

Utility Data Management

管綫資料管理



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Why utility data management is important?

The underground utility system of Hong Kong is dense and complex. Utility data management facilitates the process of utility-related works. Well-managed data provide comprehensive and updated information for the utility stakeholders. The purpose of data management is to maintain the vast amount of treasured data and to provide seamless and verified underground utility information to reduce road opening, to make safer excavations, and to provide better slope maintenance.

為甚麼需要管理管綫資料?

香港的地下管綫稠密且系統複雜，對管綫資料進行管理能促進各項管綫相關的工程。有效的管綫管理能為管綫業相關者提供更全面及更新的資料。管理資料的目的是維護大量的珍貴資料，以提供無縫及可靠的地下管綫資料。該等資料能減少開挖次數，使開挖工程更安全，並提供最佳的斜坡維修。



What is utility data management?

Utility data management is to arrange the data in an organized manner so that all utility stakeholders can obtain the utility information easily. Ways to make the data system more organized include making use of standardized record forms and employing computer programmes to store, edit, generate reports. Establishing a centralized database that gathers data from all utility undertakers and companies allows easy search and retrieval.

甚麼是管綫資料管理?

管綫資料管理是將管綫系統的資料收集，作有系統的整理，令管綫業相關者能更容易獲取有關資料。使用標準的紀錄表格，運用電腦程式來儲存、編輯及撰寫報告皆能令資料更有系統地整理。建立中央資料庫，收集各個管綫承辦商及公司的資料，更能快速地搜尋相關資料。

Manhole Record Form

BU DA Buried Utility Damage Avoidance Engineering, Engineers, Consultants, Surveyors & Specialists

NODE REFERENCE: HK4121200

GRID REFERENCE: N: 821291, E: 841235

DRAINAGE AREA CODE: T11-2E-13A

SURVEY DATE: 14/12/04

MANHOLE REFERENCE: QVMH4121200003

LOCATION: Chan Lee Tunnel

VEGETATION: Z

COVER: RAFFA, BRICK, POLY, CORRUGATED, CAST IRON, CONCRETE, METAL, WOOD, OTHER

DEPTH OF COVER (mm): 0

DEPTH OF SOIL (mm): 0

DEPTH OF WATER (mm): 0

COVER LEVEL (mmPD): 0.00

PIPE REFERENCE	PIPE DIA. (mm)	PIPE DIA. (in)	PIPE DIA. (ft)	PIPE DIA. (m)	PIPE DIA. (in)	PIPE DIA. (ft)	PIPE DIA. (m)	DEPTH OF COVER (mm)	DEPTH OF COVER (in)	
A	4121200	C	300	X	0	0	00	222	0	0.00
B				X						
C				X						
D				X						
E				X						
F				X						
G				X						
H				X						

OVERFLOW REFERENCE: QVMH4121200003-1P / QVMH4121200003-2P /

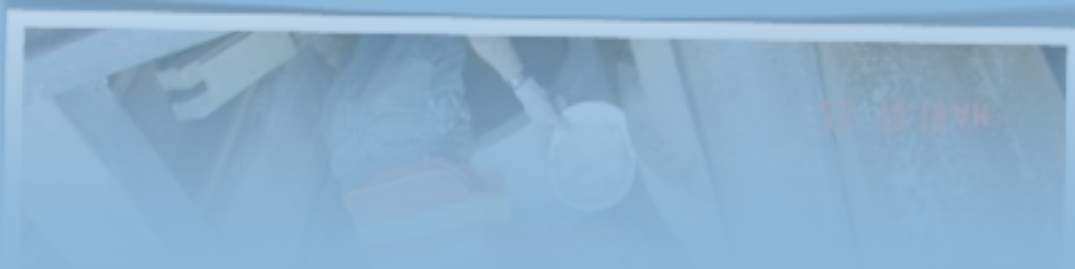
QVMH4121200003 / QVMH4121200003-1P / QVMH4121200003-2P /

Data storage of new installation

After new utilities were laid underground, records shall be kept by the utility owners. The utility owners shall be able to provide the record plan of the new utilities. Detailed structural information of the service shall be recorded. Besides structural information of the utilities, other information such as when did the pipe was laid, any special circumstances of the surroundings, is a useful reference for future maintenance works.

保存新管綫的資料

當新管綫鋪設完畢後，管綫擁有者必須為其作紀錄，製作管綫圖則供日後參考或使用。除了管綫的結構性資料必須紀錄外，其他資訊如建造年份、周邊的環境有否特別的狀況，都會成為日後維修工作的有用參考。

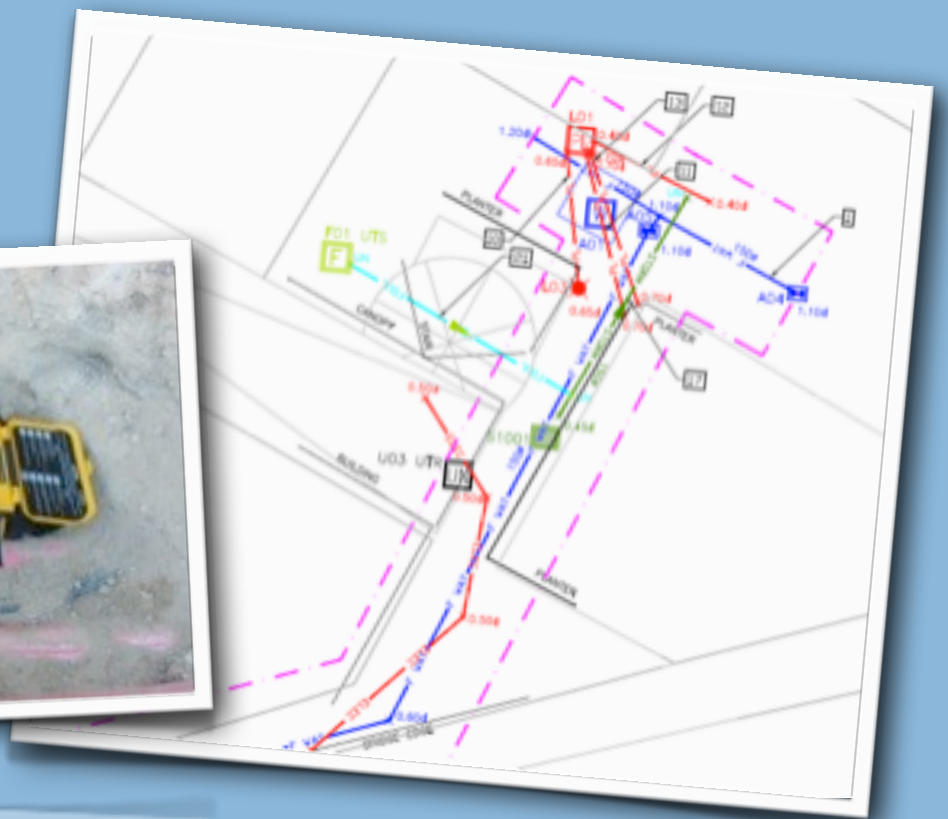


Update of data

Investigation and maintenance works may carry out periodically to ensure the services are functioning properly. Records of such works shall be kept by the owner as well as the agent who carry out the works. If it is found that the information of the record plan does not match the actual situation during investigation, the actual situation shall be recorded and the record shall be updated. To ensure the accuracy, the data shall be checked and verified to avoid conflicts or inconsistency among the data before the release of final result.

更新資料

檢測或維修工作會定期進行，以確保服務正常運作。管綫擁有人及工程承建商都必須為此等工作作紀錄，並妥善保存。若在檢測期間發現紀錄圖則與現實情況不符，則須將真實狀況紀錄下來並更新舊紀錄。為確保資料的準確性，資料必須經過檢查及驗證，避免有矛盾及不協調的情況。

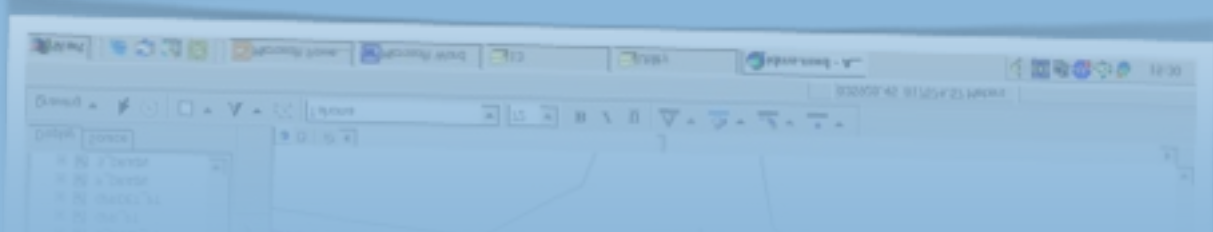
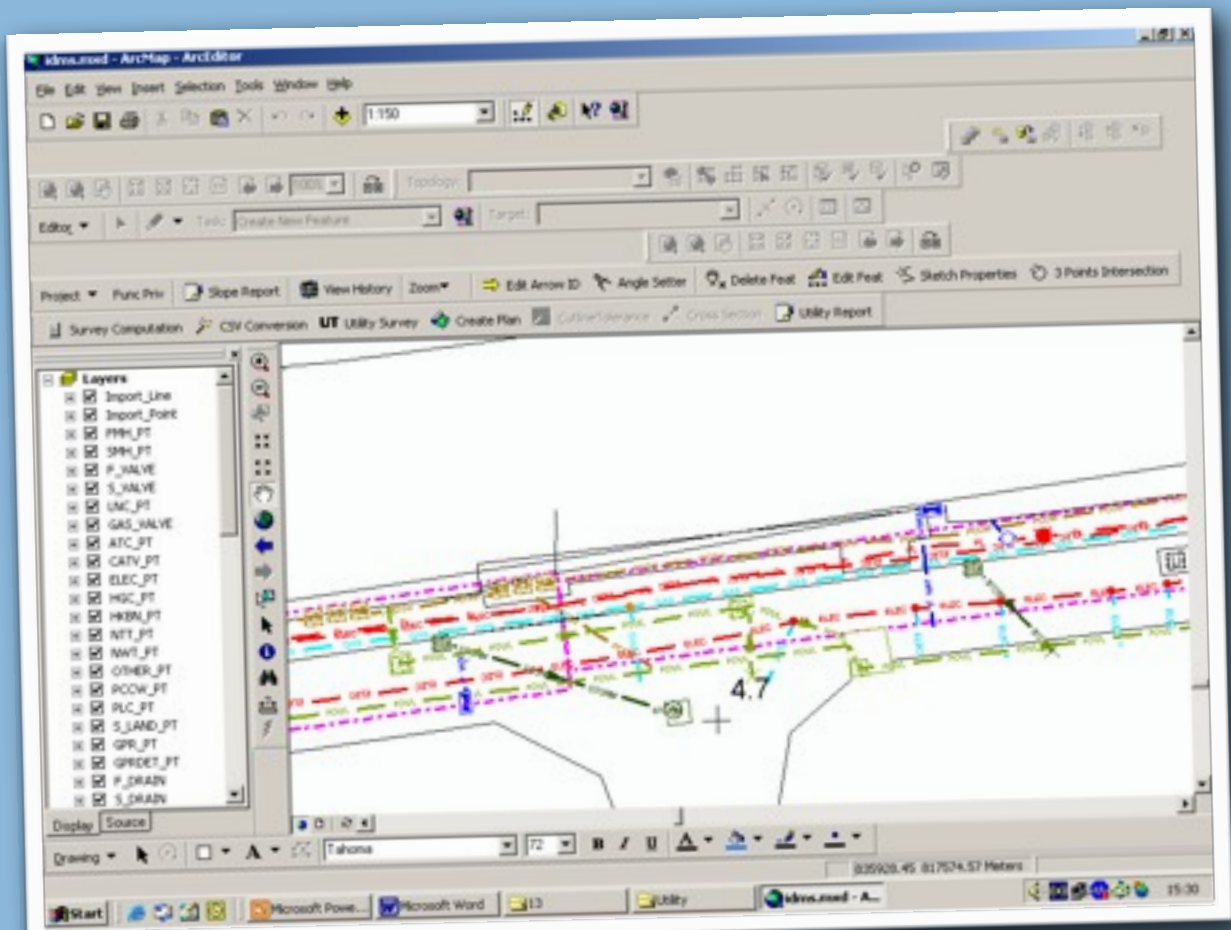


Centralized database

A centralized database facilitates the exchange of information between the utility undertakers and companies. The database can provide a more comprehensive and updated utility information to people who would carry out utility related works or excavation works. This prevents damage to utilities by reckless excavation. The utility data can be retrieved easily which facilitate the maintenance works. The Highways Department had established the Electronic Mark Plant Circulation (EMPC) System which provides a platform for utility data exchange.

建立中央資料庫

建立中央資料管理系統能促進各管綫承辦商和承建商的資訊交流。當有需要進行開挖工程時，資料庫能即時提供最全面及最新的資料，以減低不小心開挖對管綫構成的傷害。當需要進行維修時，承建商亦能快捷地從資料庫中獲得所需的資料。現時，路政署建立的電子化公用設施記錄聯通系統便是一個平台，供承建商交換地下管綫資料。



New technology in data management

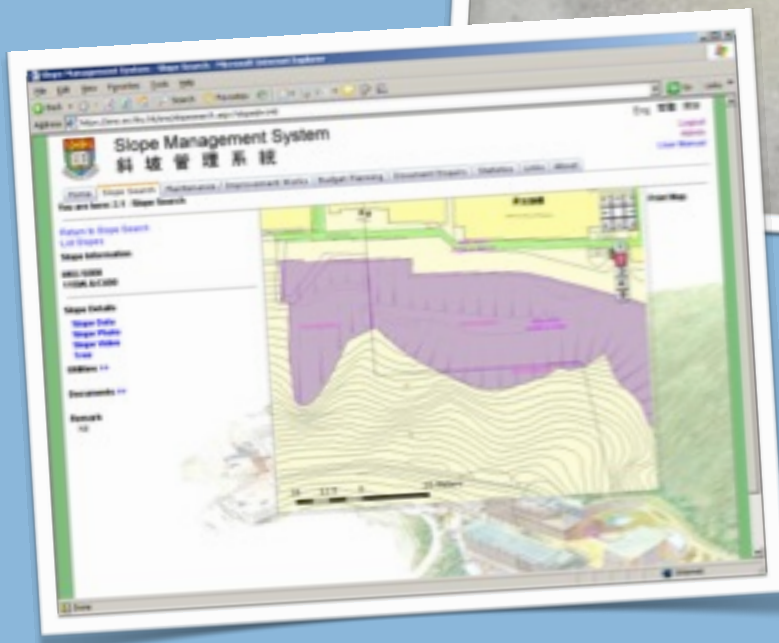
Geographical information system (GIS) and Electronic Marking System (EMS) are new technologies that can facilitate data management. GIS relates different information in a spatial context and to reach a conclusion about this relationship. GIS helps us to combine information with location reference on the map. Different kinds of data in map can be entered into GIS.

iD Markers can be used to identify the underground utilities. iD Markers can be installed on a service. When the Marker is being detected, the detector can read the information stored in the marker so that the identity of the service can be realized. The location of the iD Markers shall be entered into a database for easy management.

資料管理新技術

地理訊息管理系統及電子標籤系統是資料管理的新技術。地理訊息管理系統能將不同資料空間化，並互相關聯。系統亦能按其位置，將資料合併到地圖上，不同類型的數據也可輸入到系統中。

使用電子標籤則能有助於辨認地下管綫。先將電子標籤安裝於管綫上，當探測儀感應到電子標籤，便能探測到儲存於電子標籤內的管綫資料，繼而能得知管綫的身份。將這些電子標籤的位置輸入數據庫中，便能作更有效的管理。



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