GRANITE XP
Pipeline Inspection and Integration Software

The Software Solution for Managing Your Asset Infrastructure

For over 40 years, CUES has provided innovative pipeline infrastructure inspection technology and equipment to the global Water/Wastewater industry.

From its 70,000 sq ft facility in Orlando, Florida, CUES combines highly refined electro-mechanical engineering disciplines with proven software engineering processes to produce nearly indestructible robotic equipment that is tightly integrated to a versatile software foundation, providing unrivaled solutions to the Water/Wastewater industry globally.

With the advent of various US regulatory compliance mandates such as GASB 34, CUES is committed to enabling its customers to conform to these requirements through the use of a comprehensive infrastructure inspection software solution called Granite XP.

Granite XP is architected using contemporary Microsoft technologies and offers unmatched flexibility, customization, and ease-of-use to meet the growing needs of the industry. Granite XP has many advantages which are critical to deploying a comprehensive Capacity Assurance, Management, Operation, and Maintenance program (CMOM) that is simultaneously aligned with Federal regulations.

What's unique about Granite XP and why should I care?

The Federal Government's *Governmental Accounting Standards Board* Statement No. 34 (GASB 34), has mandated that municipal utilities report current values for their infrastructure in their annual financial reports. In the past, municipalities did not have to report on the value of all capital assets which created unacceptable levels of risk to bond underwriters who are critical to ensuring that municipal infrastructure rehabilitation projects get funded sufficiently to support EPA guidelines. Failing to comply can carry an enormous financial penalty to a municipality, and in certain conditions, criminal liability to senior managers. For these reasons, CUES proactively innovated a solution which assists municipalities with these mandates to create computerized asset inventories which allow asset values to be documented and calculated more accurately.
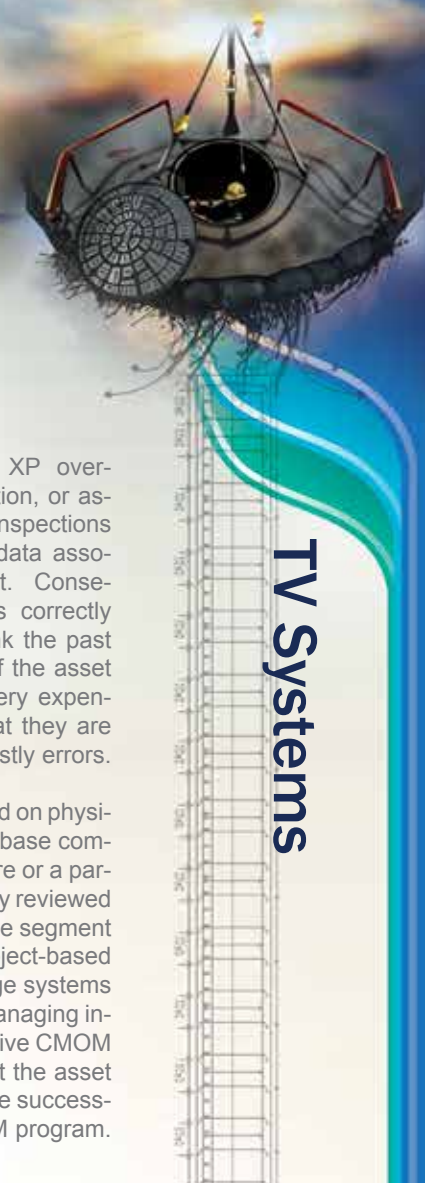
Deploy a Comprehensive CMOM program that conforms to GASB 34 regulations!
....the difference between **asset-based** and **inspection-based** software.

How is Granite XP different than the other available packages to meet these mandates?

Because Granite XP is designed with an asset-based architecture, the ability to view infrastructure at an asset level is possible. Unlike any of its competitors in the space, Granite XP offers 2 ways to organize and view pipeline inspections: the classic "project-based" method and the "asset-based" view of pipeline infrastructure. We think the differences are critical for a regulated entity to meet or exceed the asset-management requirements for GASB 34, CMOM and the EPA.

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There are two significant limitations associated with project-based software packages that Granite XP overcomes. The first limitation occurs when a new inspection is being performed on an existing physical location, or asset. An operator in the field can create a new inspection without any visibility to previously performed inspections done on the same location. Thus, there is a chance that the operator could be entering in the wrong data associated with that asset and the project-based software would offer him no help in alerting him to this fact. Consequently, the operator could record the asset as being eight inch pipe when the previous inspections correctly recorded that the pipe was actually six inch pipe. Project-based inspection systems have no ability to link the past to the present and are unable to remind people that, for example, they are about to change an attribute of the asset which conflicts with previously completed inspections. When bad data is entered into the system it is very expensive and time consuming to fix. Granite XP tracks all the history and can alert an operator to the fact that they are about to change something which was recorded differently during a previous inspection, and this reduces costly errors.

The second significant limitation associated with project-based software packages is that inspections performed on physical locations or assets are stored in multiple separate projects. Each project becomes its own separate database composed of manholes, pipe segments, laterals, etc. Thus, when the time comes to review the entire infrastructure or a particular subset such as a sub-basin, all of the associated projects created in the target area must be painstakingly reviewed and stitched together to answer frequently asked questions such as "show me all the inspection history on pipe segment XYZ or manhole ABC". Viewing historical data at the asset level becomes very difficult to accomplish with project-based inspection packages when this information is grouped into multiple separate projects. Some utilities with large systems even hire costly database administrators to merge this information on a full time basis due to this limitation. Managing infrastructure data in individual project databases complicates the process of proving to regulators that an effective CMOM program is in place. An asset-based system like Granite XP on the other hand is able to track everything at the asset level and seamlessly integrate this information to enterprise asset management and GIS systems. This feature successfully provides the granularity that decision makers, and sometimes regulators, require for an effective CMOM program.

Granite XP Editions
Which one is right for you?

Whether you're a truck operator, an IT professional, an Engineering firm, a municipality, or a GIS administrator, the CUES Granite XP Infrastructure Management Software is a solution designed to integrate all aspects of the TV inspection process. In order to meet the needs of different users, Granite XP offers 4 different Editions to meet your infrastructure assessment needs:

Inspection Edition - allows users to perform pipeline inspections out in the field often connected to camera systems to capture, assess and store inspection data.

Office Edition - allows users to manage inspection information and create customized inspection analysis in the form of reports, videos, still pictures, and database files to meet a wide array of data requirements. Capable of running on Enterprise databases such as Oracle 9i and SQL Server, the Granite XP Office Edition offers unmatched data synchronization power to enable multi-truck environments to manage disparate data within one master database. Additionally the Office Edition can import, export and manipulate data to meet virtually any requirement from GIS to PACP.

Engineering Edition - allows users to modify inspections and observations gathered in the field, to review existing data, synchronize inspections, capture images from playback and generate reports.

Viewer Edition - allows users to review and share information gathered during inspections and generate reports.

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TV Systems

Key Advantages Unique to Granite XP!

Granite XP offers built-in flexibility and extensibility for continuous innovation and easy upgrading!
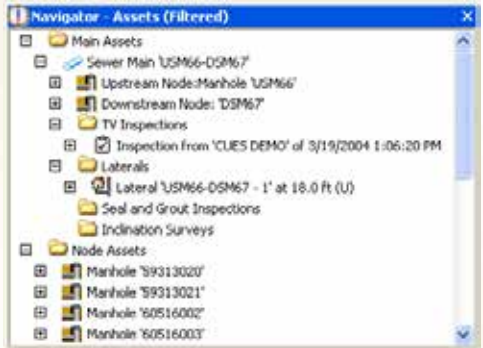
Precise Asset Data Enables Effective Regulatory Compliance!

How can you tell if a pipeline inspection package is Asset-based?

Can your software import an entire asset database? In Granite XP, separate database tables are created and maintained which allow an entire GIS asset database to be imported into the software and enable the information to be constantly updated (synchronized) with 'official' asset information from the municipality or City's master GIS database. We know of no other package which can do this.
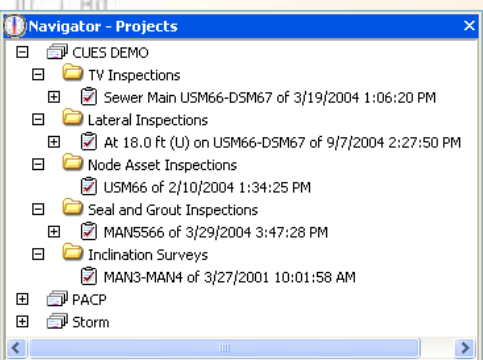
This means that people are all able to look at the same master data and able to eliminate costly manual data entry errors and avoid asset naming discrepancies often found in inspection-based systems. Imperfect information often originates out in the field in trucks which creates cascading errors and inefficiencies throughout the entire municipality to correct and translate inspection information into precise *asset* information. With Granite XP, what used to take hours of manual data entry can now be performed more efficiently and exactly, with the click of a mouse allowing enormous productivity gains by your most important assets....your employees!

Precise Asset data enables effective regulatory compliance as well as creating the foundation for a proactive maintenance program. But Granite XP can still collect data the old fashioned way using the inspection-based method, should you prefer this, while simultaneously allowing for an Asset-based approach. You decide how you'd like to view the data - and that's one of the many powerful features that Granite XP provides.
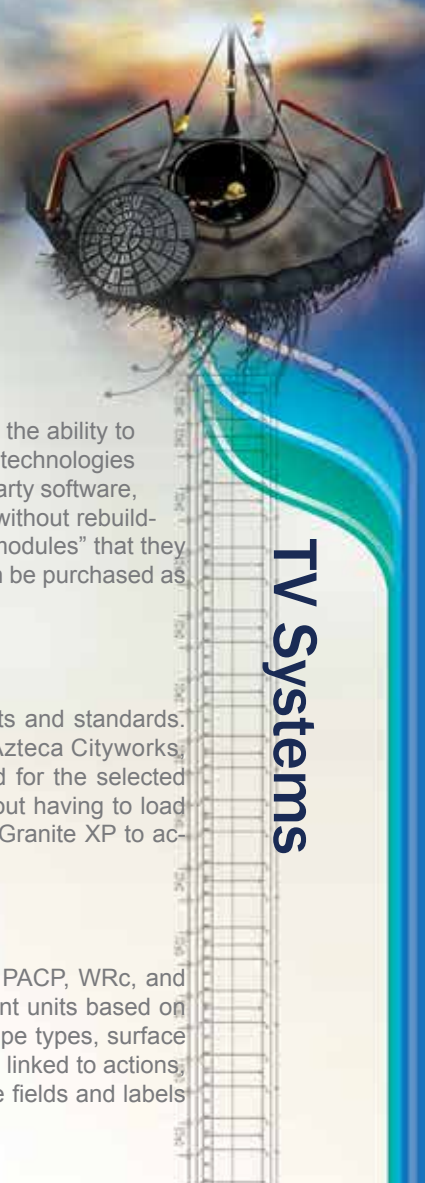
Assets

Browse/display by Assets

Projects

Browse/display by Projects

Granite XP offers two ways to organize and display pipeline inspections: the classic "project-based" method and the "asset-based" view of pipeline infrastructure. A project is defined as a set of inspections. The "Project Navigator" will display the set of inspections defined by the user, where as the "Asset Navigator" will display all of the historical inspections of a particular asset.

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Extensibility - Granite XP is "future-proof"!

The revolutionary flexibility of Granite XP comes from the use of software plug-ins. Plug-ins provide the ability to add new features to Granite XP so that the core application can continually grow and accept new technologies from the vast spectrum of robotic devices that will enter the industry . With the use of plug-ins, third-party software, custom-designed modules, and asset infrastructure management systems can be easily integrated without rebuilding the program! What this means to our customers is that they can purchase various technology "modules" that they require on an "as needed" basis. When new equipment is purchased, a specific software module can be purchased as well when the time is right for your organization.

Multiple Compatibility Modes!

Compatibility Modes ensure that files and reports are fully compatible with other soft ware products and standards. The Compatibility Modes that are currently available with Granite XP include Standard, Hansen, Azteca Cityworks, PACP, WRc, and WinCan. Each compatibility mode displays the correct fields and logic required for the selected system. You can activate multiple compatibility modes at the same time or change the mode without having to load different software! Contractors and Engineering firms who serve multiple customers can leverage Granite XP to accommodate the varying data format needs of their customers.

Flexible, Customizable Code Systems!

Granite XP includes a Code Editor that's equipped with several standard code systems, including PACP, WRc, and supports user-defined code systems. Each project can have it's own code system and measurement units based on individual inspection requirements! A code system not only includes observation codes, but also pipe types, surface condition, operators, etc. Code "hotkeys" can also be implemented per your preferences and can be linked to actions, such as "Start Lateral Inspection". Granite XP also provides a quick and easy way to customize the fields and labels based on your specific requirements!

GRANITE XP'S SIMPLE USER INTERFACE

Microsoft Windows™ Technology!

Granite XP uses familiar Microsoft Windows™ layout standards to provide simple, intuitive layout screens that are customizable to meet your needs depending on your preferences, including:

- Use of tool bars for operation
- Drop-down menus and auto-complete feature for quick and accurate selection and data entry
- Detailed HELP files available within the program
- Ability to create custom layouts with movable "panes" to create and save your favorite layout
- Easy navigation provided by Windows™ user-friendly tree-structure

GRANITE XP'S INTEGRATED ONLINE HELP

Video Access By
PENINSULAR TECHNOLOGIES

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ESRI Technology
AUTHORIZED BUSINESS PARTNER

PACP
PIPELINE ASSESSMENT & CERTIFICATION PROGRAM
Certified Software

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TV Systems

Key Advantages Unique to Granite XP!

Granite XP makes the inspection process faster and easier with less manual error!

Robust Data Management Capabilities- Synchronization & Export

Granite XP has been designed from the ground up to facilitate the management of data and can support, synchronize, **and run on** multiple enterprise databases such as **Oracle** and **SQL Server** in addition to Microsoft Access.

Viewing and sharing data among disparate locations is very complex. Two extremely important capabilities in any data management system are Synchronization and Export:

- **Synchronization** is the process of bringing together two separate databases comprised of data, video, and pictures to make them each identical. Users with multiple trucks or separate offices can synchronize data between one another and/or with a master database from the GIS department, to ensure local and remote databases are identical. Synchronization assures that records are not duplicated and that changes made to an inspection are transferred identically to another location. If similar but conflicting information is found during synchronization, Granite XP allows the user to determine whether to update or skip a particular record.

- **Export** is the process of selecting portions of the original data, video, and pictures, and creating a complete and independent copy of this information which can then be used by any Granite XP Edition. This is especially useful for the initial creation of truck databases. Office users can select the Assets and Projects to transfer to a particular database. All or part of a database can be replicated from Granite XP, with or without videos and pictures. This new file can be burned to a CD/DVD and brought into the office from the truck, or vice versa.
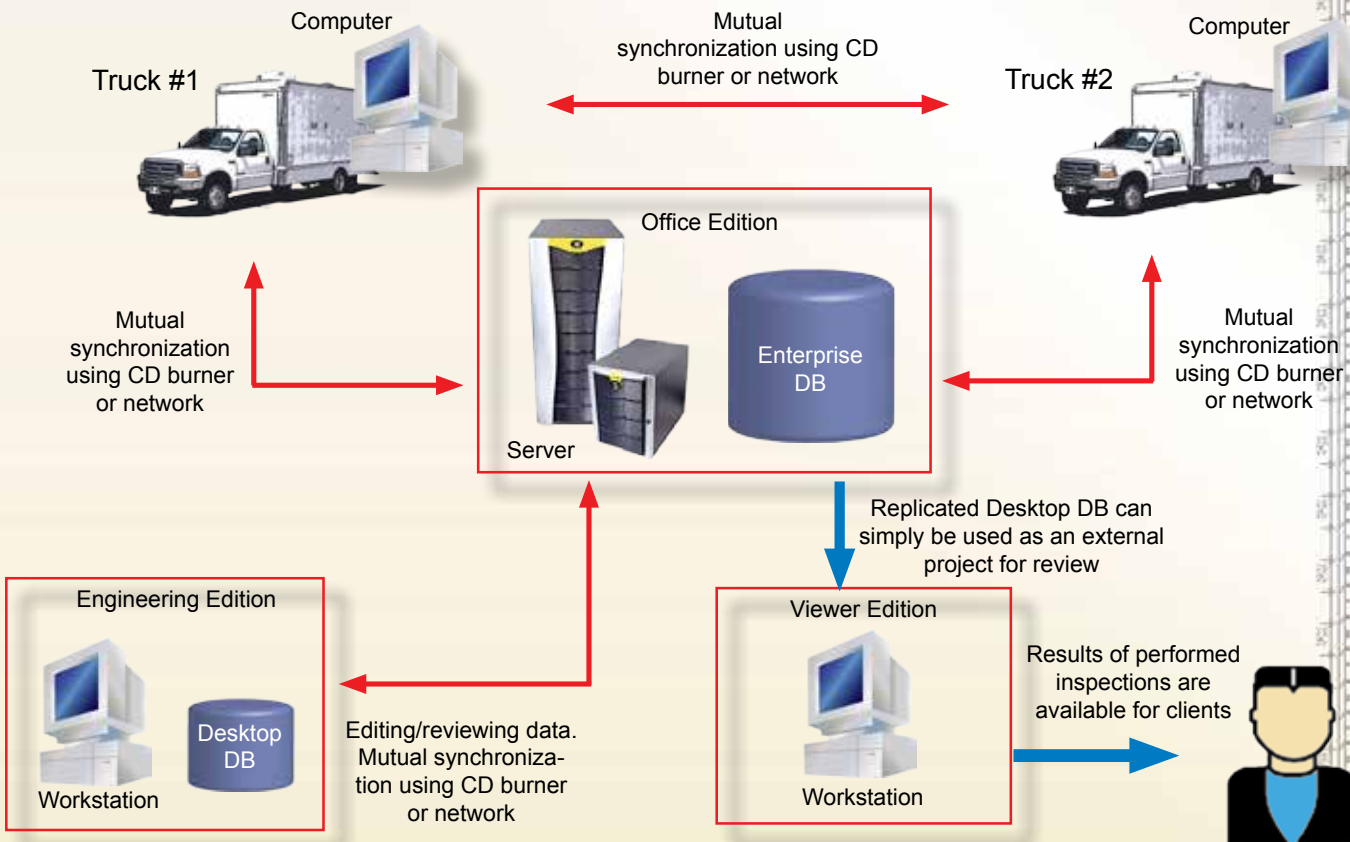
Optional software modules available in Granite XP:

- **ESRI Module** - bi-directional synchronization with ArcView
- **GPS Plug-in Module** - supports GPS devices (NMEA-0183 compatible), display and obtain current GPS coordinates
- **Manhole, Structure, and Nodes Module** - capture inspection and observation details, which are all linked to the structure, node or manhole
- **PACP Export Module (NAASCO certified)**
- **Inclination Module** - accurately capture and graph the slope of the pipe and evaluate pipe conditions as the inspection is performed
- **Lateral Assets Module** - capture inspection data, observation details, video, and pictures, which are all linked to the lateral structure
- **WRc Compatibility and Export Module** (Sewer.dat & Sewer1.dat)
- **Hansen Formula-Based Sewer Module** - certified bi-directional interface to all Hansen v7x

- **Hansen Storm Module** - certified bi-directional interface to all Hansen v7x
- **Azteca Cityworks Module** - bi-directional interface to Azteca Cityworks
- **WinCan Export Module** - allows data to be collected and exported to WinCan v7
- **Seal & Grout Module** - record pressure changes during air tests and graph pressure tests that show repair integrity and track grout usage
- **Scheduler Module** - allows you to schedule reoccurring tasks for transferring data, media files, and synchronizing databases. Plan daily, weekly or monthly schedules for automatically transfer or archive data.

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Generate a positive ROI!

An investment in Granite XP will generate a significant return on your investment because the software has been architected on Microsoft technology which can be leveraged for many years to come. The CUES Software Division will continue to broaden and enhance Granite XP to meet the needs of the changing Water/Wastewater industry. If you need help evaluating technology, have questions, or need solutions to maximize process efficiency gains for your organization, contact the CUES Software Division for more information at 800-327-7791 or email GXPinfo@cuesinc.com. The CUES Software Division can provide industry-specific consulting and offers a team of certified experts to help identify solutions to your specific Water/Wastewater needs. Make the investment in Granite XP today – your assets depend on it!

Computer

Truck #1

Mutual synchronization using CD burner or network

Computer

Truck #2

Mutual synchronization using CD burner or network

Office Edition

Enterprise DB

Server

Mutual synchronization using CD burner or network

Replicated Desktop DB can simply be used as an external project for review

Engineering Edition

Desktop DB

Workstation

Editing/reviewing data. Mutual synchronization using CD burner or network

Viewer Edition

Workstation

Results of performed inspections are available for clients

Granite XP is enterprise-enabled and has the ability to support and synchronize with multiple data sources, such as Microsoft Access, Oracle, or SQL Server.

GRANITE XP
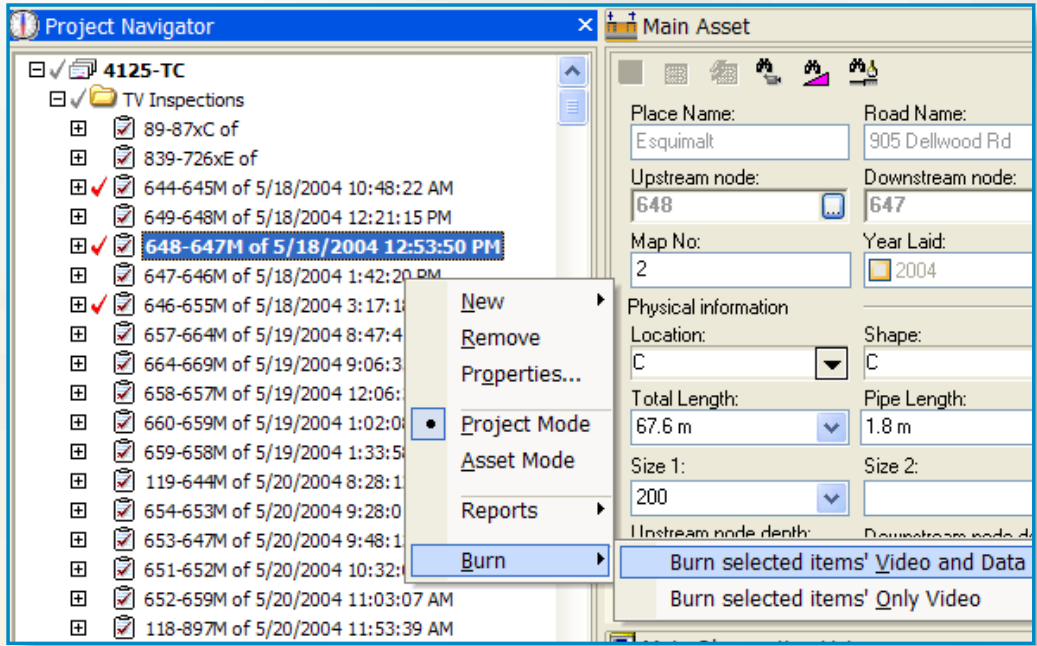Pipeline Inspection and Integration Software

Key Features of Granite XP!

Granite XP includes special features that allow you to get the most from your infrastructure management system!
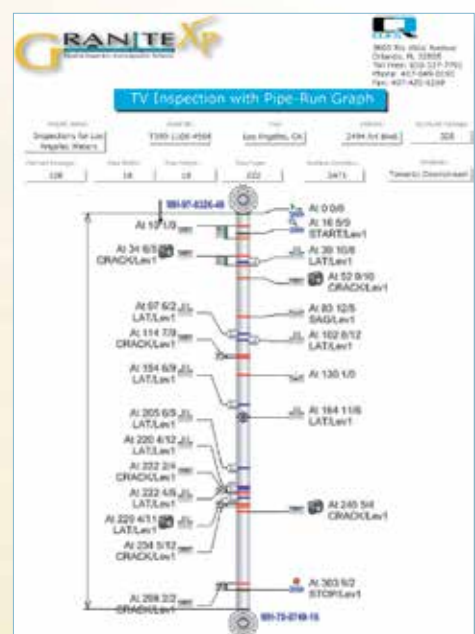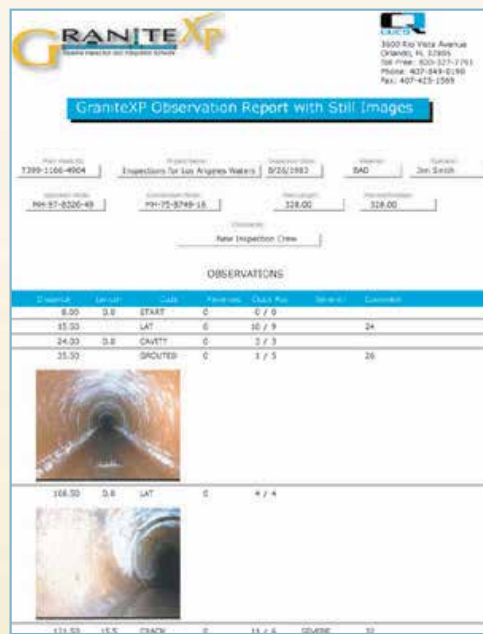
List of Key Features:

- Ability to import ESRI Asset Data into Granite XP from a Master GIS database
- "Single click" CD/DVD burning makes it simple
- "Single click" report creation and picture printing
- Create standard and custom Reports with built-in templates which include your logo and can be saved in PDF, HTML, or ASCII file format and can be emailed from Granite XP
- Export data in multiple formats including Oracle, SQL, Access, PACP, WRc Sewer.dat, Sewer1.dat, Hansen, Azteca City- works, WinCan and ASCII
- Powerful Search using keywords and Filtering capabilities by projects, assets, inspections, and observations
- Perform reverse setups in a single inspection, "upstream against the flow" or "downstream with the flow" to display upstream and downstream observations on the same inspection
- View live video and images simultaneously or select an observation on the Pipe Graph to access that precise point in a MPEG I, II & IV video instantly
- Software-based titling for post processing in the office
- Customize Granite XP with components of its source code to leverage your internal IT resources who maintain your existing systems
- Two Optional Annual Support Plans to choose from

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GRANITE XP
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GRANITE XP'S PROJECT NAVIGATOR WITH ONE-CLICK BURN

GRANITE XP'S REPORT CREATION AND PICTURE PRINTING