TIMMONS GROUP

Michigan Cityworks Regional User Group

Cityworks / BS&A Integration for Warren, MI

09.11.2024



Who is Timmons Group?

- 1,000+ Person, Full-Service Geospatial Technology and Engineering Consulting Firm
- $210M in 2023 revenue, $5M In Cityworks services
- Serving Government and Private Industry for over 70 Years (since 1953)
- 190+ GIS Analysts and Programmers
- Multiple Award Winning Esri Business Partner – Gold level
- Esri Utility Network Certified
- Cityworks AMS and PLL Platinum Implementation Partner
- Cityworks® Strategic Development Partner
- IDS, Hyland, & RockSolid Certified Implementation Partner
- 37 in Cityworks Practice

Cityworks Partner Network Platinum

esri Partner Network Gold

avolve software

OnBase by Hyland

IDS Infrastructure Data Solutions

ROCK SOLID Certified Implementation Partner

aws partner network Select Consulting Partner

esri Utility Network Management Specialty

esri ArcGIS Hub Specialty

esri Release Ready Specialty

esri ArcGIS Online Specialty

FME CERTIFIED Professional

aws certified Solutions Architect ASSOCIATE

aws certified Developer ASSOCIATE

aws certified Solutions Architect PROFESSIONAL

aws certified Cloud Practitioner FOUNDATIONAL

Best Firms To Work For

INC. 5000

HOT FIRM ZWEIG GROUP

ENR TOP 500

TOP WORK PLACES 2016

ArcGIS Utility Network SPECIALTY esri

ArcGIS Desktop Certified esri

Enterprise Administration Certified esri

ArcGIS Online Administration SPECIALTY esri

Enterprise Geodata Management Certified esri

Web Application Developer Certified esri

Enterprise System Design Certified esri

Cityworks A TRIMBLE COMPANY

TIMMONS GROUP

20+ years = over 145+ Cityworks projects



Cityworks® A TRIMBLE COMPANY

TIMMONS GROUP

Cityworks®

INTEGRATED SOLUTIONS

Future-proof your enterprise solution

AUTOMATION



GIS-Centric
Open Platform

Webhook

Limited Data

Third Party App

Published
APIs

Extensive Data

Third Party
Solution

Saved Search

eURL

JSON / Feature Service

CSV, Shape File

ArcGIS®
Web Map

Cityworks® A TRIMBLE COMPANY

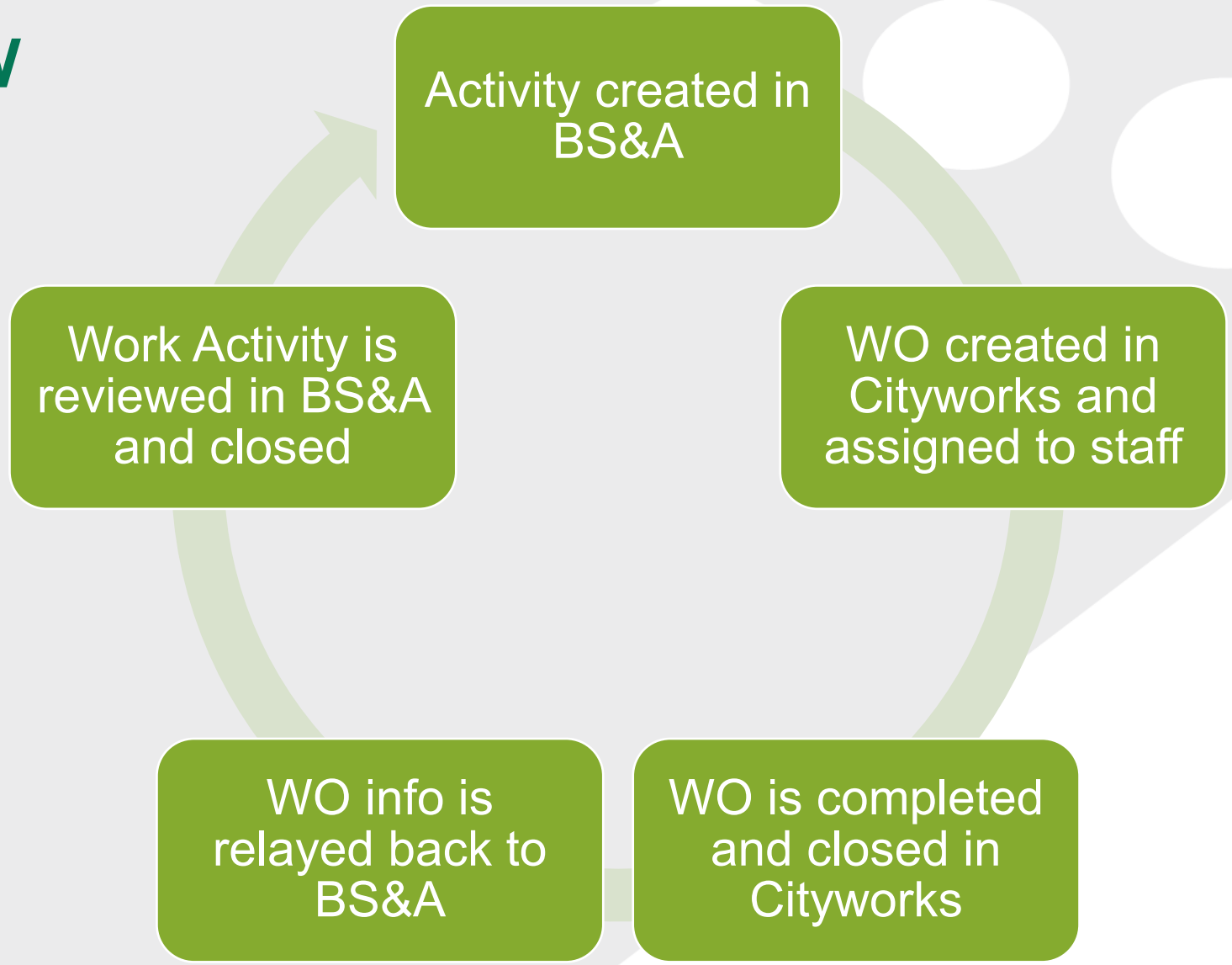
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Problem

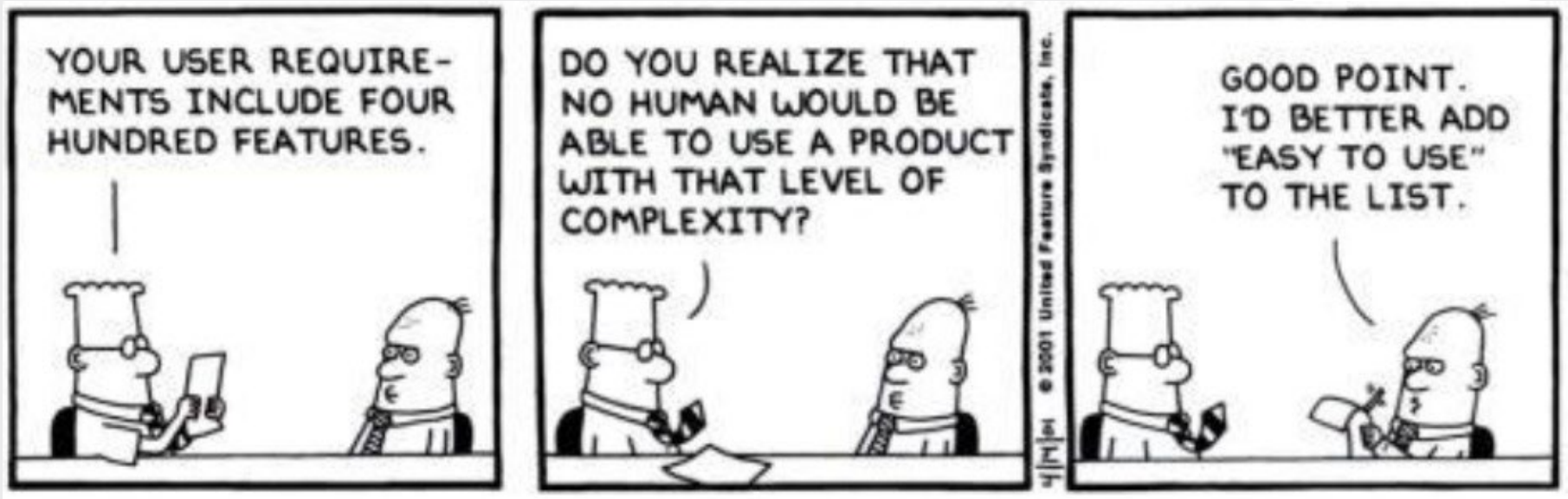
- BS&A – system of record for customer accounts and billing information
- Avoid duplicate data entry by customer service while still relaying information to field staff utilizing Cityworks



Workflow


Activity created in BS&A
WO created in Cityworks and assigned to staff
WO is completed and closed in Cityworks
WO info is relayed back to BS&A
Work Activity is reviewed in BS&A and closed

Functional Requirements



Keep It Super Simple



Functional Requirements

Requirement Name	Description
Synch Customer Accounts	Synch Customer Account information between BS&A and Cityworks. Customer Account information will need to be available on the Cityworks Work Order. (Customer Name and Contact information)
Generate Work Order	When work activities are generated in BS&A a parallel work activity needs to be generated in Cityworks. (See data mapping document for information of what information will the transferred between the two applications)
Update Work Order	When updates are made in BS&A the parallel work activity in Cityworks should be updated to reflect these changes .
Define Scheduled Dates and Times	Work activities scheduled in BS&A need to reflect the scheduled date and time in Cityworks. If changes are needed to scheduled date or time this would follow the same protocol as requirement 3 (above).
Track Billable Work	Work Activities need to have the ability to be flagged as “Billable” to separate them from non-billable work so that they can be invoiced or the cost applied to a customer account in BS&A.

Integration Design

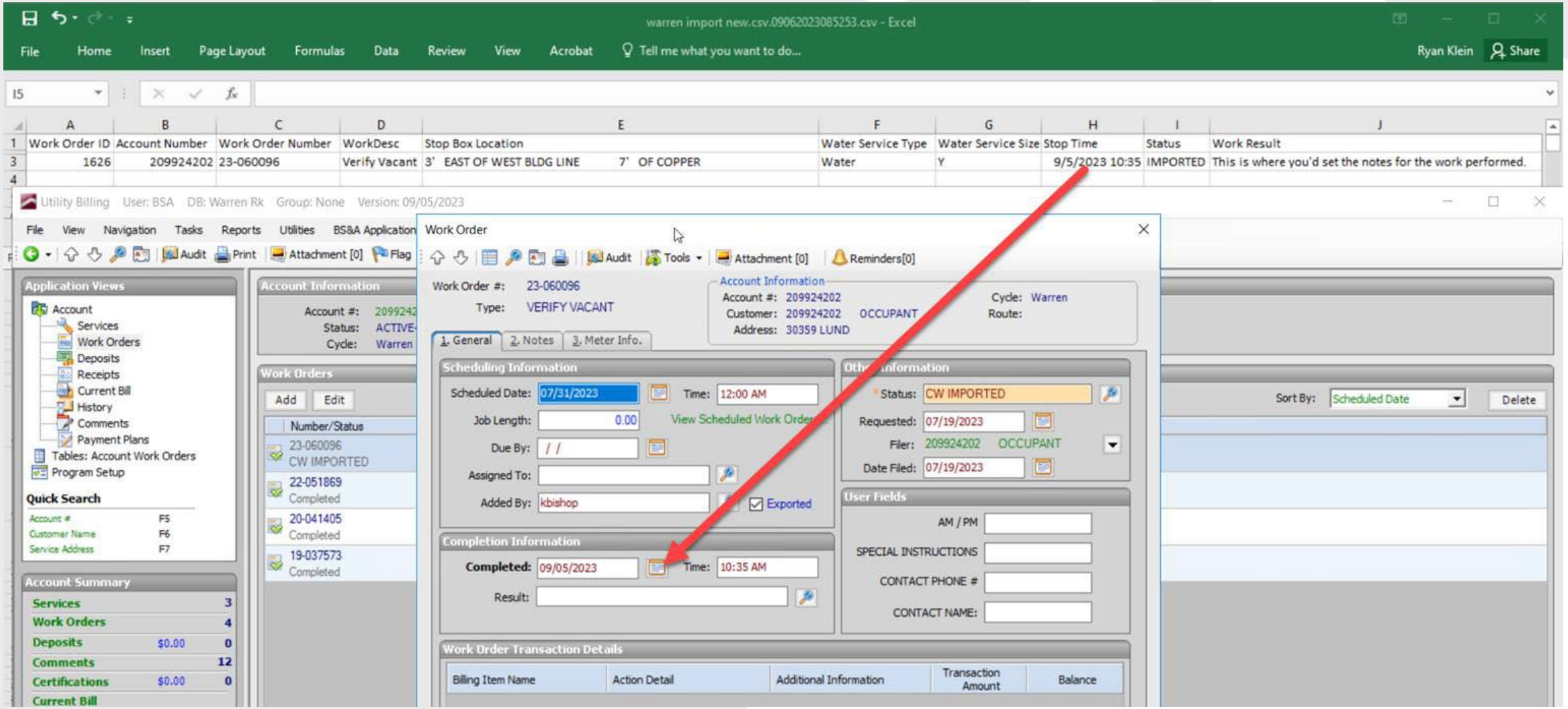
- CSV File Transfer with complex mapping
- BS&A does not offer APIs

Template ID	Cityworks Work Order Description	Template ID	BS&A Work Order Desription
24	Changeout Water Service Meter		Meter Change/Replace
32	Deliver Water Meter Trailer		Hydrant Rental
23	Install Water Meter		Meter Install
30	Remove Water Meter and MTU		Pull Meter/MTU Demo
35	Verify Demo		Verify Demo
33	Verify Stop Box On/Off		Verify On/Off
34	Verify Vacant		Verify Vacant
31	Water Meter Backwards		Meter Backwards
27	Water Meter Delivery		Meter Delivery
26	Water Meter Inspection		Meter Inspection
36	Water Meter Register Changeout		MTU: Register Error
25	Water Meter Reset		Meter Reset
50	Check for Leak		Check for Leak
49	Deliver Notice		Deliver Notice
48	Manual Read		Get Read/Check Read
47	Lead Inspection		Lead Inspection
52	Turn Off for Demo		T/Off for Demo
28	Turn Off Broken Pipes		T/Off: Broken Pipes
53	Turn Off Compliance		T/Off: Compliance
54	Turn Off Delinquent		T/off: Delinquent
55	Turn Off High Consumption		T/off: High Cons
56	Turn Off Repairs		T/off: Repairs
68	Turn On After Vacant		T/off: Vacant
66	Turn On After Winter		T/off: Winter
62	Turn On Change Meter		T/off - Meter Change
65	Turn On for Inspection		T/off After Inspection
60	Turn Off		Turn Off
29	Turn On Water Meter		T/on & Change Meter
63	Turn On and Inspect Meter		T/on & Inspect Meter
64	Turn On and Reset Meter		T/on & Reset Meter
65	Turn On for Inspection		T/on for Inspection
66	Turn On After Winter		T/on After Winter
67	Turn On After Repairs		T/on After Repairs
68	Turn On After Vacant		T/on After Vacant
69	Turn On After Delinquent		T/on After Delinquent
29	Turn On		Turn On

Data Mapping

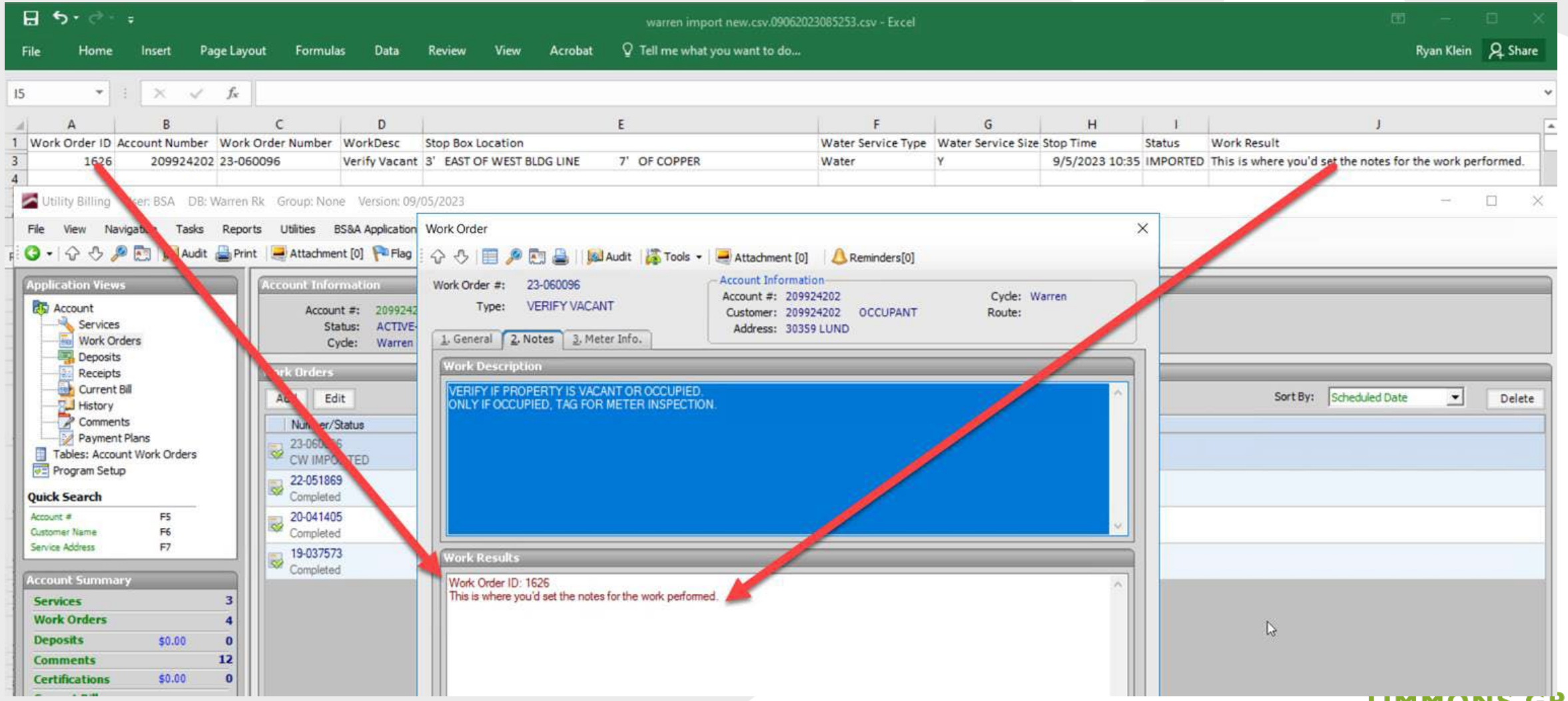
Cityworks Work Order				BS&A Work Order				Export Out of BS&A	Import File Coming Back to BS&A
Table Name	Field Name	Field Type	Field Length	Table Name	Field Name	Field Type	Field Length		
azteca.workorder	Account Number	Text		account.accountnumber	Account Number	varchar(25)		Y	Y
azteca.workorder	Work Order Number	Text	60	workorder.workordernumber	Work Order Number	varchar(15)		Y	Y
azteca.workorder	Projected Start Date	datetime	N/A	workorder.datetimescheduled	Date Time Scheduled	datetime		Y	
azteca.workorder	Description	Text	60	workorder.workordertype	Type	varchar(15)		Y	
azteca.workorder	Initiated Date	datetime	N/A	workorder.daterequest	Date Requested	datetime		Y	
azteca.workorder	Requested By	Text	50	workorder.addedby	Requested By	varchar(30)		Y	
azteca.workorder	Submit To SID	Integer	N/A	workorder.assignedto	Assigned To	varchar(20)		Y	
azteca.workorder	WO Address	Text	130		Service Address	varchar(62)		Y	
TBD	TBD	TBD	TBD	account.customername	Customer Name	varchar(35)		Y	
azteca.workordercomment	Comments	Text	MAX		Comments				
azteca.wocustfield	Custfield Value	Text	250		Read (Old Meter)	Float			
azteca.wocustfield	Custfield Value	Text	250	service.servicename	Service Name (Old Meter)	varchar(20)		Y	
azteca.wocustfield	Custfield Value	Text	250		Current Read (Old Meter)	Float			Y
azteca.wocustfield	Custfield Value	Text	250	service.previousread	Previous Read (Old Meter)	Float		Y	
azteca.wocustfield	Custfield Value	Text	250	meter.metertype	Meter Type (Old Meter)	varchar(20)		Y	
azteca.wocustfield	Custfield Value	Text	250	meter.metersize	Size (Old Meter)	varchar(20)		Y	
azteca.wocustfield	Custfield Value	Text	250	meter.meterid	Meter ID (Old Meter)	varchar(15)		Y	
azteca.wocustfield	Custfield Value	Text	250	meter.serialnum	Serial # (Old Meter)	varchar(15)		Y	
azteca.wocustfield	Custfield Value	Text	250	meter.user4field	MTU # (Old Meter)	varchar(20)		Y	
azteca.wocustfield	Custfield Value	Text	250	meter.user3field	Section (Old Meter)	varchar(20)		Y	
azteca.wocustfield	Custfield Value	Text	250	meter.location	Location (Old Meter)	text		Y	
azteca.wocustfield	Custfield Value	Text	250	account.user3field	Water Service Type (Old Meter)	varchar(20)		Y	
azteca.wocustfield	Custfield Value	Text	250	servicetap.location	Stop Box Location	text		Y	Y
				workorder.workdesc	WorkDesc	text		Y	
azteca.workordercomment	Comments	Text	250		Size (New Meter)				Y
azteca.workordercomment	Comments	Text	MAX		Serial # (New Meter)				Y
azteca.workordercomment	Comments	Text	MAX		MTU# (New Meter)				Y
azteca.workordercomment	Comments	Text	MAX		Start Read (New Meter)				Y
azteca.wocustfield	Custfield Value	Text	250	account.user3field	Water Service Type	varchar(20)			Y
azteca.wocustfield	Custfield Value	Text	250	account.user2field	Water Service Size	varchar(20)		Y	Y
azteca.workorder	Actual Start	datetime	N/A		Start Time				
azteca.workorder	Actual Finish	datetime	N/A	workorder.datecompleted	Stop Time				Y
azteca.workordercomment	Comments	Text	MAX		Charge to Meter Shop				
azteca.workordercomment	Comments	Text	MAX		Charge to Owner				
azteca.workordercomment	Comments	Text	MAX		Left Tag				
azteca.workordercomment	Comments	Text	MAX		Tuned Service On				

Cityworks Export csv to BS&A



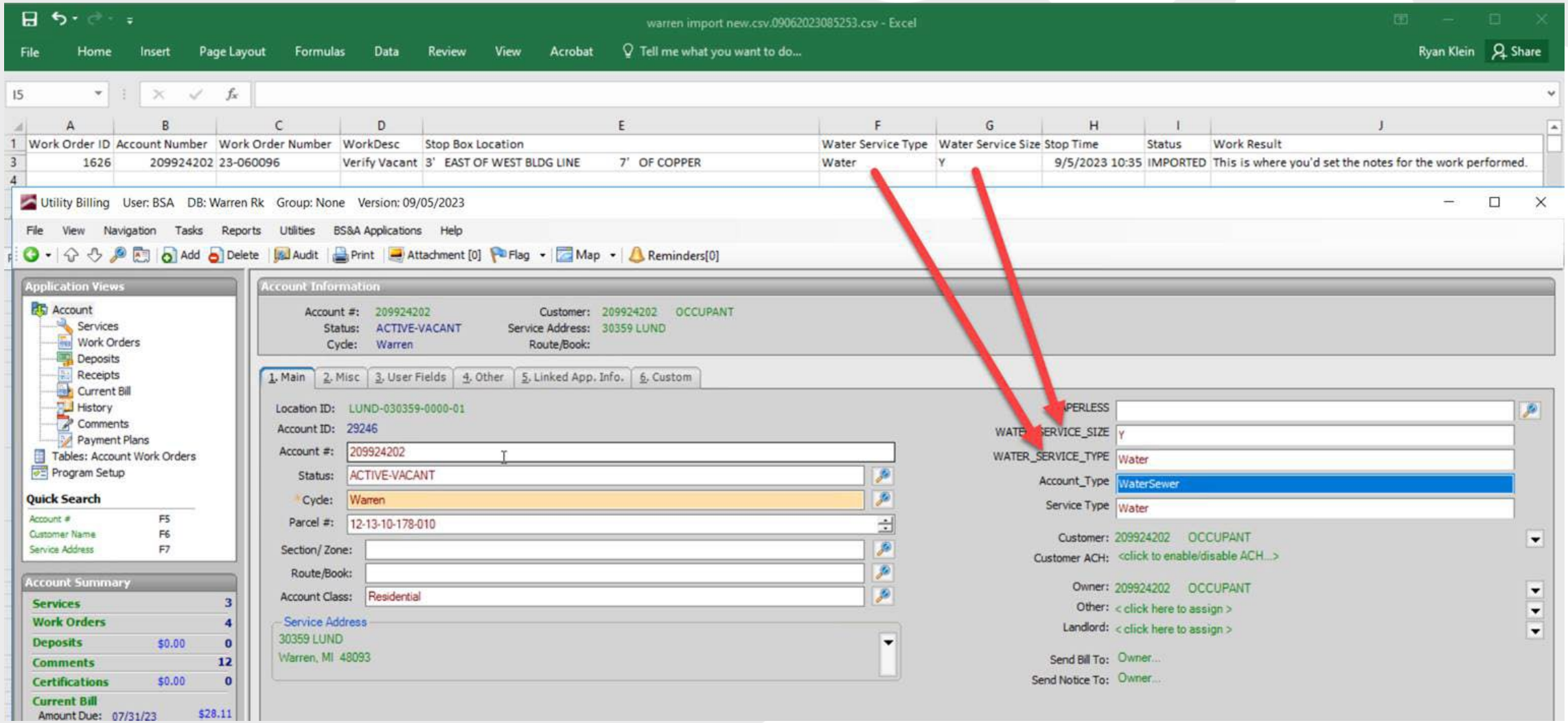
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Cityworks Export csv to BS&A



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Cityworks Export csv to BS&A



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Lessons Learned

- Functional Requirements – K.I.S.S.
- Engage 3rd party (BS&A) early
- Testing, testing, and more testing
- Careful review of proposed data mapping
- BS&A was responsive

What's Next?

- Modify integration for use with BS&A online & CWOL
- Warren is very happy!
- Long term support with Timmons Group

Thank You

Questions & Answers



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