



# Implementing Uniclass for construction and asset management

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# Classification



# Every day classification



Shopping





# Every day classification

## Holidays

Fell walking or Skiing



Beach or  
Wine tour

## What is classification?

- A means of structuring information

## Why do we need it?

- To make finding and sharing information easier

## How is it relevant to the construction industry?

- Having a structure for finding and sharing information is an essential requirement for adopting the process for digital engineering



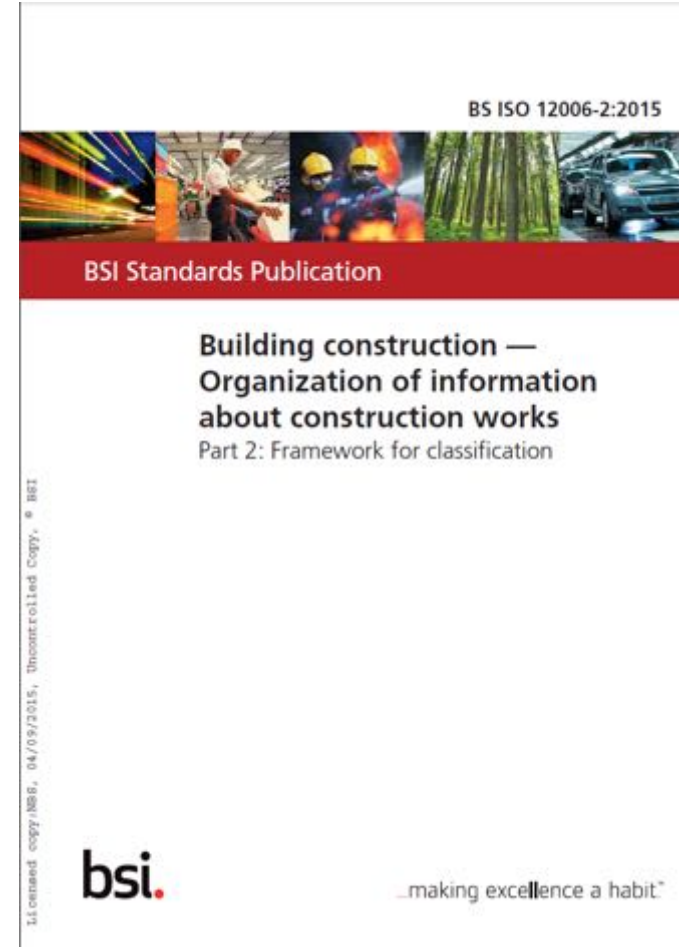
# Uniclass

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# **Uniclass is the classification system for construction and asset management**

# Uniclass is the classification system for the construction industry

- Structured in accordance with ISO 12006-2





- Applicable to both building and infrastructure



## Infrastructure sectors

- Road
- Rail
- Airports
- Water
- Power
- Environment



# Uniclass is the classification system for the construction industry

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- Suitable for use throughout the whole life cycle of a project
  - Concept
  - Design
  - Construction
  - Hand over
  - In use
  - Demolition



# Applying Uniclass

Elements/Functions

EF\_25\_50 Walls

Systems

Cleaned and back-ventilated rainscreen cladding systems  
Ss\_25\_20\_70\_25

Pc\_25\_71\_67\_12 - Cement-bonded particleboards

Pc\_20\_85\_07\_83 - Stainless steel rainier ribs

Pc\_25\_71\_63\_86 - Polyisocyanurate (PIR) foam boards

Pc\_20\_83\_52\_51 - Aggregate concrete blocks

Products

SL\_45\_25\_58  
Outdoor dining area

Deck system  
Ss\_30\_20\_30\_25 - type A

Pc\_25\_71\_57\_78 - Different deck boards

Lower Roof - Slab Level  
3200

Ex\_45\_25\_23 - Dining buildings  
part of a  
Co\_45\_18\_38 - Hotels

Complexes  
and  
Entities

SL\_25\_80\_48  
Public toilets

Spaces/Locations

Internal floor tiling systems  
Ss\_30\_42\_32\_40

Pc\_25\_82\_08\_57 - Natural stone tiles

Pc\_20\_31\_02\_12 - Cementitious adhesives type B

Ground Floor  
0

DECK BEAMS  
-155



En\_80\_50\_71 Railway corridors

En\_80\_50\_74 Railway stations

SL\_80\_50\_80 Single sided platforms

Pr\_80\_77\_48\_80 Steel lighting columns

Ss\_80\_70\_70\_06 Ballasted rail track systems

Pr\_20\_76\_70\_30 Flat bottom rails

Pr\_20\_76\_70\_15 Conductor rails

## Data can be linked to the codes for

- Performance requirements
- Cost
- Construction details
- Operation and maintenance

This information can be available from handover, through use and for any future refurbishment.





Waterloo station - London





# Working with experts



### Simple Culvert

A simple culvert is a covered channel or large pipe to convey water below ground level, whose cross section is made of the same material throughout (for example: concrete pipe, concrete box section, brick arched).

A simple culvert is displayed in AIMS as a polyline showing the centre of the culverted channel.

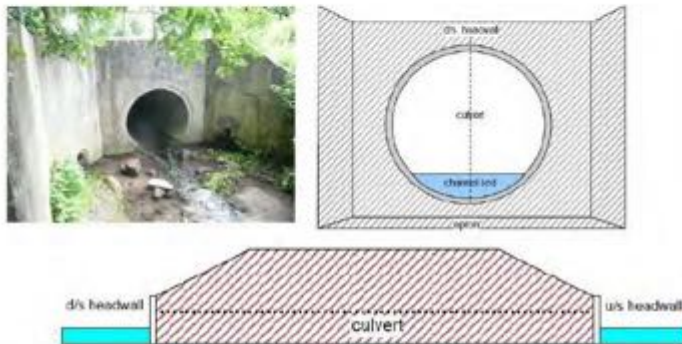


Figure 3 - Simple Culvert



Figure 4 - Simple Culvert - Box

## Channel

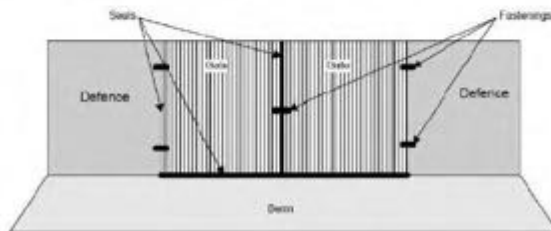
An asset that conveys water

Asset Sub Type	Description	Subtype Code	UNICLASS 2015
Complex Culvert	A complex culvert is a covered channel to convey water below ground level, whose cross section is made of different materials (for example: masonry sides covered with a concrete soffit).	CC	En_32_95_16
Open Channel	A channel that is not culverted	CP	En_32_95_59
Simple Culvert	A simple culvert is a covered channel or large pipe to convey water below ground level, whose cross section is made of the same material throughout (for example: concrete pipe, concrete box section, brick arched).	CS	En_32_95_80

## Defence

An asset that provides flood defence or coastal protection functions. This includes both man-made and natural defences. Natural defences may include man-made elements to make them more effective or protect them from erosion.

**Flood gate** A flood gate forms part of a flood defence, usually to provide access through the defences. This is not to be used for assets that control the flow of water which are found in the **Structure** Type.  
A flood gate is displayed in AIMS as a polyline showing the centre of the defence.



Asset Sub Type	Description	Subtype Code	UNICLASS 2015
Barrier Beach	Barrier beaches found extending from the coast can perform a flood defence and/or erosion protection function.	DA	En_32_85_06
Beach	Beaches that are found along the coast can provide a flood defence and/or erosion protection function.	DB	SL_32_60_06
Bridge Abutment	A bridge abutment that ties into flood defences to act as a defence.	DG	Ss_20_50_10
Cliff	Cliffs that are found along the coast can perform a flood defence and/or erosion protection function.	DC	Co_32_65_15
Demountable Defence	A temporary defence that is brought to, or stored on, site and erected when necessary to form a flood defence.	DM	Ss_25_95_30
Dunes	Dunes that are found along the coast can provide a flood defence and/or erosion protection function.	DD	SL_32_60_76
Embankment	An earthen structure used in the fluvial, tidal and coastal environments for flood defence and/or erosion protection. Also covers embankments used in dam structures.	DE	En_32_85_45
Flood Gate	A flood gate forms part of a flood defence, usually to provide access through the defences.	DF	Ss_25_36_30_30
High Ground	Covers all other extents along water courses that are not defined as any other Defence Asset Type. It covers situations where the only defence is the ground itself.	DH	En_32_85_35
Promenade	Promenades found along the coast can perform a flood defence and/or erosion protection function.	DP	En_80_40_66
Quay	A quay has a primary function as a landing place for shipping, but it also provides a line of defence.	DQ	En_32_50_69
Wall	A raised structure used in the fluvial, tidal and coastal environments for flood defence and/or erosion protection. Also covers walls used in dam structures.	DW	Ss_20_60

2017

## Data Driven Infrastructure

From digital tools to manufactured components

### Uniclass classification - at Asset level

<b>Aa -</b>	<b>Activities</b>	<b>Ca -</b>	<b>Complexes</b>
Aa, 80	Transport activities	Ca, 80	Transport complexes
Aa, 80, 10	Loading and embarkation activities	Ca, 80, 50	Railway complexes
Aa, 80, 10, 80	Passenger arriving	Ca, 80, 50, 37	High-speed rail complexes
Aa, 80, 10, 81	Passenger departing	Ca, 80, 50, 53	Main line rail complexes
Aa, 80, 10, 82	Passenger disembarking	Ca, 80, 50, 73	Rail network
Aa, 80, 10, 83	Passenger embarking	Ca, 80, 50, 74	Railway stations
Aa, 80, 10, 84	Passenger gathering	Ca, 80, 50, 97	Underground rail complexes
Aa, 80, 10, 86	Taxising	Ca, 80, 50, 94	Underground railway stations
Aa, 80, 50	Railway activities	<b>En -</b>	<b>Entities</b>
Aa, 80, 50, 71	Rail signal controlling	En, 80	Transport entities
Aa, 80, 50, 73	Railway track buffering	En, 80, 50	Railway entities
Aa, 80, 50, 75	Railway travel	En, 80, 50, 74	Railway station buildings
Aa, 80, 50, 90	Train stopping	En, 80, 50, 30	Single sided platforms
Aa, 80, 80	Rail storage and maintenance activities	En, 80, 90	Transport hubs/entities
Aa, 80, 80, 11	Carriage cleaning	En, 80, 96	Tunnels and shafts
Aa, 80, 80, 26	Engine fuelling	En, 80, 96, 90	Shafts
Aa, 80, 80, 27	Engine inspecting	En, 80, 96, 90	Tunnels
Aa, 80, 80, 28	Engine servicing	<b>SL -</b>	<b>Spaces / locations</b>
Aa, 80, 80, 29	Engine washing	SL, 80	Transport spaces
Aa, 80, 80, 70	Rail repairing	SL, 80, 50	Railways
Aa, 90	Circulation and plant activities	SL, 80, 50, 75	Railway tracks
Aa, 90, 10	Circulation activities	SL, 80, 50, 77	Railway signal control spaces
Aa, 90, 10, 16	Covered walking	SL, 80, 50, 90	Train stops
Aa, 90, 10, 24	Dropping-off and collecting		
Aa, 90, 10, 27	Entering and exiting		
Aa, 90, 10, 49	Lift stopping and calling		
Aa, 90, 10, 50	Lift travelling		
Aa, 90, 10, 96	Wash/hair travelling		
Aa, 90, 20	Common activities		
Aa, 90, 20, 13	Changing		
Aa, 90, 20, 69	Queueing		
Aa, 90, 20, 96	Waiting		

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### Uniclass classification - at Assembly level

<b>EF -</b>	<b>Elements / functions</b>
EF, 20	Structural elements
EF, 20, 19	Frames
EF, 20, 11	Wall and barrier elements
EF, 20, 11	Roofs
EF, 20, 11	Electrical power and lighting functions
EF, 20, 11	Electrical distribution and termination
EF, 20, 30	Communications, security, safety and protection functions
EF, 20, 30	Lighting
EF, 20, 30	Communication
EF, 20, 30	Signalling
EF, 20, 40	Security
EF, 20, 50	Safety and protection
<b>Sa -</b>	<b>Systems</b>
Sa, 20	Roof and barrier systems
Sa, 20, 10	Frame wall systems
Sa, 20, 10, 32	Frame wall structure systems
Sa, 20, 10, 32, 45	Light shield wall framing systems
Sa, 20, 11	Frame wall structure systems
Sa, 20, 12, 35	Concrete panel wall systems
Sa, 20, 20, 33	Glass fibre reinforced systems
Sa, 20, 20, 33, 35	GRC cladding systems
Sa, 20, 20, 35	GRC cladding systems
Sa, 20, 20, 35	Roof lining systems
Sa, 20, 20, 35	Acoustic panel systems
<b>Pr -</b>	<b>Products</b>

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Example showing asset - Elizabeth Line passenger tunnels in Tottenham Court Road station

Example showing passenger tunnel being constructed for the Elizabeth Line station



# Transport for New South Wales

