Project Name: WRC Northstar Replacement Phase 2

Project ID: D52611N2

Leadership Group: Land							
Department	Department: Water Resource Commissioner Division: Administration						
Project Sponsor: Nancy Basch Date Requested: 02/02/2022 PM Customer No. 611							
Request Ty	Request Type: <u>New Development</u>						
IT Team Na	ne: Publi	c & Environmental	Services	ר דו	Feam No : ६	5	
Project Man	ager/Lea	der: Brian Madiso	on Jr.				
Account Number:	37930	Account Description:		and Sewer	– General	Customer Name:	Water Resources Commissioner
Grant Fund	ed?	<u>No</u>		Mandate Mandate	e? Source:	No	

Project Goal

To implement a replacement solution for the utility billing system so that the application is on a standard platform to allow for easier maintenance, seamless integration with Cityworks and Workday, and allow WRC Billing to offer more payment options to their customers.

Business Objective

Replace WRC's utility billing application with newer technology that can provide a better user experience for their water customers who pay their bills online, and it would be nice to have the ability to add new payment options such as mobile bill payment apps for iOS and Android. The new system will allow for easier upgrades, maintenance, integration with other applications and maintenance, as well as reduce downstream errors in Cityworks and Workday.

Major Deliverables

- Detailed Project Plan
- Implementation Plan
- Cityworks Integration Plan
- PayNearMe Integration Plan
- Test Plan
- User Acceptance Test Plan
- Service Level Agreement
- Disaster Recovery Toolkit
- Service Center Knowledge Documents
- NorthStar Retirement Plan

Approach

- Implement the System
- Complete Coding and Testing of all Interfaces
- Complete Unit Testing
- Complete End User Training

Project Name: WRC Northstar Replacement Phase 2

Project ID: D52611N2

- Manage the Execution of the User Acceptance Test
- Complete Stress Testing
- Manage Rollout to Production

Research & Analysis

Research Recommendation:

Benefits

See Return on Investment (ROI) Analysis Document

Impact

Number of Users	100+ and Public
Divisions	Water Resources Commissioner's Office
Leadership Groups	Land

<u>Risk</u>

Business Environment	Medium – Project will require some changes to the 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:

Role:	Name	<u>Hours per Day</u>
Project Sponsor:	Nancy Basch	As Needed
Subject Matter Expert	Mike Kasanic	As Needed

Project Name: WRC Northstar Replacement Phase 2 Project ID: D52611N2

Facilities

• None

Technical

• System will integrate with Cityworks, GIS, PayNearMe, and Workday

Funding

• WRC Funded

Other

• None

Priority

Constraints

• Ability to interface with other county applications like Cityworks, Workday, Crew Scheduler, GIS, PayNearMe System.

Exclusions

None

Project Name: WRC Northstar Replacement Phase 2

Project ID: D52611N2

PROJECT PHASE AUTHORIZATION

Phase(s): All					
Total Estimated Application Services	Hours: 3,975				
Total Estimated Technical Systems	Hours: 266				
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

Hours: 4,241
Hours:
Hours: 4.241 Cost: \$699,765

Project Name: WRC Northstar Replacement Phase 2

Project ID: D52611N2

PROJECT COMPLETION AUTHORIZATION

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

WRC Northstar Replacement Phase 2 - Size Estimate (+/- 10% to 50%)

1	Туре	ID	Task Name	Estimated	Estimate Notes
2				Hours	
3	Phase	000000	PROJECT MANAGEMENT	1,296	
4	Phase	200000	BUSINESS REQUIREMENTS	336	
5	Phase	300000	DESIGN SYSTEM ARCHITECTURE	266	
6	Phase	400000	IMPLEMENT VENDOR APPLICATION	1,482	
7	Phase	500000	IMPLEMENTATION PHASE	608	
8	Phase	600000	POST IMPLEMENTATION SUPPORT	253	
9	0			4,241	

6/28/2022

Return on Investment Analysis

Project Summary

Description	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total
Benefits/Savings:							
Tangible Benefits Subtotal:	119,708	122,102	124,544	127,035	129,576	132,167	755,133
Cost Avoidance Subtotal:	2,433	24,973	2,531	25,982	2,634	27,031	85,584
Costs:		,					,
Development Services Subtotal:	1,236,083	413,747	25,498	60,388	26,269	62,213	1,824,197
Hardware Subtotal:	0	0	0	0	0	0	0
Software Subtotal:	273,000	273,000	273,000	273,000	273,000	273,000	1,638,000
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	122,141	147,075	127,076	153,017	132,209	159,199	840,717
Annual Total Costs	1,509,083	686,747	298,498	333,388	299,269	335,213	3,462,197
Annual Return on Investment	(1,386,941)	(539,672)	(171,422)	(180,371)	(167,059)	(176,015)	(2,621,481)
Annual Costs/Savings Ratio	1235.52%	466.94%	234.90%	217.88%	226.36%	210.56%	(2,021,101)
Project Cumulative Statistics:							
Cumulative Total Savings	122,141	269,216	396,292	549,308	681,518	840,717	840,717
Cumulative Total Costs	1,509,083	2,195,829	2,494,328	2,827,715	3,126,984	3,462,197	3,462,197
Cumulative Return on Investment	(1,386,941)	(1,926,613)	(2,098,036)	(2,278,407)	(2,445,466)	(2,621,481)	(2,621,481)
Cumulative Cost/Savings Ratio	1235.52%	815.64%	629.42%	514.78%	458.83%	411.82%	411.82%
Year Positive Payback Achieved							NO PAYBACK
State or Federal Mandate?							NOFATBACK
Signatures:							
Benefits Reviewed By Project Sponsor				Date:			
Costs (including IT Resources) Reviewed By							
Information Technology Project Manager				Date:			

6/28/2022

Savings Detail		

Benefit/Savings Description	Project Savings Category	Budget Category/ Funding Source	Unit Desc	Units	Rate per Unit	Total Savings	Annual Multiplier
Reduction in IT Support hours of							
custom Cityworks integration	Cost Avoidance		HR	12	147.00	1,764	1.02
Reduction in IT effort to execute							
upgrades of customized solution	Cost Avoidance		HR	150	147.00	22,050	1.02
Reduction in time spent correcting							
CAMS errors	Cost Avoidance		HR	13	51.47	669	1.02
Allow for easier integration with other							
applications such as mobile pay for							
Android and iOS	Intangible Benefit					0	
Allow for easier agent interactions and							
reduce customer time in telephone							
queues	Intangible Benefit					0	
Present an easier-to-use payment							
portal to water and sewer billing							
customers	Intangible Benefit					0	
Savings from the Software							
Maintenance cost	Tangible Benefit		ANN	1	119,708	119,708	1.020
						0	
						0	
						0	

6/28/2022

		Α	ffec	ts P	roje	ct F	2012		P	otential Savin	gs Extension	S	
Benefit/Savings Description	Project Savings Category	Y1	Y2	2 Y3	Y4	Y	5 Y6	Y1	Y2	Y3	Y4	Y5	Y6
					1	1							
Reduction in IT Support hours of					1								
custom Cityworks integration	Cost Avoidance	х	х	х	х	х	х	1,764.00	1,799.28	1,835.27	1,871.97	1,909.41	1,947.60
Reduction in IT effort to execute					1								
upgrades of customized solution	Cost Avoidance		х		х		х		22,491.00		23,399.64		24,344.98
Reduction in time spent correcting													
CAMS errors	Cost Avoidance	х	х	х	х	х	х	669.11	682.49	696.14	710.06	724.27	738.75
Allow for easier integration with other					1	1							
applications such as mobile pay for					1								
Android and iOS	Intangible Benefit												
Allow for easier agent interactions and					ļ	I							
reduce customer time in telephone					1								
queues	Intangible Benefit				1								
Present an easier-to-use payment					1								
portal to water and sewer billing					1								
customers	Intangible Benefit				1								
Savings from the Software					1	1							
Maintenance cost	Tangible Benefit	х	х	х	х	х	х	119,708.00	122,102.16	124,544.20	127,035.09	129,575.79	132,167
			+	+	-	+	-						
			1	1	Ì	1							

6/28/2022

Savings	Summary
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Benefit/Savings Description	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total
Tangible Benefit:							
Savings from the Software Maintenance cost	119,708	122,102	124,544	127,035	129,576	132,167	755,133
Tangible Benefits Subtotal:	119,708	122,102	124,544	127,035	129,576	132,167	755,133
Cost Avoidance:							
Reduction in IT Support hours of custom Cityworks integration	1,764	1,799	1,835	1,872	1,909	1,948	11,128
Reduction in time spent correcting CAMS errors	669	682	696	710	724	739	4,221
Reduction in IT effort to execute upgrades of customized solution		22,491		23,400		24,345	70,236
Cost Avoidance Subtotal:	2,433	24,973	2,531	25,982	2,634	27,031	85,584
Intangible Benefit:							
Allow for easier integration with other applications such as mobile pay for Android and iOS							
Allow for easier agent interactions and reduce customer time in telephone queues							
Present an easier-to-use payment portal to water and sewer billing customers							
Savings Total:	122,141	147,075	127,076	153,017	132,209	159,199	840,717

6/28/2022

Return on Investment Analysis

								Af	Affects Pro			t RC) ?
	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
IT Hours - New Development	Development Svcs		EA	4,241	165	699,765	1.015	х	Х				
IT Hours - System Maintenance	Development Svcs		EA	50	165	8,250	1.015		х			х	х
IT Hours - Customer Support	Development Svcs		EA	100	165	16,500	1.015		х	х	х	х	х
IT Hours - Planned Maintenance	Development Svcs		EA	200	165	33,000	1.015		х		х		х
User Hours - New Development	Development Svcs					0							
User Hours - PTNE/OT	Development Svcs					0						i l	
Contractor Professional Services	Development Svcs		EA	1		886,200		х					
PC System - Acquisition	Hardware				814	0							
PC System - Maintenance	Hardware				2,304	0					l l	i i	
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						i l	
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						i l	
Package Software - Acquisition	Software		EA	1	450,000	450,000		х					
Package Software - Maintenance	Software		ANN	1	90,000	90,000			х	х	х	х	х
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					i i		
Oracle Enterprise Per Processor - Year											Í		
2 and Beyond	Infrastructure				3,432	0							

6/28/2022

Return on Investment Analysis

								Affects Pro		s Prc	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
SQL Server Enterprise - Per Processor									ļ			
(4 cores) - Purchased Sept 2016-Aug												
2017 - Includes Maintenance thru Aug												
2019	Infrastructure				24,533	0		ĺ		.		
SQL Server Enterprise - Per Processor												
(4 cores) - Purchased Sept 2017-Aug												
2018 - Includes Maintenance thru Aug												
2019	Infrastructure				20,759	0				. 1		
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,								l				
Per Processor (4 cores) - Sept 2019												
and Beyond	Infrastructure				4,218	0						
SQL Server Standard - Per Processor								İ				
(4 cores) - Purchased Sept 2016-Aug												
2017 - Includes Maintenance thru Aug												
2019	Infrastructure				6,398	0				.		
SQL Server Standard - Per Processor								l				
(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,								I				
Per Processor (4 cores) - Sept 2019												
and Beyond	Infrastructure				1,100	0				, 1		
Websphere Basic Per Processor											-	
Single/Dual Core - Includes Year 1										, 1		
Maintenance	Infrastructure				3,506	0				, 1		

6/28/2022

Return on Investment Analysis

								Affects Proj		ject	ROI?	
	Project Cost	Budget Category/Funding	Unit		Rate per		Annual					
Cost Description	Category	Source	Desc	Units	Unit	Total Cost	Multiplier	Y1	Y2	Y3	<u>Y4</u>	Y5 Y6
Websebses Desis Des Des sesses												
Websphere Basic Per Processor	1 f				704	0						
Single/Dual Core - Year 2 and Beyond Websphere ND Per Processor	Infrastructure		_		701	0				<u> </u>	_	
Single/Dual Core - Includes Year 1					10.100					1		
Maintenance	Infrastructure				13,180	0				<u> </u>		
Websphere ND Per Processor	Infra atrus atrus				0.005	0						
Single/Dual Core - Year 2 and Beyond	Infrastructure				2,635	0				<u> </u>	\rightarrow	
SSL Certificate	Infrastructure				845	0				<u> </u>	<u> </u>	
Internet Access	Infrastructure				180	0		į		<u> </u>		
Imperva Web Application Firewall						_						
(External Web Applications Only)	Infrastructure		ANN		500	0						
App Code Directories on Consolidated												
IIS Server (Virtual)	Infrastructure		ANN		415	0				L		
Database (5 GB) on Consolidated SQL												
Instance Server	Infrastructure		ANN		930	0			ĺ			
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				1		
Dedicated Virtual Server	Infrastructure		ANN		4,150	0						
DB Instance Setup	Infrastructure				976	0						
DBA MS SQL Database Creation on												
Exisitng Instance	Infrastructure				366	0			ļ			
Extra Small - 2 Core 8GB RAM, 500GB										1		
Drive, 10 GB NIC - Cloud/Virtual = \$601											l	
On Premise Physical Server = N/A	Infrastructure		ANN			0						

6/28/2022

Return on Investment Analysis

							Af	fect	s Pro	oject	ROI?	٦
Project Cost Category	Budget Category/Funding Source	Unit Desc	Units	Rate per Unit	Total Cost	Annual Multiplier	Y1	Y2	Y3	Y4	Y5 Y(ô
								ļ		l		
Infractructura					0							
IIIIasiiuciule		AININ			0							-
									ļ	1		
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Infractructure					0							
IIIIasiiuciule		AININ			0			_				_
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Infrastructure		ΔΝΝ			0				1			
					0						<u> </u>	-
									1			
Infrastructure		ANN			0				Ì			
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6/28/2022

Return on Investment Analysis

				Potential Cos	t Extensions		
	Project Cost	N/A	Yo	Ya	N/A	¥5	×6
Cost Description	Category	Y1	Y2	Y3	Y4	Y5	Y6
IT Hours - New Development	Development Svcs	349,882.50	355,130.74				
IT Hours - System Maintenance	Development Svcs		8,373.75	8,499.36	8,626.85	8,756.25	8,887.59
IT Hours - Customer Support	Development Svcs		16,747.50	16,998.71	17,253.69	17,512.50	17,775.19
IT Hours - Planned Maintenance	Development Svcs		33,495.00		34,507.39		35,550.37
User Hours - New Development	Development Svcs						
User Hours - PTNE/OT	Development Svcs						
Contractor Professional Services	Development Svcs	886,200.00					
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	273,000.00					
Package Software - Maintenance	Software		273,000.00	273,000.00	273,000.00	273,000.00	273,000.00
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						

6/28/2022

Return on Investment Analysis

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

6/28/2022

Return on Investment Analysis

		Potential Cost Extensions							
	Project Cost								
Cost Description	Category	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								
Imperva Web Application Firewall									
(External Web Applications Only)	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									
Exisitng Instance	Infrastructure								
Extra Small - 2 Core 8GB RAM, 500GB									
Drive, 10 GB NIC - Cloud/Virtual = \$601									
On Premise Physical Server = N/A	Infrastructure				ļ				

6/28/2022

Return on Investment Analysis

				Potential Cos	t Extensions		
Cost Description	Project Cost Category	Y1	Y2	Y3	¥4	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				i		i I	
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						
Project Staff Training	Training						
User Training	Training						

6/28/2022

Cost Description	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total
Development Services:							
IT Hours - New Development	349,883	355,131					705,013
IT Hours - System Maintenance		8,374	8,499	8,627	8,756	8,888	43,144
IT Hours - Customer Support		16,748	16,999	17,254	17,512	17,775	86,288
IT Hours - Planned Maintenance		33,495		34,507		35,550	103,553
Contractor Professional Services	886,200						886,200
Development Services Subtotal:	1,236,083	413,747	25,498	60,388	26,269	62,213	1,824,197
Hardware:							
Hardware Subtotal:							
Software:							
Package Software - Acquisition	273,000						273,000
Package Software - Maintenance		273,000	273,000	273,000	273,000	273,000	1,365,000
Software Subtotal:	273,000	273,000	273,000	273,000	273,000	273,000	1,638,000
Infrastructure:							
Infrastructure Subtotal							
Training:							
Training Subtotal:							
Other:							
Other Subtotal:							
Costs Total:	1,509,083	686,747	298,498	333,388	299,269	335,213	3,462,197

6/28/2022

Return on Investment Analysis

Assumptions

Date	Assumption Description					
10-Jun-18	SAAS Solution is planned - pricing obtained from existing SaaS solutions in the market					
10-Jun-18	The new software will be able to integrate with Cityworks, financial management system, Crew Scheduler, check payment system, and IVR					
10-Jun-18	8 Increased Support, System Maintenance, and PMU hours due to high number of integrations					
	Original NorthStar to CAMS integration was \$66K in vendor fees, and 600 hours in IT Labor, which equates to \$165,000 in today's dollars,					
	plus Harris costs for customizations which were covered by WRC separately.					
	Sprypoint contracted services and licensing fees are noted per the contract					
	OOTB Test Cases will be supplied. We have to modify the test cases to meet our requirements.					
	Unique test cases will have to be created around the flows of the integrations					
	Business Process Driven test cases will leverage Functional test cases ordered in a scenario					
	In regards to Bill Validation - Assuming Support Role and Mike's Team will take most of the work and validation					
10-Jun-22	Assuming at the end of the project and after the 100 day warranty period, we will retire Northstar Server and Database, DR Toolkit					