Project Name: WRC Legacy App Rewrite Phase 2 Project ID: D52611DR

Leadership Group: Lar	nd		_					
Department: Water Resources Commissioner Division: Administration								
Project Sponsor: Nancy Basch Date Requested: 2/1/2022 PM Customer No.: 611								
Request Type:	New Develo	<u>pment</u>	Enhanceme	ent Cu	stomer Support			
	Planned Sys	stem Maintena	ance or Upgrade					
IT Team Name: Public 8	& Environment	al Services	IT Team No: 5					
Project Manager/Leade	r: Brian Madiso	on Jr.						
Account Number: 37930	Account Description:		AND SEWER- LL ADMIN	Customer Name:	Water Resources Commissioner			
Grant Funded? Yes	No		Mandate?	Yes	No			
			Mandate Source: N	I/A	•			

Project Goal

To rewrite 6 applications developed by the WRC in the 1990s and early 2000s so that they run in a modern environment, are easier to support, and allow WRC to accomplish their work more efficiently.

Business Objective

- Develop a suitable solution using modern and efficient technologies.
- Eliminate or reduce the risk of having WRC-specific program incompatibilities with future releases of desktop software.
- Reduce the cost associated with program changes due to difficult-to-decipher code.
- Eliminate or reduce the risk of programming errors that are created because the code is overly complex.
- Eliminate "shared" databases. For example, originally one WRC employee was
 responsible for WRC HR, equipment management, and fiscal rebills. That employee's
 database contained data to support all three functions. When the employee's tasks
 were done by three different employees, the combined database had to be shared by
 the three new employees, and the sensitive HR data had to be stripped out.
- Eliminate access issues caused by shared databases.

Major Deliverables

- Detailed Project Plan
- Application Code
- Implementation Plan
- Test Plan
- User Acceptance Test Plan
- Disaster Recovery Toolkit
- Service Center Knowledge Documents
- Legacy Apps Retirement Plan

Project Name: WRC Legacy App Rewrite Phase 2 Project ID: D52611DR

Approach

- Develop Detailed Project Plan
- Develop and Execute Implementation Plan
- Develop and Execute User Acceptance Test Plan
- Acquire User Acceptance Sign off
- Conduct Change Control
- Develop User Documentation, SLA, Disaster Recovery Toolkit, Service Center Knowledge Documents
- Train users on new system
- Release new system into production

Research & Analysis

Research Recommendation

Benefits

See Return on Investment (ROI) Analysis Document

<u>Impact</u>

Number of Users 20-30 WRC Employees

Divisions Water Resources Commissioner's Office

Leadership Groups Land

<u>Risk</u>

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

Project Name: WRC Legacy App Rewrite Phase 2 Project ID: D52611DR

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:

Role: Name Hours per Day

Project Sponsor: Nancy Basch As needed

Facilities

None

Technical

None

Funding

 Funded - All costs will be funded by proprietary funds. Each database rewrite will be funded by the appropriate benefitting system.

Other

None

Priority

TBD

Constraints

None

Exclusions

None

Project Name: WRC Legacy App Rewrite Phase 2 Project ID: D52611DR

PROJECT PHASE AUTHORIZATION

Phase(s): ALL		
Total Estimated Application Services	Hours: 2,274	
Total Estimated Technical Systems	Hours: 178	
Total Estimated CLEMIS	Hours:	
Total Estimated Internal Services	Hours:	
IT Application Services Division Manager Approval:		Date:
IT Technical Systems Division Manager Approval:		Date:
IT CLEMIS Division Manager Approval:		Date:
IT Internal Services Division Manager Approval:		Date:
IT Management Approval:		
Approved: Yes No		Date:
Reason:		
Project Sponsor Approval:		
Title:		Date:

PROJECT SUMMARY

Authorized Development (see above)	Hours: 2,452
Preliminary Estimated Development for Future Phases	Hours:
Grand Total Estimated Development	Hours: 2,452 Cost: \$404,580

Project Name: WRC Legacy App Rewrite Phase 2 Project ID: D52611DR

PROJECT COMPLETION AUTHORIZATION

Customer Acceptance of Product:	
Title:	Date:
Project Office Review:	Date:

WRC Legacy App Rewrite Phase 2 - Size Estimate (+/- 10% to 50%)

1	Туре	ID	Task Name	Estimated	Estimate Notes
2				Hours	
3	Phase	000000	PROJECT MANAGEMENT	487	
4	Phase	500000	DEVELOP APPLICATION	1,734	
5	Phase	600000	IMPLEMENTATION PHASE	155	
6	Phase	800000	POST IMPLEMENTATION SUPPORT	76	
7				2,452	

Project Summary

Description	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total
Benefits/Savings:							
Tangible Benefits Subtotal:	6,750	6,885	7,023	7,163	7,306	7,453	42,580
Cost Avoidance Subtotal:	0	0	0	0	0	0	0
Costs:							
Development Services Subtotal:	212,190	215,688	10,199	13,803	10,507	14,220	476,608
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
Annual Statistics:							
Annual Total Savings	6,750	6,885	7,023	7,163	7,306	7,453	42,580
Annual Total Costs	212,190	215,688	10,199	13,803	10,507	14,220	476,608
Annual Return on Investment	(205,440)	(208,803)	(3,177)	(6,640)	(3,201)	(6,768)	(434,028)
Annual Costs/Savings Ratio	3143.56%	3132.72%	145.23%	192.69%	143.81%	190.81%	,
Project Cumulative Statistics:							
Cumulative Total Savings	6,750	13,635	20,658	27,821	35,127	42,580	42,580
Cumulative Total Costs	212,190	427,878	438,077	451,880	462,388	476,608	476,608
Cumulative Return on Investment	(205,440)	(414,243)	(417,420)	(424,059)	(427,260)	(434,028)	(434,028)
Cumulative Cost/Savings Ratio	3143.56%	3138.09%	2120.65%	1624.25%	1316.32%	1119.33%	1119.33%
Year Positive Payback Achieved							NO PAYBACK
State or Federal Mandate?							
Signatures:							
Benefits Reviewed By Project Sponsor				Date:			
Costs (including IT Resources) Reviewed By							
Information Technology Project Manager				Date:			

Savings Detail

Benefit/Savings Description	Project Savings Category	Budget Category/Funding Source	Unit Desc	Units	Rate per Unit	Total Savings	Annual Multiplier
Reduce time to modify, troubleshoot							
code issues.	Tangible Benefit		HR	30	165	4,950	1.020
Eliminate lost WRC labor due to							
uncertainty concerning data location,							
who should access data	Tangible Benefit		HR	30	60	1,800	1.020
Apps have reached end of life and							
hence needs rewrite to eliminate risk of							
apps not working in a newer Win 10							
environment	Intangible Benefit					0	
Reduce disagreements over who							
should have access/who shouldn't	Intangible Benefit					0	
Eliminate or reduce the risk of							
programming errors that are created							
because the code is overly complex	Intangible Benefit					0	
Enhance Data security by additing							
security control modules and upgrading							
the Database	Intangible Benefit					0	
Improve Efficiency and Productivity by							
rewriting the apps in newer and efficient							
techologies	Intangible Benefit					0	
						0	
						0	
						0	
						0	

Savings Detail

		Ai	ffect	s P	oje	ct F	२०।	l?		Pot	tential Savin	gs Extensio	ns	
Benefit/Savings Description	Project Savings Category	Y1	Y2	Y 3	Y 4	Y!	5 \	Y6	Y1	Y2	Y3	Y4	Y5	Y6
Reduce time to modify, troubleshoot			į	i	<u> </u>	Ī	Ţ		į			Ī	į	
code issues.	Tangible Benefit	х	х	х	х	Х	х	(4,950	5,049	5,150	5,253	5,358	5,465
Eliminate lost WRC labor due to			İ			Ī			1					
uncertainty concerning data location,			1	l	İ		İ		İ		i			
who should access data	Tangible Benefit	х	х	Х	Х	Х	Х	(1,800	1,836	1,873	1,910	1,948	1,987
Apps have reached end of life and	_		Ī	İ	1		ĺ							
hence needs rewrite to eliminate risk of			l	l	ļ	ļ			į		<u> </u>		į	
apps not working in a newer Win 10				į	į	1	ļ		į					
environment	Intangible Benefit		1	1	į	į	į		İ				į	
Reduce disagreements over who			Ì	İ	1		Î		-		Î	Î	-	
should have access/who shouldn't	Intangible Benefit		1	1		Î			İ				İ	
Eliminate or reduce the risk of			İ	İ	1	Ī	T							
programming errors that are created			1	l	!	1	- 1		ļ		!		į	
because the code is overly complex	Intangible Benefit			į	į	1	ļ		į					
Enhance Data security by additing			İ	İ	i	Ī			1				1	
security control modules and upgrading			1	1		Î			İ				İ	
the Database	Intangible Benefit		1	1	!	1	i			ļ	ļ		į	
Improve Efficiency and Productivity by			İ	i	İ		İ							
rewriting the apps in newer and efficient				į	į	1	ļ		į					
techologies	Intangible Benefit		1	1		1							İ	
	-		1	1	Î	1	Î		-		Î		;	
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			1	İ	İ	Ī	Ţ		-					

Savings Summary

Benefit/Savings Description	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total
Tangible Benefit:							
Reduce time to modify, troubleshoot code							
issues.	4,950	5,049	5,150	5,253	5,358	5,465	31,225
Eliminate lost WRC labor due to uncertainty							
concerning data location, who should access							
data	1,800	1,836	1,873	1,910	1,948	1,987	11,355
Tangible Benefits Subtotal:	6,750	6,885	7,023	7,163	7,306	7,453	42,580
Cost Avoidance:							
Cost Avoidance Subtotal:							
Cost Avoluance Subtotal.							
Intangible Benefit:							
Apps have reached end of life and hence							
needs rewrite to eliminate risk of apps not							
working in a newer Win 10 environment							
Reduce disagreements over who should							
have access/who shouldn't							
Enhance Data security by additing security control modules and upgrading the Database							
Improve Efficiency and Productivity by							
rewriting the apps in newer and efficient							
techologies							
Eliminate or reduce the risk of programming							
errors that are created because the code is							
overly complex							
Savings Total:	6,750	6,885	7,023	7,163	7,306	7,453	42,580

Return on Investment Analysis

Cost Detail

								Af	fect	s Pr	ojec	t RC)I?
	Project Cost	Budget Category/Funding	Unit		Rate per		Annual				[: 1
Cost Description	Category	Source	Desc	Units	Unit	Total Cost	Multiplier	Y1	Y2	Y3	Y4	Y5	Y6
IT Hours - New Development	Development Svcs		HR	2,452	165	404,580			Χ		1		
IT Hours - System Maintenance	Development Svcs		HR	20	165	3,300	1.015				Х	Х	Х
IT Hours - Customer Support	Development Svcs		HR	40	165	6,600	1.015	Х	Х	Х	Х	Х	Х
IT Hours - Planned Maintenance	Development Svcs		HR	20	165	3,300	1.015		Х	į	Х		Х
User Hours - New Development	Development Svcs									1	İ		
User Hours - PTNE/OT	Development Svcs					0				•	•		
Contractor Professional Services	Development Svcs					0				į	į		
PC System - Acquisition	Hardware				687	0				į	į		
PC System - Maintenance	Hardware				2,936	0				1	i		
Notebook - Acquisition	Hardware				1,115	0				į	į		
Notebook - Maintenance	Hardware				3,024	0				[İ		
Tablet Notebook - Acquisition	Hardware				1,421	0				1	İ		
Tablet Notebook - Maintenance	Hardware				2,800	0					Ĭ		
Laserprinter - Acquisition	Hardware				1,432	0				į	į		
Laserprinter - Maintenance	Hardware				1,408	0				į	į		
PC Maintenance User Owned	Hardware				2,720	0				ĺ	Î		
Printer Maintenance User Owned	Hardware				1,264	0				ĺ	į		
File Space (100GB)	Hardware		ANN		23	0				į	į		
Package Software - Acquisition	Software					0				1	İ		
Package Software - Maintenance	Software					0					Ï		
Business Objects Access	Software					0				į	į		
Term Emulation SFTW-Acquisition	Software					0				•	į		
Term Emulation SFTW-Maintenance	Software					0				1	i		
Server - Acquisition/Upgrade	Infrastructure				8,000	0				ĺ	į		
Server - Maintenance	Infrastructure				360	0				[İ		
Server Sftwre - Acquisition/Upgrade	Infrastructure				335	0				1	İ		
Server Sftwre - Maintenance	Infrastructure					0					Ï		
Server Rack Mount	Infrastructure				400	0				į	į		
Oracle Enterprise Per Processor -										:	į		
Includes Year 1 Maintenance	Infrastructure				21,372	0				İ	ĺ		
Oracle Enterprise Per Processor - Year											į		
2 and Beyond	Infrastructure				3,432	0				<u>i</u>	<u> </u>		

Cost Detail

								Af	fect	s Pro	ject	RO	l?
	Project Cost	Budget Category/Funding	Unit		Rate per		Annual				[
Cost Description	Category	Source	Desc	Units	Unit	Total Cost	Multiplier	Y1	Y2	Y3	Y4	Y5	Y6
SQL Server Enterprise - Per Processor										i		ŀ	
(4 cores) - Purchased Sept 2016-Aug										i	į	į	
2017 - Includes Maintenance thru Aug										1	ĺ	l	
2019	Infrastructure				24,533	0				į			
SQL Server Enterprise - Per Processor											į	į	
(4 cores) - Purchased Sept 2017-Aug										į	į	į	
2018 - Includes Maintenance thru Aug										ŀ	ĺ	ĺ	
2019	Infrastructure				20,759	0						į	
SQL Server Enterprise - Per Processor										į	į	į	
(4 cores) - Purchased Sept 2018-Aug										i	i	į	
2019 - Includes Maintenance thru Aug										ŀ	į	ļ	
	Infrastructure				16,985	0				ļ	į	ļ	
SQL Server Enterprise - Maintenance,										i		į	
Per Processor (4 cores) - Sept 2019										ŀ	į	į	
and Beyond	Infrastructure				4,218	0						ļ	
SQL Server Standard - Per Processor										į	į	į	
(4 cores) - Purchased Sept 2016-Aug										į	į	į	
2017 - Includes Maintenance thru Aug										ŀ	ĺ	ŀ	
	Infrastructure				6,398	0				ļ	į	ļ	
SQL Server Standard - Per Processor										į	į	i	
(4 cores) - Purchased Sept 2017-Aug										ŀ	į	į	
2018 - Includes Maintenance thru Aug										ŀ	ĺ	ŀ	
2019	Infrastructure				5,414	0				ŀ		į	
SQL Server Standard - Per Processor										i	i	į	
(4 cores) - Purchased Sept 2018-Aug										ŀ	- 1	ł	
2019 - Includes Maintenance thru Aug										ŀ	į	ŀ	
2019	Infrastructure				4,429	0					į	į	
SQL Server - Standard Maintenance,										į	į	į	
Per Processor (4 cores) - Sept 2019										1	ĺ	l	
and Beyond	Infrastructure				1,100	0				ŀ		į	
Websphere Basic Per Processor										i	I	į	
Single/Dual Core - Includes Year 1										i	į	į	
Maintenance	Infrastructure				3,506	0				<u> </u>	<u> </u>	<u>i</u>	

Return on Investment Analysis

Cost Detail

								Af	fect	s Pro	ject	ROI?
	Project Cost	Budget Category/Funding	Unit		Rate per		Annual			Ì		
Cost Description	Category	Source	Desc	Units	Unit	Total Cost	Multiplier	Y1	Y2	Y3	Y4 `	Y5 Y6
Websphere Basic Per Processor					70.4					- 1	- 1	
	Infrastructure				701	0						
Websphere ND Per Processor										į	ı	
Single/Dual Core - Includes Year 1										İ	- 1	•
Maintenance	Infrastructure				13,180	0					<u>.</u>	
Websphere ND Per Processor												
	Infrastructure				2,635	0				į	ı	
SSL Certificate	Infrastructure				845	0				-	\dashv	
Internet Access	Infrastructure				180	0					+	_
Imperva Web Application Firewall	IIIIIasiiuciule				100	U				<u></u>	-	
	Infrastructure		ANN		500	0				ı		
App Code Directories on Consolidated	iiiiasiiuciuie		AININ		300	U					+	
	Infrastructure		ANN		415	0					į	
Database (5 GB) on Consolidated SQL	iiiiasiiuciuie		AININ		413	U				ij	 i	-
	Infrastructure		ANN		930	0				İ	- 1	
Database Instance (125 GB DB) on	iiiiasiiuciuie		ZININ		930	U				-		
` ,	Infrastructure		ANN		2,395	0				į	ı	
Database SQL Maint Server	Infrastructure		ANN		834	0				- 1	+	
	Infrastructure		ANN		19,158	0				- +	\dashv	
	Infrastructure		ANN		610	0				<u></u>	÷	_
DB Maintenance (Semi-Annual Cycle	Illiastiucture		AININ		010	U				ij	 i	-
\$1220)	Infrastructure		ANN		1.220	0				- 1	- 1	
DB Maintenance (Semi-Annual Cycle	iiiiasiiuciuie		AININ		1,220	U						
\$2440)	Infrastructure		ANN		2,440	0				į	ı	
Dedicated Virtual Server	Infrastructure		ANN		4,150	0				ij	-+	
DB Instance Setup	Infrastructure		AININ		976	0						
DBA MS SQL Database Creation on	iiiiasii uoture				310	0				- 		- j-
	Infrastructure				366	0				į	ı	
Existing instance	iiiiasiiuoiui e				300	U				- 1		
Extra Small - 2 Core 8GB RAM, 500GB											ı	
Drive, 10 GB NIC - Cloud/Virtual = \$601										ı		
•	Infrastructure		ANN			0				- 1	- 1	
OTT TOTALSCE Hysical Oct Vot - N/A	mmastructure		/ 31 VI V			U		<u> </u>		<u>!</u>	<u>_</u>	!

Cost Detail

								Aff	ects	Pro	ject	ROI	?
Cost Description	Project Cost Category	Budget Category/Funding Source	Unit Desc	Units	Rate per Unit	Total Cost	Annual Multiplier	Y1	Y2	Y3	Y4 `	Y5 '	Y 6
Small - 4 Core 16GB RAM, 500GB								į					
Drive, 10 GB NIC - Cloud/Virtual = \$951										l	į	į	
	Infrastructure		ANN			0			į	İ	į	į	
Medium - 8 Core 32GB RAM, 500GB								Î		Î	į	一	
Drive, 10 GB NIC - Cloud/Virtual =									į	į	ı		
\$1,702 On Premise Physical Server =										į	İ	į	
\$9,751	Infrastructure		ANN			0		li	į	į	İ	į	
Large - 16 Core 64GB RAM, 500GB													
Drive, 10 GB NIC - Cloud/Virtual =									į		į	į	
\$3,167 On Premise Physical Server =								l	į	İ	ĺ	Î	
, -, -	Infrastructure		ANN			0					ļ	<u>!</u>	
Extra Large - 40 Core 160GB RAM,									į	l	- 1		
500GB Drive, 10 GB NIC - Cloud/Virtual								li	į	į	İ	į	
= \$7,564 On Premise Physical Server =									į	į	ı		
\$12,906	Infrastructure		ANN			0			į	ļ			

REV: May 21, 2018

Return on Investment Analysis

Cost Detail

	Potential Cost Extensions						
	Project Cost						
Cost Description	Category	Y1	Y2	Y3	Y4	Y5	Y6
IT Hours - New Development	Development Svcs	202,290.00	202,290.00				
IT Hours - System Maintenance	Development Svcs	3,300.00	3,349.50	3,399.74	3,450.74	3,502.50	3,555.04
IT Hours - Customer Support	Development Svcs	6,600.00	6,699.00	6,799.49	6,901.48	7,005.00	7,110.07
IT Hours - Planned Maintenance	Development Svcs		3,349.50		3,450.74		3,555.04
User Hours - New Development	Development Svcs						
User Hours - PTNE/OT	Development Svcs				Ì	Ì	
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						
PC Maintenance User Owned	Hardware						
Printer Maintenance User Owned	Hardware						
File Space (100GB)	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		Ĭ				
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				ļ	ļ	

Return on Investment Analysis

Cost Detail

		Potential Cost Extensions						
	Project Cost		.,_					
Cost Description	Category	Y1	Y2	Y3	Y4	Y5	Y6	
SQL Server Enterprise - Per Processor								
(4 cores) - Purchased Sept 2016-Aug				İ				
2017 - Includes Maintenance thru Aug			İ			i ! !		
2019	Infrastructure			<u> </u>	! ! !	! ! !	! ! !	
SQL Server Enterprise - Per Processor				ļ				
(4 cores) - Purchased Sept 2017-Aug				•	! !		! !	
2018 - Includes Maintenance thru Aug				İ				
2019	Infrastructure		İ			i ! !		
SQL Server Enterprise - Per Processor								
(4 cores) - Purchased Sept 2018-Aug				•	 		! !	
2019 - Includes Maintenance thru Aug				•			i !	
2019	Infrastructure		İ	į		į		
SQL Server Enterprise - Maintenance,					1 1 1	1 ! !	1 1 1	
Per Processor (4 cores) - Sept 2019				ļ				
and Beyond	Infrastructure			•			i !	
SQL Server Standard - Per Processor			İ	i i	î I	i i	Ĭ I I	
(4 cores) - Purchased Sept 2016-Aug								
2017 - Includes Maintenance thru Aug				•	 		! !	
2019	Infrastructure			İ				
SQL Server Standard - Per Processor			ļ		f I I	1 1 1	f I I	
(4 cores) - Purchased Sept 2017-Aug				ļ				
2018 - Includes Maintenance thru Aug				•			i !	
2019	Infrastructure							
SQL Server Standard - Per Processor				!	 		 	
(4 cores) - Purchased Sept 2018-Aug				•		! !		
2019 - Includes Maintenance thru Aug				İ				
2019	Infrastructure		İ			i I		
SQL Server - Standard Maintenance,								
Per Processor (4 cores) - Sept 2019			İ			i		
and Beyond	Infrastructure		İ	İ				
Websphere Basic Per Processor				!	1 1 1	! !	1 1 1	
Single/Dual Core - Includes Year 1								
Maintenance	Infrastructure					İ		

Return on Investment Analysis

Cost Detail

		Potential Cost Extensions						
Cost Description	Project Cost Category	Y1	Y2	Y3	Y4	Y5	Y6	
Cost Description	Category		1 12	1 13	1 14	1 10	10	
Websphere Basic Per Processor						! ! !		
•	Infrastructure			į				
Websphere ND Per Processor	minada dotaro			1	1			
Single/Dual Core - Includes Year 1			ļ	-	-	! !	! !	
Maintenance	Infrastructure							
manitorianos	minada dotaro			 	 	<u> </u>	! !	
Websphere ND Per Processor				į	į			
•	Infrastructure			İ	İ			
SSL Certificate	Infrastructure		İ	i	i	! !	! !	
Internet Access	Infrastructure							
Imperva Web Application Firewall				1	1	} !) !	
(External Web Applications Only)	Infrastructure		į	İ	į			
App Code Directories on Consolidated					İ			
IIS Server (Virtual)	Infrastructure							
Database (5 GB) on Consolidated SQL				İ				
Instance Server	Infrastructure		ļ		•	•	!	
Database Instance (125 GB DB) on				1	į		i !	
Consolidated SQL Server	Infrastructure							
Database SQL Maint Server	Infrastructure			İ	į		!	
Database SQL Server Physical	Infrastructure				į		į.	
DB Maintenance (Annual Cycle \$610)	Infrastructure			İ	1			
DB Maintenance (Semi-Annual Cycle] []	Ĭ !	
\$1220)	Infrastructure						! !	
DB Maintenance (Semi-Annual Cycle			į	İ	į	i ! !	i ! !	
\$2440)	Infrastructure							
Dedicated Virtual Server	Infrastructure			!	<u> </u>			
DB Instance Setup	Infrastructure							
DBA MS SQL Database Creation on			ļ			! ! !	! ! !	
Exisitng Instance	Infrastructure							
							Ì	
Extra Small - 2 Core 8GB RAM, 500GB			ļ	į	ļ		!	
Drive, 10 GB NIC - Cloud/Virtual = \$601			İ	•			İ	
On Premise Physical Server = N/A	Infrastructure		!	<u> </u>	<u> </u>		!	

Return on Investment Analysis

Cost Detail

			Potential (Cost Extensi	ons		
Cost Description	Project Cost Category	Y1	Y2	Y3	Y4	Y5	Y6
Oost Bescription	Gategory		<u> </u>	; 10 ;	i ' T	; 10 ;	
Small - 4 Core 16GB RAM, 500GB				! ! ! !	 	! ! ! !	
Drive, 10 GB NIC - Cloud/Virtual = \$951							
	Infrastructure						
Medium - 8 Core 32GB RAM, 500GB				î I		ì	
Drive, 10 GB NIC - Cloud/Virtual =] 	! ! !] 	
\$1,702 On Premise Physical Server =			<u> </u>				
\$9,751	Infrastructure						
Large - 16 Core 64GB RAM, 500GB			[<u> </u>			
Drive, 10 GB NIC - Cloud/Virtual =					 		
\$3,167 On Premise Physical Server =							
\$10,446	Infrastructure		i ! !	i I		i I	
Extra Large - 40 Core 160GB RAM,							
500GB Drive, 10 GB NIC - Cloud/Virtual							
= \$7,564 On Premise Physical Server =				į		į	
\$12,906	Infrastructure						

Cost Summary

Cost Description	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total
Development Services:							
IT Hours - New Development	202,290	202,290					404,580
IT Hours - System Maintenance	3,300	3,350	3,400	3,451	3,502	3,555	20,558
IT Hours - Customer Support	6,600	6,699	6,799	6,901	7,005	7,110	41,115
IT Hours - Planned Maintenance		3,350		3,451		3,555	10,355
User Hours - New Development							
User Hours - PTNE/OT							
Contractor Professional Services							
Development Services Subtotal:	212,190	215,688	10,199	13,803	10,507	14,220	476,608
Hardware:							
Hardware Subtotal:							
Software:							
Software Subtotal:							
Infrastructure:							
Infrastructure Subtotal							
Training:							
Training Subtotal:							
Other:							
Other Subtotal:							
Costs Total:	212,190	215,688	10,199	13,803	10,507	14,220	476,608

Assumptions

Date	Assumption Description
	Versal Code Template will be used to emphasize standardization of Oakland County Applications.
	Customer Training should be minimal. 3-5 employees use these databases.
08-Jun-22	May need to make small tweaks to existing queries, but not expecting any major changes
	If we are going along in the project and additional tables from other databases are required for the project, we will move those to a sql 2019
	server as well. If this is needed will be added via scope change order.
08-Jun-22	HR employee PII has been removed from the data so if further PII is found it will be up to WRC to identify and remove.
08-Jun-22	Currently only 6 legacy databases will be updated.