

# Oakland County Department of Information Technology Project Scope and Approach

**Project Name: CAMS Enterprise Enhancements 2023-2024**

**Project ID: D13182CE**

<b>Leadership Group:</b> Land			
<b>Department:</b> Information Technology		<b>Division:</b> Application Services	
<b>Project Sponsor:</b> Tammi Shepherd	<b>Date Requested:</b> 2/14/22	<b>PM Customer No.</b> 182	
<b>Request Type:</b>	<u><i>New Development</i></u>	<i>Enhancement</i>	<i>Customer Support</i>
<i>Planned System Maintenance or Upgrade</i>			
<b>IT Team Name:</b> Infrastructure and GIS		<b>IT Team No:</b> 1	
<b>Project Manager/Leader:</b> Dennis Faustich			
<b>Account Number:</b> 30003	<b>Account Description:</b> IT APP SVCS GIS	<b>Customer Name:</b>	Application Services
<b>Grant Funded?</b> Yes    No X	<b>Mandate?</b> Yes    No X	<b>Mandate Source:</b>	

## **Project Goal**

To implement enterprise enhancements for the CAMS initiative for asset management, permit management, and citizen requests/complaints Countywide, so that efficiencies can be gained in the support and maintenance of the system and enterprise enhancements can be implemented.

## **Business Objective**

To implement non-customer specific enterprise enhancements to Cityworks that will result in more efficient delivery of system support and maintenance.

### **Major Deliverables**

- System enhancements to improve enterprise processes and tools used to support and maintain the CAMS system.
- AGO App/Map Configuration
- Configure and test new Cityworks Apps – Storeroom, Mobile, Etc.
- Support expanded use of new Cityworks functionality with v15.7
- AWS CAMS Server Right Sizing for Cost savings
- Create AGO Dashboards for CAMS usage

### **Approach**

- Determine, document and implement enterprise application enhancements and improvements to internal or external processes.
- On-Site User Groups for each Domain
- Install/Test new Cityworks Apps
- User Trainings for new functionality related to CAMS Upgrade
- Update DR Toolkit

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**Research & Analysis**

**Gartner Research Recommendation – No Research Required**

**Benefits**

*See Return on Investment (ROI) Analysis Document*

**Impact**

**Number of Users**                      600

**Divisions**                              FM&O, RCOC, and the Cities of Auburn Hills and Farmington Hills.

**Leadership Groups**                  Land

**Risk**

**Business Environment**              Medium - Project will require some changes to existing business processes.

**Technical Environment**              Medium - Previously implemented technologies with new aspects and/or new requirements.

**Assumptions**

**Staffing**                      IT Staffing: resources will be available for the hours indicated per the attached project plan.

Other Staffing: additional staffing will be available as follows:

<b><u>Role:</u></b>	<b><u>Name</u></b>	<b><u>Hours per Day</u></b>
Project Sponsor:	Tammi Shepherd	

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**Facilities**

- 
- 

**Technical**

- 
- 

**Funding**

- Information Technology

**Other**

- Department specific enhancement requests will be facilitated and funded through departmental enhancement and program budgets

**Priority**

**Constraints**

- Enhancement Requests will be reviewed by CAMS User Group which is comprised of representatives from each of the participating agencies.

**Exclusions**

- 
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## PROJECT PHASE AUTHORIZATION

<b>Phase(s):</b>	
<b>Total Estimated Application Services</b>	<b>Hours: 185</b>
<b>Total Estimated Technical Systems</b>	<b>Hours: 15</b>
<b>Total Estimated CLEMIS</b>	<b>Hours:</b>
<b>Total Estimated Internal Services</b>	<b>Hours:</b>
<b>IT Application Services Division Manager Approval:</b>	<b>Date:</b>
<b>IT Technical Systems Division Manager Approval:</b>	<b>Date:</b>
<b>IT CLEMIS Division Manager Approval:</b>	<b>Date:</b>
<b>IT Internal Services Division Manager Approval:</b>	<b>Date:</b>
<b>IT Management Approval:</b>	
Approved:                      Yes                      No	<b>Date:</b>
Reason:	
<b>Project Sponsor Approval:</b>	
Title:	<b>Date:</b>

## PROJECT SUMMARY

<b>Authorized Development (see above)</b>	<b>Hours: 200</b>	
<b>Preliminary Estimated Development for Future Phases</b>	<b>Hours:</b>	
<b>Grand Total Estimated Development</b>	<b>Hours: 200</b>	<b>Cost: \$ 33,000</b>

# Oakland County Department of Information Technology Project Scope and Approach

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## PROJECT COMPLETION AUTHORIZATION

<b>Customer Acceptance of Product:</b>	
Title:	Date:
<b>Project Office Review:</b>	Date:

CAMS Enterprise Enhancements 2023-2024 - Size Estimate (+/- 10% to 50%)

1	Type	ID	Task Name	Estimated
2				Hours
3	3	000000	CAMS Enterprise Enhancements 2023-24	200
4				200

**Oakland County -- CAMS Enterprise Enhancements 2023-2024**

Return on Investment Analysis

Project Summary

Description	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total
<b>Benefits/Savings:</b>							
Tangible Benefits Subtotal:	0	0	0	0	0	0	0
Cost Avoidance Subtotal:	0	0	0	0	0	0	0
<b>Costs:</b>							
Development Services Subtotal:	33,000	1,650	1,650	1,650	1,650	1,650	41,250
Hardware Subtotal:	0	0	0	0	0	0	0
Software Subtotal:	0	0	0	0	0	0	0
Infrastructure Subtotal:	0	0	0	0	0	0	0
Training Subtotal:	0	0	0	0	0	0	0
Other Subtotal:	0	0	0	0	0	0	0
<b>Annual Statistics:</b>							
Annual Total Savings	0	0	0	0	0	0	0
Annual Total Costs	33,000	1,650	1,650	1,650	1,650	1,650	41,250
Annual Return on Investment	(33,000)	(1,650)	(1,650)	(1,650)	(1,650)	(1,650)	(41,250)
Annual Costs/Savings Ratio	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
<b>Project Cumulative Statistics:</b>							
Cumulative Total Savings	0	0	0	0	0	0	0
Cumulative Total Costs	33,000	34,650	36,300	37,950	39,600	41,250	41,250
Cumulative Return on Investment	(33,000)	(34,650)	(36,300)	(37,950)	(39,600)	(41,250)	(41,250)
Cumulative Cost/Savings Ratio	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Year Positive Payback Achieved							NO PAYBACK
State or Federal Mandate?							
<b>Signatures:</b>							
Benefits Reviewed By Project Sponsor	_____			Date:	_____		
Costs (including IT Resources) Reviewed By Information Technology Project Manager	_____			Date:	_____		







**Oakland County -- CAMS Enterprise Enhancements 2023-2024**  
Return on Investment Analysis

Savings Summary

Benefit/Savings Description	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total
<b>Tangible Benefit:</b>							
<i>Tangible Benefits Subtotal:</i>							
<b>Cost Avoidance:</b>							
<i>Cost Avoidance Subtotal:</i>							
<b>Intangible Benefit:</b>							
Provide enterprise level enhancements to CAMS that result in improved functionality and customer time savings		0	0	0	0	0	
Provide enhancements to IT processes that result in reduced cost of ownership for the CAMS system.	0	0	0	0	0	0	
Make CAMS data more accessible to field staff	0	0	0	0	0	0	
Implement new functionality available in latest vendor release	0	0	0	0	0	0	
Provide security enhancements for a more secure system and better user experience.	0	0	0	0	0	0	
<b>Savings Total:</b>							

Oakland County -- CAMS Enterprise Enhancements 2023-2024

Return on Investment Analysis

Cost Detail

Cost Description	Project Cost Category	Budget Category/Funding Source	Unit Desc	Units	Rate per Unit	Total Cost	Annual Multiplier	Affects Project ROI?							
								Y1	Y2	Y3	Y4	Y5	Y6		
IT Hours - New Development	Development Svcs		HR	200	165	33,000		x							
IT Hours - System Maintenance	Development Svcs				165	0									
IT Hours - Customer Support	Development Svcs			10	165	1,650			x	x	x	x	x	x	
IT Hours - Planned Maintenance	Development Svcs				165	0									
User Hours - New Development	Development Svcs					0									
User Hours - PTNE/OT	Development Svcs					0									
Contractor Professional Services	Development Svcs					0									
PC System - Acquisition	Hardware				814	0									
PC System - Maintenance	Hardware				2,304	0									
Notebook - Acquisition	Hardware				1,223	0									
Notebook - Maintenance	Hardware				2,372	0									
Tablet Notebook - Acquisition	Hardware				2,012	0									
Tablet Notebook - Maintenance	Hardware					0									
Laserprinter - Acquisition	Hardware				1,432	0									
Laserprinter - Maintenance	Hardware				1,104	0									
Image Workstations - Acquisition	Hardware					0									
Image Workstations - Maintenance	Hardware				3,496	0									
PC Maintenance User Owned	Hardware				2,304	0									
Printer Maintenance User Owned	Hardware				1,072	0									
File Space (100GB)	Hardware		ANN		173	0									
Internet Bandwidth per MB	Hardware		ANN		750	0									
Package Software - Acquisition	Software					0									
Package Software - Maintenance	Software					0									
Business Objects Access	Software					0									
Term Emulation SFTW-Acquisition	Software					0									
Term Emulation SFTW-Maintenance	Software					0									
Server - Acquisition/Upgrade	Infrastructure				8,000	0									
Server - Maintenance	Infrastructure				360	0									
Server Sftwre - Acquisition/Upgrade	Infrastructure				335	0									
Server Sftwre - Maintenance	Infrastructure					0									
Server Rack Mount	Infrastructure				400	0									
Oracle Enterprise Per Processor - Includes Year 1 Maintenance	Infrastructure				21,372	0									
Oracle Enterprise Per Processor - Year 2 and Beyond	Infrastructure				3,432	0									

**Oakland County -- CAMS Enterprise Enhancements 2023-2024**

Return on Investment Analysis

Cost Detail

Cost Description	Project Cost Category	Budget Category/Funding Source	Unit Desc	Units	Rate per Unit	Total Cost	Annual Multiplier	Affects Project ROI?						
								Y1	Y2	Y3	Y4	Y5	Y6	
SQL Server Enterprise - Per Processor (4 cores) - Purchased Sept 2016-Aug 2017 - Includes Maintenance thru Aug 2019	Infrastructure				24,533	0								
SQL Server Enterprise - Per Processor (4 cores) - Purchased Sept 2017-Aug 2018 - Includes Maintenance thru Aug 2019	Infrastructure				20,759	0								
SQL Server Enterprise - Per Processor (4 cores) - Purchased Sept 2018-Aug 2019 - Includes Maintenance thru Aug 2019	Infrastructure				16,985	0								
SQL Server Enterprise - Maintenance, Per Processor (4 cores) - Sept 2019 and Beyond	Infrastructure				4,218	0								
SQL Server Standard - Per Processor (4 cores) - Purchased Sept 2016-Aug 2017 - Includes Maintenance thru Aug 2019	Infrastructure				6,398	0								
SQL Server Standard - Per Processor (4 cores) - Purchased Sept 2017-Aug 2018 - Includes Maintenance thru Aug 2019	Infrastructure				5,414	0								
SQL Server Standard - Per Processor (4 cores) - Purchased Sept 2018-Aug 2019 - Includes Maintenance thru Aug 2019	Infrastructure				4,429	0								
SQL Server - Standard Maintenance, Per Processor (4 cores) - Sept 2019 and Beyond	Infrastructure				1,100	0								
Websphere Basic Per Processor Single/Dual Core - Includes Year 1 Maintenance	Infrastructure				3,506	0								

**Oakland County -- CAMS Enterprise Enhancements 2023-2024**

Return on Investment Analysis

Cost Detail

Cost Description	Project Cost Category	Budget Category/Funding Source	Unit Desc	Units	Rate per Unit	Total Cost	Annual Multiplier	Affects Project ROI?							
								Y1	Y2	Y3	Y4	Y5	Y6		
WebSphere Basic Per Processor Single/Dual Core - Year 2 and Beyond	Infrastructure				701	0									
WebSphere ND Per Processor Single/Dual Core - Includes Year 1 Maintenance	Infrastructure				13,180	0									
WebSphere ND Per Processor Single/Dual Core - Year 2 and Beyond	Infrastructure				2,635	0									
SSL Certificate	Infrastructure				845	0									
Internet Access	Infrastructure				180	0									
App Code Directories on Consolidated IIS Server (Virtual)	Infrastructure		ANN		415	0									
Database (5 GB) on Consolidated SQL Instance Server	Infrastructure		ANN		930	0									
Database Instance (125 GB DB) on Consolidated SQL Server	Infrastructure		ANN		2,395	0									
Database SQL Maint Server	Infrastructure		ANN		834	0									
Database SQL Server Physical	Infrastructure		ANN		19,158	0									
DB Maintenance (Annual Cycle \$610)	Infrastructure		ANN		610	0									
DB Maintenance (Semi-Annual Cycle \$1220)	Infrastructure		ANN		1,220	0									
DB Maintenance (Semi-Annual Cycle \$2440)	Infrastructure		ANN		2,440	0									
Dedicated Virtual Server	Infrastructure		ANN		4,150	0									
DB Instance Setup	Infrastructure				976	0									
DBA MS SQL Database Creation on Existing Instance	Infrastructure				366	0									
Extra Small - 2 Core 8GB RAM, 500GB Drive, 10 GB NIC - Cloud/Virtual = \$601 On Premise Physical Server = N/A	Infrastructure		ANN			0									

**Oakland County -- CAMS Enterprise Enhancements 2023-2024**

Return on Investment Analysis

Cost Detail

Cost Description	Project Cost Category	Budget Category/Funding Source	Unit Desc	Units	Rate per Unit	Total Cost	Annual Multiplier	Affects Project ROI?							
								Y1	Y2	Y3	Y4	Y5	Y6		
Small - 4 Core 16GB RAM, 500GB Drive, 10 GB NIC - Cloud/Virtual = \$951 On Premise Physical Server = \$9,288	Infrastructure		ANN			0									
Medium - 8 Core 32GB RAM, 500GB Drive, 10 GB NIC - Cloud/Virtual = \$1,702 On Premise Physical Server = \$9,751	Infrastructure		ANN			0									
Large - 16 Core 64GB RAM, 500GB Drive, 10 GB NIC - Cloud/Virtual = \$3,167 On Premise Physical Server = \$10,446	Infrastructure		ANN			0									
Extra Large - 40 Core 160GB RAM, 500GB Drive, 10 GB NIC - Cloud/Virtual = \$7,564 On Premise Physical Server = \$12,906	Infrastructure		ANN			0									

**Oakland County -- CAMS Enterprise Enhancements 2023-2024**

Return on Investment Analysis

Cost Detail

Cost Description	Project Cost Category	Potential Cost Extensions					
		Y1	Y2	Y3	Y4	Y5	Y6
IT Hours - New Development	Development Svcs	33,000.00					
IT Hours - System Maintenance	Development Svcs						
IT Hours - Customer Support	Development Svcs		1,650.00	1,650.00	1,650.00	1,650.00	1,650.00
IT Hours - Planned Maintenance	Development Svcs						
User Hours - New Development	Development Svcs						
User Hours - PTNE/OT	Development Svcs						
Contractor Professional Services	Development Svcs						
PC System - Acquisition	Hardware						
PC System - Maintenance	Hardware						
Notebook - Acquisition	Hardware						
Notebook - Maintenance	Hardware						
Tablet Notebook - Acquisition	Hardware						
Tablet Notebook - Maintenance	Hardware						
Laserprinter - Acquisition	Hardware						
Laserprinter - Maintenance	Hardware						
Image Workstations - Acquisition	Hardware						
Image Workstations - Maintenance	Hardware						
PC Maintenance User Owned	Hardware						
Printer Maintenance User Owned	Hardware						
File Space (100GB)	Hardware						
Internet Bandwidth per MB	Hardware						
Package Software - Acquisition	Software						
Package Software - Maintenance	Software						
Business Objects Access	Software						
Term Emulation SFTW-Acquisition	Software						
Term Emulation SFTW-Maintenance	Software						
Server - Acquisition/Upgrade	Infrastructure						
Server - Maintenance	Infrastructure						
Server Sftwre - Acquisition/Upgrade	Infrastructure						
Server Sftwre - Maintenance	Infrastructure						
Server Rack Mount	Infrastructure						
Oracle Enterprise Per Processor - Includes Year 1 Maintenance	Infrastructure						
Oracle Enterprise Per Processor - Year 2 and Beyond	Infrastructure						

**Oakland County -- CAMS Enterprise Enhancements 2023-2024**

Return on Investment Analysis

Cost Detail

Cost Description	Project Cost Category	Potential Cost Extensions					
		Y1	Y2	Y3	Y4	Y5	Y6
SQL Server Enterprise - Per Processor (4 cores) - Purchased Sept 2016-Aug 2017 - Includes Maintenance thru Aug 2019	Infrastructure						
SQL Server Enterprise - Per Processor (4 cores) - Purchased Sept 2017-Aug 2018 - Includes Maintenance thru Aug 2019	Infrastructure						
SQL Server Enterprise - Per Processor (4 cores) - Purchased Sept 2018-Aug 2019 - Includes Maintenance thru Aug 2019	Infrastructure						
SQL Server Enterprise - Maintenance, Per Processor (4 cores) - Sept 2019 and Beyond	Infrastructure						
SQL Server Standard - Per Processor (4 cores) - Purchased Sept 2016-Aug 2017 - Includes Maintenance thru Aug 2019	Infrastructure						
SQL Server Standard - Per Processor (4 cores) - Purchased Sept 2017-Aug 2018 - Includes Maintenance thru Aug 2019	Infrastructure						
SQL Server Standard - Per Processor (4 cores) - Purchased Sept 2018-Aug 2019 - Includes Maintenance thru Aug 2019	Infrastructure						
SQL Server - Standard Maintenance, Per Processor (4 cores) - Sept 2019 and Beyond	Infrastructure						
Websphere Basic Per Processor Single/Dual Core - Includes Year 1 Maintenance	Infrastructure						

**Oakland County -- CAMS Enterprise Enhancements 2023-2024**

Return on Investment Analysis

Cost Detail

Cost Description	Project Cost Category	Potential Cost Extensions					
		Y1	Y2	Y3	Y4	Y5	Y6
WebSphere Basic Per Processor Single/Dual Core - Year 2 and Beyond	Infrastructure						
WebSphere ND Per Processor Single/Dual Core - Includes Year 1 Maintenance	Infrastructure						
WebSphere ND Per Processor Single/Dual Core - Year 2 and Beyond	Infrastructure						
SSL Certificate	Infrastructure						
Internet Access	Infrastructure						
App Code Directories on Consolidated IIS Server (Virtual)	Infrastructure						
Database (5 GB) on Consolidated SQL Instance Server	Infrastructure						
Database Instance (125 GB DB) on Consolidated SQL Server	Infrastructure						
Database SQL Maint Server	Infrastructure						
Database SQL Server Physical	Infrastructure						
DB Maintenance (Annual Cycle \$610)	Infrastructure						
DB Maintenance (Semi-Annual Cycle \$1220)	Infrastructure						
DB Maintenance (Semi-Annual Cycle \$2440)	Infrastructure						
Dedicated Virtual Server	Infrastructure						
DB Instance Setup	Infrastructure						
DBA MS SQL Database Creation on Existing Instance	Infrastructure						
Extra Small - 2 Core 8GB RAM, 500GB Drive, 10 GB NIC - Cloud/Virtual = \$601 On Premise Physical Server = N/A	Infrastructure						



**Oakland County -- CAMS Enterprise Enhancements 2023-2024**  
Return on Investment Analysis

Cost Detail

Cost Description	Project Cost Category	Potential Cost Extensions					
		Y1	Y2	Y3	Y4	Y5	Y6
Small - 4 Core 16GB RAM, 500GB Drive, 10 GB NIC - Cloud/Virtual = \$951 On Premise Physical Server = \$9,288	Infrastructure						
Medium - 8 Core 32GB RAM, 500GB Drive, 10 GB NIC - Cloud/Virtual = \$1,702 On Premise Physical Server = \$9,751	Infrastructure						
Large - 16 Core 64GB RAM, 500GB Drive, 10 GB NIC - Cloud/Virtual = \$3,167 On Premise Physical Server = \$10,446	Infrastructure						
Extra Large - 40 Core 160GB RAM, 500GB Drive, 10 GB NIC - Cloud/Virtual = \$7,564 On Premise Physical Server = \$12,906	Infrastructure						

**Oakland County -- CAMS Enterprise Enhancements 2023-2024**

Return on Investment Analysis

Cost Summary

Cost Description	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total
<b>Development Services:</b>							
IT Hours - New Development	33,000						33,000
IT Hours - System Maintenance							
IT Hours - Customer Support		1,650	1,650	1,650	1,650	1,650	8,250
IT Hours - Planned Maintenance							
User Hours - New Development							
User Hours - PTNE/OT							
Contractor Professional Services							
<i>Development Services Subtotal:</i>	<b>33,000</b>	<b>1,650</b>	<b>1,650</b>	<b>1,650</b>	<b>1,650</b>	<b>1,650</b>	<b>41,250</b>
<b>Hardware:</b>							
<i>Hardware Subtotal:</i>							
<b>Software:</b>							
<i>Software Subtotal:</i>							
<b>Infrastructure:</b>							
<i>Infrastructure Subtotal</i>							
<b>Training:</b>							
<i>Training Subtotal:</i>							
<b>Other:</b>							
<i>Other Subtotal:</i>							
<b>Costs Total:</b>	<b>33,000</b>	<b>1,650</b>	<b>1,650</b>	<b>1,650</b>	<b>1,650</b>	<b>1,650</b>	<b>41,250</b>

