



Website and IT Service Delivery and Modernization Review

Technology Modernization Report

Prepared for The Township of Cavan Monaghan
December 18, 2020

Sean Murphy

National Digital Leader &
Partner, Technology Solutions
sean.murphy@mnp.ca

T: 613.691.8503

Table of Contents

1.0	Executive Summary	2
2.0	Introduction.....	5
2.1	Project Background.....	5
2.2	Intent of this document.....	6
3.0	Current State of IT and Future State Vision.....	7
3.1	Current State Summary.....	7
3.2	Future State Vision.....	8
4.0	Modernization Strategy.....	11
4.1	Guiding Principles	11
4.2	Strategies	12
4.3	Future State Solution Suite	14
5.0	Modernization Roadmap and Funding	16
5.1	Summary of Recommended Projects.....	16
5.2	Project Schedule.....	19
6.0	Program Details.....	21
6.1	2020 – 2021 Program Details	21
6.2	2021 – 2022 Program Details	21
6.3	2022 – 2023 Program Details	23
6.4	2023 – 2024 Program Details	23
6.5	Ongoing Program Activities	24
	Appendix A.....	25
	Appendix B.....	34
	Appendix C.....	47
	Appendix D	65



1.0 Executive Summary

MNP is pleased to deliver this IT Modernization Strategy to the Township of Cavan Monaghan. The proposed strategy will enable the Township to realize operational improvements and improve service to citizens while ensuring the security and reliability of its information technology infrastructure.

The strategy presented in this document was developed through consultation with the Township and a review of the Township's current technology landscape. County of Peterborough technology staff who provide services to the Township through a managed services agreement were also consulted at every stage of our engagement as were the Township's current and potential technology vendors.

By executing the recommended strategy, the Township will:

- Establish modern and secure technology infrastructure,
- Put in place a suite of supported and integrated applications,
- Enable efficient and effective processes,
- Improve service to citizens, and
- Improve on-going governance of the IT function.

The modernization strategy is summarized in the table below and comprises a schedule of projects and investments appropriately sequenced over the next four years presented in the tables below. This roadmap should guide technology initiatives and investments by the Township over the next 4 years.

Major Components

The components of the strategy that require significant investment or effort are:

- **Upgrading the Network Infrastructure.** This is a critical and immediate requirement to ensure security and reliability of the Township's corporate information, including financial information.
- **Replacing the financial system.** The Township's legacy Keystone financial management system is obsolete and no longer fit for purpose and must be replaced. MNP is recommending the implementation of the Diamond ERP and Virtual City Hall suite from CentralSquare Inc., enabling more citizen-centric functionality. An overview of the Diamond ERP/VCH solution is provided in Appendix D.
- **Strengthening Governance.** MNP is recommending establishing a Technology Steering Committee and a formal Technology Manager role to provide a more structured framework for technology-related planning and decision-making.

In terms of technical direction, the strategy as a whole is designed to facilitate moving to the cloud to provide increased resiliency, better mobility and connectivity, and ease of management.

Table 1 – Recommended Strategies

Objectives	Strategy 1: Upgrade Infrastructure	Strategy 2: Rebalance application portfolio	Strategy 3: Strengthen Governance
Risk Mitigation	✓		✓
Operational Effectiveness	✓	✓	✓
Enhanced Citizen Service		✓	✓

Table 2 – Roadmap Overview

2020 – 21	2021 – 22	2022 – 23	2023 - 24
Upgrade infrastructure and disaster recovery procedure	Complete implementation of FileHold for records and document management	Complete implementation of Diamond ERP/VCH	Investigate options and implement Complaints management system
Strengthen governance	Replace Keystone with Diamond ERP/VCH	Complete implementation of City Wide for asset management	Improvements to public-facing GIS system
Minor improvement to GIS	Complete implementation of Cloudpermit	Implement improvements to Website	
	Implement Microsoft365		
	Develop plan for a shared Land Development Management system		

	Microsoft 365 Evolution	Ongoing
	Execute plan for Land Development Management solution	Ongoing
	IT and GIS support and operations	Ongoing

Table 3 – Roadmap Investments

Investment Category	2020 – 21	2021 – 22	2022 – 23	2023 - 24
One-time	Required: \$60,000 - \$65,000 Optional: \$41,000 consulting Range: \$60,000 to \$106,000	Required: \$278,400	Required: \$3,200 Optional: \$15,000 consulting Range: \$3,200 to \$18,200	Required: \$17,000 consulting
Ongoing		\$28,500 (Diamond maintenance & support)	\$28,500 (Diamond maintenance & support)	\$28,500 (Diamond maintenance & support) plus TBD subscription to Complaints Management solution
	Benefits: Secure, supported network infrastructure in place with validated cyber security. Improved governance in place; initial improvements to citizen web experience.	Benefits: New ERP with improved reporting, financial controls and processes in place; improved records and document management; improved permitting processes in place; Better collaboration and mobile capabilities in place; Plan for shared Land Development Management system established.	Benefits: Improved asset management, in place; improved citizen web experience in place.	Benefits: Improved complaints management in place; additional improvements to citizen web mapping experience.

2.0 Introduction

MNP was engaged by the Township of Cavan Monaghan (the “Township”) to undertake a comprehensive modernization review of its website and IT systems and services. This project was enabled by funds received from the Ministry of Municipal Affairs and Housing to conduct a review of existing technology and operations relating to administration, fleet management, complaint resolution and mapping and identifying opportunities to streamline processes and enable online self-serve options on the Township’s website.

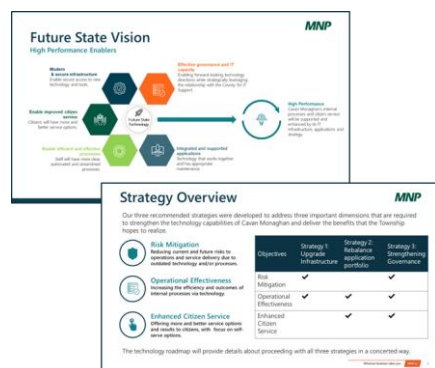
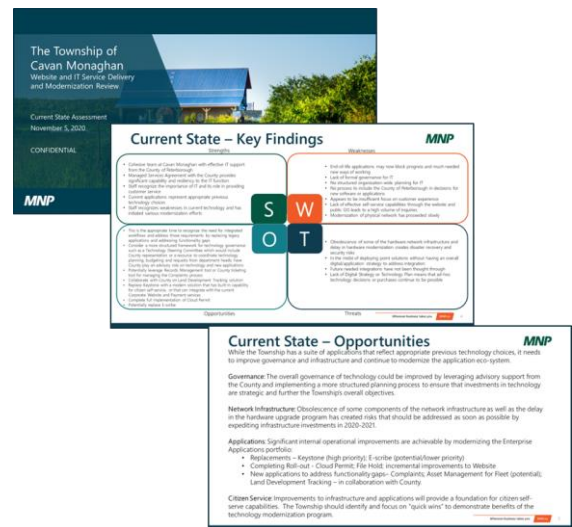
2.1 Project Background

MNP conducted a review of processes and systems in the following business functions:

- Administration
- Fleet Management
- Complaints Tracking and Resolution (Clerk’s Department)
- GIS/Mapping
- Building

MNP developed a summary of the current state by reviewing documentation provided by the Township (e.g. service agreements, municipal policy documents, etc.), conducting interviews with Township staff in all departments and including vendors as needed in these discussions. An IT Inventory survey was also delivered to, completed by and discussed with the Township to understand the IT landscape before speaking with Township staff in each department.

The current state summary included key observations, pain points and opportunities that were identified in the IT Inventory survey and discussion, documentation review, and interviews. This current state was discussed with key stakeholders at the Township for their input and feedback.



MNP then developed a “strawman” future state based on identified opportunities for realizing efficiencies, improving citizen service and leveraging the Corporate website to provide self service options. A workshop with key stakeholders from the Township and the County of Peterborough (the “County”) was held to confirm the priority of the proposed initiatives and gather feedback, particularly on collaboration opportunities for the Township and the County.

MNP engaged with the County of Peterborough throughout the project, as a key aspect of the Township’s technology environment is its Managed Services Agreement with the County of Peterborough. MNP proposed three key strategies for the Township to consider at this workshop:

- Mitigate security, infrastructure and legal risks
- Modernize applications to improve operational effectiveness and citizen service
- Strengthen IT Governance

To support these strategies, MNP proposed a set of possible technology solutions and initiatives which were discussed at the future state workshop. These technology solutions and areas included:

- Upgrading Network Infrastructure and Security
- Potential Municipal ERP Solution
- Cloudpermit
- FileHold
- CityWide Asset Manager (CityWide AM)
- Complaints Management System
- Improvements to the Corporate Website
- Improvements to the Planning/GIS application



MNP then provided recommendations and a roadmap to realize the identified opportunities, based on feedback from the future state workshop and follow up interviews with both Township staff and vendors. These recommendations include a set of recommended projects, high-level cost estimates and a 4-year schedule. The details of these recommendations and roadmap are provided in Sections 5 and 6 of this report.

2.2 Intent of this document

The intent of this document is to provide:

- A current state assessment of the current state of key processes and systems with each of the five business functions examined at Cavan Monaghan;
- Key modernization opportunities in each of these five business functions, with the goal to improve internal processes and customer service delivery from these departments and online via the corporate website;
- A potential future state of technology at Cavan Monaghan, with specific focus on improving staff efficiency and effectiveness and enabling self-serve options for citizens; and
- Recommendations and a roadmap to realize these opportunities and future state at Cavan Monaghan within a four-year timeframe.

3.0 Current State of IT and Future State Vision

3.1 Current State Summary

3.1.1 SWOT Analysis

MNP performed a SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis of the current IT landscape at the Township as shown below. Further details of this SWOT analysis can be found in Appendix A.

Strengths

Cavan Monaghan has a cohesive team and effective IT Support through their Managed Service Agreement with the County of Peterborough. Current applications are the result of appropriate previous technology choices and staff recognize the importance of IT in customer service, but also the weaknesses of the current technology.

Weaknesses

Cavan Monaghan has several technology challenges that may block progress and new ways of working, including end-of-life applications, slow modernization of the physical network and somewhat informal and reactive IT governance (not maximizing the relationship with the County of Peterborough). Additionally, there appeared to be insufficient focus on the customer experience, with a lack of effective self-service capabilities through the website and public GIS.

Opportunities

Cavan Monaghan should recognize the need for integrated workflows. Modernizing the application portfolio will enable operational efficiencies and improve service to citizens. The key changes required are: replacing Keystone and fully implementing Cloudpermit and CityWide. In addition, a Technology Steering Committee will provide a more structured framework for collaboration with the County and technology planning, budgeting and decision-making. An important and wide-ranging initiative that requires collaboration with the County as well as appropriate governance would be a Land Development Management solution.

Threats

The current pandemic has created significant pressures on the Township to improve mobility, connectivity and security related to its technology environment. The Township currently does not have a Digital Strategy or Technology plan to identify and respond to key technology risks in a structured manner. In addition to current pandemic related threats, other risks are obsolete hardware network infrastructure, delayed hardware modernization, and deployment of “point” solutions without a clear strategy to address integration. This means that ad-hoc technology decisions or purchases continue to be possible at the Township.

3.1.2 Opportunities

MNP identified several opportunities throughout the current state analysis. Further details can be found in Appendix A.

Governance

The Township should improve governance by continuing to leverage advisory support and services from the County and implementing a more structured planning process. This will ensure that investments in technology are strategic and further the Township's overall objectives.

Network Infrastructure

The Township should expedite infrastructure investments in 2020 – 2021. This will reduce the risk of obsolete components in the network infrastructure and address delays in the hardware upgrade program.

Applications

The Township should replace Keystone, complete the roll-out of Cloudpermit, collaborate on a Land Development Tracking solution with the County, perform incremental improvements to the corporate website and consider whether new applications are needed to address functionality gaps identified by each department.

Citizen Service

The Township should provide a foundation for citizen self-serve options by improving infrastructure and applications. This should be initially achieved by identifying and focusing on "quick wins" to show the benefit of the technology modernization program.

3.1.3 Business Function and Area Summaries

The SWOT analysis summarized above is supported by summaries of key observations, pain points and opportunities for the following business functions and technology solutions/areas. The details of these summaries can be found in Appendix A.

The business functions and areas examined were:

- Administration – Financial Management
- Administration – Keystone
- Administration – Corporate Website
- Clerk – Meeting Minutes and Agendas
- Clerk – Complaints Tracking and Resolution
- Public Works – Roads, Fleet & Water
- Planning – GIS/Mapping
- Building
- Records Management
- IT Governance and Infrastructure

3.2 Future State Vision

In order to address the weaknesses and threats and to leverage the opportunities and strengths identified in the SWOT analysis and to support the overall corporate objectives of improved citizen service and operational performance, a future state vision and conceptual architecture were developed in collaboration with the Township. The Modernization Strategy presented in the following section is designed to achieve this desired Future State.

3.2.1 Future State Overview

Figure 1 – Future State Vision Diagram

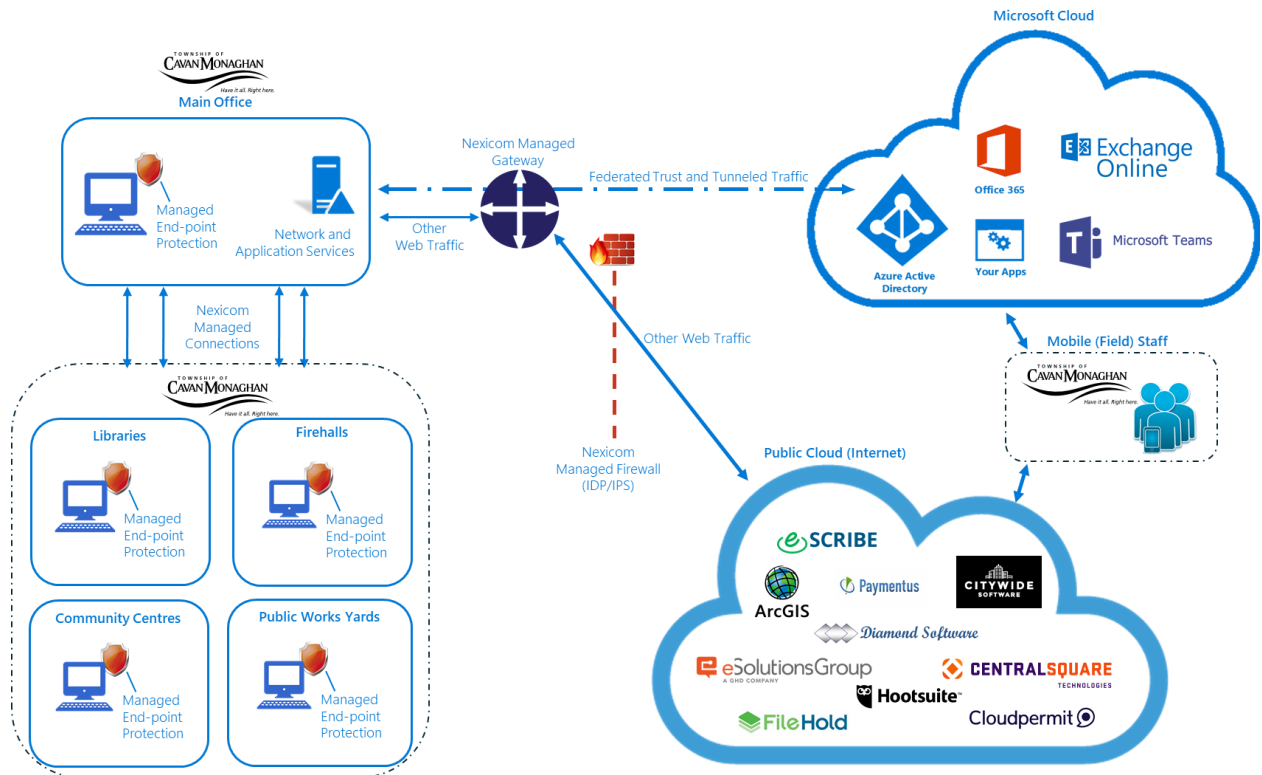


3.2.2 Conceptual Architecture Diagram

The vision described above will be enabled by the technology architecture illustrated in the diagram below. A key aspect of the recommended architecture is leveraging the cloud as far as possible to provide increased resiliency, better mobility and connectivity and easier or reduced management of application infrastructure.

The elements of the diagram on the left-hand side under “Main Office” illustrate the modernized infrastructure that will be in place once the recommended network upgrades are in place. The ‘cloud’ in the top-right illustrates the capabilities that will be in place once the Microsoft 365 implementation is completed. The ‘cloud’ in the bottom right illustrates the suite of applications that will be in place once our recommended program of application modernization is completed.

Figure 2 – Conceptual Architecture Diagram



4.0 Modernization Strategy

The Modernization Strategy presented in this section is designed to enable the Township to achieve the Future State presented previously.

4.1 Guiding Principles

Buy rather than build wherever possible

The Township should consider purchasing technology solutions that address most or all of their business needs “out-of-the-box.” This reduces upfront costs to acquiring new solutions and reduces potential maintenance costs. Additionally, this ensures there is appropriate support for these solutions (i.e. vendors) through service agreements.

A Platform approach – select fewer integrated solutions which address related functional areas rather than many “point” solutions

The Township should take a platform approach to minimize the cost of additional integrations and to enable collaboration across the organization.

Cloud-first – recommended solutions must be cloud-native or cloud-based and facilitate migration to the cloud

The Township should first consider cloud-native or cloud-based solutions in their technology implementation plans taking cost and fit into account. Taking a cloud-first approach will ensure that the Township’s data is secure and protected, as cloud providers are increasingly offering sophisticated cyber solutions that are secure and work to mitigate IT incidents (e.g. phishing). Moving to the cloud also allows for ‘evergreen’ applications that are current and reduces the effort required to manage on-premise infrastructure. Typically, migration to the cloud also allows for restructuring of the cost of ownership from periodic capital expenditures to a focus on operational expenditures.

Proven fit with Municipal operational requirements

All the solution recommendations provided by MNP are based on technology that the Township is already in the process to acquire and implement, or with a proven track record of supporting municipal operations.

Solutions that are sized for the small to lower-mid-market and have an established small to lower-mid-market user base

All of the solution recommendations provided by MNP align with the small to lower-mid market, as Cavan Monaghan falls within this category. It is recommended that Cavan Monaghan adopt this guiding principle when selecting future technology solutions to ensure an optimal fit for their requirements.

Alignment with a technology stack that maximizes synergy and integration is preferred

The Township should consider a technology stack that will support organization-wide collaboration. This ideally would involve a variety of collaboration tools and provide seamless integration between

solutions or minimize integration requirements overall.

4.2 Strategies

MNP is recommending three strategies to address three important dimensions that are required to strengthen the technology capabilities of Cavan Monaghan and deliver the benefits that the Township hopes to realize.

4.2.1 Three Dimensions of Technology Modernization



Risk Mitigation

Reducing current and future risks to operations and service delivery due to outdated technology and/or processes.



Operational Effectiveness

Increasing the efficiency and outcomes of internal processes via technology.



Enhanced Citizen Service

Offering more and better service options and results to citizens, with a focus on self-serve options.

4.2.2 Three Recommended Strategies

MNP developed and recommended three key strategies in future state discussions with Cavan Monaghan. These three strategies support and are reflected in the proposed recommendations and roadmap. These strategies are discussed in detail following the table below.

Table 4 – Recommended Strategies

Objectives	Strategy 1: Upgrade Infrastructure	Strategy 2: Rebalance application portfolio	Strategy 3: Strengthen Governance
Risk Mitigation	✓		✓
Operational Effectiveness	✓	✓	✓
Enhanced Citizen Service		✓	✓

4.2.2.1 Mitigate Security, Infrastructure and Legal Risks

The Township should mitigate risks by upgrading network infrastructure, with the following as immediate infrastructure upgrades:

- Replace current Backup systems with Cloud-based systems
- Replace dated (out of service) network infrastructure (switches, gateways)
- Add redundancy equipment (redundant switches, servers, & gateways)
- Migrate Exchange Server to a Cloud-based hosting environment
- Test and validate security posture (hardening)
- Test and validate disaster recovery procedure

The Township also must develop a plan for secure exchange of data with County. This plan should eliminate the use of encrypted USB keys being mailed between organizations. The implementation of this plan depends on alignment of security between the Township and County systems. The Township should also consider developing a plan for cloud Microsoft365 implementation, as this will provide much needed functionality and collaboration tools across the organization.

4.2.2.2 Modernize applications to improve operational effectiveness and citizen service

MNP recommended the following functionality enhancements to improve operations and citizen service to key stakeholders at Cavan Monaghan and the County of Peterborough during our “strawman” future state discussion. These recommendations are included in detail in our roadmap.

- Replace Keystone with a modern municipal ERP solution with the ability to support a unified customer profile and integrate with payment services, permitting system (Cloudpermit), and corporate website and thus provide “Virtual Town Hall” capabilities to citizens. MNP is recommending the Diamond ERP/Virtual City Hall suite from CentralSquare as the ERP solution. MNP confirmed that the Diamond/VCH solution will address the deficiencies of Keystone and that it is fit for purpose and used by many Ontario municipalities.
- Complete roll-out of Cloudpermit including integration with website to provide self-serve capabilities
- Complete roll-out of File Hold for records management
- Implement asset management functionality for Fleet management by completing its roll-out of City Wide
- Implement complaint tracking functionality
- Incremental improvements to Website
- Make a modification to zoom extent and implement a suite of targeted self-serve applications in collaboration with County for GIS
- Determine if Cloudpermit can be used as a Development Tracking solution or work with the County to develop a solution

4.2.2.3 Strengthen IT Governance

The Township should work to strengthen IT governance already in place by:

- Establishing an inter-departmental Technology Steering Committee to set a technology strategy and direction, approve an annual technology budget and assess the Township’s application portfolio periodically to determine alignment with overall corporate strategy.
- Continue to leverage and expand the capabilities of the County to obtain advisory services through the Managed Services Agreement with the County of Peterborough

- Potentially create a defined Technology Manager role. This should be implemented even if this role is assigned to a County staff member or to an executive with more than one role. The Technology Manager would be responsible for managing intake and approval of procurement and implementation of technology solutions, finalizing technology budget requests for both software and devices (tablets, laptops, server, networks, etc.), continually making technology capacity (including people, process and budget) fit for purpose, and governing processes and managing project/data commitments.

4.3 Future State Solution Suite

MNP developed a high-level summary of the future state solution suite for discussion with key stakeholders from the Township and the County during the future visioning workshop. This summary was discussed and updated based on feedback from stakeholders at the workshop. This summary served as a reference guide for the development of the recommendations and the roadmap.

4.3.1 ERP Replacement

The key application-related recommendation is to replace Keystone with the Diamond ERP/Virtual City Hall solution from CentralSquare. This solution satisfies the Township’s functional requirements and will address deficiencies with Keystone. The solution is a proven solution widely used by Ontario municipalities and will enable integration of processes across the operational departments and easier flow of information to and from Finance. It will also enable much improved citizen service by providing a self-service portal (Virtual City Hall). The diagrams below illustrate the capabilities of the proposed solution. A detailed description is presented in Appendix D.

Figure 3 – Diamond ERP Solution: 3 Main Group of Users

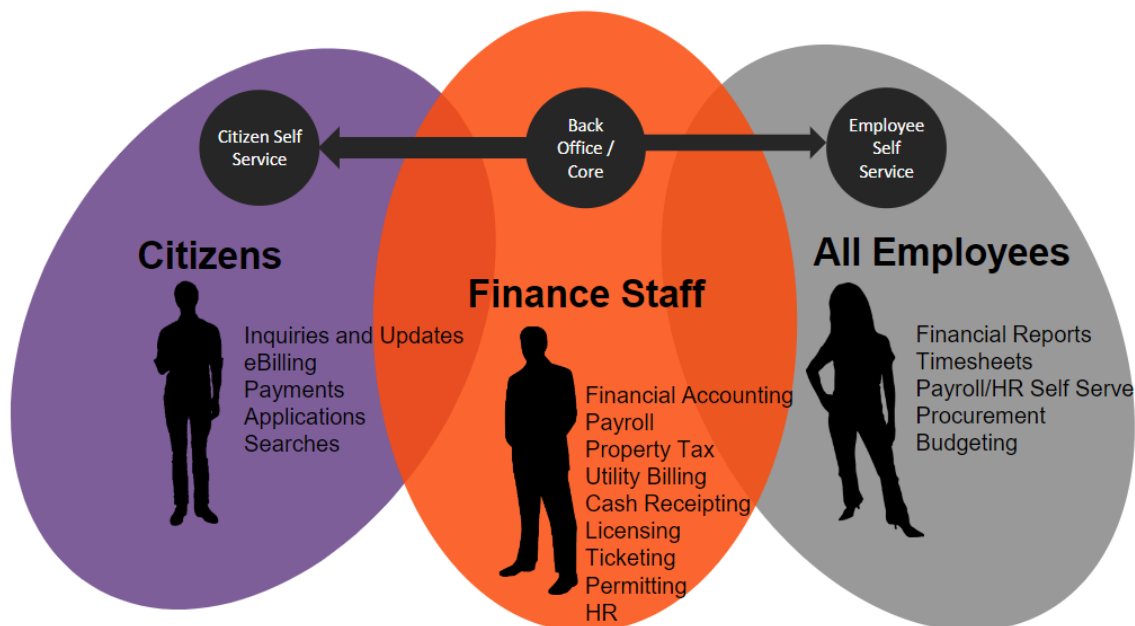
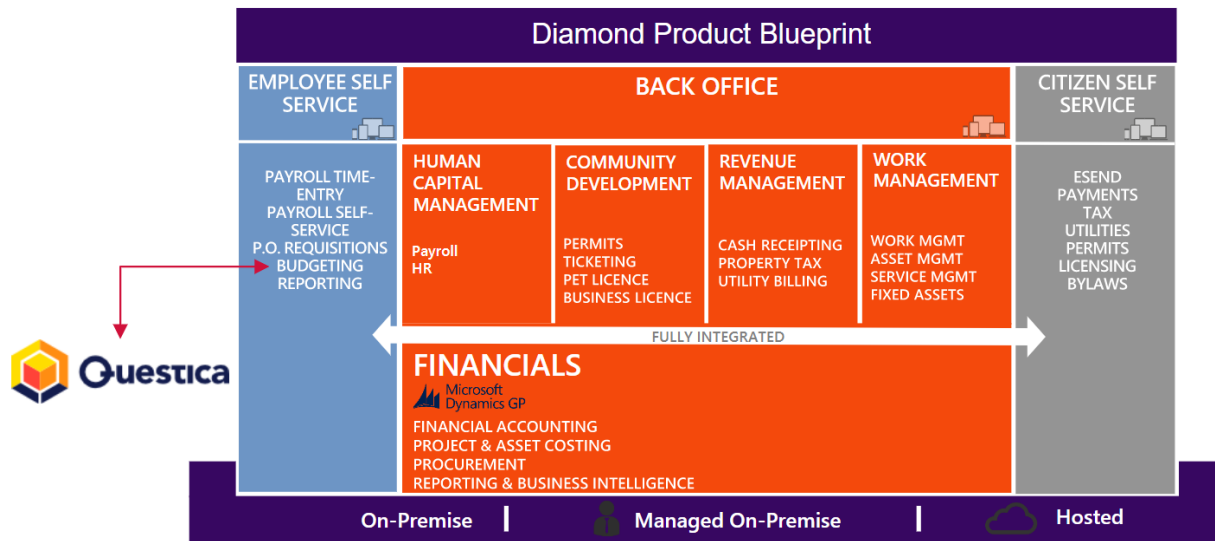


Figure 4 – Diamond ERP Solution: Product Blueprint



4.3.2 Summarized Future State Solution

MNP prepared a proposed future state solution suite that was discussed and validated by key stakeholders at Cavan Monaghan and the County of Peterborough. Below is a summarized future state solution with the systems considered, the change urgency for each of these systems, and which specific departments interviewed primarily benefit from a change to the system, or if a change would affect the organization as a whole.

Table 5 – Future State Solution Suite

	Systems	Change Urgency	Benefits to:				
			Finance	Administration	Public Works (Fleet)	Building / Planning	Whole Organization
1	Modern municipal ERP (Diamond ERP/Virtual City Hall)	High	X	X	X	X	✓
2	Full implementation of Cloud Permit	High			X	X	
3	Full implementation of File Hold	High		X			✓
4	Full implementation of City Wide	High	X		X		
5	Land Development Tracking system	Medium				X	
6	Improved website	Medium					✓
7	Complaints Management System	Low		X			✓
8	GIS - suite of targeted self serve applications	Low				X	

The “X” in the table above denotes the main department(s) to benefit from the system change. The rows highlighted in green and with a “✓” in the Whole Organization column indicates that the change will benefit the organization as a whole.

5.0 Modernization Roadmap and Funding

5.1 Summary of Recommended Projects

5.1.1 Roadmap Summary - Projects

MNP has recommended the following projects and planning to Cavan Monaghan for the next five years.

Table 6 – Roadmap Overview

2020 – 21	2021 – 22	2022 – 23	2023 - 24
Upgrade infrastructure and disaster recovery procedure	Complete implementation of FileHold for records and document management	Complete implementation of Diamond ERP/VCH	Investigate options and implement Complaints management system
Strengthen governance	Replace Keystone with Diamond ERP/VCH	Complete implementation of City Wide for asset management	Improvements to public-facing GIS system
Minor improvement to GIS	Complete implementation of Cloudpermit	Implement improvements to Website	
	Implement Microsoft365		
	Develop plan for a shared Land Development Management system		



5.1.2 Roadmap Summary – Investments

The table below summarizes the costs presented in the following section. The one-time costs are primarily one-time hardware upgrade costs, one-time licensing or estimated costs for consulting support. The on-going costs are estimated additional software subscription costs. Subscription costs for currently licensed solutions are not included. Costs for the Managed Services Agreement with the County are not included.

Assumptions

1. The costs for the infrastructure upgrades are based on capital budget estimates that the Township had previously developed.
2. The Diamond ERP/VCH related costs are based on a quote provided by Centralsquare. The services estimate could change once Centralsquare is engaged by the Township. However, it should be noted that Centralsquare is familiar with the Township’s requirements and has implemented the proposed solution at other Townships within the originally quoted price.
3. Other costs for recommended consulting support are based on MNP’s prior experience delivering similar services.

Table 7 – Roadmap Investments

Investment Category	2020 – 21	2021 – 22	2022 – 23	2023 - 24
One-time	Required: \$60,000 - \$65,000 Optional: \$41,000 consulting Range: \$60,000 to \$106,000	Required: \$278,400	Required: \$3,200 Optional: \$15,000 consulting Range: \$3,200 to \$18,200	Required: \$17,000 consulting
Ongoing		\$28,500 (Diamond maintenance & support)	\$28,500 (Diamond maintenance & support)	\$28,500 (Diamond maintenance & support) plus TBD subscription to Complaints Management solution
	Benefits: Secure, supported network infrastructure in place with validated cyber security. Improved governance in place; initial improvements to citizen web experience.	Benefits: New ERP with improved reporting, financial controls and processes in place; improved records and document management; improved permitting processes in place; Better collaboration and mobile capabilities in place; Plan for shared Land Development Management system established.	Benefits: Improved asset management, in place; improved citizen web experience in place.	Benefits: Improved complaints management in place; additional improvements to citizen web mapping experience.

The summary above is broken down in the following tables to provide cost details for each year.

Program Year 2020-2021

Initiative	Activity	Cost Category	Cost
Upgrade Infrastructure and Disaster Recovery Procedure	Create Detailed Infrastructure Upgrade Plan and Disaster Recovery Plan	Optional	\$25,000 - Consulting Support
	Procurement	Required	\$30,000
	Test and validate security posture	Required	\$30,000 to \$35,000
Strengthen Governance Framework	Establish software selection and procurement process	Optional	\$8,000 - Consulting support
	Develop IT Policy Handbook	Optional	\$8,000 - Consulting support
TOTAL \$60,000 to \$106,000			Required: \$60,000 - \$65,000 Optional: \$41,000

Program Year 2021-2022

Initiative	Activity	Cost Category	Cost
Replace Keystone with Diamond ERP/Virtual City Hall	Define solution scope and conceptual design	Required	\$8,000 consulting support
	Negotiate license and services contract with Central Square	Required	\$130,000 onetime license
	Define detailed requirements	Required	\$20,000 (Central Square)
	Configure solution	Required	\$48,400 (Central Square)
	Migrate sample data and test solution	Required	\$28,000 (Central Square)
	Conduct training and obtain documentation	Required	\$22,000 (Central Square)
	Accept and sign-off solution	Required	\$22,000 (Central Square)
	Diamond maintenance and support (ongoing)	Ongoing	\$28,500
TOTAL \$306,500			Required: \$278,400 Ongoing: \$28,500

Program Year 2022-2023

Initiative	Activity	Cost Category	Cost
Complete CityWide Implementation	Complete training and implementation	Required	\$3,200 (Already budgeted for 2020/2021 CityWide implementation)
Implement improvements to Website	Review and improve online customer journey	Optional	\$15,000 consulting support
Diamond ERP/Virtual City Hall	Diamond maintenance and support (ongoing)	Ongoing	\$28,500
TOTAL \$31,700 - \$46,700			Required: \$3,200 (already in budget) Optional: \$15,000 consulting Ongoing: 28,500

Program Year 2023-2024

Initiative	Activity	Cost Category	Cost
Implement Complaints Management System	Analyze needs for a Complaints Management system	Required	\$9,000 consulting support
	Explore internal options for a Complaints Management system	Required	\$8,000 consulting support
	Implement Complaints Management system	TBD	TBD
Diamond ERP/Virtual City Hall	Diamond maintenance and support (ongoing)	Ongoing	\$28,500
TOTAL \$45,500			Required: \$17,000 consulting Ongoing: \$28,500

5.2 Project Schedule

MNP has provided a project schedule to illustrate timing and sequencing for recommended projects below. We recommend that infrastructure upgrades be completed by end of the current fiscal year (March 2021) and that a Diamond ERP implementation be completed by the end of 2021 fiscal year to align with year-end. Some activities may be completed in FY 2022-23.

6.0 Program Details

6.1 2020 – 2021 Program Details

MNP recommends that Cavan Monaghan conduct the following three initiatives within the 2020 – 2021 program. The program timeframe is the time period between delivery of this report and March 2021. Details of these activities can be found in Appendix C. Unless otherwise indicated, where there are no estimated costs to complete an initiative and/or specific activities, this indicates that the initiative and/or associated activities are either already captured in the Township’s IT Budget, covered in the Managed Services Agreement with the County of Peterborough, or will be carried out internally by Township staff.

6.1.1 Upgrade Infrastructure and Disaster Recovery Procedure

The Township should upgrade its infrastructure and disaster recovery procedures by conducting a site survey for existing infrastructure, creating a detailed Infrastructure Upgrade Plan and Disaster Recovery Plan, procurement activities, testing and implementing backup systems, executing an upgrade plan, testing disaster recovery procedures and testing and validating their security posture. Total costs are estimated at \$60,000 - \$65,000 to complete this initiative, with an additional \$25,000 should consulting support be required to create the Infrastructure Upgrade Plan and Disaster Recovery Plan. MNP recommends a six-month timeframe to complete all tasks associated with this initiative.

6.1.2 Strengthen Governance Framework

The Township should strengthen its governance framework by establishing a Technology Steering Committee, adopting guiding architectural principles, establishing a project intake process, establishing a software selection and procurement process, establishing a Technology Manager role and developing an IT Policy Handbook. Total costs are estimated at \$0 - \$16,000 (\$0 if completed internally, \$16,000 if consulting support is required) to complete this initiative. MNP recommends a three-month timeframe to complete all tasks associated with this initiative.

6.1.3 Implement Short-term Improvements to GIS

The Township should implement short-term improvements to GIS by bookmarking the Township’s map extent (so it shows the Township boundaries rather than the County) and investigating the use of “Groups” in ArcGIS Online as a data transfer mechanism. There are no estimated costs to complete this initiative, as it is assumed that County of Peterborough GIS staff could implement this initiative within the parameters of the current Managed Services Agreement (MSA). If obtaining these services from the County requires adjustments to the MSA, there may be additional costs. MNP recommends a one-month timeframe to complete all tasks associated with this initiative.

6.2 2021 – 2022 Program Details

6.2.1 Complete FileHold Implementation

The Township should complete the implementation of FileHold by implementing the solution

organization-wide for document retention, considering training needs and providing standardized and ad-hoc support, confirming and implementing integration with a new ERP solution, implementing an invoicing process in FileHold, implementing a timesheet process in FileHold, developing a report approval workflow and investigating FileHold functionality for the Municipal Complaints Policy. There are no estimated costs to complete this initiative. MNP recommends a six-month timeframe to complete all activities except for investigating FileHold functionality for the Municipal Complaints Policy; this investigation is to be completed in the 2022 – 2023 program.

6.2.2 Replace Keystone with Diamond ERP/Virtual City Hall

The Township should replace Keystone with Diamond ERP/Virtual Hall by establishing an ERP implementation project, defining the solution scope and conceptual design, negotiating a license and services contract with Central Square, defining detailed requirements, configuring the solution, migrating sample data and testing the solution, conducting training and obtaining documentation, accepting and signing off on the solution and conducting a Financial - IT General Controls audit. Total costs are estimated at \$278,400 to complete this initiative (excluding the Financial – IT General Controls audit). MNP recommends a six-month timeframe to complete all tasks associated with this initiative.

6.2.3 Complete Cloudpermit Implementation

The Township should complete their implementation of Cloudpermit by entering historical data/legacy permits into Cloudpermit (ongoing activity), configuring Cloudpermit for other permit types, integrating Cloudpermit with the new ERP Solution (Diamond ERP), Integrating and enabling payment processing, investigating if Cloudpermit can be used as the basis for a Land Development Application Management solution, supporting future e-permitting requirements using Cloudpermit and continuing to collaborate with the County of Peterborough for IT support and future integrations. There are no estimated costs to complete this initiative, as the cost to integrate Cloudpermit with the new ERP solution is part of the cost associated with replacing Keystone. MNP recommends a one-year timeframe to complete all tasks associated with this initiative, with the entry of historical data/legacy permits and all configuration and integration completed within the first six months.

6.2.4 Implement Microsoft 365 – Planning Phase

The Township should implement Microsoft 365 throughout the organization. There are a number of tasks associated with this implementation that are outlined in Appendix C. There are no estimated costs to complete this initiative, since MNP has assumed that County staff can carry out these planning tasks under the Managed Services Agreement with the Township. MNP recommends a three-month timeframe to complete all tasks associated with this initiative.

6.2.5 Implement Microsoft 365 – Execution

The Township should execute on their implementation of Microsoft 365. There are several tasks associated with this execution that are outlined in Appendix C. There are no estimated costs to complete this initiative, as the Township already owns the software subscription and County staff are very capable of carrying out these tasks under the Managed Services Agreement. MNP recommends a two-week timeframe to complete all tasks associated with this initiative.

6.2.6 Develop Plan for a Shared Land Development Management Solution

The Township should develop a plan for a Shared Land Development Management Solution by holding discussions with key stakeholders (County of Peterborough and other lower-tier Townships), establishing project governance, developing a solution concept and developing a project charter.

There are no estimated costs to complete this initiative, as MNP has assumed that the County of Peterborough GIS team could fill the Project Manager and Solution Architect role for this initiative, and that these services from the County are covered within the parameters of the current Managed Services Agreement (MSA). If obtaining these services from the County requires adjustments to the MSA, there may be additional costs. MNP recommends a six-month timeframe to complete all tasks associated with this initiative.

6.3 2022 – 2023 Program Details

6.3.1 Complete CityWide Implementation

The Township should complete their implementation of CityWide software by completing their planned training and implementation of CityWide, integrating with Diamond ERP (as the new ERP solution) and exploring options for Virtual City Hall. Total costs are estimated at \$3,200 (already budgeted for 2020/2021 CityWide implementation), with costs to integrate with Diamond ERP already included in the costs to replace Keystone. MNP recommends a three-month timeframe to complete all tasks associated with this initiative.

6.3.2 Implement improvements to Website

The Township should implement ongoing improvements to their corporate website. Several activities to improve the website, such as defining and implementing the integration of the website and Virtual City Hall and investigating further integrations with Cloudpermit will already take place in the 2021 – 2022 program. The Township could investigate iCreate capabilities for online payment processing and customer self-service portal if Virtual City Hall does not meet their expectations in the 2021 – 2022 program, as well as review and improve integration with eScribe and the overall online customer journey. Total costs for activities within the 2022 – 2023 program are estimated at \$15,000 should the Township require consulting support; there are no estimated costs if these activities are carried out by Township staff. MNP recommends a one-year timeframe to complete all 2022 – 2023 program activities associated with this initiative.

6.4 2023 – 2024 Program Details

6.4.1 Implement Complaints Management System

The Township could implement a Complaints Management System by analyzing their business needs and exploring internal options for a Complaints Management System, and/or exploring external options if required and implementing the Complaints Management System once a decision has been reached. Total costs are estimated at \$17,000 for consulting support to analyze business needs and explore internal options, with the cost for a Complaints Management System dependent on the solution

selected by the Township. MNP recommends a six-month timeframe to complete all tasks associated with this initiative.

6.4.2 Implement Improvements to Public-Facing GIS

The Township could benefit from improving the public-facing GIS by implementing the following three applications: Property Viewer application, Land Development Status Viewer application and Road Operations Viewer application. It should be noted that, since the public-facing GIS is managed and maintained by the County, the development of these applications will have to be approved by and led by the County. There are no estimated costs to complete this initiative, as it will be accomplished through collaboration with the County of Peterborough and carried out by County staff using current County GIS infrastructure and licenses. MNP recommends a one-year timeframe to complete all activities associated with this initiative.

6.5 Ongoing Program Activities

6.5.1 Evolution of Microsoft 365

The Township should work to ensure inter-departmental collaboration and take a business-case, requirements-based approach for the technical configuration and roll-out of M365 functionality going forward. The Township must also create a continuous training plan available to all employees to address constant change of the platform. Finally, the Township should consider a training service (subscription) that provides on-demand training videos that support users staying up to-date. This activity will begin to take place in the 2022 – 2023 program.

6.5.2 Implementation of Shared Land Development Management system

The Shared Land Development Management system will be a modern map-enabled solution with workflow capabilities to manage Development Applications developed in collaboration with the County and the other lower-tier Townships. This system would significantly enhance citizen engagement and transparency around the land development function. A variety of solution approaches are possible: (a) ArcGIS Online- based; (b) based on Cloudpermit; (c) based on a commercial product such as Cityworks or based on a platform such as Microsoft Dynamics CRM. An example of results from a similar application can be found in Appendix C. This activity will begin to take place in the 2022 – 2023 program.

6.5.3 Regular IT Support

Once infrastructure is upgraded and Microsoft 365 is rolled out, IT support will be needed to support a Cloud-based infrastructure. Typical of that environment is constant change, and therefore IT support takes on the role of enabling continuous change, which is a departure from legacy support where applications and infrastructure are static. The role of IT support moves from “fixing” systems to enabling effective use of applications.

Appendix A

Current State Assessment

The Township of Cavan Monaghan

Website and IT Service Delivery and Modernization Review

Current State Assessment
November 5, 2020

CONFIDENTIAL



Table of Contents



Section
Project Overview
Current State – Key Findings and Opportunities
Administration – Financial Management, Keystone, Corporate Website
Clerk's Department – Minutes & Agendas; Complaints Tracking and Resolution
Fleet Management
Planning - GIS/Mapping
Building
Records Management
IT Governance and Infrastructure
Next Steps



Project Overview

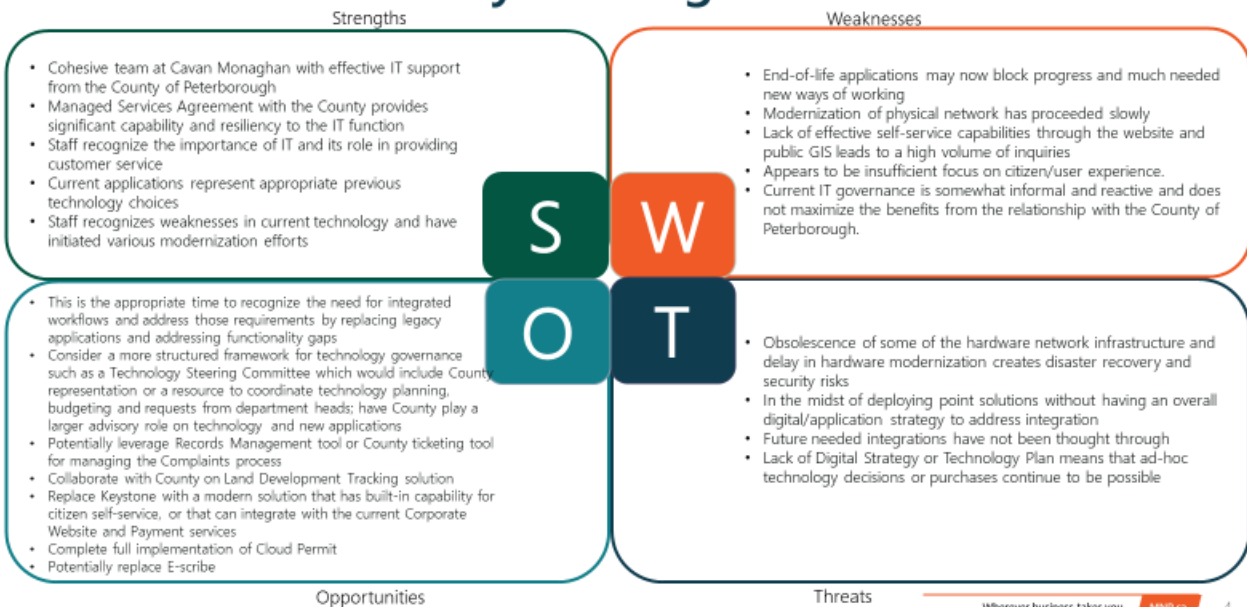
MNP has been engaged to conduct a Website and IT Service Delivery and Modernization Review for the Township of Cavan Monaghan. This document represents our findings from the first phase of our work, which was to assess the current state of five departments/areas and summarize key observations, pain points and opportunities. These five departments/areas are:

- Administration
- Fleet Management
- Complaints Tracking and Resolution (Clerk's Department)
- GIS/Mapping (Planning)
- Building

As part of this review, we were provided with a walkthrough of the major systems (Keystone, Cloud Permit, File Hold, GIS, Corporate Website and the Township's new records management system, File Hold, and we provide some summary and analysis of this system within this current state assessment as well.

We would reiterate that this document does not represent a formal deliverable, but rather a summary of our initial findings, which will support the Technology Modernization Report we will deliver at the end of this engagement.

Current State – Key Findings



Current State – Opportunities

While the Township has a suite of applications that reflect appropriate previous technology choices, it needs to improve governance and infrastructure and continue to modernize the application eco-system.

Governance: The overall governance of technology could be improved by continued leveraging of advisory services from the County in support of a more structured planning process to ensure that investments in technology are strategic and further the Township's overall objectives.

Network Infrastructure: Obsolescence of some components of the network infrastructure as well as the delay in the hardware upgrade program has created risks that should be addressed as soon as possible by expediting infrastructure investments in 2020-2021.

Applications: Significant internal operational improvements are achievable by modernizing the Enterprise Applications portfolio:

- Replacements – Keystone (high priority); E-scribe (potential/lower priority)
- Completing Roll-out - Cloud Permit; File Hold; incremental improvements to Website
- New applications to address functionality gaps– Complaints; Asset Management for Fleet (potential); Land Development Tracking – in collaboration with County.

Citizen Service: Improvements to infrastructure and applications will provide a foundation for citizen self-serve capabilities. The Township should identify and focus on “quick wins” to demonstrate benefits of the technology modernization program.

Administration – Financial Management



Key Observations

- Keystone is an accounting and business software solution that has been configured for the Township's use and business needs
- Operations in Keystone are segregated by department (historical design)
- Customers are identified through ID numbers that are generated to be unique to each department, not unique to the customer
- The volume of transactions is:
 - AR: 17,430 annually (the majority of these transactions are related to Property Tax Bills)
 - AP: 2,030 annually
 - Cash Receipt Batches/Deposits: 1,146 annually
- Uploads from banks for taxes and water are done daily and the total in the file is matched with the total from the bank (this works fairly well)
- The Township's 2020 budget included:
 - Operating budget of \$7,830,318
 - Capital budget of \$7,793,726
 - Environmental budget of \$390,425
 - Water & Wastewater budget:
 - Operating: \$1,025,729
 - Capital: \$629,000



Pain Points

- Each customer has a unique ID in each department; there is no unified profile of a customer or the services they receive
 - The only instance where a customer can be “linked” in Keystone is by using the Roll Number attached to a property; the property can be searched in Keystone and a user can tag (select a checkbox) an account so that any outstanding charges for water and wastewater associated to the property then appear on its tax certificate.
 - This instance is usually triggered by the sale of a property.
- Currently, permits must be manually entered because Cloud Permit (permitting solution) is not integrated with Keystone
- Change of address reported by customers is updated department by department, currently this is not done or communicated consistently for the organization
 - There is no history or tracking of previous addresses for the customer in AR
- The approvals process does have a few gaps that allow for human error (e.g. batches can be left open)
- Current IT infrastructure significantly slows down generation of reports when working remotely (i.e. VPN access); IT has created a workaround (remote desktop) for several senior staff, but this remains an issue
- Accessibility – the public cannot see what is in Keystone and there are no self-serve options
- Have to implement workarounds for reporting
- Have to export file from Easy Pay and import into Keystone and be approved by the Director of Finance (time-consuming)



Opportunities

- Transition to a software that aligns with and allows for self-service options and unified profiles for customers
- Integration of a new financial and operations management solution with the Corporate Website can allow for self service capabilities
- Transition to a software that is cloud-based to be able to integrate with CloudPermit (building permit solution) to eliminate manual entry
- Explore options to streamline processes with new records management system File Hold
- Improve remote access for staff to enable them to be more efficient working from home

Administration – Keystone



Key Observations

- Keystone provides GL, AR, AP, Property Tax, Cash Receipts, and Fixed Assets
 - Modules are integrated into the AR/AP module so that departments can create Invoices without them having to enter separately into AR/AP
 - Modules integrated with AR include: Animal licensing, Facility scheduling, Program registration, Water & Waste Water meters, Clerks, Public works
- Township has implemented CityWide for managing fixed assets
 - Currently being managed by Public Sector Digest on behalf of the Township
 - Township staff to eventually be trained and take over
- Integration between AR and modules allow departments to post invoice while keeping their access to the GL blocked
- Roll number links Customer records across separate Modules by their value in each record



Pain Points

- Customer records across separate modules are not linked, although they may be for the same Roll Number
 - Eg: Citizen change of addresses are made, but doesn't affect all of their accounts across different modules in keystone
- No integration with Keystone
 - Some lack of capability in reporting, but can export data and work with data in Excel on the side
- Fixed Assets functionality in Keystone has not been functional
 - Fixed assets data now going into CityWide has created a silo of data
- Not available in the cloud – so remote access to Keystone is difficult
- Keystone can't handle complexity of some assets, including Roads and the Water/Waste Water system, asset depreciation or improvements, vehicle depreciation, betterments, etc.
- Building department module does not integrate with AR module



Opportunities

- Make appropriate data accessible to citizens digitally through integration with the website
- Implement Virtual City Hall capability
- Migrate off Keystone to a new ERP system which would enable the Virtual City Hall capability

Administration – Corporate Website



Key Observations

- eSolutions is the service/solution provider for the corporate website, managed services support provided by assigned Project Manager.
- Modules currently used include: iCreate (content management), Form Builder (online forms), Payments (integrated with Form Builder), Cludo (site Search), iCalendar (integrated with eScribe), News, Business Directory
- Currently implementing File Pro to enhance search capability for Documents in iCalendar.
- Formal approval processes for publishing content is only required for News Releases.
- Departments create and publish own content.
- Brigid maintains main Site Navigation, Feature Boxes, News and Notices.
- iCalendar events are manually copied from external sources including the local Library's newsletter & Peterborough Economic Development
- Hootsuite manages Social Media accounts (Facebook, Instagram, Twitter) which are actively monitored for inquiries to respond.



Pain Points

- iCreate Workbench's content management is modern and WYSIWYG-based, but considered by some as unfriendly and difficult to learn.
 - Some departments are unable to publish content themselves, and rely on support.
- eScribe integration is a simple push-based system, synchronization issues arise if updates are added after being pushed to iCalendar.
- eScribe integration has a bug where all Agenda's are posted as a Council Agenda, requiring to manually update the Agenda after it's published to iCalendar (eg: Committee Agenda's).
- Payment module is basic, can only process straight-through transactions (eg: can't process anything requiring Commissioner of Oaths).
- Google Analytics has no data, leaving no way to currently monitor site analytics or performance.



Opportunities

- Overall the website platform is modern, and does not have any significant issues. Some integrations should be enhanced:
 - Enhance integration with eScribe to allow a push-update capability for synchronization with iCalendar.
 - Fix issue with eScribe integration which publishes all Agenda's as a Council agenda.
 - Consider replacing the eForms module with a more advanced self-service system capable of managing transactions which have stages that must be completed before payment processing.
 - Review the configuration of eSolutions Corporate Website to ensure the Google Analytics script has been added correctly.

Clerk – Meeting Minutes and Agendas



Key Observations

- Most municipalities have specific software for supporting minutes and agendas for committee and council; E-scribe is the current solution for the Township
- There are useful templates, pre-set meeting types and attendee groups within the software, and it has the ability to do meeting minutes (e.g. movers and seconders)
- Once complete, PDFs are published and posted on the agenda
- Can publish meeting minutes from E-scribe to the website, and these appear as HTML and PDF for citizens to access
- E-scribe is typically used to prepare for committee and council meetings, but not used during a meeting often
 - The only time the software is used during a meeting is for council, and again most is done ahead of time
- The Township's website is hosted by E-solutions, and their hosting agreement also includes an unlimited software licence for:
 - iCreate, Calendar, News and Form Builder



Pain Points

- E-scribe and E-solutions don't always integrate well and vendors can "pass the buck" to each other
 - E.g. E-scribe items going into iCreate can sometimes be an issue
- Directing things to the right committee page takes specific codes to post to specific pages
- There have been challenges with posting duplicates in the past; this was largely solved with moving to a cloud-based system
- Some frustration with new resources in customer service from E-scribe not understanding common issues
 - Often the Township finds workarounds instead of engaging with the vendor
- Recording meeting minutes is a challenge, there is not a good flow in the software (i.e. not user-friendly), so these are done in Word and then finalized in E-scribe
- Currently printing the minutes and recording the votes manually (i.e. pen and paper) since the voting functionality in E-scribe does not meet the Township's needs



Opportunities

- There could be a better software solution than E-scribe for the Township
 - For example, have looked at iCompass for meeting agendas and minutes
- E-scribe offers another module for members to vote themselves on the screen so administrative staff would not spend time recording these votes
 - This module would be an additional cost, but could be another solution to the current challenges in using the software
- Pre-filled templates would be a great option that staff don't currently have in E-scribe

Clerk - Complaints Tracking and Resolution



Key Observations

- The Bylaw department receives the majority of complaints, as well as Public Works
 - Bylaw does not seem to be tracking complaint, Public Works is using an Excel document for tracking
- There is a complaint form online, but this should be reserved for escalated complaints only; the public uses it for other/all types of complaints in error
- The "Report an Issue" area of the website automatically generates and send an email to the correct department head based on dropdown menu selections
- A Municipal Complaint Policy was created in 2016 to provide better and more timely responses to complaints; this includes the official Complaint Form. Staff indicated that this form is rarely needed (i.e. only one complaint in a year that went through the entire process)



Pain Points

- There is no insight, analysis or reporting from the limited tracking of complaints; this impacts decision-making
- While some reporting on the "Report an Issue" is available through iCreate and/or FormBuilder, it is limited and the resolution of the issue is dealt with internally by department and may or may not be tracked
- When issues are tracked, the process is onerous. For example, Public Works maintains a large Excel spreadsheet and the "Report an Issue" sheets are scanned and saved by year
- It is not clear that the complaints form is for escalated complaints only, and this creates an inefficient process to report an issue/complaint for both the public and staff



Opportunities

- Implementing a software solution to record, resolve and track complaints would result in a more efficient approach and better reporting
- Visibility of issues and complaints reported by the public to all departments (i.e. centralized tracking) could help speed up resolution for issues that involve more than one department
- Cavan Monaghan could investigate the capabilities of File Hold to sort and track complaints in the future, but need to confirm the tracking aspects of the software
- Cavan Monaghan could investigate using the County's JIRA IT ticketing solution as a potential complaints tracking system

Public Works – Roads, Fleet & Water



Key Observations

- Fleet management is responsible for providing services to the Township for Waste Management, Water and Waste Water, & Operations Roads and Fleets
- Trackmatics provides AVL for fleet, routes can be set up in the system and report on whether a route was served.
- Excel tracking sheets are used for most complaint and work order management
- Work is assigned by email, processes for assignment are less formal
- Waste management is contracted out to the County
- GIS is used to identify property ownership, property lines, elevations, lidar, etc.
- Keystone is used to look up 911 numbers, and create invoices for contracted services the City provides (eg: Septic tank cleaning)
- Water meter readings are performed wirelessly while driving by residences.
- Most complaints for Water/Waste Water go to Peterborough Utility Group
- The general size of operations is small, and although there is a lack of technology, it is not presenting any major bottlenecks



Pain Points

- Current system (Trackmatics) doesn't include ability to manage inventory
- Systems don't work for managing seasons
- The location of equipment is unknown
- The working status of equipment is unknown
- Maintenance is not formally defined in a pre-active maintenance schedule defined by the Township, but rather relies on the individual equipment users and track manufacturer's maintenance schedules.
- Training needed for understanding how to upload new users into the Bulk Water system



Opportunities

- Previously considered using MESH for Asset Management, currently being used by the County, which is particularly useful for seasonal inventory and signage tracking. May be worth further consideration.
- Continue moving to CityWide Data for Asset management, assuming it can solve for the Pain Points identified (seasonal asset management, equipment working status, etc.)
- Potentially leverage Records Mgt tool (File Hold) or County IT ticketing tool (JIRA) for managing the Complaints process

Planning - GIS/Mapping



Key Observations

- The County provides a centralized GIS service through an internal GeoCortex/ESRI web GIS that staff use for spatial querying and map creation functionality in support of various business functions. The Township does not have local GIS software. The County handles Enterprise Licensing with ESRI Canada.
- While the Planning dept is the "owner" of GIS and the primary user, other departments including most staff also have access and make regular use of the tools.
- Fire dept – uses it to check addresses for 911 calls; Building dept – uses it to verify zoning for building permit applications; Public Works and other depts use it to verify property information
- The Planning dept uses the tool primarily to support the Land Development process and to respond to inquiries from citizens & businesses
- In 2020 to Oct 13, 288 properties had been inquired about by citizens, with many of these involving multiple questions (some more than 20 questions)
- The other primary use of the tool by staff is to access property based information using a map interface and to generate map output for inclusion in reports
- Public access to mapping capabilities is provided by the County of Peterborough public access application.
- The reference spatial layers are managed and provided by the County through agreements with Provincial agencies
- Guidance on updates to the data such as civic addresses; updates to the official Plan and Zoning; heritage property designations are provided by Township planners to the County GIS team via email who update the appropriate datasets which are available through the internal web GIS.
- In general, the Township is very satisfied by the level of service provided by the County GIS team.



Pain Points

- With economic growth accelerating in the Township and vicinity, it would be beneficial if the ortho-imagery could be refreshed more frequently. This will require discussions with the County and has cost implications.
- No easy way to track status and visualize locations of land development applications.
- When accessing the public GIS application from the Township website, it would be beneficial if the initial map extent would be limited to the Township rather than the County of Peterborough as a whole
- The number of citizen inquiries is straining the capacity of staff to respond in a timely way and also carry out other responsibilities. The Township website drives citizens to contact the Planning dept rather than use a self serve capability available in the public GIS.
- The public GIS may be a little complex for general public use.
- Property record updates are exported from MPAC by the Township, shipped to County on encrypted USB. County applies update, generates an Excel file of changes and provides to MPAC as well as to Township on an encrypted USB.



Opportunities

- Consider streamlining the public GIS tool or building focused "click and run" tools to facilitate greater uptake of map-based self service capabilities by the public and reduce the volume of inquiries. This will need to be done in collaboration with the County.
- Modify map extent when linking to the County public GIS from the Township website
- Investigate using Cloud Permit as a Land Development Management solution or consider collaborating in developing one to be used by the lower tier municipalities and the County.
- Work with County to facilitate secure electronic transfer of data – ie eliminate shipping of USB keys by Canada Post.

Building



Key Observations

- Building permit applications are received by paper and PDF – moving towards fully electronic applications
- Inspections are requested through the website or by email or phone and scheduling is done manually and only appears in Outlook calendar
- Volume: 200 – 300 permit a year
 - Pools are only permit with one inspection, the rest have a minimum of 2 – 3 inspections
 - Can have more than 3 inspections, or failed inspections (i.e. requires another inspection)
- Cloud Permit has been chosen as the next software solution for permits with Cavan Monaghan and can integrate with Township's GIS and is a self-service option for citizens



Pain Points

- Email has a cap on file size, which means multiple emails for the same application are required
- Need to use multiple applications (Outlook, Keystone, GIS, Acrobat, Bluebeam or AutoCAD) to do the work throughout the process
- Use a specific spreadsheet for costing; this must be done outside Keystone
- Keystone:
 - Crashes often; VPN access is very slow
 - Working in AR requires a new account for all new customers and does not pull information from other parts of Keystone; there is manual entry for each module
 - No workflow, user must have knowledge of the process to know what information to enter
 - No search function for designers, engineers, contractors, etc.
 - Multiple manual entry fields where information has to be calculated separately in Excel spreadsheet
 - Each application is its own record



Opportunities

- The Township is looking to move to Cloud Permit software for its permit process
 - Training program is in place for updates and new features
- Contains features that are helpful to guide customers in submitting an application; this increases transparency and reduces errors
 - Mandatory fields
 - Attachments
 - Sign-off
 - Adding parties to an application
- Would provide self-service options to customers of the Township purchasing a permit
- Can have one project and different applications associated to the project
- Fees can be calculated in the software and appropriate logic built in
- Must ensure that Cloud Permit can integrate with future software solutions implemented by the Township
- E-permitting could be the future system mandated by the province; the Township needs to prepare for this change

Records Management



Key Observations

- The Township is currently implementing a new records management solution (File Hold) and is examining its capabilities beyond document storage
- File Hold is set up based on TOMRMS, and there are four layers of folders (cabinet, drawer, folder, sub folder). The following types of records are currently or may be managed in File Hold:
 - By-laws
 - Invoices (planned)
 - Timesheets (planned)
 - Tax sheets (planned)
 - Documents frequently requested by the public (planned – to be available on the website)
 - Complaints (potentially)
 - Report Writing for Council (potentially)
- There is no duplicate detection for file names when they are uploaded to File Hold
- Metadata is easily added when uploaded and upon hitting "Edit" in the software
- The Township has purchased 21 licences for File Hold



Pain Points

- The current invoice process is paper-based and time-consuming; there is a lot of waste in the process related to movement or administrative tasks
 - The Township is planning to use workflows in File Hold for the invoice approval process
- The current records management system is not public-facing at all; the Township was looking to allow the public access to certain documents through the website and integration to File Hold to streamline information requests; for example, municipal bylaws
- Current Complaints process (separate from Report an Issue process) does not have an automated workflow for review or approvals
 - The Township may explore the options in File Hold (particularly workflows) to manage the Complaints process



Opportunities

- The Township will be looking into using the review and approval process in File Hold to streamline invoicing, timesheets, staff reports, tax sheets, and perhaps other internal processes
- An ideal future process would include automated notifications and emails for items waiting for approval and an easy way (4-digit code in File Hold) to approve and move the item into the Finance process (workflow to add to GL and forward to AP)
- Finance could also benefit from automated notifications that an invoice or other item has been approved and is ready for processing
- The official Complaints policy process could also be supported by File Hold
- A workflow has been set up to scan from Xerox straight to File Hold, which will save time for administrative staff
- Could look into automating retention period policies for documents in File Hold so documents are held for the appropriate length of time before disposal
- If duplicate detection is possible, this would help with version control in File Hold

IT Governance and Infrastructure



Key Observations

- In general, the Township is very satisfied with the level of service provided by County IT
- The Director, Finance has overall responsibility for IT and works with dept. heads on IT needs
- There is no formal IT steering committee
- The Director, Finance is responsible for the Managed Service Agreement with the County of Peterborough and for coordination with the County
- IT related purchases go through the Director, Finance as per the Townships' Purchasing by-law
- While there is no annual IT plan; the Director of Finance solicits budget requests from dept. heads related to IT when the Township's annual budget is formulated
- Township staff submit requests for IT support via an email to the County IT Helpdesk which results in a ticket in the County IT's ticketing system.
- Typically, depts determine what applications they need and purchase it without much involvement from County IT
- There is a 3-5 year replacement plan for computers



Pain Points

- The Township's physical network is not well integrated and some components are obsolete.
- There is a risk of serious disruption of access to systems and data in the event of a network failure. These risks are recognized by the Township and hardware upgrades are included in current capital budgets.
- Backup systems are in place to be used in case of failure, however there are few redundancy systems in place to prevent a disrupting failure
- Remote log-in to Keystone is slow. This has been addressed by some users using RDP internally to connect to a machine that has better connectivity to the Keystone server.
- The evolution of technology at the Township has occurred in an ad-hoc manner. Township leadership has recognized that a more systematic approach is required to achieve citizen service objectives and to make best use of County resources that are now available through the Managed Services Agreement.
- Exchange server upgrade incomplete on one server, resulting in disjointed awkward setup.



Opportunities

- The Township could expedite the infrastructure upgrades that were delayed from FY 2020
- A more structured governance and planning process for IT will enable the Township to make best use of its IT investments and resources
- The County of Peterborough already is under contract to provide IT Support; it could also play an advisory role for Cavan Monaghan on software selection for a supported and more cohesive approach
- A potential move to Microsoft (Office) 365 in 2021 could improve several issues with the Exchange servers by moving to Cloud-based managed hosting

Next Steps

- MNP will consider potential opportunities resulting from the current state analysis and work with the Township to develop directions and a Future State vision for IT
- MNP will work with Cavan Monaghan to ensure that the initial recommended technology directions align with the Township's corporate objectives
- MNP will develop a potential future IT architecture
- MNP will develop a draft Technology Modernization Strategy report and finalize in collaboration with Cavan Monaghan



Appendix B

Future State

The Township of Cavan Monaghan

Website and IT Service Delivery and Modernization Review

Future State Definition

November 18, 2020

CONFIDENTIAL



Table of Contents



Section
Future State Introduction
Future State Vision
Guiding Architectural Principles and Strategies
Priorities and Recommended Strategies
Solution Suite Summary
Future State Conceptual Architecture
Potential Solutions
Questions for the Future State
Next Steps



Future State Introduction

We have completed a review of the current state of technology at Cavan Monaghan:

- We heard about current issues as well as what works well
- We heard about where the Township wants to be in the medium term

Based on what we have heard we have developed a "strawman" definition of what the future might look like. This vision of the Future State incorporates pragmatic and achievable improvements related to:

- Risk Mitigation
- Operational Effectiveness
- Enhanced Citizen Service

and encompasses:

- Infrastructure
- Applications
- Governance

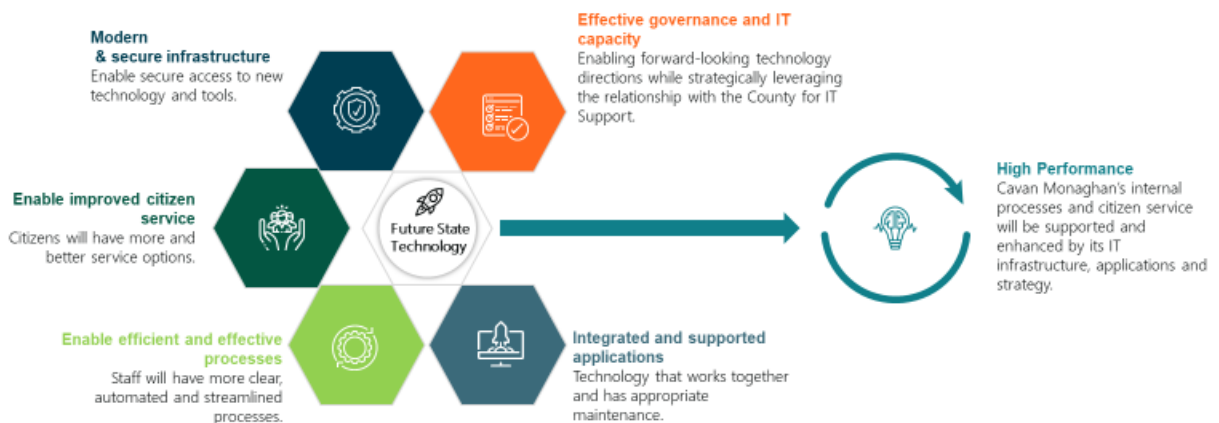
and provides options for each of these areas.

Feedback from the Township team will be used to refine and finalize the Future State Definition. An implementation Plan or Roadmap will then be developed to achieve the agreed-upon Future State – i.e. "get from here to there".

This document does not represent a formal deliverable, but is a working document which will support the Technology Modernization Report we will deliver at the end of this engagement.

Future State Vision

High Performance Enablers



Guiding Architectural Principles and Strategies

- Buy rather than build wherever possible
- A Platform approach – select fewer integrated solutions which address related functional areas rather than many “point” solutions
- Cloud-first – recommended solutions must be cloud-native or cloud-based and facilitate migration to the cloud
- Proven fit with Municipal operational requirements
- Solutions that are sized for the small to lower-mid-market and have an established small to lower-mid-market user base
- Alignment with a technology stack that maximizes synergy and integration is preferred

Strategy Overview

Our three recommended strategies were developed to address three important dimensions that are required to strengthen the technology capabilities of Cavan Monaghan and deliver the benefits that the Township hopes to realize.

- Risk Mitigation**
 Reducing current and future risks to operations and service delivery due to outdated technology and/or processes.
- Operational Effectiveness**
 Increasing the efficiency and outcomes of internal processes via technology.
- Enhanced Citizen Service**
 Offering more and better service options and results to citizens, with focus on self-serve options.

Objectives	Strategy 1: Upgrade Infrastructure	Strategy 2: Rebalance application portfolio	Strategy 3: Strengthening Governance
Risk Mitigation	✓		✓
Operational Effectiveness	✓	✓	✓
Enhanced Citizen Service		✓	✓

The technology roadmap will provide details about proceeding with all three strategies in a concerted way.

Priorities and Recommended Strategies

Priority: Mitigate security, infrastructure and legal risks

Recommended Strategy #1



(A) Mitigate risks by upgrading network infrastructure

- Immediate Infrastructure upgrades:
 - Replace current Backup systems with Cloud-based systems
 - Replace dated (out of service) network infrastructure (switches, gateways)
 - Add redundancy equipment (redundant switches, servers, & gateways)
 - Migrate Exchange Server to a Cloud-based hosting environment
- Test and validate security posture (hardening)
- Test and validate disaster recovery procedure

(B) Develop plan for secure exchange of data with County – eliminating use of encrypted USB keys being mailed – and then implement – depends on alignment of security between township and County systems

(C) Future – develop plan for cloud Microsoft365 implementation

Recommended timeframe: (A) Upgrade current infrastructure & validate security (hardening) and disaster recovery procedure - within 6 months; (B) & (C) Following infrastructure upgrades and security hardening - within 9 months

Priority: Modernize applications to improve operational effectiveness and citizen service

Recommended Strategy #2



Functionality enhancements to improve operations and citizen service:

- Replace Keystone with a modern municipal ERP solution with the ability to support a unified customer profile and integrate with payment services, permitting system (Cloud Permit), and corporate website and thus provide "Virtual Town Hall" capabilities to citizens
- Complete roll-out of Cloud Permit including integration with website to provide self serve capabilities
- Complete roll-out of File Hold for records management
- Implement asset management functionality for Fleet management – preferably utilizing City Wide in keeping with a platform approach
- Implement complaint tracking functionality – if possible, using File Hold; but more likely utilizing a Ticketing and Backlog system for Service Desk.
- Incremental improvements to Website
- GIS – modification to zoom extent; suite of targeted self serve applications in collaboration with County
- Land development – determine if Cloud Permit can be used as a Development Tracking solution OR work with County to develop solution

Priority: Strengthening IT Governance

Recommended Strategy #3



Strengthen governance by (a) establishing an inter-departmental Technology Steering Committee; (b) leveraging the capabilities of the County to obtain advisory services through the Managed Services Agreement (c) potentially create a defined Technology Manager role even if it is assigned to a County staff member or to a Township executive with more than one role.

The steering committee would be responsible for:

- Setting strategy and direction for Technology
- Approving the annual technology budget
- Assessing application portfolio periodically to determine alignment with overall corporate Strategy

The Technology Manager would be responsible for:

- Managing intake and approval of procurement and implementation of technology solutions
- Finalizing technology budget requests for both software and devices (tablets, laptops, server, networks, etc.)
- Continually making technology capacity (including people, process and budget) fit for purpose
- Governing processes and managing project/data commitments

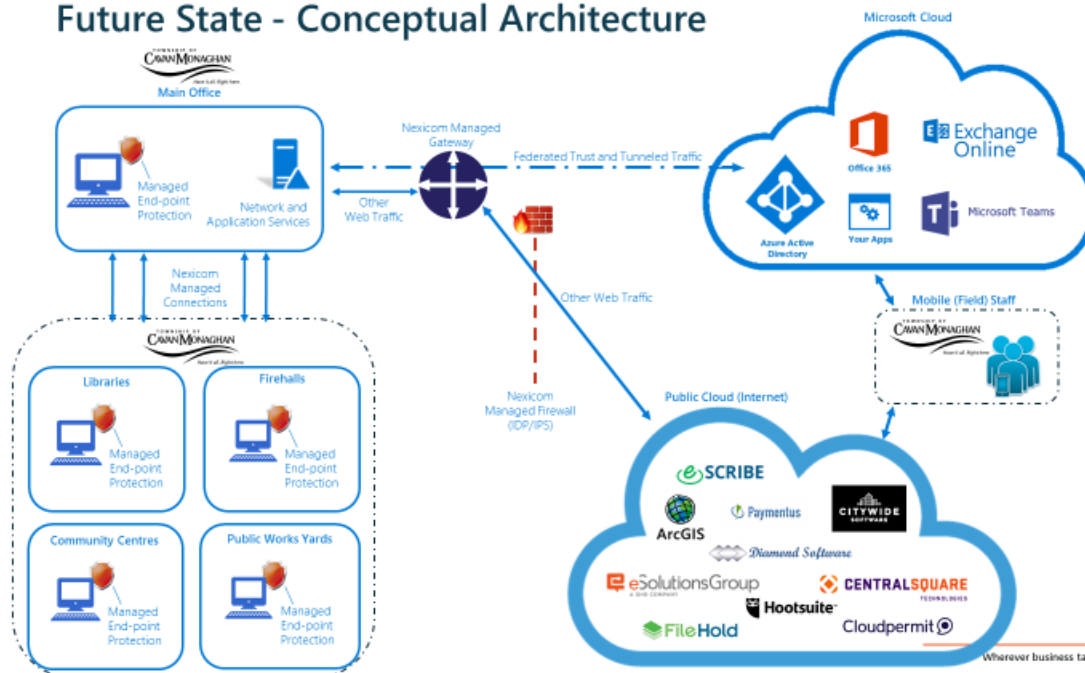
Recommended timeframe: As soon as possible

Future State Solution Suite

	Systems	Change Urgency	Benefits to:				
			Finance	Administration	Public Works (Fleet)	Building / Planning	Whole Organization
1	Modern municipal ERP (Diamond ERP/Virtual City Hall)	High	X	X	X	X	✓
2	Full implementation of Cloud Permit	High			X	X	
3	Full implementation of File Hold	High		X			✓
4	Full implementation of City Wide	High	X		X		
5	Land Development Tracking system	Medium				X	
6	Improved website	Medium					✓
7	Complaints Management System	Low		X			✓
8	GIS - suite of targeted self serve applications	Low				X	

The "X" in the table above denotes the main department(s) to benefit from the system change. The rows highlighted in green and with a "✓" in the Whole Organization column indicates that the change will benefit the organization as a whole.

Future State - Conceptual Architecture



Potential Solutions

Potential Solutions to implement the recommended strategies in accordance with the guiding architectural principles are presented in the following slides.

Network Infrastructure & Security

Necessary Improvements and Integration with County network

- The Township should prioritize and expedite the infrastructure upgrades that were delayed from FY 2020, where budget is already allocated.
- Additional budget may need to be allocated to support addition of redundancy for the hardware being replaced (point above).
- Migration of Exchange Server from on-premises to Microsoft (Office) 365 in 2021 is recommended - current systems require maintenance to bring them to the same version level, which may be avoided by moving to Cloud-based hosting
- Ensuring all systems (hardware and software) are license-compliant, supported and up-to-date will open up the opportunity for further integration with the County, based on collaborative trust that the Township's systems are secure and won't represent a vector to compromise the County's network
 - Once trust is achieved, and network's are authorized for data sharing, the Townships can eliminate the need to use encrypted USB sticks for transferring large amounts of data.



Potential Municipal ERP Solution

Diamond ERP from Central Square

- ✓ Extends ERP with Virtual City Hall for citizen engagement
- ✓ Built on Microsoft Great Plains product which is proven but sunset technology
- ✓ Product roadmap and footprint in Ontario will be reviewed next



Cloudpermit

Roll Out considerations



The Township is currently transitioning to a digital permit process using Cloudpermit, an e-permitting software specifically built for municipal building departments.

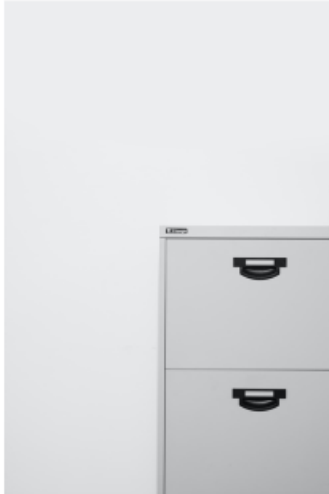
The Township should:

- Integrate Cloudpermit with a new ERP Solution (potentially Diamond ERP) to eliminate manual entry of permits
- Investigate if Cloud Permit can be used as the basis for a Land Development Application Management solution with workflow capabilities shared with the County and other Townships
- Ensure that this tool can support potential future e-permitting requirements from the province by working with the vendor and also digitizing and centralizing the permit process as much as possible within this new software solution
 - E.g. Virtual Information Management (VIM) files may be the future format for permits; Cloudpermit works well with VIM

Cloudpermit currently has the capabilities to integrate with ArcGIS for looking up parcel information (address, roll numbers, and other property data) as well as with certain Payment providers to automate Fees Management. A REST API is anticipated in future release to enable integration with *any* back-end system. Cavan Monaghan must continue to work with the County of Peterborough to ensure that this tool integrates with future related technology solutions.

File Hold

Roll Out considerations



The Township is currently implementing an electronic document management system to digitize multiple paper-based systems, streamline internal approvals processes and make documents available or more easily available to the public through their website. Cavan Monaghan should:

- Continue with the planned implementation of File Hold to digitize and streamline key internal processes (e.g. invoices, time sheets, tax sheets, etc.)
 - Using the workflow graphic design tool to create pre-defined workflow templates will support this implementation
 - File Hold also has version control tools that must be understood and used appropriately in these processes
- Investigate ways to automate the process (if possible) to add invoices to the GL and forward to AP
 - This may include analyzing File Hold's workflow capabilities and Courier, its proof of delivery feature
- Configure disposition rules in File Hold to automatically archive and dispose of documents according to retention period policies
- Explore options in File Hold (e.g. workflows) to manage the Complaints process (however, this may be better managed with a Ticketing and Backlog system for Service Desk)

File Hold also directly integrates with Microsoft Office and SharePoint. The Township should consider if this could enable better collaboration between departments (information sharing and visibility) in the future. There may also be the capability to have workflow tasks appear in Outlook calendars to alert users of important tasks.

CityWide Asset Manager (CityWide AM)

Roll Out considerations



- CityWide AM handles the entire lifecycle of municipal assets, particularly including financial accounting – consider whether the financial reports are sufficient, and whether integration between it and Diamond ERP would provide an efficiency benefit
 - CityWide's API Add-On can be leveraged if its Financial reports are not sufficient, and more detailed data should be brought into Diamond ERP
- CityWide provides a Data Mart add-on for enhanced reporting, enabling the Township to connect directly to the data in that system for the purposes of reporting. Using a tool such as Power BI, the township can leverage this data and build dashboards and reports that consolidate data across CityWide, Diamond ERP, and other systems into a single view, simplifying access to reporting across all systems.

Complaints Management System

Roll Out considerations

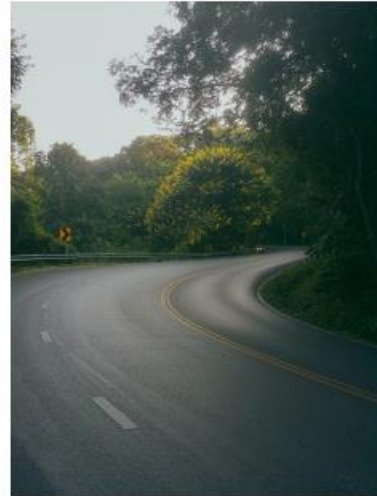


Ticketing & Backlogs

- A system for managing tickets and requests would help with organizing work and reporting on effort spent. Insights can be produced that help to identify areas where complaint volume is increasing, enabling the town to prioritize future automated/self-service improvements based on the types of issues that consume the most Township resources.
- A ticket system will provide clearer oversight of work being requested into a single backlog that can be prioritized based on importance and resource availability
- Tools such as Atlassian Jira or "spiceworks" could be implemented to help manage and automate some components of the complaints management and tracking, enabling greater transparency of work.
- Consider investigating whether it is possible to leverage the Help Desk system (spiceworks) currently being used by the County for the Township's Complaints Management – depends on infrastructure upgrades allowing the Township to connect to the County network.

File Hold

- As File Hold is already being implemented at Cavan Monaghan and will be highly used by Administration, it could be advantageous to use a system already familiar to staff to manage complaints
- Complaints submitted under the Municipal Complaint Policy would be the best candidates to be managed in File Hold, as they usually require higher levels of documentation and approval
 - Required documentation would be available in File Hold
 - Workflows could streamline review and approval
- Other types of complaints and/or requests for service that have less process attached (i.e. require a more agile approach) would likely benefit from the workflow and visibility in a ticket system.
- File Hold is likely not the best solution to handle a significant volume of complaints, as it does not appear to have the visual tools for users to easily track these complaints and/or requests for service. Additionally, it is specifically designed for document management, where as complaints/request for service typically require a different tool to manage process and outcomes.



Wherever business takes you MNP.ca

Corporate Website

Potential improvements



The Township has recently invested in updating their website to provide better access to information and service to their citizens. The following suggested improvements could build on the progress already made by Cavan Monaghan.

Investigate iCreate capabilities to achieve customer service goals

- The FormBuilder module has built-in eCommerce capabilities to create customized online payment forms; the Township should explore if these capabilities can be integrated with their current payment providers. Any online payment solution should integrate with a new ERP system and offer a seamless electronic transaction for both the citizen and back-end processing.
- iCreate also offers a citizen portal module that provides many self-serve options. This could be implemented once there are back-end systems in place to support it. The Township should also investigate how best to integrate Cloudpermit with their website and/or citizen portal for a seamless user experience.

Review and improve Integrations

- Enhance integration with eScribe to enable pushing updates for existing iCalendar records, and fix the issue where all Agenda records are created as a Council Agenda.
- Train staff on how to administer all of the capabilities in the eForms module, to enable more self-service capability and improve the payment processing to enable transactions that require more complex decisioning in the processing.



Wherever business takes you MNP.ca

Planning / GIS

Potential improvements

Land Development Application Management solution with workflow capabilities shared with the County and other Townships:

- Investigate if Cloud Permit can be used as the basis for such a solution
- Potentially develop a custom ArcGIS Online based solution in collaboration with the County

Additional self-service GIS applications targeted for specific purposes:

- Property viewer – streamlined tool to enable internal and external users to quickly access property information using address, Roll, etc.
- Land development status viewer – Show the status of development applications/activity across the County
- Road Operations viewer – Provide a view into road capital and operational work, support 511 call needs to identify jurisdiction and call routing



Questions for the Future State

Additional Systems/Initiatives to Consider



In the current state assessment, we identified several challenges for users of eScribe, particularly to record and finalize meeting minutes and votes. Should we include an analysis of these challenges and potential replacement, upgrade, further training, etc. of eScribe within the roadmap, or is this a low priority for the Township?



In our current state assessment interviews, we noted that the Township may move to Office 365 in 2021 and was investigating pricing. What decisions (if any) have been made on the product and potential implementation, and should we include a move to Office 365 as a consideration in our roadmap?

Next Steps

- Work with Cavan Monaghan to ensure that the Future State Definition reflects the Township's corporate objectives and priorities
- MNP will analyze key aspects related to potential solutions – Diamond ERP/Virtual City Hall; Cloud Permit; File Hold in order to develop recommendations to move forward
- MNP will develop a draft Technology Modernization Strategy report and finalize in collaboration with Cavan Monaghan



Appendix C

Roadmap



The Township of Cavan Monaghan

Website and IT Service Delivery and Modernization Review

Technology Roadmap

December 2020



Table of Contents

Section	Page #
Project Overview	3
Roadmap Summary	4
2020 – 2021 Details	8
2021 – 2022 Details	12
2022 – 2023 Details	20
2023 – 2024 Details	23
Ongoing Program Activities	26
Appendix A	29



Project Overview

Project Stages



Current State Assessment

MNP interviewed staff in five departments at Cavan Monaghan and did walkthroughs of key systems (Keystone, Cloudpermit, FileHold and GIS) as well as the corporate website. MNP delivered a summary of the current state.



Strategy and Future State

MNP summarized opportunities and options in a "strawman" future state and held a workshop with key stakeholders to confirm priorities and direction.



Technology Roadmap

This document provides a recommended technology roadmap and was developed in collaboration with Cavan Monaghan staff and includes vendor information and costing.

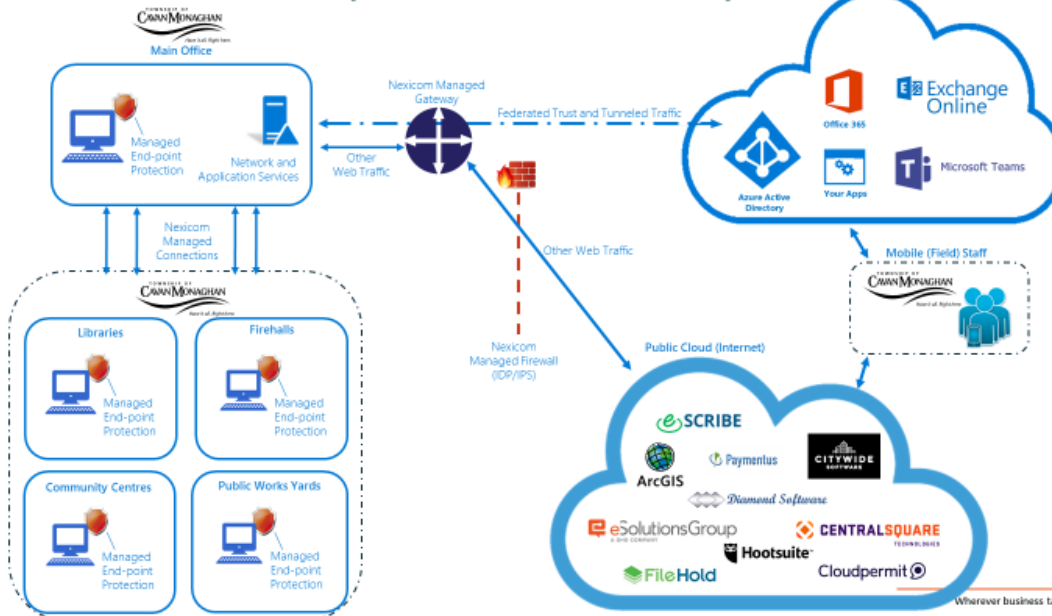


Technology Modernization Report

MNP will prepare a report that includes all deliverables and recommendations in this project.

Where the Roadmap will take the Township (1/4)

Microsoft Cloud



Roadmap Summary (2/4)

Overview

2020- 21	2021-22	2022-23	2023-2024
Upgrade infrastructure and disaster recovery procedure	Complete implementation of FileHold for records and document management	Complete implementation of Diamond ERP/VCH	Investigate options and implement Complaints management system
Strengthen governance	Replace Keystone with Diamond ERP/VCH	Complete implementation of City Wide for asset management	Improvements to public-facing GIS system
Minor improvement to GIS	Complete implementation of Cloudpermit	Implement improvements to Website	
	Implement Microsoft365		
	Develop plan for a shared Land Development Management system		

Microsoft 365 Evolution

Execute plan for Land Development Management solution

IT and GIS support and operations

Roadmap Summary (3/4)

Investments

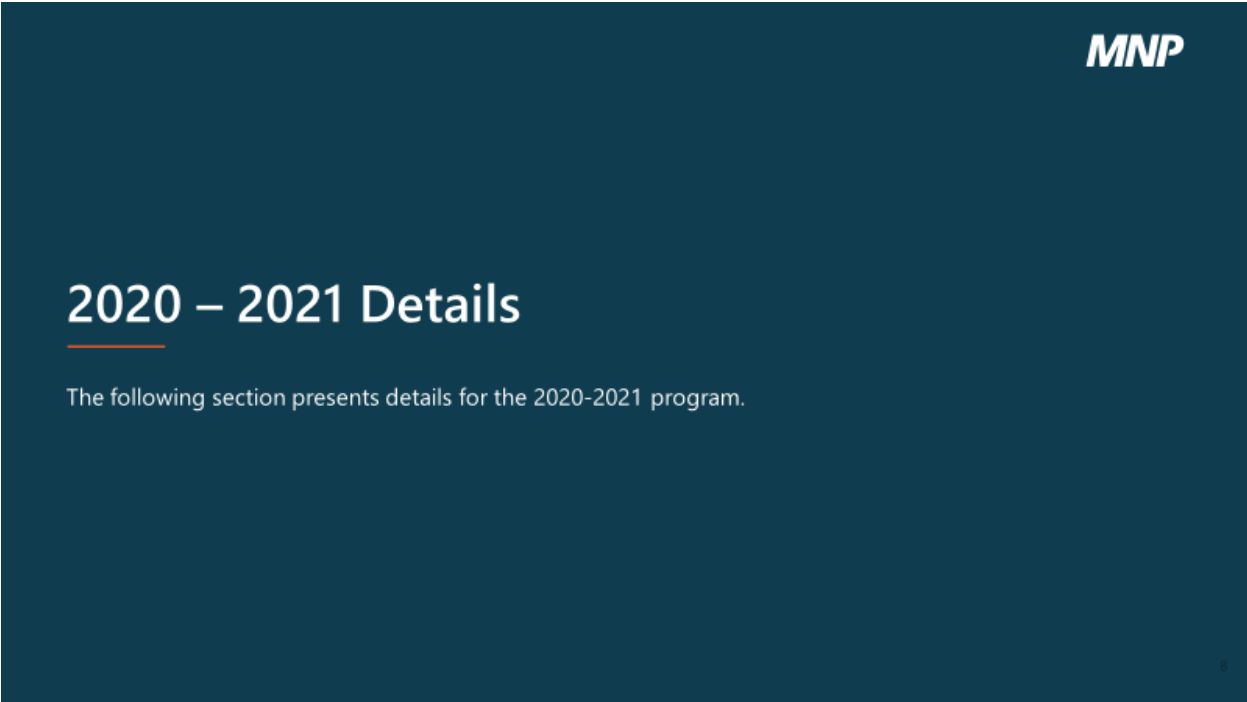
The tables below summarize the costs presented in the subsequent slides for each program, on a one-time and on-going basis. The one-time costs are primarily one-time hardware upgrade costs, one-time licensing or estimated costs for consulting support. The on-going costs are estimated additional software subscription costs. Subscription costs for currently licensed solutions are not included. Costs for the Managed Services Agreement with the County are not included. The benefits of these investments are also presented on an annual basis. Costs that must be incurred to implement the recommendations are indicated here as "required" costs. The details of these costs can be found in [Appendix A](#).

Investment Category	2020-21	2021-22	2022-23	2023-24
One-time	Required: \$60,000 - 65,000 Optional: \$41,000 consulting Range: \$60,000 to \$106,000	Required: \$278,400	Required: \$3,200 Optional: \$15,000 consulting Range: \$3,200 to \$18,200	Required: \$17,000 consulting
Ongoing		\$28,500 (Diamond maintenance & support)	\$28,500 (Diamond maintenance & support)	\$28,500 (Diamond maintenance & support) plus TBD subscription to Complaints Management solution
	Benefits: Secure, supported network infrastructure in place with validated cyber security. Improved governance in place; initial improvements to citizen web experience.	Benefits: New ERP with improved reporting, financial controls and processes in place; improved records and document management; improved permitting processes in place; Better collaboration and mobile capabilities in place; Plan for shared Land Development Management system established.	Benefits: Improved asset management, in place; improved citizen web experience in place.	Benefits: Improved complaints management in place; additional improvements to citizen web mapping experience.

Roadmap Summary (4/4)

Schedule

Key Activities	2021												2022												2023												2024																			
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12								
Upgrade infrastructure and disaster recovery procedure Jan to March 2021	█																																																							
Strengthen governance Jan to March 2021	█																																																							
Minor improvement to GIS February 2021		█																																																						
Complete implementation of FileHold for records and document management April 2021 – September 2021		█																																																						
Replace Keystone with Diamond ERP/VCH April 2021 – March 2022		█																																																						
Complete implementation of Cloudpermt April 2021 – March 2022		█																																																						
Implement Microsoft365 May 2021 – August 2021		█																																																						
Develop plan for a shared Land Development Management system June 2021 – Dec 2021		█																																																						
Complete implementation of City Wide for asset management April 2022 – June 2022													█																																											
Implement Improvements to Website April 2022 – March 2023													█			█																																								
Implement Complaints management system April 2023 – Sep 2023																									█			█																												
Improvements to public-facing GIS system April 2023 – March 2024																																					█																			



2020 – 2021 Details

The following section presents details for the 2020-2021 program.

Upgrade Infrastructure and Disaster Recovery Procedure

Duration: 6 months

	Activity	Description	Estimated Cost
1	Site Survey for Existing Infrastructure	Review existing equipment and environment to capture number of users, describe wireless requirements, identify new systems and services needed, security and privacy considerations, and application requirements (keeping in mind a future-state including cloud infrastructure on Microsoft 365)	NA
2	Create Detailed Infrastructure Upgrade Plan and Disaster Recovery Plan	Plan for contingency (upgrades taking longer than anticipated, equipment fails, slow updates, etc.). Plan communications to ensure staff are aware of service interruptions. Plan for capacity. Plan for project team. Plan for monitoring. Structure the upgrade in phases. Plan for increasing reliance on Wi-Fi. Plan for decreasing use of VPN.	NA or \$25,000 Consulting Support
3	Procurement	Purchase systems, licenses and equipment to serve the plan.	\$30,000
4	Test / Implement Backup Systems	Ensure backup systems working and tested, and prioritize any upgrade plans affecting the backup infrastructure first. Once testing is completed, test again.	NA
5	Execute Upgrade Plan	Replace, upgrade, and re-configure according to plan.	NA
6	Test disaster recovery procedure	Ensure that disaster recovery procedures are defined and tested in the context of the new environment.	NA
7	Test and validate security posture	Conduct cyber-security testing to assess for gaps in firewalls, equipment configuration, and scan for the presence of deprecated protocols. Includes a Maturity Threat Assessment (\$15,000) and Wireless/Internal/External/Application Penetration Testing (\$15,000 to \$20,000).	\$30,000 to \$35,000

Where costs are marked as NA, this indicates that the activity is either already captured in the Township's IT Budget, covered in the Managed Services Agreement with the County of Peterborough, or will be carried out internally by Township staff.

Wherever business takes you 9

Strengthen Governance Framework

Duration: 3 months

	Activity	Description	Estimated Cost
1	Establish Technology Steering Committee	Prepare Terms of Reference including adoption of a centralized technology governance model; establish membership; Obtain Council approval if required; hold kick-off meeting	NA
2	Adopt guiding principles	Committee to adopt Guiding Architectural Principles recommended in the Future State report with a 5 year horizon	NA
3	Establish project intake process	Define process for submitting project requests; evaluating requests; and approving projects including value/cost thresholds	NA
4	Establish software selection and procurement process	A process for selecting and procuring software that the technology team is expected to support should be defined and adopted	NA or \$8,000 consulting support
5	Establish Technology Manager role	Establish job description and reporting responsibility. The Technology Manager Role should be filled by an IT specialist who would have the expertise to evaluate and recommend various digital initiatives and understand integrations to the Township's technology platform, as well as provide required IT support. The Township may seek to fill this role using their Managed Services Agreement (MSA) with the County of Peterborough, while considering that this could increase MSA costs.	TBD
6	Develop IT Policy Handbook	Prepare and adopt refreshed IT policies appropriate to an organization of the Township's size and publish an IT Policy Handbook	NA or \$8,000 consulting support

Where costs are marked as NA, this indicates that the activity is either already captured in the Township's IT Budget, covered in the Managed Services Agreement with the County of Peterborough, or will be carried out internally by Township staff.

Wherever business takes you 10

Implement Short-term Improvements to GIS

Duration: 1 month

	Activity	Description	Estimated Cost
1	Bookmark Township map extent	Modify map extent when linking to the County public GIS from the Township website so that when a user links to the public GIS from the Township website, the map is zoomed to the extent Township rather than the County.	NA County GIS team – part of MSA cost
2	Investigate use of "Groups" in ArcGIS Online as data transfer mechanism	Once infrastructure upgrades are completed, this could be a mechanism for eliminating use of encrypted USB keys for data transfer	NA County GIS team – part of MSA cost

The costs noted above are NA, as it is assumed that County of Peterborough GIS staff could implement this initiative within the parameters of the current Managed Services Agreement (MSA). If obtaining these services from the County requires adjustments to the MSA, there may be additional costs.

2021 – 2022 Details

The following section presents details for the 2021-2022 program.

Complete FileHold Implementation

Duration: 6 months for activities #1 – 6; Activity #7 to be completed in 2022 – 2023 program

Activity	Description	Estimated Cost
1	Implement FileHold organization-wide for document retention	NA
2	Consider training needs and provide standardized and ad-hoc support	NA
3	Confirm and implement integration with new ERP solution	NA
4	Implement invoicing process in FileHold	NA
5	Implement timesheet process in FileHold	NA
6	Develop report approval workflow	NA
7	Investigate FileHold functionality for Municipal Complaints Policy	NA

Where costs are marked as NA, this indicates that the activity is either already captured in the Township's IT Budget, covered in the Managed Services Agreement with the County of Peterborough, or will be carried out internally by Township staff.

Wherever business takes you 13

Replace Keystone with Diamond ERP/Virtual City Hall

Duration: 12 months

Note: Licensing and services costs are based on a budgetary quote provided by Central Square.

Activity	Description	Estimated Cost
1	Establish ERP implementation project	NA
2	Define solution scope and conceptual design	\$8,000 consulting support
3	Negotiate license and services contract with Central Square	\$130,000 onetime license
4	Define detailed requirements	\$20,000 (Central Square)
5	Configure solution	\$48,400 (Central Square)
6	Migrate sample data and test solution	\$28,000 (Central Square)
7	Conduct training and obtain documentation	\$22,000 (Central Square)
8	Accept and sign-off solution	\$22,000 (Central Square)
9	Financial - IT General Controls audit	NA - Part of Township's annual financial audit

Where costs are marked as NA, this indicates that the activity is either already captured in the Township's IT Budget, covered in the Managed Services Agreement with the County of Peterborough, or will be carried out internally by Township staff.

Wherever business takes you 14

Complete Cloudpermit Implementation

Duration: 1 year (Activities #1 - #4 within first 6 months)

	Activity	Description	Estimated Cost
1	Enter historical data/legacy permits into Cloudpermit (ongoing)	The Township should continue with plans to enter historical data and active legacy permits into Cloudpermit to have one source of truth for building permits. This would ideally be completed by end of June 2021 or as soon as possible.	NA
2	Configure Cloudpermit for other permit types	Cloudpermit to be configured for Cavan Monaghan's particular business needs (e.g. various permits other than building, such as deck, pool, etc.) to create a single interface/tool for all types of permits.	NA
3	Integrate with the new ERP Solution (Diamond ERP)	As part of Diamond ERP Implementation, Cavan Monaghan should explore and confirm the integration between Cloudpermit and Diamond ERP to avoid manual entry of permits into the ERP system that exist in Cloudpermit, as well as to fully integrate Cloudpermit with the payment system.	Part of consulting support for Diamond ERP
4	Integrate / enable payment processing	Enable payment of permit related fees directly in Cloudpermit, leveraging the integration to Diamond ERP to capture financial data coming out of that system appropriately.	NA
5	Investigate if Cloudpermit can be used as the basis for a Land Development Application Management solution	The Township should look at workflow capabilities shared with the County and other Townships during their investigation. Cloudpermit currently has the capabilities to integrate with ArcGIS for looking up parcel information (address, roll numbers, and other property data) as well as with certain Payment providers to automate Fees Management. A REST API is anticipated in future release to enable integration with any back-end system. Collaboration with the County of Peterborough during this activity is especially important to explore all options.	TBD
6	Support future e-permitting requirements	Ensure that this tool can support potential future e-permitting requirements from the province by working with the vendor and also digitizing and centralizing the permit process as much as possible within this new software solution (e.g. Virtual Information Management (VIM) files may be the future format for permits; Cloudpermit works well with VIM. The Township should also look at exports from Cloudpermit into MPAC to determine if their data can be sent to MPAC in a more automated process.	NA
7	Collaborate with County of Peterborough (ongoing)	Cavan Monaghan must continue to work with the County of Peterborough to ensure that this tool integrates with future related technology solutions.	NA

Where costs are marked as NA, this indicates that the activity is either already captured in the Township's IT Budget, covered in the Managed Services Agreement with the County of Peterborough, or will be carried out internally by Township staff.

Wherever business takes you 15

Implement Microsoft 365 – Planning Phase (1/2)

Duration: 3 months

	Activity	Description	Estimated Cost
1	Inventory Users	Collect the number of user accounts (login names, email addresses)	NA
2	Inventory Mailboxes	Collect the number and size of mailboxes (including shared mailboxes and conference rooms)	NA
3	Document Client Configurations	Collect client versions and configurations (browsers, operating systems, office applications, mobile versions, and so on)	NA
4	Document Network Settings Reference	Collect details on your network settings (DNS hosts, proxy and/or firewall configuration, internet connectivity)	NA
5	Detail Logical Network Storage Volumes	Collect information on file storage locations (file shares) – which folders represent individual departments, and the list users who require access to each one	NA
6	Identify Applications Integrated with Existing Systems	Collect the details about any applications that are integrated with existing systems (active directory, mail enabled applications, workflow, and so on)	NA
7	Determine Account Migration Method	Choose to add users individually or in bulk. The bulk may require writing custom PowerShell scripts. If a mailbox is migrated and no license is assigned in 30-days, the mailbox will be deleted automatically	NA
8	Determine Authentication Method	Choose Cloud-only or Hybrid Identity. Hybrid Identity Recommended: User account exists in AD DS and a copy is also in the Azure AD tenant for your Microsoft 365 subscription. The user account in Azure AD might also include a hashed version of the user account password.	NA
9	Evaluate Existing File Share Structure for Cloud Compatibility	The requirements for file structures and their thresholds on Microsoft Teams must be considered before migration, as the current network file structure may not be compatible. See these articles: Move documents to SharePoint and Manage large lists and libraries in SharePoint	NA

Where costs are marked as NA, this indicates that the activity is either already captured in the Township's IT Budget, covered in the Managed Services Agreement with the County of Peterborough, or will be carried out internally by Township staff.

Wherever business takes you 16

Implement Microsoft 365 – Planning Phase (2/2)

Duration: 3 months

	Activity	Description	Estimated Cost
10	Decide on Email Migration Method	Choose either a Cutover Migration or a Hybrid Migration. Cutover Migration Recommended: Ways to migrate multiple email accounts to Office 365	NA
11	Determine Allowed Devices	What devices will users be able to connect from (remotely, from mobile devices, or just from your network)?	NA
12	Cleanup Active Directory and Mailboxes	Remove duplicates and other unnecessary object and attributes from the existing Active Directory, and prepare for cloud-based Directory requirements, single-sign-on, etc.: Prepare for directory synchronization to Office 365 . (Identify mailboxes associated with accounts no longer used).	NA
13	Design the Simplest Possible Local-Network Configuration	Identify unnecessary intermediary devices and servers, aim to create the simplest possible network configuration for traffic out of the local office to the Microsoft Cloud network. Avoid funneling traffic into a central data centre for all Office 365 bound connections.	NA
14	Configure Firewalls and QOS	Ensure that traffic bound for Office 365 is identified, treated appropriately and managed differently to network traffic bound for generic or unknown Internet web sites that employees may browse.	NA
15	Test Connectivity to Office 365	Ensure Office 365 traffic is not being bottlenecked by network security devices, proxies, inspection devices or any other duplicate security mechanisms already provided by Office 365. Capture the baseline performance for your network to Office 365: Avik network testing and the following information Office 365 performance tuning	NA
16	Update Client Systems	Ensure all end-users desktops and devices are running operating system patch levels that are compatible with the latest Office 2019 desktop applications, and have installed Browser version supported by Office 365 Online: System requirements for Office Windows 10 Fall Creators Update or later is required for OneDrive Sync	NA
17	Decide on Email Migration Method	Choose either a Cutover Migration or a Hybrid Migration. Cutover Migration Recommended: Ways to migrate multiple email accounts to Office 365	NA
18	Determine Allowed Devices	What devices will users be able to connect from (remotely, from mobile devices, or just from your network)?	NA

Where costs are marked as NA, this indicates that the activity is either already captured in the Township's IT Budget, covered in the Managed Services Agreement with the County of Peterborough, or will be carried out internally by Township staff.

Wherever business takes you 17

Implement Microsoft 365 – Execution

Duration: 2 weeks

	Activity	Description	Estimated Cost
1	Configure Office 365	Set up the Domains, and configure application settings for email, instant messaging, online meetings, web collaboration, and file storage (including creation of Departmental Team's and the corresponding Document Libraries that replace the legacy Shared Network Drives)	NA
2	Prepare Directory Synchronization	Configure hybrid identity and access management connection between local-network and cloud identity systems	NA
3	Prepare Single Sign-On	Configure local Active Directory and users with settings necessary to support Single Sign On	NA
4	Test Directory Services and Single Sign On	Ensure authentication in a hybrid environment is functioning as intended	NA
5	Setup User Accounts and Licenses	Add your users and Assign licenses to users in Office 365	NA
6	Migrate Email and File Storage Data	Migrate data from Exchange On-Premises to Exchange Online, and copy cleaned Network Drives to Team's folders	NA
7	Migrate DNS Settings	When you update your domain's MX record, all new email for anyone who uses your domain will now come to Office 365	NA
8	Reconfigure Clients Systems	Install the latest Office 365 applications on all client systems to connect to Office 365 Enable Group Policy to Configure team site libraries to sync automatically in place of the legacy Shared Network Drives	NA
9	Enable Backup	Enable backup systems to connect to the new Exchange Online server and shared folders on Teams	NA

Where costs are marked as NA, this indicates that the activity is either already captured in the Township's IT Budget, covered in the Managed Services Agreement with the County of Peterborough, or will be carried out internally by Township staff.

Wherever business takes you 18

Develop Plan for a Shared Land Development Management Solution

Duration: 6 months

	Activity	Description	Estimated Cost
1	Discuss with stakeholders	Discuss with County and other lower-tier Townships to gauge interest in a shared solution. Should be done at Council and leadership level.	NA
2	Establish project governance	Establish shared project governance and roles and responsibilities including assigning project manager and solution architect roles	NA
3	Develop Solution Concept	Project Manager and Solution Architect to develop solution concept in consultation with stakeholders	NA
4	Develop Project Charter	Develop a project charter including a high level project plan, cost estimates, resourcing needs and schedule for approval by participating jurisdictions	NA

It is assumed that the County of Peterborough GIS team could fill the Project Manager and Solution Architect role for this initiative. The costs noted above are NA, as it is assumed that these services from the County are covered within the parameters of the current Managed Services Agreement (MSA). If obtaining these services from the County requires adjustments to the MSA, there may be additional costs.

2022 – 2023 Details

The following section presents details for the 2022-2023 program.

Complete CityWide Implementation

Duration: 3 months

	Activity	Description	Estimated Cost
1	Complete training and implementation	Complete training of CityWide for Wayne and Evan (Fleet, Roads, Operations) to enable the Township to take ownership of managing fixed assets directly in CityWide - Timeline: tentative	\$3,200 (Already budgeted for 2020/2021 CityWide implementation)
2	Integrate Diamond ERP	A one-way data transfer of any updates to the asset register from CityWide to Diamond ERP – Timeline: after Diamond ERP is in place.	Should be included in Diamond ERP Implementation
3	Explore options for integration with Virtual City Hall	Explore options available on the CityWide platform to enable a virtual city hall, integrated with the Corporate Website	NA

Where costs are marked as NA, this indicates that the activity is either already captured in the Township's IT Budget, covered in the Managed Services Agreement with the County of Peterborough, or will be carried out internally by Township staff.

Implement improvements to Website

Duration: Activities #3 - #5 would occur within the 2022 – 2023 program*

	Activity	Description	Estimated Cost
1	Define and implement integration of website and Virtual City Hall	Virtual City Hall offers citizens self-service and online payment options. When Keystone is replaced with Diamond ERP/Virtual City Hall, there is a task to define future interfaces with other systems and to develop citizen self service functionality. The Township must ensure that Virtual City Hall integrates with the website both for the back end as well as for the user interface (i.e. website can be a "one-stop shop" for citizens).	NA (part of Diamond ERP/Virtual City Hall implementation)
2	Investigate Cloudpermit integration	The Township should investigate how best to integrate Cloudpermit with their website and/or potential citizen self-service portal for a seamless user experience. This can be reviewed as part of the conceptual solution design for Diamond ERP/Virtual City Hall (noted above as Activity 1).	NA (see above)
3	Investigate iCreate capabilities for online payment processing and customer self-service portal (optional if Virtual City Hall does not meet expectations)	iCreate offers a FormBuilder module with built-in eCommerce capabilities to create customized online payment forms, as well as a citizen portal module that provides self-service options. Both these options could be explored if Virtual City Hall does not meet the Township's payment and self-service expectations. Any online payment solution should integrate with a new ERP system and offer a seamless electronic transaction for both the citizen and back-end processing.	TBD depending on VCH implementation and cost of alternatives
4	Review and improve integration with eScribe (ongoing)	Enhance integration with eScribe to enable pushing updates for existing iCalendar records, and fix the issue where all Agenda records are created as a Council Agenda as part of ongoing conversations with eScribe and eSolutions.	NA (internal exercise by Township staff)
5	Review and improve online customer journey	As part of the ongoing effort to provide better service through the website, the Township should review the online customer journey for key processes, such as reporting issues vs. complaints, accessing economic development services, building permit applications, etc. This can be an internal exercise or utilize consulting support.	NA or \$15,000 consulting support

*We would note that the first two activities take place as part of the 2021 – 2022 program. Activities 3 – 5 are for Cavan Monaghan to explore and complete within the one-year timeframe of the 2022 – 2023 program.

2023 – 2024 Details

The following section presents details for the 2023-2024 program.

Implement Complaints Management System

Duration: 6 months

	Activity	Description	Estimated Cost
1	Analyze needs for a Complaints Management system	The Township should analyze their business needs for a complaints management system. This includes speaking with departments to identify the volume of complaints, the current workload to track and respond to these complaints using current processes, response times (if available) and current reporting capabilities (e.g. what types of complaints are typically made, number of complaints, seasonality of complaints, etc.). The Township should also consider the benefit of a complaints management system, both to respond to complaints in a timely manner and for future reporting capabilities (e.g. reporting based on collected data could be used for decision making).	\$9,000 consulting support
2	Explore internal options for a Complaints Management system	The Township should explore internal options for a complaints management system. For example, if Microsoft Teams becomes widely used/available at the Township, there is an option to use a Kanban Board (Tasks/Planner) to track, collaborate on and respond to complaints. This tool could provide visibility and some enhanced reporting capability for the Township. FileHold is also an option to track and collaborate on certain types of complaints (e.g. complaints related to the Municipal Complaints Policy). Any options considered must also be able to integrate with the website for complaints submitted through the website to automatically be generated in the complaints management system.	\$8,000 consulting support
3	Explore external options for a Complaints Management system (optional)	The Township could consider external (i.e. new software tools) options for a complaint management system if their business needs are sufficient to require a software tool to track, manage and report on complaints. A solution such as JIRA Service Desk is specifically designed to track and manage complaints, but would be an additional cost for the Township.	TBD (depends on vendor quotes)
4	Implement Complaints Management system	The Township must make a decision on what tool (internal or external) they will use for complaints management and implement it, in collaboration with the County of Peterborough to ensure they can provide appropriate IT Support.	TBD based on the solution selected

Implement Improvements to Public-Facing GIS

Duration: 1 year

	Activity	Description	Estimated Cost
1	Implement Property Viewer application	In collaboration with the County and using current GIS infrastructure and licenses, define requirements, design, develop, test and deploy a streamlined self-serve Property Viewer	NA
2	Implement Land Development Status Viewer application	In collaboration with the County and using current GIS infrastructure and licenses, define requirements, design, develop, test and deploy streamlined self-serve Land Development Status Viewer – if shared Land Development Management system is implemented, this viewer will publish data from that system	NA
3	Implement Road Operations Viewer application	In collaboration with the County and using current GIS infrastructure and licenses, define requirements, design, develop, test and deploy streamlined self-serve Road Operations Viewer	NA

Where costs are marked as NA, this indicates that the activity is either already captured in the Township's IT Budget, covered in the Managed Services Agreement with the County of Peterborough, or will be carried out internally by Township staff. For this initiative, it is assumed services will be provided by the County GIS team.

Ongoing Program Activities

The following section presents details for key ongoing activities.

Ongoing Program Activities

Supporting and Building on the Roadmap



Evolution of Microsoft 365

- Ensure inter-departmental collaboration and take a business-case, requirements-based approach for the technical configuration and roll-out of M365 functionality going forward.
- Create a continuous training plan available to all employees to address constant change of the platform
 - Consider a training service (subscription) that provides on-demand training videos that support users staying up to-date.



Implementation of Shared Land Development Management system

- A modern map-enabled solution with workflow capabilities to manage Development Applications developed in collaboration with the County and the other lower-tier Townships would significantly enhance citizen engagement and transparency around the land development function. An example of results from a similar application is presented on the following slide. A variety of solution approaches are possible: (a) ArcGIS Online- based; (b) based on Cloud Permit; (c) based on a commercial product such as Cityworks or based on a platform such as Microsoft Dynamics CRM.



Regular IT Support

- Once infrastructure is upgraded and Microsoft 365 is rolled out, IT support will be needed to support a Cloud-based infrastructure. Typical of that environment is constant change, and therefore IT support takes on the role of enabling continuous change, which is a departure from legacy support where applications and infrastructure are static. The role of IT support moves from "fixing" systems to enabling effective use of applications.

Example Development Tracking Application

Town of Whitchurch-Stouffville

This interactive development activity map can be found at:

<https://townofws.maps.arcgis.com/apps/MapJournal/index.html?appid=9c3e72e46cc842c1a0731dad537c1d3d>

Appendix A

Detailed Cost Breakdown

Detailed Cost Breakdown

2020 – 2021 Program

The tables below summarize the one-time and ongoing costs presented for the 2020 – 2021 program. Costs that are required to implement the Roadmap are indicated, as well as optional costs to support implementation. Where an initiative or activity in the 2020 – 2021 program is not included, the costs were assumed to be part of the County’s IT Budget and/or current technology implementation plans.

Initiative	Activity	Cost Category	Cost
Upgrade Infrastructure and Disaster Recovery Procedure	Create Detailed Infrastructure Upgrade Plan and Disaster Recovery Plan	Optional	\$25,000 - Consulting Support
	Procurement	Required	\$30,000
	Test and validate security posture	Required	\$30,000 to \$35,000
Strengthen Governance Framework	Establish software selection and procurement process	Optional	\$8,000 - Consulting support
	Develop IT Policy Handbook	Optional	\$8,000 - Consulting support
TOTAL \$60,000 to \$106,000			Required: \$60,000 - \$65,000 Optional: \$41,000

Detailed Cost Breakdown

2021 – 2022 Program

The tables below summarize the one-time and ongoing costs presented for the 2021 – 2022 program. Costs that are required to implement the Roadmap are indicated, as well as optional costs to support implementation. Where an initiative or activity in the 2021 – 2022 program is not included, the costs were assumed to be part of the County's IT Budget and/or current technology implementation plans.

Initiative	Activity	Cost Category	Cost
Replace Keystone with Diamond ERP/Virtual City Hall	Define solution scope and conceptual design	Required	\$8,000 consulting support
	Negotiate license and services contract with Central Square	Required	\$130,000 onetime license
	Define detailed requirements	Required	\$20,000 (Central Square)
	Configure solution	Required	\$48,400 (Central Square)
	Migrate sample data and test solution	Required	\$28,000 (Central Square)
	Conduct training and obtain documentation	Required	\$22,000 (Central Square)
	Accept and sign-off solution	Required	\$22,000 (Central Square)
	Diamond maintenance and support (ongoing)	Ongoing	\$28,500
TOTAL \$306,500			Required: \$278,400 Ongoing: \$28,500

Detailed Cost Breakdown

2022 – 2023 Program

The tables below summarize the one-time and ongoing costs presented for the 2022 – 2023 program. Costs that are required to implement the Roadmap are indicated, as well as optional costs to support implementation. Where an initiative or activity in the 2022 – 2023 program is not included, the costs were assumed to be part of the County's IT Budget and/or current technology implementation plans.

Initiative	Activity	Cost Category	Cost
Complete CityWide Implementation	Complete training and implementation	Required	\$3,200 (Already budgeted for 2020/2021 CityWide implementation)
Implement improvements to Website	Review and improve online customer journey	Optional	\$15,000 consulting support
Diamond ERP/Virtual City Hall	Diamond maintenance and support (ongoing)	Ongoing	\$28,500
TOTAL \$31,700 - \$46,700			Required: \$3,200 (already in budget) Optional: \$15,000 consulting Ongoing: 28,500

Detailed Cost Breakdown

2023 – 2024 Program

The tables below summarize the one-time and ongoing costs presented for the 2023 – 2024 program. Costs that are required to implement the Roadmap are indicated, as well as optional costs to support implementation. Where an initiative or activity in the 2023 – 2024 program is not included, the costs were assumed to be part of the County’s IT Budget and/or current technology implementation plans.

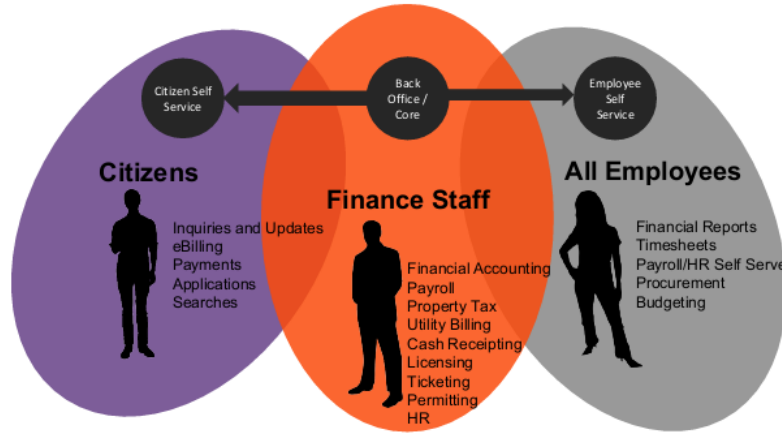
Initiative	Activity	Cost Category	Cost
Implement Complaints Management System	Analyze needs for a Complaints Management system	Required	\$9,000 consulting support
	Explore internal options for a Complaints Management system	Required	\$8,000 consulting support
	Implement Complaints Management system	TBD	TBD
Diamond ERP/Virtual City Hall	Diamond maintenance and support (ongoing)	Ongoing	\$28,500
TOTAL \$45,500			Required: \$17,000 consulting Ongoing: \$28,500

Appendix D

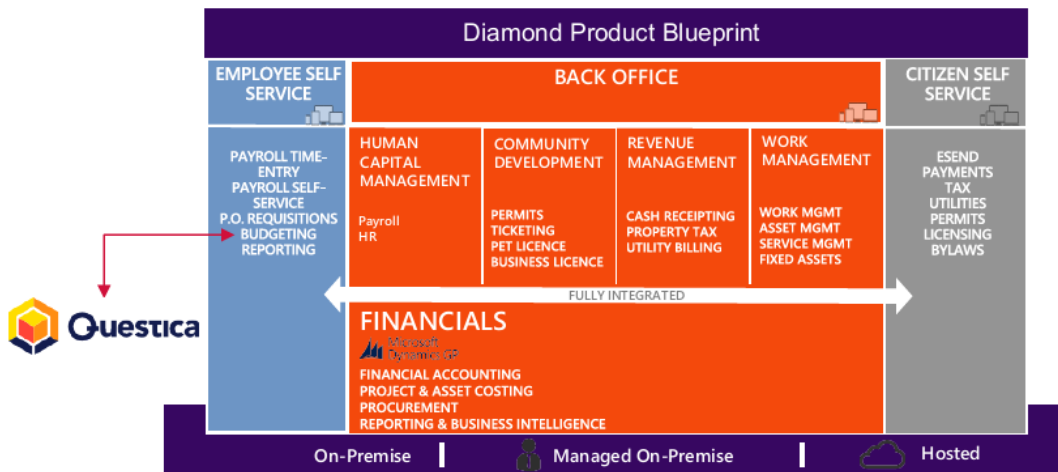
Diamond ERP Overview

The Diamond Solution

Explored from 3 Main Groups of Users



Product Blueprint: A Fully Integrated Solution



Pre-Built Integrations (not a complete list)

Property Taxes

- MPAC
- Pre-Authorized Payment (all banks)
- Citizen Portal
- Mortgage Companies

Utility Billing

- Meter Readings (Neptune, iTron, Sensus, etc.)
- Pre-Authorized Payment (all banks)
- Citizen Portal

Purchasing (AP & PO)

- EFT (all banks)
- Diamond Modules (GL, Payroll, Utilities, Permitting)
- Invoice Import (e.g. utility invoices, doc management)
- Tax Rebating
- Safe Pay
- Purchasing Cards (all banks)

Payroll

- Accounts Payable
- Direct Deposit (all banks)
- Employee Portal
- Web ROE
- OMERS
- T4 XML
- Employee Portal (timesheets & leave requests with approvals, skill/certifications/training)

General Ledger

- Integrated to all supplied modules
- Configurable GL Journal Import
- Questica & FMW Budgeting
- Management Reporter

Accounts Receivable

- EFT (all banks)
- Invoice Import
- Citizen Portal

Centralized Cash Receipting

- All other supplied modules
- Payment Import (all banks)
- PCI Compliant Citizen Portal (Moneris, Bamboora, Paymentus)

Other

- eBilling
- Excel
- SQL Server Reporting Services
- Most any system through the integration suite and scripts



Paperless

eSend

Tax Bills	AR Statements
Tax Certificates	Cash Receipts
Tax Arrears	Cash Receipt PAP
Tax Assessment Notice	PAP Changed Letters
Tax Statements	Pet Licenses
Tax Welcome Letters	Pet License Renewal Notice
Utility Bills	Business Licenses
Utility Arrears	Permits
AR Invoices	Permit Applications



Thank you for the opportunity
to submit this Report.



KINCENTRIC
Best Employer
CANADA 2019



Wherever business takes you

[MNP.ca](https://www.mnp.ca)