MEMORANDUM

To:	Technology Commission
From:	Dave Buwick, Chief Technology Officer
CC:	George Koczwara, Village Manager
	Greg Summers, Assistant Village Manager
Date:	3/6/2020
Subject:	**Village Enterprise Software Applications Strategy**

One of my primary charges since joining the Village in June 2019 was to provide an evaluation of the Village's existing information technology (IT) infrastructure and platforms. The Village's network communications infrastructure and enterprise software applications form the foundation upon which all current information technology enhancements reside and all future technology will be built.

The core of any organization's enterprise application foundation is their Enterprise Resource Planning (ERP) software modules. An ERP is business process management software that enables an organization to use a system of integrated applications to manage and automate core business functions. The ideal ERP system needs to satisfy requirements in five primary categories.

First, it has to be <u>functional</u> and satisfy the requirements of the business units, end users and customers. This system would have an intuitive user interface that is easy to learn and requires little effort to input and retrieve information.

Second, the ideal ERP has to be <u>sustainable</u>. The ERP vendor must be an established company with sustained growth, a stable financial base, and a large customer base. A large public sector customer base is especially important due to its unique reporting, compliance, and records requirements. An ideal ERP is developed using current software code, platforms and architectures. A customer should not invest in an antiquated, soon to be end of life, platform.

Third, the ideal ERP has to be <u>affordable</u>. Regardless of how well an ERP satisfies the customer's requirements; the customer needs to determine if it can sustain the cost of implementation, ongoing onsite and vendor support, and annual licensing costs. Another cost consideration is that ERP vendors today have or are in the process of transitioning to an annual subscription based Software-as-a-Service (SaaS) model located off premise and in the cloud. This model typically requires less up front capital expenses (CAPEX), but significantly higher operating expenses (OPEX).

Fourth, the ideal ERP system has to be <u>scalable</u> and be able to sustain higher capacities of users and storage.

Finally, the ideal ERP has to be <u>adaptable</u>. The vendor must adequately invest in research and development, adapting as technology changes by adding new functionality. Such a platform would not require the customer to replace their platform after significant initial and ongoing investment.

The Village is presently using the Harris ERP on premise modules listed below:

MODULE	FUNCTIONS
• Financials	GL, Budget, Bank Reconciliation, Deposits, Workflow, Purchasing, Vendors, Accounts Payable, Invoices, Reporting, Fixed Assets, Procurement Cards, Projects
• Centralized Cash Receipts (CCR)	Water Bills, Permit Fees, License Fees, Vehicle Stickers, Misc. Cash Receipts, Credit Card Processing
• Customer Information Systems (CIS)	Water Billing, Service Orders, Misc. Accounts Receivable
• Citizen Access (CA)	Online Water Bill Payments
• Payroll	Payroll Processing, Check Printing, W2s, 1099-Rs, Employee Database
• Employee Self-Service Portal (ESSP)	Time Management, Leave Requests, Employee Records Management, Workflow
• Community Development (ComDev)	Licensing, Permitting, Code Enforcement, Inspections, Parcel Information, Addressing, GIS Integration, Plan Review

The Village invested $480,151 in licensing, support, and services into its existing Harris ERP platform since it began implementation in December 2011. Harris ERP currently costs $67,584 annually for licensing and support. When it was implemented it met many of the requirements of the ideal ERP categories identified previously. Today, it primarily satisfies only one category - affordability. It now has significant support and performance issues that have resulted in frequent outages. Harris is not adequately investing in supporting this platform. The Village's existing Harris ERP is using antiquated code and inefficient database architecture.

This platform does not integrate with the Village's other function specific applications listed below resulting in manual dual entry or batch data exports and imports using custom developed scripts. Manual dual entry reduces productivity and introduces the possibility of data entry errors. Custom scripts are difficult to maintain and not reliable because many times when a software update or patch is applied, the custom script must also be modified. Function specific applications requiring custom programed integrations, batch files, or dual manual data entry include:

APPLICATION	FUNCTIONS
• ActiveNet	Recreation Management
• Sensus/FlexNet	Automated Wireless Water Meter Reading
• Third Millennium	Vehicle Sticker Management
• Microsoft Access Database	Citation Management
• Gatso	Red Light Camera Ticket Management
• MCOA Collections Service	Water Bills, Recreation Fees, Tickets, Fines, Misc. Accounts Receivable, Red Light Camera Tickets

In addition, the Village is presently implementing and using the following Tyler EnerGov SaaS modules listed below:

APPLICATION	FUNCTIONS
• EnerGov Enterprise Asset Management (EAM)	Service Requests, Work Orders, Citizen 311 Online Portal, Asset Inventory, GIS Integration, Preventative Maintenance, Asset Performance, Mobile Field Client
• EnerGov Community Development	Licensing, Permitting, Code Enforcement, Mobile Inspections, Parcel Information, Addressing, GIS Integration, Electronic Plan Review, Online Payments, Online Customer Service Portal

The Village invested $546,643 in licensing, support, and services to implement and maintain its existing Tyler EnerGov Enterprise Asset Management (EAM) and EnerGov Community Development platforms since it began implementation in October 2017. The Village currently spends $133,072 annually for Tyler EnerGov licensing and support.

Implementation of Tyler EnerGov EAM for the Public Works Department was substantially completed in November 2018. EAM was configured for the Parks Department, but they are currently not using it since the checklist functionality did not meet their requirements. The latest version is being tested to determine if it now satisfies their requirements. The Village will be upgrading to the latest version of EAM on March 14, 2020.

The Village will begin implementation of the Citizen 311 Online Portal after this upgrade is completed. However, Tyler EAM still will not integrate with Harris ERP Payroll. If these applications were integrated it would be possible to identify the total cost of work orders by pulling the task which would include both materials and labor costs in a single report.

Implementation of Tyler EnerGov Community Development began in May 2018 and continued into October 2019. It was put on hold in November 2019 due to significant leadership and staff turnover in Development Services. After implementation resumed in February 2020, staff identified significant challenges due to critical payment and parcel information processes which would not be integrated with the corresponding Harris ERP modules. This lack of integration would require duplicate data entry and different payment processes for customers who pay online versus those that pay in person.

The Village is presently implementing the following Ultimate Software UltiPro SaaS modules listed below:

APPLICATION	FUNCTIONS
• UtiPro (SaaS)	Payroll, Timekeeping, Benefits Mgmt., Recruiting, Performance Mgmt., Global Human Capital Management, Learning

The Village invested $51,100 in licensing, support, and services since it began implementation of UltiPro payroll and time keeping functions in April 2019. The Village is projecting to spend between $230,000 and $250,000 annually for licensing and support.

Staff encountered significant challenges related to the complexity of implementing one software platform that needed to satisfy the requirements of many unique and disparate groups of staff, pensioners, and retirees. Additionally there are challenges to adequately control access and secure personal identifiable information (PII) as well as personal health information (PHI) in a cloud-based platform. Furthermore, UltiPro does not integrate with the Village's Harris ERP and staff would have to develop custom batch scripting to export employee payroll data into the Harris ERP Financials general ledger.

In February 2020, a merger between Kronos and Ultimate software was announced. The merger is scheduled to be finalized by mid-March 2020. This unexpected change significantly raises the probability of staff encountering implementation and support problems. Kronos and Ultimate Software offer competing software modules which would likely force the Village to migrate recently implemented UltiPro modules to the competing Kronos modules. Typically, there are changes in vendor staffing levels and assignments after these types of mergers are finalized. Staffing changes may result in delayed implementation due to a lack of knowledge transfer from previous staff to new staff and lack of staffing resources.

The aforementioned challenges and inefficiencies are consequences of not having an integrated ERP strategy. While upgrading or replacing departmental specific applications may improve the automation and efficiency of one department's staff, it can cause inefficiencies in other departments if not fully integrated with other systems.

As a result of these challenges, key stakeholders, subject matter experts, and leadership developed the following recommendations for your review and input. It is staff's recommendation that the Village proceed with the following initiatives:

1) **Sustain and Fortify Existing Enterprise Systems**: Staff has rebuilt the virtual server and database platforms for the Harris ERP modules and is in the process of upgrading each of the modules to the latest versions. IT and Public Works staff are upgrading Tyler EAM to the latest version on March 14, 2020 and will begin implementing the 311 Online Portal enabling residents to enter requests via the Web. Staff will soon issue an RFP to contract with a new vendor to replace the Village's public website.

2) **Review Existing Vendor Agreements for Ongoing Implementations:** Staff and the Village's legal advisors are reviewing the Village agreements with Tyler and Ultimate Software to determine options for terminating or delaying the implementation of the EnerGov Community Development and UltiPro applications.

3) **Develop an Integrated ERP Strategy and Approach:** Staff recommends the development of an interdepartmental task force, with input from the Technology Commission, whose charge will be to develop the Village's overall ERP Strategy, research municipal ERP systems, develop a Fiscal Year 2021 Budget recommendation, and if approved, assist with the implementation of the integrated ERP strategy.

I look forward to your input regarding this matter.