:

1. **Allocate funds for capital projects** focussed on reducing cemetery operation and maintenance costs and increasing cemetery revenues.
2. **Improve and expand the cemetery's cremation interment options**, including enhanced in-ground cremation burial options and columbaria niches. The initial project should be a feature cremation garden with columbaria, ornamental plantings and benches, a scattering garden, memorial wall and an ossuary. A small, recirculating water feature could also be included.
3. **Pursue strategies to reduce irrigation costs** by installing a new, more efficient irrigation system.
4. **Implement a suite of landscape maintenance practices** to support reduced water use while establishing a healthy, resilient cemetery landscape.
5. **Initiate a public outreach program** to communicate and explain changes to cemetery policy and operations.
6. **Replace the existing contractor maintenance specification with a Standard Operations Manual.** Collaborate with all parties associated with the cemetery to establish terms that will achieve improved performance management.

7. **Improve the cemetery entry off Pleasant Valley Road**, including new cemetery entry signage, improved pedestrian access/pathways and a more attractive Maple Avenue landscape (new curbs, possible revised parking regulations, landscape treatment under the maple allée, and new benches).
8. **Install cemetery maps** with regulations and site info, section markers, and interpretive/historic signage, starting with a kiosk at the intersection of Maple Avenue and Elm Street.
9. **Repurpose less desirable interment areas** to other uses, such as for public features or amenity areas, or re-designate for other types of interment, such as family cremation lots into single cremation lots.
10. **Reclaim little used/redundant roads** and convert to casket or cremation lots, as feasible.
11. **Identify unused lots sold more than 50 years ago** to potentially reclaim and offer as new inventory.
12. **Expand the full body burial options offered** by creating a new green burial area in the south woodland north of the main entry, and a limited number of "Pioneer Green Burial" lots in the Old Evergreen Section, where feasible.
13. **Consolidate the works yard** to reduce its impact on adjacent interment areas and to provide space for new screening and buffer plantings.
14. **Distribute enhancements around the site** to establish consistent level of features, visual interest and amenity.
15. **Update the Cemetery Bylaw**. Communicate changes and address site issues associated with out-of-date and unenforced regulations. Implement and enforce the new Bylaw consistently.
16. **Invest in new cemetery records management software** to facilitate financial and administrative tasks.
17. **Improve customer service** by providing new meeting area for use by Cemetery Administration when meeting with families re: cemetery sales and related business.
18. **Encourage community engagement** with cemetery information and events.

COST ESTIMATE AND PRIORITY PROJECTS

Budget level cost estimates have been provided for the conceptual design areas.

Priority projects include:

- | | |
|---|--|
| ▪ Cemetery Bylaw | ▪ Green Burial Section |
| ▪ Irrigation system | ▪ Entry area/new cemetery signage |
| ▪ Standard Operating Procedures | ▪ Maple Avenue improvements |
| ▪ Cemetery Information Map and Kiosk | ▪ Works Yard and surrounding areas |
| ▪ Feature Cremation Garden + Columbaria | ▪ Evergreen Section "Pioneer Green Burial" |

TABLE OF CONTENTS

1.	Introduction	1
1.1.	Project Scope.....	1
1.2.	Cemetery Sites Overview	2
2.	Community Need - Trends	4
2.1.	Demographic Characteristics	4
2.2.	Disposition Trends	9
2.3.	Defining the Community Served – Total Catchment Area	11
2.4.	Defining the Community Served - Historic Sales + Interments.....	14
2.5.	Projected Community Need	16
2.6.	Projected Sales + Interments	17
2.7.	Key Findings: Community Need - Trends.....	18
3.	Supply + Capacity	19
3.1.	Current Supply - Existing Lots	19
3.2.	Current Site Capacity	21
3.3.	InFill - Expansion of Capacity at the Existing Cemetery	23
3.4.	New Site - Expansion of Capacity	25
3.5.	Key Findings – Cemetery Land Needs Analysis	30
4.	Operations Review	31
4.1.	Organizational Analysis – Human Resources	31
4.2.	Governance + Partnerships	34
4.3.	Administration, Customer Service + Records Management	37
4.4.	Field Work: Service, Care + Maintenance	40
4.5.	Key Findings – Operations Review	45
4.6.	Recommendations – Operations Review	46
5.	Financial Plan.....	47
5.1.	Cemetery Services Review	47
5.2.	Cemetery Pricing Review	48
5.3.	Historic Financial Performance	54
5.4.	Financial Scenarios	57
5.5.	Scenario 1: Status Quo	58
5.6.	Scenario 2: Alternative Model.....	60
5.7.	Key Findings – Financial Plan	63
5.8.	Recommendations – Financial Plan	64
6.	Concept + Implementation	65
6.1.	Design Principles.....	65
6.2.	Concept Area Descriptions.....	69
6.3.	Implementation and Phasing	82

7. Cost Estimate.....	84
8. Conclusion	86
9. Appendices	87

1. INTRODUCTION

1.1. PROJECT SCOPE

The City of Vernon commissioned LEES+Associates to prepare a Master Plan for its cemetery system, which includes the existing Pleasant Valley Cemetery at 4311 Pleasant Valley Road, and a proposed new cemetery at 700 Mission Road, about seven kilometers south of the current site.

This Master Plan has been prepared to help the City enhance the Cemetery's role as a public open space, maximize the community's benefit, and meet the expectations of residents while:

- Maximizing capacity at the existing site;
- Evaluating the need for and design of a new cemetery on a city-owned site within the next five years;
- Achieving funding and financial sustainability for current operations, much-needed infrastructure development, and the cemetery's perpetual care trust fund, and
- Enhancing cemetery operations, management and maintenance practices.

This Cemetery Master Plan includes the following chapters:

- Introduction;
- Community Need Trends;
 - *A review of the City's population, age, ethnic and religious profile, death cremation and burial rates, as well as the cemetery's sales and interment trends.*
- Supply + Capacity;
 - *A review of the existing cemetery inventory available for sale, as well as determining the potential for new inventory at the existing and new sites.*
- Operations Review;
 - *A review of the strengths, weaknesses, opportunities and threats of the cemetery system's present customer service, maintenance, administration, operations, governance and business model, as well as alternative options.*
- Financial Plan;
 - *An assessment of the cemetery system's operational funding, fee schedule and cemetery care fund.*
- Concept + Implementation;
 - *A preliminary design, implementation plan and cost estimate for the development of a new cemetery site.*
- Cost Estimate, and
- Conclusion

1.2. CEMETERY SITES OVERVIEW

EXISTING CEMETERY LAND

The City of Vernon owns and operates one cemetery site, **Pleasant Valley Cemetery**, at 4311 Pleasant Valley Road. Formerly known as Vernon Cemetery, this 13 hectare/32 acre site can be accessed from Hwy. 97 via 43rd Avenue by travelling north 150 metres along Pleasant Valley Road. The cemetery entry is just north of Pleasant Valley Funeral Home, whose building and sign sits on the slope above the road. The entry into the Cemetery is along a tree-lined entry drive, known as Maple Avenue.

Pleasant Valley Cemetery is Vernon's second burial ground. Established in 1902, it replaced the original municipal cemetery: a 0.52 acre site on the old Kamloops Road (at 3700 block of 35th Avenue), which had been declared full in 1901.

The old site was renamed Pioneer Park Cemetery in 1973. All of its markers have now been removed, with some placed in a memorial wall at the east side of the old cemetery and others relocated to what was then the new Pleasant Valley Cemetery.

The new cemetery was established on 17 acres of rolling land that rises to a plateau. The initial layout was based on a central roadway rising from Pleasant Valley Road and seven double tiers of lots separated by driveways. The roadways were named after tree species and planted with deciduous trees. Separate areas were established for Chinese burials, for members of the Oddfellows, (a service organization popular through the early 20th century), and for infants and children. After World War One, a section was reserved for members of the Great War Veterans Association.

By 1911, the initial 17 acres were filling up. A report found many unauthorized graves and poor maintenance. Council authorized a referendum to improve the site and to buy additional land. In 1912, an additional 13 acres was purchased. Funds were approved to enable the cemetery to help make Vernon a "City Beautiful", according to the Secretary of the Cemetery Commission.

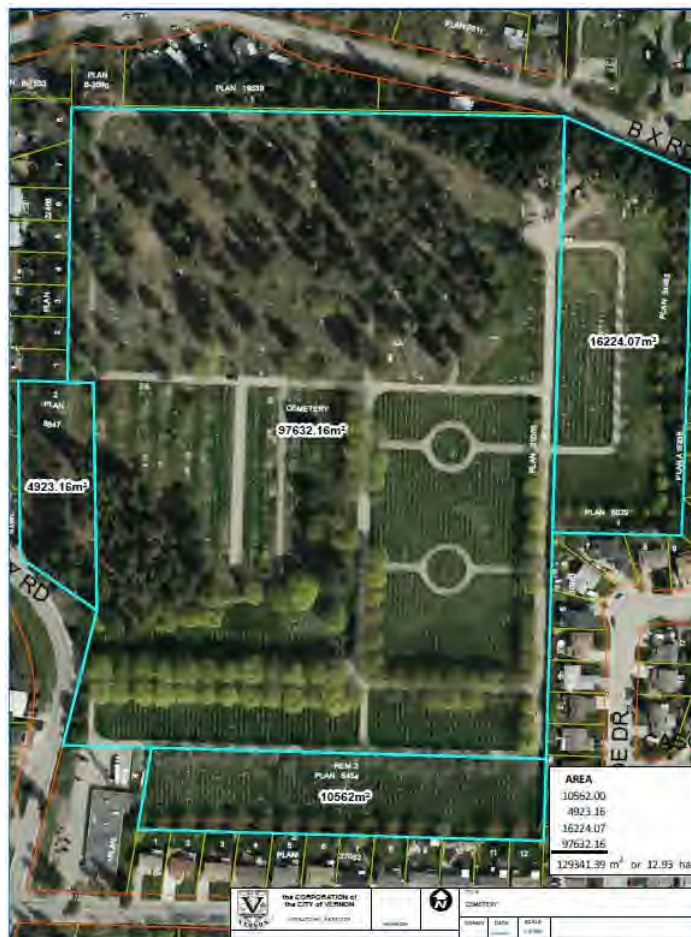


Figure 1: City of Vernon's Pleasant Valley Cemetery Map, Source: City of Vernon.

The Vernon Cemetery's layout, with its roads and street trees evoking a landscaped subdivision or urban park, reflects the principles of the "City Beautiful" movement of the late 1800's, and the "Garden Cemetery" style of design, which sought to place graves in a peaceful, naturalistic setting.

In 1975, Mount Pleasant Memorial Chapel was constructed on Pleasant Valley Road, near the entry into the existing cemetery. According to the City of Vernon's Heritage Registry, the character defining elements of this cemetery include:

- The cemetery site east of Pleasant Valley Road, with a hillside rising gently to the east;
- The layout of lots and roadways, including the historic sections for different social groups, the historic names of roads, and the ornamental trees lining the roads;
- Native pines scattered throughout the site;
- Carved stone grave markers, including significant historical memorials;
- Family lots and markers, and
- The stone front entrance gates.

PROPOSED CEMETERY LAND

The area proposed for future cemetery use is a **24.5 acres (approximately 10 hectare)** property owned by the City of Vernon. The site at 700 Mission Road is approximately 8 km southwest of the City, situated in an agricultural area. The site slopes down from Mission Road and contains a few groves of trees and a seasonal wetland. It is currently used by the City for materials storage.



Figure 2: City of Vernon's proposed new Cemetery Site. Source: City of Vernon.

2. COMMUNITY NEED - TRENDS

This chapter identifies the age distribution, population profile, death, cremation and burial trends that affect cemetery land capacity and service options for the City of Vernon's cemetery system. The purpose of analysing these factors is to inform long term financial planning and identify the optimal way to serve the needs of area residents over the next 25 years.

2.1. DEMOGRAPHIC CHARACTERISTICS

This section of the report outlines the demographic variables that will affect future need for burial lots in the City of Vernon's cemetery system. These variables include:

- Age distribution;
- Historic and projected population growth;
- Historic and projected deaths, and
- Ethnicity and religion.

This analysis assumes the primary cemetery community served is the City of Vernon, and the secondary community served is the surrounding rural area and small communities within Vernon Local Health Area 022.

AGE DISTRIBUTION

The following figure shows the current age distribution within the City of Vernon.

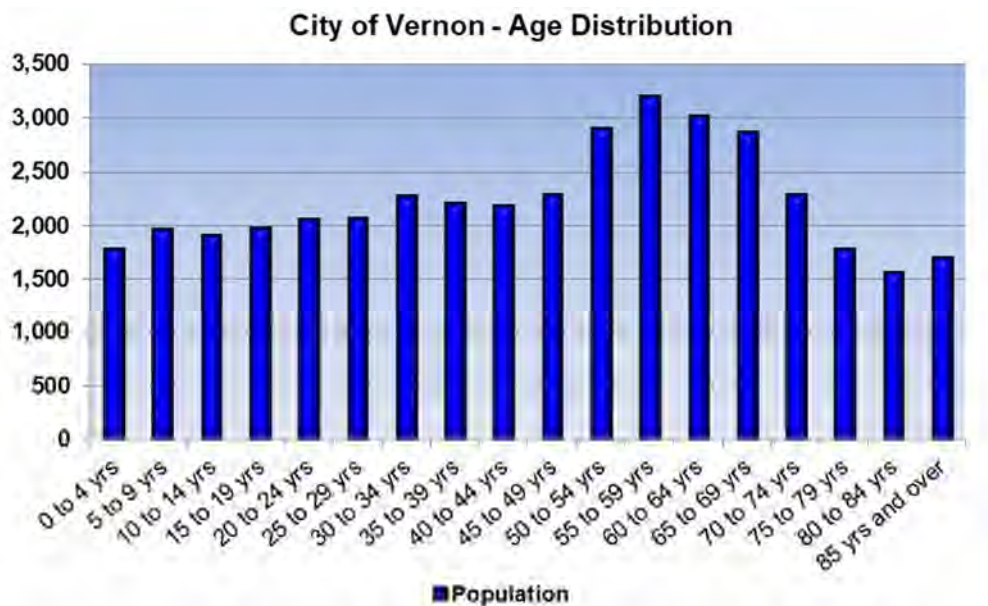


Figure 3: Age Distribution of the City of Vernon and British Columbia.
Source: Statistics Canada + LEES+Associates.

An analysis of the City of Vernon demographic age distribution shows that in 2016:

- Fifty-five to sixty-five-year olds were the largest age cohort in Vernon;
- The average age of City residents was 40.2, lower than the average age of BC residents overall, which is 42.3, and
- Communities and groups with a younger age profile also usually have a lower average death rate, decreasing the anticipated need for cemetery land in the short term.

The following figure shows the current age distribution within the Province of British Columbia.

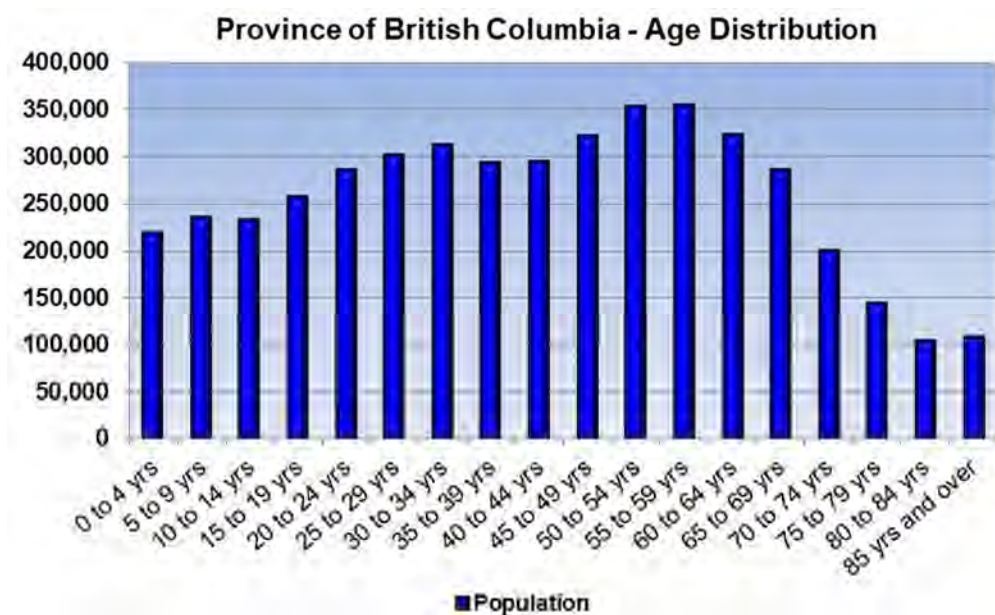


Figure 4: Age Distribution of the Province of British Columbia.
Source: Statistics Canada + LEES+Associates.

HISTORIC + PROJECTED POPULATION GROWTH

The demographic projections used in this plan are from the BC Stats' population estimates for the next 25 years¹. The term "cemetery community served" refers to the number of people who have died or are projected to die within the City over a given period.

The following table summarizes population statistics of the City of Vernon and the Local Health Area (LHA 22) within which it is located, including the projection that the City will grow by 20% over the next 25 years:

¹ BC Government Statistics Sub-provincial Population Projections - P.E.O.P.L.E. 2017 (July 2017)

<https://www2.gov.bc.ca/gov/content/data/statistics/people-population-community/population/population-projections>

Community Served	Population 2011	Population 2016	Average Growth 2011-2016	Population 2042	Average Growth 2017-2042
City of Vernon	38,990	40,116	0.60%	49,119	0.74%
Vernon LHA 22	65,832	68,032	0.90%	82,465	0.74%

Table 1: Vernon Historic + Projected Population, Source: BC Stats and Statistics Canada 2011 + 2016.

HISTORIC + PROJECTED DEATHS

The Baby Boom Generation in Canada includes the large segment of the population that was born between 1952 and 1965². As this cohort reaches its life expectancy, the average death rate is expected to increase, and the need for cemetery services will likely rise. The average life expectancy for this cohort is about 80 years. By 2031, average life expectancy is projected to rise to 82 for males and 86 for females, with the gap between the genders continuing to narrow.³

Statistics Canada expects that the aging of the population will increase the need for cemetery and funeral-related goods and services starting about 2021, when the oldest of the Baby Boom Generation reaches the age of 70. The number of deaths is expected to increase towards 2045, when the youngest members of this cohort turn 80.

The following table compares the City and Local Health Area's death statistics:

Community Served	Annual Deaths 2016	Deaths per 1,000 in 2016	Annual Deaths 2042	Deaths per 1,000 in 2042
City of Vernon	519	13.0	703	14.3
Vernon LHA 22	713	10.5	955	11.6

Table 2: City of Vernon Historic and Projected, Deaths and Death Rates, Source: BC Vital Statistics and LEES+Associates.

An analysis of historic and projected death statistics finds that:

- There were 2,559 deaths in the City of Vernon 2011 to 2016, averaging 512 per year;
- Over the next 25 years, there will be 15,400 deaths in the City of Vernon. The number of deaths will increase to 700 per year by 2042, which represents an increase of 35% since 2017. This will be driven by 0.74% annual, average population growth and a higher death rate of the aging Baby Boom generation, and
- 2011 to 2016, the City death rate averaged 13.0 deaths per 1,000 residents per year. By 2042, the death rate is expected to increase to 14.3 deaths per 1,000 residents.

² "Canada's Baby Boom Is Nothing like the One in the US," Robert L. Brown, Past President of the Canadian Institute of Actuaries, expert advisor EvidenceNetwork.ca, http://www.huffingtonpost.ca/robert-l-brown/canada-baby-boom_b_6478760.html

³ Statistics Canada, Life Expectancy, <https://www.statcan.gc.ca/pub/82-229-x/2009001/demo/lif-eng.htm>

RELIGIOUS + ETHNIC DEMOGRAPHIC PROFILE

Religious and ethnic affiliation influences a person's decision on whether, and how they will choose to be interred in a cemetery. Some groups encourage or require cremation and specific forms of interment. Other groups discourage or even forbid cremation and certain forms of interment. Consequently, we expect there will always be a segment of the population that chooses traditional in-ground casket burial.

An example of ethnic affiliation preference would be how south European, notably Italian and Portuguese families, often favour mausoleum interment rather than in-ground casket burial. .⁴

An example of religious affiliation preference would be that cremation is forbidden for Orthodox Jews. Reform and Conservative Jewish authorities also frown on the practice, although cremation is growing in popularity in the Jewish community across the world.⁵

Since Vatican II in 1962⁶, cremation has been allowed in the Catholic faith (provided cremated remains are kept together). However, some branches of Christianity oppose cremation, including minority Protestant and Orthodox groups, such as Greek and Serbian Christians. Most notably, the Eastern and Oriental Orthodox Churches forbid cremation. Residents with a Catholic affiliation are more likely to choose interment in a cemetery due to church-mandated funeral and burial customs.⁷

An understanding of the religious and ethnic profile of Vernon's residents is important to understanding the likely anticipated range of requests for the City's cemetery services.

⁴ Space and ethnic practices put heavy demands on cemeteries

<https://www.sbs.com.au/news/space-and-ethnic-practices-put-heavy-demands-on-cemeteries>

⁵ Cremation Becoming Increasingly Popular Among Jews, Funeral Professionals Say

<https://www.haaretz.com/jewish/news/cremation-becoming-increasingly-popular-among-jews-funeral-professionals-say-1.447873>

⁶ Changing Catholic Attitudes about Cremation

<http://www.catholicworldreport.com/2012/11/03/changing-catholic-attitudes-about-cremation/>

⁷ Vatican issues new rules on Catholic cremation - Remains cannot be scattered, divided, or kept at home

<http://www.cbc.ca/news/world/vatican-catholic-cremation-1.3820336>

The following figure illustrates the religious profile of City of Vernon residents.

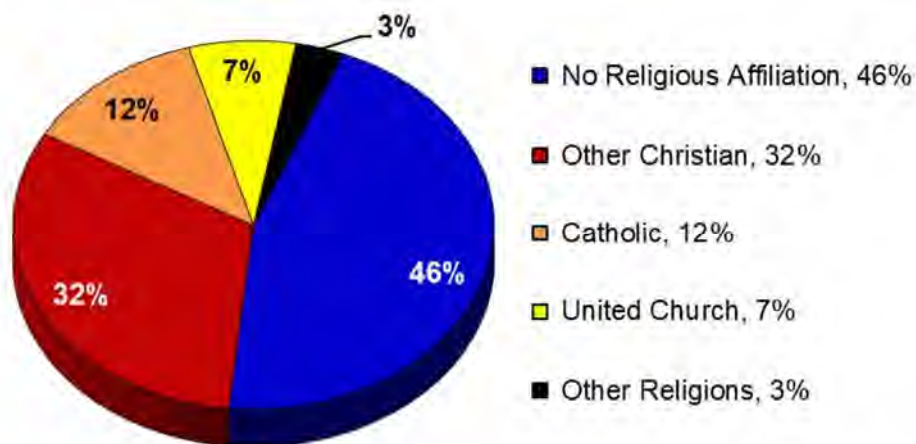


Figure 5: City of Vernon's Religious Profile.

Source: Statistics Canada.

Christianity is the primary religion in the City, with 51% of the population identifying as Christian, with the largest proportion being Catholic.

The following figure illustrates the ethnic distribution in the City of Vernon.

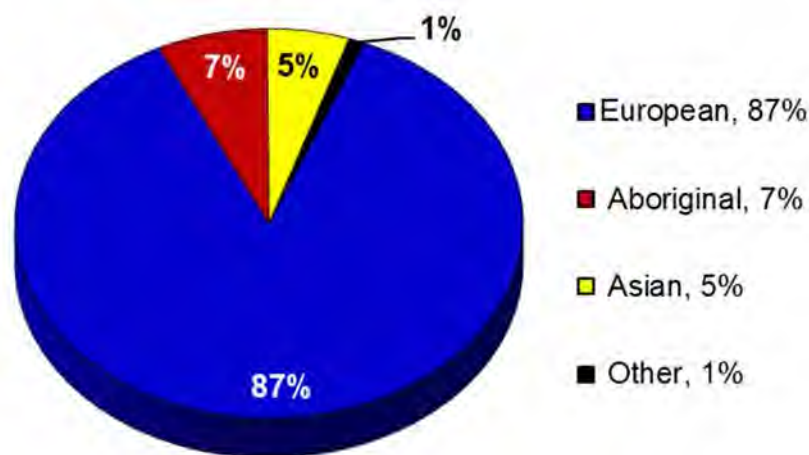


Figure 6: City of Vernon's Ethnic Profile, Source: Statistics Canada.

Most City residents are of European descent. A high proportion of these report their heritage originating in the British Isles, Germany, Ukraine and France.

2.2. DISPOSITION TRENDS

NATIONAL CREMATION RATE

Disposition refers to the way the body is handled after death, or literally, where it ends up. According to Canadian provincial and US state records, casket burial and cremation are the most common forms of disposition in North America.

It is important to note that casket burial is sometimes called the “final” disposition because the body is placed in its final resting place in a cemetery, and the name of the cemetery is required to be registered with Vital Statistics BC. Disposition by cremation is not considered a final disposition because cremated remains are easily moved. Vital Statistics BC records the crematorium as the place of disposition for those that choose cremation since this is the last place the body is known to be.

Cremation is the preferred form of disposition over most of Canada. The national average cremation rate rose from 58.6% in 2007 to 70.5% in 2017 and is expected to continue to rise across the country.

The following map illustrates the preference for cremation in Canadian provinces and territories as of 2017.

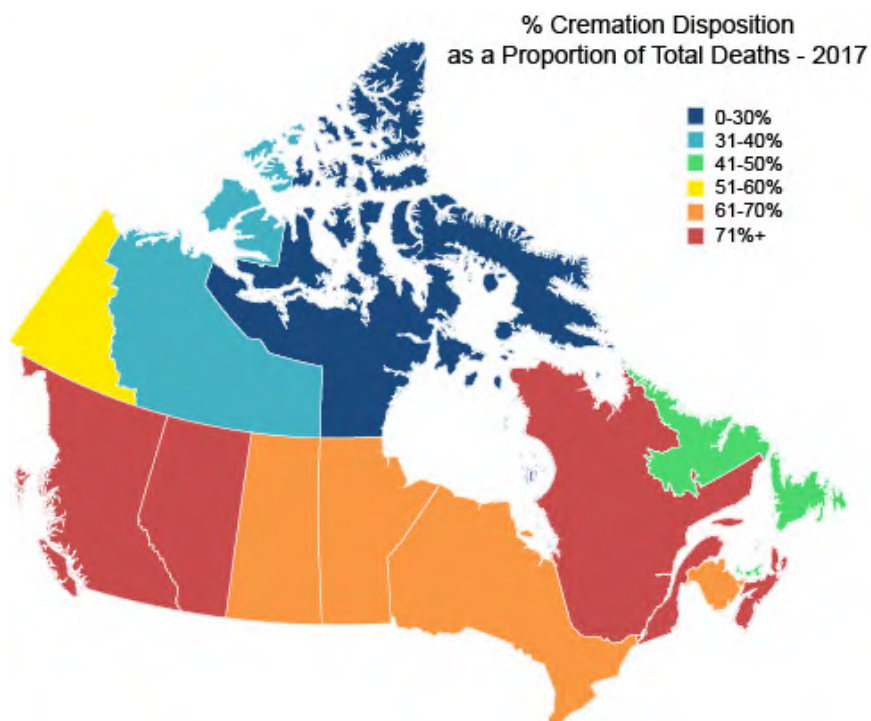


Figure 7: 2017 Canadian Cremation Rates Map, Source: Cremation Association of North America (CANA).

PROVINCIAL CREMATION RATE

In British Columbia (BC) there are currently about 35,000 deaths per year, leading to about 28,500 cremations. The cremation rate in British Columbia has increased from **82.6%** in 2012 to **85.2%** in 2017. The Cremation Association of North America (CANA) predicts that BC's cremation rate will rise to **87.4%** by 2022.

LOCAL CREMATION RATE

In the City of Vernon, there are approximately 500 deaths per year, leading to about 440 cremations.

The cremation rate in the City of Vernon has increased from **85.5%** in 2012 to **88.2%** in 2017 (3% higher than the provincial average).

The trend analysis in this cemetery master plan assumes that Vernon's cremation rate will continue to grow at approximately the same rate predicted for the Province by the Cremation Association of North America (CANA).

Given the City's ethnic and religious demographic profile and our professional expertise, we anticipate that cremation will not rise beyond **90%** of dispositions over the next 25 years.

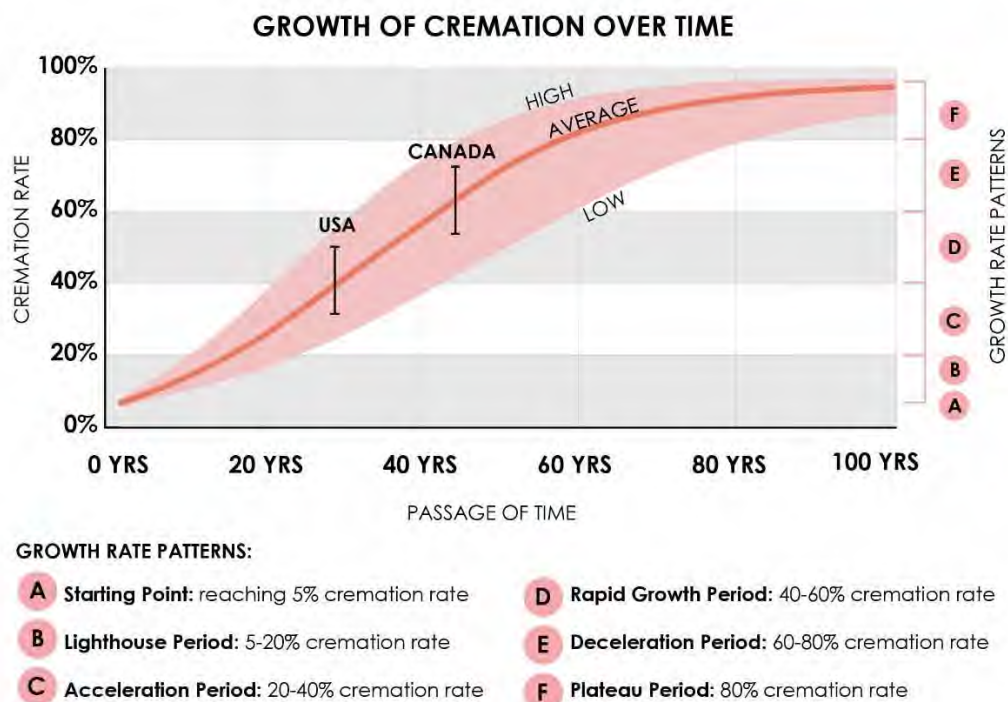


Figure 8: Graph of Change in Cremation Rates over Time. Source: CANA 2017 Vol 53 No 2

2.3. DEFINING THE COMMUNITY SERVED – TOTAL CATCHMENT AREA

PRIMARY COMMUNITY SERVED – CITY OF VERNON

The primary community served by the City of Vernon's cemetery system (75% of families served) are the residents living within the City of Vernon municipal boundaries. The City of Vernon's population from Statistics Canada's 2016 census⁸ was 40,116.

The City presently tracks the residency of those who purchase a right of interment at the time of the sale, but not the residency of those that are actually interred each year. It is assumed in this analysis that the proportion of non-resident burials is similar to the proportion of sales to non-residents.

SECONDARY COMMUNITY SERVED – NON-RESIDENTS

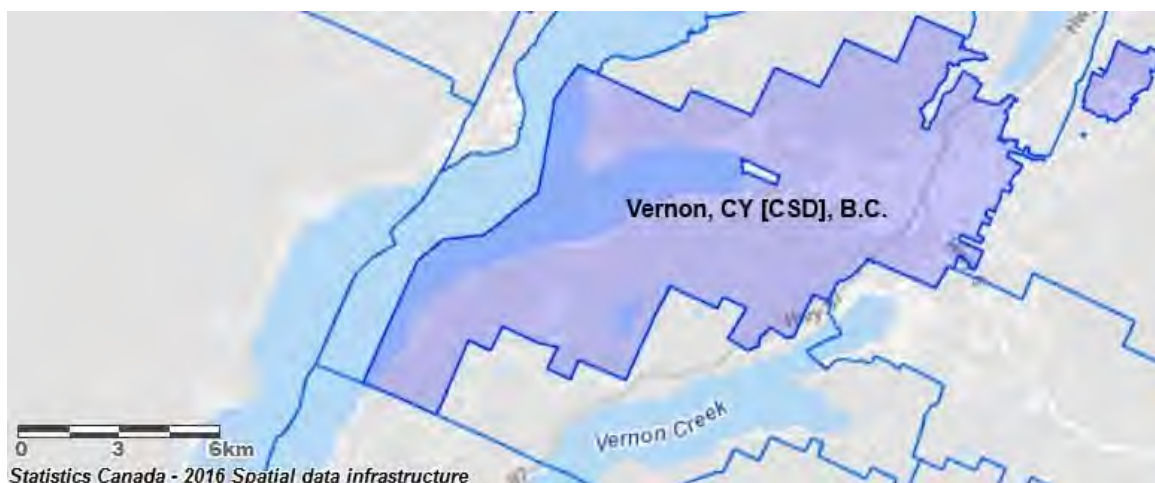


Figure 9: City of Vernon Map, Source: Statistics Canada.

The Vernon cemetery system serves primarily residents of the City of Vernon; however, the City also sells rights of interment to non-residents (those living outside of City boundaries at the time of death), which significantly extends the community it serves.

Over the past five years, 20% of families choosing cremation and 25% of families choosing casket burial that purchased lots from the City were non-residents. These non-residents are primarily from the communities and rural areas of the Vernon Local Health Area (LHA) 22.

According to the current City of Vernon Cemetery Bylaw 3472:

⁸ Statistics Canada Census 2016

<http://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/index.cfm?Lang=E>

*"Resident shall mean a person, who at the time of death, was the assessed owner of property within the Corporate limits of The Corporation of the City of Vernon, or a person who has resided within the Corporate limits for not less than **ninety (90) days**," and*

*"Non-Resident shall mean a person, who at the time of death, was not the assessed owner of property within the Corporate limits of The Corporation of the City of Vernon, or a person who has not resided within the Corporate limits for a period of **ninety (90) days**."*

Canadian municipalities usually define a non-resident as anyone who does not live and/or own property within the municipality's limits. The qualifying time period for residency usually ranges from one to five years. A few communities require upwards of 10 years of residency.

The City of Vernon has an unusually short qualifying period for resident rates in its cemetery system.



Figure 10: Vernon Local Health Area 022. Source: BC Government.

CITY OF VERNON'S COMMUNITY DEMOGRAPHIC + DISPOSITION PROFILE

The following graph summarizes the historic demographic and disposition profile of the community served by the City's cemetery system from 2013 to 2017. In this graph, population data aligns with the left vertical axis, while death, cremation and casket burial data align with the right vertical axis.

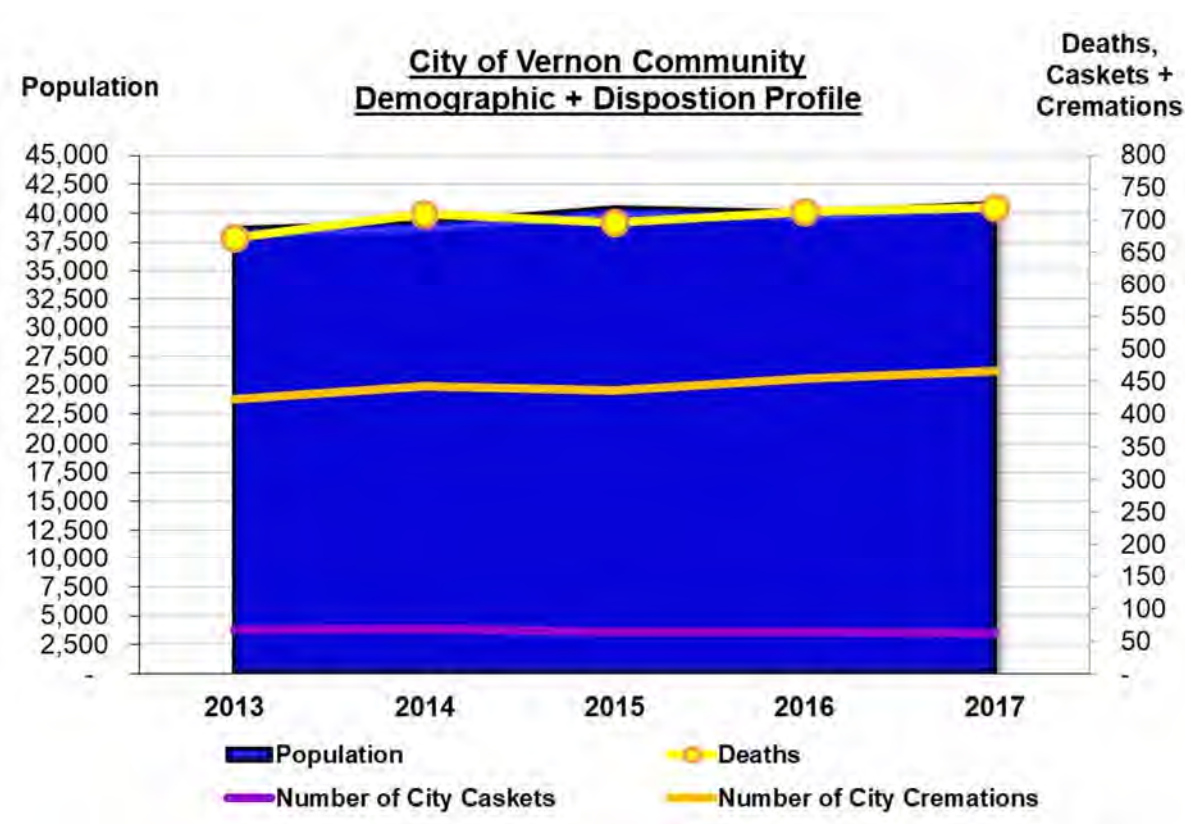


Figure 11: City of Vernon's Demographic & Disposition Profile. Source: LEES+Associates.

Demographic and disposition trend analyses found that over the past five years, 2013 to 2017:

- 2,552 deaths occurred within the City of Vernon, averaging 510 per year;
- 327 deaths in the City resulted in casket burial, averaging 65 per year, and
- 2,225 deaths in the City resulted in cremation, averaging 445 per year.

2.4. DEFINING THE COMMUNITY SERVED - HISTORIC SALES + INTERMENTS

The “community served” is reflected in the number of sales and interments that take place in a cemetery each year as a percentage of the number of deaths that occur in the City in that same year.

The following graph summarizes the City historic sales and interments from 2013 to 2017.

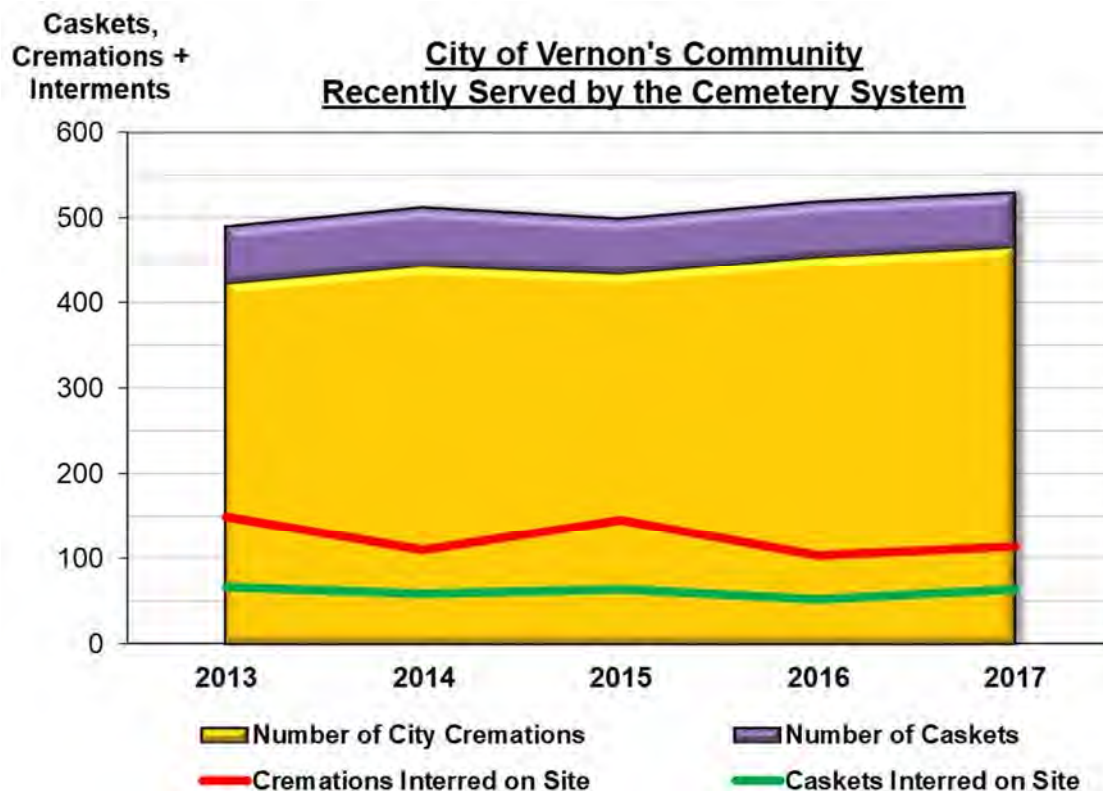


Figure 12: City of Vernon's Community Recently Served by the Cemetery System
Source: LEES+Associates.

Cemetery activity analyses find that from 2013 to 2017:

- 93% of casket burials of City residents took place at the City's cemetery;
- 28% of cremation interments of City residents took place at the City's cemetery;
- The City accommodated 304 casket and 622 cremation interments, averaging 61 casket and 124 cremation interments per year, and
- The City sold interment rights for 204 casket and 211 cremation lots, averaging 41 casket and 42 cremation lot sales per year.⁹

⁹ A lot is any space sold by a cemetery for the interment of human remains, including a grave, crypt or niche.

The City has historically recorded 33% fewer casket lot sales than casket interments each year, and 68% fewer cremation lot sales than cremation interments each year. This suggests that burial lots at the City's cemetery have historically accommodated more than one interment, and that lots may have been used as for double depth interments plus the burial of multiple sets of cremated remains.

Most North Americans do not inter the cremated remains of their loved ones in a cemetery environment, but instead choose to keep them at home or to scatter them in a place of personal meaning. By law, full body (casket) burial can only take place in a designated cemetery. Most families choose burial of their loved one in a local cemetery, where they are easy to visit. There are no comparable regulations for cremated remains. In BC, the law permits (i.e. does not prohibit) the scattering of cremated remains so long as it does not involve trespassing, and those doing the scattering have the permission of the land owner to leave cremated remains on their property.

Our research of Canadian cemeteries finds that on average, 15% to 20% of families that choose cremation will eventually inter the remains within a cemetery. Among those that choose burial, 80% to 90% of families will choose a grave in a cemetery in their community.

The City of Vernon is on par with these standards regarding the proportion of the primary community it serves, though there is an opportunity for the City to serve a larger proportion of non-residents, particularly those in smaller communities and in the rural areas of the Vernon Local Health Area 22.

The decision to choose a cemetery's services is based on the attractiveness of the site, family ties (relatives already buried there), the diversity of interment options offered, its relative cost, presence in the community and level of cemetery marketing.



Figure 13: Pleasant Valley Cemetery, Vernon, BC.

Source: LEES+Associates.

2.5. PROJECTED COMMUNITY NEED

The following graph projects the need for cemetery services from City of Vernon residents over the next 25 years. In this graph, population data appears on the left vertical axis, while death, cremation and casket burial data appear on the right vertical axis.

This study predicts that over the next 25 years, there will be:

- 15,400 deaths within the City of Vernon, averaging 616 per year;
- 1,600 deaths in the City will be casket burials, averaging 164 per year, and
- 13,800 deaths in the City resulted in cremation, averaging 552 per year.

There is a projected increase in City residents choosing cremation, from about 470 to about 630 per year. However, the number of residents choosing casket burial will not significantly change over the next 25 years. This is because casket burial is adequately buoyed by the projected population growth and an increased death rate, which will offset the growth in cremation over the next 25 years.

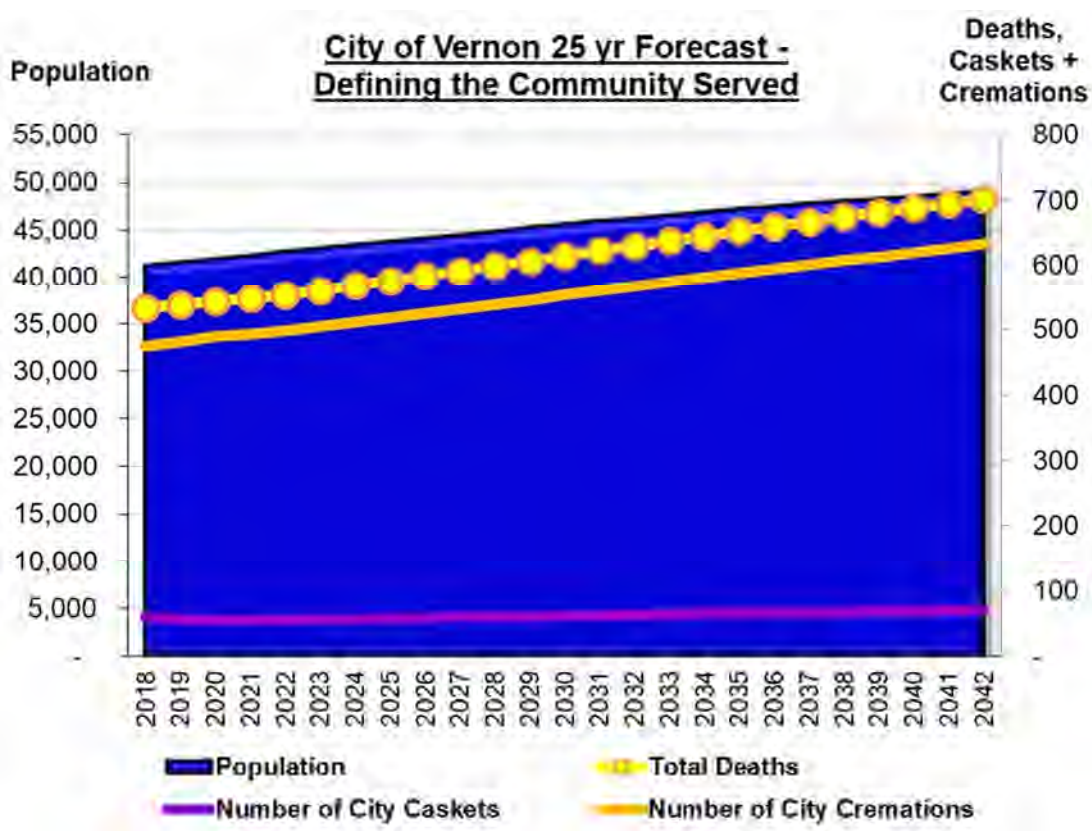


Figure 14: 25 Year Forecast of the City of Vernon's Community Served by the Cemetery System.
Source: LEES+Associates.

2.6. PROJECTED SALES + INTERMENTS

The following graph shows a projection of the City's cemetery interments from the City's casket burial and cremation families over the next 25 years.

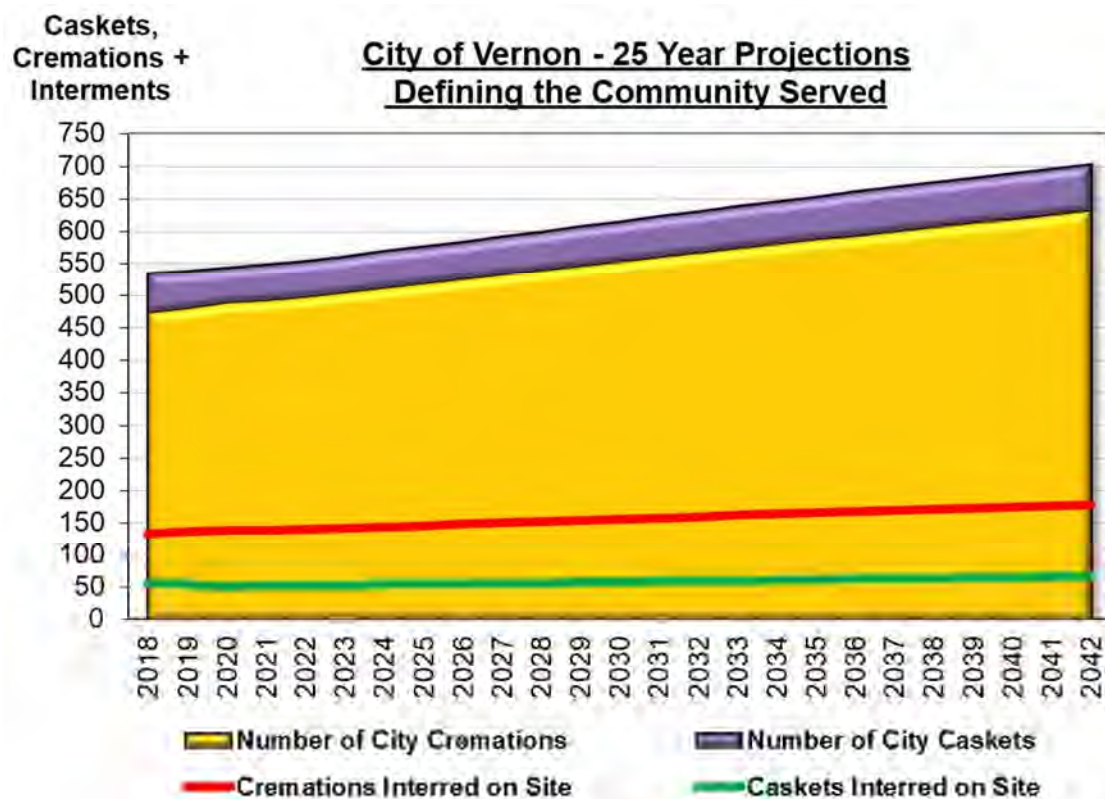


Figure 15: 25 Year Projection of Vernon's Casket Burials, Cremations + Interments in the City's Cemetery System, Source: LEES+Associates.

This analysis assumes historic service rates, interment patterns, sales trends and average annual growth in the City's community served will remain consistent and continuous over the next 25 years. It also assumes the City will continue to develop inventory like its existing offerings to meet the community's needs.

If historic trends continue over the next 25 years, the City's cemetery can expect to receive:

- 5,400 interments, averaging 216 interments per year. These interments include:
 - 1,500 traditional casket interments (28%), and
 - 3,900 cremated remains interments (71%).
- 2,250 sales, averaging 90 sales per year. These sales include:
 - 950 lots sold for traditional casket in-ground burials (37%), and
 - 1,300 lots (or niches) sold for cremated remains interments (63%).

North American cemetery trends show that about 25% of families that bring cremated remains to a cemetery choose a niche in a columbarium, if this option is offered. If City residents of Vernon residents follow this pattern, the City can expect to sell 325 columbaria niches and 975 cremation lot sales over the next 25 years.

This projection can be further refined through the enhanced tracking of cemetery sales patterns in the City cemetery system by interment type over the first 5 years that columbaria niches are made available to residents at Pleasant Valley Cemetery.

2.7. KEY FINDINGS: COMMUNITY NEED - TRENDS

HISTORIC DEMOGRAPHIC TRENDS AND COMMUNITY SERVED

- In 2017, the City's death rate averaged 13.0 deaths per 1,000 residents, and
- 51% of City residents self-identify as Christian, 3% follow other faiths, and 46% claim no religious affiliation. Individuals with religious affiliations such as Catholicism (12% of residents) are more likely to choose interment in a cemetery;

Over the past 5 years:

- 87% of City residents chose cremation and 13% chose casket burial;
- The City's cemetery served 93% of City residents choosing casket burial;
- The City's cemetery served 27% of City residents choosing cremation;
- 25% of casket lot and 20% of cremation lot sales were to non-residents, and
- The City cemetery had 33% fewer casket lot sales than interments each year, and 68% fewer cremation lot sales than interments each year. This is due to double depth burials and multiple cremated remains interred in a single grave.

PROJECTED DEMOGRAPHIC TRENDS AND COMMUNITY SERVED

- Starting in 2021, as local Baby Boomers begin to reach their life expectancy, there will be a slow but steady increase in the demand for cemetery services.

Over the next 25 years:

- There will be 15,400 deaths in the City;
- There will be 1,600 casket burials (10%) and 13,800 cremations (90%), and
- The City is projected to sell 950 casket and 1,300 cremation inventory and inter 1,400 caskets and 3,900 cremated remains.

3. SUPPLY + CAPACITY

This section of the report analyses the remaining capacity at the City’s cemetery sites and provides an assessment of future cemetery land needs over the next 25 years. In this capacity analysis, we compare the anticipated need to the available supply in two ways.

1. We compare the projected number of lot sales to be requested to the number of lots available for sale, and
2. We compare the projected number of interments to the number of interment spaces available to accommodate an interment (including lots purchased pre-need).

3.1. CURRENT SUPPLY - EXISTING LOTS

In this section of the report, all references to “in-ground casket lots” include all burial lots (including those in the Infant, Children, Legion and Oddfellows sections) that can accommodate caskets.

Pleasant Valley Cemetery currently has approximately 17,700 cemetery lots recorded in its inventory records. In-ground casket lots on site are 4 by 8 feet and individual cremated remains lots are 2.5 by 2.5 feet.

The following figure summarizes the estimated remaining inventory available for sale in the City of Vernon current cemetery site as of May 2018.

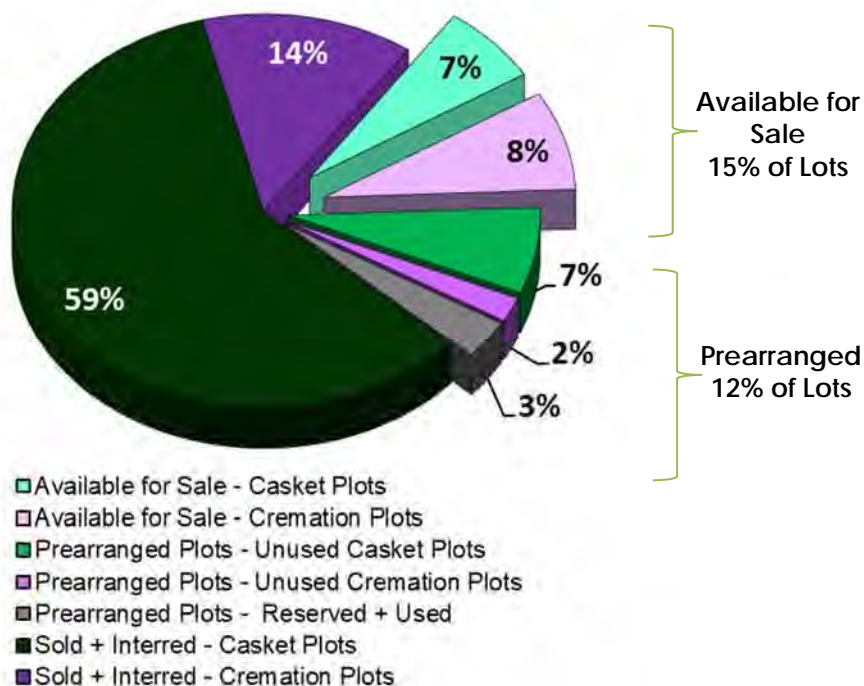


Figure 16: Summary of the City of Vernon’s Cemetery Offerings + Availability to Residents.

Source: City of Vernon Records.

The following table summarizes the **available supply** of cemetery lots for sale and future interment services. This includes all lots available for sale and pre-arranged (purchased in advance of need) recorded in the cemetery's lot layout and records management system. Lots available for sale include those that have been surveyed and developed, as well as those lots on the cemetery map that are laid out conceptually but that not yet surveyed and developed for sale and use.

Inventory Type	Available for Sale – Developed	Available for Sale – Not Yet Developed	Pre-arranged Lots - Unused	Total Unused Lots
In-ground Casket Burial Lots	73 lots	1,082 lots	1,252 lots	2,407 lots
Cremated Remains Only Lots	208 lots	1,229 lots	358 lots	1,795 lots

Table 3: Summary of Unused Cemetery Lot Inventory.

Source: City of Vernon Records

This analysis assumes that the data from the cemetery inventory reports provided by the City and used in this assessment, accurately reflects the site's capacity as of May 2018.

The following figure is a map of Pleasant Valley Cemetery with the blocks that are empty shown as shaded in red.

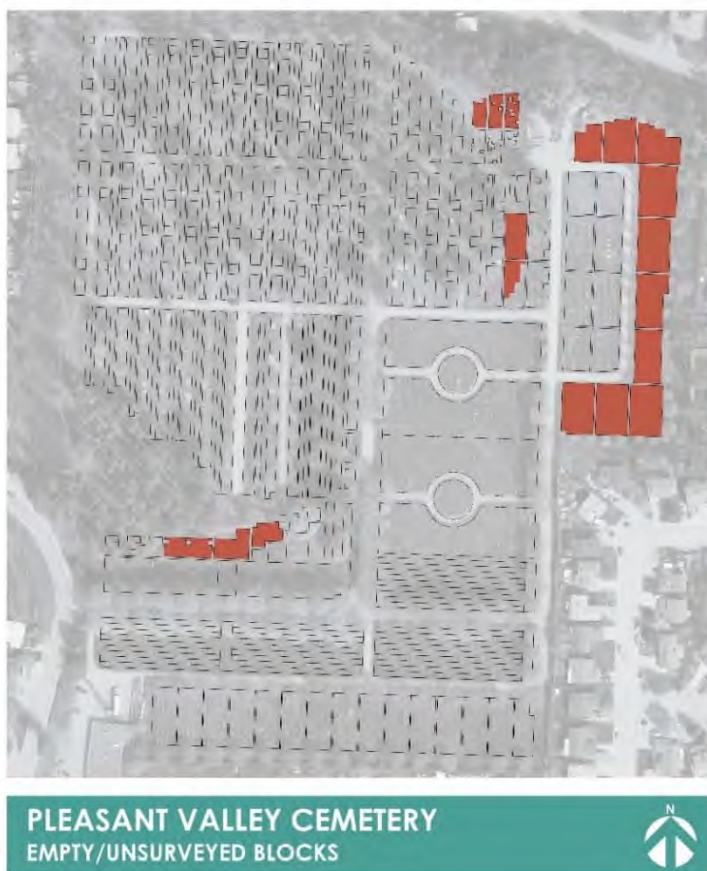


Figure 17: Pleasant Valley Cemetery current empty blocks.

Source: LEES+Associates

3.2. CURRENT SITE CAPACITY

LOT SALES CAPACITY

The following table summarizes the estimated **lot sales** capacity and remaining life span of the City's current cemetery site offerings, as provided by City staff.

Cemetery Offering	25 Years Sales Anticipated	Lots Available for Sale ¹⁰	Average Sales per Year	Lot Sales Life Span
In-ground Casket Burial Lots	953 lots to be sold	1,155 unsold lots	38 sales per year	30 years
Cremated Remains Only Lots	1,300 lots to be sold	1,437 unsold lots	52 sales per year	28 years

*Table 4: Cemetery Lot Sales Capacity + Life Span of the City's Cemetery System.
Source: City of Vernon Records.*

Canadian cemeteries typically begin the planning, design and construction of a new cemetery when they have about 5 - 10 years of lot inventory remaining. This is typically casket lot inventory because although it is a small segment of the overall market, it is the demand for casket lots that drives the need for cemetery space.

INTERMENT SERVICES CAPACITY

After the City sells its last lot, it will continue to inter families in graves that were pre-purchased, in advance of when they are needed.

According to Bylaw 3472, not more than two casket burials shall be permitted in any one grave at Pleasant Valley Cemetery. Double depth burial is permitted in any grave, so long as the first burial is made on this basis. Up to six sets of cremated remains may also be interred in a single or double depth grave space, once the casket burial(s) have taken place.

This means that the potential interment capacity of any single casket lot in the City cemetery is at least twice that of its sales capacity.

In this cemetery land needs analysis, however, the numbers are based on a conservative basis of only one casket per casket lot, and one urn (set of cremated remains) per cremation lot. In addition, the figures in this analysis assume that urns are primarily being interred in a cremation lot and not with a casket lot. The intent of this assumption is to not underestimate the remaining casket and cremation lot capacity at Pleasant Valley Cemetery.

¹⁰ Inventory Available for Sale includes inventory marked out on the Cemetery Sections Layout Map that is developed and not yet developed. To maintain adequate inventory available for sale, the City will be required to develop the undeveloped areas identified and included in this study.

The following table summarizes the estimated **interment** capacity and remaining life span of the City’s current cemetery inventory. As noted, this is based on each lot accommodating either one casket or one set of cremated remains.

Cemetery Offering	25 Years of Anticipated Interments	Lots Available for Interment	Average Interments per Year	Interment Services Life Span
In-ground Casket Burial Lots	1,441 interments	2,407 lots unused	58 interments per year	41 years
Cremated Remains Only Lots	3,888 interments	1,795 lots unused	156 interments per year	11 years

Table 5: Cemetery Interment Capacity + Life Span of Pleasant Valley Cemetery.

Source: City of Vernon + LEES+Associates.

The City cemetery inters three times as many sets of cremated remains as the number of sales it makes for cremation lots. This suggests that an above-average number of City residents are purchasing one lot, whether sized for a casket or an urn, and interring multiple sets of cremated remains within it. Therefore, it is possible that the 11-year capacity remaining for cremated remains burial (as identified earlier) could be significantly longer. For example, if every cremation lot received two urns, the lifespan would be 20 years; however, this is not realistic, and a more likely scenario is that there could be up to 15 years of cremation lots capacity remaining.

CAPACITY DATA - QUALITY CONTROL

The accuracy of this assessment correlates to the quality of the cemetery data provided. City staff provided site maps, lot layouts, and cemetery product and service reports from its cemetery records management system for this capacity assessment.

During this assessment, several inconsistencies and gaps in the records were discovered. To enhance the precision of future assessments, the City needs to refine its records management system to better track and report cemetery interment space that is developed, sold, pre-arranged for future use, or still available for sale. Cemetery data quality issues primarily arise from the significant limitations of the City’s current software system.

OPPORTUNITY – EXPANDING THE COMMUNITY SERVED

This capacity analysis assumes the City will continue to serve the same proportion of the local community as it has over the past five years. The proportion of the community served could also increase beyond current projections if the City of Vernon chooses to actively market and promote its cemetery services more than it has to date. Increased marketing could stimulate additional service requests from families, both from within the community and from the surrounding small communities and rural area of Vernon LHA 22. It appears that there is a considerable number of people in rural LHA 22 that choose cremation but do not choose to be interred at Pleasant Valley Cemetery.

3.3. INFILL - EXPANSION OF CAPACITY AT THE EXISTING CEMETERY

INFILL STRATEGY

In addition to developing new sites, the City can develop new casket capacity at Pleasant Valley by:

1. Developing casket lots in the remaining undeveloped area along the east side of the site;
2. Reducing the width of at least one road in the Old/Evergreen Section to a 3m wide, one way/operations-only route, and adding casket lots where possible;
3. Add casket lots to west section of cemetery at the end of Birch Road;
4. Extending the rows in Maple Section between the existing trees along the south edge where space and tree roots permit;
5. Creating a new green burial area in the wooded area at the top of the slope up from Pleasant Valley Road, north of the entry drive;
6. Consider marketing graves in the little-used military area available to family members of veterans (spouses and children of veterans) even if the veteran to whom they are related is not interred in this section;
7. Consider allowing members of the paramilitary (police and/or other emergency service personnel) to be buried in casket lots in the military section, and
8. Reclaiming graves that were sold many years ago but remain unused, most notably within “The Odd Fellows” (I.O.O.F) Section. This is topic discussed in the following section, Unclaimed Graves.



*Figure 18: Future casket burial space east side of Pleasant Valley Cemetery.
Source: LEES+Associates.*

There is little information currently available re: the specific number of graves still unoccupied in the Legion (Veterans) area and the adjacent “Odd Fellows” Section. Cemetery Administration reports very few if any interments in these areas each year and virtually no sales. Based on this, and our high-level evaluation of other areas that might also provide new interment capacity, we estimate that the following casket lot capacity could be created at Pleasant Valley Cemetery where indicated:

	<u>CASKET LOTS</u>	<u>CREMATION LOTS</u>
▪ Undeveloped sections	809	393
▪ Road size reduction:	165	
▪ Maple section south edge:	246	
▪ West end Birch Road:	58	
▪ Green burial:	150	
▪ Unused graves:	104	
Total additional capacity:	1,532	393

This capacity is expressed primarily as casket graves, but a significant cremation interment capacity could also be created, as in-ground burial lots and/or columbaria niches and scattering.

UNCLAIMED GRAVES

Some cemeteries seek to increase their capacity and conserve land through the reuse and resale of unclaimed graves. These are typically lots that were purchased decades ago but whose owners have not been in contact with the City since then. The best practices related to this strategy include:

1. Identify individuals and families who have purchased burial lots more than 50 years ago;
2. Attempt to find the last known lease/lot owner;
3. Advertise in the local media (typically newspapers) in an effort to contact them, and
4. Where no contact can to be established with the buyer or their family, determine the lots to be made available to a new purchaser.

The terms surrounding the circumstances and expiration of the right of interment for an unclaimed lot is to be clearly delineated in a new, updated City of Vernon Cemetery Bylaw. (A full bylaws review is currently underway. The new Bylaw is expected to be reviewed and adopted soon after the completion of this Master Plan.) Unclaimed lots that are determined to be available can then be resold, typically at the current fair market value.

It is important to consider that just because a lot was sold 50 or more years ago, it does not necessarily indicate that a family holding its right of interment does not have an interest in using the grave. A thorough investigation and significant staff time may be required to determine the number of unclaimed lots at Pleasant Valley that could potentially be reclaimed and deemed “available.”

A family with an unused right of interment may also wish to return it to the City. The Updated Cemetery Bylaws will address this and outline the industry standard re: compensation upon the surrender of a right of interment to any cemetery space.

3.4. NEW SITE - EXPANSION OF CAPACITY

The need for new cemetery space is driven by the demand for casket lots. The City has been aware for some time of the limited interment capacity remaining at Pleasant Valley Cemetery and has identified a new cemetery site at 700 Mission Rd. This city-owned parcel could provide another **24.5** acres (9.9 hectares) of interment space. The actual capacity of this site will depend on the final design, lot mix and layout. This preliminary work would include determining the space needed for access roads, irrigation lines, an operations area, trees and features such as a pond (assuming the existing pond is to be retained). Part of this site is likely too steep for casket lots, but could be left as a buffer zone, helping to screen views and mitigate traffic noise from Mission Road.

Using an average cemetery design standard of 500 graves per acre, this new site would accommodate up to approximately **12,250** in-ground casket lots. Some of this space would be required for cremation interment, including in-ground cremation lots, columbaria niches, and scattering areas. Cremation interment is very space-efficient. As a result, even with the allocation space for a significant number of cremation lots, the new site would still provide about **125** years of casket lot capacity. It should be noted that interment trends are likely to change over such a long-time horizon, and these projections should be reviewed from time to time to update projected lifespan and capacity of this site.



Figure 19: Mission Road Cemetery site looking southeast.

Source: LEES+Associates

Through analysis of cemetery data over the early stages of this study, it was determined that Pleasant Valley Cemetery still has enough unused, existing casket lots and sufficient undeveloped area for new casket lots to be created at Pleasant Valley to meet the City's projected needs for at least another 30 years. Due to the City's increasing cremation rate and declining demand for casket lots, it appears that there is no immediate need to design and develop the new Mission Road site.

A high-level evaluation was undertaken to establish the feasibility of the Mission Road site to serve as the new City of Vernon Cemetery. Feasibility was based on the following parameters:

SITE LOCATION:

Since the rural cemetery movement that began in the 1830's, most new cemeteries have been established outside of urbanized areas. Over time, they typically become surrounded by

development and eventually find themselves essentially urban cemeteries. This is the case with Pleasant Valley Cemetery in the early 1900's, and it will likely be the case for the Mission Road site.

The new site is located about 10 minutes by car from Pleasant Valley Cemetery. It is easily accessible by vehicle but is not served by transit. While this could change in the future, the new site is currently somewhat distant from most of the community it would serve. While a remote location is typical for a new cemetery, the transition to a new site being accepted and embraced by the community can be challenging. People prefer to be interred at the site where family members are buried. People also prefer to choose a cemetery that's close to where they live, making it more convenient to visit.

These are difficult issues to overcome, and it is prudent to prolong the active life of an existing cemetery and to delay opening a new one until it is needed. It makes sense to avoid having to operate two active cemeteries and paying to transport heavy equipment between them, or to construct redundant facilities and invest in another set of tools and equipment.



Figure 20: Mission Road Cemetery Site looking northwest.

Source: LEES+Associates

SITE ACCESS:

Cemeteries are visited primarily by the older demographic of a community due to the higher incidence of death in that age group. This makes site access a key consideration when evaluating a site for cemetery purposes.

The Mission Road frontage of the proposed new cemetery site is steep (10-30% gradient) with sight lines encumbered by Mission Road's horizontal and vertical alignments. This could be an issue for cemetery visitors that may not feel comfortable entering and exiting a site along a sloping drive, especially if it requires exiting and merging back into faster-moving traffic. An exit left would be especially challenging. Poor weather would exacerbate the problem.

Currently, access to the site is from the north and parallels the traveled portion of Mission Road. This route is inside the dedicated Road ROW, while much of travelled portion of Mission Road in this area is outside the ROW. This issue would require resolution, which is complicated by the steepness of this edge of the site.

Access issues could be addressed by providing vehicle access from the Northwest, via Bench Road. There are good sight lines from the intersection with Bench Road ROW, and this route would lead directly to the most level, usable area of the new cemetery.

A new right-of-way would need to be acquired from adjacent property owners, and a fenced, separated access may need to be established. From a programming perspective, a cemetery entry adjacent to a rural land use is quite compatible with cemetery uses.

TOPOGRAPHY:

Cemeteries are best developed on sites that are level enough to safely accommodate the backhoes needed to dig graves. Ideally, slopes are 15% or less, though slopes up to 20% are considered feasible. Most elderly people appreciate graves that they can easily walk to; again, no more than one in six or 15%.



Figure 21: Slope up towards Mission Road. Source: LEES+Associates

As noted on the slope analysis, 92% of the proposed Mission Road cemetery site is 20% slope or less. Of this, 42.6% of the site is 10% slope or less. Based on this, it appears that this site is feasible for cemetery uses in terms of topography.

GEOTECHNICAL SUITABILITY:

Detailed geotechnical work has not yet been conducted at this site. Visual observations indicate that the southwest section of the site, near steeper slopes, may have rock near the surface

Northwest sections of the site appear to be consistent with the adjacent tree farm lands, indicating surface materials of topsoil over till material.

The presence of the wetland at the base of the slope down from Mission Road suggests that ground water could be a seasonal issue in this area of the site. The existing wetland could make an attractive cemetery feature. A full geotechnical study is recommended to confirm that subsurface conditions, especially the top 2 m of surface materials and the nature of site drainage and the water table, are suitable for cemetery uses.



Figure 22: Views north.

Source: LEES+Associates.

UTILITIES AND SERVICING:

The existing domestic water line on Mission Road may need to be upgraded to provide adequate supply of potable water. Non-potable water is abundantly available at this site by way of an irrigation line, currently used for spray irrigation by the adjacent tree farm.

Sanitary needs would require installation of a septic tank or pump-out tank.

Hydro, telephone and cable lines are already installed adjacent to the site as well as natural gas. These could provide services as required. In terms of utilities and servicing, it appears that this site could easily be developed into a new cemetery.

PROPERTY ENCUMBRANCES:

A 600mm diameter effluent main owned by the City of Vernon crosses the property as it runs from the treatment plant to Mackay reservoir. Relocation costs for this line would be significant. Alternatively, this area could be left as a buffer zone, which would fit with the steep slopes along this edge and the need to plant vegetation for visual and auditory buffering of traffic on Mission Road.

An existing Fortis high pressure gas main also extends along the northeast corner of the site, and runs in the road ROW, parallel to the site further to the south. Again, this line is in an area that is likely to remain largely undeveloped. This line is therefore not an issue that would impact the feasibility of this site to serve as a cemetery in the future.

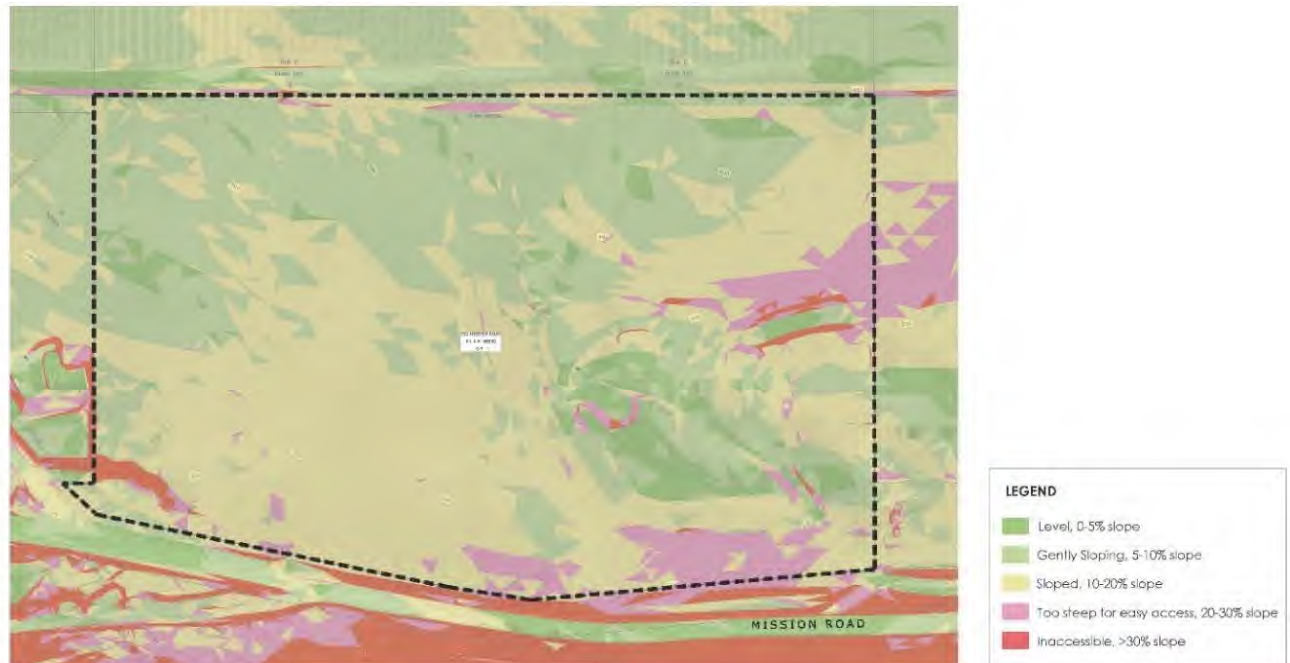
SUMMARY:

The Mission Road site appears feasible for the intended use, pending the outcome of geotechnical field work and analysis, which would be summarized in a predesign report.

The City of Vernon should continue to monitor casket lot inventory at Pleasant Valley Cemetery and begin the development of the new site within 5 – 10 years of the current site selling out of casket lots. This should be sufficient time to develop a concept plan, prepare construction documents, tender and award the work, and complete at least the Phase I site construction of the new cemetery. The City should plan for construction to be completed at least one year before the first casket burial to allow the disturbed ground to settle and new lawns to become established so the site is not damaged by the heavy equipment used for burials. With access to abundant reclaimed water, the landscaping at the site could be established well in advance of the site becoming operational.

Depending on the level of demand for natural or “green” burial”, the new site could serve as a green burial only cemetery for the first few years. This could help alleviate the overall demand for in-ground burial lots while minimizing maintenance, as a new green burial site requires only about half the maintenance of a conventional cemetery. Green burial also works best in less urbanized context, so the new site on Mission Road would be well-suited to this more naturalized type of interment.

Below are analysis studies re: the feasibility of the Mission Rd. site to serve as the future City cemetery.



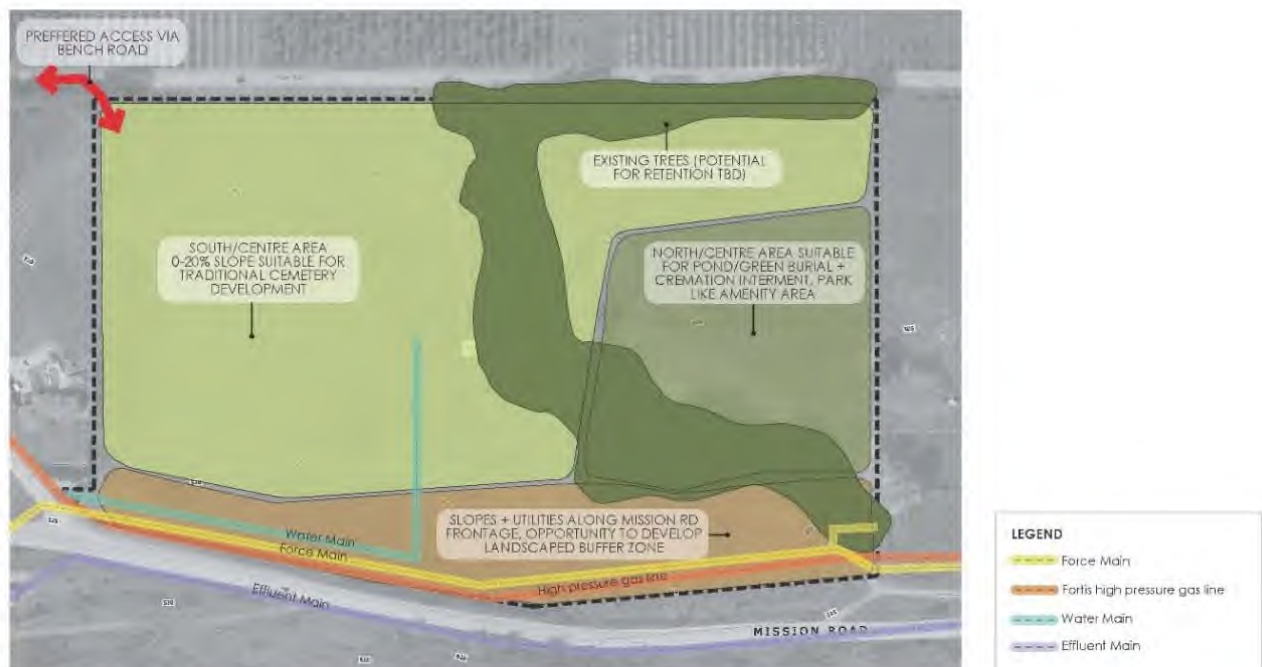
MISSION ROAD CEMETERY SITE SLOPE ANALYSIS



0 20m 100m

Figure 23: Slope Analysis

Source: Monaghan Engineering + LEES+Associates



MISSION ROAD CEMETERY SITE FEASIBILITY DIAGRAM



0 20m 100m

Figure 24: Feasibility Diagram

Source: Monaghan Engineering + LEES+Associates

3.5. KEY FINDINGS – CEMETERY LAND NEEDS ANALYSIS

A. Overall:

- Pleasant Valley Cemetery has **approximately 30 years of lot sales capacity remaining**;
- The City performs three times the number of cremation interments at the Pleasant Valley Cemetery as it sells in-ground cremation lots. The City has a higher than average number of residents opting to inter multiple sets of cremated remains in a single lot;
- If residents were to inter cremated remains in only single in-ground cremation lots, the City would only have 11 years of cremation lot capacity;
- The City should prioritize developing a diverse range of cremated remains interment options at the existing cemetery site, including offering **above-ground interment options**.
- The City should routinely review the lot sales by lot type and section. Based on trends identified, the City should adjust the lot type designation or make site improvements to enhance sales in less desirable areas.

B: Capacity at Pleasant Valley Cemetery:

- The capacity of infill areas noted in the previous section is difficult to quantify precisely; however, it appears that at least **809 casket lots** can be developed in the currently undeveloped area;
- About **100 – 150 green burial casket lots** can be developed in a new green burial area;
- Up to **165 casket lots** could be created through partial road reclamation;
- Up to **104 casket lots** could be developed by extending existing rows of graves, and
- The total number of casket lots that could be made available at PVC is estimated at **1,532**.
- Until a comprehensive review of unused graves is completed, the number of casket lots that could be brought back into inventory through this process is difficult to say; however, at **least 50 graves** seems possible.
- The number of cremation lots needs to be increased to meet projected demand. This can be achieved by converting some undeveloped casket lot space to cremation lots.
- In this study, we estimate that **393 new cremation lots** could be developed in this area. While this reduces the number of casket lots expected in the undeveloped area, it helps to fill what could otherwise be a shortage of supply of cremation lots over the next decade.

4. OPERATIONS REVIEW

In this chapter, the service, administration, management, maintenance and governance of the City cemetery system is reviewed and compared to the best practices at Canadian municipal cemeteries. The goal of this chapter is to identify initiatives that will optimize amenities, improve the quality of service and enhance the attractiveness, safety, efficiency and effectiveness of the cemetery system.

4.1. ORGANIZATIONAL ANALYSIS – HUMAN RESOURCES

The Institute for Citizen-Centered Service (ICCS) and the Treasury Board Secretariat from the SQM Group has collected evidence, linking satisfactory human resourcing, public sector employee engagement, service satisfaction, and trust and confidence in public institutions.

Engaged Employees ↔ Citizens' Service Satisfaction → Trust & Confidence in Public Institutions

ROLES + RESPONSIBILITIES

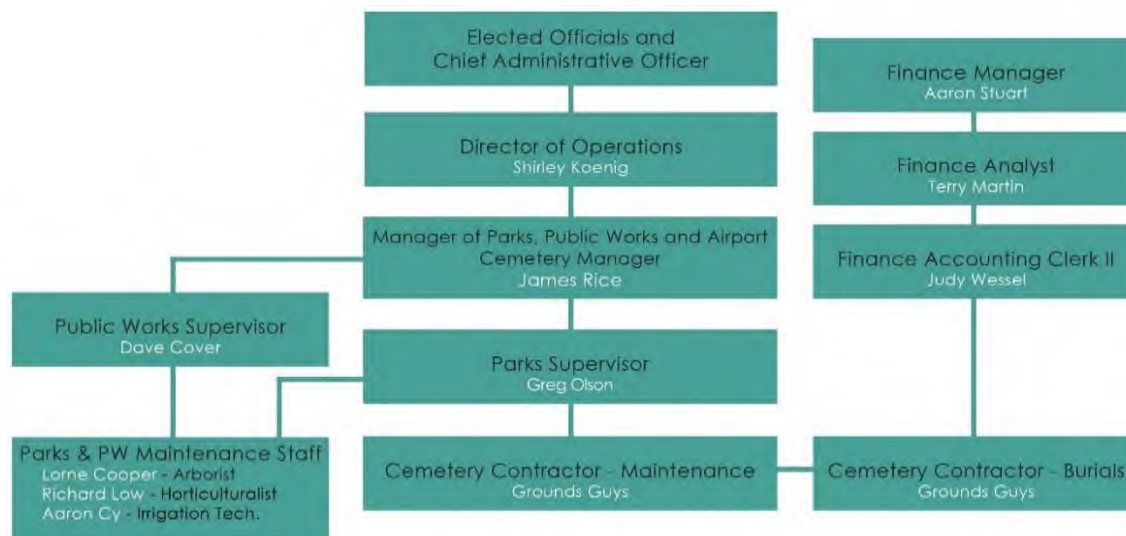
City employees currently assigned to cemetery operations include the:

- **Director of Operations** reports to CAO and elected officials;
- **Manager of Parks, Public Works (PW) and Airport (Cemetery Manager)** reports to the Director of Operations, CAO and elected officials;
- **Parks Supervisor** reports to Cemetery Manager. This person is responsible for directing staff within the Parks department and organizes tasks associated with the cemetery. They are expected to oversee the performance management of cemetery contractor through inspections and may organize assistance of other departments like Public Works as needed;
- **Arborist** reports to Parks Supervisor. This person is responsible for performing tree inspections, preventative maintenance and tree work outside of contractor's scope;
- **Horticulturalist** reports to Parks Supervisor. This person is responsible for performing boulevard plantings in front of cemetery. They are expected to provide input on turf care and planting outside of contractor scope;
- **Irrigation Technician** reports to Parks Supervisor. This person is responsible for performing moderate and major repairs to irrigation system outside of contractors' scope of work. They are expected to install upgrades to system to provide increased efficiencies;
- **Public Works Supervisor** - reports to Public Works Manager. This person is responsible for supervising and scheduling PW staff in the assistance of Parks staff for equipment operation and for snow and ice control in the cemetery;
- **Cemetery Maintenance and Burials Contractor - Grounds Guys** - reports to Parks Supervisor for maintenance and liaises with the Finance Accounting Clerk regarding burial issues. The contractor is responsible for regular maintenance and duties per the current contract, including

turf and irrigation management, leaf/litter pick up; plus conducting interments, managing burial product inventories, and installing monuments.

- **Financial Analyst** - reports to the Finance Manager. This person oversees City administration, as well as financial reporting for the cemetery system, and
- **Finance Accounting Clerk II** – reports to the Financial Analyst. This person is responsible for selling and scheduling lot sales with client and contractor (Grounds Guys). Notifies the Cemetery Manager of capacity needs when lots near maximum.

The following organization chart summarizes the lines of reporting and human resources directly involved with the City’s cemetery operation.



City staff are generally highly engaged with the cemetery’s operations, which is translating into the community generally feeling satisfied with the service they receive. The services provided by City Staff and the Maintenance Contractor is critical to not only customer satisfaction, but also to the long-term financial sustainability of the City’s Cemetery.

The current Cemetery Manager has a large portfolio of responsibilities, including filling the roles of the Manager of Public Works, Parks, the Airport and Pleasant Valley Cemetery. While supported by capable staff, achieving significant improvements to the Cemetery’s management and operations may be difficult without additional resources. It may be that reorganization and streamlining will reduce the load over time, but additional time from the Manager may be required to get to that point. Also, to ensure continuity of management, the City should ensure that this position can be covered by at least one other individual when the Cemetery Manager is away.

The City of Vernon is currently undergoing a restructuring and reorganization of staff positions. The City is currently interviewing candidates for a new position Public Spaces and Park Manager who will take over management of the cemetery as well as other City parks and public open spaces. The creation of this new position and reallocation of roles could assist city staff in their ability to dedicate more time to cemetery improvements.

POLICIES + PROCEDURES

The City has a manual of Administrative Procedures associated with the Cemetery, but it does not have a comparable manual of Standard Operating Procedures for field workers. This is likely due to most of the outside work at Pleasant Valley Cemetery being carried out by a landscape maintenance contractor. The City has a “Scope of Work: Specifications and Conditions,” which is included as part of the Cemetery Maintenance contract. This specification outlines work to be done by Cemetery field workers and includes photographs of the site maintained to the standards expected.

The current specification is reasonably clear and up-to-date, but overall, it represents a high level, general set of instructions. As typical of specifications, what the contractor is expected to do is clearly stated but how the work is expected to be done is less clear.

While respecting the City’s procurement procedures, and the contractor’s right to carry out compliant work as he sees fit, the City could develop a handbook to be provided to the successful proponent upon the award of contract. This would include details regarding how the City would like to see the work performed. It could also include contextual information about Pleasant Valley Cemetery and the City’s objectives in operating the site. City Parks personnel associated with the Cemetery operation could provide input, such as specific direction on maintenance related tasks. More specific information, in combination with broader statements, could engage and encourage the contractor to perform to a higher standard, and serve as a more “user-friendly” Standard Operating Procedures Manual, available to all personnel.

TRAINING

City staff have not historically received specific training in cemetery operations. The exception to this, is that finance staff have received some training with respect to the use of the existing cemetery software database. Relevant training of City staff has included turf management and arboriculture courses.

4.2. GOVERNANCE + PARTNERSHIPS

This section focuses on the effectiveness of City cemetery system's governance model, potential community partnerships and the City's relationships with local funeral suppliers.

GOVERNANCE MODELS

Senior staff overseeing the City's Operations, Finance, Public Work and Parks departments are responsible for the oversight of Pleasant Valley Cemetery operations.

Municipalities typically aim to create a governance structure that minimizes the short and long-term need for tax-based subsidies of their cemeteries. This section explores the pros and cons inherent in possible governance models and potential outcomes for each of these options.

To achieve long term sustainability, the cemetery operators are responsible for recruiting and training a team of committed staff, infrastructure repair and replacement funding, attracting new customers and forming stable customer relations with funeral homes and local families.

"Appendix A – Governance Decision Map" presents a series of decision prompts that are commonly used to guide the larger question of whether to, or to what degree, a municipality choose to be involved in cemetery services, and flowing from there, what each option entails.

Common cemetery governance models found in Canada include:

1. The municipality fully owns and operates its cemetery sites with its own staff;
 - **Pros** – Total quality, process + policy control. Potential for resource sharing and economies of scale between departments (however, this is not always realized).
 - **Cons** – This option has the most administrative burden with respect to tracking interdepartmental use of resources. It is often the most expensive governance option for communities.
2. The municipality owns the cemetery sites and outsources site care and maintenance;
 - **Pros** – Decreased operations cost to the municipality for site care and often less demand, wear and tear on City resources (vehicles, equipment).
 - **Cons** – Less control over site care quality. Contractors may need supervision.
3. The municipality owns the cemetery sites and outsources the burial and site care services to community volunteers.
 - **Pros** – Decreased operations cost to the municipality for burial and site care services. The opportunity to volunteer often increases cemetery community engagement.
 - **Cons** – Less control over site care and customer service quality. Volunteers may be less skilled than municipal employees or contractors. They will need supervision.
4. The municipality owns its cemetery sites. It outsources all services to a private or not-for-profit organization partners.

- **Pros** – Leverages professional expertise in the bereavement sector. Significant decreased responsibility and costs to the municipality for providing services to residents. The quality of care and range of offerings at private sites is often high.
- **Cons** – The community may object to privatization of government services. There is loss of control over prices, practices and all the services provided. Private operations will likely charge residents much higher rates for cemetery services.

There is another alternative aside from a municipality maintaining full governance control or fully outsourcing it to a third-party organization. The City could share the responsibility by creating an independent **“Cemetery Advisory Board”**. This would entail a committee of cemetery stakeholder that share the responsibility, funding and benefits of the cemeteries’ operation. Participants on cemetery board often include members from:

- The Municipality where the cemetery sites reside;
- The Regional District or other neighbouring communities, whose residents commonly use the main municipality’s cemetery sites;
- The Private bereavement sector, and
- The Community interest groups associated with culture and heritage.

COMMUNITY PARTNERS

Common benefits of working with a partner includes their professionalism and expertise in running and managing cemeteries, their ability to effectively achieve economies of scale and the opportunity to leverage their network of resources towards the benefit of the City’s cemeteries.

There are many precedents for municipal cemeteries partnering with the **private** organizations (funeral homes and monument companies) as well as **not-for-profits** organizations. Partnership objectives have included the enhancement of cemetery offerings (e.g. funding for new columbaria), contributing to public memorialization, and the provision of complementary services such as crematoria, visitation facilities, and community programming,

Potential “Community Partners” that could work with the City in expanding the cemeteries’ product and service diversity and increasing community awareness of Town Cemeteries includes:

- **Saint James Knights of Columbus 4949¹¹;**
 - Potential source of community volunteers to contribute towards community engagement and site care;
- **Royal Canadian Legion No. 5101;**
 - Potential fund-raising partners to enhance the Veterans area;

¹¹ <http://www.knights4949.org/Site/Home.html>

- **Pleasant Valley Funeral Home, Dignity Memorial Vernon Funeral Home, Alternatives Funeral and Cremation Services + Bethel Funeral Chapel Ltd, and**
 - Bereavement sector resources available to this organization could support the future diversification of offerings at the City's cemeteries, and
- **Vernon & District Family History Society (VDFHS)¹²**
 - This society was formed in 1982 to serve persons in the community interested in genealogy. Members could assist in making stories of the community residents buried at the cemetery accessible through a range of media. They currently use this space for community programming, such as ghost and history walking tours.

The value of partnerships directly correlates to the care and expertise in which the terms of the agreement are negotiated. Relationships may range from sponsoring events and facilitating community engagement, to the purchase and sale of products on consignment (columbaria, mausoleums, urns, etc.), to in-depth public-private partnerships for capital intensive facilities.

In conclusion, entering partnerships is a common and effective strategy to increase municipal cemetery service diversity, enhance community engagement and facilitate cost sharing for the City's cemeteries. Before deciding to change its governance model, however, it is important that the City have a clear vision of the benefits it seeks to gain from such a change and take the time to gauge the interest of potential partners.

FUNERAL SUPPLIERS

Currently, the City of Vernon enjoys a good relationship with local Funeral Directors. They organize interments and are responsible for graveside set-up (preparing a grave for a funeral service). One possible area of improvement relates to scheduling grave openings and closings.

It has been reported that if there are already two casket burials planned for one day, Funeral Directors can have trouble scheduling a third opening and closing. The perception is that each opening and closing requires about two hours of time per casket, and so it should be possible to accommodate at least three interment in one day.

¹² <http://www.vdfhs.com/>

4.3. ADMINISTRATION, CUSTOMER SERVICE + RECORDS MANAGEMENT

ROLES + RESPONSIBILITIES

The primary functions of the Cemetery's Administration, Customer Service and Records Management are managed and provided by the Finance Accounting Clerk (the primary Cemetery Administrator). The primary functions of this role include:

- Meeting with families, explaining interment options available and interment procedures;
- Handling sales requests and processing orders;
- Managing records from families, Funeral Directors and Staff/the Maintenance Contactor;
- Updating the City's digital records;
- Receiving and resolving customer requests and complaints;
- Communicating with the City of Vernon's Public Works and Finance departments, Funeral Homes, Monument suppliers and the Cemetery Maintenance Contractor;
- Handling payments for cemetery products and services, and
- Ensuring compliance with municipal and provincial regulations.

Currently, there are no designated staff specifically trained to directly support the Finance Accounting Clerk with the Cemetery Administration + Customer Service functions. If the clerk is absent from the workplace for holidays, personal or for other organizational responsibilities, there are staff available to step into this role if necessary – although more specialized training is required. These staff are not experienced enough in cemetery operations to fill in and provide continuity of service and direction, in the event of a long-term absence. This is an issue that merits discussion if the City embarks on cemetery improvements that lead to increased community interest, sales and the need for additional administration.

PRACTICES: RECORDS MANAGEMENT

Best practices for records management at Canadian cemeteries entail staff tracking:

- **At-need + Pre-need** (Pre-arranged/Reserved) – Identifying interment services + lot sales by when they are sold and when they are used for interment;
- **Resident + Non-Resident** – Identifying individuals who purchase lots while they reside in the City but are interred after they have left, to clarify how many lots (and in the future, niches) are being used by City residents, and
- **Interments per Space** – Identifying the number of caskets and/or cremated remains placed within each lot or niche, clarifying how many lots (and in the future, niches) are being used for multiple interments.

The City's cemetery records management system has not historically tracked and efficiently reported most of this information. Tracking these key indicators enables increased precision in projecting the effects of changes in disposition trends and local interment preferences on capacity, land use and financial sustainability. Staff states that the current records system does not report well. Nor does it meet the current or best practices of records management for municipal cemetery operations.

ICity Desktop (ICity) is part of a Vadim Software suite designed to manage the financials of municipal governments. The City is using ICity for its cemetery records. It is not linked to the City's accounts receivable system. The City is using the software "Tempest" for all its accounts receivables, except for its cemetery operations. Staff must go into ICity to produce cemetery-related invoices.

OPPORTUNITIES: ADMINISTRATION, CUSTOMER SERVICE + RECORDS MANAGEMENT

The nature of Cemetery Administration, Customer Service and Records Management requires an individual with compassion for families, organizational skills, and the ability to manage competing scheduling and other requests.

This part of the Cemetery's operations is currently compromised by physical setting, its records management system, and the absence of a clear vision of cemetery services across the municipal organization. Even though orders are accurately taken and executed, the ability to address the full range of the customer's needs as well as the needs of others in the cemetery services supply chain is critically limited.

Addressing the Physical Setting



Figure 25: Current meeting space at City Hall.
Source: LEES+Associates.

The Cemetery Administrator requires a quiet, private space to meet with families who come to City Hall to arrange for the interment of their loved ones at Pleasant Valley Cemetery. Currently, the only space available for these meetings is part of a hallway, next to an office photocopier. The space is very small, noisy and not conducive to personal conversations with the bereaved.

Staff reports that there are private meeting rooms used by others that could be made available at City Hall. One of these could be designated as a space for meetings with families' however, due to the nature of this type of business, it is impossible to book space in advance. Alternatively, there is a little used file storage area that could be easily converted to a quiet meeting

room for cemetery-related uses only. With consolidation of paper files, and the installation of a folding screen, some comfortable chairs, a table and a computer, this area could easily be converted to a space that would communicate respect to those coming to purchase cemetery space, products and services.

Addressing the Records System

There is an opportunity for the City to enhance the efficiency and transparency of its records management by purchasing a dedicated cemetery records management software, such as **Stone Orchard Software**, that can integrate interment records with financial information and lot/niche data, as well as up-to-date, electronic maps of burial lot locations.

Many Canadian municipalities prefer Stone Orchard Software and iCemetery for its user-friendly interface, comprehensive reports and high-quality customer service.

Stone Orchard Software is owned by the Aptean partnership¹³. It is also possible to build in an interface functionality, so that Stone Orchard and Tempest software can communicate and work together (such as for processing payments).

Stone Orchard is also compatible with the iCemetery app for smart phones. The **iCemetery** app for smartphones would be a significant addition to the City's range of options for serving customers and for timely, convenient burial lot locating by field Staff without having to return to the office. It is an affordable, easy to use solution that takes advantage of the power of GIS mapping and the cemetery records management software available.



Figure 26: Stone Orchard Software, GIS Mapping and iCemetery can provide digital way-finding in the field.
Source: LEES+Associates.

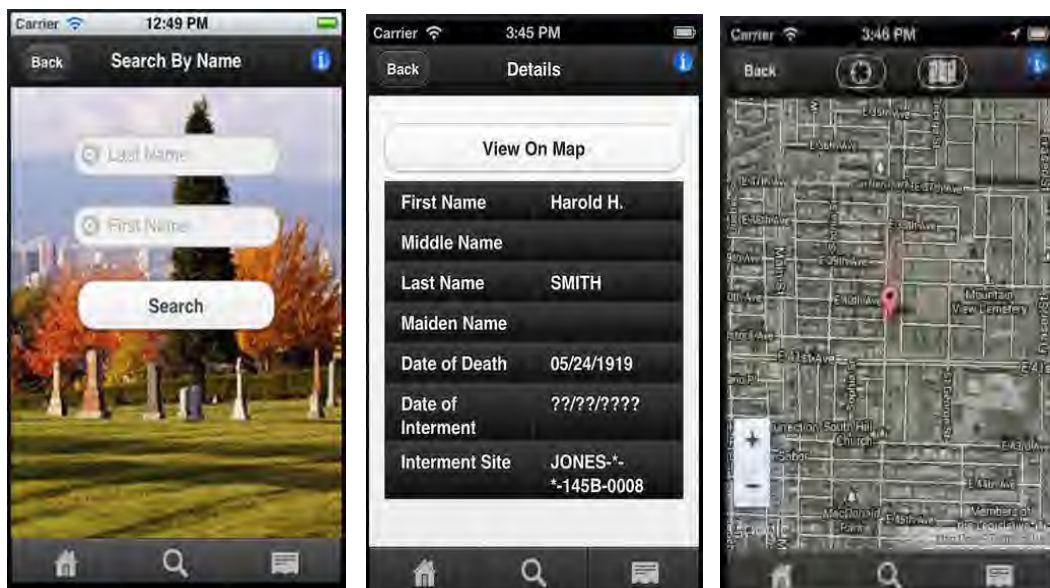


Figure 27: iCemetery Screenshots,

Source: LEES+Associates.

¹³ Aptean Website, Stone Orchard Software <http://www.aptern.com/products/stone-orchard>

In addition to Stone Orchard, there are also other cemetery records management software solutions on the market available for consideration, such as Batevilles' HMIS and Pontem Software.

A specialised cemetery software such as these would enable the City to meet best practices in records management and deliver the following advantages to Staff and the community including:

- Simple, efficient, secure and accurate record keeping and retrieval;
- The ability for cemetery records to be accessed remotely by Staff and members of the public, and utilized as an historical, educational and genealogical resource;
- A reduction in Staff time needed to respond to requests for information, and
- The ability for Staff and members of the public to easily and accurately locate a burial lot.

4.4. FIELD WORK: SERVICE, CARE + MAINTENANCE

For the past five years, Pleasant Valley Cemetery's maintenance has been provided by the Grounds Guys, a nationally-franchised, residential/commercial landscape company, from their Vernon location.

ROLES + RESPONSIBILITIES

The primary functions of site care and maintenance services at Pleasant Valley Cemetery site include:

- Lawn care (mowing, edging, raking, topdressing, and over-seeding);
- Application of fertilizers, herbicides and pesticides
- Collection and removal of litter and debris, including from grave tributes (flowers etc.);
- Watering/irrigation system management;
- Management of the site's dry landscape areas;
- Snow removal;
- Drainage management;
- Opening and closing of graves (burials);
- Preparation for graveside services;
- Plaque and Memorial installations;
- Management of inventory of grave liners and cremation vaults, and
- Responding to questions and advising cemetery visitors re: regulations.



*Figure 28: Grave-side Setup.
Source: Regional Municipality of Wood Buffalo.*

CONTRACTORS

Maintenance at many smaller cemeteries in Canada is provided by contractors and supervised by City staff, which is also the case in Vernon. Services are provided as needed on a fee-for-service basis by specialist City Parks staff, including arborist, horticulturists, and irrigation specialists. The City has the skills and capability to operate Pleasant Valley Cemetery without using an outside contractor, but staff wage scales are such that the cost would be prohibitive. The City currently installs and cares for flower display at the Cemetery entry, provides arboricultural services, and assists with irrigation repairs.

A cemetery is a unique environment in that it poses potential safety risks to workers and visitors due to unstable markers, open graves and ground settlement. As well, families have emotional responses and sensitivities that make working in this environment more challenging than most public sites. It is important that a contractor and staff are aware of and understanding of these qualities.

Monitoring the quality of the maintenance contractor's work is, and will continue to be, crucial to the success of Pleasant Valley Cemetery. Poor maintenance at cemeteries can lead to the loss of reputation, market share and revenue. The quality of cemetery maintenance is a key deciding factor in families choosing to be interred at any given site. Studies reviewing ground maintenance practices also report that inefficient labour commonly increases the care and maintenance expense of cemetery operations.

There is an opportunity to implement a regime of improved maintenance, including increased oversight and communications with City of Vernon staff. On-going staff would also enhance the understanding of issues associated with managing and operating a cemetery.



*Figure 29: Maple Ave entry: mature trees cast dense shade that makes growing grass difficult.
Source: LEES+Associates.*

CEMETERY AESTHETICS

The City cemetery has many attractive features. Those cited by stakeholders include:

- Location. The cemetery is close to most residents of the City and the City's works yard;
- Aesthetically beautiful – peaceful and serene;
- Trees (especially in the Old/Evergreen Section);
- Well established. Neighbourhoods adjacent are okay with this site's land use, including immediate neighbours to the cemetery.
- Variety of terrain. There are rolling hills, topography, and "perched views;"
- Strong community attachment to place;
- Feels different from more "sterile" cemeteries;
- Heritage society uses this space for tours/programming i.e. ghost tours, history tours,
- Site has opportunity to develop/capitalize on existing features and characteristics.

The City cemetery has a few key challenges. These include:

- Ornamentation. Adornment is a significant maintenance issue and people planting flowers near graves problematic;
- Many enquiries are made re: niches but currently no columbaria available in the cemetery;
- Pleasant Valley Funeral Home (next door) sells niches and has recently installed a new unit;
- The irrigation is old and difficult (wastes water/inefficient/prone to breakdowns);
- High irrigation water demand in the newer new burial areas, and
- Turf is hard to maintain in a healthy condition over various sections of the site.



Figure 30: Historic Evergreen Section

Source: LEES+Associates

Irrigation

Irrigation is perhaps the key issue to be resolved at Pleasant Valley Cemetery. A decision in 2016 to reduce irrigation levels to save on the cost of municipal water led to many resident complaints, the need for restoration work, and the resumption of watering at the site.

The existing, in-ground irrigation system is old, complex and prone to failure. Several areas are not covered by automatic system and manual watering (sprinklers on a standpipe) has proven wasteful and ineffective. A new system was designed and a price of \$250,000 was presented to Council in 2010 but was rejected as too costly.



Figure 31: Standpipe irrigation in Evergreen Section

Source: LEES+Associates

The delivery of this Master Plan provides an opportunity to revisit the irrigation issue in the context of other site improvements. A more detailed discussion is provided in **Appendix B – Pleasant Valley Irrigation Review**. This section also includes recommended turf management practices.

Ornamentation

Although some people report that they like the “colourful” floral displays on graves at Pleasant Valley Cemetery, others find that the overall effect is of a cluttered landscape. The City now installs plant stands in the concrete bases of monuments to help keep artificial flowers off the ground. While this works to some extent, many displays are left for long periods and they fade and fall apart, and this creates a significant maintenance issue.

The problem goes back to the Cemetery Bylaws and the non-enforcement of policies regarding floral and other tributes. As the Bylaws related to this issue are not posted at the site, many people say they are unaware of the rules and object when the maintenance contractor removes items or tries to explain the policy.

The Bylaws update that is underway concurrently with this Master Planning process will address the issue of ornamentation by providing clear language that reflects the current industry standard on this issue. The delivery of this Master Plan provides an opportunity to remedy the ornamentation issue once and for all, with a new contractor in place and new policies made available to the public. This level of clarity and enforcement will take time to create positive changes in behavior but it will ultimately reduce maintenance and create a more attractive cemetery landscape.

A more detailed summary discussion of this issue is provided in **Appendix C: Ornamentation**.



Figure 32: Ornamentation at Pleasant Valley Cemetery.

Source: LEES+Associates

Grave Liners

According to the City of Vernon Cemetery Bylaw 3472:

“A precast concrete or a one-piece fibreglass reinforced polymer concrete grave liner cremation vault with a compressive strength of 20,000 psi shall be used for each interment, including cremated remains, except where a concrete or steel vault is used with a compressive strength of 20,000 psi, and such liner shall be made of reinforced concrete not less than 5.08 centimetres in thickness, and shall consist of two (2) side walls, two (2) end walls, and cover sufficient space to bridge the coffin over its entire length.”

The City of Vernon currently requires customers to purchase a grave liner for every interment at Pleasant View Cemetery. The liners used for casket burials are fibreglass shells that fit over the casket. The liners used for cremation burials are small fibreglass boxes with tight-fitting lids designed to hold an urn of cremated remains. The City purchases liners and stores them for the maintenance contractor’s use, as well as for sale to other local cemeteries and funeral homes.

The requirement for a casket liner adds about \$800 to the cost of each casket burial. Installing the liner adds to the time to complete the burial due to the need to properly place and install it. The intent of this liner is to protect the casket and prevent soil settlement. In reality, fibreglass liners are not sealed and do not ultimately protect the casket from decay. They also generally collapse over time, and so are not effective in preventing grave settlement. What is clear is that fibreglass liners take time and money to order, manage, and install, and space to store.

A cremation liner (or “vault”) adds only about \$200 to the cost of a cremation interment. This item has merit in that it facilitates burial as well as disinterment, which is sometimes requested when families move and wish to bring the remains of their loved ones to a new place.

While a casket grave liner can help during the reopening a double-depth grave, it limits how the the grave space may be used in the future. Fibreglass casket grave liners are a non-biodegradable product that most families never see, and many would prefer not to purchase. It is recommended that the use of casket grave liners be made discretionary, to enable people to choose what is placed in the ground with them.

4.5. KEY FINDINGS – OPERATIONS REVIEW

The key findings in this section include:

ORGANIZATIONAL ANALYSIS - HUMAN RESOURCES

Presently the City:

- Cemetery manager does not have a trained “second in command” to support his role and step in during absences;
- Does not have a standard operating procedures manual to guide staff or contractors on field work (burial services or site care tasks), and
- Staff have not received specific training in cemetery operations;

GOVERNANCE + PARTNERSHIPS

Presently the City:

- Owns its cemetery sites and City staff operates most of its cemetery services. The City does outsource its care and maintenance service work;
- Does not presently have any community partnerships in place to support cemetery operations, and
- Has challenges communicating and coordinating with Funeral Suppliers with respect to scheduling more than one interment per day.

ADMINISTRATION, CUSTOMER SERVICE + RECORDS MANAGEMENT

Presently the City:

- Lacks an appropriate space (i.e. private and accessible to the elderly and disabled) in which to meet and work with families, especially when bereaved families are upset;
- Permits payment by cash, online banking or cheque only. Adding Electronic Funds Transfer (EFT) and payment by credit card would facilitate transactions for staff and families;
- Locate all administrative staff at City Hall, meanings that travel is needed to resolve issues at the Cemetery;
- Has records management software (the Vadim Cemetery module), which is old and out-of-date. It is not able to generate the reports needed, and it incompatible with other software systems used by the City, and
- Burial records have not been synchronized with geo-referenced maps (possible with current cemetery software programs).

SITE CARE + MAINTENANCE

Presently the City:

- Has retained the cemetery maintenance contractor for a one-year term, pending finalization of this Cemetery Master Plan and resulting changes to the Maintenance Services contract;
- Can implement new policies related to maintenance practices, including a new Operations Manual to more clearly detail the City's expectations of the contractor;
- Should implement a more robust system of monitoring to ensure that higher standards of care are maintained;
- Should ensure that its staff has capacity to manage and implement upgrades at the Cemetery;
- Should review the need for an entirely new irrigation system for Pleasant Valley Cemetery, based on the determination that a new cemetery does not need to be developed for at least another 20 years, and that the current site can serve the community for at least another 30 years, and
- Should implement the recommendation of the new Bylaws to better manage the issues related to ornamentation at Pleasant Valley.

4.6. RECOMMENDATIONS – OPERATIONS REVIEW

Our recommendations with respect to the City cemetery system's operations and governance opportunities and challenges include:

- Create a comprehensive standard operating procedures manual to cover all aspects and practices of the City's cemetery operations;
- Designate a private room at City Hall to be used for Cemetery Customer Service and Administration functions;
- Continue to implement the proposed Public Works management structure changes planned for 2018 with the additional of the Parks and Public Spaces Manager;
- Examine the feasibility of introducing Electronic Funds Transfer and credit card payments for cemetery-related transactions, and
- Invest in a robust cemetery records management software such as Stone Orchard Software and synchronize the City's records with a GIS geo-referenced cemetery map.

5. FINANCIAL PLAN

This section of the report analyses the diversity of offerings, pricing and financial sustainability of the City of Vernon's cemetery system.

5.1. CEMETERY SERVICES REVIEW

DIVERSITY OF OFFERINGS

The City cemetery system currently offers traditional graves and the in-ground interment of caskets and cremated remains. The City currently allows up to two caskets interred in each grave. One or more interments or cremated remains may be interred in a single, double-depth or companion grave space. Grave sites accommodate both flat and up-right markers.

There are cemetery lot sections dedicated to Veterans (Legion), Oddfellows, Cremations-only and Infants.

There is a diverse range of products and services not currently offered in the City cemetery system but are available at other Canadian cemeteries. These include:

- Ossuaries;
- Green burial;
- Family vessels;
- Memorial walls;
- Columbaria niches;
- Mausoleum crypts;
- Family estates (in-ground lots and columbaria), and
- Memorialization options, including: memorial trees, statuary, benches, wreaths, engraved wall plates, flowers, vases, and photo frames.

Most of these offerings are common in Canadian, cemeteries, except for green burial and family vessels. Additional details about the new interment options available to the City can be found in **"Appendix D – New Interment Options."**

Several of the new services available to the City are above-ground interment options. However, according to the City of Vernon Cemetery Bylaw 3472: "507. No aboveground vaults, or other methods of interment above ground level, shall be permitted in the Cemetery." The current Bylaws review now underway will recommend the introduction of columbaria, so this clause will be removed from the new version.



*Figure 33: Columbarium Niches + Memorialization Vases,
Source: LEES+Associates.*



*Figure 34: Family Vessel at
Royal Oak Burial Park, Victoria, BC
Source: LEES+Associates.*

5.2. CEMETERY PRICING REVIEW

MARKET TRENDS

Cemetery pricing in Canadian cemeteries tends to follow consistent market trends. For example, large urban centres often have higher rates than small towns and rural communities due to the increased demand relative to local supply.

Cemeteries in large urban centres also tend to offer a greater diversity of offerings than small towns and rural communities. Families value a variety of interment options and are willing to pay a premium to accommodate their cultural, religious and personal preferences.

The following figure shows the pricing continuum for typical Canadian cemetery offerings:



Figure 35: Pricing Continuum for Typical Canadian Cemetery Offerings, Source: LEES+Associates.

MARKET TRENDS

Cemetery pricing in Canadian cemeteries tends to follow consistent market trends. For example, large urban centres often have higher rates than small towns and rural communities due to the increased demand relative to local supply.

RESIDENT PRICE BENCHMARKING

Best practices for cemetery pricing, entails annually comparing the rates of communities with similar supply and demand. This involves examining the rates of other cemeteries with similar business models, population, ethnic and religious composition.

The price benchmarking study in this plan reviews the City's current rates and compared them the national average at Canadian municipal cemeteries, as well as the regional average of a select group of cemeteries in southern British Columbia, including the cities of Penticton, Salmon Arm, Kamloops and Mission.

The following table summarizes the **resident** fees and findings for the primary cemetery services offered in this study.

Cemetery Offering	City Rate ¹⁴	Regional Rate ¹⁵	Average Canadian Rate ¹⁶	Price Comparison Findings
Adult Casket Burial Lot	\$1,420	\$1,602 to \$1,946	\$1,250 to \$2,500	Below Regional Rate. On par with Canadian Rate.
Child Burial Lot	\$688	\$1,009	\$400 to \$1,000	Below Regional Rate. On par with Canadian Rate.
Infant Burial Lot	\$425	\$715	\$250 to \$1,000	Below Regional Rate. On par with Canadian Rate.
Cremation-Only Burial Lot	\$425	\$662 to \$809	\$500 to \$1000	Below Regional Rate and Canadian rate.
Opening + Closing Adult Interment	\$1,068	\$1,175	\$750 to \$1,250	Below Regional Rate. On par with Canadian Rate.
Opening + Closing Child Interment	\$1,068	\$647	\$500 to \$1,000	Above Regional Rate and Canadian Rate.
Opening + Closing Infant Interment	\$322	\$576	\$250 to \$750	Below Regional Rate. On par with Canadian Rate.
Opening + Closing Cremated Remains	\$322	\$389	\$200 to \$500	Below Regional Rate. On par with Canadian Rate.

Table 6: City Cemetery Fees Compared to Average Regional and National Cemetery Fees Benchmarks, Source: LEES+Associates.

Detailed results of the complete resident price benchmarking for the City of Vernon, can be found in “**Appendix E– Price Benchmarking Study.**”

NON-RESIDENT PRICE BENCHMARKING

The City of Vernon, along with most Canadian municipal cemeteries, only charge a non-resident premium on lot and niche sales (right-of-interment license).

However, some communities in British Columbia also charge a non-resident premium on opening / closing services (interment fees). Examples of BC interior communities that do so include the Town of Creston and the City of Castlegar.

Typically, non-residents are charged a premium from 25% to 100% cemetery lots and niches at Canadian municipal cemeteries.

¹⁴ Including the Perpetual Care Fund fee.

¹⁵ The average of communities of comparable demographic profile as the City of Vernon, within southern British Columbia.

¹⁶ The average, resident rates for a spectrum of low to high quality offerings, found within LEES+Associates price analyses for the Cemetery Master Plans of public, private and religious cemeteries from 2012 to 2017.

Depending on the offering, the City's non-resident premium ranges from 30% (casket lots) to 50% (cremation lots).

The following table summarizes the **non-resident** fees and findings for the primary cemetery services offered in this study.

Cemetery Offering	City Rate ¹⁷	Regional Rate ¹⁸	Average Canadian Rate ¹⁹	Price Comparison Findings
Adult Casket Burial Lot	\$1,874	\$2,615 to \$3,038	\$1,625 to \$3,250	Below Regional Rate. On par with Canadian Rate.
Child Burial Lot	\$1,010	\$1,599	\$550 to \$1,300	Below Regional Rate. On par with Canadian Rate.
Infant Burial Lot	\$629	\$1,226	\$325 to \$1,300	Below Regional Rate. On par with Canadian Rate.
Cremation-Only Burial Lot	\$629	\$1,165 to \$1,334	\$650 to \$1,300	Below Regional Rate. On par with Canadian Rate.
Columbaria Niches	n/a	\$3,037 to \$3,722	\$1,625 to \$5,200	Not offered by the City.

Table 7: City Cemetery Fees Compared to Average Regional and National Cemetery Fees Benchmarks, Source: LEES+Associates.

Detailed results of the complete non-resident price benchmarking for the City of Vernon, can be found in “**Appendix E – Price Benchmarking Study.**”

STRATEGIC POSITIONING

The City's cemetery fees are more attractive than the average rate across Canada. These lower rates provide the City with a sales advantage, decreasing the risk of residents will choose interment at another cemetery, perhaps at a site in another community.

However, cemetery demand is relatively inelastic and there is usually little resident response to price changes provided they are within the normal market range. Therefore, the City can expect to increase its rates incrementally without a loss in revenue, with little risk its residents will go elsewhere, and it will better support the cemetery's financial sustainability.

Cemeteries with more options are often perceived as being more attractive and as having a higher-quality, premium value. As a result, they are able to charge higher rates than other sites.

¹⁷ Including the Perpetual Care Fund fee.

¹⁸ The average of communities of comparable demographics as the City of Vernon, within southern British Columbia.

¹⁹ The average, resident rates for a spectrum of low to high quality offerings, found within LEES+Associates price analyses for the Cemetery Master Plans of public, private and religious cemeteries from 2012 to 2017.

PRICE CHANGES

The City last increased its cemetery fees in January 2018. The City has increased its rates 10% per year ever year for the past four years. The City's largest increase in recent history was in 2014 when the City increased its rates 34% to improve the financial sustainability of its cemetery operations. This best practice for North American cemetery pricing is to increase fees annually by the rate of inflation (at a minimum). This practice is increasingly the standard across Canada.

The Bank of Canada's Consumer Price Index reports that inflation has historically ranged from 2% to 3% over the past decade.

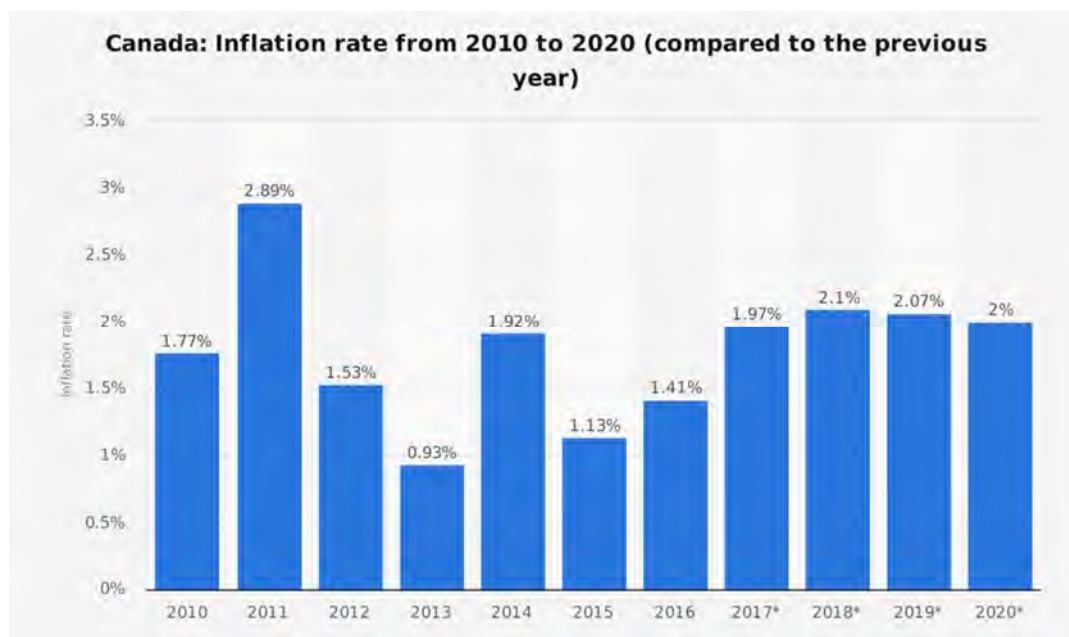


Figure 36: Canadian Inflation Rate from 2010 to 2020, Source: International Monetary Fund 2017.

PRICING - NEW OPTIONS

Columbaria Niches

Columbaria construction costs and subsequently the rate for columbaria niches, vary widely depending on size, design details and the amenities placed within the adjacent landscape. **The national rate for niches ranged from \$1,250 to \$4,500.**

The regional average resident rate for a columbaria niche in the study of local communities ranged from **\$3,037 to \$3,722**. Niches higher up and at eye-level are typically more desirable and priced higher than niches lower down. Ideally, columbaria should offer niches that appeal to a range of people.

Scattering Services

Canadian cemeteries also typically offer the scattering of cremated remains in areas of flowering plants or in an ossuary at **\$100 to \$350 per scattering**. This interment option is not currently offered to the City of Vernon residents.

Family Vessels

Family vessels are currently offered at rates ranging from **\$6,000 to \$13,000** each, depending on their size and quality of positioning with the cemetery. Services for placing a nested urn or comingling remains within the vessel are typically **\$200** for each vessel interment.

This interment option is not currently offered to the City of Vernon residents.

Green Burial

Green burial should be just as valued – and valuable – as traditional burial grounds and for that reason should be priced at the same rate as basic, traditional burial.

Veterans, Indigent & Social Services

Canadian cemeteries often fully subsidize or offer lower rates to veterans and impoverished residents (indigent interments). Rates paid by qualifying residents and families for this classification are usually at least **50%** of the normal standard cost for cemetery and funeral products and services.

Added-Value Service Fees

Canadian cemeteries often bill fees for additional complementary and support services. These include the following extraordinary fees in the City's Cemetery Bylaw 3472 for:

- Lot transfer;
- Grave liners + vaults;
- Flower loop and vase installation;
- Installation permit for memorials;
- Premium for extra-depth interment;
- Premium for interments after 3:00 p.m. and
- Premium for interments on weekends or on a Statutory Holiday.

City staff have also suggested that the following new fees be added to the cemetery price list:

- Concrete pillow for brass markers;
- Premium for double cremation vaults;
- Removal and re-installation of a marker;
- Administration for services such as refunds or other unusual transactions, and
- Scattering of Ashes in old lots with a concrete surface and limited access.

In addition, assuming that the City chooses to continue to offer flower loops, the suggestion has been made that the City separate the current flower loop charge into two components, one fee for the supply of the loop and one fee for its installation.

If the City chooses to move to another flower mounting device, such as a plastic holder for installation in the ground next to a headstone, the cost for this would have to be included in other charges, since these holders would not be a permanent item.

Extraordinary rates charged by other cemeteries in Province of BC that are not currently listed in the City's price schedule and that could also be added includes fees for:

- Late arrival;
- Bronze wreathes; or plaques;
- Surrender/Sell Backs;
- Tent and chairs for graveside services;
- Less-than-24 hours' notice for an interment;
- Concrete slab for lanterns;
- Pallbearer - Assistant Service;
- Premium charge for winter interments;
- Columbarium niche inscriptions;
- Reservation fee for adjacent lots, and
- Replacement Right of Interment Certificates.

Additional charges should, however, be kept to a reasonable level so that people do not feel that they are being overcharged for small, reasonably standard items.



Figure 37: Columbaria installed as a key part of the renovation of an older section at Kelowna Municipal Cemetery

Source: LEES+Associates

5.3. HISTORIC FINANCIAL PERFORMANCE

CEMETERY INCOME + CASH FLOW

Best practices for cemetery system financial management includes setting up revenue accounts for each **interment form's** product and service (e.g. casket lot, cremation lot, columbaria niche, mausoleum crypt, etc.) Sophisticated systems also have tracking codes or user defined fields to identify **at-need / pre-need** (time of sale – before or after death) and **resident/non-resident** revenue.

The City has few revenue account categories to help measure and assess cemetery sales performance. In contrast, the City has an advanced expense tracking system with many cost accounts set up to clearly identify the source of each operating cost.

Over the past five years (2013 to 2017), the City averaged:

- **\$47,000** loss per year;
- **\$234,00** total revenue and **\$281,000** total expenses per year, including extraordinary costs and related revenue transfers from the City Stabilization Reserve Fund and Unexpended Funds Reserve to cover those costs;
- **\$202,000** operating revenue and **\$249,000** operating expenses per year, excluding extraordinary costs and related revenue transfers to cover those costs, and
- **12%** average increase in revenue and **6%** average increase in expenses per year.

The follow graph summarizes the historic financial performance of the City's cemetery operations from 2011 to 2017.

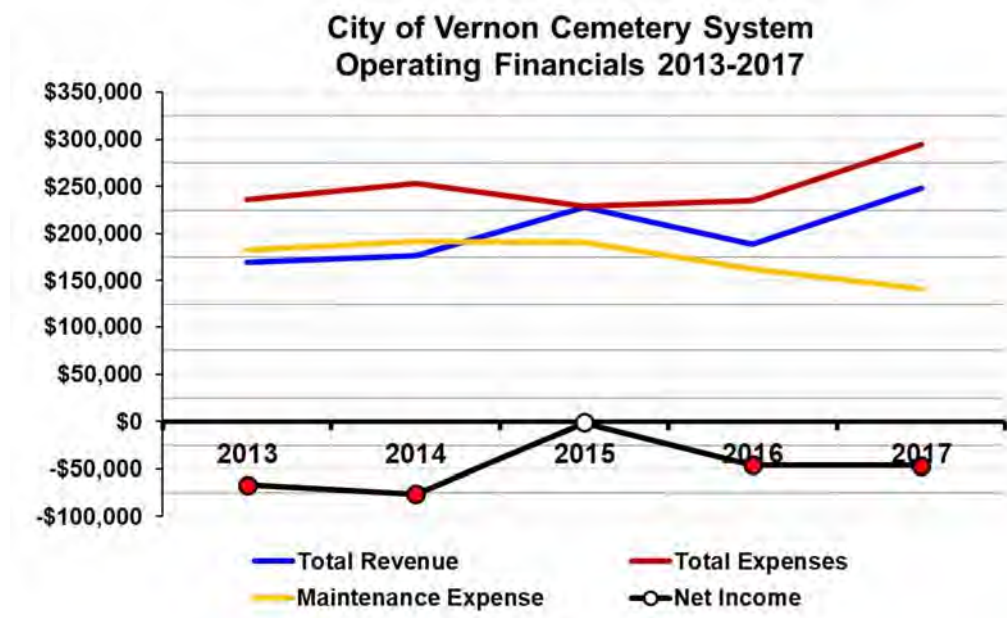


Figure 38: City Cemeteries Financial Performance, 2013 to 2017,
Source: City of Vernon's Cemetery Financial Ledgers and Income Statements.

Currently, the cemetery operates at a loss, requiring the City to subsidize its operations with municipal revenue from other sources. However, the annual net loss has been steadily decreasing since 2014 when the City implemented significant increases to its rates to improve the system's financial sustainability.

Additional information about the distribution of the City's cemetery revenue and expenses can be found in **"Appendix F – Historic Cemetery Financials."**

When the City takes measures to enhance the tracking of its cemeteries' financial performance, such as increasing the number of revenue accounts to identify the interment form, time of sale and residency - it will be able to better refine its cash flow projections and financial strategy.

CEMETERY PERPETUAL CARE FUND

An important factor in the future viability of a cemetery is the adequacy of its Perpetual Care Fund (PCF). Canadian cemeteries usually contribute a portion of cemetery sales revenue to the principal of a Trust Fund, which is then expected to fund the perpetual care of the cemeteries into the future.

The PCF's principal generates investment income (e.g. interest, dividends, etc.) which is either retained in the fund to generate **compound interest** returns or **withdrawn annually** to pay for present day site care and maintenance costs.

In British Columbia (BC), Perpetual Care Funds must be managed in accordance with the Cremation, Interment and Funeral Services Act, **Part 7**²⁰. Perpetual Care Fund contributions requirements are delineated by **Part 2** of the BC Cremation, Interment and Funeral Services Act, Services Regulation²¹.

BC provincial legislation, mandates that all cemeteries contribute 25% of the price of a right of interment related to an in-ground grave, 10% of a right of interment related to a columbarium or mausoleum, and \$10 for each memorial installed at the place of interment.

LEES+Associates' research has found that British Columbia communities following best practices in cemetery financial management will contribute above the provincial minimum to the Perpetual Care Fund, at around 30% of lot sales, 20% of columbarium and 15% of mausoleum sales.

According to the City of Vernon Cemetery Bylaw 3472:

"On all licences for use of grave spaces, the Administrator or his designate shall pay into "The Cemetery Care Fund Account" from the amount received for each licence sold at the fee specified in Division Thirteen hereof, Twenty-Five per cent (25%) of the said licence fee or \$15.00 per grave space, whichever is the greater, except in those cases where a different amount is required or approved by the "Cemeteries Branch" of the Ministry of Labour and Consumer Affairs for the Province of British Columbia."

The City will need to add mention of the distinct contribution rate for the sale of niches to the bylaw when it introduces columbaria interment options to the cemetery system.

²⁰ http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/00_04035_01

²¹ http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/298_2004

The following graph summarizes the historic performance of the City's PCF from 2013 to 2017. In this graph, the PCF end balance aligns to the left vertical axis, while the year's interest income and maintenance costs align to the right vertical axis.



Figure 39: City Cemetery System Perpetual Care Fund Performance Measurements, 2013 to 2017, Source: City Cemetery System Perpetual Care Fund Records.

At the end of 2017, the closing balance of the Perpetual Care Fund was **\$812,998**. The Care Fund balance has consistently increased an average **4.0%** per year, mainly driven by the City's annual sales revenue contributions.

Over the past five years, the Care Fund had a rate of return of **1.7%** per year, averaging **\$12,000** per year. This investment income has historically been withdrawn annually from the Care Fund, reported as interest revenue and used to pay for the year's current site care and maintenance costs. Cemetery maintenance costs have averaged **\$174,000** over the past five years.

This obligation for site maintenance begins at the time a cemetery is established, extends through the period during which they are active and generating revenue, and continues long after the site is full and no longer generating revenue.

Calculating the required future Perpetual Care Fund balance is a function of the projected interest rate and cemetery maintenance cost at the time the cemetery is expected to become inactive. The future interest anticipated by the Perpetual Care Fund needs to be equal to the projected maintenance cost.

Provincial legislation intends for the interest generated by a perpetual care trust fund to help offset the effect of inflation, therefore provide what will be eventually be more expensive site maintenance cost in the future.

5.4. FINANCIAL SCENARIOS

To identify the best strategy for the City's future operations, two scenarios are presented in this section: "**Scenario 1: Status Quo**" and "**Scenario 2: Alternative Model**."

The "Status Quo" assumes a scenario where there are no changes to the City's cemetery system operations. In this scenario, financial performance is only driven by the anticipated changes in the size, death rate, disposition and interment trends in the community.

The "Alternative Model" represents the most optimal scenario that would result from this plan's recommended changes to operations (including, but not limited to price increases, adding new offerings, promotional initiatives, etc.), as well as changes driven by demographics and community preferences.

On the revenue side of the equation, projections are related to number of families who choose to be interred in the City's cemeteries and anticipated adjustments in pricing. On the expense side of the equation, costs are primarily related to inflation and the anticipated value of prearranged contract agreements that exist.

The assumptions that apply to both financial scenarios examined include:

- Demographic trends will define the demand and be a primary driver of future revenue;
- The proportion of the community served will not change significantly in the next 50 years under the status quo. This is anticipated to increase only if the City invests in new community engagement, customer service, sales and marketing initiatives;
- Annual cost increases will be equivalent to the historic rate of inflation of 2% per year;
- Annual interest income will be equivalent to the historic rate of return of 2% per year;
- The City will develop additional cemetery land into new lots as needed and continue serving its residents for the next 50 years;
- Forecasts do not include projections for new revenue streams adopted by the City, and
- Forecasts do not include extraordinary costs for acquiring land, engineering, development and new infrastructure.

Graphs in this section illustrate the key aspects of each financial scenario. These graphs show the revenues, expenses, profits or losses (net income) and PCF changes over the next 50 years.

PCF graphs refer to both "**Active Maintenance Cost**," which is the cost of maintaining the City cemetery system as an active site and "**Inactive Maintenance Cost**," which is the cost of maintaining City cemeteries as inactive sites. Maintenance work usually decreases when cemeteries become inactive due to lower levels of on-site traffic. Consequently, care costs of inactive sites typically decrease to 50% of the active maintenance costs.

5.5. SCENARIO 1: STATUS QUO

The following graph summarizes the projected position of the City cemeteries' operating financials over the next 50 years under the Status Quo Scenario.

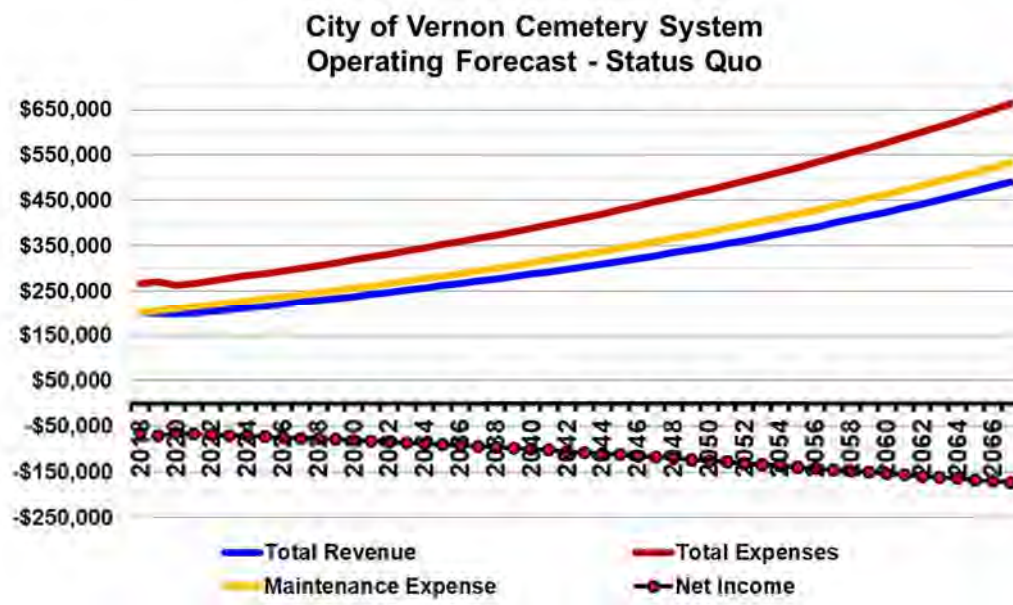


Figure 40: 50 Year City Cemeteries Financials Forecast - Status Quo Scenario, Source: LEES+Associates.

The following graph summarizes the projected position of the City's Perpetual Care Fund over the next 50 years under the Status Quo Scenario.

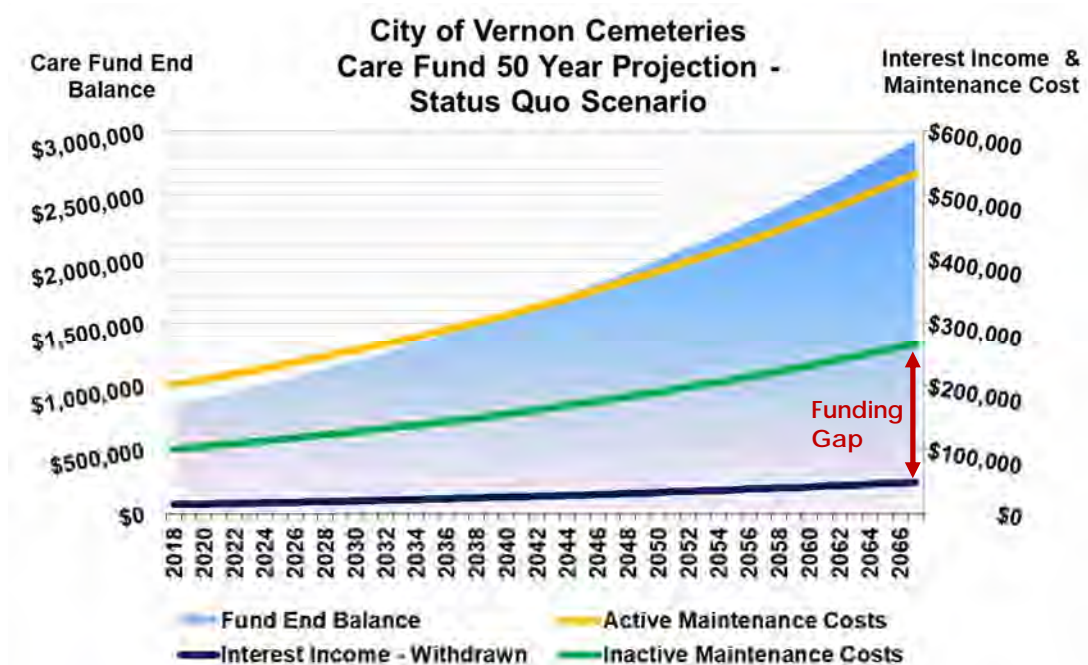


Figure 41: 50 Year City Cemeteries Care Fund Forecast - Status Quo Scenario, Source: LEES+Associates.

The upcoming passing of the Baby Boom Generation will boost sales and slow the increase of cemetery's current annual operating loss. However, even with this positive trend, under status quo conditions, the City cemetery is not expected to break-even in the foreseeable future.

Presently, the City spends approximately **\$170,000** per year on site care and maintenance, 62% of its annual cemetery costs.

Under status quo conditions and assuming no further extraordinary withdrawals by the City, the PCF will reach a balance of **\$2.9 million** and generate interest income of approximately **\$50,000** per year in 2067. This is less than the **\$533,000** projected active maintenance cost in 50 years.

However, when a cemetery site becomes inactive, it is expected that the cost of maintenance will drop as low as 50% of active costs, in this case site care should cost **\$267,000** per year. Lower levels of care are required for cemeteries with less on-site traffic. Though this lower inactive site cost is still substantially higher than the projected PCF interest income.

In this scenario, the City will not achieve long-term sustainability in 50 years and there will be a **\$217,000** gap for the City to cover with tax subsidies to meet even minimum level maintenance at its cemetery sites by 2067.

However, there is time for the City to close this gap over the next 50 years through a variety of strategic pricing and cost management strategies, before the cemeteries become wholly reliant on the PCF interest income for site care funding.

5.6. SCENARIO 2: ALTERNATIVE MODEL

Scenario 2 is an alternative model that enhances revenue by increasing cemetery rates and increases the long-term financial sustainability of the cemetery through changes to its PCF investment practices and use of interest income.

At the current rate of return, the City requires an additional **\$12.6 million** in the Perpetual Care Fund balance, to close the funding gap identified in the Status Quo Scenario between basic maintenance costs and interest income.

This can be achieved through the following strategies:

1. Increase of sales (and related fund contributions) by increasing the number revenue streams (adding columbaria niches, memorial options, new administrative fees, etc.);
2. Increase of sales (and related fund contributions) by increasing cemetery site promotion and attracting more non-residents;
3. Increase of revenue (and related fund contributions) by increasing cemetery rates, and
4. Stop the withdrawal of interest income from the Perpetual Care Fund, in order to allow its value to **compound** over time.

The first two strategies proposed are challenging to precisely quantify until they are introduced to the cemetery and the community response is assessed; therefore, they are not included in this alternate financial model. The latter two strategies can, however, be integrated in an alternate financial model for the City with a reliable degree of accuracy.

Therefore, the key assumptions under Scenario 2 include:

- For the next 3 years, the City will continue to increase cemetery rates by **10% per year** to offset inflation and to help cover future development and extraordinary costs;
- From year 4 forward, the City will increase its cemetery rates by **3% per year** to offset inflation and cover future development and extraordinary operating costs, and
- The annual interest income will continue to average the 5-year historic rate of return of about 2% per year, and then the City will start to retain the interest income within the trust fund. The City will not withdraw the interest to cover current costs.

The following graph summarizes the financial position of the City cemetery system over the next 50 years, under the Alternative Scenario, assuming the City implements the recommendations for this model.

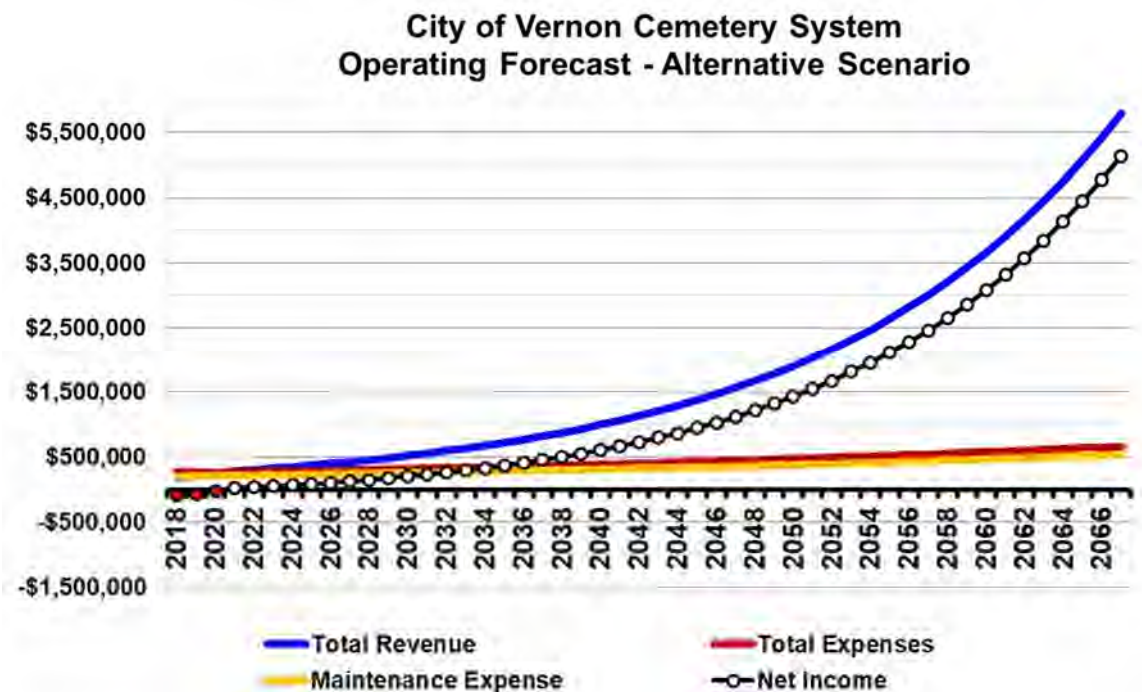


Figure 42: 50 Year City Cemeteries Care Fund Forecast – Alternative Scenario, Source: LEES+Associates.

The following graph summarizes the projected position of the City’s Perpetual Care Fund over the over the next 50 years, under the Alternative Scenario, assuming the City implements the recommendations in this model

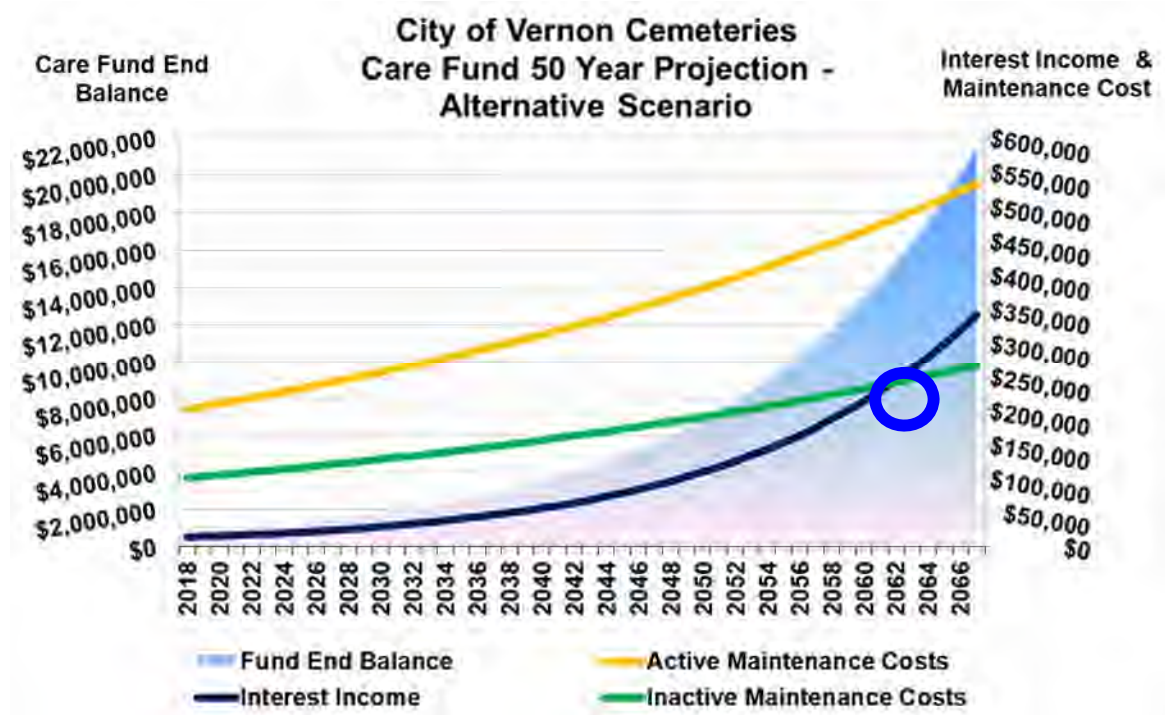


Figure 43: 50 Year City Cemeteries Care Fund Forecast - Alternative Scenario, Source: LEES+Associates.

It is expected under this Alternative Scenario the City's cemetery income will grow and stabilize above the breakeven point in the next three years. The cumulative effect of price increases outpacing inflation growth will further widen the cemetery's profit over the next five decades.

The City could opt to use this net income to increase its contributions to the Perpetual Care Fund and expedite the cemetery's ability to self-sustain its own site maintenance costs.

Alternately a portion of net income in the future could also be transferred into a **Development Fund**. This new trust fund would be used for to support capital costs and new projects such as developing new offerings, enhancing infrastructure or purchasing new land in the future.

This is a conservative forecast, as it assumes the same proportion of the local community is served and the City will continue to offer the same cemetery services. It does not account for any new revenue streams introduced at the cemetery, such as columbaria niches. If the City expands its offerings, then it is likely revenue will increase even further as it would increase the attractiveness of site to City residents and non-residents. Some interment options like columbaria niches also offer a higher return on investment to cemeteries than in-ground burial.

Under alternative scenario conditions and assuming no further extraordinary withdrawals by the City, the PCF will reach a balance of **\$20 million** in 50 years and generate interest income of approximately **\$342,000** per year in 2067. This is less than the **\$533,000** projected active maintenance cost in 50 years.

However, this interest income is more than the minimum **\$267,000** per year inactive maintenance cost projected for 2067. In this scenario, the City will achieve long-term sustainability in 45 years (2062) and will be able to maintain the cemetery at a decreased level of site care and maintenance.

If the City would prefer to continue to maintain its cemeteries after 50 years at its active cemetery standards, it will need to take steps to increase its PCF to **\$27 million** at the current rate of return.

This can be accomplished by increasing the annual contributions from revenue to the PCF after the cemetery is consistently breaking even.

5.7. KEY FINDINGS – FINANCIAL PLAN

The key findings in this section include:

- The majority of City's cemetery rates are below the average market rate at a Regional level, but on par with the typical range of prices Canadian cemeteries;
- The range and diversity of City cemetery offerings is less than the typical range of options at Canadian cemeteries;
- City cemetery operations generate an annual loss. This annual loss has been steadily decreasing since 2014;
- Under status quo conditions, the City's annual loss will increase to \$173,000 by 2067;
- The City spends \$170,000 per year on site care, 62% of its annual cemetery operating costs;
- Increasing prices and diversifying cemetery service options is necessary to grow operating revenue and achieve a more sustainable, long-term financial projection, and
- The Perpetual Care Fund is underfunded to provide future care and maintenance at the basic level of care expected at inactive Canadian cemeteries.

5.8. RECOMMENDATIONS – FINANCIAL PLAN

The following recommendations are expected to improve future cash flows and perpetual care funding. To achieve financially sustainable cemetery operations, the City should:

- **Increase cemetery rates** in 2019 to better align fees with the regional rate average;
- Implement the Alternative Scenario financial model proposed. This includes:
 - Increase cemetery rates by a **minimum of 10% per year** for the next three years. Afterwards, the cemetery should consistently breakeven. From the point the cemetery breaks even, prices should increase annually 3% per year to offset inflation.
- Increase the proportion of **PCF contributions** from revenue (e.g. increasing contributions from 25% to 30% of lot sales) to the trust fund's principal, once the cemetery system begins generating a profit. This will accelerate the timeline of financial self-sustainability;
- Transfer a portion of future cemetery profits into a new **Development Fund**, set up as a reserve fund, like other City reserves, to purchase new inventory (such as columbaria niches), make site infrastructure improvements or pay for future land acquisitions;
- **Add new revenue accounts** or user-defined fields to the cemetery ledger to enhance the City's ability to track sales performance by interment type (casket/cremation), residency (resident/non-resident) and time of sale (at-need vs. pre-need), and
- **Revisit this Plan** in 5 years to review and evaluate the community's response to the new offerings, sales trends and changes in operations.

The following table summarizes the recommended new cemetery prices in 2019 cemetery rates to better align the City with local regional rates.

Cemetery Offering	City Rate 2019 ²²	Regional Rate ²³	Canadian Rate ²⁴
Adult Casket Burial Lot	\$1,500	\$1,602 to \$1,946	\$1,250 to \$2,500
Child Burial Lot	\$750	\$1,009	\$400 to \$1,000
Infant Burial Lot	\$500	\$715	\$250 to \$1,000
Cremation-Only Burial Lot	\$500	\$662 to \$809	\$500 to \$1000
Opening + Closing Adult Interment	\$1,175	\$1,175	\$750 to \$1,250
Opening + Closing Child Interment	\$650	\$647	\$500 to \$1,000
Opening + Closing Infant Interment	\$400	\$576	\$250 to \$750
Opening + Closing Cremated Remains	\$400	\$389	\$200 to \$500

Table 8: City Cemetery Fees for 2019 Compared to Average Regional and National Cemetery Fees Benchmarks, Source: LEES+Associates.

²² Including the Perpetual Care Fund fee.

²³ The average of communities of comparable demographic profile as the City of Vernon, within southern British Columbia

²⁴ The average, resident rates for a spectrum of low to high quality offerings, found within LEES+Associates price analyses for the Cemetery Master Plans of public, private and religious cemeteries from 2012 to 2017.

6. CONCEPT + IMPLEMENTATION

6.1. DESIGN PRINCIPLES

The following design principles were used to guide the conceptual design of the improvement areas in Pleasant Valley Cemetery:

VISIBILITY AND FIRST IMPRESSIONS

The City of Vernon's high cremation rate makes interment in a cemetery discretionary. A positive first impression and pride felt by residents when visiting Pleasant Valley Cemetery encourages them to consider this as a final resting place for themselves and their families. Improvements to the entrance signage and entry drive, cemetery signage and overall aesthetics of Pleasant Valley Cemetery are therefore key to its social and economic sustainability.

WALKABILITY AND APPEAL

Strengthening pedestrian circulation promotes use of the cemetery by the broader community. Connections to the surrounding communities increases public engagement, health and well-being as well as improving security, and showcasing the site as a parklike recreational and environmental resource. Wayfinding and signage improvements improve efficiency of cemetery operations and navigation through the cemetery. Benches and other ornamental features add to the site's welcoming quality.

A REPOSITORY OF LOCAL HISTORY AND CULTURE

Interpretive signage and walking tours reveal the natural and cultural history of a place to visitors. Creating spaces for people to learn about the cemetery, who is buried there and their stories, helps create connections with the site. Enhancing the understanding of Pleasant Valley Cemetery natural and created landscapes with simple, carefully placed signage could help connect Vernon residents with the place they have chosen to live, and ultimately may choose to be interred.

OPTIMIZING LAND USE

Proposed improvement areas focus on future revenue-generating opportunities with new interment sites and options. Improved record-keeping and proactive site management will optimize the active life of the site and keep it viable, useful and appreciated for years to come. Investing in the current site is the preferred alternative to developing a new cemetery until it is truly needed.

DIVERSITY AND ACCOMODATION

New interment options, such as columbaria niches, the proposed new green burial area, "Pioneer Green Burial" lots, scattering garden and ossuary will offer a wider variety of interment options. This will contribute to capturing a larger segment of the market. People expect choice and options, even in death. Increased visual diversity of interment options, and the new focal areas and features, trees, site furnishing and pathways that will result, will expand its appeal.

- 1 Cemetery Information Kiosk/ Map**
 - Cemetery map + information signage displaying events, notices + regulations
 - Potential for wayfinding signage + information at key intersections throughout cemetery
- 2 South Perimeter Walk**
 - Pedestrian route with arbors, planting + benches
 - Provides quiet pedestrian experience on edge of cemetery
 - Potential for additional casket lots along pathway
 - Focal feature on south side of site, connection to funeral home
 - Existing shrubs pruned/managed
- 3 Feature Cremation Garden**
 - Provides in-ground cremation lots, columbaria + scattering
 - Key node along pedestrian route with seating and ornamental planting
 - Focal feature for surrounding development area
- 4 Casket Burial Enhancements**
 - Improvements burial section to mitigate impacts from proximity to Works Yard
 - Enhancements include restored lawn, shrub and tree planting, seating
- 5 Cremation Burial Enhancements**
 - Improvements to cremation burial section to mitigate impacts of Works Yard
 - Enhancements include: gardens, tree planting, seating and adding columbaria
- 6 Columbaria Terrace & Outlook**
 - Seating at overlook provides views over developed cemetery
 - Future terraces for columbaria, benches and ornamental planting
 - Opportunity for ceremonial terrace for events/ceremonies
- 7 Green Burial Area**
 - 20m x 30m area within existing woodland
 - 100-150 casket lots + scattering options
 - Minimal intervention required to create new interment option
 - Potential to include interpretive signage



- 8 Cemetery Entry Landscape Improvements**
 - Improved connection from sidewalk to cemetery (new steps, upgraded pathway), including to green burial walking route
 - Renovated entry with new and restored retaining walls, new/more visible signage and renovated landscaping
- 9 Maple Ave and Entry Improvements**
 - Road and curb upgrades; revised parking regulations
 - Continuous mulch bed under maple alley; new benches
- 10 Perimeter Enhancements**
 - Pedestrian connection to adjacent community
 - Consistent edge treatment established (low walls/shrub edge; new benches; signage)
- 11 Ornamental Tree Planting on Interior Roads**
 - Narrowed asphalt drive provides space for small ornamental street trees along edges
- 12 Potential Grave Reclamation**
 - Potential grave reclamation in I.O.O.F "Odd Fellows" Section
 - Future improvements TBD, according to potential capacity/market interest
- 13 Historic/Interpretive Signage**
 - Interpretive signage (natural and cultural history) re: site, events and community stories
- 14 Additional Casket Lots - Road Narrowing**
 - Where possible, roads narrowed to 3-4 m to allow for additional/infilled casket lots
 - Narrower road to be one way, pedestrian + operations routes only
 - Opportunity to market as "Pioneer Green Burial" lots
- 15 Works Yard Improvements**
 - Consolidate and demarcate Works Yard
 - Buffer with wooden screening, sliding gate, perimeter plantings (hedge/trees)
 - Provide infrastructure as needed to support new Standard Operating Procedures policies.



PROPOSED IMPROVEMENT AREAS:

- 1 Cemetery Map and Information Kiosk
- 2 South Perimeter Walk
- 3 Feature Cremation Garden
- 4 Casket Burial Section Enhancements
- 5 Cremation Interment Enhancements
- 6 Outlook and Future Columbaria Terrace
- 7 New Green Burial Area

LEGEND

- # Revenue Generating Features
- # Cemetery Information Feature
- Proposed Perimeter Pedestrian Route
- Primary Pedestrian/Vehicular Route
- Proposed Historic Walk - Pedestrian Route
- - - Secondary Pedestrian Routes
- ◆ Wayfinding Signage + Information

Add casket lots where possible along road (potential "Pioneer Green Burial" lots)
(Elm St: up to 140 casket lots, Oak Ave: up to 25 casket lots)

Add casket burial lots west where possible (potential additional "Pioneer Green Burial" lots)
(up to 58 casket lots)

New Green Burial Area
20m X 30m area, capacity
(up to 150 casket lots)

Future Columbaria Terraces
(up to 480 cremation niches)

NOTE: Capacity figures provided are estimates of the maximum number of lots that could be created according to current grave sizes, information provided by the City of Vernon, and three site visits. Actual capacity could be less due to subsurface conditions (such as tree roots, soil conditions and undocumented infrastructure and interments), or other issues not currently known and accounted for. Further research and site work is required to proof and refine these estimates.

Add columbaria in interment improvement area
(up to 160 cremation niches)

Develop remaining casket burial capacity (up to 809 casket lots)

Block 1054: Convert current family cremation lots to single cremation lots or smaller family lots (68 casket lots converted to: up to 124 smaller family cremation lots (4 urns) or 544 single cremation lots)

Feature Cremation Garden with columbaria
(up to 320 cremation niches)

Block 1023A: Convert casket lots to in ground cremation burial
(up to 393 single cremation lots, replacing 113 casket lots)

South Perimeter walk with additional casket lots to extend current rows where possible + columbaria
(up to 104 casket lots and 240 cremation niches along south perimeter)

LEGEND

- "Pioneer Green Burial" lots
- New Green Burial casket lots
- Additional cremation lots
- Additional casket lots
- Columbaria

6.2. CONCEPT AREA DESCRIPTIONS

Cemetery Entry Improvements:

Concept Design Plan Item ⑧

Improvements to the cemetery entry on Pleasant Valley Road would increase its visibility, overall aesthetics and appeal as seen by passersby.



Figure 44: Cemetery Entry Area.

Source: LEES+Associates

Proposed improvements include:

- A new entry sign incorporating the existing materials, forms and features of this area while offering improved visibility, and a more dignified character;
- A more open, colourful entry landscape, visible from the approach along Pleasant Valley Road;
- Install wider stone or concrete slab steps on pedestrian path north of vehicle entry;
- Install signage showing walking routes, including the path along the green burial area, and
- Designate and develop a pedestrian path into the site from Pleasant Valley Funeral Home.

Entry Drive Enhancements: Concept Design Plan:

Concept Design Plan Item ⑨

Enhancements along Maple Avenue entry drive would improve the visitor experience from the point when they first come into the cemetery. Proposed improvements include:

- Reduce the existing 7.5 m asphalt road width to 5 m to reduce the slope from the base of trees to the curb. Install new, possibly higher curbs, limiting parking to layby zones on alternate sides of the drive. Alternatively, designate the first two blocks of Maple Avenue No Parking;
- Restore the asphalt drive surface;
- Create a continuous mulch bed under the maple trees where grass is currently not able to grow. Cover the exposed roots of the maple allée with a layer of mulch to visually unify and convey a quality of care and maintenance while not impacting tree health;
- Adjust the elevation of headstones adjacent to the base of trees;
- Remove existing benches along the road to discourage walking on the mulch surface, and
- Locate new benches nearby to offer alternative, more appealing places to sit.



Figure 45: Entry drive, looking west along Maple Avenue

Source: LEES+Associates

Cemetery Information and Signage:

Concept Design Plan Item ①

Installation of wayfinding signage (cemetery map and information, and section markers) would improve the experience of visitors to the cemetery, as well as assisting operations staff and Funeral Directors. Heritage or other interpretive signage would also contribute to wayfinding.

Information should be placed at key junctures within the cemetery. At a minimum, the information signs should enable visitors to:

- Easily navigate the cemetery;
- Find burial areas, features and designated pedestrian routes for passive recreation, and
- Provide operational information such as cemetery regulations opening and closing times, and seasonal and other notices.

A map kiosk located at the south east corner of the intersection of Maple Ave. and Elm St. would allow for cemetery event information, notices, regulations and a cemetery map to be posted and visible upon arrival at the cemetery.



Figure 46: Proposed site for map and info kiosk

Source: LEES+Associates

To promote the use of live rather than artificial tributes on graves, the City could provide reusable plastic flower stands at this central location. Holders with ground spikes would keep tributes secure and off the ground and would be less visually obtrusive than the metal flower posts and rings now in use. These lightweight plastic stands could be easily picked up maintenance staff once flowers had faded and returned to the map area for reuse. The success of this concept would depend on public buy-in, maintenance compliance, and Bylaw enforcement.

Historic/Interpretive Signage:

Concept Design Plan: Item ⑬

Historical/interpretive signage could be installed through the historic Evergreen Section of the site to link with cemetery programming. Signage could provide information about significant local events in Vernon's early years, and the burial sites of key community members over time. Since this area is also a largely naturalized area, interpretive signage could also provide information about the natural history of the site/area, its ecology and the plant and animals that now live amongst the headstones.

Consolidation of Works Yard & Upgrades to Adjacent Interment Areas

See below

Consolidation and screening of the Works Yard would increase the appearance and marketability of lots in the adjacent interment areas. Sections 1039 and 1040 have been laid out for future casket lots but they are currently significantly impacted by operations activities and used for parking, materials storage, and a temporary dumpsite and turnaround area. The east cremation sections have not proven successful due to their lack of amenity and their proximity to the Works Yard.



Figure 47: View of current works yard at the north end of Poplar St.

Source: LEES+Associates



Figure 48: View of west side of yard, site of proposed cremation garden

Source: LEES+Associates



Figure 49: View of future casket lot sections 1039+ 1040, east of works yard.

Source: LEES+Associates

Proposed improvements include:

Works Yard:

Concept Design Plan Item ⑮

- Reducing the area available to the maintenance contractor and limiting the extent of use;
- Installing a wooden privacy fence with perimeter planting, and
- Installing a sliding vehicle gate for security and screening purposes.

West Cremation Section:

Concept Design Plan Item ⑤

- Establishing a columbaria garden on the west side of the works yard. This would include gravel paving, ornamental planting and seating.

East casket burial Sections:

Concept Design Plan Item ④

- Developing the proposed casket burial section on the east side of the works yard. This would include tree planting, benches and an ornamental shrub bed along the road.

Green Burial Area

Concept Design Plan Item ⑦

An existing 20m x 30m opening in the existing woodland north of the entry has capacity for 100 -150 burial lots in a natural context. This site is ideal for creating a green or “natural” burial area, with communal memorialization (a natural stone with field engraving of names over time) and cremation interment (ash burial or scattering). Local materials could be used to enhance its natural atmosphere.



Figure 50: Proposed new Green Burial Area.

Source: LEES+Associates

Minimal intervention would be needed to prepare this area. Improvements would include:

- Removal of 4 existing pine trees (right side in image above);
- Installation of section signage (top and bottom of access path);
- Installation of up to three communal headstones;
- Minor cleanup and seeding;
- Survey layout and pegging;
- Relocation of young planted pines to Evergreen Section to replace large trees recently removed;
- Reducing width of existing service route for interior access and a walking path to Pleasant Valley Rd.
- Installation of signage to identify scenic wooded trail around the edge of the site.

Overlook and Columbaria Terraces

Concept Design Plan Item ⑥

The shaded area at the south end of Legion Way offers an excellent view over the cemetery below. The slope south from Legion Way was deemed too steep for casket burials and so was laid out for cremation lots. But due to its being sloped and slippery in winter, this otherwise central, scenic location has proven difficult to market to older customers.



Figure 51: Sloped central area used primarily as an access route only has potential as a view point and possibly a future terraced columbaria garden and ceremonial area Source: LEES+Associates

At a minimum, this space could be developed into an amenity area with benches and shrub beds at the end of Legion Way to enhance the Legion Section, which currently lacks amenity beyond an aging flagpole. An attractive lookout area could also help with the marketing of graves in the nearby “Odd Fellows” section.

A more ambitious plan would be to develop two or more stepped terraces with columbaria, benches and planters, which could serve as a ceremonial space. There are currently a few occupied cremation lots in this area; so families of these decedents would have to be contacted re: possible relocation. Permission to exhume and the choice of a new lot or niche would be required for the entire site to be available for development. Alternatively it may be possible to design smaller terraces around the sites where there are existing interments.

Proposed improvements in this area would include:

- Low retaining walls;
- Steps down to paved plaza areas “ceremonial space);
- Benches, seat walls and planters;
- Perimeter planting, including on the slopes down to the retaining walls;
- Circular 80 niche columbaria (2);
- Smaller, 20 niche per side, 40 niche columbaria (8);
- A memorial wall, and
- Decorative paving.

The addition of new, high-value interment opportunities (primarily columbaria) in this area would need to justify the initial investment required to develop a project of this nature.

It should be clarified that there is more niche capacity represented in the concepts presented in this Plan than are projected to be needed over the next 30 years. The intent is to suggest alternative locations for columbaria, so that the City can develop the most cost-effective sites first. Marketing could increase the demand for niches and Pleasant Valley Cemetery could sell columbaria at this “urban cemetery” for many years after it is “full.” The return on investment of columbaria and the small space per niche makes this an attractive scenario.

Feature Cremation Garden

Concept Design Plan Item ③

A focal cremation garden could be developed near the undeveloped area on the east side of the cemetery. This site would anchor the next development area of the cemetery and would serve as a key node along the proposed pedestrian route through the cemetery.



Figure 52: View west over the proposed Feature Cremation Garden site

Source: LEES+Associates

Proposed improvements would include:

- (4) 80 niche columbaria walls;
- A central flower bed and scattering garden;
- A memorial wall;
- Ornamental tree planting, and
- Benches and a seat wall around the central display bed.

The area surrounding the cremation garden could be re-allocated from casket to in-ground cremation burial lots, which would optimize the space and provide a higher diversity of interment options. Cemetery wayfinding signage could also be located here.

South Perimeter Walk

Concept Design Plan Item ②

A pedestrian pathway along the south perimeter of the cemetery would reinvigorate this quiet edge of the cemetery, linking it to the entry and the adjacent, privately-owned funeral home. This path would offer a dedicated pedestrian-only route extending at least part way around the site, promoting recreational use and providing an opportunity for possible new interment options.



Figure 53: Proposed south perimeter walk location.

Source: LEES+Associates

Proposed improvements would include:

- 2m wide gravel path from the southwest corner under the existing row of trees;
- A set of decorative wood and/or metal overhead arbors to define the path;
- Small (20 niche) columbaria and/or memorial walls;
- Benches;
- Shrubs and climbers at each arbor, and
- Potential additional new casket or cremation lots at the south end of existing rows of graves.

Ornamental Tree Planting on Interior Roads

Concept Design Plan Item ⑪

The planting of ornamental “street trees” along Larch Crescent and Acacia Crescent would be a welcome visual amenity in Sections 1001 – 1006, which are currently flat and featureless.



Figure 54: View over Section 1002, one of two circles in Maple Section Source: LEES+Associates

The existing, deteriorating asphalt road would be replaced with a new, narrower (one way) drive lane that would allow trees to be planted in the reclaimed space along either side of the new drive.

Perimeter Enhancements (East)

Concept Design Plan Item ⑩

This initiative would involve working with the City's Planning Department to identify a potential new pedestrian connection to the adjacent residential community.



Figure 55: Homes backing onto southeast perimeter of site Source: LEES+Associates

Once this is established, existing conditions on the east side of Poplar Drive, where the cemetery abuts the back yards of the homes along Cascade Drive, would need to be documented and a concept for enhancing this edge should be developed. Possible improvement could include: establishing the connecting path to Cascade Drive, and installing a consistent slope treatment (such as a low retaining wall with shrubs), and possibly new signage and benches.

Additional casket lots-from road narrowing

Concept Design Plan Item ⑭

The north end of Elm Street extends into Evergreen Section, where existing graves are set back sufficiently from the existing gravel drive lane to allow a new row of graves to be established on either side. Burial lots would need to be laid out with the assistance of the City arborist to minimize impacts on the existing large pines scattered throughout this area.

Many Vernon residents report that they like the rustic character of the Evergreen Section. The new lots created in this Section could be marketed to capitalize on this appeal, especially to long-time residents that may already have relatives buried there. These new graves could be marketed as a new type of casket burial lot, known as "Pioneer Green Burial."



*Figure 56: View North along Elm Street, Evergreen Section and site of potential new Pioneer Green Burial Lots
Source: LEES+Associates*

Under this concept, the “Pioneer Green Burial” lots would be sold on the basis that they are “green burial” (i.e. no embalming of the remains, no use of a vault, burial in a fully biodegradable casket or shroud, and the return of the grave to a naturalized condition), but that the family would be allowed to install a headstone on the grave, which is not typical with green burial. This stone would need to be in a simple, historic upright style that would fit with other older, upright headstones in this area. While this would provide a total of only 100 -200 graves, they would represent a unique type of offering, which would help distinguish Pleasant Valley Cemetery from other local cemeteries.

Grave Reclamation Odd Fellows

Concept Design Plan Item ⑫



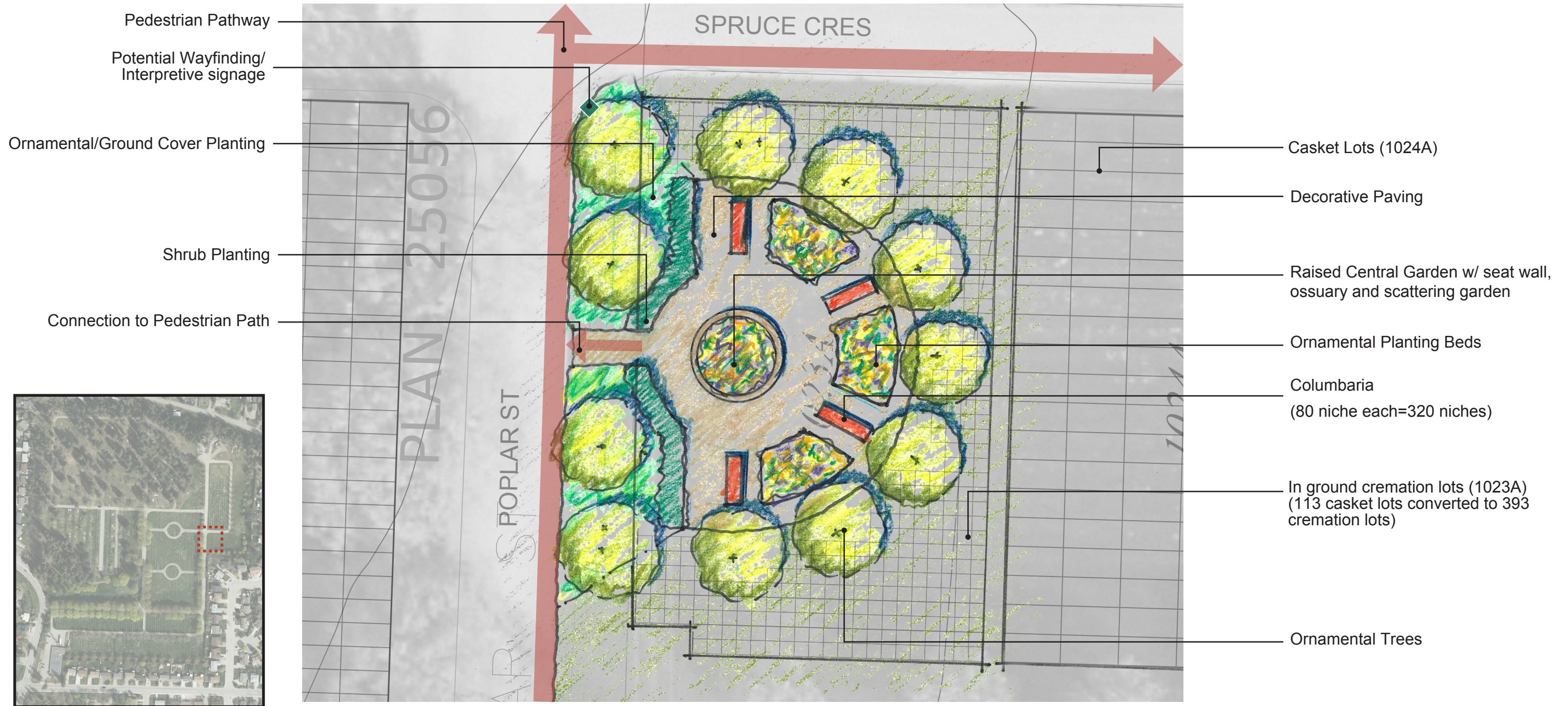
Figure 57: View North along Elm St to “Odd Fellows” Section

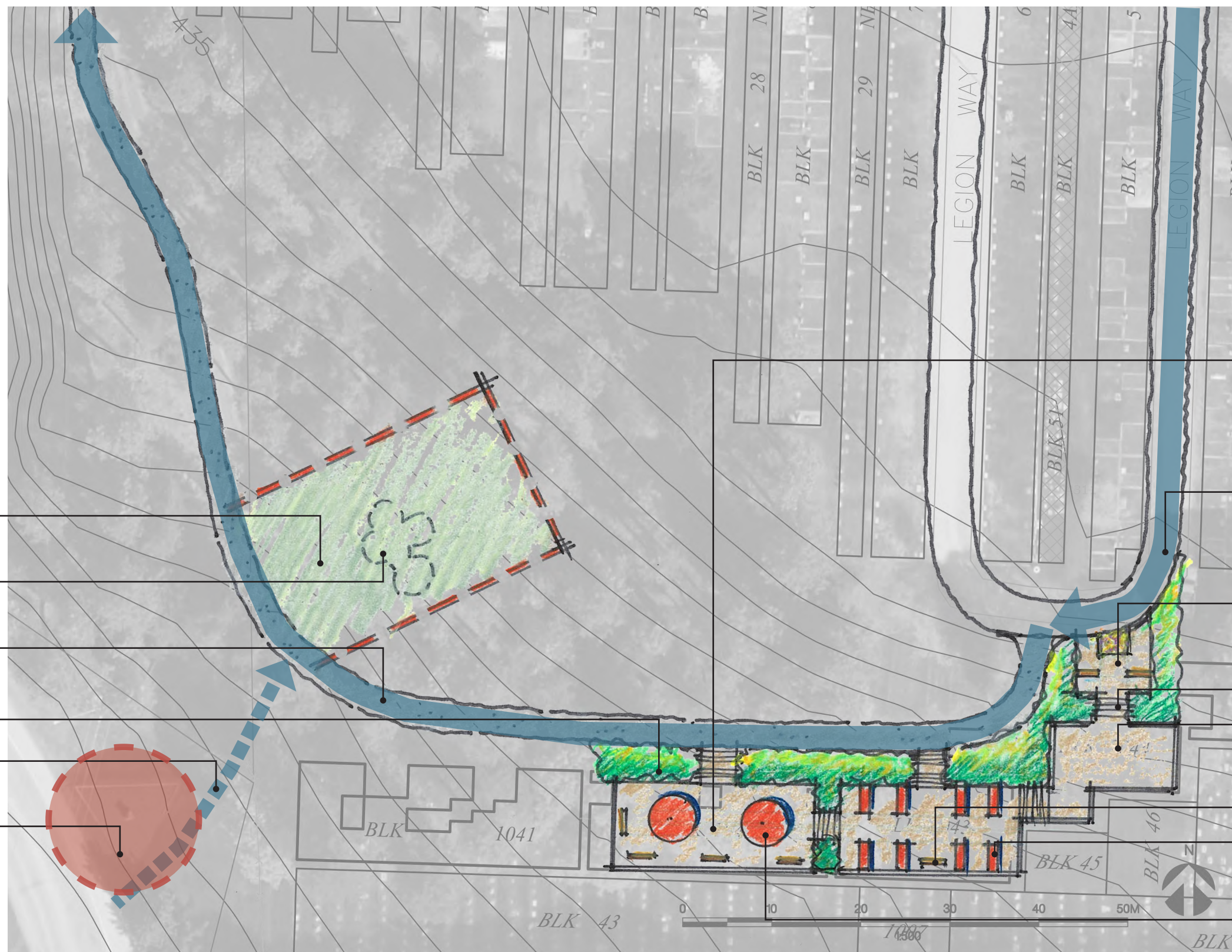
Source: LEES+Associates

The “Odd Fellows” Section is a remnant of a time when service organizations would purchase blocks of graves exclusively for use by their members when they passed away. As there appear to be many unoccupied lots in this area, and there is now little chance that they will be claimed by owners or other members, the concept is to verify that they can be reclaimed and then be resold to the public.

Once the number of graves that could be reclaimed has been determined, plans to make them more marketable should be developed. The addition of benches, interpretive signage and upgrading the turf and features would help market these lots. The potential view point and seating area near this Section would contribute to the appeal of these unused graves.

Sketch concepts of 5 key areas are provided on the following pages.





Layout of terrace could vary depending on existing grave locations, need to address approx. 11 graves in block 1042

Connection to pedestrian path

Overlook with benches + flower bed

Steps down, typ.

Ceremonial Terrace + Memorial Wall

Seating, typ.

Columbaria Walls (40 niche each= 320 niches)

Round Columbaria (80 niche each=160 niches)

Green Burial Area (Approx. 100-150 lots)

Tree Removal for Green Burial

Upgraded 3m gravel maintenance + pedestrian only route

Planted slope

Upgraded pedestrian access pathway

Improved entry area with signage, planting + pathway



Scale: 1:500m



Pedestrian Pathway
Connections

Cemetery Map +
Information Kiosk

Maple Ave Improvements:

- Canopy Thinning “windowing”
- Top dressing / soil amendment over root zone
- Potential shade tolerant ground cover under maple allee



Cemetery map + information kiosk
precedent images:



Sheltered information kiosk



Cemetery Map with plexiglass case for
notices





Columbaria Gardens
(Paving, new planting, + benches)

Round Columbaria
(2, 80 niche units=160 niches)

Sliding/Rolling Works Yard Gate

Consolidated Works Yard

Wooden Screen Fence

Vegetative Screen (hedge)

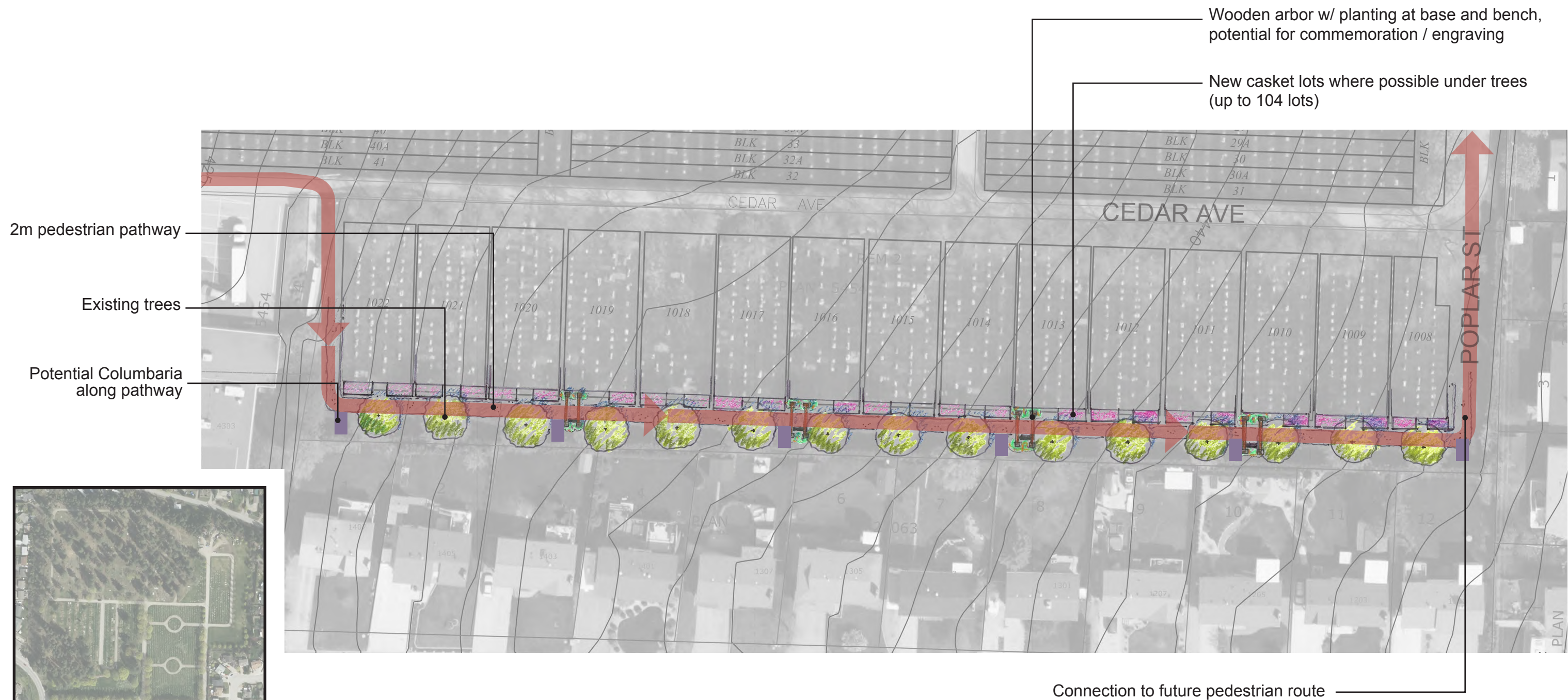
Existing Ornamental Trees

New Street Trees

Shrub/Ornamental Planting



Scale: 1:500m



6.3. IMPLEMENTATION AND PHASING

The following table represents a budget level cost estimate of proposed improvements at Pleasant Valley Cemetery. In terms of phasing, the ten priority items are:

1. Update and implement a new Cemetery Bylaw.
2. Address the existing irrigation system. As a first step, procure a high level “pre-design” cost estimate and Life Cycle Cost Analysis (LCC) to inform decision-making re: a possible new system. Implement maintenance practices to conserve water and improve plant health.
3. Establish a Standard Operating Procedure Manual prior to tendering a new cemetery maintenance contract in 2019.
4. Install at least one Cemetery Information Kiosk and Map - Item ①.
5. Introduce new cremation interment options, notably columbaria in Feature Cremation Garden - Item ③.
6. Establish a new green or “natural” burial section - Item ⑦.
7. Improve the cemetery entry on Pleasant Valley Road, including new signage - Item ⑧.
8. Improve the Maple Avenue entry drive - Item ⑨.
9. Consolidate/upgrade the cemetery Works Yard and surrounding landscape - Item ⑮.
10. Create new “Pioneer Green Burial” lots in Evergreen Section - Item ⑭.

Proposed improvements should commence immediately, as funding permits. The order and scale of implementation will depend on approval of funds in the current and future Budget cycles; however, a proposed framework would be as follows:

Year 1 (2018 – 2019)

- Item 1 – no additional funds required. **Complete by late 2018.**
- Item 2 – first step does not require additional funding; should begin this year to establish cost estimate for future funding.
- Item 3 – no additional funds required. **Complete by early 2019.**
- Item 4 – small cost; proceed with design in 2018; **Installation early 2019**

Year 2 (2019 – 2020)

- Item 5 – commence with design and construction once funded. **Complete by 2020.**
- Item 6 – commence with design and construction. **Complete 2019.**
- Item 7 – commence with design and construction once funding is available.
- Item 8 – commence with design and construction once funding is available

Year 3 (2020 – 2021)

- Item 9 – commence with design and construction once funding is complete. **Complete by 2020.**
- Item 10 – little additional funding required; commence according to community interest and support for the initial green burial section.

Future projects identified on the Cemetery Site Design should proceed based on response to initial investments, notably the uptake on new interment options and the effect of this on cemetery revenues.

It is important to point out that consumer responses to trends in cemeteries and the bereavement sector are typically very slow. It often takes years for the results of improvements to be seen and to then appear on the bottom line. This does not mean, however, that cemetery visitors will not notice upgrades. Improvements will be noticed and appreciated by the community, especially as their combined effect becomes apparent.

7. COST ESTIMATE

PLEASANT VALLEY CEMETERY Preliminary Concepts - Budget Level Cost Estimates				
Concept Area	Unit	Quantity	Unit Cost	Amount
1.0 CEMETERY INFORMATION KIOSK / MAP				
Cemetery map				
Wooden structure with map panel + lockable notice/info board	allow	1	\$ 12,000.00	\$ 12,000.00
Paving				
Curbng at road edge	lm	5	\$ 400.00	\$ 2,000.00
100mm compacted gravel sub base	m2	15	\$ 20.00	\$ 300.00
24 - 40mm compact bedding sand	m2	15	\$ 15.00	\$ 225.00
Concrete unit pavers	m2	12	\$ 80.00	\$ 960.00
Bollards				
One at each end of structure	each	2	\$ 450.00	\$ 900.00
			Cemetery map and info kiosk	\$ 16,385.00
2.0 SOUTH PERIMETER WALK (columbaria not included)				
Arbor Structure				
Foundation	each	6	\$ 500.00	\$ 3,000.00
Wooden structure	each	6	\$ 4,000.00	\$ 24,000.00
Soft Landscape (at base of arbor)				
Shrubs/Perennials	m²	12	\$ 100.00	\$ 1,200.00
Pathway				
Limestone screenings pathway (no edger)	m²	624	\$ 30.00	\$ 18,720.00
			South Perimeter Walk	\$ 46,920.00
3.0 FEATURE CREMATION GARDEN				
Hardscape and Intermnt				
Mobilization and demobilization	allow	1	\$ 7,500.00	\$ 7,500.00
Concrete Seat Wall (found'n: CIP concrete 450mm width)	m3	8	\$ 1,500.00	\$ 12,000.00
Columbaria (4) 80 niche units	ea	320	\$ 400.00	\$ 128,000.00
Columbaria foundations (per engineer)	ea	4	\$ 2,500.00	\$ 10,000.00
Site Furnishings				
Benches	each	2	\$ 4,500.00	\$ 9,000.00
Paving				
100mm depth compacted gravel sub base	m2	150	\$ 20.00	\$ 3,000.00
Concrete unit pavers	m2	150	\$ 175.00	\$ 26,250.00
Perimeter concrete flush curb	lm	60	\$ 300.00	\$ 18,000.00
Granite Ossuary				
Stone vessel with lockable lid, engraving and stone base	allow	1	\$ 7,000.00	\$ 7,000.00
(Optional) Recirculating Water Feature				
Cored feature boulder with reservoir and pump	allow	1	\$ 15,000.00	\$ 15,000.00
Soft Landscape				
Shrubs	m²	200	\$ 100.00	\$ 20,000.00
Trees	each	15	\$ 500.00	\$ 7,500.00
Perennials	m²	200	\$ 100.00	\$ 20,000.00
Soil and mulch	allow	1	\$ 2,500.00	\$ 2,500.00
			Cremation Garden	\$ 285,750.00
4.0 CASKET BURIAL ENHANCEMENTS				
Landscape Improvements				
Site prep: soil amendment, new sod, tree and shrub planting	allow	1	\$ 10,000.00	\$ 10,000.00
			Casket Burial Enhancements	\$ 10,000.00
5.0 CREMATION BURIAL ENHANCEMENTS				
Columbaria				
Round Columbaria (2) 80 units	ea.	160	\$ 400.00	\$ 64,000.00
Columbaria foundations (per engineer)	ea.	2	\$ 2,500.00	\$ 5,000.00
Soft Landscape				
Perennials, including beds	m²	50	\$ 150.00	\$ 7,500.00
Granular Paving				
Site clearing and excavation	allow	1	\$ 2,500.00	\$ 2,500.00
100mm compacted gravel base	m2	20	\$ 20.00	\$ 400.00
Wooden edger	lm	60	\$ 30.00	\$ 1,800.00
Limestone screenings (75 mm) over landscape fabric	m2	20	\$ 50.00	\$ 1,000.00
Crushed granite surfacing (25mm)	m2	20	\$ 40.00	\$ 800.00
			Cremation Burial Enhancements	\$ 83,000.00
6.0 COLUMBARIA TERRACE/OUTLOOK				
Columbaria				
Columbaria Walls (6) 40 niche units	each	240	\$ 400.00	\$ 96,000.00
Round Columbaria (2) 80 niche units	each	160	\$ 400.00	\$ 64,000.00
Columbaria foundations (per engineer) 40 niche	each	6	\$ 1,500.00	\$ 9,000.00
Columbaria foundations (per engineer) 80 niche	each	2	\$ 2,500.00	\$ 5,000.00
Concrete				
Retaining wall (600mm ht.)	m3	25	\$ 1,500.00	\$ 37,500.00
CIP concrete steps	m3	20	\$ 1,500.00	\$ 30,000.00
Paving				
100mm compacted gravel sub base	m2	80	\$ 20.00	\$ 1,600.00
Concrete unit pavers	m2	80	\$ 175.00	\$ 14,000.00
Perimeter flush curb	lm	20	\$ 300.00	\$ 6,000.00
Soft Landscape				
Hedge and groundcover (slope) plantings	m²	160	\$ 80.00	\$ 12,800.00
Perennial plantings, including aluminum edging, soil and mulch	m²	50	\$ 100.00	\$ 5,000.00
Deciduous trees	each	2	\$ 600.00	\$ 1,200.00
Site Furnishings				
CIP Concrete Seat Wall	m3	8	\$ 1,200.00	\$ 9,600.00
Benches	each	7	\$ 2,500.00	\$ 17,500.00
			Columbaria Terrace and Outlook	\$ 309,200.00
7.0 GREEN BURIAL AREA				
Site Preparation				
Tree removal, stump grinding and site rehab.	per/tree	5	\$ 1,500.00	\$ 7,500.00
Entry sign - one at each end of access road	allow	2	\$ 2,500.00	\$ 5,000.00
Communal markers (cut, honed face natural boulder)	allow	3	\$ 3,000.00	\$ 9,000.00
Road and road edge restoration(narrowed road from 5 to 3m)	allow	1	\$ 2,500.00	\$ 2,500.00
Relocated service gate	allow	1	\$ 1,500.00	\$ 1,500.00
Survey/layout	allow	1	\$ 2,000.00	\$ 2,000.00
Grass and wildflower seeding	m²	100	\$ 5.00	\$ 500.00
			Green Burial Area	\$ 28,000.00
8.0 CEMETERY ENTRY AREA IMPROVEMENTS				
Pleasant Valley Road Entry Signage				
Design	allow	1	\$ 5,000.00	\$ 5,000.00
Demolition, clearing and grubbing north side of entry drive	allow	1	\$ 1,000.00	\$ 1,000.00
Concrete foundation and retaining wall (1.2 m ht)	lm	6	\$ 1,000.00	\$ 6,000.00
New stone-clad pillar to match existing	allow	1	\$ 2,000.00	\$ 2,000.00
Stone cladding of base to match pillars	m²	6	\$ 750.00	\$ 4,500.00
Granite sign panel with sandblasted lettering	allow	1	\$ 7,500.00	\$ 7,500.00
Stone coping and pillar caps	lm	7	\$ 700.00	\$ 4,900.00
Boulder wall adjustment and restoration	allow	1	\$ 2,000.00	\$ 2,000.00
Landscape restoration, including irrigation modifications	allow	1	\$ 2,500.00	\$ 2,500.00
Pedestrian entry				
Stone slab steps up to pedestrian path	each	5	\$ 600.00	\$ 3,000.00
Shrub planting and landscape restoration	m²	10	\$ 250.00	\$ 2,500.00
			Cemetery Entry Area Improvements	\$ 40,900.00
9.0 MAPLE AVE ENTRY DRIVE LANDSCAPE IMPROVEMENTS				
75- 100 mm compost/wood mulch over exposed roots (5m width)	m²	2,390	\$ 5.00	\$ 11,950.00
Curb replacement (both sides) two blocks, inc'd demo	lm	478	\$ 250.00	\$ 119,500.00
Road resurfacing (asphalt)	m²	2,500	\$ 25.00	\$ 62,500.00
			Maple Ave Entry Drive Landscape Improvements	\$ 193,950.00
10.0 PERIMETER ENHANCEMENTS (EAST EDGE POPLAR ST)				
Edge improvements TBD (low walls, landscape renovation/shrub planting)	allow	1	\$ 20,000.00	\$ 20,000.00
Establish connection to Cascade Drive	allow	1	\$ 10,000.00	\$ 10,000.00
Benches	each	6	\$ 2,500.00	\$ 15,000.00
			Perimeter Enhancements	\$ 45,000.00
11.0 ORNAMENTAL TREE PLANTING ALONG INTERIOR ROADS				
Road removal, replacment with single lane asphalt	allow	2	\$ 15,000.00	\$ 30,000.00
Tree Planting	each	41	\$ 600.00	\$ 24,600.00
			Tree Planting Interior Roads	\$ 24,600.00
12.0 POTENTIAL GRAVE RECLAMATION				
Staff Time				
allow	allow	1	\$ 2,500.00	\$ 2,500.00
			Potential Grave Reclamation	\$ 2,500.00
13.0 HISTORIC / INTERPRETIVE SIGNAGE				
Signage (metal base, mounted on concrete footing)				
Supply and Install	allow	8	\$ 3,500.00	\$ 28,000.00
			Historic / Interpretive Signage	\$ 28,000.00
14.0 ADDITIONAL CASKET LOTS - ROAD NARROWING				
Staff Time (arborist)	allow	1	\$ 1,500.00	\$ 1,500.00
Survey layout	allow	1	\$ 2,500.00	\$ 2,500.00
			Additional Casket Lots - Road Narrowing	\$ 4,000.00
15.0 WORKS YARD IMPROVEMENTS				
Fencing and Gates				
Service entry gate	allow	1	\$ 8,000.00	\$ 8,000.00
Wood Screen Fence	lin.m	35	\$ 400.00	\$ 14,000.00
Soft Landscape				
Hedge planting, inc'd bed prep	m²	160	\$ 100.00	\$ 16,000.00
			Works Yard	\$ 38,000.00
			SUBTOTAL (Items 1-15)	\$ 1,073,205.00
			ENGINEERING & DESIGN 12.5%	\$ 134,150.63
			CONTINGENCY @ 15%	\$ 181,103.34
			TOTAL	\$ 1,388,458.97

Note - All costs are for supply and install unless otherwise noted. Modifications to irrigation system already installed are not included.

8. CONCLUSION

This Cemetery Master Plan provides a review of the future demand for cemetery services, cemetery land capacity, operations, governance, and financial sustainability of the City of Vernon's cemetery system, which is currently focussed at Pleasant Valley Cemetery.

In combination with our site-based inventory and analysis of conditions at this site, this review has yielded a set of recommendations and 15 physical site improvement areas, as illustrated on the overall Cemetery Site Concept Design.

The Section, "Implementation and Phasing," includes a 10 point list of priority projects. The Budget-level Cost Estimate on page 82 provides a framework for securing capital funding needed to initiate the improvement process.

Insofar as this document represents an overall Master Plan for the City's cemetery services, the five sketch concept areas should be understood as preliminary concepts only, which will evolve with further information through the detailed design process.

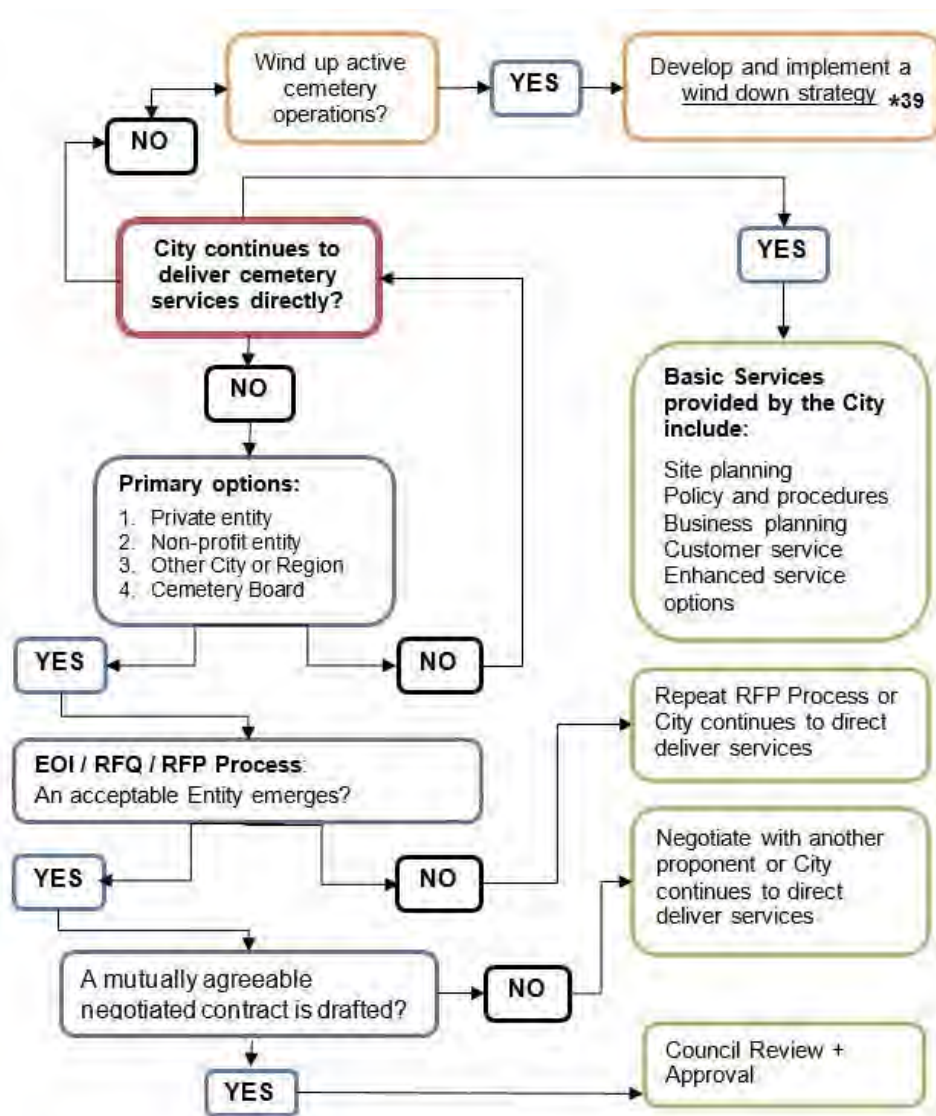
The implementation of physical improvements, in conjunction with Bylaws and operational changes, will help the City of Vernon realize its objectives of enhancing the Cemetery's role as a public open space, while maximize community benefit. The outcome will be the City addressing the key challenges that led to the cemetery master planning process.

9. APPENDICES

- Appendix A – Governance Decision Map
- Appendix B – Pleasant Valley Irrigation Review
- Appendix C – Grave Adornment
- Appendix D -- New Interment Options
- Appendix E – Price Benchmarking Study
- Appendix F – Historic Cemetery Financials

APPENDIX A – GOVERNANCE DECISION MAP

This map is a general overview of the decision prompts that determine the decision path for governance for many municipal cemeteries in North America.



The option to wind down cemetery operations is contingent on Provincial legislation and is not available to all municipalities. New interment-rights sales may cease, however communities may be obligated to provide interments in previously purchased plots for several more years, as well as ongoing care and maintenance.

APPENDIX B – IRRIGATION REVIEW

OVERVIEW

Vernon is located within the Humid Continental Climate zone, a region characterized by large temperature differences but relatively consistent precipitation levels over the course of the year. Although the Vernon area more moisture than the semi-arid South Okanagan, it also experiences hot summers and receives a total of only about 425mm/16.75" of precipitation annually.

Trees typically require at least 500mm/20" of water annually to establish and thrive over the long term. During the growing season, lawns generally need at least 25mm/1" of water per week to stay green and healthy. This means that supplemental irrigation is needed to establish and grow trees, shrubs, perennials and lawns in the Vernon area.

Pleasant Valley Cemetery has an existing in-ground, irrigation system, which distributes municipal water over most of the site through a combination of automated, irrigation lines and hand-connected hoses and sprinklers attached to standpipes.

The City of Vernon has relatively expensive water rates, and the cost of irrigating Pleasant Valley Cemetery reached \$40,000 by 2015. In response to the escalating cost of water, and a decline in cemetery revenues, Council responded by reducing irrigation and maintenance levels. The summer of 2015 was especially hot and dry, and the health and the Pleasant Valley landscape declined quickly. Large sections of turf dried up and died, and weeds proliferated. Even established trees exhibited drought stress. Some declined to the point where they had to be removed.

Many residents complained, and in 2016, the City agreed to invest \$70,000 in turf restoration, primarily through reseeding and fertilization. Levels of site maintenance were also restored. Since then, the landscape appears to have largely recovered; however, those familiar with Pleasant Valley Cemetery report that the damage from "turning off the taps" is still evident.

Cemeteries are known and loved for their peaceful, beautiful landscapes. For most people in North America, a green and attractive cemetery landscape conveys peace and respect for those buried within their grounds. From a financial perspective, the quality of a cemetery landscape is a powerful marketing tool. An individual or family's decision to purchase a right of interment at a cemetery is a largely emotional decision. Many people are likely to purchase a lot in a cemetery if it looks and feels right to them. For most people, green lawns are the key part what makes a cemetery look and feel "right."

In a time of changing climate weather patterns and a growing awareness of the need to manage valuable resources such as water, maintaining a green lawn in the BC interior is a challenge. It is possible that in the future, people in areas like Vernon may have to accept a drier, possibly less lush and green summer landscape. But in the meantime, there are many strategies for achieving an acceptable, attractive landscape character at important civic areas like the City of Vernon's cemetery

Underlying these strategies is more careful use of water through efficient irrigation. Efficient irrigation underlies the concept of xeriscaping, an approach to landscape planning, design and management aligned towards optimizing natural and supplemental water to create a wide range of attractive landscapes <http://okanaganxeriscape.org/why-xeriscape>.

Although often misunderstood, xeriscape principles are increasingly embraced and practiced across western North America, including in the Okanagan. Used together, these principles provide sound guidelines for planning, installing and managing any landscape.

EVALUATION OF THE EXISTING IRRIGATION SYSTEM AT PLEASANT VALLEY CEMETERY

Since the Pleasant Valley landscape requires supplemental irrigation to stay healthy, and the City has recommitted to providing residents with a consistent, quality landscape at the site, the effectiveness of its irrigation system is crucial.

The current maintenance contractor and City Staff report that:

1. The existing irrigation system at the cemetery is old and failing;
2. The system is an overly complex “patchwork” due to extensions and repairs made over time;
3. The system suffers from poor water pressure, and water delivery across the site is inconsistent;
4. The current system has 100 zones, which makes efficient operation and management difficult;
5. There are many areas that depend on hand watering from standpipes;
6. Due to their distance from standpipes, some areas receive little to no water;
7. The cemetery contractor and City Staff spend significant time on trouble-shooting and repairs;
8. Hand watering unirrigated areas is labour-intensive and often wasteful, and
9. The existing system lacks the technical and mechanic efficiencies available in a modern system.

In 2010, City Staff retained an irrigation supplier to design a new irrigation system for Pleasant Valley Cemetery. The estimate to install the design they provided was approximately \$250,000.00. Council at that time determined this too costly and the plans were shelved.

To inform the City re: how to proceed within the context of a new Master Plan for Pleasant Valley, an independent irrigation design reviewed 2010 design drawings and provided the following comments:

- The proposed design reuses some of the existing irrigation system, but this is likely to cause problems and incur further maintenance costs in the future;
- The design includes a lot more sprinkler heads than necessary, perhaps as a result of the design having been developed by a sprinkler distributor. The large number of heads means the design also includes more valves and pipe, both of which add to the cost.

- Water pressure at this site would need to be evaluated; a booster pump may be required.
- Since the City of Vernon has an Irrigation Central Control network, a new irrigation system could be connected to this network. This would reduce site visits (due to remote monitoring) and would minimize damage and water loss in the event of a pipe or sprinkler failure anywhere in the system.
- A more water-efficient irrigation system could easily be designed for this site. A design that uses fewer sprinklers and valves and larger pipe would require less maintenance.
- An all new irrigation system should use a two-wire decoder system with a single controller rather than the six indicated on the 2010 design.
- High Density Polyethylene (HDPE) pipe should be used rather than the PVC specified on the 2010 plans. HDPE is more resilient than PVC (or steel) and is expected to have a lifespan of about 100 years. *(Many BC irrigation installers still use PVC, but HDPE is the preferred pipe material over most of the rest of western Canada. Contractors in Calgary prefer HDPE pipe because when properly installed there is significantly less maintenance with HDPE than PVC. Locally, the new irrigation system at Mission Recreation Park in Kelowna was installed with HDPE pipe.)*
- A high level, pre-design cost estimate and Life Cycle Cost Analysis (LCC) could be provided at no cost to assist with decision-making regarding developing the optimal design for this site.
- A new system will be expensive; however, a LCC would identify the benefits of replacing the old system versus continuing to maintain a failing irrigation system.

A well-designed and installed irrigation system with today's materials and knowledge should last 30 - 50 years, without major repairs.

TURF MANAGEMENT

Residents of Vernon have been clear that they expect to see a green lawn at Pleasant Valley Cemetery. Achieving this will depend first on a dependable, efficient irrigation system. Beyond this, optimizing the outcomes from watering will depend on a suite of good turf management practices. A key factor in the ability of turf grass to tolerate drought is rooting depth. Deeply-rooted sod can better survive drought by its ability to draw upon water stored deep in the soil; however, turf grasses typically develop deep roots only when:

- **Seed is given time to establish.** Turf grasses are long lived; achieving a well-established lawn usually takes years.
- **Soil depth is sufficient (minimum 150mm/6" but optimally more than this).** The deeper the topsoil or loam layer, the deeper roots can, and generally will grow.
- **There is enough moisture at depth.** Except in sandy soils, infrequent but prolonged watering, whether by rainfall or irrigation, allows water to penetrate deeply, which promotes deep rooting.
- **Soil is not compacted.** Soil lacking in organic matter tends to compact when subjected to foot and vehicle traffic. Compacted soil sheds water rather than absorbs it. Plant roots do poorly in hard soils due to the lack of the pore spaces that hold the air and water fraction of a healthy soil.

Other factors in reducing the amount of water needed by grass, shrubs and trees (perennial plants, vs annuals) include:

- **The topsoil contains at least 5% organic matter.** Organics absorb moisture that sustains the grass, delivering nutrients, maintaining turgor, supporting new growth and keeping roots cool, which modulates vegetative growth.
- **Mowing height is no less than 65mm/2½".** Longer grass blades shades the ground, slowing the rate of evapotranspiration (evaporation from the soil + release of moisture from the plant). Mowing should be timed to remove no more than one third of blades at each cut.
- **Grass clippings are mulched and left on the lawn.** Clippings create a natural mulch that helps retain soil moisture while "recycling" the nitrogen stored in grass blades through decomposition.
- **Naturally drought-tolerant grass species are used.** Many new blends of turf-type fescues and rye grasses now available require less water than the traditional Kentucky Bluegrasses species that once dominated the commonly used cool season grass mixes.
- Other "best practices" for promoting healthy turf (which is by nature, more tolerant of drought, resistant to disease, insects, and weed infestations) include:
- **Taking routine, representative soil samples.** Samples should be sent for horticultural analysis by a qualified soils lab. Good management depends on monitoring, which requires data over time.

- **Fertilization as specified by soils analysis.** Generally, applications two to four times per year with a balanced fertilizer, delivering 1 kg Nitrogen/60m² /1 lb of Nitrogen/1000 ft², is recommended.
- **Application of fertilizer in late spring and fall.** Fall fertilization helps turf overwinter and green-up faster in the spring.
- **Core aeration and top dressing with compost where possible.** Often difficult in cemeteries due to flat markers, core aeration can be effective in addressing soil compaction in heavily used areas by enabling air to reach grass roots. Application of compost after core aeration effectively amends the existing soil over time.
- **Reseeding in spring to restore turf.** Young grass is vigorous and reseeding as needed can keep grass in marginal areas, such as deep shade, looking the best it can.
- **Irrigating early in the day.** Early morning is when water pressure is most likely to highest (due to lower demand), winds are calmer, and temperatures are cooler, which slows evapotranspiration.
- **Selecting the appropriate seed mixes for each area.** Many customized blends are now available for a range of growing conditions. Seeding is still a relatively inexpensive part of landscape maintenance and choosing the right mix can be a cost-effective way to create a healthy lawn.
- **Managing shade.** Turf grasses evolved to grow in the sun and virtually all grasses do better in sun rather than shade. Growing grass under trees is possible but takes more effort, including managing the overhead tree canopy. Pruning trees, especially broad-leafed, deciduous species, is required to allow light to reach the ground. Alternatively, a more suitable ground cover should be considered. In deep shade, a blanket of wood mulch can be an effective, relatively easy to manage surface that can be managed to look tidy while contributing to tree health.

APPENDIX C – GRAVE ADORNMENT

There is a long history at Pleasant Valley of families placing grave adornments, especially artificial flowers, on graves at Pleasant Valley Cemetery. Floral tributes are always placed as tokens of affection. But whether real or artificial, all tributes eventually weather, fade and become unattractive. Adornments disintegrate and create litter that takes time to clean up, especially if a mower has run over it. Any glass, metal, ceramic or packaging can end up in pieces that pose a risk to workers with power equipment. The visual impact of adornments on neighbouring graves can be an issue, as well as their collective impact on the overall cemetery landscape.

To address this issue, the new City of Vernon Cemetery Bylaw will include clear text to address the problem. A key change will be the removal of artificial flowers each spring, and the requirement that any floral tributes placed through the fall be natural flowers.

The new Bylaw has the potential to be effective in managing the proliferation of adornments by stating clearly what is allowed and what is not. It will be up to the City, and to some extent, the Maintenance Contractor, to ensure that no adornments are allowed to remain, due to being “grandfathered in.”

In cemeteries with adornment problems, the ultimate problem is inconsistent enforcement of the Cemetery Bylaw. From a legal perspective, when customers purchase a lot at the cemetery, they enter into a contract with the City and agree to the terms of the Cemetery’s regulations as written in the Cemetery Bylaw. While the terms are included with the contract, a problem can arise when what the paperwork says and what the customer sees at the site are not consistent. For this reason, timely enforcement is required to ensure that people do not break the rules because other people seem to be getting away with it.

From a legal perspective, a Bylaw must be enforced if it is to function as intended. According to Consumer Protection BC, the Provincial agency in charge of cemeteries, *the elected officials of any jurisdiction are considered the trustees of the cemetery*, which means that they are responsible for ensuring that the Cemetery Bylaw is enforced. And by implication, any non-enforcement is essentially their fault.

Prohibiting noncompliant objects and installations can be relatively easy to achieve. People arranging to purchase a lot can choose not to proceed if they object to the terms of the contract. The challenge with bylaw enforcement lies primarily in removing noncompliant items that have been on site for some time due to non-enforcement. In this case, the lot owner may have a legal right to object to any removals.²⁵

²⁵ *Personal conversation with Sean Sisett, Consumer Protection BC, July 22, 2014.* Some families will complain and be upset when they discover that their loved ones grave has been cleared of items, but it may be necessary to simply weather the period of discontent until people accept that cemetery regulations will be enforced in the future, with no exceptions.

The City of Vernon may need to provide a notice on the website (and at the site), and a grace period of a few months to allow people to remove all non-compliant adornments. Possessions collected at the end of the grace period should be held for at least six months to allow families to reclaim them. In future, staff should be vigilant in removing all noncompliant items as soon as they appear.

It is important that when purchasing a lot of any type at the Cemetery, that Administration makes it clear that families who purchase a right of interment do not actually own the gravesite or the niche that is occupied by their loved one.

Once other improvements to Pleasant Valley are made, most people will appreciate that efforts are being made to improve the aesthetics and amenities of the site and are less likely to object to the new policies.

APPENDIX D – NEW INTERMENT OPTIONS

Columbaria niches are increasing in demand and are profitable. Columbaria installations at City of Vernon cemeteries should be a prioritized as a key element for new inventory for capital development.

This strategy is supported by the analysis of projected demand in this study and observations of trends in the local bereavement sector. With cremation on the rise, columbaria niches are a key source of sales growth and provide effective conservation of limited land capacity.

Eventually a series of new cremation gardens that include a spectrum of cremated remains interment options should be designed and built.



Figure 58: Mountain View Cemetery Columbaria Walk, Columbaria + Family Vessels, Vancouver, British Columbia, Source: LEES+Associates Cremation Garden Design.

Scattering gardens are areas in a cemetery that provide an attractive natural or ornamental setting, dedicated to the scattering of cremated remains.

Scattering gardens often include memorial walls. With increasingly mobile families and people choosing not to inter the cremated remains of their loved ones in a cemetery environment, there is a large market for the sale of plaques that will enable people to memorialize family members whose remains are interred or scattered elsewhere.

Developing scattering gardens at cemeteries offers an opportunity to improve the cemetery's means of meeting the rising demand for the interment of cremated remains.



*Figure 59: Scattering Garden, Sunnyside Cemetery, Surrey BC
Source: City of Surrey.*

Family vessels are large secure containers that is one form of ossuary, designed to contain the remains of members of one family thorough multiple nested urns or comingled remains. An ossuary is a chest, box, building, well, or site made to serve as the final resting place for multiple decedents.

They are frequently used where burial space is scarce. Family vessels are a new cemetery offering in Canada which was recently introduced in Royal Oak Burial Park, Victoria (BC), Kelowna Memorial Park (BC), Town of Slave Lake (AB) and the Regional Municipality of Wood Buffalo (AB).



Figure 60: Family Vessels, Royal Oak Burial Park, Victoria, British Columbia, Source: LEES+Associates

The vessels on the market are approximately 0.4m³/14 cubic feet and can inter four individual urns nested within the family vessel or co-mingle approximately ten individual cremated remains.

Since these vessels are a relatively new interment option in Canada, the introduction of this new offering into the community will require target marketing time and investment to increase the awareness of this new option. Best practices advise that family vessel inventory be invested in phases, as driven by demand – with small numbers of inventory on hand to show customers. These vessels can be strategically located at attractive positions adjacent to scattering gardens, columbaria and pathways.

Mausolea are external free-standing buildings constructed as a monument enclosing the interment space or burial chamber of a deceased person or people. Religious cemeteries commonly construct substantial mausolea throughout Canada, which often include crypts, niches and a chapel. Mausolea are a premium interment option that is best targeted to large, specific ethnic and religious markets (such as the Italian and Catholic communities) that would support its design and construction.

Historically, there has been very little interest from City of Vernon families in mausolea.

Green burial is emerging as a type of full body interment that is attracting increasing interest across North America. Also known as “natural burial,” “country burial” or “woodland burial, this type of interment is still relatively uncommon in Canada.

As of 2014, however, a new Green Burial Society of Canada has been established. Its role is to promote green burial standards, including cemetery participation in the (international) Green Burial Council’s certification system.

Green burial is defined as traditional earth burial with:

- No embalming;
- Burial directly in the ground;
- No use of burial lot liners or vaults;
- A fully biodegradable burial container (casket or shroud);
- Interment sites planted with only indigenous groundcover, and
- No individual burial lot markers.

Religious communities that traditionally provide the most support for green burial, as they align with their traditional funeral practices, include those of Jewish, Muslim and the Bahá’í faiths.



Figure 61: Prince George Memorial Park Cemetery Mausoleum Source: City of Prince George website.



Figure 62: Royal Oak Burial Park, Woodlands Natural Burial Area, Source: LEES+Associates

Green burial addresses the three pillars of sustainability: **Social; Economic, and Environmental.**

Societal trends exhibit a preference for environmentally sustainable choices, opening green burial up as an attractive service option and new revenue stream. Green burial can generate equivalent or larger margins than other interments due to the intrinsic ethical value families place on this service.

Green burial cemeteries can be either meadows or a wooded area with minimal maintenance, and no memorials marking the burial lot. This concept could also take place in a separate area of developed cemeteries.

Green burial allows for slightly shallower excavations (1.2m / 4ft depth) compared with the 1.8m / 6ft depth of conventional burials. Excavated soils do not need to be removed, nor does the burial lot need to be replanted with turf grass. Families typically pay for the re-vegetation of burial lots with native plant materials, which gradually restores the area to a more natural condition.

Green burial is an emerging trend in Canada. In the spring of 2014 the inaugural meeting of the Green Burial Society of Canada occurred. This organization intends to work collaboratively with the US Green Burial Council to develop a “made in Canada” green burial, funeral and products standard and to advocate for green burial cemeteries and areas within established cemeteries in Canada.

With the involvement of environmentalists, scientists, lawyers, and representatives from the funeral service industry, the US Green Burial Council has set forth the World’s first standards for burial grounds, funeral homes and burial products. The Council maintains all relevant documentation (i.e. conservation easements, deed restrictions, general price lists, material safety data sheets, engineering reports) to demonstrate proof of compliance with green burial standards.

Green burial has its roots in a desire felt by some to reconnect with the key events of life, including death, and to restore the personal meaning to the traditions that surround these events. Many who would otherwise choose cremation are attracted to green burial, especially as it better meets their environmental values by imposing a much smaller “environmental footprint.”

Choosing green burial is for many an expression of their personal values. Since the people choosing green burial would typically not choose to be interred in a conventional cemetery, offering green burial could be a means of tapping into a market segment that is currently unavailable.

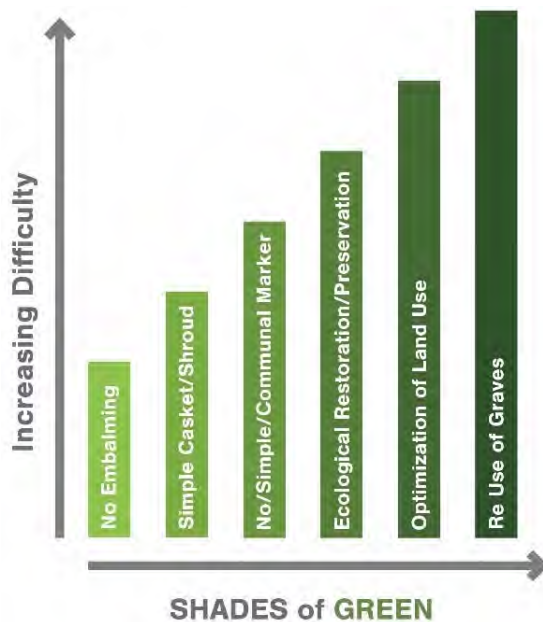


Figure 63: Shades of Green in Green Burial Practices, Source: LEES+Associates.

Best Management Practices:

Green Burial cemeteries and areas within cemeteries are becoming more prevalent in many countries around the world. Royal Oak Burial Park in Victoria, BC opened Canada's first green burial site in 2008. Waverley cemetery in New South Wales, AU utilize a 'Limited Renewable Tenure' policy whereby a family can purchase a grave and inter three full bodies and 3 cremations for a fixed period.

Opportunities

Most people have heard of green burial and are curious to learn more about it. The largest green burial area in a public cemetery in Canada is the "Woodlands" at Royal Oak Burial Park near Victoria, BC. This site opened in late 2008 and since then has sold over 70 at-need and 100 preneed lots. Offering green burial is advantageous opportunity in terms of its **marketing value**. Print, TV and radio media are very attuned to stories about green burial. Stephen Olson, the Executive Director of Royal Oak attests to the promotional value of green burial to his cemetery.²⁶

Due to the small number of cemetery sites currently offering green burial, any new dedicated green burial cemetery will have a distinct offerings **differentiation** from other sites which is an advantage in capturing the growing market share from families interested in this service.

Over the long term, maintenance becomes less for a green burial area than a traditional burial site as it is expected to return to nature, if not take on a naturalistic, less manicured appearance.

Challenges

The greatest challenge to green burial is currently public awareness and industry education. Since green burial is not a wide-spread option in Canadian cemeteries, residents are often not aware that green burial is available to them. This is in part because it is not an option that many funeral homes in the industry prefer and choose to educate families about.

Many families, funeral and cemetery service providers think health and safety concerns, environmental protection and reasonable cost as mutually exclusive.

Certification

The Green Burial Society of Canada was established in Canada in 2011 and is set to launch certification criteria for green or natural burial sites across Canada in the fall of 2018.

A primary goal of the Green Burial Society of Canada is to become the certification organization that sets the standard for green burial in Canada and offer "made in Canada" environmental certification for green burial cemeteries. These standards will be reviewed and vetted by qualified, independent

²⁶ CTV News, 'More people opting for 'The Green Goodbye'', February 20, 2013
(<http://bc.ctvnews.ca/more-people-opting-for-the-green-goodbye-1.1158345>)

environmental professionals to guard against “green-washing.” Ultimately, the Green Burial Society of Canada is expected to be the leading resource for the Canadian public and the bereavement sector regarding green burial over the years to come.

In the United States, the Green Burial Council (GBC)²⁷ has approved and certified more than 300 providers in North America, (primarily funeral homes, service providers and product suppliers). Certification criteria for each type of provider can be found on the GBC’s website.

Certification by the GBC helps consumers to be sure that the green/natural burial products and services available to them are vetted against stringent and up-to-date standards – created and continuously reviewed by a team of environmentalists, scientists, lawyers, and representatives from the funeral industry. Periodic compliance monitoring is an important component of the certification program and is required to ensure that organizations continue to meet the requirements of certification over time.

Certification grants providers the license to use the GBC Logo on their website and pre-approved marketing materials. The provider also receives a certificate verifying that their establishment is a certified GBC provider and will be listed on their website, creating visibility and market distinction.

²⁷ <https://greenburialcouncil.org/>

APPENDIX E – PRICE BENCHMARKING STUDY

City of Vernon - 2018 Rates Comparison												
Item	City of Vernon Resident	City of Vernon Non-Resident	City of Salmon Arm - Resident	City of Salmon Arm - Non- Resident	City of Penticton Resident	City of Penticton Non-Resident	City of Mission Resident	City of Mission Non-Resident	City of Kamloops - Resident	City of Kamloops Non- Resident	Average Resident	Average Non- Resident
Population 2016		40,116		17,706		33,761		38,833		90,280		
Right of Interment for Plots and Niches												
Adult Casket Plot - MIN	\$ 1,420.00	\$ 1,874.00	\$ 554.00	\$ 731.00	\$ 1,352.00	\$ 1,791.00	\$ 3,124.38	\$ 6,248.74	\$ 1,377.00	\$ 1,691.00	\$1,602	\$2,615
Adult Casket Plot - MAX	\$ 1,420.00	\$ 1,874.00	\$ 554.00	\$ 731.00	\$ 1,352.00	\$ 1,791.00	\$ 3,124.38	\$ 6,248.74	\$ 2,754.00	\$ 3,382.11	\$1,946	\$3,038
Child Plot (>2 yrs)	\$ 688.00	\$ 1,010.00	\$ 335.00	\$ 476.00	\$ 1,352.00	\$ 1,791.00	\$ 1,612.96	\$ 3,225.94	\$ 738.00	\$ 904.00	\$1,009	\$1,599
Infant Plot (<2 yrs)	\$ 425.00	\$ 629.00	\$ 335.00	\$ 476.00	\$ 441.00	\$ 835.00	\$ 1,344.13	\$ 2,688.25	\$ 738.00	\$ 904.00	\$715	\$1,226
Lawn Crypt - MIN	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	\$ 2,095.00	\$ 2,095.00	\$2,095	\$2,095
Lawn Crypt - MAX	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	\$ 2,095.00	\$ 2,095.00	\$2,095	\$2,095
Cremation Plot - MIN	\$ 425.00	\$ 629.00	\$ 228.00	\$ 308.00	\$ 434.00	\$ 789.00	\$ 1,394.92	\$ 2,789.84	\$ 590.00	\$ 772.43	\$662	\$1,165
Cremation Plot - MAX	\$ 425.00	\$ 629.00	\$ 228.00	\$ 308.00	\$ 434.00	\$ 789.00	\$ 1,394.92	\$ 2,789.84	\$ 1,180.00	\$ 1,449.12	\$809	\$1,334
Columbaria Niche - MIN	n/a	n/a	\$ 1,347.00	\$ 1,762.00	\$ 3,334.00	\$ 4,384.00	\$ 2,262.98	\$ 4,525.95	\$ 5,204.00	\$ 6,390.88	\$3,037	\$4,266
Columbarium Niche - MAX	n/a	n/a	\$ 1,347.00	\$ 1,762.00	\$ 3,544.00	\$ 4,594.00	\$ 4,183.78	\$ 8,367.55	\$ 5,812.00	\$ 7,137.54	\$3,722	\$5,465
Mausolea Crypts - MIN	n/a	n/a	n/a	n/a	\$18,034.00	\$ 24,649.00	n/a	n/a	n/a	n/a	\$18,034	\$24,649
Mausolea Crypts - MAX	n/a	n/a	n/a	n/a	\$19,504.00	\$ 26,119.00	n/a	n/a	n/a	n/a	\$19,504	\$26,119
Ossuary	n/a	n/a	n/a	n/a	\$ 439.00	\$ 585.00	\$ 268.44	\$ 268.44	n/a	n/a	\$354	\$427
Memorialization + Other Fees												
Memorial + Marker - Installation Permit	\$ 146.00	\$ 146.00	\$ 73.00	\$ 73.00	\$ 272.00	\$ 272.00	\$ 321.30	\$ 321.30	\$ 79.00	\$ 79.00	\$186	\$186
Memorial + Marker - Reset Fee	n/a	n/a	n/a	n/a	\$ 184.00	\$ 184.00	\$ 200.15	\$ 200.15	\$ 88.00	\$ 88.00	\$157	\$157
Vault for Cremated Remains	\$ 198.00	\$ 198.00	\$ 127.00	\$ 127.00	\$ 207.00	\$ 207.00	\$ 159.00	\$ 159.00	\$ 186.00	\$ 186.00	\$170	\$170
Grave Liners (Standard)	\$ 776.00	\$ 776.00	\$ 483.00	\$ 483.00	\$ 490.00	\$ 490.00	\$ 478.00	\$ 478.00	\$ 1,476.00	\$ 1,476.00	\$732	\$732
Grave Liners (Small)	n/a	n/a	n/a	n/a	\$ 207.00	\$ 207.00	\$ 478.00	\$ 478.00	\$ 738.00	\$ 738.00	\$474	\$474
Plot/License Transfer Fee	\$ 110.00	\$ 110.00	\$ 48.00	\$ 48.00	n/a	n/a	\$ 104.00	\$ 104.00	\$ 98.00	\$ 98.00	\$83	\$83
Extra Depth, Open/Close (Regular Hours)	\$ 351.00	\$ 351.00	\$ 727.00	\$ 727.00	\$ 439.00	\$ 439.00	n/a	n/a	\$ 484.00	\$ 484.00	\$550	\$550
Holidays/Weekends Surcharge - Casket	\$ 1,025.00	\$ 1,025.00	\$ 265.00	\$ 265.00	\$ 424.00	\$ 424.00	n/a	n/a	\$ 1,082.00	\$ 1,082.00	\$590	\$590
Holidays/Weekends Surcharge - Cremation	\$ 431.00	\$ 431.00	\$ 137.00	\$ 137.00	\$ 424.00	\$ 424.00	n/a	n/a	\$ 1,082.00	\$ 1,082.00	\$548	\$548
After Standard Hours Surcharge - Casket	\$ 586.00	\$ 586.00	\$ -	\$ -	\$ 424.00	\$ 424.00	n/a	n/a	\$ 374.00	\$ 374.00	\$266	\$266
After Standard Hours Surcharge - Cremation	\$ 293.00	\$ 293.00	\$ -	\$ -	\$ 424.00	\$ 424.00	n/a	n/a	\$ 374.00	\$ 374.00	\$266	\$266
Base for Markers - MIN	\$ 204.00	\$ 204.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Base for Markers - MAX	\$ 220.00	\$ 220.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Flower Loop / Vase Installation	\$ 118.00	\$ 118.00	n/a	n/a	\$ 81.00	\$ 81.00	n/a	n/a	\$ 128.00	\$ 128.00	\$105	\$105

City of Vernon Cemetery Master Plan

City of Vernon - 2018 Rates Comparison												
Item	City of Vernon Resident	City of Vernon Non-Resident	City of Salmon Arm - Resident	City of Salmon Arm - Non- Resident	City of Penticton Resident	City of Penticton Non-Resident	City of Mission Resident	City of Mission Non-Resident	City of Kamloops - Resident	City of Kamloops Non- Resident	Average Resident	Average Non- Resident
Population 2016	40,116		17,706		33,761		38,833		90,280			
Opening / Closing Services												
Adult Burial - Single Depth	\$ 1,068.00	\$ 1,068.00	\$ 521.00	\$ 521.00	\$ 947.00	\$ 947.00	\$ 2,041.21	\$ 2,041.21	\$ 1,190.00	\$ 1,190.00	\$1,175	\$1,175
Adult Burial - Single Depth, After Standard Hours	\$ 1,654.00	\$ 1,654.00	\$ 521.00	\$ 521.00	\$ 1,371.00	\$ 1,371.00	\$ 3,061.82	\$ 3,061.82	\$ 2,380.00	\$ 2,380.00	\$1,833	\$1,833
Adult Burial - Single Depth, Weekends	\$ 2,093.00	\$ 2,093.00	\$ 786.00	\$ 786.00	\$ 1,371.00	\$ 1,371.00	\$ 3,061.82	\$ 3,061.82	\$ 2,272.00	\$ 2,272.00	\$1,873	\$1,873
Adult Burial - Single Depth, Holidays	\$ 2,093.00	\$ 2,093.00	\$ 786.00	\$ 786.00	\$ 1,371.00	\$ 1,371.00	\$ 4,082.42	\$ 4,082.42	\$ 2,272.00	\$ 2,272.00	\$2,128	\$2,128
Adult Burial - Double Depth / Second Level	\$ 1,419.00	\$ 1,419.00	\$ 1,248.00	\$ 1,248.00	\$ 1,386.00	\$ 1,386.00	n/a	n/a	\$ 1,674.00	\$ 1,674.00	\$1,436	\$1,436
Adult Burial - Double Depth, After Standard Hours	\$ 2,005.00	\$ 2,005.00	\$ 1,248.00	\$ 1,248.00	\$ 1,810.00	\$ 1,810.00	n/a	n/a	\$ 2,158.00	\$ 2,158.00	\$1,739	\$1,739
Adult Burial - Double Depth, Weekends	\$ 2,444.00	\$ 2,444.00	\$ 1,779.00	\$ 1,779.00	\$ 1,810.00	\$ 1,810.00	n/a	n/a	\$ 2,756.00	\$ 2,756.00	\$2,115	\$2,115
Adult Burial - Double Depth, Holidays	\$ 2,444.00	\$ 2,444.00	\$ 1,779.00	\$ 1,779.00	\$ 1,810.00	\$ 1,810.00	n/a	n/a	\$ 2,756.00	\$ 2,756.00	\$2,115	\$2,115
Child Burial (>2 yrs)	\$ 1,068.00	\$ 1,068.00	\$ 351.00	\$ 351.00	\$ 470.00	\$ 470.00	\$ 1,293.93	\$ 1,293.93	\$ 473.00	\$ 473.00	\$647	\$647
Child Burial - After Standard Hours	\$ 1,654.00	\$ 1,654.00	\$ 351.00	\$ 351.00	\$ 909.00	\$ 909.00	\$ 1,940.90	\$ 1,940.90	\$ 847.00	\$ 847.00	\$1,012	\$1,012
Child Burial - Weekends	\$ 2,093.00	\$ 2,093.00	\$ 616.00	\$ 616.00	\$ 909.00	\$ 909.00	\$ 1,940.90	\$ 1,940.90	\$ 1,015.00	\$ 1,015.00	\$1,120	\$1,120
Child Burial - Holidays	\$ 2,093.00	\$ 2,093.00	\$ 616.00	\$ 616.00	\$ 909.00	\$ 909.00	\$ 2,587.86	\$ 2,587.86	\$ 1,015.00	\$ 1,015.00	\$1,282	\$1,282
Infant Burial (<2 yrs)	\$ 322.00	\$ 322.00	\$ 351.00	\$ 351.00	\$ 470.00	\$ 470.00	\$ 1,011.94	\$ 1,011.94	\$ 473.00	\$ 473.00	\$576	\$576
Infant Burial - After Standard Hours	\$ 615.00	\$ 615.00	\$ 351.00	\$ 351.00	\$ 909.00	\$ 909.00	\$ 1,517.91	\$ 1,517.91	\$ 847.00	\$ 847.00	\$906	\$906
Infant Burial - Weekends	\$ 761.00	\$ 761.00	\$ 616.00	\$ 616.00	\$ 909.00	\$ 909.00	\$ 1,517.91	\$ 1,517.91	\$ 1,015.00	\$ 1,015.00	\$1,014	\$1,014
Infant Burial - Holidays	\$ 761.00	\$ 761.00	\$ 616.00	\$ 616.00	\$ 909.00	\$ 909.00	\$ 2,023.88	\$ 2,023.88	\$ 1,015.00	\$ 1,015.00	\$1,141	\$1,141
Cremated Remains Burial	\$ 322.00	\$ 322.00	\$ 233.00	\$ 233.00	\$ 294.00	\$ 294.00	\$ 663.76	\$ 663.76	\$ 364.00	\$ 364.00	\$389	\$389
Cremated Remains Burial - After Standard Hours	\$ 615.00	\$ 615.00	\$ 233.00	\$ 233.00	\$ 733.00	\$ 733.00	\$ 995.64	\$ 995.64	\$ 728.00	\$ 728.00	\$672	\$672
Cremated Remains Weekend Burial	\$ 761.00	\$ 761.00	\$ 370.00	\$ 370.00	\$ 733.00	\$ 733.00	\$ 995.64	\$ 995.64	\$ 906.00	\$ 906.00	\$751	\$751
Cremated Remains Holiday Burial	\$ 761.00	\$ 761.00	\$ 370.00	\$ 370.00	\$ 733.00	\$ 733.00	\$ 1,327.52	\$ 1,327.52	\$ 906.00	\$ 906.00	\$834	\$834
Columbaria Niche Inurnment	n/a	n/a	\$ 157.00	\$ 157.00	\$ 366.00	\$ 366.00	\$ 663.76	\$ 663.76	\$ 412.00	\$ 412.00	\$400	\$400
Columbaria Niche - After Standard Hours	n/a	n/a	\$ 157.00	\$ 157.00	\$ 805.00	\$ 805.00	\$ 995.64	\$ 995.64	\$ 786.00	\$ 786.00	\$686	\$686
Columbaria Niche Inurnment - Weekends	n/a	n/a	\$ 240.00	\$ 240.00	\$ 805.00	\$ 805.00	\$ 995.64	\$ 995.64	\$ 954.00	\$ 954.00	\$749	\$749
Columbaria Niche Inurnmet - Holidays	n/a	n/a	\$ 240.00	\$ 240.00	\$ 805.00	\$ 805.00	\$ 1,327.52	\$ 1,327.52	\$ 954.00	\$ 954.00	\$832	\$832
Mausolea - Entombment	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	\$ 806.00	\$ 806.00	\$806	\$806
Cremation Garden - Scattering	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	\$ 109.00	\$ 133.86	\$109	\$134
Disinterment - Adult Casket	\$ 1,068.00	\$ 1,068.00	\$ 799.00	\$ 799.00	\$ 1,797.00	\$ 1,797.00	\$ 3,800.43	\$ 3,800.43	\$ 1,416.00	\$ 1,416.00	\$1,953	\$1,953
Disinterment - Child Casket	\$ 1,068.00	\$ 1,068.00	\$ 597.00	\$ 597.00	\$ 723.00	\$ 723.00	\$ 3,053.14	\$ 3,053.14	\$ 669.00	\$ 669.00	\$1,261	\$1,261
Disinterment - Infant Casket	\$ 322.00	\$ 322.00	\$ 597.00	\$ 597.00	\$ 723.00	\$ 723.00	\$ 2,190.89	\$ 2,190.89	\$ 669.00	\$ 669.00	\$1,045	\$1,045
Disinterment - Crypt Casket	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	\$ 1,289.00	\$ 1,289.00	\$1,289	\$1,289
Disinterment - Cremated Remains Plot	\$ 322.00	\$ 322.00	\$ 300.00	\$ 300.00	\$ 381.00	\$ 381.00	\$ 1,290.54	\$ 1,290.54	\$ 393.00	\$ 393.00	\$591	\$591
Disinterment - Cremated Remains Niche	n/a	n/a	\$ 300.00	\$ 300.00	\$ 322.00	\$ 322.00	\$ 1,290.54	\$ 1,290.54	\$ 412.00	\$ 412.00	\$581	\$581

APPENDIX F – HISTORIC CEMETERY FINANCIALS

The follow graph summarizes the historic sources of revenue funding for the City’s cemetery operations.

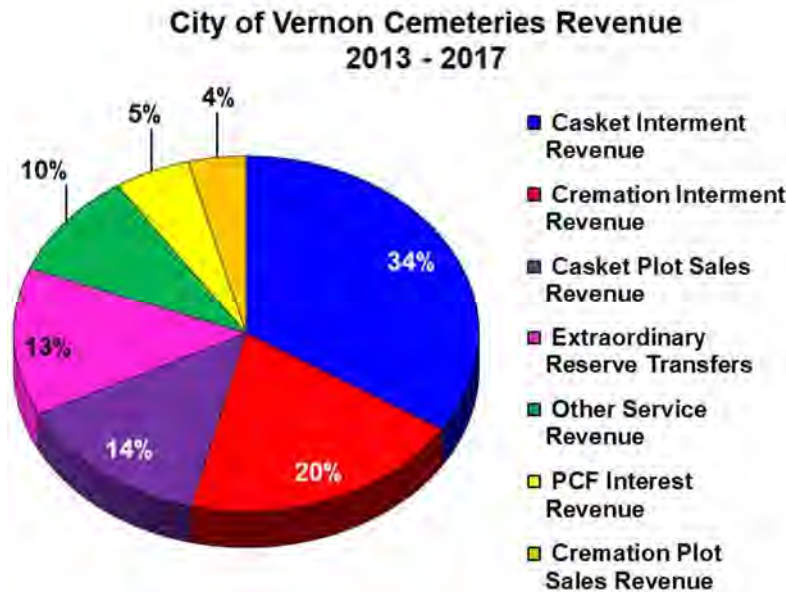


Figure 64: Summary of the Sources of City Cemeteries Revenue, 2013 to 2017,
Source: City of Vernon’s Cemetery Financial Ledgers + Income Statements

The follow graph summarizes the historic proportion of operating costs by nature and functions.

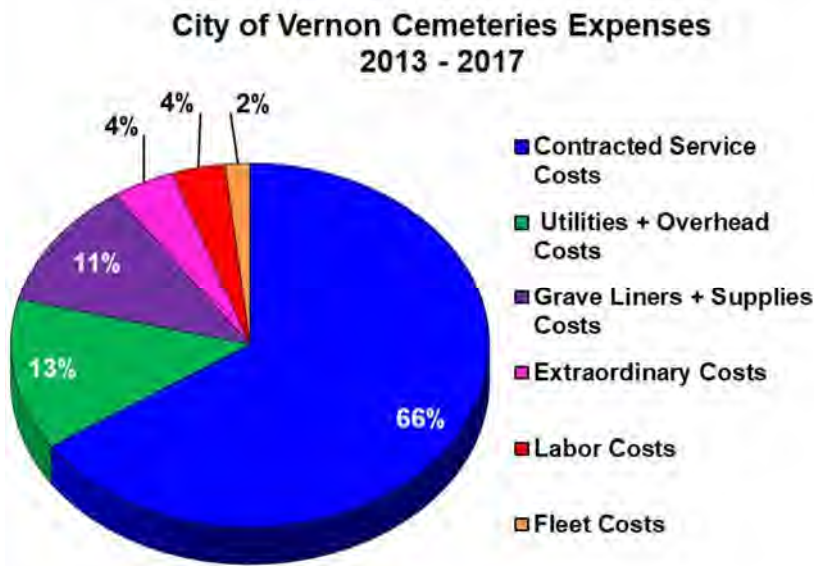


Figure 65: Summary of the Proportion of City Cemeteries Costs, 2013 to 2017,
Source: City of Vernon’s Cemetery Financial Ledgers + Income Statements

The follow graph summarizes the historic proportion of operating costs, with a breakdown of maintenance expenses by source within the City’s cemetery operations.

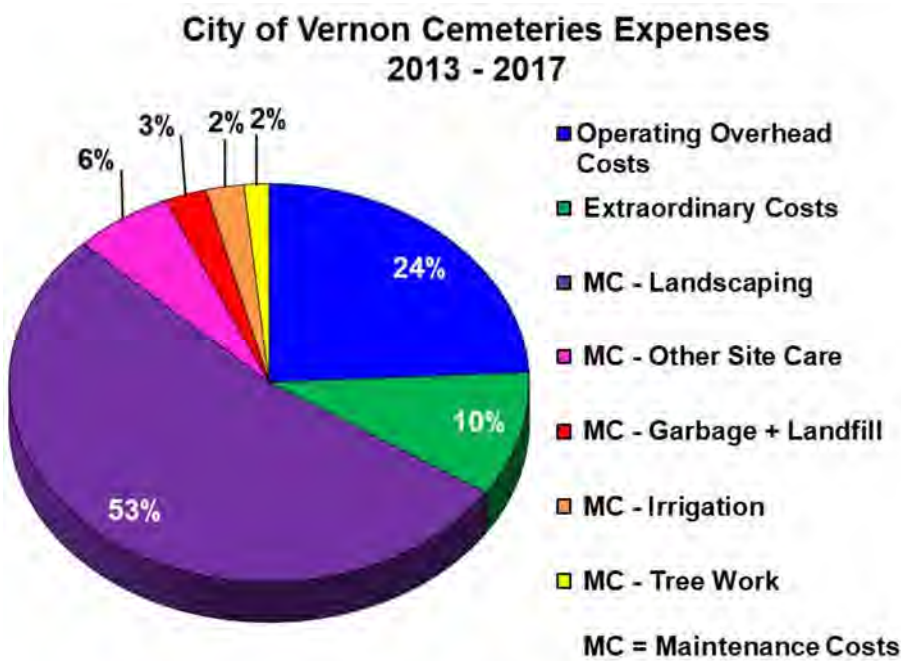


Figure 66: Summary of City Cemeteries Costs, highlighting the Proportion of Site Maintenance Costs, 2013 to 2017, Source: City of Vernon’s Cemetery Financial Ledgers + Income Statements

