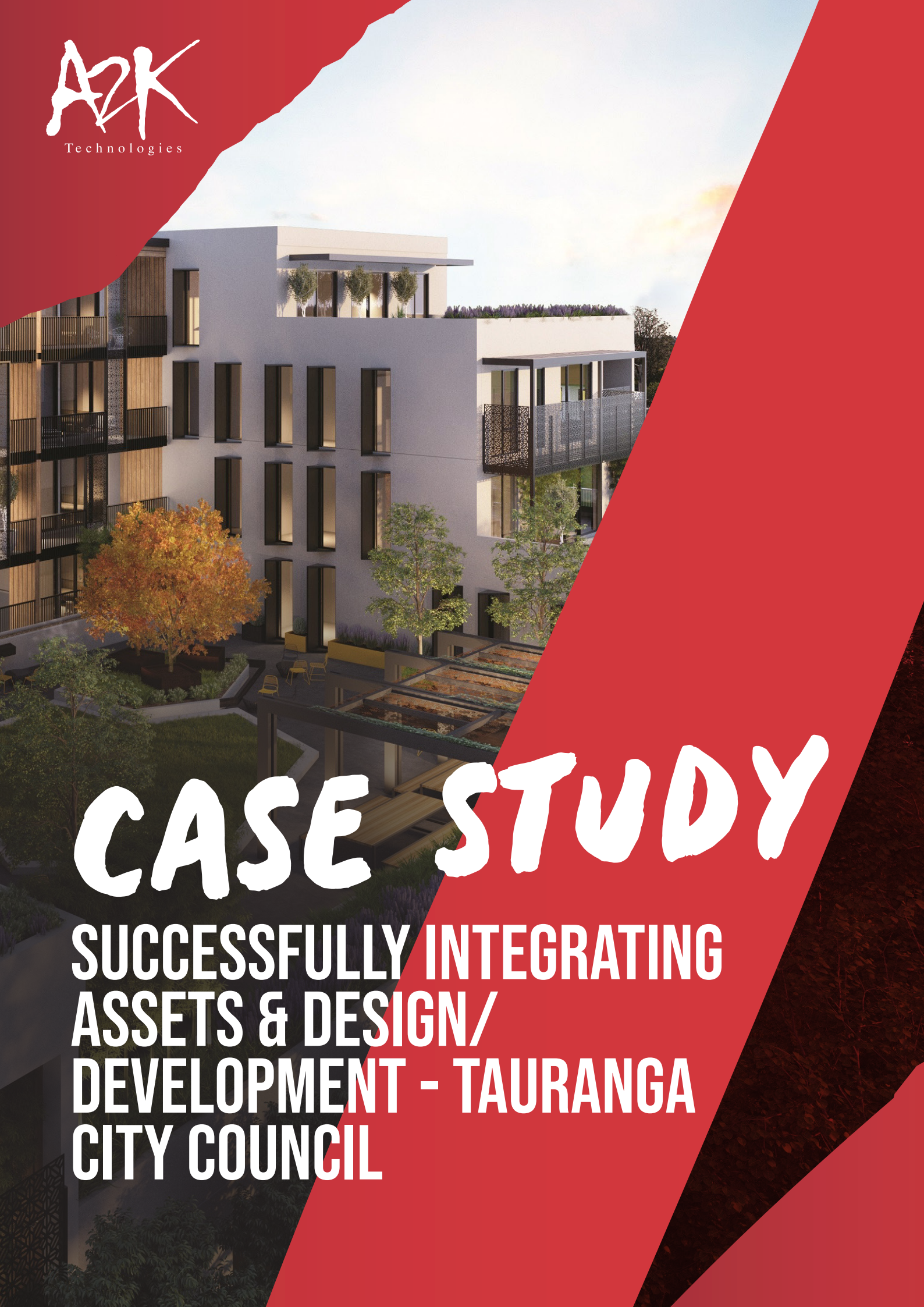


A photograph of a modern, multi-story building with a light-colored facade and large windows. The building has a flat roof with a green roof garden. In the foreground, there is a courtyard with a large tree with yellow leaves, a smaller tree, and a paved area with some furniture. The image is overlaid with a large red diagonal shape that contains the text.

CASE STUDY

**SUCCESSFULLY INTEGRATING
ASSETS & DESIGN/
DEVELOPMENT - TAURANGA
CITY COUNCIL**



INTRODUCTION

Integrating Asset Management Standards with Design and Development Codes is a key focus area for every government body, especially with the increasing demand generated by accelerated growth in recent times.

Tauranga City Council (TCC) have worked on a transformation process over many years to enable this and are currently reaping the rewards from the investment. This success is based on developing a complete governance structure encompassing systems, software and transformation processes to support the standards.

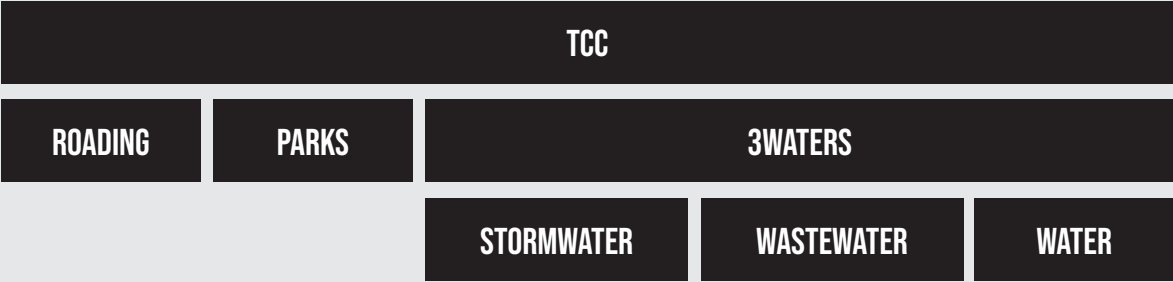
A2K Technologies have worked with TCC throughout this process, developing software within the Smart Tools Suite (BlackBox) to automate the tasks of incorporating data requirements for Asset Management into existing Design and Construction workflows. As TCC continued to enhance their processes, the software developed to cater for the more advanced requirements and is now used by both internal staff and external contractors.

CLIENT STORY

The key staff from TCC who developed and implemented the standards and workflows have put together the following summary of their experiences.

Our story starts in 2010 when our 3Waters department (encompassing Water, Stormwater and Wastewater) wanted to replace the DDTS (Digital Data Transfer System). The DDTS defined the asbuilt

data and format requirements for 3Waters assets. At this time, Tauranga City Council (TCC) was responsible for validation of the data provided. 3Waters had a look around and decided on the new Smart Tools product designed/created by A2K Technologies called BlackBox. The initial implementation of BlackBox was Activity-led by 3Waters and was slow.

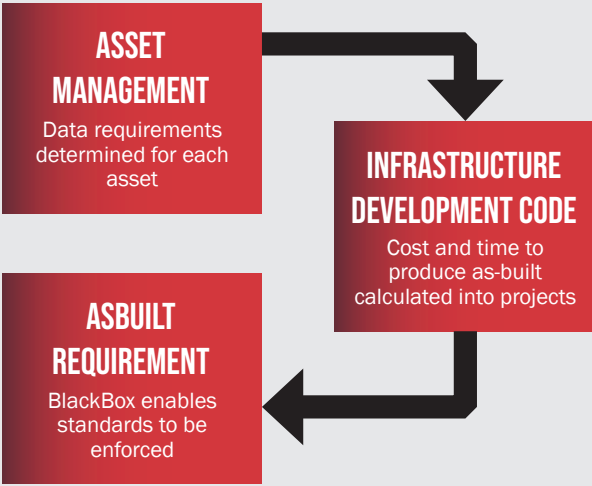


The Infrastructure Development Code (IDC) was adopted in 2011 and improvement opportunities were identified for the provision and processing of asset information. Rapid growth of Tauranga City created the demand for faster, more accurate processing of as built data. Infrastructure and Building sectors required information more quickly than ever before. TCC’s current DDTS was insufficient to achieve this and the scope needed to widen beyond only Waters assets.

all parties (internal and external) needed to have their say in the development and use of BlackBox. Initially, there were many ‘squeaky wheels’ and those who did not want to change. The majority of the development community, who wanted to evolve and improve the current process, offset those views. They challenged each other in peer to peer discussions and in the end, self-managed!

Over the next few years, some major changes happened at TCC. The implementation of a new Asset Management System – Accela and a major internal restructure, led to the creation of a Centre-led Asset Information Team working alongside the Infrastructure Engineer.

In 2014, BlackBox was handed to the Asset Information team for improvement. A local BlackBox User Group was formed and relationships were built within the development community. TCC felt that



“The cost and time to produce asbuilt information is now calculated into TCC projects. This took a while to “bed in” but is now an organisational requirement within TCC. This process increased the credibility and uptake of these requirements by external practitioners. The structure of BlackBox’s inputs and outputs allow TCC to be consistent about asbuilt information.”

SO WHAT DOES IT DO?

In simple terms, BlackBox attaches the attribute data (e.g. size, type etc.) to the spatial data (e.g. survey point, polygon etc.). It checks for obvious errors or gaps in the data and creates outputs in a format that TCC require for insertion into their Asset Management Systems. The data attributes required for each asset are determined within TCC’s Asset Management Systems and empowered by the IDC as an asbuilt requirement. It applies to both externally and internally

managed projects. The cost and time to produce asbuilt information is now calculated into TCC projects. This took a while to “bed in” but is now an organisational requirement within TCC. This process increased the credibility and uptake of these requirements by external practitioners. The structure of BlackBox’s inputs and outputs allow TCC to be consistent about asbuilt information.

ARE WE BETTER OFF USING BLACKBOX? **YEP**



Quality of asbuilts has improved.



The Asbuilt Process is transparent, consistent and defined.



TCC staff place a higher value on data submitted through BLACKBOX than legacy data.



Faster input, less manual, less input error.



TCC Asset Managers have been challenged to define their data requirements.



Allows surveyors to have their own naming conventions, BLACKBOX transforms the data to the required TCC formatting.



Encourages questioning from both TCC and external providers around data requirements.

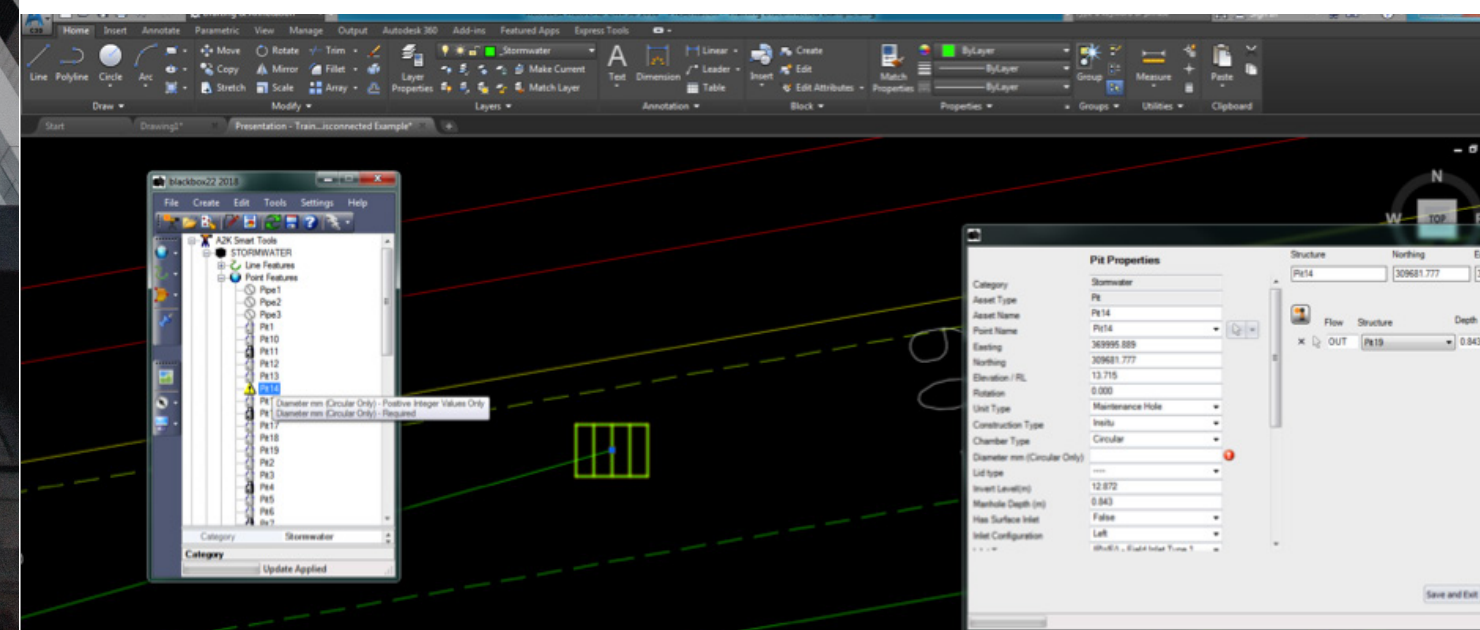


TCC own the information but A2K own the tool. **Onus is on A2K to resolve issues.**



Asbuilt providers and BLACKBOX Users are identified as specialists.

Are we where we want to be? Not yet. Delivering assets and information outcomes is an ever-evolving process. TCC will always be improving, evolving and looking ahead. The next stage is investigating the processing of Transportation asset data with output to RAMM from BlackBox.



	A	B	C	D	E	F	G	H	I	J	K
1	Project Variance										
2											
3											
4	Current Date: 07/24/2018			ADAC_4_2							
5	Project 1:	Variance 1		Submit Date							
6	Project 2:	Variance 2		Submit Date: 23/07/2018							
7											
8		Property Name	Project 1 Value		Project 2 Value		Pass/Fail	Message			
9											
10	Stormwater										
11	Pit										
12	Pit1	Category	Stormwater		Stormwater		Yes	Pass - Values Are Equal			
13		Asset Type	Pit		Pit		Yes	Pass - Values Are Equal			
14		Asset Name	Pit1		Pit1		Yes	Pass - Values Are Equal			
15		Unit Type	Maintenance Hole		Maintenance Hole		Yes	Pass - Values Are Equal			
16		Point Name	Pit1		Pit1		Yes	Pass - Values Are Equal			
17		Easting	370069.8164		370069.82		Yes	Pass - The values are within the threshold			
18		Northing	309675.0566		309675.06		Yes	Pass - The values are within the threshold			
19		Elevation / RL	12.77		12.77		Yes	Pass - The values are within the threshold			
20		Rotation	0		0		Yes	Pass - Values Are Equal			
21		Construction Type	Insitu		Insitu		Yes	Pass - Values Are Equal			
22		Chamber Type	Circular		Circular		Yes	Pass - Values Are Equal			
23		Diameter mm (Circular Only)	225		225		Yes	Pass - Values Are Equal			
24		Width mm (Rect Only)	600		600		Yes	Pass - Values Are Equal			
25		Length mm (Rect Only)					Yes	Pass - Values Are Equal			
26		Extensions mm (Extended Only)					Yes	Pass - Values Are Equal			
27		Radius mm (Extended Only)					Yes	Pass - Values Are Equal			
28		Lid type	blank		blank		Yes	Pass - Values Are Equal			
29		Invert Level(m)	11.43		11.43		Yes	Pass - Values Are Equal			
30		Manhole Depth (m)	1.34		1.34		Yes	Pass - Values Are Equal			
31		Has Surface Inlet	False		False		Yes	Pass - Values Are Equal			
32		Inlet Configuration	Left		Left		Yes	Pass - Values Are Equal			
33		Inlet Type	IPWEA - Field Inlet Type 1		OTHER - Bro Pit		No	Fail - Values Are Not Equal			
34		Has Lintel	False		False		Yes	Pass - Values Are Equal			
35		Lintel Construction Method	Insitu		Prefabricated		No	Fail - Values Are Not Equal			
36		Lintel Line Length(m)	1.2		1.2		Yes	Pass - Values Are Equal			
37		Outlet Type	Dry		Surcharge		No	Fail - Values Are Not Equal			

- Sample Generic report for Project Variance from Blackbox.

CONCLUSION

This implementation of Smart Tools being configured to support evolving business goals showcases a structured approach to solving current business challenges and building for the future. The data sets service multiple groups with differing needs, both internal and external to the council.

As ADAC and other standards mature, more emphasis is being focused by the industry on

documenting the variance between detailed design and the final constructed Asset – specific reports have been developed within the BlackBox interface to enable this initiative. This is being further enhanced with functionality to convert between different ADAC versions.

GLOSSARY

TCC

Tauranga City Council

IDC

Infrastructure Development Code

DDTS

Digital Data Transfer System

3Waters

The development that handles all of the Water assets (Stormwater, Wastewater and Water)

ADAC

Asset Design as Constructed is a non-proprietary data specification and transport format (XML) for the description and transmission of asset design and as constructed data.

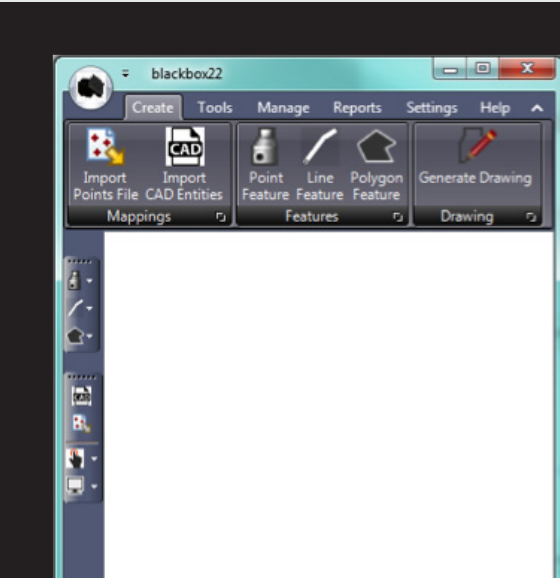
This is one of the many formats that BlackBox software works with and is used by TCC.

Smart Tools

A suite of tools developed by A2K Technologies to automate and validate workflows and data standards.

BlackBox

A highly configurable software package from the A2K’s Smart Tools Suite, designed to automate the documentation of as-constructed assets with validation for defined standards to ensure that data integrity is maintained. It can be run from within the CAD interface (as per screenshot below) or independently for reporting purposes by non-technical staff.



- Screen capture from the upcoming release of Blackbox in April in 2019.



Technologies

For more information on the software or a quick
presentation, please go to

WWW.A2KTECHNOLOGIES.COM.AU