Cityworks Journey – Transforming Asset Management with GIS

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WCW Overview

- Serve approximately 34,000 residences and 900 commercial/industrial businesses
- Nearly 100,000 residents
- Established in 1921
- Service Area: San Pablo, Tara Hills, northern Richmond, East Richmond Heights, Pinole (designated areas), El Sobrante, Rollingwood, Bayview, and nearby unincorporated areas

Project Team

- Mohammad Ghoury – Project Manager
  - GIS Program Analyst

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- Victoria Donati – Assistant Project Manager
  - Associate Management Analyst

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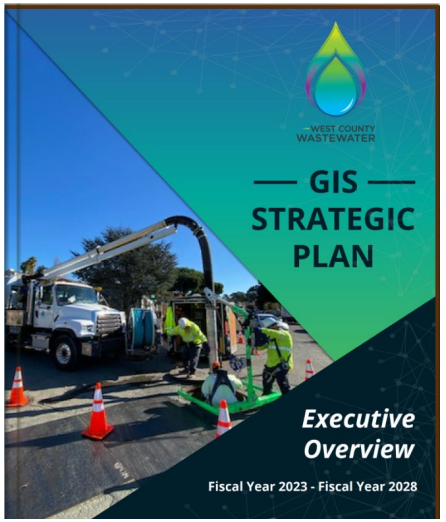
GIS Strategy

1. Consolidate ESRI workshop documents and GIS Work Plan
2. Develop a GIS strategy and a plan to execute it
3. Explain the GIS vision and steps to achieve it
4. Review the initiatives and provide a plan on project priorities, cost and timelines



CMMS Requirements

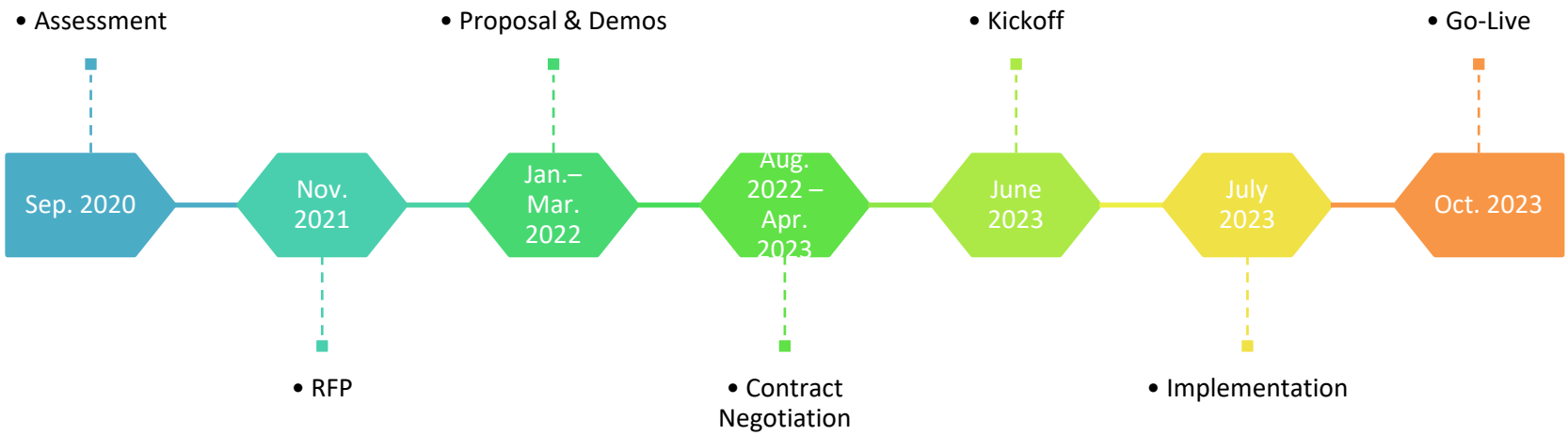
Work Orders/Asset Management

- Map Centric Asset Visualization
- Customer Request Management
- Work Requests
- Inspections/Condition Assessment
- Mobile Work Orders/Inspections
- Preventative/Predictive Maintenance
- Work Orders - Reactive
- Vertical and Horizontal Asset Tracking
- Inventory Management
- GIS Integration
- Ad Hoc Reporting

WCW Integrations/Interfaces

- WinCan (CCTV Inspection Software)
- Fuel System
- Barcode Scanners
- Email
- Active Directory
- Esri ArcGIS

From Assessment to Go-Live



Objectives

- Managing legacy data and departmental priorities
- Aligning GIS with operations
- Sustaining staff engagement throughout the process
- Improve customer relations
- Reduce manual processes and increase productivity
- Improve internal processes by automating routine tasks
- Reduce paper-based workflows
- Improve integration with other systems
- Select and implement a supportable solution
- Improve customers' ability to interact and do business with and in the Agency

Why Cityworks?

- Rigorous RFP Process
- Four Different Departments were involved
- Built on the GIS
- Integrations

Cityworks Rapid Ready

Start mid-June 2023
Go Live mid-Oct 2023

4 Month Project

Configuration Preparation (2 months)

- Kickoff, RFI, Data Clarifications

Solution Configuration (1 Month)

- Configuration and Demo

Advanced Functionality Development (2 Months)

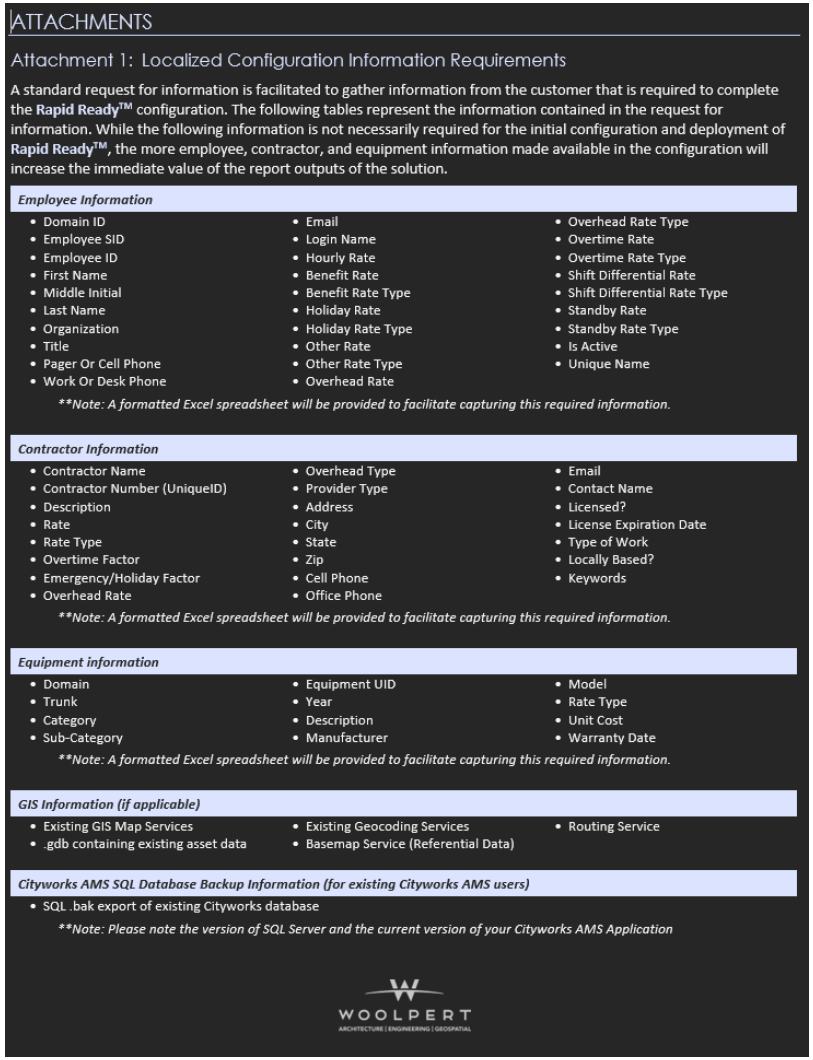
- Wincan Integration
- Hansen Data Migration

System Deployment (2 months)

- Testing, End User Training, Go Live Supoort,

Preparing for Implementation

- Start: July 2023
- Gathered employee, contractor, and equipment data (RapidReady™)
- Create GIS Service in Portal
- Added 17 asset types from treatment plant
- Bi-weekly stakeholder meetings
- Departments: Planning, Collections, Maintenance, Operations



ATTACHMENTS

Attachment 1: Localized Configuration Information Requirements

A standard request for information is facilitated to gather information from the customer that is required to complete the **Rapid Ready™** configuration. The following tables represent the information contained in the request for information. While the following information is not necessarily required for the initial configuration and deployment of **Rapid Ready™**, the more employee, contractor, and equipment information made available in the configuration will increase the immediate value of the report outputs of the solution.

Employee Information

- Domain ID
- Employee SID
- Employee ID
- First Name
- Middle Initial
- Last Name
- Organization
- Title
- Pager Or Cell Phone
- Work Or Desk Phone
- Email
- Login Name
- Hourly Rate
- Benefit Rate
- Benefit Rate Type
- Holiday Rate
- Holiday Rate Type
- Other Rate
- Other Rate Type
- Overhead Rate
- Overhead Rate Type
- Overtime Rate
- Overtime Rate Type
- Shift Differential Rate
- Shift Differential Rate Type
- Standby Rate
- Standby Rate Type
- Is Active
- Unique Name

***Note: A formatted Excel spreadsheet will be provided to facilitate capturing this required information.*

Contractor Information

- Contractor Name
- Contractor Number (UniqueID)
- Description
- Rate
- Rate Type
- Overtime Factor
- Emergency/Holiday Factor
- Overhead Rate
- Overhead Type
- Provider Type
- Address
- City
- State
- Zip
- Cell Phone
- Office Phone
- Email
- Contact Name
- Licensed?
- License Expiration Date
- Type of Work
- Locally Based?
- Keywords

***Note: A formatted Excel spreadsheet will be provided to facilitate capturing this required information.*

Equipment information

- Domain
- Trunk
- Category
- Sub-Category
- Equipment UID
- Year
- Description
- Manufacturer
- Model
- Rate Type
- Unit Cost
- Warranty Date

***Note: A formatted Excel spreadsheet will be provided to facilitate capturing this required information.*

GIS Information (if applicable)

- Existing GIS Map Services
- .gdb containing existing asset data
- Existing Geocoding Services
- Basemap Service (Referential Data)
- Routing Service

Cityworks AMS SQL Database Backup Information (for existing Cityworks AMS users)

- SQL .bak export of existing Cityworks database

***Note: Please note the version of SQL Server and the current version of your Cityworks AMS Application*

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Preparing for Implementation

Fields

Global Attribute	Field Format	Domain	Notes
AssetID	TEXT 50		ID will be auto generated during data migration. Should be unique across all assets.
AssetName	TEXT 50		Will require parsing the asset name from the ASEET_DESC field prior to data migration.
Address	TEXT 130		The field will be displayed as Address in Cityworks Work Orders. This could be bldg name
Location	TEXT 256		This field will be displayed as Location in Cityworks Work Orders
BuildingNumber	TEXT 50		This field will hold the building ID for the relationship classes to work
InstallDate	DATE		
WarrantyDate	DATE		
Status	TEXT 10	cDomLifecycleStatus	

Domains

Domain Name	Domain Alias	Field Type	Type	Code	Description
:LifecycleStatus	Lifecycle Status	TEXT	Coded Value	Permitted	Permitted
:LifecycleStatus	Lifecycle Status	TEXT	Coded Value	In Service	In Service
:LifecycleStatus	Lifecycle Status	TEXT	Coded Value	Not In Service	Not In Service
:LifecycleStatus	Lifecycle Status	TEXT	Coded Value	Abandoned	Abandoned
:LifecycleStatus	Lifecycle Status	TEXT	Coded Value	Removed	Removed
:LifecycleStatus	Lifecycle Status	TEXT	Coded Value	Unknown	Unknown
:BuildingName	Buillding Name	TEXT	Coded Value	[bldg name]	

Relation ships

NAME	TYPE	ORIGIN CLASS	DESTINATION CLASS	PRIMARY KEY	FOREIGN KEY	CARDINALITY
RelBuildingHasTB_PUMP	Simple	**BUILDING	TB_PUMP	*Building Number	BuildingNumber	One-to-Many
RelBuildingHasTB_MOTOR	Simple	**BUILDING	TB_MOTOR	*Building Number	BuildingNumber	One-to-Many
RelBuildingHasTB_VALVE	Simple	**BUILDING	TB_VALVE	*Building Number	BuildingNumber	One-to-Many
RelBuildingHasTB_SAFETY	Simple	**BUILDING	TB_SAFETY	*Building Number	BuildingNumber	One-to-Many
RelBuildingHasTB_STRUCTURE	Simple	**BUILDING	TB_STRUCTURE	*Building Number	BuildingNumber	One-to-Many
RelBuildingHasTB_INSTRUMENTATION	Simple	**BUILDING	TB_INSTRUMENTATION	*Building Number	BuildingNumber	One-to-Many
RelBuildingHasTB_BLOWER	Simple	**BUILDING	TB_BLOWER	*Building Number	BuildingNumber	One-to-Many
RelBuildingHasTB_FAN	Simple	**BUILDING	TB_FAN	*Building Number	BuildingNumber	One-to-Many
RelBuildingHasTB_PERIMETER	Simple	**BUILDING	TB_PERIMETER	*Building Number	BuildingNumber	One-to-Many
RelBuildingHasTB_ELECTRICAL	Simple	**BUILDING	TB_ELECTRICAL	*Building Number	BuildingNumber	One-to-Many
RelBuildingHasTB_TOOL	Simple	**BUILDING	TB_TOOL	*Building Number	BuildingNumber	One-to-Many
RelBuildingHasTB_LAB	Simple	**BUILDING	TB_LAB	*Building Number	BuildingNumber	One-to-Many
RelBuildingHasTB_AIRCOMPRESSOR	Simple	**BUILDING	TB_AIRCOMPRESSOR	*Building Number	BuildingNumber	One-to-Many

Assets by Type

Equip_ID	Equipment_Description	Priority	Facility	Building_Nur	Asset_
HW-V-BYPASSINF	GATE (VALVE), INFLUENT BYPASS	BA01	HW	11	WCWD
HW-V-INFBS01	#1 CHANNEL INLET GATE, #1 SCREEN FILTER	BA03	HW	11	WCWD
HW-V-INFBS02	#2 CHANNEL INLET GATE, #1 SCREEN FILTER	BA05	HW	11	WCWD
HW-V-INFBS03	#1 CHANNEL OUTLET GATE, #2 SCREEN FILTER	BA07	HW	11	WCWD
HW-V-INFBS04	#2 CHANNEL OUTLET GATE, #2 SCREEN FILTER	BA08	HW	11	WCWD
HW-V-INFGC02	CHANNEL INLET GATE - GRIT CHAMBERS NORTH	BA09	HW	11	WCWD
HW-V-INFGC01	CHANNEL INLET GATE - GRIT CHAMBERS SOUTH	BA11	HW	11	WCWD
HW-V-GRT-COMP01	Air Lift compressor #1 discharge vale	BA11	HW	11	WCWD
HW-V-GRT-COMP02	Air Lift compressor #2 discharge vale	BA12	HW	11	WCWD
HW-V-GRT-COMP03	Air Lift Compressor bypass valve	BA13	HW	11	WCWD
HW-V-P1SV01	SUCTION VALVE, #1 RAW SEWAGE PUMP	BA15	HW	11	WCWD
HW-V-P1DV01	DISCHARGE VALVE, #1 RAW SEWAGE PUMP	BA16	HW	11	WCWD
HW-V-P1CV	CHECK VALVE, #1 RAW SEWAGE PUMP	BA17	HW	11	WCWD
HW-V-P2SV02	SUCTION VALVE, #2 RAW SEWAGE PUMP	BA18	HW	11	WCWD
HW-V-P2DV02	DISCHARGE VALVE, #2 RAW SEWAGE PUMP	BA19	HW	11	WCWD
HW-V-P2CV	CHECK VALVE, #2 RAW SEWAGE PUMP	BA20	HW	11	WCWD
HW-V-P3SV03	SUCTION VALVE, #3 RAW SEWAGE PUMP	BA21	HW	11	WCWD
HW-V-P3DV03	DISCHARGE VALVE, #3 RAW SEWAGE PUMP	BA22	HW	11	WCWD
HW-V-P3CV	CHECK VALVE, #3 RAW SEWAGE PUMP	BA23	HW	11	WCWD
HW-V-P4SV04	SUCTION VALVE, #4 RAW SEWAGE PUMP AND MOTOR	CA11	HW	11	WCWD
HW-V-P4DV04	DISCHARGE VALVE, #4 RAW SEWAGE PUMP AND MOTOR	BA24	HW	11	WCWD

Current Use of Cityworks

- ASSIGNING, CREATING, AND TRACK WORK ORDERS
- ASSET TRACKING
- PREVENTATIVE MAINTENANCE (PM) SCHEDULES
- REDUCTION OF ENVIRONMENTAL IMPACT (PAPER FREE WORKPLACE)
- TRACKING SERVICE CALLS
- ENHANCED REPORTING CAPABILITIES

Projects on the Horizon

GIS Integrations

- Permitting
- Laserfiche
- SCADA

CMMS

- Reporting Standards
- GIS Dashboards

CIP in GIS

- GIS layer showing the completed, current and future CIP projects

Pipe Prioritization

- Create a list of pipes for project prioritization

WQ&RR Treatment Plant GIS

- Create GIS datasets for underground assets at the plant

GIS Strategic Plan Implementation

- Review the initiatives and provide a plan on project priorities, cost and timelines

Key Takeaways

- GIS-driven asset management improves visibility
- Strong prep and collaboration were key
- WCW continues to advance digital capabilities

Questions & Contact

Thank You!

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