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RFP Response for

RFP# 17-10

Sanitary & Storm Sewer Inspection Software

City of Ann Arbor

Public Works Unit

Public Services Area

from

Infrastructure Technologies, LLC.

4921 Alexander Blvd.

Albuquerque, NM 87107

877-ITpipes

www.itpipes.com

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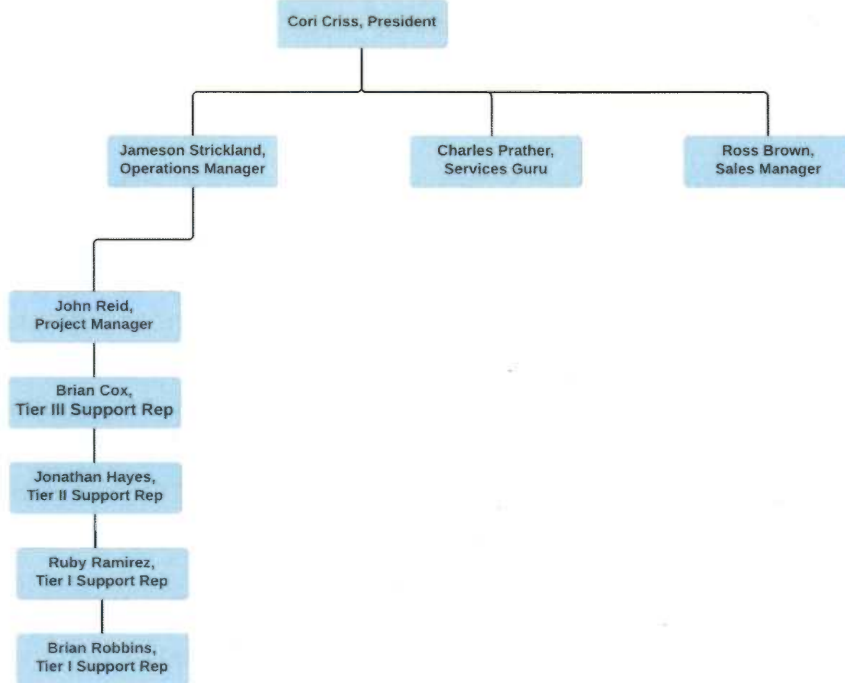
Section A) Professional Qualification and References

Proposed Key Personnel

- John Reid, Project Manager
 - John has extensive education with Project Management and many years experience working with ITpipes software and in specific, implementations that involve Cityworks. In the last 2 years, he has managed over 4 implementations involving Cityworks Integration add-on to ITpipes and has 3 active implementations in process with that scenario.
 - John's role will be active Project Manager. He will be involved in several phases of the implementation directly and oversee all phases, as outlined in the Project Scope.
- Brian Cox, Tier III Support rep
 - Brian has exhaustive experience working with databases, data sets, and implementations of ITpipes with AMS/GIS systems.
 - Brian has performed multitudes of ITpipes implementations to AMS systems and will oversee general support implementation activities for this project.
- Jonathan Hayes, Tier II Support Rep
 - Jonathan has managed support for Tier II activities including integration to AMS systems. He has worked on several Cityworks implementation and is proficient with Sync setup, which Cityworks Integration sits "on top of".
 - Jonathan will be tasked with Tier II implementation activities as outlined in the project scope.
- Ruby Ramirez, Tier I Support Rep
 - Ruby is actively calling clients for installations, setup of mobile and office software, GIS integration applications and more.
 - Ruby will be tasked with Tier I implementation activities as outlined in the **project scope**.

Organization Chart Showing Team & Project Related Staff

ANN ARBOR, MI - PROPOSED IMPLEMENTATION TEAM



*Note all staff are located in Albuquerque, NM.

Summary of Firm's History, Experience & Qualifications

Brief Description:

Infrastructure Technologies is a multi-faceted company with years of successful experience servicing America's most demanding clients in the water and wastewater industries. Although the "new kid on the block" we are recognized as an industry leader in inspection software. Infrastructure Technologies is the largest US firm solely focused on providing stormwater and wastewater pipeline inspection management solutions.

Leveraging and supporting our client base, we provide professional management services and renewable maintenance agreements that provide a solid foundation for our growing infrastructure to provide quality support to our client base. These professional services include managing client contracts for CCTV inspection projects, reviewing incoming deliverables for timely acceptance/revision, reviewing internal and external deliverables to ensure quality data is used for decision making, identifying Key Performance Indicators, and tracking those same KPI per resource group, to provide solid training and remediation for performance improvement. With several in-house trainers that have extensive condition assessment expertise, our team is unparalleled.

Our firm works exclusively with software and data management of asset inspections. Our ITpipes software is independent of camera companies and therefore works with every camera system in the marketplace. We do not have the same constraints as many inspection firms that work with specific hardware and systems. We have developed our software on the newest technologies available and used modern equipment components, focusing on what works and what the future will be.

Company History

Infrastructure Technologies was founded in 2009. As a new company based in Albuquerque, we were very fortunate to bring all of the staff that had worked at WinCan America into our firm.

Since starting, we have migrated many mature inspection software buyers into our ITpipes software. We've found our niche is with agencies that want to do more with their inspection software, beyond just collecting the data. Agencies that are looking to get actionable intelligence from the inspections, automate and streamline their processes, and maximize the value of their inspections efforts end up going with ITpipes.

State of Oregon

OFFICE OF THE SECRETARY OF STATE
Corporation Division

Certificate of Existence 436S682L4

I, JEANNE P. ATKINS, SECRETARY OF STATE, and Custodian of the Seal of said State, do hereby certify:

INFRASTRUCTURE TECHNOLOGIES, LLC

is

Organized

under the laws of The State of Oregon

and is active on the records of the Corporation Division as of the date of this certificate.

*In Testimony Whereof, I have hereunto set
my hand and affixed hereto the Seal of the
State of Oregon.*



Jeanne P. Atkins

JEANNE P. ATKINS, SECRETARY OF STATE

10/27/2015

Current Size of the Company

We have grown since introducing our product to the market bringing on additional development and sales staff. We now have 21 full-time employees on staff, with the majority based in Albuquerque, NM. We also have several staff personnel working out of their homes throughout the country.

With an internal Development Department and Technical Departments, we expedite client implementations and complete projects as quickly as client timelines allow. We have full-time Project Managers, full-time technical support staff and extensive experience implementing ITpipes for a variety of client workflows.

We have annual sales of over \$1.8m. We have approximately 500 active client sites, in the US, that have purchased one or more licenses of our ITpipes software and many more that use the ITpipes ViewIT software.

Length of time providing services, as outlined in this proposal

From the day our firm was founded, we immediately began successfully providing implementations, very similar to the system that the City of Ann Arbor is requesting.

Since 2009, we have offered our own, in-house designed products, specifically focused on inspection software in the USA. Since then, we have provided successful solutions to some of America's most demanding municipal and contracting clients including agencies such as City of Fort Worth, City of Los Angeles, City of Denver, and others.

Our key staff have been working with inspection software and projects such as City of Ann Arbor's request since 1996. Our personnel have worked with thousands of software users to revolutionize pipe inspection and data management at their agencies. This experience shows in the ITpipes software and is available to you in our commitment to superior technical support, consulting, and training.

Evolution of Products

Here are highlights of our product line evolution:

- Our original product line built in 2009, consisted of mobile software, and manually forced integration to GIS and AMS systems.
- In 2011, we added in a tool called Sync that allowed automated sharing of inspection information from the field to the office.
- In 2012, we added in Sync automation scheduling options, upgraded mobile software, and started a revamp of GIS desktop tools.
- In 2015, we revamped Sync and all AMS integration options available, such as

integration to Cityworks, Maximo, SAP, etc. All the integrations were rebuilt to sit “on top of” sync, standardizing them significantly yet allowing for powerful configurability.

- In 2016, we released Mobility tablet/phone app data collection tools for structural inspections.
- In early 2017, we released Sync 2.0 that has python scripting functionality. This means clients can either internally or through our services, have specific functions unique to their organization and setup performed with the Sync tool. This maintained collaboration with AMS integrations, so now all AMS configurations are even more flexible with this powerful scripting functionality.

Qualifications, Technical Capabilities & Resources

As mentioned above, we have extensive staff experience successfully implementing systems very similar to the one that the City of Ann Arbor is requesting. In fact, some implementations we’ve provided are close to identical.

Immediately upon our founding, we became partners with Cityworks and ESRI. We realized this was a high priority and in fact, much of our product “background” was designed specifically to work with these two product lines.

Infrastructure Technologies is a Silver Level business partner with Cityworks. We attend their annual conferences, sponsor and attend UGMS, several staff from our firm regularly attend various training sessions, often have ITpipes users submit articles to the Cityworks Imprint magazines (see section L for an example), and communicate quite regularly with their Partner Manager and Sales Team. We are the only firm with *automated* integration that can go so far as to connect databases, not just use their APIs.

Infrastructure Technologies is a Silver Level business partner with ESRI. We not only attend their annual conferences and contribute, but they regularly invite us to work with them. We’re often included as a partner firm in their partner showcase at WEFTEC, AWWA, APWA and other conferences. We try, very valiantly, to stay on top of ESRI’s latest technologies. If you are familiar with ESRI’s business model, you know they often leave other companies “in the dust”. David Totman, Water Industry Manager, just weeks ago stated that “ITpipes is the only inspection software that has integration with our latest ESRI platform”, referring to ArcGIS online.

Support Policies & Standards

Operations/Tech Support Manager: Jameson Strickland

ITpipes software support hours are Monday - Friday, 8:30 am to 6 pm EST. In addition, we have 24/7 access to a knowledgebase for client self-troubleshooting.

We have a guaranteed response time of 2 hours for Level 1 support issues, however, our average turnaround-time for completion of a client support request is 33 minutes. We have a guaranteed response time of 3 business days for Level 2 support issues, we consistently meet this response time. Level 3 support items rarely occur for clients and often involve specific client scenarios and require troubleshooting on a client's system, the timeline for completion of these issues varies.

Support Levels

- Level 1 Support - Items that can be resolved with general troubleshooting.
- Level 2 Support - items that require database review and/or code review for potential updates.
- Level 3 support - items that require programming/code changes.

Annual Maintenance/Support Costs

The majority of clients have standard software maintenance as part of their "annual" Service Agreement.

System Warranty

Infrastructure Technologies LLC warrants that for a period of ninety (90) days from the date of shipment from the Company: (i) the media on which the Software is furnished will be free of defects in materials and workmanship under normal use; and (ii) the Software substantially conforms to its published specifications. Except for the foregoing, the Software is provided AS IS. This limited warranty extends only to Customer as the original licensee.

Customer's exclusive remedy and the entire liability of Company and its suppliers under this limited warranty will be, at Company or its service center's option, repair, replacement, or refund of the Software if reported (or, upon request, returned) to the party supplying the Software to Customer. In no event does Company warrant that the Software is error free or that Customer will be able to operate the Software without problems or interruptions.

This warranty does not apply if the software (a) has been altered, except by Company, (b) has not been installed, operated, repaired, or maintained in accordance with instructions supplied by Company, (c) has been subjected to abnormal physical or electrical stress, misuse, negligence, or accident, or (d) is used in ultrahazardous activities.

DISCLAIMER. EXCEPT AS SPECIFIED IN THIS WARRANTY, ALL EXPRESS OR IMPLIED CONDITIONS, REPRESENTATIONS, AND WARRANTIES INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, NONINFRINGEMENT OR ARISING FROM A COURSE OF DEALING, USAGE, OR TRADE PRACTICE, ARE HEREBY EXCLUDED TO THE EXTENT ALLOWED BY APPLICABLE LAW. IN NO EVENT WILL COMPANY OR ITS SUPPLIERS BE LIABLE FOR ANY LOST REVENUE, PROFIT, OR DATA, OR FOR SPECIAL, INDIRECT, CONSEQUENTIAL, INCIDENTAL, OR PUNITIVE DAMAGES HOWEVER CAUSED AND REGARDLESS OF THE THEORY OF LIABILITY ARISING OUT OF THE USE OF OR INABILITY TO USE THE SOFTWARE EVEN IF COMPANY OR ITS SUPPLIERS HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. In no event shall company's or its suppliers' liability to Customer, whether in contract, tort (including negligence), or otherwise, exceed the price paid by Customer. The foregoing limitations shall apply even if the above-stated warranty fails of its essential purpose.

Limitation of liability for use of Software by End-Users. The software is derived from third party, Vendor and no such third party warrants the software, or assumes any liability for any damages suffered or incurred by End-User including without limitation general, special or consequential damages arising from or in connection with the delivery, use of performance of software or this agreement.

Web Support Strategy

We have an online client portal, requiring a client to login with username and password, that provides the following:

- Knowledge Base updated regularly by client support staff
- Remote control of client systems
- Online videos for sales and training updated regularly
- Updates “instant-run” from the portal
- All software applications and updates are available for download here

We expect by end of Q3 2017 we will have chat functionality for clients to have chat sessions with technical staff and calendar functionality for clients to set up appointments for support assistance.

Client Organizations with Similar Scenario Implementations

This is a list of client implementations, performed in the last 3-5 years that have similar scenario implementations to the software and services being proposed to Ann Arbor. All of these are active, current clients.

- Albuquerque Bernalillo Water Utility Authority, NM - ITpipes mobile - 3 units, office, and integration to Maximo
- Knoxville Utilities Board, TN - ITpipes mobile - 5 units, office, and integration to ESRI GIS
- City of Fort Worth, TX - ITpipes mobile - 8 units, office, 2ync, and integration to ESRI GIS
- City of Los Angeles, CA - ITpipes mobile - 3 units, office, and integration to ESRI GIS; City of LA does not have sync for automated data transfer.
- City of Woodland, CA - ITpipes mobile - 2 units, office, sync, and integration to ESRI GIS & Cityworks
- City of Round Rock, TX - ITpipes mobile - 5 units, office, sync, and integration to ESRI GIS & Cityworks
- City of Grand Junction, CO - ITpipes mobile - 2 units, office, sync, and integration to ESRI GIS & Lucity
- City of Wichita Storm Department, KS - ITpipes mobile - 2 units, office, sync, and integration to ESRI GIS & Lucity
- Texarkana Water Utilities - ITpipes mobile - 1 unit, office, and integration to ESRI GIS & Cityworks; City of Texarkana does not have sync for automated data transfer and is on an older version of Cityworks without the API.
- Orange County Water & Sewer, NC - ITpipes mobile - 1 unit, office, and integration to ESRI GIS & Cityworks; City of Texarkana does not have sync for automated data transfer and is on an older version of Cityworks without the API.
- City of Portland, ME - ITpipes mobile - 5 units, office, sync, and integration to ESRI GIS & Cityworks; Portland does very minimal in-house tv work, using contractors for most of their work; their inspection program has been somewhat “slow” to get up and going internally due to lack of staffing and crew availability.
- City of Pittsburg, KC - ITpipes mobile - 1 units, office, sync, and integration to ESRI GIS & Cityworks
- City of Auburn, AL - ITpipes mobile - 1 units, office, sync, and integration to ESRI GIS & Cityworks
- City of Antioch, CA - ITpipes mobile - 1 units, office, sync, and integration to ESRI GIS & Lucity

Five Current Customers with Similar Scenario Implementations

Greenwood Metropolitan District

110 Metro Dr.
Greenwood, SC 29646

Attn: Jimmy Pinson or Ken Davis
Phone: 864-554-1236
E-mail: jpinson@greenwoodmetro.com or
kdavis@greenwoodmetro.com

The Greenwood Metropolitan District - Greenwood, SC purchased ITpipes in 2012 with 2 CCTV mobile licenses including PACP module. The office license included a network license with Analysis, GIS tools, Sync and Cityworks integration. Jimmy Pinson at Greenwood is very technical and has used ITpipes Cityworks integration to do a multitude of activities related to clean-up of their inspection data.

Software Licensed:

- ITpipes Mobile systems - 2
- ITpipes 3 user SQL network
- ITpipes Web
- GIS Modules
- Sync
- Cityworks Integration

City of Raleigh, NC

10700 Star Road
Wake Forest, NC 27587

Attn: Chris Starling
Phone: 919996-2808
E-mail: christopher.starling@raleighnc.gov

Scenario: Raleigh has used ITpipes since 2011 and setup integration to Cityworks in 2017. They have 5 mobile units that perform inspections full-time on a daily basis. Those 5 systems sync via a connected LAN at the end of each day. They push work orders out from GIS to ITpipes automatically so the operator can see his list of planned inspections. They have maps in the truck so the inspector has location information. When inspections are complete they push automatically into the ITpipes server. From there, access automatically into Cityworks for access by all Cityworks users. They have ITpipes Web Single Inspection Viewer setup from Cityworks so any user inside Cityworks can easily review an assets completed inspections.

Software Licensed:

- ITpipes Mobile systems - 5
- ITpipes 10 user SQL network
- ITpipes Web Viewer Only
- GIS Modules
- Sync
- Cityworks Integration

City of San Luis Obispo

25 Prado Road
San Luis Obispo, CA 93401

Bud Nance, 805 781-7033 or 805-431-7141
(Bud is retiring 5/31/2017)
Randy Stevenson, 805-431-7145
Email: rstevenson@slocity.org

(Randy was involved in depth technically and from a management standpoint with the entire migration from Hansen to ITpipes, this included over 15 years of legacy inspection data.)

Scenario: The City of SLO used Hansen for asset management and inspections. They moved to Cityworks for the majority of the city departments and to ITpipes in 2013 for their sewer department. The migration to Cityworks was through Woolpert as a contracted integration partner and Woolpert contracted ITpipes to migrate legacy inspection data and implement ITpipes for the City. SLO had a highly customized Hansen system so moving to ITpipes required an intense amount of configuration that we and they performed jointly. SLO syncs 1 mobile unit to the office ITpipes server, which then syncs automatically to Cityworks. If an inspection didn't have an assigned work order, ITpipes automatically creates that work order inside Cityworks and pushes completed inspection information into the work order. Open work orders push out to the mobile unit for assignment. Once inspections are complete, the complete inspection information pushes into ITpipes server/office and then automatically into Cityworks.

Software Licensed:

- ITpipes Mobile systems - 1
- ITpipes 3 user SQL network
- ITpipes Web Viewer Only
- GIS Modules
- Sync
- Cityworks Integration

City of Alexander City, AL

824 Railey Road
Alexander City, AL 35010

Attn: Danny Jo Pike
Phone: 1-256-409-2000
Email: danny.pike@alexandercityal.gov

The City of Alexander City, AL started using ITpipes in 2011 with the purchase of ITpipes with their current Aries Industries equipment. The initial purchase included a CCTV mobile license, along with an office license with Analysis, GIS tools, and the Sync module. After the initial implementation, in 2013, they upgraded their office license to a network license, added more GIS tools, and added integration into Cityworks.

Software Licensed:

- ITpipes Mobile systems - 1
- ITpipes 3 user SQL network
- GIS Modules
- Sync
- Cityworks Integration

Albuquerque Bernalillo Water Utility Authority, NM

4201 Second St. SW
Albuquerque, NM 87105

Attn: Mark Holstad

Phone: 505-289-3450

Email: mholstad@abcwua.org

Scenario:

ABCWUA started using ITpipes in 2010 with the purchase of ITpipes in 2 mobile units. They later added on office licensing and GIS integration. In 2014 they added in Sync and Maximo Integration. In 2015, they added in custom programming to trigger actions inside Maximo, such as the tv inspection triggering and the integration defining the nozzle that is necessary for the cleaning crew to take when going out on a cleaning job. They are now in the process of upgrading to Sync 2.0, with python scripting and updated Maximo Integration to the latest Maximo version.

Software Licensed:

- ITpipes Mobile systems - 2
- ITpipes 3 user SQL network
- GIS Modules
- Sync
- Maximo Integration

Section B) Technical Proposal - High Level Overview

Section 1: Executive Summary

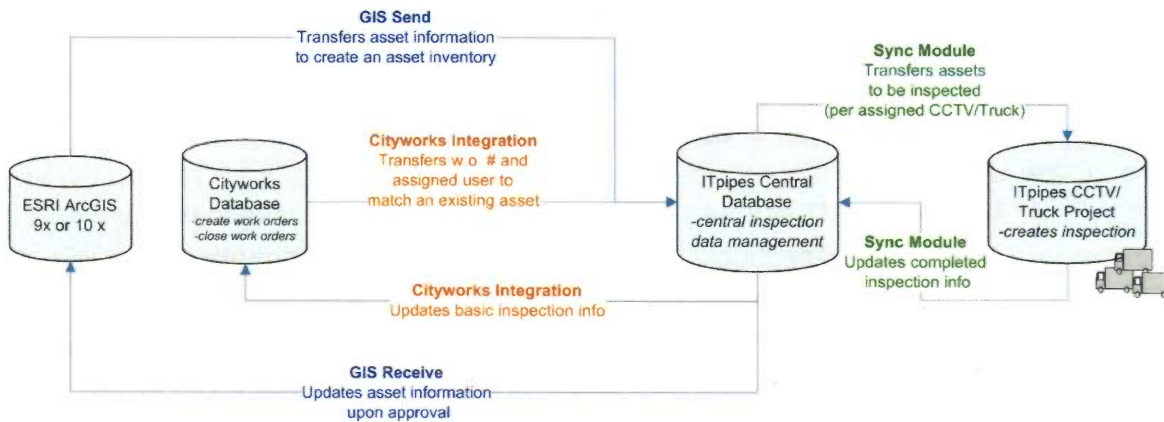
The proposed system for this RFP includes the following ITpipes software system. For each component we have provided an overview description of the component as a high-level overview. More detail regarding this proposed software and services is available in Section 2, System Description.

- ITpipes mobile system with GIS & Cityworks integration
 - This includes the ITpipes core, overlay module, video capture module, and a custom template setup for Ann Arbor. The template includes configurable asset header fields, inspection header fields and observation code set and could be similar to industry standards or unique for Ann Arbor.
 - This includes full digital data collection in a CCTV unit, with tie-ins to GIS and Cityworks for scheduling and reporting.
- ITpipes office system with GIS & Cityworks integration
 - This includes the ITpipes core, Analysis, and a custom template setup for Ann Arbor.
 - This includes comprehensive office software for condition assessment review, data management of inspections, SmartTab dynamic reporting, comprehensive integration to GIS for reporting and Cityworks for follow-up to inspections.
- Unlimited ViewIT installations
 - ViewIT software provides unlimited licensing and setup for end-users to review completed inspections. This can be launched independently, from GIS, or from Cityworks to give users instant access to inspection details.
- Sync Module
 - Sync provides the basis for moving inspection data seamlessly from mobile units to the office and scheduling from the office to the crews.
- Implementation
 - This includes online setup and implementation via telephone and remote control.
 - This includes on-site training of up to 3 days in 1-3 trips, as needed.
 - Our on-site trainers will provide as much setup and prep, as possible, in advance of coming on-site in order to maximize on-site, face-to-face time for your implementation. On-site training will be used to provide full in

person overview of ITpipes software, review of workflow and usage/application of ITpipes, and Q&A sessions.

- Legacy Data Conversion
 - We will move existing legacy inspection data into an ITpipes format, with approval QA/QC from the City staff. This ensures all existing inspections are available and fully usable within ITpipes for reporting, integration to Cityworks and GIS.

Here is a general workflow depicting ITpipes from a data flow perspective.



From a user perspective, these are the highlighted features that will be available to various user groups.

- CCTV Inspectors
 - Select an asset on the map to transfer the asset into ITpipes for an inspection to be made, very useful for performing “emergency” asset inspections that weren’t pre-assigned through Cityworks.
 - Select an asset from an assigned list of inspections to be performed, this assigned list is automatically pushed out and updated from Cityworks via the Sync and Cityworks Integration.
 - Perform a comprehensive inspection with full digital data collection, connected to any type of CCTV system.
 - Perform a rapid inspection using tools such as HotButtons, auto-printing after inspection completion, and edit an inspection at any time.
 - Force a sync of inspections into the office server/central database at any time.
- Supervisors
 - Supervisors can schedule inspections to be performed either thru GIS or

- thru Cityworks. Assigned inspections are pushed directly into Cityworks for further follow-up assignment of preventive maintenance, operations, structural repairs, or later re-televising.
- Editing or review of inspections at any time is available. Clients can even choose to set up an interim QA/QC database if inspections need reviewed prior to being available to all users throughout the organization.
 - With GIS integration, supervisors can visually assign asset inspections, maximizing location awareness for assignment.
 - **Engineers**
 - ITpipes SmartTabs provide dynamic reporting of pre-defined queries, expediting condition assessment review and reporting. Users can mass-edit records to assign follow-up actions.
 - Comparison of inspection data on historical inspections for the same asset expedites review of asset performance and planning.
 - **Other Users**
 - ITpipes ViewIT can be setup for any user to have access to review completed inspections. This can be launched independently, from GIS, or from Cityworks to give users instant access to inspection details.
 - GIS Receive will allow a GIS user, with GIS edit permissions, to review discrepancies between GIS data and inspection data collected. If discrepancies are desired to push into GIS, GIS Receive can be used to update the GIS file, with appropriate user permissions in place.
 - **Administration/I.T.**
 - Setup automated syncing at desired days/times for bi-directional data push between ITpipes central database and CCTV units/projects and for syncing between ITpipes central repository and Cityworks.
 - Force syncs at any time manually between systems.
 - Use automated filing system and systematic storage settings to manage media associated with inspections.

Hardware & Software Proposed

Hardware

ITpipes will install on the City's existing computer and camera system. Minimum pc requirements are available on the Solutionsite. Also, at time of this RFP response, minimum pc requirements are shown below:

- All systems require a monitor or display with a minimum 1024x768 resolution, and Windows 7, 8, 8.1, or 10
- We recommend dual monitors if using ITpipes with GIS or other systems.

- We highly recommend solid-state hard drives for inspection vehicle boot drives as vibration frequently causes hard disk drives to fail, and reinstalling Windows can be a lengthy process.

Mobile System Minimum PC Requirements:

Recommended Specifications:

- Processor: 3.2Ghz+ Quad-Core
- Memory: 8GB+ DDR3 or DDR4 RAM
- Hard Drives: 128GB+ SSD for Windows and 1TB+ 7200 RPM media drive
- Windows 7 or Windows 10

H264 Recording Minimum Requirements:

- Processor: 3.2Ghz+ Quad-Core
- Memory: 8GB+ DDR3 or DDR4 RAM
- Hard Drives: 128GB+ SSD for Windows and 1TB+ 7200 RPM media drive
- Windows 7 or Windows 10

HD H264 Recording Minimum Requirements:

- Processor: 3.6Ghz+ Quad-Core
- Memory: 8GB+ DDR3 or DDR4 RAM
- Hard Drives: 128GB+ SSD for Windows and 1TB+ 7200 RPM media drive
- Windows 7, 8.1, or Windows 10

*Nvidia 750 TI + graphics card is required to record in HD H264. This card does not have video cloning capability, i.e. ability to output to a second monitor.

Software

We propose providing the following software:

- ITpipes mobile System with ITpipes core license, overlay module, video capture module,
- ITpipes 3 user office SQL System with ITpipes core license and analysis module
- ITpipes GIS modules for Desktop ArcMap Integration
- ITpipes Sync Module
- ITpipes Cityworks Integration

Section 2: System Description

Features for System Requirements

Infrastructure Technologies meets all the detailed System Requirements and provides additional functionality. There are no exceptions to the requirements.

Our premier software, ITpipes, is the only CCTV inspection software that has automated integration with Cityworks via their API and database. This automated integration is configurable and already into use with many clients that will provide excellent references.

Our service and support is renowned throughout the industry as unparalleled.

ITpipes Licensing Overview

ITpipes is sold as a scalable software package. This means you start with the core license and add-on modules as needed. ITpipes is licensed per workstation, so users can have individual or network licenses in the office and individual licenses in the field, as field units are not generally connected to a network.

The three basic types of licensing available include:

- Core license – single user (Default is access)
- Core license – Network
- ViewIT – free viewer

Core License – Network

The core license provides powerful tools for field data collection, office review and analysis, and comprehensive administration tools such as merging, template editing and more.

Below we have identified specific key components that outline the core license in relation to your needs.

- Inspection data entry with snapshot and video capture
- Full edit and modification capabilities
- Searching, sorting, filtering, and grouping functions
- Easy-to-use, intuitive workspace
- Searching or locating specific assets and/or inspections
- Comprehensive filtering tools with SmartTabs
- Field collection automation tools
- Unlimited assets and unlimited asset inspection capability
- Template Editor tool for configurability
- Merge & Sync Tool
- Flexible, easy to understand database is created in an open, non-proprietary format
- Data quality control and merging tools

Network licensing includes SQL compatibility for the inspection database. SQL Server as a back-end database is more robust and much more powerful for larger databases. Many municipal clients will use an Access based ITpipes core license in the vehicle and SQL based ITpipes core licensing in the office. ITpipes manages moving the data from Access to SQL inside Sync, so this change of database from the vehicle to the office is performed completely “behind the scenes”.

ViewIT (free software for read-only purposes)

With any ITpipes core license purchase, ViewIT is provided at no cost. ViewIT works on any modern Windows' PC without licensing, installation or administrator privileges.

- o Access all assets, inspections, videos and more, all through ViewIT, so you quickly find what you need to review.
- o View unlimited, multiple inspections for the same asset! This means historical and current inspections can all be viewed in the same way!
- o Maximize videos and snapshots in full screen mode.
- o Print reports straight through viewIT!
- o Notice observations are color coded based on severity level.



ITpipes Office Package

Core License

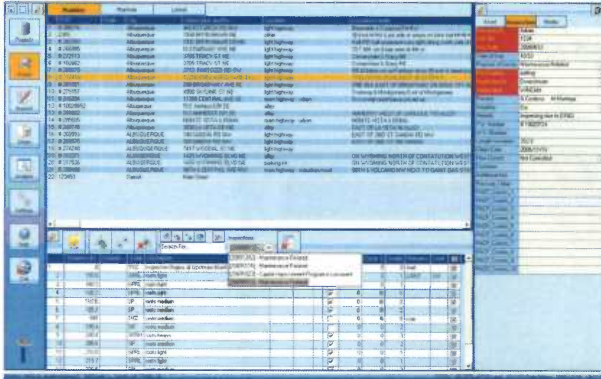
The core license is designed to be user-friendly for review and reporting. We have extremely comprehensive tools that are flexible, based on the configuration of your ITpipes template.

The intuitive workspace is designed to be identical regardless of the asset type or configuration. This includes the following:

- Navigation Bar - left: Takes users step-by-step through various processes that will be used in ITpipes.
- Input & Review Window - right: All input of asset detail, observation detail and/or inspection detail is done in this window, so data entry can be done with the mouse or tab key on the keyboard.

- Review Windows - center top & bottom: Review asset lists, inspection lists and inspection detail in this area. The top center window can be quickly enhanced to display only your full video during review or live inspection.
- Listings: All information is listed in chronological order, but the user can sort by any field at any time and setup SmartTab for reporting.

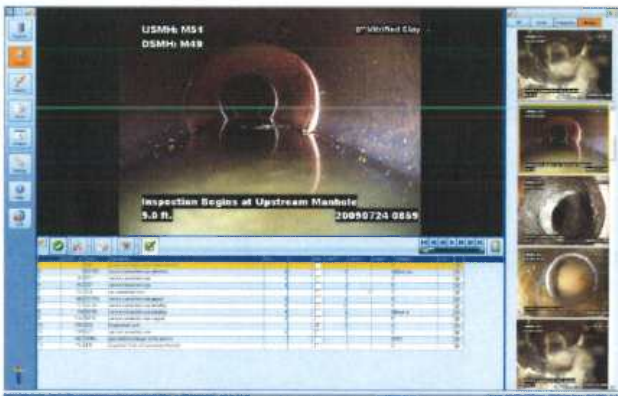
Here we are displaying various screen shots to give you an idea on the workspace.



Assets Workspace

This screenshot displays the asset list, asset detail on the right, and observations /inspection detail at the bottom.

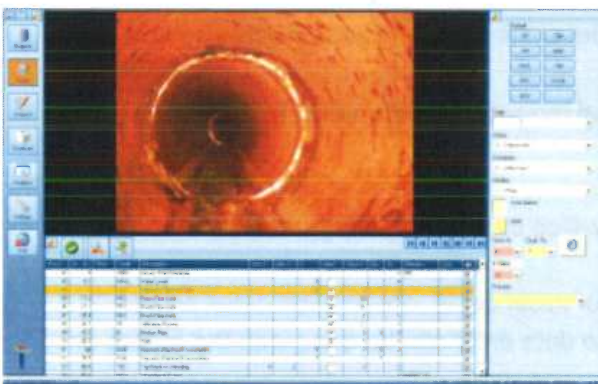
This screenshot also shows an "active" drop-down in the toolbar, reflecting that there are multiple inspections for this asset.



Inspection - Video Review

This screenshot displays the inspection detail with media strip and video playback, with the following controls: Slider Bar, Play, Pause, Fast Forward, Rewind, Step Back, Step Forward.

A double-click on the media enlarges the video to full-screen. You can store additional snapshots off the stored video at any time.



Inspection - Observation Input

This screenshot shows the observation/input entry window on the right, with video playback in the center window.

This would be used for modifying existing or creating new inspections.



Full Screen Media

This window shows all panels hidden except full screen media to display snapshots and or video.

Search, Sort, and Group

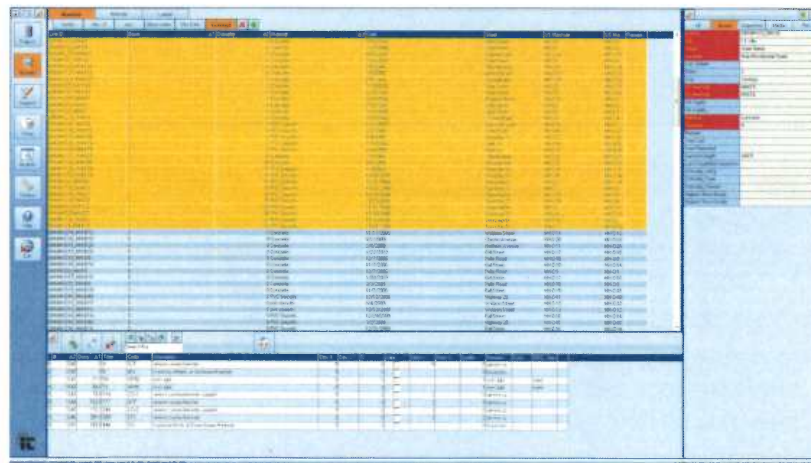
After collection, ensuring you have available access to your data is imperative. ITpipes does this with comprehensive tools to organize and display information in format that is configurable for each individual user's needs. Here you will find information on 3 of our most basic, but powerful tools.

Searching

The ITpipes simple search tool filters down your displayed list of records to include only information searched for. Of course any field can be searched.

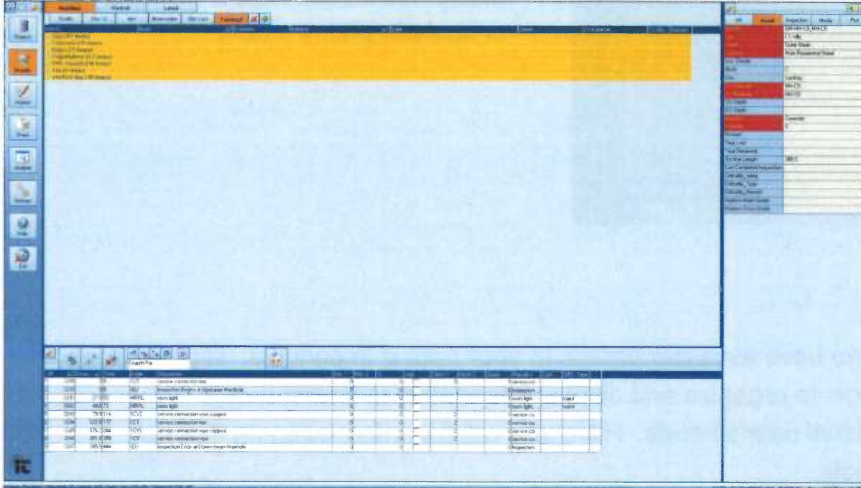
Sorting

The ITpipes sort functionality lets you sort by any column, again and again and again....i.e. you can create unlimited sorts. For example, you may want to sort by Basin, then by Diameter, then by Pipe Material. Notice the "arrows" at the top of each column.

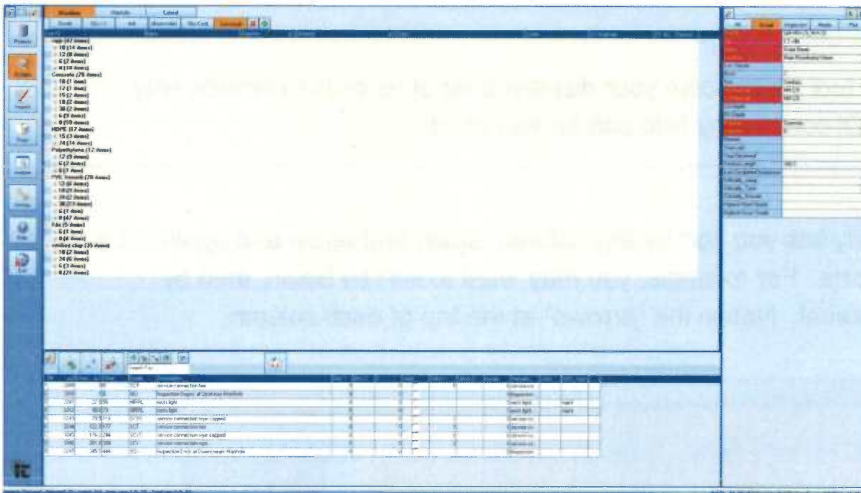


Grouping

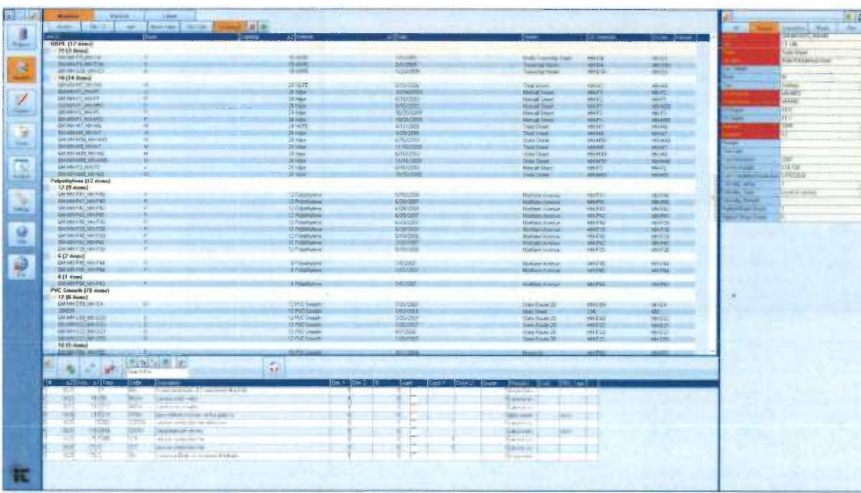
The ITpipes group functionality lets you group any field and expand or collapse records. Of course you can search and sort within this grouping.



Below, you will see an example of records grouped and collapsed by Pipe Material.



Here we have grouped by Pipe Material and Pipe Diameter.



Here you will see records "expanded" to show all detail.

Of course you can use the group feature unlimited. And, if you open this information in Excel, it appears in exactly the same groups.

Analysis Module - SmartTabs

The Analysis module gives you instant access to dynamic reporting via SmartTabs.

Features and benefits of SmartTabs include:

- SmartTabs can be created to give single-click access to preconfigured reports.
- Reports can include unlimited columns of information and detail from asset, inspection and/or observation fields to display exactly the information you need.
- Unlimited filters and queries for asset, inspection, or observation information can be applied to a SmartTab, allowing you the ability to drill-down and display only the records that meet your criteria.
- Users can toggle between SmartTabs to view up-to-date reports. Of course the normal sorting, grouping, searching and filtering tools can work inside any SmartTab to further narrow down your results.
- All SmartTabs can be opened in Microsoft Excel with a single click.

Here you can see several SmartTabs listed under the Mainline Tab. This report is displaying all observations with the word “crack”, that are a level 3 or higher. The report is sorted by Grade only.

Mainline		Manhole		Lateral			
Roots >3	Collapse-All	Concrete-Cr...	Lats >3	Cracks >3			
Drainage Area	US Man.	DS Man.	Street name and No	Description	Grd.		
5053	SL0023	6446	6447	W Penn Ext. going west	Hole Soil Visible, from 03 to 06 o'clock, within 8 inch: YES, Remark: cracked	5	
1858	SL0012	5415	5402	W North from N Bluff	Repair Patch Defective, at 12 o'clock, within 8 inch: YES, Remark: pipe cracked all o...	4	
6590	SL0003	5241	5242	NEGLEY AVE	Repair Patch Defective, at 12 o'clock, within 8 inch: YES, Comments: CRACKED	4	
11457	Upper Sullivan Run	8003	8004	N. McKean St.	infiltration, runner from 07 to 09 o'clock, Remark: cracked joint	4	
3321	SL0030	5430	5421	E FULTON ST	Crack Multiple, from 08 to 12 o'clock, within 8 inch: YES	3	
646	SL0007	5179	END	W WAYNE	Crack Multiple, from 05 to 08 o'clock, within 8 inch: YES	3	
8222	SL0004	5323	5324	TAFT ST.	Crack Multiple, from 08 to 12 o'clock, within 8 inch: YES	3	
5642	SL0008	5309	5310	W JEFFERSON	Crack Multiple, from 09 to 03 o'clock, within 8 inch: YES	3	
2428	SL0016	5438	5417	N. Jackson St. to W. Pe...	Crack Multiple, from 01 to 12 o'clock, within 8 inch: YES	3	
9241	Upper Sullivan Run	6597	upstream	Off Rte #8	crack, multiple from 12 to 12 o'clock	3	
4542	SL0022	8060	8061	ARCHERY LANE	Crack Multiple, from 12 to 12 o'clock, within 8 inch: YES, end	3	
4541	SL0022	8060	8061	ARCHERY LANE	Crack Multiple, from 12 to 12 o'clock, within 8 inch: YES, start	3	
6687	SL0003	5246	5247	NEGLEY AVE	Crack Multiple, from 09 to 03 o'clock, within 8 inch: YES	3	
5637	SL0008	5309	5310	W JEFFERSON	Crack Multiple, from 09 to 03 o'clock, within 8 inch: YES	3	
6568	SL0003	5243	5227	NEGLEY AVE	Crack Multiple, from 09 to 03 o'clock, within 8 inch: YES	3	
4547	SL0022	8060	8061	ARCHERY LANE	Crack Multiple, from 12 to 12 o'clock, within 8 inch: YES	3	
1126	SL0009	5302	5303	from Cunningham to Jeff...	Crack Multiple, from 12 to 11 o'clock, within 8 inch: YES, start	3	
2516	SL0017	4826	5479	MAIN ST	Crack Multiple, from 12 to 12 o'clock, within 8 inch: YES	3	
2935	SL0018	5347	5439	N CEDAR ST.	Crack Multiple, from 12 to 12 o'clock, within 8 inch: YES, end	3	
4553	SL0022	8060	8061	ARCHERY LANE	Crack Multiple, from 12 to 12 o'clock, within 8 inch: YES, end	3	
8801	Muntz	2044	2045	Muntz	Crack Multiple, from 12 to 11 o'clock, within 8 inch: YES	3	
8803	Muntz	2044	2045	Muntz	Crack Multiple, from 12 to 11 o'clock, within 8 inch: YES	3	
602	SL0007	5185	5193	S WASHINGTON ST	Crack Multiple, from 09 to 03 o'clock, within 8 inch: YES, start	3	
6597	SL0003	5241	5242	NEGLEY AVE	Crack Multiple, from 12 to 02 o'clock, within 8 inch: YES, end	3	
11243	Upper Sullivan Run	8016	8017	Belmont Rd.	crack, multiple from 10 to 02 o'clock	3	
2547	SL0017	4826	4829	MAIN ST	Crack Multiple, from 09 to 03 o'clock, within 8 inch: YES	3	
12788	Upper Sullivan Run	6107	6108	Carington Ave.	crack, multiple from 12 to 12 o'clock, Remark: stained from leaking	3	
8144	SL0005	MH-5690	MH-4821	BANTMAN TO PILLOW	Crack Multiple, from 12 to 12 o'clock, within 8 inch: YES	3	
4487	SL0022	8061	8062	ARCHERY LANE	Crack Multiple, from 09 to 03 o'clock, within 8 inch: YES	3	
1138	SL0009	5303	5304	from Cunningham to Jeff...	Crack Multiple, from 12 to 11 o'clock, within 8 inch: YES, end	3	
2576	SL0017	5418	5480	MAIN ST	Crack Multiple, from 09 to 03 o'clock, within 8 inch: YES	3	
1318	SL0010	5376	5371	S. Jackson from W. Loc...	Crack Multiple, from 08 to 04 o'clock, within 8 inch: YES	3	
2108	0015	5444	5443	W. Fulton St. to Chestnu...	Crack Multiple, from 01 to 12 o'clock, within 8 inch: YES, end	3	
11134	Upper Sullivan Run	8044	8045	Arch St.	crack, multiple from 07 to 02 o'clock	3	
6516	SL0003	5240	5067	MILL ST	Crack Multiple, from 12 to 12 o'clock, within 8 inch: YES, end	3	
13293	Upper Sullivan Run	6093	6070	Off Sharon Drive	crack, multiple from 12 to 12 o'clock	3	

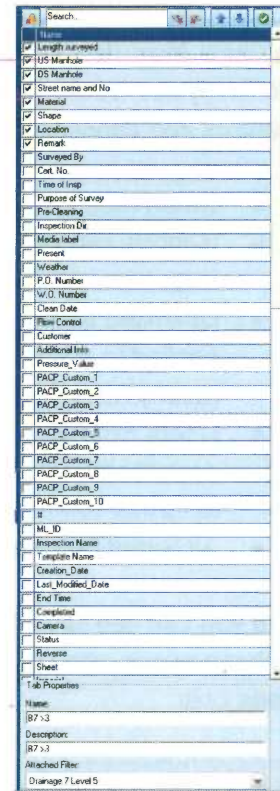
Create SmartTabs

SmartTabs are quick and easy to create.

Additional features include:

- A simple picklist shows all available fields, including any configured fields you've set up in your template.
- Any available user field in the database is also available for displaying on a tab.
- Tabs can be created for any asset type available in your license, mainlines, manholes or laterals.
- Tabs can be set at all 3 levels, asset detail, inspection detail or inspection observation detail!.

Select the filter you want applied to the tab, see Define Filters to learn how flexible this is.



Results		
Assets	Inspection	Observations
26	26	54

Build Filters

Create the queries that make-up the filter using simple drop-downs as shown below.

- Select any asset, inspection or observation field, drop downs show all fields available.
- Select the comparison for querying the field, for example asset field is equal to a value.
- Select the detail of the query.

Unlimited queries can be added to any filter.

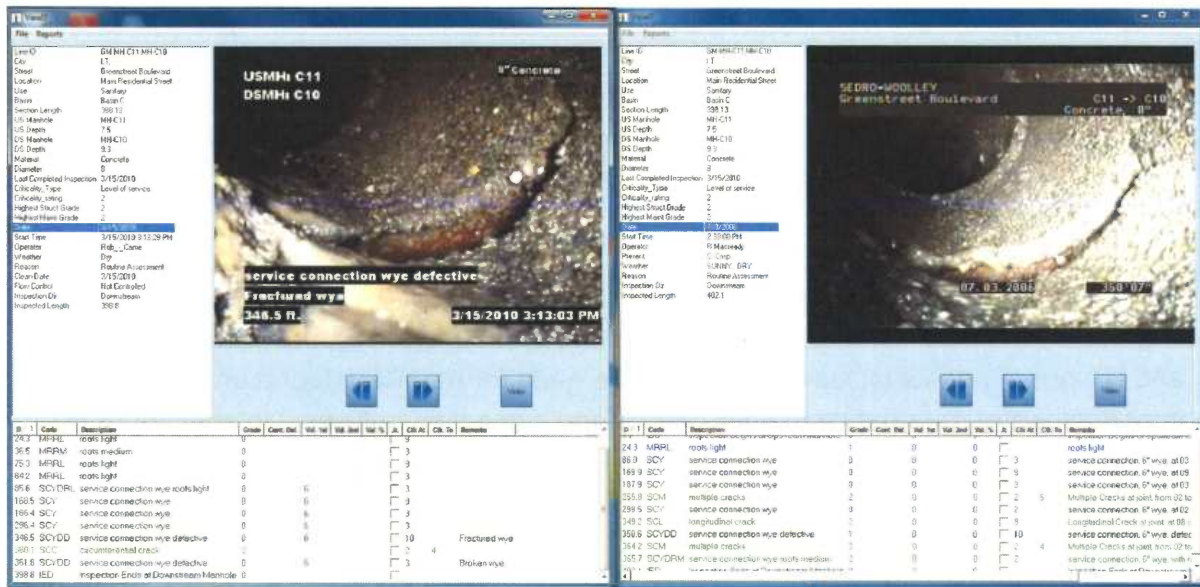
Inspection Comparison

Inspection Comparison in ViewIT (for review only)

For reviewing and comparison purposes, you could use ViewIT. If you are using the ViewIT software (free viewer), you can view multiple videos at once, dependent only upon your screen size and processor/graphic card capabilities. A user would first open ViewIT and select the inspection to review. The user could then open ViewIT again and select the second inspection to review. An unlimited number of inspections could be opened in ViewIT, again only dependent upon screen real estate and computer specifications.

Below you will see an example of ViewIT open twice, with two different inspections. The first inspection on the left is done on 03/15/2010 and the second inspection on the right is done on 07/03/2006.

All features are available, so for example if you had pictures of each observation, you could “snap” from one picture to the next, on both inspections. This would allow you to easily compare deficiencies over historical periods.



Inspection Comparison in ITpipes (for editing)

With ITpipes, users can combine a reverse inspection. This allows for much simpler access from your GIS and/or Cityworks. However, if you have multiple inspections for the same asset and want to compare those, you can use the option above in the viewIT software or the options shown below.

For editing purposes, you can review the inspection in ITpipes. This would be for example, if you wanted to add observations or make additional comments. ITpipes allows unlimited inspections to be stored for any asset. There are several ways to see if an asset has multiple inspections.

Sort assets by Pipe ID (or any other unique field) and select any asset. If an asset has more than one inspection, you will see an active ‘inspections’ tab in the center toolbar. You can then easily toggle between the inspections available, viewing media in the right window. At any time, a click on a snapshot or video will enlarge the media for easier viewing.



You can also select to group assets by a unique field, for example, pipe ID, then expand all rows to see which assets have multiple inspections. A user can then select an inspection to review the media in the right window.

Cityworks Integration Module

Cityworks Integration allows bi-directional integration of work orders between Cityworks and ITpipes. Benefits include eliminating the need for manual integration or import/export of data between your CMMS and inspection software. In addition to the following features, ITpipes also has a unique way of managing “unscheduled” inspections.

Benefits/Features

- Sync completed inspection observation detail into Cityworks
- Match completed inspections to open work orders and complete work orders with all detail; users then only have to close the open Cityworks work order
- A comprehensive audit log detailing any updates/changes made to the Cityworks system
- A setting allowing inspections that have no assigned work order to still have a work order automatically created and upload the inspection into that work order, completing it and readying the work order to be closed by a Cityworks user.
- A “URL link” upload that pushes the URL for our browser based ViewIT into Cityworks. This gives users easy access to video, snapshots and associated media; generally this can be very cumbersome for users but ITpipes simplifies this for all users.
- Supervisory/office users can work with GIS to assign inspections if preferred over the Cityworks method of assignment.
- Field users can create an instant inspection off GIS, using all existing GIS attribute data without retyping info, and ensuring completed inspections match to an existing asset.

- Field users have a pre-defined list of assets assigned to them for inspection,

Hardware, Software Infrastructure Environments Required

Below we have listed requirements for each license and/or module included in this RFP. Requirements displayed in grey are considered automatically included or non-essential based on your needs as we understand them. However, please ensure you review all items as we may be unaware of special circumstances within the City.

Mobile System

Core License Requirements

- Laptop or full-sized pc hardware must meet current specs on the SolutionSite¹.
- Windows 7 32 bit, Windows 7 64 bit, and Windows 10.

Video Capture Module Requirements

- ITpipes video capture module does require specific video cards that work with ITpipes. They are available through Amazon, Frye's or several other hardware providers. There are laptop devices and full-size computer devices.
- To use other codecs for recording video formats, the user may be required to purchase desired codecs.

Overlay Control Module Requirements

- ITpipes core license.
- Hardware requirements including the overlay card kit or an existing Pipetech PI or similar type overlay.
- To use the ITpipes digital overlay card kit, the camera system encoder must output +5/-5 or +12/-12 and specific wiring is required to make the connection between the computer and the distance encoder.

GIS Send Module Requirements

- ESRI ArcGIS Desktop with a unique identification system for assets that matches unique ID entered into ITpipes; ArcGIS Desktop needs .net support installed (this is no cost, but not installed as part of the ArcGIS default install).
- Microsoft .net Framework 2.0+ installed; this is no cost and will be installed if you have the latest Windows OS updates.
- ITpipes core license.

Administrative Setup or Support

- Network connection or setup of hard drive transfer of data from vehicle to office.
- Network connection login credentials for user.
- GIS file access and plan for updating GIS files on mobile system.

- If computer is built internally or purchased, there may be hardware support involved to setup PC or laptop for mobile system. I.T. has full PC specs and recommendations on the SolutionSite.

Recommendations:

- Recommended antivirus setup on mobile system PC.

Office System

Sync Module

- Sync uses ITpipes Host (a WCF service) running in the background and provides a centralized means of storing and accessing settings and project information for Sync and ViewIT.

Core license, 3 user network SQL Requirements

- The network license does require a current Service Agreement to be reactivated or supported at any time; an initial one year period is included with the initial purchase.
- SQL Server 2005 or higher.
- Administrative permissions are required to create the initial SQL database.
- Client PCs must meet minimum specs on SolutionSite.
- 1 gb connection recommended for data access from users – this is critical if reviewing video across the network. WMV files are highly compressed but we recommend testing review prior to committing towards this course of data review for networked users.

GIS Send Module Requirements

- ESRI ArcGIS Desktop with a unique identification system for assets that matches unique ID entered into ITpipes; ArcGIS Desktop needs .net support installed (this is no cost, but not installed as part of the ArcGIS default install).
- Microsoft .net Framework 2.0+ installed; this is no cost and will be installed if you have the latest Windows OS updates.
- ITpipes core license.

GIS Receive Module Requirements

- ESRI GIS Desktop with a unique identification system for assets that matches unique ID entered into ITpipes.
- Edit permissions are required for user access to this module; we highly recommend this only be setup and used by a GIS administrator.
- ITpipes core SQL license.

Cityworks Integration Module Requirements

- Network or other access to the location where the Cityworks database is located.
- Cityworks login credentials are required to run this module.
- Cityworks work order and inspection screens need configured to match the ITpipes template by either City staff or a Cityworks implementer.
- Cityworks Integration works with Cityworks 2015 and higher. *Specific features do require the Cityworks work order API.*
- ITpipes core license.
- If transferring video via network or other wireless communication, we recommend testing video speed.

Administrative Setup or Support

- Network access to Cityworks database location.
- SQL database initial creation and initial testing – 10-30 minutes.
- Single unit testing – “live office installation” – 2 to 4 hours.
- Merge/Sync initial testing – 2 to 4 hours.
- Training on client installs and time for client installs – training 20 minutes, installs 5-10 minutes each.
- GIS edit permissions for user with GIS Receive setup.
- GIS app and data access for users with GIS Send and/or Receive.

¹- A login to the Solutionsite can be requested at www.itpipes.com; current information on ITpipes software, specs, and more is available on this site.

Workflow Options

Cityworks Integration Data Flow Diagram Details:

How ITpipes integration interacts with the Cityworks db

There are two integration configurations:

With API:

1. Truck uploads data to the ITpipes central project/db.
2. Integration searches for any existing "Open" Cityworks work orders for "Open" line items with Pipe ID's that match ITpipes lines Pipe ID's that have been inspected, i.e. Inspection Status set to "Complete". When a match is found:
 - a. Inspection and Observation details are (re)uploaded to the Cityworks db.
 - b. The line item is "Completed" in Cityworks and in ITpipes
 - c. The inspection in ITpipes is assigned the WO number from Cityworks.(iv) A link is ceated in Cityworks that will allow Cityworks users to click on a link in the Cityworks WO, to open a browser based viewer, and see all the details, snapshots, and videos for that inspection from the ITpipes "Master" database.
3. If a match is not found in the Cityworks db
 - a. A Cityworks work order is automatically created.
 - b. An inspection line item is created and all the information is updated as above.

Without API:

1. Truck uploads data to the ITpipes central project/db.
2. Integration seraches for any existing "Open" Cityworks work orders for "Open" line items with PiPe ID's that match ITpipes that have been inspected (Inspection Status to "Complete").
 - a. When a match is found
 - i. Inspection and Observation details are uploaded to the Cityworks db.
 - ii. The line item is "Closed" in Cityworks.
 - iii. A link is created in Cityworks that will allow Cityworks users to open a browser based viewer to see all the details, snapshots, and videos from the ITpipes "Master" database.
 - b. If a match is not found in the Cityworks db
 - i. A text log is created and emailed, listing lines that need work orders created.
 - ii. Once work orders have been created.
 - iii. The next time sync runs, the match will be found and all the information is updated as above.

Work Order Creation

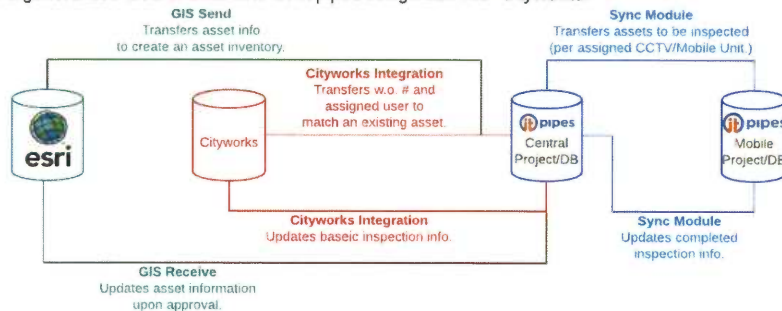
If you already have a process down to create work orders in Cityworks, or are already planning inspections through Cityworks and opening work orders to do so, the non-API solution would fit fine in an existing model.

If there is not an existing workflow for creating work orders, a user would have to manually createe work orders in Cityworks before any data would move. While creating an open a work order in Cityworks is easy, it is extra time and grows depending on how many new inspections are coming in.

Configuring the API after the non-API solution has been implemented is pretty easy on the ITpipes setup; we simply re-create the Cityworks connection and give it the URL and authentication details in our Sync software.

Cityworks Data Flow Perspective

This is a generalized idea of data flow for ITpipes integration with Cityworks.

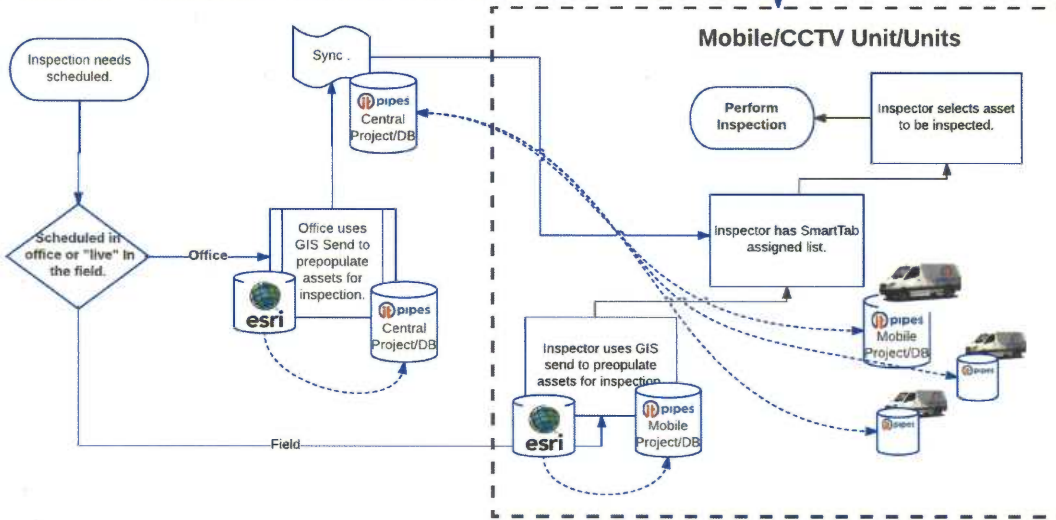


GIS for Scheduling Work Orders - for Internal Crews

This process is for clients that want to schedule asset inspections to be performed using GIS, but still want asset inspections uploaded into Cityworks.

Description: Clients can create a work order for an asset inspection via the GIS Tools. This transfers GIS attribute data into the ITpipes project db. That project/db syncs to the ITpipes mobile/cctv project/db's can then be synced to a mobile /cctv unit for inspections to be performed.

Note: On return of contractor deliverables to the client, the asset inspections can still be uploaded into Cityworks. See the workflow titled "Cityworks Data Transfer from ITpipes into Cityworks - For Internal Crews."



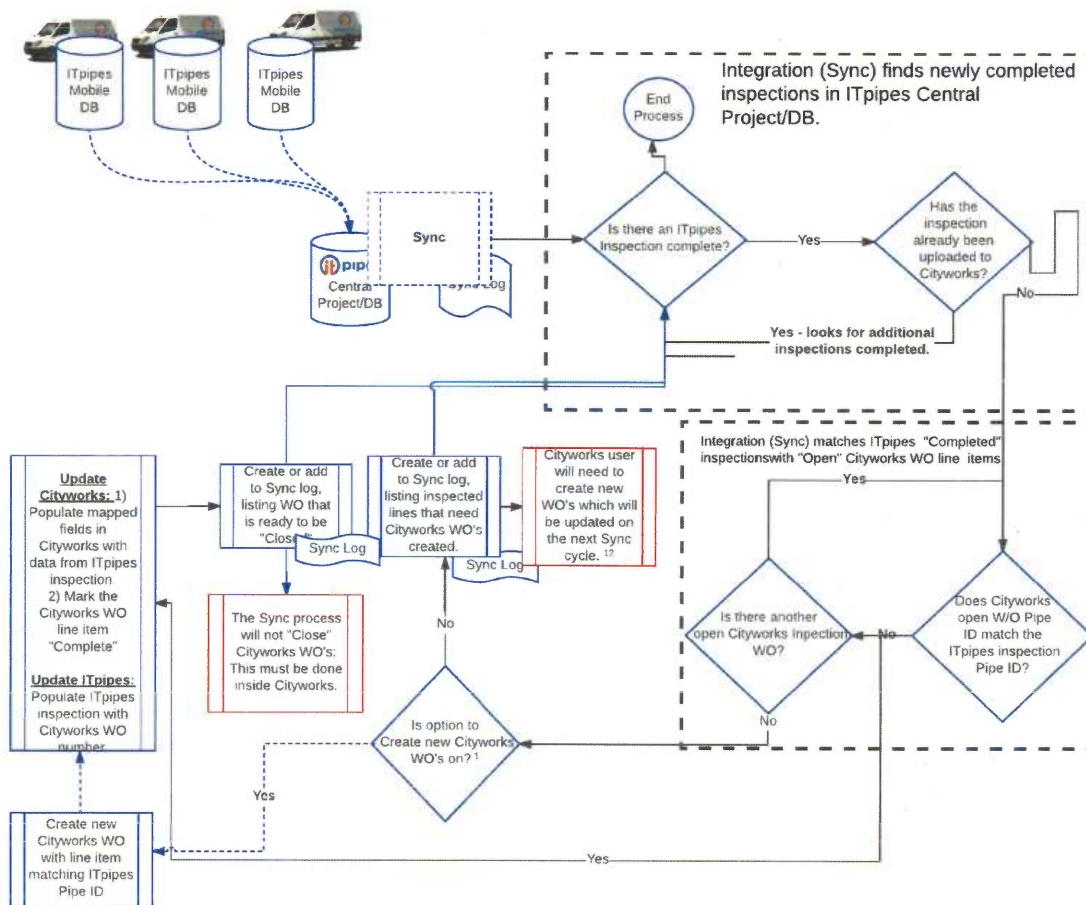
Data Transfer from ITpipes into Cityworks - For Internal Crews

This process is for clients that have internal crews and want completed asset inspections transferred into Cityworks on a daily or regular basis.

* 1. If there is not an open work order in Cityworks for a completed inspection in ITpipes, there is a setting to have this create an exception in the sync log or create a new work order. If an exception is added to the sync log, a Cityworks user will need to create a new W/O if created, the next time sync runs, the inspection information will be uploaded into Cityworks and the W/O will be marked "Complete".

*2. During upload if Sync finds a matching work order that has an existing inspection inside Cityworks and has an open ITpipes matching work order with inspection completed, this causes an exception notification to the user for review. If the user deletes that inspection already inside Cityworks, then the next Sync the new inspection from ITpipes will upload into Cityworks.

Note: The field mapping for data is configurable, independently, on the input and output.



Cityworks Inspection Access & Media Storage

This process reviews various options for users to access completed inspections thru Cityworks or ITpipes. Description: With Cityworks, ITpipes can upload inspection information direct into the DB; that gives users multiple options for inspection access. Inspection access is dependent upon what data is uploaded into the Cityworks db and what ITpipes products are in-use.



User reviews info in Cityworks screens with file name links to snapshots, videos, other media, etc.



User selects hyperlink data field inside Cityworks that opens the ITpipes Web app (browser-based, editing, reporting & GIS integration).

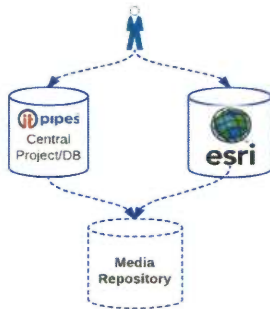


User selects hyperlink data field inside Cityworks that opens the ITpipes Single Inspection Viewer (browser-based, read-only).

Users also have the option to use ITpipes web to open inspections.

NOTES:

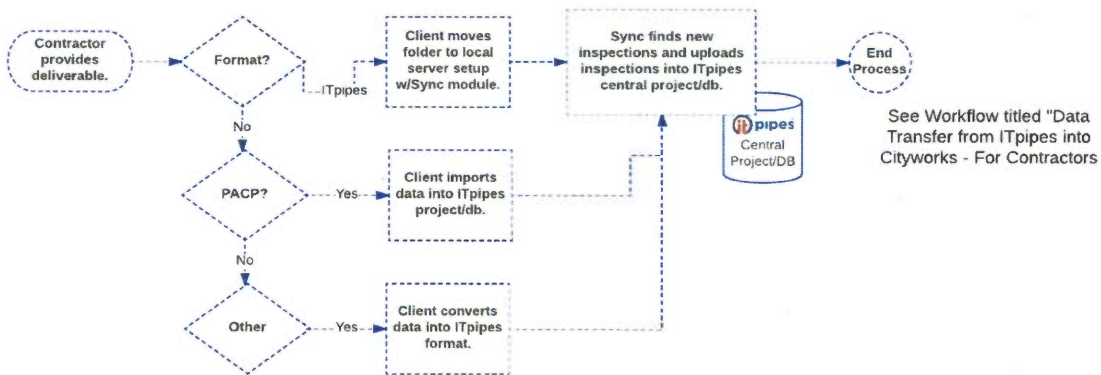
- Sync has many features, please be sure to review our basic workflow prior to this workflow for a good understanding of options. An important note from sync for this workflow is that the
- The Cityworks Integration Module is based on the Sync module and is configurable via the same python scripting. It is possible to configure which data fields are populating into Cityworks. The field mapping for data is configurable, independently, on the input and output.
- It is possible to setup a "URL" type data field inside Cityworks and push a reference to our ITpipes web viewer link. This gives all users access to the "Single-Inspection Viewer" which displays all observation details, rankings color-coded, snapshots, videos and allows comparison of multiple inspections for the same asset.
- The media repository is managed via ITpipes.



Contractor Data imported into ITpipes

This process reviews various options for users to access completed inspections thru Cityworks or ITpipes.

Description: With Cityworks, ITpipes can upload inspection information direct into the DB; that gives users multiple options for inspection access. Inspection access is dependent upon what data is uploaded into the Cityworks db and what ITpipes products are in-use.



Section 3: Management and Implementation Plan

Infrastructure Technologies will install ITpipes inspection collection and management software for use by City of Ann Arbor. This includes setup of ITpipes in 1 existing CCTV systems for data collection and basic GIS data transfer, a 3 user SQL network license setup for office users to provide reporting and GIS integration, and Cityworks Integration. We will also migrate the city's existing inspection data into an ITpipes format.

Assumptions:

- We will have a main rep technical inside the City of Ann Arbor assigned for organizing City personnel and requirements as needed.
- The City of Ann Arbor will have Cityworks up and functional for work order assignment and inspection acceptance prior to any activities past task 2c. The City will have personnel trained on Cityworks and/or a Cityworks implementer that can modify work/inspection screens for incoming data.
- All hardware/software requirements on the initial requirements listing have been met.

Major Tasks

The following tasks below comprise the project approach :

1. Investigation/Discovery
2. Migrate legacy data from Pipelogix into ITpipes/Pilot
3. Office system installation
4. Mobile system installation
5. Data sync between mobile system and office
6. *Process review & onsite training*
7. Go live

Task Details, City Resources Required, and Deliverables per Task

1. Task: Investigation/Discovery

a. Overview:

- i. Review options for implementation.

b. Activities:

- A known list of categories to cover is shown below, however, this is modified as discovery occurs.
 - a. ITpipes template configuration based on GIS, Cityworks, and review of legacy data.
 - b. Truck Overlay/Text Generator layout
 - c. Default report package
 - d. Filing system layout
 - e. Media naming conventions

- f. Media recording format
 - g. Smart Tab/reporting setup.
- ArcGIS integration options
 - a. Determine data transfer/needs for GIS send.
 - b. Determine data transfer/needs for GIS receive.
 - c. Determine legacy data setup for GIS viewIT.
- Cityworks integration & Sync module
 - a. Determine and setup data transfer and scheduling process.
 - b. Confirm location of the Cityworks integration app. (truck or office)
 - c. Confirm processes and user actions relative to existing and potential workflows.
- User listing
 - a. Who has mobile system installation?
 - b. Who has office licenses?
 - c. Who has read-only viewIT software?
- c. *Assumptions/Resources required:*
 - i. Client contacts will be available to provide timely feedback for preferred workflow, preferred settings, ideal reports, GIS information and files, Cityworks information and files, server/client details for software installation/setup.
 - ii. Hours Estimate:
 - 1. I.T. Staff - 2-4 hours
 - 2. Cityworks admin - 2-4 hours
 - 3. GIS admin - 2-4 hours
 - 4. Key "inspection related" staff - 4-8 hours
- d. *Deliverables:*
 - i. City of Ann Arbor configured ITpipes template setup with all related settings, code set observations, etc.
 - ii. Data mapping plan for integration.

2. Task: Migrate legacy data from Pipelogix into ITpipes/Pilot (Data Conversion)

- a. Overview: Migration of the existing coding set into an Ann Arbor defined coding set and moved into an ITpipes database structure.
- b. *Activities:*
 - i. Determine where conversion will occur (vpn or other) and have access to the data.
 - ii. Compare databases and provide document for review and approval of field mapping, observation code conversion, media conversion options, and template requirement notes.
 - iii. Review with City personnel and modify as necessary.
 - iv. Provide pilot data for review and further modification.
 - v. Provide "MASS" data migration of the majority of legacy data.
 - 1. Create master SQL db on City servers
 - 2. Convert the data

3. Convert the media

- vi. Provide “real-time” data migration while implementation is occurring to move over any data collected between MASS migration and go-live date.

c. *Assumptions/Resources required:*

- i. Template is confirmed from Task 1.
- ii. All Pipelogix data is in one accessible database, with associated media and/or other related files.
- iii. We will have access to clients data source via vpn or remote control.
- iv. Client contacts will be available to provide timely feedback for data mapping and conversion process.
- v. Hours Estimate:
 - 1. I.T. Staff - 4-8 hours
 - 2. Key “inspection related” staff to review legacy data - 4-6 hours

d. *Deliverables:*

- i. Majority of legacy data in an ITpipes SQL database with full functionality available for legacy data on City’s servers; client will continue collecting “new” data in existing format until go-live date.
- ii. Majority legacy data in an Ann Arbor template format inside of ITpipes.
- iii. A demonstration license of ITpipes installed to facilitate client review of pilot data project for data migration approval.

3. Task: Office system installation

- a. *Overview:* Installation of the software on the local office machines. Testing the office machine connection to the Master SQL Db, GIS and Cityworks integration. (on applicable systems)

b. *Activities:*

- i. CheckIT review of each system
- ii. viewIT setup and licensed version setup
- iii. Install and setup GIS send
- iv. Install and setup GIS receive
- v. Test local system and connection to SQL.
- vi. Install and setup Cityworks integration app
- vii. Complete initial MASS data migration
- viii. Schedule Online Meeting to do Basic training

c. *Assumptions/Resources required:*

- i. Key assumptions and technical requirements are met.
- ii. City staff with server access and admin permissions are available for setup, City staff for client systems are available for setup and have appropriate permissions.
- iii. Hours Estimate:
 - 1. I.T. Staff - 4-8 hours
 - 2. Cityworks admin - 2-4 hours

- 3. GIS admin - 2-4 hours
- 4. Key "inspection related" staff to review legacy data - 4-6 hours
- d. *Deliverables:* ITpipes installed on office user systems.
- 4. Task: Mobile system installation**
 - a. *Overview:* Installation of the Mobile unit via online meeting, including basic training so system can be utilized before GO LIVE
 - b. *Activities:*
 - i. Software installation via remote pc hardware, camera hardware/distance encoder, video check, test installation
 - ii. GIS Send Installation and configuration
 - iii. Install and setup Cityworks integration app
 - iv. Remote basic training for field crews
 - c. *Assumptions/Resources required:*
 - i. Key assumptions and technical requirements are met.
 - ii. City staff with server access and admin permissions are available for setup.
 - iii. Hours Estimate:
 - 1. GIS admin - 1 hour
 - 2. Cityworks admin - 1 hour
 - 3. Operations "inspection related" staff - 4-8 hours
 - d. *Deliverable:* ITpipes installed on mobile system and communicating with camera hardware
- 5. Task: Data sync between mobile system and office**
 - a. *Overview:* Setup the Sync module to automate the process of transferring data from the mobile system to the office
 - b. *Activities:*
 - i. Install and set up Sync
 - ii. Test the settings with sample data
 - iii. Migrate data collected between MASS migration and go-live date
 - c. *Assumptions/Resources required:*
 - i. Key assumptions and technical requirements are met.
 - ii. City staff with server access and admin permissions are available for setup.
 - iii. Hours Estimate:
 - 1. I.T. staff - 2 hours
 - 2. Operations "inspection related" staff - 2-4 hours
 - d. *Deliverable:* comprehensive mapping and setup of data synchronization with Cityworks and ITpipes master database.
- 6. Task: Process review & onsite training**
 - a. *Overview:* Process review of field to office and Cityworks/Sync/GIS tools and training for end-users.
 - b. *Activities:*
 - i. Schedule training for field crews.
 - 1. Field collection operations

- 2. GIS tools
 - 3. Sync
 - ii. Schedule training for office personnel
 - 1. Cityworks
 - 2. ITpipes
 - 3. Sync
 - 4. GIS tools
 - c. *Assumptions/Resources required:*
 - i. City staff availability for training.
 - ii. Hours Estimate:
 - 1. Key "inspection related" staff for training - 8-16 hours
 - 2. Operations "inspection related" for training staff - 8-16 hours
 - d. *Deliverable:* Documented processes for using ITpipes for mobile users, office users, and synchronization of data between the two.
- 7. Task: Go live**
 - a. *Overview:* Go live with mobile, office, synchronization and integration and final data migration.
 - b. *Activities:*
 - i. Migration of data collected during interim period between MASS migration and go live date.
 - ii. User Acceptance Testing
 - c. *Assumptions/Resources required:*
 - i. City staff availability for usage.
 - d. *Deliverables:*
 - i. ITpipes fully functional in mobile system for data collection.
 - ii. ITpipes fully functional on office systems for reporting.
 - iii. ITpipes mobile system field data automatically syncing with office server.
 - iv. ITpipes accepting data from GIS and transferring asset data updates from field crew into GIS.
 - v. ITpipes integrating with Cityworks to upload work order inspection data.
- 8. Task: Post-live Support**
 - a. *Overview:* Provide ongoing support for ITpipes platform setup.
 - b. *Activities:*
 - i. Quarterly check-in for data collection and syncing for 1st year.
 - c. *Assumptions/Resources required:*
 - i. Key City staff assigned as contacts for managing the usage of ITpipes and integration to other systems.
 - d. *Deliverables:*
 - i. ITpipes service and support on an ongoing basis, as needed.

Proposed Timeline

Similar scope projects generally take 12-16 weeks for completion, however, this project can be completed quite quickly based on our timeline. The considerations for timeline extension are related to client resource availability and timeline for approvals on deliverables as many tasks are dependent on previous tasks being completed.

Week	1	2	3	4	5	6	7	8	9
Investigation/Discovery	X	X							
Data Migration	X	X	X	X	X				
Office System Installation					X	X			
Mobile System Installation						X	X		
Data sync between mobile & office						X	X		
Process Review & On-site Training							X	X	
Go-live									X

Section 4: Exceptions, Alternatives, and Options

There are no suggested exceptions, alternatives or options.

Section 5: System Requirements

26-Licensing

ID	Licensing Requirements	Prioritization	Response Code	Additional Comments
1	The software package must allow for full inspection usage in 1 mobile unit	Essential	F	
2	The software package must allow for full inspection usage in a SQL office license, for 3 users, simultaneously	Essential	F	
Licensing Questions				
1	Vendor Response			
2	N/A			

27-Licensing, Database &

Licensing, Database and Data Exchange Requirements		Prioritization	Response Code	Additional Comments
1	The software package must be licensed via software only, not using hard locks or hardware dependent devices for licensing.	Essential	F	
2	The Software database shall separate asset, inspection and observation fields into separate database tables, with all fields in the English Language; databases with multiple fields named in other languages will be deemed unacceptable.	Essential	F	
3	The Software core license/package shall run on Windows 7 32 bit, Windows 7 64 bit, and Windows 10.	Essential	F	
4	The database must allow for data import and full functional usage of data by any feature within the software without special keys, hash indexing keys, or permission needed from the software vendor.	Essential	F	
5	The default database for the mobile system shall be built in a run-time Microsoft access database engine that is included with the purchase of the software.	Essential	F	
6	The default database for the office system shall be a SQL Server database and compatible with SQL Server versions 2008 to current.	Essential	F	
7	The Software shall allow the user to maintain multiple centralized databases.	Essential	F	
Licensing Database and Data Questions				
1	N/A			
2	N/A			

28-Asset & Inspection Overview

Asset and Inspection Overview		Prioritization	Response Code	Additional Comments
ID	Requirements			
1	The Software must let the user create assets, unlimited inspections for each asset, and unlimited observations for each inspection.	Important	F	
2	If a user creates a new inspection for an existing asset, the software must tie that inspection to the asset, not list the asset twice.	Important	F	
3	The Software must let the user create a new inspection for the selected asset or resume an existing inspection for the selected asset whereupon the software must merge any/all videos for that inspection into one video file.	Important	F	
4	The Software must have functionality to delete an asset with all inspections, only specific inspections, or multiple assets/inspections at one time.	Important	F	
5	The Software must work off software based overlay display and not require a hardware based overlay system.	Important	F	
6	The Software must work off video capture encoding hardware that are non-proprietary and do not have custom-built drivers for the specific application.	Important	F	
7	The user shall have the option to input observations by reviewing a complete list of any observation. By typing in the beginning of an observation, all matching observations shall be filtered; for example typing in "lat", shall display only the observation descriptions that have "lat" in them, such as lateral left, lateral right, etc.	Important	F	
8	The user shall have the option to enter observations using a "short-cut keyboard code". For example, typing 8 in "LL" will input lateral left.	Important	F	
9	The user shall have the option to enter observations using a step-by-step entry process where software will automatically show next drop down with applicable selections based on previous selection input.	Important	F	
10	The user shall be able to input an observation using HotButtons which with a single click will activate predefined functions and input detail. HotButtons shall be user-definable and a user shall be able to create unlimited HotButtons.	Important	F	
11	When the user selects to input an observation, the software must automatically store a snapshot, bring in distance from the distance encoder, read off digital audio of the observation, and display any selected observation overlay display on-screen. This all must occur without user intervention.	Important	F	
12	The user shall have the ability to import existing snapshots and/or video files into observations.	Important	F	
13	The user shall have the ability to do inspection coding off existing digital video files and full functionality to perform reporting off imported video files.	Important	F	
14	The user shall have the ability to capture pictures from stored video at any time.	Important	F	
Asset & Inspection Questions				
Vendor Response				
1	N/A			
2	N/A			

30-Review, Search, Sort, Group & Filter

Review, Search, Sort, Group and Filter Requirements		Prioritization	Response Code	Additional Comments
ID	Requirements			
1	The search tool shall let the user search all fields within the database for the input criteria, then hiding all assets, inspections or observations that do not meet the search criteria input.	Important	F	
2	The search tool shall let the user select the specific data field to be searched and then search only that data field for the input criteria, then hiding all assets, inspections or observations that do not meet the search criteria input.	Important	F	
3	The sort tool shall let the user sort the columns displayed in a z or z to a order and allow unlimited sorts within sorts, for example sort by pipe type, then by size within type, etc.	Important	F	
4	The filter tool shall let the user filter any specific field within the database for desired input, including drop-downs for all fields within the asset, inspection and observation tables; then hiding all assets, inspections or observations that do not meet the filtered criteria input. The filter tool shall let the user filter using up to 4 fields simultaneously.	Important	F	
5	The group tool shall let the user group information together by any specific field in a collapsible/expandable format, for example group by pipe material and the display shows all materials used in the project and the user can expand any material to see all assets, inspections or observations that have that pipe material selected; this tool shall let the user group the information displayed in an a to z or z to a order and allow unlimited grouping within groups, i.e. subsets.	Important	F	
6	Once a filter, sort, or grouping is applied, if a user has the analysis module and is able to export the information to excel, this information shall appear in excel in the same grouped, sorted, or filtered format.	Important	F	
Review, Search, Sort and Group Questions				
ID	Vendor Response			
1	N/A			
2	N/A			

31-Configuration

ID	Configuration Requirements	Prioritization	Response Code	Additional Comments
1	<p>The Software shall let an admin define asset, inspection and observation fields, toggle on off the following items for each field: create additional fields to display in the asset, inspection and/or observation windows or to create fields for storage and pass-thru of data; name the actual additional database field as well as the alias that is displayed inside The Software.</p>	Important	F	
2	<p>The software shall let an admin define the order to display all asset, inspection, and observation fields.</p>	Important	F	
3	<p>The software shall let an admin select what fields are automatically duplicated when the user selects the "quickfill" icon inside the inspection software to duplicate information from one inspection to the next.</p>	Important	F	
4	<p>The Software shall allow the user to define file naming using any available field inside the software, even fields added by the client; file naming shall be available for snapshots, videos, and pdfs with the option to have differently configured naming for each file type.</p>	Important	F	
5	<p>The Software shall allow the user to configure pipe inspection report forms to modify field header display, information, and define actions that occur with each observation built. This shall include:</p> <ul style="list-style-type: none"> • observation descriptions and associated parameter details • observation groups, modifiers, severity ratings and parameters required for each observation • define additional observation level fields for example to track infiltration level or other information specific to an observation/defect. 	Important	F	
6	<p>The settings workspace shall allow the user to define the following:</p> <ul style="list-style-type: none"> • user names and permission levels. • voice used for overlay of digital audio • what overlay type to be used 	Important	F	
7	<ul style="list-style-type: none"> • what video format and settings to be used 	Important	F	
Configuration Questions				
ID	Vendor Response			
1	N/A			
2	N/A			

33-View & Sharing

View & Sharing Requirements		Prioritization	Response Code	Additional Comments
ID				
1	The software shall automatically print pre-defined report PDF packages in the background after an inspection is completed; these PDFs shall automatically be part of the viewer software mentioned below.	Important	F	
2	The software shall allow the user to define multiple pre-defined report packages depicting what reports are part of each different package.	Important	F	
3	The software shall allow the user to select, from at least 15 different report options, which reports should get automatically printed as an inspection is completed. The user should be able to continue working while reports are printing. The software shall let the user highlight one asset, one inspection, or multiple assets and/or inspections to execute any of the below named "share" features. select automatically only the most recent inspection for an asset, all inspections for an asset, or inspections performed for a specific purpose. " features shall include printing, burning to media including cd, dvd, blue-ray, writing to flash drive or hard drive. shares the assets and/or inspections to media, a no-cost viewer application shall be included on the media in the form of a .exe file. These viewer shall not require installation to be used on a pc and we shall have the license rights to give out unlimited copies of the viewer to users, other agencies, vendors or other parties that will review our inspections. application shall allow the user to access and print PDF reports for each inspection showing the pipe plot graphic and images or other selected reports (all should be available to select), all snapshots taken during the inspection process, video, asset and inspection information and detailed observation logs. • The viewer application shall allow the user to view multiple inspections side-by-side, comparing the report, the PDF printout, the snapshots, and the videos.	Important	F	Report options are available on the ITpipes SolutionSite for review and the project manager will review these during initial implementation for the City to select desired options; this can also be changed at any time.
4				
ViewIT & Sharing Questions				
ID	Vendor Response			
1	N/A			
2	N/A			

35-Video & Overlay

Video & Overlay Requirements		Prioritization	Response Code	Additional Comments
1	The Software Video Capture module shall allow the user to capture video in a default .wmv format.	Important	F	We do have .wmv, h.264, and MPEG 1/4 formats available.
2	The software shall prevent the user from entering observations while the video recording is paused.	Important	F	
3	The video capture module shall automatically merge multiple videos created for a single inspection into one video file	Important	F	
4	The user shall have the option to "resume" an inspection video, even if the computer has been shut down; the software shall automatically merge the new video created with the initial video inspection file.	Important	F	
5	The Software must allow for unlimited snapshots to be taken for any observation. If the user selects to create an additional snapshot for the observation, the software overlay shall automatically re-display the observation text on the video picture.	Important	F	
6	The Software must have single-click buttons available for data entry. This includes a single click selection of inspection code, and automatic input of observation detail, automated picture capture, overlay software display, severity rating input, and any other inputs pre-defined.	Important	F	
7	The user shall at any time user be able to unlock all windows, except the center top review window, with the click of one icon. This allows the user to go instantly to full screen video whether during live video recording, snapshot review, or playback video review.	Important	F	
8	The overlay module shall let the user move text to any place on screen via drag and drop with the mouse, select any font available on the pc, select any color, and add any fields from the asset, inspection or observation tables into the overlay display to be maintained as part of the initial start-up screen or the overlay's continuously running screen.	Important	F	
9	The Software shall use a data acquisition card for distance collection from the camera system.	Important	F	
Video & Overlay Questions				
Vendor Response				
1	N/A			
2	N/A			

37-GIS

GIS Requirements	Additional Comments	Response Code	Prioritization	
<p>The software shall place an extension into the GIS that allows a user to select an asset or multiple assets and launch the viewer application for all inspections associated with the asset.</p>		F	Essential	
<p>The viewer application shall allow the user to view multiple inspections side-by-side, comparing the report, the PDF printout, the snapshots, and the videos.</p>	<p>It pipes works with ESRI ArcGIS Basic 9X and higher for this functionality. It pipes does allow for a desktop or browser-based viewer depending on your needs.</p>	F	Important	
<p>The software shall allow a user to compare collected inspection data to the GIS existing attribute data and make updates inside the GIS to the geodatabase.</p>	<p>It pipes works with ESRI ArcGIS Basic 9x and higher for this functionality, the user does need ESRI GIS "edit" permissions assigned in order to use this feature.</p>	F	Essential	
<p>The software shall allow data collection on an asset that does not exist inside the GIS, but allow the user to manually input information on the asset and complete the inspection.</p>		F	Essential	
<p>In relation to the above row, once an asset has been added to the GIS, the software shall allow matching of unique ID to then populate information collected on an asset to the GIS.</p>		F	Essential	
<p>GIS Questions</p>				
<p>Vendor Response</p>				
<p>1 N/A</p>				
<p>2 N/A</p>				

38-Analysis Module

Analysis Module Requirements		Prioritization	Response Code	Additional Comments
1	The Software shall allow a user to save an analysis query that includes unlimited filters.	Important	F	
2	The software shall allow the user to filter and query any and all configured or client added fields for any asset field, inspection field, or observation field for all asset types.	Important	F	
3	The software shall allow the user to easily build the query by displaying each filter added to the query and the time as filters are added.	Important	F	
4	The software shall allow a user to define views that contain selected report information and associated filters. The user defined views shall allow for unlimited data fields to display horizontal.	Important	F	
5	The software shall allow a user to place a SQL query script into the analysis module.	Important	F	
6	The software shall allow a user to export the spreadsheet into an Excel worksheet or PDF document.	Important	F	
Analysis Module Questions				
1	Vendor Response			
2	N/A			
3	N/A			

39-Sync

ID	Sync Requirements	Prioritization	Response Code	Additional Comments
1	The software shall have a sync module that allows projects from mobile and/or tablet users to synchronize as the central inspection repository.	Important	F	
2	The sync module shall have the ability to sync from a specific project to a specific project, giving users the flexibility to work in multiple projects and have associated data sync to the associated central inspection project. For example, inspections from the storm inspection unit will sync to the central storm inspection repository and inspections from the sewer inspection unit will sync to the sewer inspection repository.	Important	F	
3	The sync module shall have the ability to sync from a specific project to a specific project, giving users the flexibility to work in multiple projects and have associated data sync to the associated central inspection project. For example, inspections from the storm inspection unit will sync to the central storm inspection repository and inspections from the sewer inspection unit will sync to the sewer inspection repository.	Important	F	
4	The sync module shall keep an audit log showing detailed status of data exchange and/or missing data.	Important	F	
5	The sync module shall send email notification of any data transmission errors that occur, for example, if broad disconnected and pictures can not upload. The notification shall detail what error occurred with a log of related the error.	Important	F	
ID	Sync Questions			
1	Vendor Response			
2	N/A			
3	N/A			

4.1-Cityworks Integration

Cityworks Integration Requirements		Prioritization	Response Code	Additional Comments
1	The Software shall already have a functional integration with Cityworks and the proposing company should provide this integration specific version is already in use.	Essential	F	References are listed in Section A of RFP response.
2	The integration shall allow the user to create an asset(s) from within Cityworks to the inspection software or from within the GIS to the inspection software.	Essential	F	
3	The integration shall allow the user inside Cityworks to assign a user for inside the inspection software. The integration shall push work order user names with the work order assignment to the specific user's mobile system for data collection.	Essential	F, T	This does require the Cityworks work order "basic" API.
4	The integration shall allow the user, if desired, to establish an interim QA/QC database. This database shall have inspections automatically uploaded into it. After QA/QC is confirmed, inspections shall automatically push into the central repository for automated syncing to Cityworks.	Essential	F	
5	The integration shall allow the user to force a sync via manual intervention and setup timed syncs to occur at specific time periods.	Essential	F	
6	The integration shall automatically push completed inspections in to the associated work orders for close-out observation screen.	Essential	F	
7	The integration shall push completed inspection observation detail into the Cityworks database that appears in observation screen.	Essential	F	
8	The integration shall keep work orders open until all inspections associated with a work order are complete.	Essential	F	
9	The integration shall keep an audit log showing detailed status of data exchange and/or missing data. The integration shall send email notification of any data transmission errors that occur, for example, if broadband access is disconnected and pictures can not upload. The notification shall detail what error occurred with a log of related files associated with the error.	Essential	F	
10			F	
Cityworks Integration Questions				
Vendor Response				
1	N/A			
2	N/A			

43-Training

Training Requirements		Prioritization	Response Code	Additional Comments
1	The vendor shall supply a tentative implementation schedule with approximate timelines for each task, attached, for review.	Important	F	A tentative implementation timeline is included in Section 3 of the RFP response.
2	The vendor shall supply a review of activities for each task, that clearly outlines our requirements for resources (staff, I.T. needs, etc.) and any software/application requirements.	Important	F	A project scope with tasks and resource requirements is included in Section 3 of the RFP response. A listing of Hardware, Software Infrastructure Environments required is listed in Section 3 of the RFP response.
3	The vendor shall assign a PM to oversee the implementation of inspection software and integration to GIS and AMS/CMMS.	Important	F	
4	The vendor shall supply a minimum of 3 days on-site for implementation.	Important	F	
5	The vendor shall supply a minimum of 60 hours online and onsite implementation and training combined.	Important	F	
6	Prior to on-site implementation, the vendor shall request necessary documentation to create a sample template and confirm.	Important	F	
7	The vendor shall migrate existing legacy inspection data into the proposed application, with full functionality of the application.	Important	F	
8	The on-site training shall include a go-live schedule to being using the inspection software with full GIS and A while on-site.	Important	F	
Training Questions				
1	N/A			
2	N/A			

45-Software Support

Software Support Requirements		Prioritization	Response Code	Additional Comments
ID	An online Training Manual shall be provided with the software that includes up to date screenshots, information on the latest software release, and a "how-to" section.	Essential	F	
1	Printed, laminated QuickGuides shall be provided for field use that allow an inspector to create an inspection following the 2-4 page document.	Essential	F	
2	One year of technical support from a dedicated software support team including comprehensive development staff on-site with the tech support professionals that we will be calling and talking with.	Essential	F	
3	Access to an online remote control center so tech support can take over our computer and troubleshoot any items, up to 16 hours of remote support per year with first year included with the software purchase.	Essential	F	
4				
Software Support Questions				
ID	Vendor Response			
1	N/A			
2	N/A			

Section D) Authorized Negotiator

The authorized person to negotiate the Scope of Work with the City is:

Cori Criss, President

Phone: 970-209-7374

Email: Cori@itpipes.com

**ATTACHMENT A
LEGAL STATUS OF RESPONDENT**

(The Respondent shall fill out the provision and strike out the remaining ones.)

The Respondent is:

~~• A corporation organized and doing business under the laws of the state of _____, for whom _____ bearing the office title of _____, whose signature is affixed to this proposal, is authorized to execute contracts on behalf of respondent. *~~

*If not incorporated in Michigan, please attach the corporation's Certificate of Authority

• A limited liability company doing business under the laws of the state of Oregon, whom Al Rossmeisl bearing the title of CEO whose signature is affixed to this proposal, is authorized to execute contract on behalf of the LLC.

~~• A partnership organized under the laws of the state of _____ and filed with the county of _____, whose members are (attach list including street and mailing address for each.) _____~~

~~• An individual, whose signature with address, is affixed to this RFP. _____~~

Respondent has examined the basic requirements of this RFP and its scope of services, including all Addendum (if applicable) and hereby agrees to offer the services as specified in the RFP.

 Date: April 30, 2017
Signature _____

(Print) Name Albert Rossmeisl Title CEO

Firm: Infrastructure Technologies, LLC.

Address: 4921 Alexander Drive, Suite B, Albuquerque, NM 87107

Contact Phone 1-970-209-7374 Fax _____

Email Cori@itpipes.com