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Government

Transport Canberra
and City Services

Reference Document II

Drafting Requirements for Summary Drawings

Version 3.01

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Version	Issue Date	Author	Details
3.0	November 2017	Paul Dowling	Final Version
3.01	November 2017	Paul Dowling	Stormwater tie requirements appended

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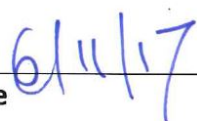
- Ref-11.1: Ref-11.1 - Reference Document 11 Part 1 - TCCS Drafting Standard - Technical Compliance Requirements - Overview and Principles (ISSUE 2 REVISION 1.1 2015)
- Ref-11.2: Ref-11.2 - Reference Document 11 Part 2 - TCCS Drafting Standard - Technical Compliance Requirements For Civil Summary Drawings (ISSUE 2 REVISION 1.1 2015)
- Ref-11.3: Ref-11.3 - Reference Document 11 Part 3 - TCCS Drafting Standard - Technical Compliance Requirements For Landscape Summary Drawings (ISSUE 2 REVISION 1.1 2015)
- Ref-11.5: Ref-11.5 - Reference Document 11 Part 5 - TCCS Drafting Standard - Technical Compliance Requirements For Attribute Values.xls (ISSUE 2 REVISION 1.1 2015)

Please note: The current version of this document is on the Transport Canberra and City Services website www.tccs.act.gov.au Printed copies may be out of date, please check before using.

Approved by:



Ben McHugh
Director, Capital Works and Development Support
Transport Canberra and City Services



Date

Document Change Log

Version	Details
3.01	Stormwater Ties - Requirements amended. Removed attributes for grade, upstream and downstream invert levels and joint type. Added attributes for depth, distance to downstream boundary.
3.0	Major update – Document structure, CAD naming conventions for layers, blocks, attributes. Mandatory requirements. Basketball Courts - Removed (see Recreational Courts). Bicycle Racks - New asset added. Granite Gravel Garden Beds – Removed (see Hard Landscaped Areas). Hard Landscaped Areas – Previously granite gravel garden bed block. Pram Crossings – Changed from AutoCAD block to Closed polyline with attributed block inside. Recreational Courts – Previously basketball court block. Now includes courts for other sports. Stormwater Branch Connection – New asset added. Stormwater Pipes – Attributes added for curved pipes and class. Streetlights – Single block instead of multiple blocks. Attributes requirements amended. Trees - Single block instead of multiple blocks. Attributes requirements amended. Vehicle Crossings – Changed from AutoCAD block to Closed polyline with attributed block inside.

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Objective and General Requirements

Objective

The intent of this document is to stipulate strict attribute and spatial requirements for works as executed (WAE) CAD data for new, removed or amended municipal assets which are loaded into the TCCS asset management system from civil / landscape summary CAD drawings.

General

This document specifies the technical compliance requirements to be followed when preparing Ref 11 summary CAD drawings. These are submitted as part of a handover of assets to the ACT Government, Transport Canberra and City Services Directorate in accordance with the requirements specified in TCCS Reference Document 8 - Requirements for works as executed submissions.

These requirements include standard CAD blocks, layer naming conventions, units, coordinate systems, spatial representation and required attribute data for each asset for use in summary drawings.

Ref 11 summary drawings are works as executed (WAE) CAD files in AutoCAD DWG format that must comply with requirements in this document. Consultants submit summary drawings online via the Open Spatial 'As Constructed Portal' <http://asconstructed.com> which validates them in approx. 5 minutes.

These drawings must pass validation and be reviewed and accepted by TCCS. Current validation configuration only validates summary drawing CAD data for assets on the required New or Removed layers. CAD data representing existing assets are not validated.

Ref 11 Summary drawings are used to automate loading work as executed spatial and attribute data depicting new, removed or amended municipal assets within the submission into the TCCS asset management system and GIS systems.

Summary drawings can be in a single drawing representing both civil and landscape works or separated into a civil summary drawing and a landscape summary drawing. These are submitted as part of operational acceptance WAE records (see Reference Document 8)

Future works must not be shown but pre-existing assets or features not changed by the development may be shown if needed as contextual data for the current works on the appropriate layers.

Background

Consultants struggled producing summary drawings that complied with the 2015 Ref 11 standard which was a time-consuming process and demanded continual interaction with multiple standard documents and filtering data in a spreadsheet to obtain required information. Typing and formatting mistakes were often repeated across numerous blocks throughout the drawing. These would go un-noticed until validation errors within the drawings were identified on the Open Spatial ACDC Portal. Fixing the issues would generally require considerable rework and multiple resubmissions.

To overcome these issues. TCCS have updated the Ref 11 document, CAD files, database configuration and created AutoCAD menus and tools to achieve the following objectives:

- Rewrite Ref 11 standard to be more transparent, accurate and require less interaction to obtain information;
- Improve validation rates on the Open Spatial 'As Constructed Portal' for TCCS projects;
- Improve consistency between Ref 11 document, AutoCAD menus and validation configurations; and
- Make it more efficient to create summary drawings and update the asset management system.

Reference Document 11 Structure

Reference document 11 (Ref 11) has been restructured and rewritten to be more transparent, consistent, accurate and involve less interaction to obtain required information.

Layer	Description	Linetype	Colour
acd_BRIDGE_NEW	New bridges	Continuous	34
acd_BRIDGE_EXG	Existing bridges	Continuous	33
acd_BRIDGE_REM	Removed bridges	Demolished	Red

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Tables / Picklists
BRDG_NUMBER	Bridge Number	Character		
BRDG_NAME	Bridge Name	Character	50	
BRDG_TYPE	Structure Type	Character	60	Yes LU_BRIDGE_STRUCTURE_TYPE
BRDG_FUNCTION	Structure Function	Character	50	Yes LU_BRIDGE_STRUCTURE_FUNCNT
BRDG_SUPERSTRUCTURE	Superstructure Material	Character	60	Yes LU_BRIDGE_SUPERSTRUCTURE_MAT
BRDG_SPANS	Number of Spans	Integer		
BRDG_PIEKS	Number of Piers	Integer		
BRDG_LENGTH	Length (m)	Real		
BRDG_WIDTH	Width (m)	Real		
BRDG_MIN_CLEARANCE	Minimum Clearance (m)	Real		
BRDG_WEARING_SURFACE	Wearing Surface	Character	60	Yes LU_BRIDGE_WEARING_SURFACE
BRDG_DECK_MATERIAL	Deck Material	Character	60	Yes LU_BRIDGE_DECK_MATERIAL
BRDG_LANES	Number of Lanes	Integer		
BRDG_FOOTPATHS	Number of Footpaths	Integer		

Lookup Table	Values	
LU_BRIDGE_DECK_MATERIAL	NONE BONDECK/REINFORCED CONCRETE BRIDGEWOOD FIBRE REINFORCED PLASTIC (FRP) MASONRY OR BRICK PRESTRESSED CONCRETE REINFORCED CONCRETE SELECTED BACKFILL STEEL TIMBER	
LU_BRIDGE_STRUCTURE_FUNCNT	ANIMAL CROSSING PEDESTRIAN BRIDGE ROAD BRIDGE	
LU_BRIDGE_STRUCTURE_TYPE	ARCH BRIDGE BEOG ARCH BOX CULVERT BRIDGE CABLE STAYED BRIDGE CANTILEVER SPAN BRIDGE CLASSIC ARCH (HUMES) COMBINED PIPE BOX CULVERT CONCRETE BOX CULVERT CONCRETE PIPE CULVERT CONCRETE SLAB CULVERT - COMBINATION CULVERT FOOTBRIDGE DECK UNIT BRIDGE	FOOTBRIDGE GIRDER - SIMPLY SUPPORTED GIRDER CONTINUOUS L/LEVEL CROSSING NOVA SPAN ARCH (STEEL) PIPE CULVERT POLYGONAL ARCH SLAB BRIDGE STEEL PIPE CULVERT SUSPENSION TRUSS BRIDGE TUNNEL VEHICLE TUNNEL
LU_BRIDGE_SUPERSTRUCTURE_MAT	NONE MASONRY OR BRICK POST TENSIONED CONCRETE PRESTRESSED CONCRETE	REINFORCED CONCRETE STEEL TIMBER
LU_BRIDGE_WEARING_SURFACE	NONE ASPHALT ROMANITE GRAVEL MASONRY	PRESTRESSED CONCRETE REINFORCED CONCRETE SPRAYED SEAL TILED TIMBER

Asset specific requirements are collated to support information being efficiently transmitted to sub consultants or specialist contractors.

Requirements for each asset are collated in the following arrangement:

- Asset name
- Symbology icon
- Overview
- Layers
- Block attribute information
- Lookup tables and allowable values

The transparency of requirements should encourage collaboration between TCCS, utility providers, consultants and contractors to improve and harmonise requirements across the industries in future updates.

Requesting additional values for lookup tables / Ref 11 Toolkit drop-down lists

Consultants may propose additional attributes or values for lookup tables / Ref 11 Toolkit drop-down lists by emailing requests to TCCS.AssetInformation@act.gov.au specifying the following information:

- Standard Ref 11 Block;
- Attribute;
- Lookup table name; and
- Proposed additional value(s)

Refer to the relevant section for the specific asset and in the Ref 11 document to locate the, block, attribute and lookup table information

Streetlight attribute information

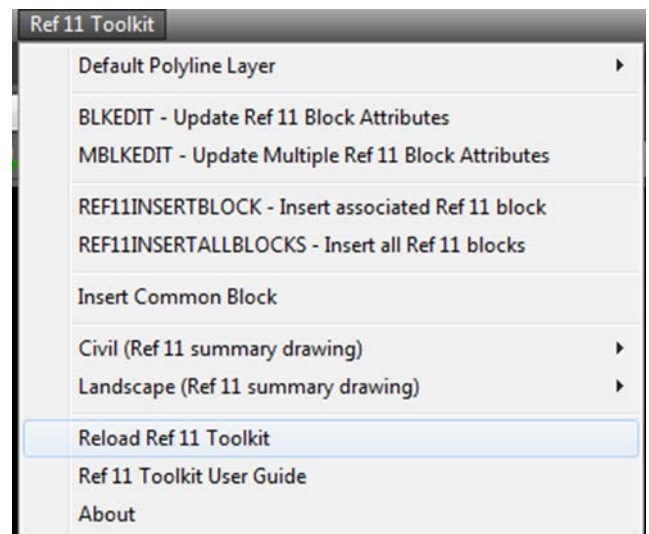
The streetlight block **acdc_STREETLIGHT** has 16 attributes. The table below lists each of these attributes and their requirements.

Table 86 Streetlight block acdc_STREETLIGHT attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Tables/Picklists
SLCO_ASSET_NUMBER	Asset Number	Character	80	
SLCO_COLUMN_TYPE	Column Type	Character	80	Yes LU_TRITS12_COLUMN
SLCO_HEIGHT	Height	Real	5.2	
SLCO_CATEGORY	Category	Character	5	Yes LU_TRITS12_CATEGORY
SLCO_MATERIAL	Column Material	Character	80	Yes LU_TRITS12_COLMATRI
SLCO_OUTREACH_ARM	Outreach Arm	Character	80	Yes LU_STRLGHT_OUTREACH
SLCO_MOUNTING	Mounting	Character	80	Yes LU_STRLGHT_MOUNTING
SLCO_LUMINAIRE	Primary Luminaire	Character	80	Yes LU_TRITS12_LUMINAIRES
SLCO_LUMINAIRE2	Secondary Luminaire	Character	120	Yes LU_TRITS12_LUMINAIRES
SLCO_LAMP_TYPE	Primary Lamp Type	Character	80	Yes LU_TRITS12_LAMPTYPE
SLCO_LAMP_TYPE2	Secondary Lamp Type	Character	80	Yes LU_TRITS12_LAMPTYPE
SLCO_LAMP_COUNT	Primary Lamp Count	Integer	4	

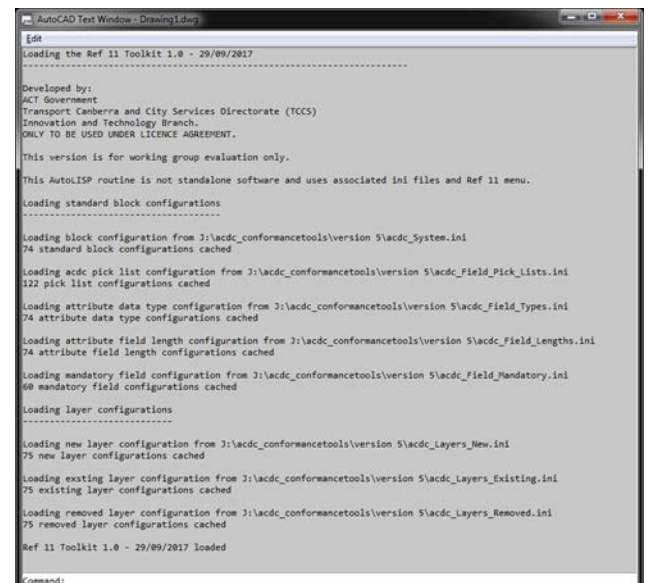
If using the Ref 11 Toolkit, updated INI files will be provided within 1 – 5 days. There may be a short delay before the Open Spatial validation portal is updated. It is recommended to create a backup of the old INI files prior to replacing them with the new INI files in case values have been hidden from lookup tables. Replace the existing INI files with the update one or update the new values to your original INI files.

Clicking **Reload Ref 11 Toolkit** from the Ref 11 Toolkit menu will reload the new INI files.



After clicking Reload Ref 11 Toolkit switching to the AutoCAD Text Window (F2) displays information about the Ref 11 Toolkit configuration and the location of the INI files that have been loaded.

Ensure you copied the new INI files to these locations.



Layers

S...	Name	O...	Fre...	L...	Color	Linetype
/	acdc_BRIDGE_NEW	☹	☀	🔒	34	Continuous
/	acdc_BRIDGE_REM	☹	☀	🔒	red	Continuous
/	acdc_BUOY_NEW	☹	☀	🔒	232	Continuous
/	acdc_BUOY_REM	☹	☀	🔒	red	Continuous
/	acdc_BUSSTOP_NEW	☹	☀	🔒	30	Continuous
/	acdc_BUSSTOP_REM	☹	☀	🔒	10	Continuous
/	acdc_CARPARK_NEW	☹	☀	🔒	140	Continuous
/	acdc_CARPARK_REM	☹	☀	🔒	red	Continuous
/	acdc_DRINKING_FOUNTAIN_NEW	☹	☀	🔒	140	Continuous
/	acdc_DRINKING_FOUNTAIN_REM	☹	☀	🔒	red	Continuous
/	acdc_DRIVEWAY_NEW	☹	☀	🔒	34	Continuous
/	acdc_DRIVEWAY_REM	☹	☀	🔒	red	Continuous
/	acdc_FITNESS_SITE_NEW	☹	☀	🔒	20	Continuous
/	acdc_FITNESS_SITE_REM	☹	☀	🔒	red	Continuous

Layer naming conventions are now more intuitive.

The 2015 Ref 11 standard had in excess of 400 layers. These included layers for assets, dimensions and text. This update to the standard only includes layers for assets currently captured in the TCCS asset management system and excludes layers for subsoil drainage, sewer pipes, water pipes, text or dimension layers.

Traffic related assets e.g. linemarking, traffic signage or signalized intersection components (loops, hardware and controllers) will be added to summary drawings and Ref 11 in a future update.

Generally the layer naming conventions consist of:

- acdc prefix to separate Ref 11 layers from consultant's office layers
- asset e.g. BARBEQUE, BOATRAMP, DRINKING_FOUNTAIN, PEDESTRIAN_CROSSING
- status e.g. NEW, EXG or REM (new, existing or removed assets)

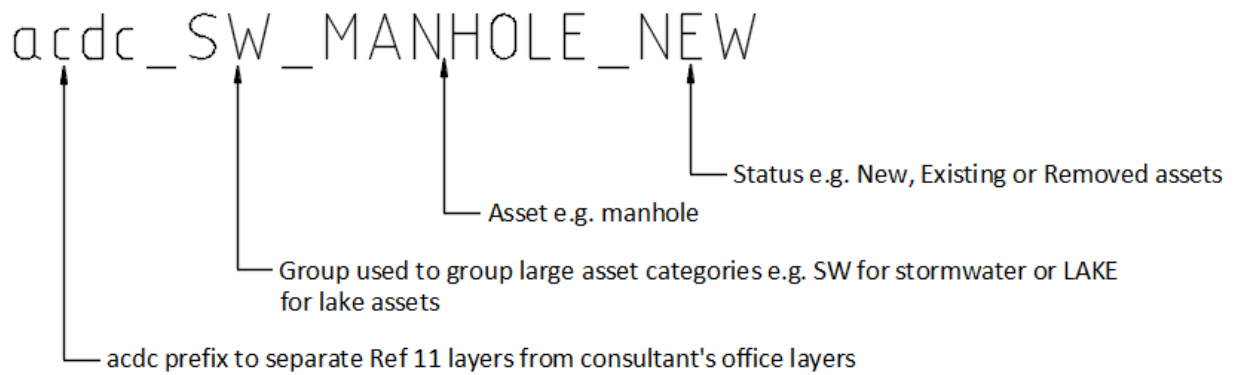
Example: acdc_STREETLIGHT_NEW



Some layers have an additional GROUP component to group layers together:

- acdc prefix to separate Ref 11 layers from consultant's office layers
- group e.g. SW, PARK, PATH, LAKE, PLAYGROUND
- asset e.g. MANHOLE, PIPE, CATCHDRAIN, HEADWALL
- status e.g. NEW, EXG or REM (new, existing or removed assets)

Example: acdc_SW_MANHOLE_NEW



Layer name examples:

acdc_SHELTER_NEW	New shelter (including pergolas, sails and screens).
acdc_FITNESS_SITE_REM	Removed fitness Site
acdc_SW_BOX_CULVERT_NEW	New box culvert
acdc_PATH_CL_EXG	Existing path centreline

Note: Only AutoCAD entities on standard layers with **_NEW** or **_REM** status are validated. AutoCAD entities on standard layers with **_EXG** status or non-standard layers are not validated.

Layer colours and linetypes

Many consultants will have refined layer colours and linetypes they prefer working with or adopt to comply with other WAE / utility provider requirements.

TCCS welcome suggestions to improve / harmonise layer colours and linetype requirements.

TCCS ACDC configuration validation rules do not check layer colours or linetypes.

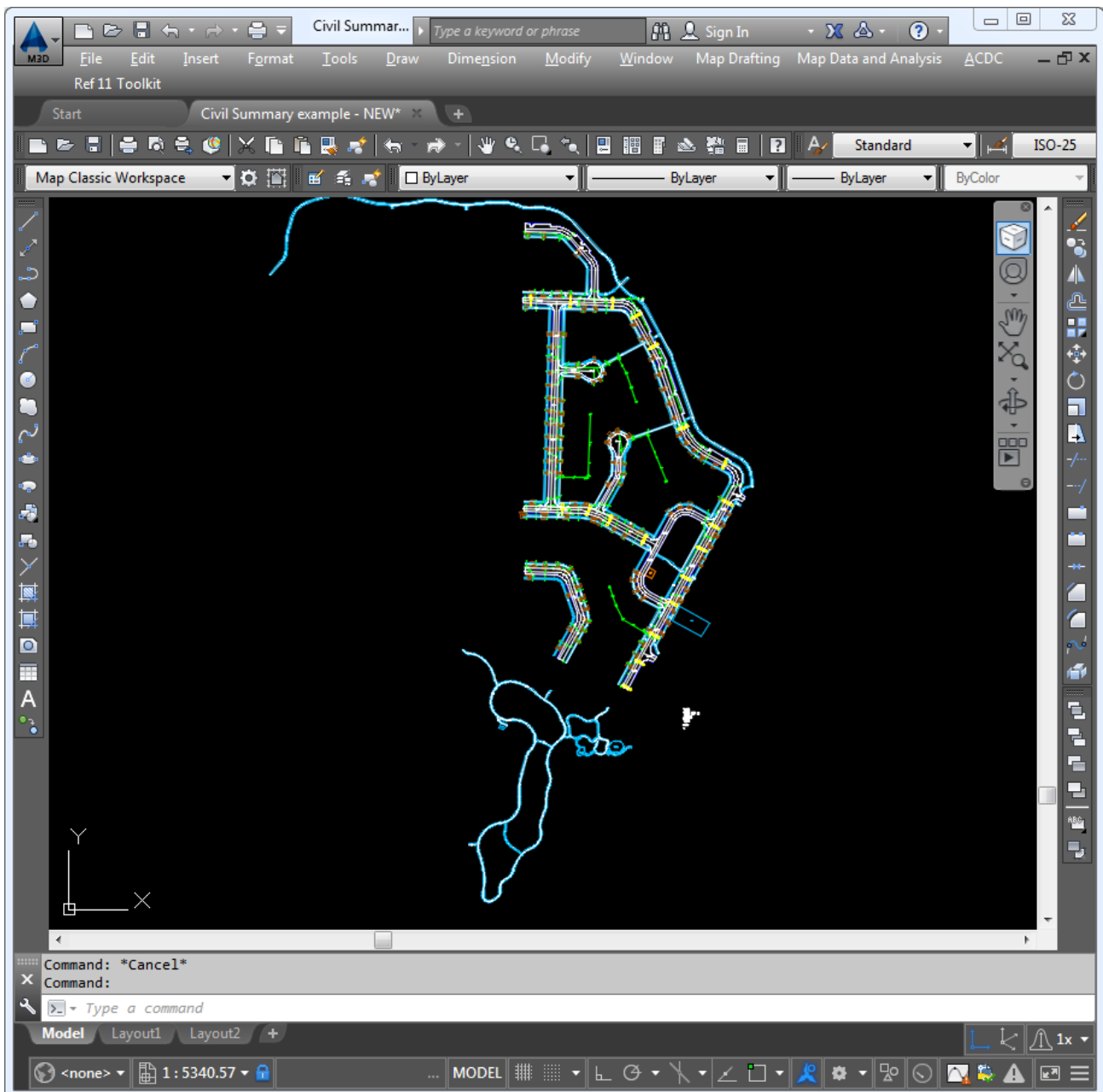
Therefore, users can opt to adopt other colours and linetypes within summary drawings.

Civil and Landscape Summary Drawings

TCCS Summary Drawings are AutoCAD DWG drawing files used to load work as executed (as constructed) spatial and attribute data into the TCCS asset management system and GIS systems with the correct attribute and spatial geometry.

These drawings are submitted as part of design acceptance and WAE submissions to represent all new, amended or removed assets within the submission.

Future works are not to be shown in summary drawings. In this release of the standard requirements, existing assets or features may be shown if needed as contextual data for the current works on the appropriate layers although attribute data and spatial requirements are currently excluded in the Open Spatial portal validation process. External references may be also used for existing or non TCCS assets in the summary drawings for contextual purposes.



An example of a summary drawing showing new and removed assets

Civil / Landscape Summary Drawing AutoCAD configuration

AutoCAD Configuration	Details
Special Requirements	<p>Drawings must to be drawn as per Reference Document 11 and pass validation on the Open Spatial Portal. https://www.asconstructed.com/</p> <p>Refer to Appendix for further information on obtaining a WAE log-in and submitting summary drawings on the Open Spatial Portal.</p> <p>Approved drawings are then uploaded to the ProjectWise Portal https://actgov.projectwiseonline.com in the folder for the relevant project.</p>
Open Spatial Portal	https://www.asconstructed.com/
ProjectWise Portal	https://actgov.projectwiseonline.com
CAD Drawing Formats	AutoCAD DWG only
Standard Co-ordinate Systems / Projections	ACT Standard Grid (Stromlo)
2D / 3D Requirements	The drawings must be 2D with the Elevation set to 0.0
Paperspace, Modelspace	All spatial information including the common block (project information block) must be in model space.
CAD Drawing Units	All drawing units shall be in metres and decimals of a metre. 1 drawing unit = 1 metre.
Drawing Insertion Points	An AutoCAD drawing's insertion point is defined by the AutoCAD system variable Base. The base system variable must be set to 0,0,0.
Standard Title Blocks / Project Information	The current Ref 11 documents (parts 1,2 and 3) require the standard block COMMON_BLOCK to include project information that would normally be present in a title block.
Standard Blocks	Consultants may modify the standard block symbology if desired. Non-standard block names will not pass validation. Attribute names must not be changed.
Block Insertion Points	Standard block insertion points are generally in the centre of an asset / feature. These insertion points are not to be changed.
Block Attribute Data	The current Ref 11 documents (parts 1,2,3 and 5) have very specific attribute requirements. Non-standard attribute names and values will not pass the validation process.
Ref 11 Toolkit	
Scales	See requirements for Paperspace, Modelspace; CAD Drawing Units;
Standard Layers	Only standard layers specified in this document can be used for new, amended or removed assets. Features on non-standard or existing layers are excluded from the validation process.
Standard Layer Colours	Standard layer colours specified in this document are default only. Alternative layer colours can be used without effecting the validation process.

AutoCAD Configuration	Details
Standard Linetypes	Standard layer linetypes specified in this document are default only. Alternative linetypes can be used without effecting the validation process.
Standard Dimension Styles	Dimension styles are not specified in this standard.
Standard Fonts	A limited number of fonts / font styles are used within the standard blocks. Alternative fonts can be used in the summary drawings without effecting the validation process.
Standard Hatching	Hatch patterns are not specified in this standard.
Standard Plotstyles	Plotstyles are not specified in this standard. The submission process does not require summary drawings to be plotted or output to PDF.

New Assets

All new assets constructed as part of a WAE/handover package must be shown on the appropriate new layer for the asset within the summary drawing. Ref 11 standard blocks, attribute data and associated geometry must be used to represent new assets.

Existing Assets

Existing feature do not need to be represented in summary drawings since CAD data representing existing assets are not validated. Attribute data is not required to be entered for Pre-existing assets or features not changed by the development however these may be shown if needed as contextual data for the current works on the appropriate layers.

Removed Assets

All assets being removed/demolished by consultants as part of a WAE/handover package must be shown on the appropriate removed layer for the asset within the summary drawing. Ref 11 standard blocks and associated geometry must be used to represent removed assets. Only essential/minimal attribute data should be entered to distinguish the asset from other similar assets in the area. For example a removed streetlight should show the streetlight number attribute, and a removed bridge should include the bridge number. As with all other Ref 11 blocks, consultants are free to resize or create different symbology for the blocks to better display the removed asset as necessary.

Future Assets

Future works are not required to be shown in summary drawings.

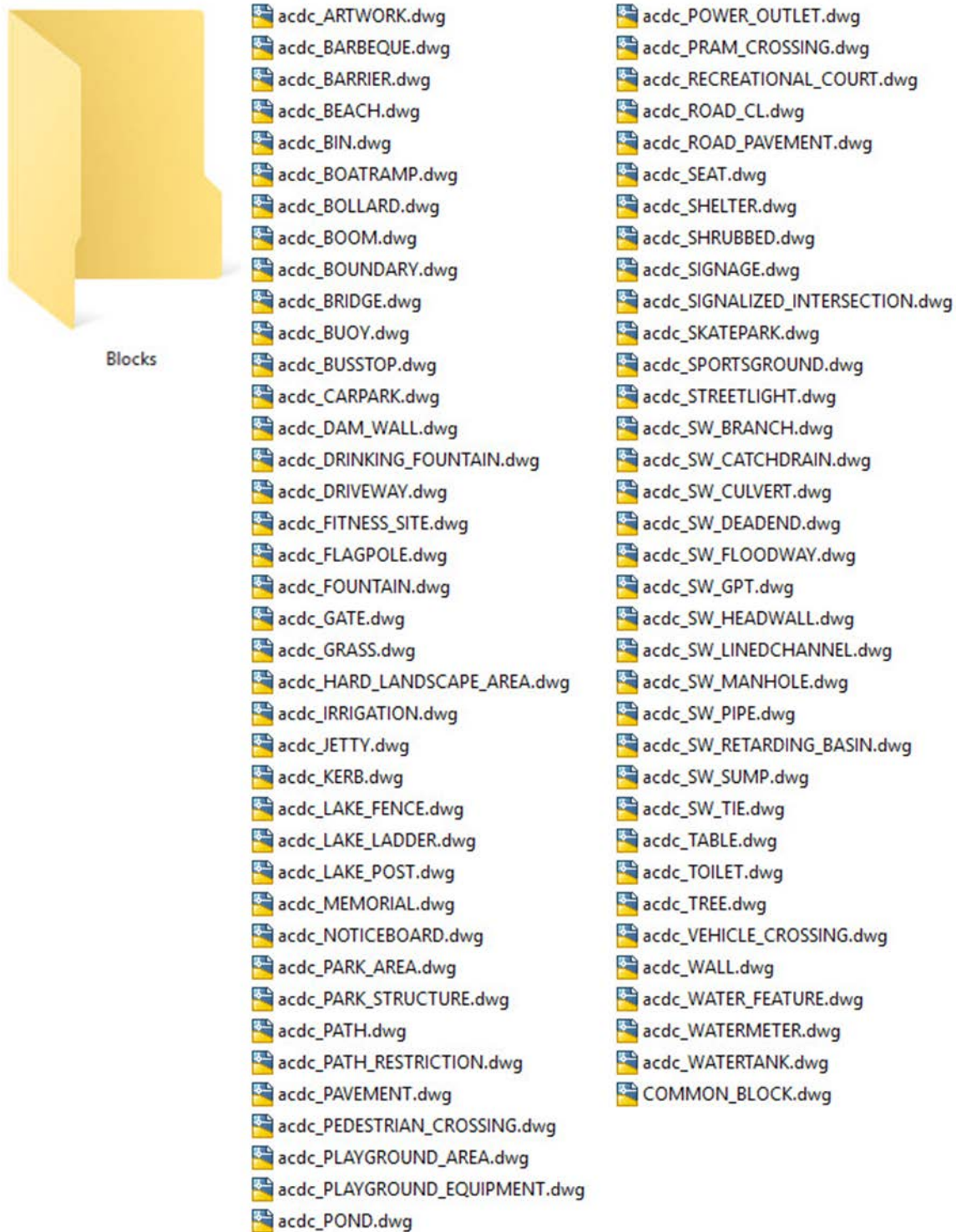
Common block – Project information

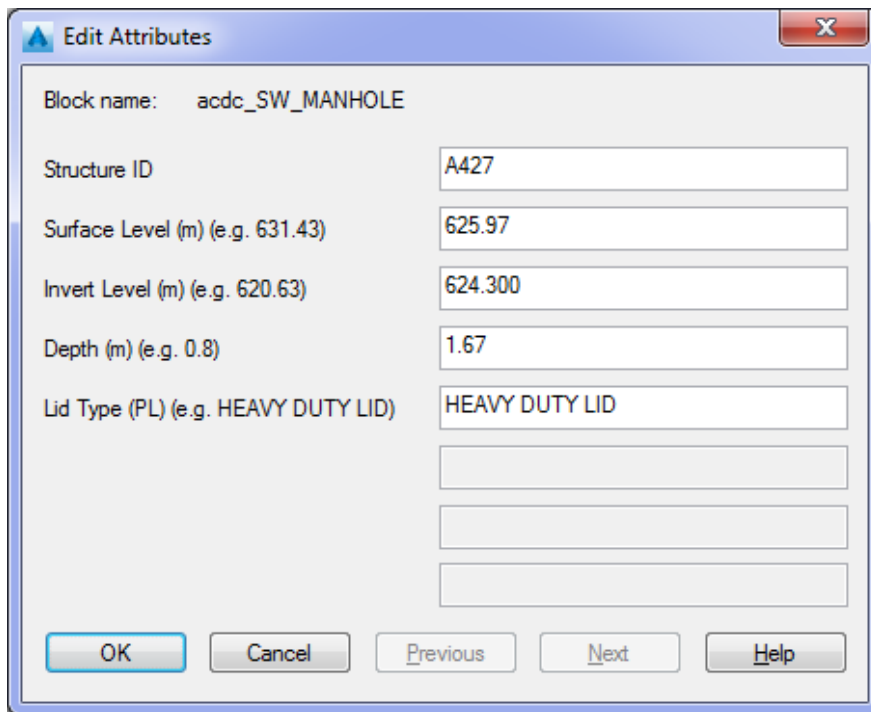
Project information for the summary drawing must be included in the TCCS block COMMON_BLOCK in modelspace. When submitting summary drawings via the portal, The first validation check performed is ensuring the common block exists in the summary drawing with mandatory project information. If this requirement is not met, the validation process immediately rejects the submission without performing any more checks. The data in this block (Project name, details etc.) is then transferred to all Ref 11 features when the summary drawing is validated and loaded into the asset management system.

Attributed blocks

TCCS have created attributed blocks to communicate attribute information for block, linear and closed polyline features.

Naming conventions for the attributed blocks are now more intuitive and consistent as shown below with an have an acdc_ prefix. Blocks have also been enhanced with more explanatory attribute prompts.

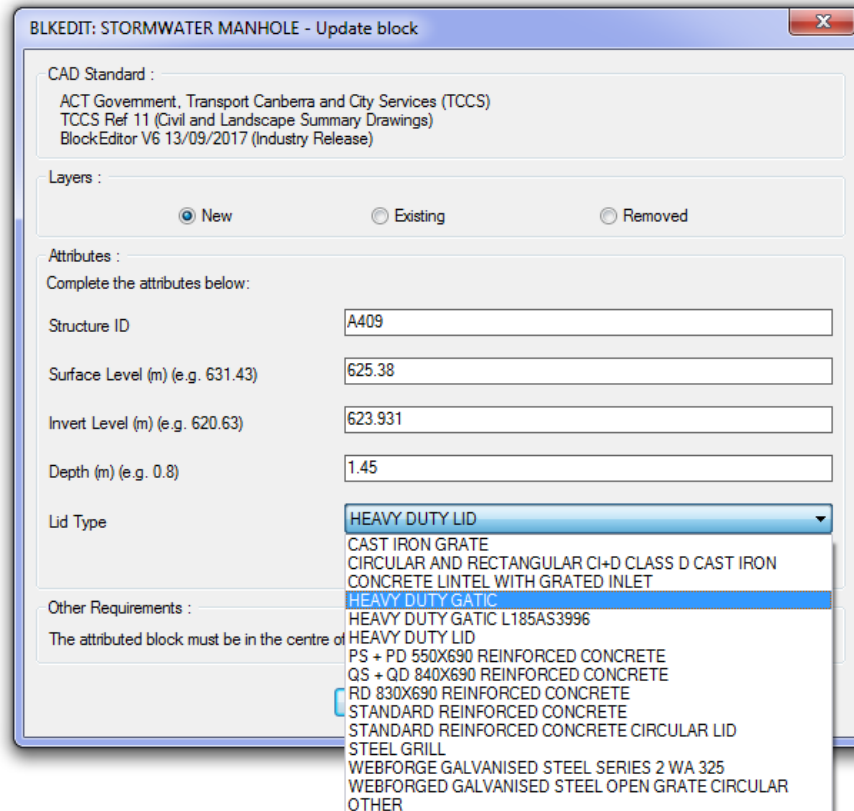




Attributed blocks have been updated with more instructive prompts

If editing blocks using AutoCAD's DDATTE command, Attribute values that must match allowable values from associated lookup tables are identified by (PL) in the prompt.

Allowable values can be found in the relevant asset's attribute information in this Ref 11 document or the Ref 11 Asset Attributes spreadsheet.



(PL) is omitted from attribute prompts when using the Ref 11 Toolkit's BLKEDIT dialog box since it has drop-down lists for selecting allowable values from lookup tables.

Changing appearance of Ref 11 blocks

TCCS advise against changing the appearance of attributed blocks but welcome suggestions to improve / harmonise attribute requirements.

Summary drawings are primarily data loading drawings to update asset data into the asset management system, instead of drawings intended to be printed.

TCCS ACDC configuration validation rules do not check for standard block symbology.

The appearance of the standard blocks are less graphic than the way similar features are represented in other design and construction drawings. Users may wish to change the appearance of them making them more or less symbolic.

Ref 11 standard block names must not be changed since they are hard-coded in the ACDC validation rules.

The insertion point is to remain in the centre of the block (*excluding headwalls which is at the end of the pipe / culvert*) since this represents the location the feature will be inserted into the asset management system. If changing the appearance of blocks, check functionality of the Ref 11 Toolkit still works for the updated blocks. If the Ref 11 Toolkit and menus no longer work with the modified blocks revert back to the standard block.

Adding additional block attributes

TCCS advise against adding additional block attributes but welcome suggestions to improve / harmonise attribute requirements.





Ref 11 standard block attribute names must not be changed since they are hard-coded in the ACDC validation rules.

Adding additional attributes should not impact on the validation rules but the additional information will not be loaded into the asset management system.

If adding additional attributes to blocks, check functionality of the Ref 11 Toolkit still works for the updated blocks. If the Ref 11 Toolkit and menus no longer work with the modified blocks revert back to the standard block.

Symbology used throughout this Ref 11 document

The Ref 11 document specifies which of the following ways each asset is to be represented. This provides a convenient indication to users at the beginning of requirements for each asset.

Asset representation	Description
 Attributed block	Asset is represented by the required standard Ref 11 block with attribute values specifying as constructed information.
 Linear feature with attributed block	Asset is represented by a linear feature (line, lightweight polyline) with the required standard Ref 11 block inserted at a midpoint along one of the features segments with attribute values specifying as constructed information.
 Closed polyline feature with attributed block	Asset is represented by a closed lightweight polyline signifying the perimeter with the required standard Ref 11 block inserted inside with attribute values specifying as constructed information.
 Graphics only linear feature	Asset is represented by a linear feature (line, lightweight polyline) and does not require an attributed block.

Validation Requirements

Refer to the latest Reference Document 11 for full requirements.

What elements are validated?

The first validation check is ensuring the common block exists in the summary drawing with mandatory project information. If this requirement is not met, the validation process immediately rejects the submission without performing any more checks.

Ref 11 block names are hardcoded into the validation rules. If block names are changed they will fail validation and will not work with the Ref 11 Toolkit tools.

Ref 11 block attributes are hardcoded into the validation rules. If attribute names are changed they will fail validation and associated drop-down lists will not work with the Ref 11 Toolkit tools. If additional attributes are added to blocks are ignored in the validation process.

If WAE information is outside the spatial extents of the ACT in the Stromlo projection it will fail validation.

Validation rules that apply to attribute values are:

- Data type (integer, real, character, date, logical);
- Lookup table values must match exactly (including case);
- Field length; and
- Mandatory attributes are entered.

Each standard feature has specific geometry constraints (line, lightweight polylines, blocks, closed polylines) and whether they require associated blocks are hard coded in the validation rules.

Ref 11 layers are hardcoded into the validation rules.

All features on non-standard layers are ignored in the validation process.

Ref 11 blocks on incorrect layers will fail validation.

Colours and linetypes for layers and features can be changed without effecting validation.

Drop-down lists / lookup table values are hardcoded into the validation rules. Values that are modified or added without being requested through TCCS.AssetInformation@act.gov.au will fail validation until the changes are made on the portal and the TCCS on premise ACDC database.

Ref 11 line work and attributed blocks representing New and Removed assets are validated. The Toolkit allows for features to be drawn on Existing layers although they do not get validated. This may change in future updates to the TCCS configuration of the Toolkit and Open Spatial's ACDC system and online portal.

How are Ref 11 summary drawings validated?

Validation of the summary drawings uses the Open Spatial As Constructed Design Certification (ACDC) solution with ACDC on the desktop and pre-validation via its companion ACDC Validation Portal <http://asconstructed.com>

When consultants submit summary drawings via the ACDC Validation Portal, it generally only takes 5 minutes to validate them.

This provides users rapid compliance feedback on their drawing instead of the previous process which had a 10 day turn around period.

Engineers/consultants can run validation prior to plan submittal and can get a log and drawing showing non-conformance to the standard.

Errors and inconsistencies are automatically and consistently flagged before submittal.

Consultants do not incur fees for multiple submissions via the ACDC portal.



Name	Status	Id	Description	Num.	Rev.	Project	Developer	Submission Date	
▼ Landscape Su...	🟢	12048	Landscape sum...	1234	1	TCCS Ref 11 Val...	ACT Governmen...	Sep 28, 2017	Action ▼

Result Summary

Entities Processed	829
Entities Analysed	584
Entities Outside Extents	0
<hr/>	
Percentage Passed	100%
Entities Passed	584
<hr/>	
Entities Failed	0

Certified

Project Name	TCCS Ref 11 V...
Validation Set	ACDC_ACTTC...
Date Certified	28-Sep-2017
Status	Passed

Drawing Name	Landscape Summary example - NEW...
Submitted By	ACT Government – Transport Canberra and City Services (TCCS)
Submitted For	ACT Government – Transport Canberra and City Services (TCCS)
User Name	Paul Dowling

Ref 11 Toolkit (Summary)

About the Ref 11 Toolkit

To enable compliant summary drawings to be created more efficiently, TCCS have developed the Ref 11 Toolkit which works in AutoCAD to automate data entry and inserting standard blocks on the correct layers with their associated geometries.

Refer to the **Ref 11 Toolkit User Guide, Reference Document 11 Compliance Tools for AutoCAD**

Main benefits in using the Ref 11 Toolkit

The main benefits the Ref 11 Toolkit provides is enabling users to create compliant summary drawings faster and require less time interacting with the Ref 11 Standard to enter accurate attribute values. The Ref 11 Toolkit has several tools and a new AutoCAD menu created to support streamlined workflows and easier data entry.

The main benefits of the toolkit include:

General

- Easier for consultants to produce summary drawings internally or outsource if desired.
- Custom AutoCAD menu and tools to draw, insert and update data for Ref 11 Summary Drawings.
- Configuration compliant with the Ref 11 standard; Open Spatial 'As Constructed Portal' www.asconstructed.com
- Toolkit configuration files generated from data within TCCS ACDC database for consistency.
- Can be used with / without drawing templates.
- Optional configuration to re-order or hide drop-down list values.
- Improved block attribute prompts.

BLKEDIT Function (block attribute editing)

- Custom dialog boxes have drop down pick lists to make entering attribute values easier.
- Automatically place blocks on relevant standard layers.
- Built in validation identifying missing mandatory information, non-standard values and data type / field length discrepancies.
- Removes unintended leading and trailing spaces when data is entered.
- Additional requirements information to reduce interaction with standards.

Ref11InsertAllBlocks / Ref11InsertBlock Functions (automated block insertion)

- Enables improved workflows when converting office drawings to Ref 11 Summary Drawings.
- Automatically places blocks in correct locations relative to associated line work.

Ref 11 Toolkit enables easier data entry

The Ref 11 Toolkit's BLKEDIT function features a custom dialog box to edit Ref 11 standard block attributes using drop down pick lists and in-built data validation. This overcomes the frustration CAD users experienced having to continually refer to the previous standard documentation and spreadsheet to enter data in the free text fields via AutoCAD's standard Edit Attributes dialog boxes.

The image shows a screenshot of the 'BLKEDIT: STREETLIGHT - Update block' dialog box. On the left side, there are four blue arrows pointing to different sections of the dialog box, each with a label and a brief description:

- Title**: Points to the title bar of the dialog box.
- CAD Standard**: Points to the 'CAD Standard' section, which lists 'ACT Government, Transport Canberra and City Services (TCCS)', 'TCCS Ref 11 (Civil and Landscape Summary Drawings)', and 'BlockEditor 1.01 30/09/2017 (Industry Release)'.
- Standard configuration**: Points to the 'Layers' section, which has radio buttons for 'New' (selected), 'Existing', and 'Removed'.
- Layers**: Points to the 'Layers' section.
- Attributes**: Points to the 'Attributes' section, which contains a list of attributes with corresponding input fields or dropdown menus. Some fields have red underlines, indicating errors. A message at the bottom of the dialog box states: 'INVALID - There are 3 errors, see values underlined in red - INVALID'.
- Other Requirements**: Points to the 'Other Requirements' section, which contains the text: 'The attributed block must be approximately in the centre of the streetlight.'

At the bottom of the dialog box, there are 'OK' and 'Cancel' buttons.

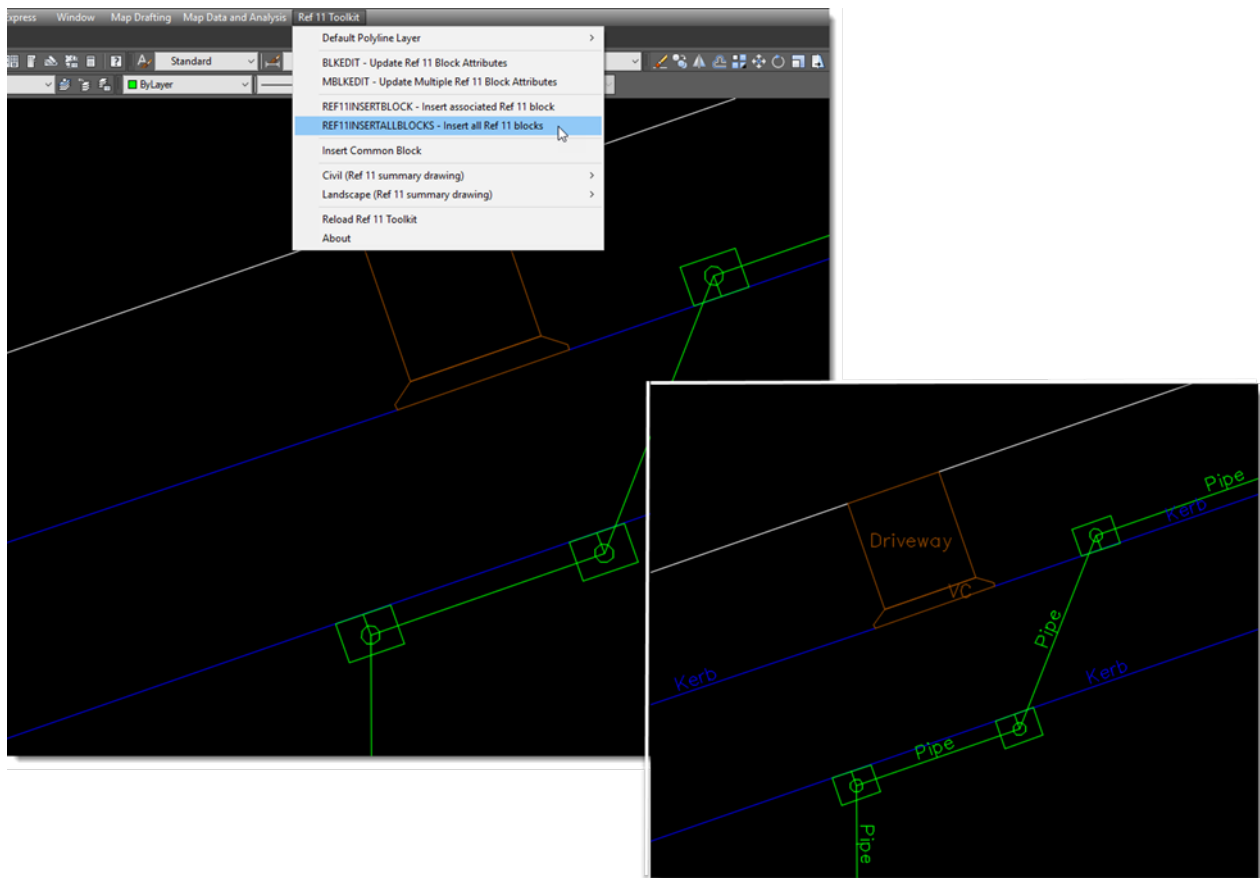
The BLKEDIT also has the functionality to update multiple blocks simultaneously.

Automated insertion of attributed blocks

The **Ref11InsertAllBlocks** function inserts Ref 11 attributed blocks onto all Ref 11 features (lines, closed polylines) that are missing associated blocks. It also moves Ref 11 blocks associated with linear features to the midpoint of a segment to comply with the Open Spatial ACDC spatial validation rules.

Where non standard blocks are on standard Ref 11 layers and do not have a related Ref 11 standard block at the same insertion point, the routine will insert the required Ref 11 attributed block at the non standard blocks insertion point. (e.g. If consultant's sump block was on the layer `acdc_SW_SUMP_NEW` and did not have a block `acdc_SW_SUMP` at the same insertion point, the routine would insert the block `acdc_SW_SUMP` at that location)

The **Ref11InsertAllBlocks** function saves user manually inserting attributed blocks for each feature from the Ref 11 Toolkit menu.



Ref 11 Toolkit - System Requirements

Operating Systems:

- Microsoft® Windows® 10 (32-bit & 64-bit)
- Microsoft Windows 8/8.1 (32-bit & 64-bit)
- Microsoft Windows 7 (32-bit & 64-bit)

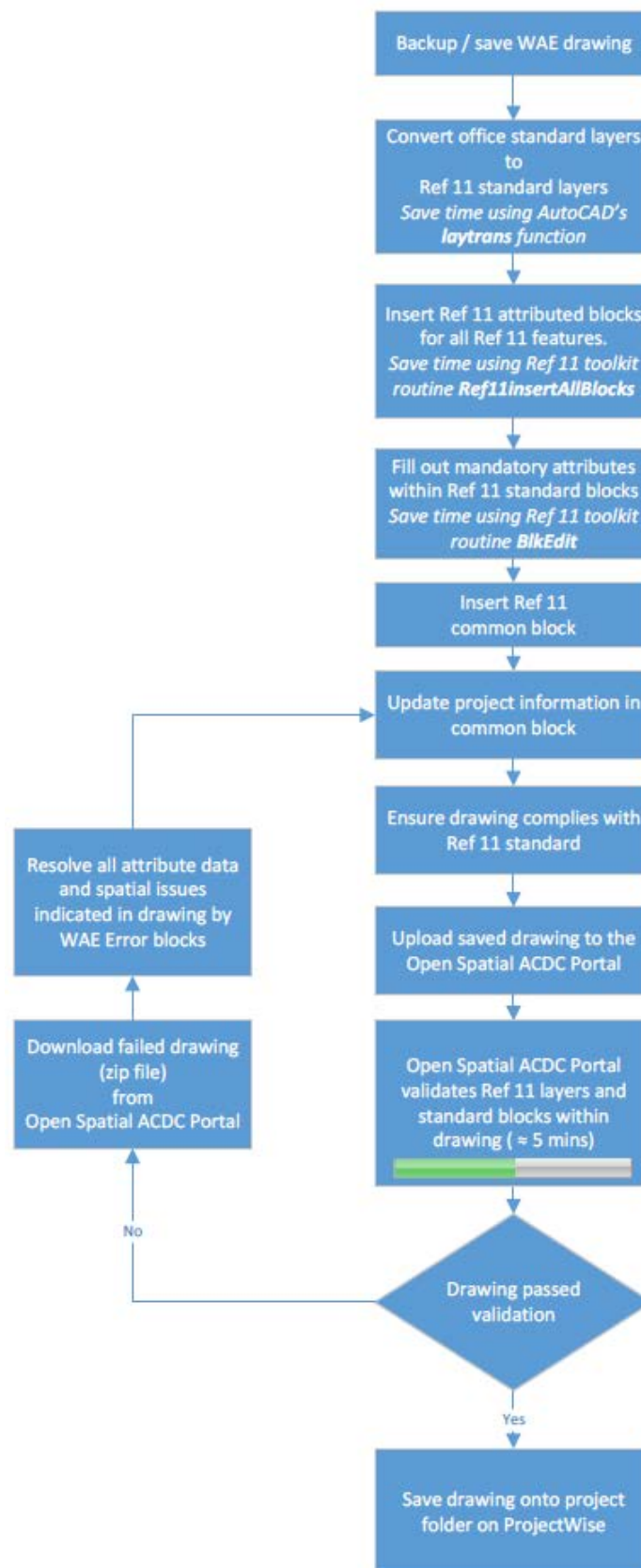
Software:

AutoCAD and its vertical products which support AutoLISP/VisualLISP Ref 11 Toolkit

Monitor Resolution:

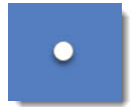
1920 x 1200 or higher recommended (for correct display of dialog boxes)

Potential Ref 11 Summary drawing workflow using the Ref 11 Toolkit



Civil Asset Specific Requirements

Bicycle Racks






Overview

Bicycle racks are represented by the **acdc_BIKE_RACK** block inserted at the centre of the feature with attribute values specifying as constructed information.

Bicycle Rack layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation

Table 1 Bicycle rack layers

Layer	Description	Linetype	Colour
acdc_BIKE_RACK_NEW	New bicycle rack	Continuous	 142
acdc_BIKE_RACK_EXG	Existing bicycle rack	Continuous	 143
acdc_BIKE_RACK_REM	Removed bicycle rack	Continuous	 Red

Bicycle rack attribute information

The bicycle rack block **acdc_BIKE_RACK** has 7 attributes. The table below lists each of these attributes and their requirements.

Table 2 Bicycle rack block acdc_BIKE_RACK attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table
STREET_NAME	Street Name	Character	200	No
BICYCLE_RACK_TYPE	Bicycle Rack Type*	Character	120	Yes LU_BRCK_RACK_TYPE
BICYCLE_RACK_MATERIAL	Material*	Character	120	Yes LU_BRCK_MATERIAL
MOUNTING	Mounting*	Character	80	Yes LU_BRCK_MOUNTING
NO_OF_BICYCLES	Bicycle Capacity*	Integer	10	No
BUS_STOP_NO	Bus Stop Number	Character	20	No
NOTES	Notes	Character	200	No

* Designates Mandatory attribute

Bicycle Rack lookup tables

Lookup tables used in the *acdc_PATH_RESTRICTION* block are listed below.

Table 3 Path restriction lookup tables

Lookup Table	Values
LU_BRCK_RACK_TYPE	STANDARD U SHAPED STANDARD HORSESHOE SHAPED STANDARD SQUARE SHAPED WITH CURVED ENDS STANDARD ROUND SHAPED STANDARD FIN SHAPED STANDARD TOOTH SHAPED THIN CIRCULAR "NO ENTRY" SHAPED MULTIPLE TWO RACKS MULTIPLE THREE RACKS MULTIPLE FOUR RACKS MULTIPLE SEVEN RACKS HUB STYLE POLE MOUNTED SEMI CIRCULAR SHAPED POLE MOUNTED CIRCULAR WALL MOUNTED
LU_BRCK_MATERIAL	STEEL CONCRETE TIMBER STEEL MESH MESH + HARDWOOD GALVANISED ALUMINIUM
LU_BRCK_MOUNTING	DIRECT BURIED INTO GROUND STEEL BOLTED INTO GROUND WALL MOUNTED

Bridges






Overview

Bridges are represented by a closed lightweight polyline signifying the deck perimeter with the *acdc_BRIDGE* block inserted inside with attribute values specifying as constructed information.

Bridge layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 4 Bridge layers

Layer	Description	Linetype	Colour
acdc_BRIDGE_NEW	New bridges	Continuous	 34
acdc_BRIDGE_EXG	Existing bridges	Continuous	 33
acdc_BRIDGE_REM	Removed bridges	Demolished	 Red

Bridge attribute information

The bridge block *acdc_BRIDGE* has 14 attributes. The table below lists each of these attributes and their requirements.

Table 5 Bridge block acdc_BRIDGE attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table
BRDG_NUMBER*	Bridge Number	Character		
BRDG_NAME	Bridge Name	Character	50	
BRDG_TYPE*	Structure Type	Character	60	Yes LU_BRIDGE_STRUCTURE_TYPE
BRDG_FUNCTION*	Structure Function	Character	50	Yes LU_BRIDGE_STRUCTURE_FUNCT
BRDG_SUPERSTRUCTURE*	Superstructure Material	Character	60	Yes LU_BRIDGE_SUPERSTRUCTURE_MAT
BRDG_SPANS*	Number of Spans	Integer		
BRDG_PIERS*	Number of Piers	Integer		
BRDG_LENGTH*	Length (m)	Real		
BRDG_WIDTH*	Width (m)	Real		
BRDG_MIN_CLEARANCE	Minimum Clearance (m)	Real		
BRDG_WEARING_SURFACE*	Wearing Surface	Character	60	Yes LU_BRIDGE_WEARING_SURFACE
BRDG_DECK_MATERIAL*	Deck Material	Character	60	Yes LU_BRIDGE_DECK_MATERIAL
BRDG_LANES*	Number of Lanes	Integer		
BRDG_FOOTPATHS*	Number of Footpaths	Integer		

* Designates Mandatory attribute

Bridge lookup tables

Lookup tables used in the *acdc_BRIDGE* block are listed below.

Table 6 Bridge lookup tables

Lookup Table	Values
LU_BRIDGE_DECK_MATERIAL	NONE BONDECK/REINFORCED CONCRETE BRIDGEWOOD FIBRE REINFORCED PLASTIC (FRP) MASONRY OR BRICK PRESTRESSED CONCRETE REINFORCED CONCRETE SELECTED BACKFILL STEEL TIMBER
LU_BRIDGE_STRUCTURE_FUNCT	ANIMAL CROSSING PEDESTRIAN BRIDGE ROAD BRIDGE
LU_BRIDGE_STRUCTURE_TYPE	ARCH BRIDGE BEBO ARCH BOX CULVERT BRIDGE CABLE STAYED BRIDGE CANTILEVER SPAN BRIDGE CLASSIC ARCH (HUMES) COMBINED PIPE BOX CULVERT CONCRETE BOX CULVERT CONCRETE PIPE CULVERT CONCRETE SLAB CULVERT - COMBINATION CULVERT FOOTBRIDGE DECK UNIT BRIDGE FOOTBRIDGE GIRDER - SIMPLY SUPPORTED GIRDER CONTINUOUS L/LEVEL CROSSING NOVA SPAN ARCH (STEEL) PIPE CULVERT POLIGONAL ARCH SLAB BRIDGE STEEL PIPE CULVERT SUSPENSION TRUSS BRIDGE TUNNEL VEHICLE TUNNEL
LU_BRIDGE_SUPERSTRUCTURE_MAT	NONE MASONRY OR BRICK POST TENSIONED CONCRETE PRESTRESSED CONCRETE REINFORCED CONCRETE STEEL TIMBER
LU_BRIDGE_WEARING_SURFACE	NONE ASPHALT BOMANITE GRAVEL MASONRY PRESTRESSED CONCRETE REINFORCED CONCRETE SPRAYED SEAL TILED TIMBER






Overview

Bus Stops are represented by a closed lightweight polyline signifying the perimeter with the **acdc_BUSSTOP** block inserted inside with attribute values specifying as constructed information.

Bus Stop layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 7 Bus Stop layers

Layer	Description	Linetype	Colour
acdc_BUSSTOP_NEW	New bus stop	Continuous	 30
acdc_BUSSTOP_EXG	Existing bus stop	Continuous	 31
acdc_BUSSTOP_REM	Removed bus stop	Continuous	 Red

Bus Stop attribute information

The bus stop block **acdc_BUSSTOP** has 17 attributes. The table below lists each of these attributes and their requirements.

Table 8 Bus Stop block acdc_BUSSTOP attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table
BSST_STOP_NUMBER	Bus Stop Number	Character	10	
BSST_SHELTER_TYPE	Shelter Type	Character	80	Yes LU_BSSTOP_SHELTER_TYPE
BSST_SHELTER_ADVERTISING	Shelter Advertising	Character	6	Yes LU_GEN_YESNO
BSST_SEAT_TYPE*	Seat Type	Character	80	Yes LU_BSSTOP_SEAT_TYPE
BSST_SEAT_FRAME_TYPE*	Seat Frame Type	Character	80	Yes LU_BSSTOP_SEAT_FRAME_T YPE
BSST_BENCH	Bench	Character	5	Yes LU_GEN_YESNO
BSST_SIGN_TYPE	Sign Type	Character	80	Yes LU_BSSTOP_SIGN_TYPE
BSST_ZONE_SIGN	Zone Sign	Character	10	Yes LU_GEN_YESNO
BSST_TIMETABLE HOLDER	Timetable Holder	Character	10	Yes LU_GEN_YESNO
BSST_SCHOOL_ONLY	School Only	Character	10	Yes LU_GEN_YESNO
BSST_INDENTED_BAY*	Indented Bay	Character	5	Yes LU_GEN_YESNO
BSST_CONCRETE_PAD*	Concrete Pad	Character	5	Yes LU_GEN_YESNO
BSST_FOOTPATH_CONNECT*	Footpath Connection	Character	5	Yes LU_GEN_YESNO
BSST_DISABLE_ACCESS*	Disability Access	Character	80	Yes LU_BSSTOP_DISABLED_ACCE SS
BSST_LUMINOUS*	Luminous Strip	Character	5	Yes LU_GEN_YESNO
BSST_BIKE_RACK*	Bike Rack	Character	5	Yes LU_GEN_YESNO
BSST_RACK_CAPACITY	Bike Rack Capacity	Integer	2	

* Designates Mandatory attribute

Bus Stop lookup tables

Lookup tables used in the *acdc_BUSSTOP* block are listed below.

Table 9 Bus Stop lookup tables

Lookup Table	Values
LU_BSSTOP_DISABLED_ACCESS	NO, DIFFICULT SITE NO, NOT ASSESSED NO, FUNCTIONAL, WITH TILES YES
LU_BSSTOP_SEAT_FRAME_TYPE	CONCRETE TIMBER FIBREGLASS METAL RECYCLED PLASTIC BRICK NO SEAT EXISTS
LU_BSSTOP_SEAT_TYPE	ALUMINIUM ARMREST RECYCLED CONCRETE FIBREGLASS KAKADU METAL STRAPS MONARO NO SEAT INSTALLED PRESSED METAL RECYCLED MATERIAL STEEL MESH TIMBER
LU_BSSTOP_SHELTER_TYPE	ADHELL ALUMINIUM/GLASS BRICK CHIPBOARD CONCRETE LEXAN MONOCONCRETE NO SHELTER - CONCRETE PAD STEEL/GLASS STEEL/MESH TIMBER
LU_BSSTOP_SIGN_TYPE	LIGHT POLE METAL POLE (BUSSTOP) TIMBER PEG UNKNOWN - NO INFORMATION IF ONE EXISTS OR NOT
LU_GEN_YESNO	YES NO

Car parks






Overview

Car parks are represented by a closed lightweight polyline signifying the perimeter with the **acdc_CARPARK** block inserted inside with attribute values specifying as constructed information.

Carpark layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 10 Carpark layers

Layer	Description	Linetype	Colour
acdc_CARPARK_NEW	New carpark	Continuous	 140
acdc_CARPARK_EXG	Existing carpark	Continuous	 147
acdc_CARPARK_REM	Removed carpark	Continuous	 Red

Carpark attribute information

The carpark block **acdc_CARPARK** has 5 attributes. The table below lists each of these attributes and their requirements.

Table 11 Carpark block acdc_CARPARK attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table
CPAK_MULTI_SINGLE*	Multi or Single Level	Character	20	Yes LU_CARPARK_TYPE
CPAK_NUMBER_LEVELS*	Number of Levels	Integer	3	
CPAK_LOCATION*	Carpark Location	Character	80	Yes LU_CARPARK_LOCATION
CPAK_GROUND_LVL_MATERIAL	Ground Level Surface	Character	50	Yes LU_CARPARK_SRFC_TYPE
CPAK_AREA	Carpark Area	Real	24.3	

* Designates Mandatory attribute

Carpark lookup tables

Lookup tables used in the **acdc_CARPARK** block are listed below.

Table 12 Carpark lookup tables

Lookup Table	Values
LU_CARPARK_LOCATION	INDENTED ON ROAD ON ROAD OFF ROAD
LU_CARPARK_SRFC_TYPE	BITUMEN BRICK PAVERS CLAY CONCRETE CONCRETE/PAVERS DIRT GRANITE GRASS GRAVEL OTHER PAVERS REINFORCED CONCRETE UNKNOWN
LU_CARPARK_TYPE	MULTI SINGLE

Driveway Features

Driveway Features – Driveways






Overview

Driveways are represented by a closed lightweight polyline signifying the perimeter with the **acdc_DRIVEWAY** block inserted inside with attribute values specifying as constructed information.

Driveway layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 13 Driveway layers

Layer	Description	Linetype	Colour
acdc_DRIVEWAY_NEW	New driveway	Continuous	 34
acdc_DRIVEWAY_EXG	Existing driveway	Continuous	 33
acdc_DRIVEWAY_REM	Removed driveway	Continuous	 Red

Driveway attribute information

The driveway block **acdc_DRIVEWAY** has 2 attributes. The table below lists each of these attributes and their requirements.

Table 14 Driveway block acdc_DRIVEWAY attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table
DWAY_AREA	Area	Real	22.3	
DWAY_SURFACE*	Driveway Surface	Character	80	Yes LU_DRIVEWAY_PATH_SRFC

* Designates Mandatory attribute

Driveway lookup tables

Lookup tables used in the **acdc_DRIVEWAY** block are listed below.

Table 15 Driveway lookup tables

Lookup Table	Values
LU_DRIVEWAY_PATH_SRFC	BITUMEN BITUMEN + CONCRETE BITUMEN + CONCRETE + PAVERS CONCRETE GRAVEL MIXTURE OF BITUMEN + PAVERS MIXTURE OF CONCRETE + PAVERS OTHER PAVERS OR CONCRETE BLOCKS UNKNOWN WOODEN (USUALLY A BRIDGE)

Driveway Features - Vehicle Crossing






Overview

Vehicle crossings are represented by a closed lightweight polyline signifying the perimeter with the **acdc_VEHICLE_CROSSING** block inserted inside with attribute values specifying as constructed information.

Vehicle Crossing layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 16 Vehicle Crossing layers

Layer	Description	Linetype	Colour
acdc_VEHICLE_CROSSING_NEW	New vehicle crossing	Continuous	 34
acdc_VEHICLE_CROSSING_EXG	Existing vehicle crossing	Continuous	 33
acdc_VEHICLE_CROSSING_REM	Removed vehicle crossing	Continuous	 Red

Vehicle Crossing attribute information

The vehicle crossing block **acdc_VEHICLE_CROSSING** has 1 attribute. The table below lists each of these attributes and their requirements.

Table 17 Vehicle Crossing block acdc_VEHICLE_CROSSING attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table
VEHC_CROSSING_SURFACE	Crossing Surface	Character	80	Yes LU_VHCL_CRSG_PATH_SRFC

* Designates Mandatory attribute

Vehicle Crossing lookup tables

Lookup tables used in the **acdc_VEHICLE_CROSSING** block are listed below.

Table 18 Vehicle Crossing lookup tables

Lookup Table	Values
LU_VHCL_CRSG_PATH_SRFC	BITUMEN BITUMEN + CONCRETE BITUMEN + CONCRETE + PAVERS CONCRETE GRAVEL MIXTURE OF BITUMEN + PAVERS MIXTURE OF CONCRETE + PAVERS OTHER PAVERS OR CONCRETE BLOCKS UNKNOWN WOODEN (USUALLY A BRIDGE)

Kerbs






Overview

Kerbs are represented by a linear feature (line, lightweight polyline) signifying the **nominal kerb line** with the **acdc_KERB** block inserted at a midpoint along one of the features segments with attribute values specifying as constructed information. Only the nominal kerb line needs to be drawn, not the lip, back and inverts of kerbs.

Kerb Layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation

Table 19 Kerb Layers

Layer	Description	Linetype	Colour
acdc_KERB_NEW	New kerb	Continuous	 green
acdc_KERB_EXG	Existing kerb	Continuous	 8
acdc_KERB_REM	Removed kerb	Continuous	 Red

Kerb attribute information

The chicane block **acdc_KERB** has 1 attribute. The table below lists each of these attributes and their requirements.

Table 20 Chicane block acdc_CHICANE attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table
KERB_TYPE*	Kerb Type	Character	20	Yes LU_KERB_TYPE

* Designates Mandatory attribute

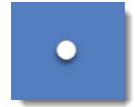
Kerb lookup tables

Lookup tables used in the **acdc_KERB** block are listed below.

Table 21 Kerb lookup tables

Lookup Table	Values
LU_KERB_TYPE	BKG
	BKO
	CK
	EMK
	EMKG
	FK
	K4A
	KG
	KO
	LBK
	MK
MKG	
MLBK	
MS	
OCI	
ROCI	
TBK	
TMK	

Path Restrictions






Overview

Path restrictions are represented by the **acdc_PATH_RESTRICTION** block inserted at the centre of the feature with attribute values specifying as constructed information.

Path Restriction layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation

Table 22 Path restriction layers

Layer	Description	Linetype	Colour
acdc_PATH_RESTRICTION_NEW	New path restriction	Continuous	 140
acdc_PATH_RESTRICTION_EXG	Existing path restriction	Continuous	 147
acdc_PATH_RESTRICTION_REM	Removed path restriction	Continuous	 Red

Path Restriction attribute information

The path restriction block **acdc_PATH_RESTRICTION** has 1 attribute. The table below lists each of these attributes and their requirements.

Table 23 Path restriction block acdc_PATH_RESTRICTION attributes

Block Attribute	Attribute Label	Data Type	Max Length	Yes	Lookup Table
PARE_TYPE	Restriction Type	Character	50	Yes	LU_PARE_TYPE

* Designates Mandatory attribute

Path Restriction lookup tables

Lookup tables used in the **acdc_PATH_RESTRICTION** block are listed below.

Table 24 Path restriction lookup tables

Lookup Table	Values
LU_PARE_TYPE	SEPARATE ENTRY AND EXIT BOLLARD OFFSET PATH HOLDING RAIL DEFLECTION RAILS STAGGERED FENCE TREATMENT

Path Centrelines






Overview

Path centrelines are represented by a linear feature (line, lightweight polyline) with the **acdc_PATH** block inserted at a midpoint along one of the features segments with attribute values specifying as constructed information.

Path centreline layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 25 Path centreline layers

Layer	Description	Linetype	Colour
acdc_PATH_CL_NEW	New path centreline	Continuous	 7
acdc_PATH_CL_EXG	Existing path centreline	Continuous	 7
acdc_PATH_CL_REM	Removed path centreline	Continuous	 Red

Path centreline attribute information

The path centreline block **acdc_PATH** has 3 attributes. The table below lists each of these attributes and their requirements.

Table 26 Path centreline block acdc_PATH attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table	
COPA_TYPE	Path Type	Character	50	Yes	LU_PATH_TYPE
COPA_SURFACE*	Path Surface	Character	50	Yes	LU_PATH_SRFC
COPA_WIDTH	Average Width	Real	6.2		

* Designates Mandatory attribute

Path centreline lookup tables

Lookup tables used in the *acdc_PATH* block are listed below.

Table 27 Path centreline lookup tables

Lookup Table	Values
LU_PATH_TYPE	COMMUNITY FOOTPATH COMMUNITY CYCLEPATH CONCRETE ISLAND PATH INTERSECTION SHOPPING PAVEMENT
LU_PATH_SRFC	BITUMEN BITUMEN + CONCRETE BITUMEN + CONCRETE + PAVERS CONCRETE GRAVEL MIXTURE OF BITUMEN + PAVERS MIXTURE OF CONCRETE + PAVERS OTHER PAVERS OR CONCRETE BLOCKS UNKNOWN WOODEN (USUALLY A BRIDGE)

Path Edges






Overview

Path edges are represented by a linear feature (line, lightweight polyline) and does not require an attributed block.

Path Edge Layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 28 Path Edge Layers

Layer	Description	Linetype	Colour
acdc_PATH_EDGE_NEW	New path edge	Continuous	 140
acdc_PATH_EDGE_EXG	Existing path edge	Continuous	 8
acdc_PATH_EDGE_REM	Removed path edge	Continuous	 Red

Paved Areas






Overview

Paved areas are represented by a closed lightweight polyline signifying the perimeter with the **acdc_PAVEMENT** block inserted inside with attribute values specifying as constructed information.

Paved Area layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 29 Paved Area layers

Layer	Description	Linetype	Colour
acdc_PAVED_AREA_NEW	New paved area	Continuous	 140
acdc_PAVED_AREA_EXG	Existing paved area	Continuous	 147
acdc_PAVED_AREA_REM	Removed paved area	Continuous	 Red

Paved Area attribute information

The paved area block **acdc_PAVEMENT** has 4 attributes. The table below lists each of these attributes and their requirements.

Table 30 Paved Area block acdc_PAVEMENT attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table
PAVE_AREA*	Area	Real	18.2	
PAVE_TYPE	Path Type	Character	50	Yes LU_PAVEMENT_TYPE
PAVE_SURFACE	Path Surface	Character	50	Yes LU_PAVEMENT_SRFC
PAVE_NOTES	Notes	Character	50	

* Designates Mandatory attribute

Paved Area lookup tables

Lookup tables used in the **acdc_PAVEMENT** block are listed below.

Table 31 Paved Area lookup tables

Lookup Table	Values
LU_PAVEMENT_TYPE	COMMUNITY CYCLEPATH COMMUNITY FOOTPATH CONCRETE ISLAND PATH INTERSECTION SHOPPING PAVEMENT
LU_PAVEMENT_SRFC	BITUMEN BITUMEN + CONCRETE BITUMEN + CONCRETE + PAVERS CONCRETE GRAVEL MIXTURE OF BITUMEN + PAVERS MIXTURE OF CONCRETE + PAVERS OTHER PAVERS OR CONCRETE BLOCKS UNKNOWN WOODEN (USUALLY A BRIDGE)

Pram Crossings






Overview

Pram crossings are represented by a closed lightweight polyline signifying the perimeter with the **acdc_PRAM_CROSSING** block inserted inside with attribute values specifying as constructed information.

Pram Crossing layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation

Table 32 Pram Crossing layers

Layer	Description	Linetype	Colour
acdc_PRAM_CROSSING_NEW	New pram crossing	Continuous	 140
acdc_PRAM_CROSSING_EXG	Existing pram crossing	Continuous	 147
acdc_PRAM_CROSSING_REM	Removed pram crossing	Continuous	 Red

Pram Crossing attribute information

The pram crossing block **acdc_PRAM_CROSSING** has 3 attributes. The table below lists each of these attributes and their requirements.

Table 33 Pram Crossing block acdc_PRAM_CROSSING attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table
PRCR_SURFACE	Path Surface	Character	80	Yes LU_PRAM_CRSSNG_SRFC
PRCR_WIDTH	Width	Real	5.3	
PRCR_CROSSING_STEEPNESS	Pram Crossing Steepness	Character	80	Yes LU_PRAM_CRSSNG_STEEPNE SS

* Designates Mandatory attribute

Pram Crossing lookup tables

Lookup tables used in the *acdc_PRAM_CROSSING* block are listed below.

Table 34 Pram Crossing lookup tables

Lookup Table	Values
LU_PRAM_CRSSNG_SRFC	BITUMEN BITUMEN + CONCRETE BITUMEN + CONCRETE + PAVERS CONCRETE GRAVEL MIXTURE OF BITUMEN + PAVERS MIXTURE OF CONCRETE + PAVERS OTHER PAVERS OR CONCRETE BLOCKS UNKNOWN WOODEN (USUALLY A BRIDGE)
LU_PRAM_CRSSNG_STEEPNESS	LIPPED, OLDER, LIP AT BASE N/A NEED TO CONSTRUCT PRAM CROSSING NORMAL, NO LIP, GENTLE TRANSITION PRAM CROSSING NOT AUDITED STEEP, WITH/WITHOUT LIP

Road Features

Road Pavements






Overview

Road pavements are represented by a closed lightweight polyline signifying the perimeter with the **acdc_ROAD_PAVEMENT** block inserted inside with attribute values specifying as constructed information.

Road Pavement Layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 35 Road Pavement Layers

Layer	Description	Linetype	Colour
acdc_ROAD_PAVEMENT_NEW	New road pavement	Continuous	 green
acdc_ROAD_PAVEMENT_EXG	Existing road pavement	Continuous	 8
acdc_ROAD_PAVEMENT_REM	Removed road pavement	Continuous	 Red

Road Pavement attribute information

The road pavement block **acdc_ROAD_PAVEMENT** has 16 attributes. The table below lists each of these attributes and their requirements.

Table 36 Road Pavement block acdc_ROAD_PAVEMENT attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table
RDPAVE_CLASS	Road Class	Character	80	Yes LU_RDPAVE_RDCLASS
RDPAVE_ESAM*	ESAM	Character	20	
RDPAVE_CBR*	Design CBR	Character	20	
RDPAVE_WEARING_COURSE*	Wearing Course	Character	80	
RDPAVE_WC_DEPTH	Wearing Course Depth	Character	20	
RDPAVE_FINISH	Wearing Course Finish	Character	120	
RDPAVE_PATTERN	Wearing Course Pattern	Character	120	
RDPAVE_COLOUR	Pavement Colour	Character	120	
RDPAVE_REO	Reinforcement	Character	80	
RDPAVE_PRIME	Prime	Character	10	
RDPAVE_LAYER2	Layer 2	Character	80	
RDPAVE_LAYER2DEPTH	Layer 2 Depth	Integer	10	
RDPAVE_LAYER3	Layer 3	Character	120	
RDPAVE_LAYER3DEPTH	Layer 3 Depth	Integer	10	
RDPAVE_LAYER4	Layer 4	Character	80	
RDPAVE_LAYER4DEPTH	Layer 4 Depth	Integer	10	

* Designates Mandatory attribute

Road Pavement lookup tables

Lookup tables used in the *acdc_ROAD_PAVEMENT* block are listed below.

Table 37 Road Pavement lookup tables

Lookup Table	Values
LU_RDPAVE_RDCLASS	ACCESS ST A ACCESS ST B ARTERIAL DEEP LIFT INTERSECTION THRESHOLD TREATMENT MAJOR COLLECTOR MINOR COLLECTOR PARKWAY SUB-ARTERIAL

Pedestrian Crossings






Overview

Pedestrian crossings are represented by a closed lightweight polyline signifying the perimeter with the **acdc_PEDESTRIAN_CROSSING** block inserted inside with attribute values specifying as constructed information.

Pedestrian Crossing layers

The table below displays the standard layers for pedestrian crossing features.

Table 38 Pedestrian Crossing layers

Layer	Description	Linetype	Colour
acdc_PEDESTRIAN_CROSSING_NEW	New pedestrian crossing	Continuous	 34
acdc_PEDESTRIAN_CROSSING_EXG	Existing pedestrian crossing	Continuous	 8
acdc_PEDESTRIAN_CROSSING_REM	Removed pedestrian crossing	Continuous	 Red

Pedestrian Crossing attribute information

The pedestrian crossing block **acdc_PEDESTRIAN_CROSSING** has 6 attributes. The table below lists each of these attributes and their requirements.

Table 39 Pedestrian Crossing block acdc_PEDESTRIAN_CROSSING attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table	
PDCR_TYPE*	Crossing Type	Character	80	Yes	LU_PED_CRSSNG_TYPE
PDCR_NEAREST_ADDRESS	Nearest House Address	Character	100		
PDCR_SCHOOL	School Near Crossing Name	Character	80	Yes	LU_PED_CRSSNG_SCHOOL_NEAR
PDCR_SCHOOL_2	School Near Crossing Name 2	Character	80	Yes	LU_PED_CRSSNG_SCHOOL_NEAR
PDCR_LIGHTING*	High Intensity Lighting	Character	5	Yes	LU_GEN_YESNO
PDCR_FLASHING_LIGHTS*	Flashing Lights	Character	5	Yes	LU_GEN_YESNO

* Designates Mandatory attribute

Pedestrian Crossing lookup tables

Lookup tables used in the *acdc_PEDESTRIAN_CROSSING* block are listed below.

Table 40 Pedestrian Crossing lookup tables

Lookup Table	Values
LU_GEN_YESNO	YES NO
LU_PED_CRSSNG_TYPE	PEDESTRIAN - ACTUATED SCHOOL CROSSING UNKNOWN WOMBAT CROSSING (RAISED PLATFORM) ZEBRA CROSSING
LU_PED_CRSSNG_SCHOOL_NEAR	AINSLIE PRIMARY ALFRED DEAKIN HIGH AMAROO HIGH AMAROO PRIMARY ARANDA PRIMARY ARAWANG PRIMARY BELCONNEN HIGH BONYTHON HIGH BONYTHON PRE SCHOOL BRINDABELLA CHRISTIAN SCHOOL BURGMANN ANGLICAN FORDE CAMPUS BURGMANN ANGLICAN SCHOOL C OF E GIRLS JUNIOR CALWELL HIGH CALWELL PRESCHOOL CALWELL PRIMARY CAMPBELL HIGH CAMPBELL PRESCHOOL CAMPBELL PRIMARY CANBERRA COLLEGE CANBERRA GIRLS GRAMMAR JUNIOR CANBERRA GRAMMAR NORTHSIDE CANBERRA HIGH CAROLINE CHISHOLM HIGH CHAPMAN PRESCHOOL CHAPMAN PRIMARY CHARLES CONDER CHARNWOOD PRIMARY CHISHOLM PRIMARY

Lookup Table	Values
	CONDER PRESCHOOL
	COOK PRESCHOOL
	COOK PRIMARY
	COOMBS PRIMARY SCHOOL
	COPLAND COLLEGE
	CRANLEIGH SPECIAL
	CURTIN PRIMARY
	DARAMALAN
	DICKSON COLLEGE
	DUFFY PRIMARY
	EMMAUS CHRISTIAN SCHOOL
	ERINDALE COLLEGE
	EVATT PRIMARY
	FADDEN PRIMARY
	FARRER PRIMARY
	FLOREY PRIMARY
	FLYNN PRIMARY
	FORREST PRIMARY
	FRANKLIN EARLY CHILDHOOD SCH
	FRASER PRIMARY
	GARRAN PRIMARY
	GINNINDERRA HIGH
	GOLD CREEK PRIMARY
	GOLD CREEK SENIOR
	GOOD SHEPHERD CATHOLIC PRIMARY
	GORDON PRESCHOOL
	GORDON PRIMARY
	GOWRIE PRIMARY
	GUNGAHLIN COLLEGE
	GUNGAHLIN PRIMARY
	HACKETT PRESCHOOL
	HALL PRIMARY
	HARRISON SCHOOL
	HAWKER COLLEGE
	HAWKER PRIMARY
	HIGGINS PRIMARY
	HOLT PRIMARY
	HOLY SPIRIT PRIMARY
	HOLY TRINITY

Lookup Table	Values
	HUGHES PRIMARY
	ISABELLA PLAINS PRIMARY
	ISLAMIC SCHOOL OF CANBERRA
	JERRABOMBERRA PRIMARY
	JOHN PAUL COLLEGE
	KALEEN HIGH
	KALEEN PRIMARY
	KAMBAH HIGH
	KARABAR HIGH
	KINGSFORD SMITH SCHOOL
	KOOMARI SCHOOL
	LAKE GINNINDERRA
	LAKE GINNINDERRA COLLEGE
	LAKE TUGGERANONG COLLEGE
	LANYON HIGH SCHOOL
	LATHAM PRIMARY
	LYNEHAM HIGH
	LYNEHAM PRIMARY
	LYONS PRIMARY
	MACGREGOR PRIMARY
	MACKILLOP COLLEGE (ISABELLA)
	MACKILLOP COLLEGE (WANNIASSA)
	MACQUARIE PRIMARY
	MAJURA PRIMARY
	MALKARA SCHOOL
	MARIBYRNONG PRESCHOOL
	MARIBYRNONG PRIMARY
	MARIST COLLEGE
	MAWSON PRIMARY
	MELBA HIGH
	MELROSE HIGH
	MELROSE PRIMARY SCHOOL
	MERICI COLLEGE
	MILES FRANKLIN PRESCHOOL
	MILES FRANKLIN PRIMARY
	MONASH PRIMARY
	MOTHER THERESA PRIMARY
	MT NEIGHBOUR PRIMARY
	MT ROGERS COMMUNITY

Lookup Table	Values
	NAMADGI SCHOOL
	NARRABUNDAH COLLEGE
	NARRABUNDAH PRIMARY
	NGUNNAWAL PRIMARY
	NICHOLLS PRIMARY
	NORTHSIDE INFANT SCHOOL
	NTH AINSLIE PRIMARY
	O"CONNOR COOPERATIVE PRESCHOOL
	ORANA SCHOOL
	PALMERSTON PRESCHOOL
	PALMERSTON PRIMARY
	RADFORD
	RED HILL PRIMARY
	REID PRESCHOOL
	RICHARDSON PRIMARY
	RIVETT PRIMARY
	ROSARY PRIMARY SCHOOL
	SACRED HEART PRIMARY SCHOOL
	SOUTHERN CROSS
	ST ANTHONYS
	ST BENEDICTS
	ST CLARE OF ASSISI
	ST CLARES COLLEGE
	ST EDMUNDS COLLEGE
	ST FRANCIS OF ASSISI
	ST FRANCIS XAVIER
	ST JOHN THE APOSTLE
	ST JOSEPHS
	ST JUDES PRIMARY
	ST MATTHEWS PRIMARY
	ST MICHAEL"S
	ST PETER + PAULS
	ST THOMAS AQUINAS
	ST THOMAS MORES
	ST THOMAS THE APOSTLE
	ST VINCENTS
	STROMLO HIGH
	TAYLOR PRIMARY
	TELOPEA PARK

Lookup Table	Values
	THARWA PRIMARY
	THE COOPERATIVE
	THE WODEN SCHOOL
	THEODORE PRIMARY
	TORRENS PRIMARY
	TURNER PRESCHOOL
	TURNER PRIMARY
	UNITY COLLEGE
	URAMBI PRIMARY
	VILLAGE CREEK
	WANNIASSA HILLS PRIMARY
	WANNIASSA JUNIOR CAMPUS
	WANNIASSA SENIOR CAMPUS
	WEETANGERA PRIMARY
	WESTON PRESCHOOL
	WESTON PRIMARY
	YARRALUMLA PRIMARY

Road Centrelines






Overview

Road centrelines are represented by a linear feature (line, lightweight polyline) with the **acdc_ROAD_CL** block inserted at a midpoint along one of the features segments with attribute values specifying as constructed information.

Road Centreline layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 41 Road Centreline layers

Layer	Description	Linetype	Colour
acdc_ROAD_CL_NEW	New road centreline	Continuous	 7
acdc_ROAD_CL_EXG	Existing road centreline	Continuous	 8
acdc_ROAD_CL_REM	Removed road centreline	Continuous	 Red

Road Centreline attribute information

The road centreline block **acdc_ROAD_CL** has 2 attributes. The table below lists each of these attributes and their requirements.

Table 42 Road Centreline block acdc_ROAD_CL attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table
RNC_CREATE_DATE	Create Date	Date		
RNC_ROAD_NAME*	Road Name	Character	100	

* Designates Mandatory attribute

Road Barriers






Overview

Road barriers are represented by a linear feature (line, lightweight polyline) signifying the nominal barrier line with the **acdc_BARRIER** block inserted at a midpoint along one of the features segments with attribute values specifying as constructed information.

Road barrier layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 43 Barbeque layers

Layer	Description	Linetype	Colour
acdc_BARRIER_NEW	New road barrier	Continuous	 140
acdc_BARRIER_EXG	Existing road barrier	Continuous	 133
acdc_BARRIER_REM	Removed road barrier	Demolished	 Red

Road barrier attribute information

The road barrier block **acdc_BARRIER** has 6 attributes. The table below lists each of these attributes and their requirements.

Table 44 Road Barrier block acdc_BARRIER attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table
BARR_HEIGHT	Barrier Height	Real		
BARR_LENGTH	Barrier Length	Real		
BARR_TYPE*	Barrier Type	Character	80	Yes LU_BARRIER_TYPE
BARR_APPROACH_TERMINAL	Approach Terminal Type	Character	80	Yes LU_BARRIER_APPROACH_TERM_TYPE
BARR_DEPART_TERMINAL	Departure Terminal Type	Character	80	Yes LU_BARRIER_TERMINAL_TYPE
BARR_RAIL_LENGTH	Bridge Rail Length	Real		

* Designates Mandatory attribute

Road barrier lookup tables

Table 45 Road Barrier lookup tables

Lookup Table	Values
LU_BARRIER_TYPE	CABLE GUARDRAIL (IE BRIFFEN WIRE ROPE) BARRIER CONCRETE BARRIERS CORRUGATED METAL GUARDRAIL (W BEAM AND THRIE BEAM) OTHERS
LU_BARRIER_APPROACH_TERM_TYPE	4 ROPE ANCHOR BLOCK BREAKAWAY CABLE TERMINAL CONNECTS TO OTHER BARRIER OR STRUCTURE ET2000 FISHTAIL FLARED ENERGY ABSORBING TERMINAL LAUNCHING RAMP MELT NON-RIGID THRIE BEAM APPROACH TERMINAL FIXED WITH BRIDGE RAILING NON-RIGID THRIE BEAM APPROACH TERMINAL FIXED WITH RIGID CONCRETE BARRIER NON-RIGID W BEAM APPROACH TERMINAL FIXED WITH RIGID CONCRETE BARRIER NON-RIGID W BEAM FIXED WITH NON-RIGID BRIDGE BARRIER NON-RIGID W-BEAM FIXED WITH NON-RIGID BRIDGE BARRIER OMNI QUAD GUARD CUSHION QUAD GUARD ELITE QUAD GUARD WIRE REACT350 RIGID VEHICLE BARRIER TERMINAL ROPE ANCHOR BLOCK SEQUENTIAL KINKING TERMINAL TAUII TRACC
LU_BARRIER_TERMINAL_TYPE	4 ROPE ANCHOR BLOCK BREAKAWAY CABLE TERMINAL CONNECTS TO OTHER BARRIER OR STRUCTURE ET2000 FISHTAIL FLARED ENERGY ABSORBING TERMINAL LAUNCHING RAMP MELT NON-RIGID THRIE BEAM APPROACH TERMINAL FIXED WITH BRIDGE RAILING NON-RIGID THRIE BEAM APPROACH TERMINAL FIXED WITH RIGID CONCRETE BARRIER NON-RIGID THRIE BEAM DEPARTURE TERMINAL FIXED WITH BRIDGE RAILING NON-RIGID THRIE BEAM DEPARTURE TERMINAL FIXED WITH RIGID CONCRETE BARRIER NON-RIGID W BEAM APPROACH TERMINAL FIXED WITH RIGID CONCRETE BARRIER NON-RIGID W BEAM DEPARTURE TERMINAL FIXED WITH RIGID CONCRETE BARRIER NON-RIGID W BEAM FIXED WITH NON-RIGID BRIDGE BARRIER NON-RIGID W-BEAM FIXED WITH NON-RIGID BRIDGE BARRIER OMNI

Lookup Table	Values
	QUAD GUARD CUSHION QUAD GUARD ELITE QUAD GUARD WIRE REACT350 RIGID VEHICLE BARRIER TERMINAL ROPE ANCHOR BLOCK SEQUENTIAL KINKING TERMINAL TAUII TRACC

Signalized Intersections






Overview

Signalized intersections are represented by the **acdc_SIGNALIZED_INTERSECTION** block inserted at the centre of the feature with attribute values specifying as constructed information.

Signalized Intersection layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 46 Signalized intersection layers

Layer	Description	Linetype	Colour
acdc_SIGNALIZED_INTERSECTION_NEW	New signalized intersection	Continuous	 8
acdc_SIGNALIZED_INTERSECTION_EXG	Existing signalized intersection	Continuous	 140
acdc_SIGNALIZED_INTERSECTION_REM	Removed signalized intersection	Continuous	 Red

Signalized Intersection attribute information

The signalized intersection block **acdc_SIGNALIZED_INTERSECTION** has 11 attributes. The table below lists each of these attributes and their requirements.

Table 47 Signalized intersection block acdc_SIGNALIZED_INTERSECTION attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table
TSSI_REGION	Region	Character	50	Yes LU_TRAFFIC_CNTRL_REGION
TSSI_SIGNAL_TYPE	Signal Type	Character	50	Yes LU_TRAFFIC_CNTRL_SIGNAL_TYPE
TSSI_FIXED_SIGNAL	Fixed Signal	Character	5	Yes LU_GEN_YESNO
TSSI_SITE_NUMBER	Site Number	Character	10	
TSSI_COMMISSIONING_DATE	Commissioning Date	Date		
TSSI_LATEST_REPLACEMENT_DATE	Latest Replacement Date	Date		
TSSI_CONNECTION_DATE	Connection Date	Date		
TSSI_LINE_NUMBER	Telecom Line Number	Character	80	
TSSI_CONNECTION_NUMBER	Krone Connection Number	Character	10	
TSSI_SLOT_CONNECTION	Slot Connection number	Character	10	
TSSI_MODIFICATION_DATE	Signal Modification Date	Date		

* Designates Mandatory attribute

Signalized Intersection lookup tables

Lookup tables used in the **acdc_SIGNALIZED_INTERSECTION** block are listed below.

Table 48 Signalized intersection lookup tables

Lookup Table	Values
LU_TRAFFIC_CNTRL_REGION	BELCONNEN CITY GUNGAHLIN WODEN
LU_TRAFFIC_CNTRL_SIG_TYPE	CROSS PART TIME PEDESTRIAN TEE
LU_GEN_YESNO	YES NO

Stormwater Features

Culverts



Note:

Municipal standards for stormwater assets are being reviewed by Roads ACT. The stormwater blocks and attribute information will be updated following this review. New infrastructure types such as stormwater quality improvement devices will be incorporated as part of this updated standard.




Overview

Culverts are represented by a linear feature (line, lightweight polyline) signifying the centreline with the **acdc_SW_CULVERT** block inserted at a midpoint along one of the features segments with attribute values specifying as constructed information.

Culvert layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 49 Culvert layers

Layer	Description	Linetype	Colour
acdc_SW_BOX_CULVERT_NEW	New culvert	Continuous	 94
acdc_SW_BOX_CULVERT_EXG	Existing culvert	Continuous	 63
acdc_SW_BOX_CULVERT_REM	Removed culvert	Continuous	 Red

Culvert attribute information

The culvert block **acdc_SW_CULVERT** has 10 attributes. The table below lists each of these attributes and their requirements.

Table 50 Culvert block acdc_SW_CULVERT attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table	
CUL_LENGTH	WAE Derived Length	Real	11.2		
CUL_GRADE	Grade	Real	7.2		
CUL_UP_INVERT	Up Invert	Real	11.2		
CUL_DOWN_INVERT	Down Invert	Real	11.2		
CUL_NUM_CELLS	Number Cells	Integer	11		
CUL_SHAPE	Culvert Shape	Character	80	Yes	LU_CULVERT_SHP
CUL_YEAR_INSTALLED	Year Installed	Integer	4		
CUL_MATERIAL	Culvert Material	Character	80	Yes	LU_CULVERT_MATRL
CUL_WIDTH	Width	Real	11.2		
CUL_HEIGHT	Height	Real	11.2		

* Designates Mandatory attribute

Culvert lookup tables

Lookup tables used in the **acdc_SW_CULVERT** block are listed below.

Table 51 Culvert lookup tables

Lookup Table	Values
LU_CULVERT_SHP	BOX CULVERT WITH HEAD END WALL BOX CULVERT WITH SURCHARGE SUMP AND GPT END CIRCULAR CULVERT LINKED TO HEAD AND END WALL CIRCULAR CULVERT LINKED TO SUMP AND END WALL CORRUGATED GALVANISED STEEL MULTI PLATE ARCH CORRUGATED GALVANISED STEEL MULTI PLATE HORSESHOE ARCH CORRUGATED GALVANISED STEEL MULTI PLATE PIPE CORRUGATED GALVANISED STEEL MULTI PLATE PIPE ARCH PRECAST CONCRETE BEBO ARCH PRECAST CONCRETE CROWN AND BASE BOX CULVERT PRECAST CONCRETE CULVERT LINK WITH RC HEAD END WALL PRECAST CONCRETE INVERTED AND LID BOX CULVERT PRECAST CONCRETE LINK SLAB BOX CULVERT REINFORCED CONCRETE CAST INSITU BOX CULVERT
LU_CULVERT_MATRL	PRECAST CONCRETE PRECAST/REINFORCED CONCRETE REINFORCED CONCRETE REINFORCED CONCRETE/REINFORCED CONCRETE BL WALL SULFATE RESISTING CEMENT (SRC)

Stormwater Branch Connections

Note:

Municipal standards for stormwater assets are being reviewed by Roads ACT. The stormwater blocks and attribute information will be updated following this review. New infrastructure types such as stormwater quality improvement devices will be incorporated as part of this updated standard.






Overview

Stormwater branches are represented by the **acdc_SW_BRANCH** block inserted at the centre of the feature with attribute values specifying as constructed information.

Stormwater Branch layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 52 Stormwater Branch layers

Layer	Description	Linetype	Colour
acdc_SW_BRANCH_NEW	New branch	Continuous	 94
acdc_SW_BRANCH_EXG	Existing branch	Continuous	 90
acdc_SW_BRANCH_REM	Removed branch	Continuous	 Red

Stormwater Branch attribute information

The branch block **acdc_SW_BRANCH** has 3 attributes. The table below lists each of these attributes and their requirements.

Table 53 Stormwater Branch block acdc_SW_BRANCH attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table
BRANCH_SURFACE_LEVEL*	Surface Level	Real	10.3	
BRANCH_INVERT_LEVEL*	Invert Level	Real	10.3	
BRANCH_DEPTH*	Depth	Real	10.3	

* Designates Mandatory attribute

Catch Drains

Note:

Municipal standards for stormwater assets are being reviewed by Roads ACT. The stormwater blocks and attribute information will be updated following this review. New infrastructure types such as stormwater quality improvement devices will be incorporated as part of this updated standard.






Overview

Catch drains are represented by a linear feature (line, lightweight polyline) signifying the centreline with the *acdc_SW_CATCHDRAIN* block inserted at a midpoint along one of the features segments with attribute values specifying as constructed information.

Stormwater Catch Drain layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 54 Stormwater Catch Drain layers

Layer	Description	Linetype	Colour
acdc_SW_CATCHDRAIN_NEW	New stormwater catch drain	Continuous	 90
acdc_SW_CATCHDRAIN_EXG	Existing stormwater catch drain	Continuous	 94
acdc_SW_CATCHDRAIN_REM	Removed stormwater catch drain	Continuous	 Red

Stormwater Catch Drain attribute information

The stormwater catch drain block *acdc_SW_CATCHDRAIN* has 11 attributes. The table below lists each of these attributes and their requirements.

Table 55 Stormwater Catch Drain block *acdc_SW_CATCHDRAIN* attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table	
DRN_CHANNEL_MATERIAL	Channel Material	Character	80	Yes	LU_DRAIN_MATRL
DRN_RESERVE_MATERIAL	Reserve Material	Character	80	Yes	LU_DRAIN_MATRL
DRN_LENGTH	WAE Derived Length	Real	11.3		
DRN_GRADE	Grade	Real	7.2		
DRN_UP_INVERT	Up Invert	Real	11.2		
DRN_DOWN_INVERT	Down Invert	Real	11.2		
DRN_CHANNEL_SHAPE	Channel Shape	Character	80	Yes	LU_DRAIN_CHANNEL_SHP
DRN_BASE_WIDTH	Base Width	Real	11.2		
DRN_TOP_WIDTH	Top Width	Real	11.2		
DRN_DEPTH	Depth	Real	11.2		
DRN_NAME	Name	Character	80		

* Designates Mandatory attribute

Stormwater Catch Drain lookup tables

Lookup tables used in the **acdc_SW_CATCHDRAIN** block are listed below.

Table 56 Stormwater Catch Drain lookup tables

Lookup Table	Values
LU_DRAIN_MATRL	COMPOSITE - REINFORCED CONCRETE + EARTH FILL EMBANKMENT COMPOSITE - REINFORCED CONCRETE + ZONED EARTH FILL EMBANKMENT CORRUGATED GALVANISED STEEL CORRUGATED STEEL DUCTILE IRON CEMENT LINED EARTH C/F EMBANK & CEMENT MORTAR EARTH FILL EMBANKMENT ENKAMAT FIBRE REINFORCED CEMENT PIPES GABION STONE BASKET GLASS REINFORCED PLASTIC GRASS GRASS & MATTRESS GRASS WITH JUTE MESH GRASS WITH LOW FLOW PIPE GRASS WITH OPEN CONCRETE INVERT GRASS WITH REINFORCED CONCRETE INVERT GROUT MAT HIFLO HIGH DENSITY POLYETHLENE HOTMIX BITUMEN HOTMIX BITUMEN BASE WITH REINFORCED CONCRETE BLOCK WALL HYDROCON PERMEABLE PIPE LANDSCAPING TREES + SCRUBS MATTRESS NO END WALL OPEN CONCRETE INVERT ORGANIC FIBRE MAT GENERALLY SPRAYED WITH BITUMEN EMULSION OTHER PRECAST CONCRETE PRECAST REINFORCED CONCRETE REINFORCED CONCRETE REINFORCED CONCRETE ARCH REINFORCED CONCRETE GRAVITY REINFORCED CONCRETE INVERT REINFORCED CONCRETE INVERT LEVEL WITH STONE PITCHED WALL REINFORCED CONCRETE WITH GROUT MAT REINFORCED CONCRETE WITH REINFORCED CONCRETE BLOCK WALL ROCK FILL EMBANKMENT ROCK MATTRESS ROLLER COMPACTED CONCRETE GRAVITY SANDBAGS STEEL REINFORCED CONCRETE PIPES

Lookup Table	Values
	STONE PITCHED WITH MORTAR POINTING STONE PITCHED WITH REINFORCED CONCRETE BASE + POINTING STONE PITCHING ON A CONCRETE BASE STONE PITCHING WITH CEMENT MORTAR UNKNOWN UNLINED (ROCK) UNPLASTICISED POLYVINYL CHLORIDE PIPES VITRIFIED CLAY PIPES
LU_DRAIN_CHANNEL_SHP	RECTANGULAR SEMI CIRCLE TRAPEZOIDAL TRIANGULAR U SHAPE DRAIN

Dam Walls



Note:

Municipal standards for stormwater assets are being reviewed by Roads ACT. The stormwater blocks and attribute information will be updated following this review. New infrastructure types such as stormwater quality improvement devices will be incorporated as part of this updated standard.




Overview

Dam walls are represented by a linear feature (line, lightweight polyline) signifying the centreline with the **acdc_SW_DAM_WALL** block inserted at a midpoint along one of the features segments with attribute values specifying as constructed information.

Stormwater Dam Wall layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 57 Stormwater Dam Wall layers

Layer	Description	Linetype	Colour
acdc_SW_DAM_WALL_NEW	New stormwater dam wall	Continuous	 94
acdc_SW_DAM_WALL_EXG	Existing stormwater dam wall	Continuous	 8
acdc_SW_DAM_WALL_REM	Removed stormwater dam wall	Continuous	 Red

Stormwater Dam Wall attribute information

The stormwater dam block **acdc_SW_DAM_WALL** has 4 attributes. The table below lists each of these attributes and their requirements.

Table 58 Stormwater Dam block acdc_SW_DAM_WALL attributes

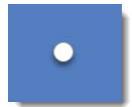
Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table
DAM_HEIGHT*	Height	Real	11.3	
DAM_LENGTH*	Length	Real	11.3	
DAM_VOLUME*	Volume	Integer	10	
DAM_TYPE*	Type	Character	80	

* Designates Mandatory attribute

Dead Ends

Note:

Municipal standards for stormwater assets are being reviewed by Roads ACT. The stormwater blocks and attribute information will be updated following this review. New infrastructure types such as stormwater quality improvement devices will be incorporated as part of this updated standard.






Overview

Stormwater dead ends are represented by the **acdc_SW_DEADEND** block inserted at the centre of the feature with attribute values specifying as constructed information.

Stormwater Dead End layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 59 Stormwater Dead End layers

Layer	Description	Linetype	Colour
acdc_SW_DEADEND_NEW	New stormwater dead end	Continuous	 90
acdc_SW_DEADEND_EXG	Existing stormwater dead end	Continuous	 94
acdc_SW_DEADEND_REM	Removed stormwater dead end	Continuous	 Red

Stormwater Dead End attribute information

The stormwater dead end block **acdc_SW_DEADEND** has 4 attributes. The table below lists each of these attributes and their requirements.

Table 60 Stormwater Dead End block acdc_SW_DEADEND attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table
DEND_STRUCTURE_NUMBER	Structure Number	Character	11	
DEND_SURFACE_LEVEL	Surface Level	Real	11.2	
DEND_INVERT_LEVEL	Invert Level	Real	11.2	
DEND_DEPTH	Depth	Real	11.2	

* Designates Mandatory attribute

Floodways



Note:

Municipal standards for stormwater assets are being reviewed by Roads ACT. The stormwater blocks and attribute information will be updated following this review. New infrastructure types such as stormwater quality improvement devices will be incorporated as part of this updated standard.




Overview

Floodways are represented by a linear feature (line, lightweight polyline) signifying the centreline with the **acdc_SW_FLOODWAY** block inserted at a midpoint along one of the features segments with attribute values specifying as constructed information.

Stormwater Floodway layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 61 Stormwater Floodway layers

Layer	Description	Linetype	Colour
acdc_SW_FLOODWAY_NEW	New stormwater floodway	Continuous	 90
acdc_SW_FLOODWAY_EXG	Existing stormwater floodway	Continuous	 94
acdc_SW_FLOODWAY_REM	Removed stormwater floodway	Continuous	 Red

Stormwater Floodway attribute information

The stormwater floodway block **acdc_SW_FLOODWAY** has 11 attributes. The table below lists each of these attributes and their requirements.

Table 62 Stormwater Floodway block acdc_SW_FLOODWAY attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table
FLW_CHANNEL_MATERIAL	Channel Material	Character	80	Yes LU_FLOODWAY_MATRL
FLW_RESERVE_MATERIAL	Reserve Material	Character	80	Yes LU_FLOODWAY_MATRL
FLW_DERIVED_LENGTH	WAE Derived Length	Real	11.3	
FLW_GRADE	Grade	Real	7.2	
FLW_UP_INVERT	Up Invert	Real	11.2	
FLW_DOWN_INVERT	Down Invert	Real	11.2	
FLW_CHANNEL_SHAPE	Channel Shape	Character	80	Yes LU_FLOODWAY_CHANNEL_SHP
FLW_BASE_WIDTH	Base Width	Real	11.2	
FLW_TOP_WIDTH	Top Width	Real	11.2	
FLW_DEPTH	Depth	Real	11.2	
FLW_PIPE_DIA	Pipe Diameter	Integer	7	Yes LU_PIPE_DIA

* Designates Mandatory attribute

Stormwater Floodway lookup tables

Lookup tables used in the *acdc_SW_FLOODWAY* block are listed below.

Table 63 Stormwater Floodway lookup tables

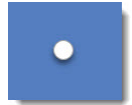
Lookup Table	Values
LU_FLOODWAY_MATRL	COMPOSITE - REINFORCED CONCRETE + EARTH FILL EMBANKMENT COMPOSITE - REINFORCED CONCRETE + ZONED EARTH FILL EMBANKMENT CORRUGATED GALVANISED STEEL CORRUGATED STEEL DUCTILE IRON CEMENT LINED EARTH C/F EMBANK & CEMENT MORTAR EARTH C/F EMBANK AND CEMENT MOTOR EARTH FILL EMBANKMENT ENKAMAT FIBRE REINFORCED CEMENT PIPES GABION STONE BASKET GLASS REINFORCED PLASTIC GRASS GRASS & MATTRESS GRASS WITH JUTE MESH GRASS WITH LOW FLOW PIPE GRASS WITH OPEN CONCRETE INVERT GRASS WITH REINFORCED CONCRETE INVERT GROUT MAT HIFLO HIGH DENSITY POLYETHLENE HOTMIX BITUMEN HOTMIX BITUMEN BASE WITH REINFORCED CONCRETE BLOCK WALL HYDROCON PERMEABLE PIPE LANDSCAPING TREES + SCRUBS MATTRESS NO END WALL OPEN CONCRETE INVERT ORGANIC FIBRE MAT GENERALLY SPRAYED WITH BITUMEN EMULSION OTHER PRECAST CONCRETE PRECAST REINFORCED CONCRETE REINFORCED CONCRETE REINFORCED CONCRETE ARCH REINFORCED CONCRETE GRAVITY REINFORCED CONCRETE INVERT REINFORCED CONCRETE INVERT LEVEL WITH STONE PITCHED WALL REINFORCED CONCRETE WITH GROUT MAT REINFORCED CONCRETE WITH REINFORCED CONCRETE BLOCK WALL ROCK FILL EMBANKMENT ROCK MATTRESS ROLLER COMPACTED CONCRETE GRAVITY SANDBAGS

Lookup Table	Values																																				
	STEEL REINFORCED CONCRETE PIPES STONE PITCHED WITH MORTAR POINTING STONE PITCHED WITH REINFORCED CONCRETE BASE + POINTING STONE PITCHING ON A CONCRETE BASE STONE PITCHING WITH CEMENT MORTAR UNKNOWN UNLINED (ROCK) UNPLASTICISED POLYVINYL CHLORIDE PIPES VITRIFIED CLAY PIPES																																				
LU_FLOODWAY_CHANNEL_SHP	RECTANGULAR SEMI-CIRC TRAPEZOIDAL TRIANGULAR U SHAPE DRAIN																																				
LU_PIPE_DIA	<table border="0"> <tr><td>-1</td><td>250</td></tr> <tr><td>0</td><td>2550</td></tr> <tr><td>100</td><td>2700</td></tr> <tr><td>1000</td><td>275</td></tr> <tr><td>105</td><td>300</td></tr> <tr><td>1050</td><td>3000</td></tr> <tr><td>1200</td><td>350</td></tr> <tr><td>1350</td><td>375</td></tr> <tr><td>150</td><td>400</td></tr> <tr><td>1500</td><td>450</td></tr> <tr><td>1650</td><td>525</td></tr> <tr><td>1800</td><td>600</td></tr> <tr><td>1950</td><td>675</td></tr> <tr><td>200</td><td>750</td></tr> <tr><td>2100</td><td>80</td></tr> <tr><td>225</td><td>825</td></tr> <tr><td>2250</td><td>90</td></tr> <tr><td>2400</td><td>900</td></tr> </table>	-1	250	0	2550	100	2700	1000	275	105	300	1050	3000	1200	350	1350	375	150	400	1500	450	1650	525	1800	600	1950	675	200	750	2100	80	225	825	2250	90	2400	900
-1	250																																				
0	2550																																				
100	2700																																				
1000	275																																				
105	300																																				
1050	3000																																				
1200	350																																				
1350	375																																				
150	400																																				
1500	450																																				
1650	525																																				
1800	600																																				
1950	675																																				
200	750																																				
2100	80																																				
225	825																																				
2250	90																																				
2400	900																																				

Gross Pollutant Traps

Note:

Municipal standards for stormwater assets are being reviewed by Roads ACT. The stormwater blocks and attribute information will be updated following this review. New infrastructure types such as stormwater quality improvement devices will be incorporated as part of this updated standard.






Overview

Gross pollutant traps are represented by the *acdc_SW_GPT* block inserted at the centre of the feature with attribute values specifying as constructed information.

Gross Pollutant Trap layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 64 Gross Pollutant Trap layers

Layer	Description	Linetype	Colour
acdc_SW_GPT_NEW	New gross pollutant trap	Continuous	 90
acdc_SW_GPT_EXG	Existing gross pollutant trap	Continuous	 94
acdc_SW_GPT_REM	Removed gross pollutant trap	Continuous	 Red

Gross Pollutant Trap attribute information

The gross pollutant trap block *acdc_SW_GPT* has 13 attributes. The table below lists each of these attributes and their requirements.

Table 65 Gross Pollutant Trap block *acdc_SW_GPT* attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table
GPT_STRUCTURE_NUMBER	Structure Number	Character	80	
GPT_MATERIAL	GPT Material	Character	80	Yes LU_GPT_MATRL
GPT_DRYING_AREA	Drying Area	Character	80	Yes LU_GPT_DRNG_AREA
GPT_BASIN_WIDTH	Basin Width	Integer	5.3	
GPT_BASIN_LENGTH	Basin Length	Real	5.3	
GPT_BASIN_DEPTH	Basin Depth	Real	5.3	
GPT_NUMBER_PANELS	Number Panels	Integer	11	
GPT_PANEL_WIDTH	Panel Width	Real	5.3	
GPT_PANEL_HEIGHT	Panel Height	Real	5.3	
GPT_BAR_DIMENSIONS	Bar Dimensions	Character	80	Yes LU_GPT_BAR_DIM
GPT_BAR_OPENING	Bar Opening	Character	80	Yes LU_GEN_YESNO
GPT_NAME	Name	Character	80	
GPT_CATCHMENT	Catchment	Character	80	

* Designates Mandatory attribute

Gross Pollutant Trap lookup tables

Lookup tables used in the *acdc_SW_GPT* block are listed below.

Table 66 Gross Pollutant Trap lookup tables

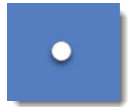
Lookup Table	Values
LU_GPT_MATRL	COMPOSITE - REINFORCED CONCRETE + EARTH FILL EMBANKMENT COMPOSITE - REINFORCED CONCRETE + ZONED EARTH FILL EMBANKMENT CORRUGATED GALVANISED STEEL CORRUGATED STEEL DUCTILE IRON CEMENT LINED EARTH C/F EMBANK AND CEMENT MOTOR EARTH FILL EMBANKMENT ENKAMAT FIBRE REINFORCED CEMENT PIPES GABION STONE BASKET GLASS REINFORCED PLASTIC GRASS GRASS AND MATTRESS GRASS WITH JUTE MESH GRASS WITH LOW FLOW PIPE GRASS WITH OPEN CONCRETE INVERT GRASS WITH REINFORCED CONCRETE INVERT GROUT MAT HIFLO HIGH DENSITY POLYETHLENE HOTMIX BITUMEN HOTMIX BITUMEN BASE WITH REINFORCED CONCRETE BLOCK WALL LANDSCAPING TREES + SCRUBS MATTRESS NO END WALL OPEN CONCRETE INVERT ORGANIC FIBRE MAT GENERALLY SPRAYED WITH BITUMEN EMULSION OTHER PRECAST CONCRETE PRECAST REINFORCED CONCRETE REINFORCED CONCRETE REINFORCED CONCRETE ARCH REINFORCED CONCRETE GRAVITY REINFORCED CONCRETE INVERT REINFORCED CONCRETE INVERT LEVEL WITH STONE PITCHED WALL REINFORCED CONCRETE WITH GROUT MAT REINFORCED CONCRETE WITH REINFORCED CONCRETE BLOCK WALL ROCK FILL EMBANKMENT ROCK MATTRESS ROLLER COMPACTED CONCRETE GRAVITY SANDBAGS STEEL REINFORCED CONCRETE PIPES STONE PITCHED WITH MORTAR POINTING

Lookup Table	Values
	STONE PITCHED WITH REINFORCED CONCRETE BASE + POINTING STONE PITCHING ON A CONCRETE BASE STONE PITCHING WITH CEMENT MORTAR UNKNOWN UNLINED (ROCK) UNPLASTICISED POLYVINYL CHLORIDE PIPES VITRIFIED CLAY PIPES
LU_GPT_DRNG_AREA	COMPACTED BLUE METAL HOTMIX BITUMEN REINFORCED CONCRETE OTHER
LU_GPT_BAR_DIM	50MM * 8 50MM * 100 60MM CENTRE TO CENTRE 75MM * 10 100MM * 50 * 3
LU_GEN_YESNO	YES NO

Headwalls

Note:

Municipal standards for stormwater assets are being reviewed by Roads ACT. The stormwater blocks and attribute information will be updated following this review. New infrastructure types such as stormwater quality improvement devices will be incorporated as part of this updated standard.






Overview

Headwalls are represented by the **acdc_SW_HEADWALL** block inserted at the end of the pipe / culvert with attribute values specifying as constructed information.

Stormwater Headwall layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 67 Stormwater Headwall layers

Layer	Description	Linetype	Colour
acdc_SW_FLOODWAY_NEW	New stormwater headwall	Continuous	 90
acdc_SW_FLOODWAY_EXG	Existing stormwater headwall	Continuous	 94
acdc_SW_FLOODWAY_REM	Removed stormwater headwall	Continuous	 Red

Stormwater Headwall attribute information

The stormwater headwall block **acdc_SW_HEADWALL** has 6 attributes. The table below lists each of these attributes and their requirements.

Table 68 Stormwater Headwall block acdc_SW_HEADWALL attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table
WAL_STRUCTURE_NUMBER	Structure Number	Character	80	
WAL_MATERIAL	Wall Material	Character	80	Yes LU_WALL_MATRL
WAL_HEIGHT	Height	Real	11.2	
WAL_SKEW_ANGLE	Skew Angle	Character	11	
WAL_CONSTRUCTION	Construction	Character	80	Yes LU_HD_END_WALL_CONST
WAL_APRON_TYPE	Apron Type	Character	80	Yes LU_HD_END_APRON_TYPE

* Designates Mandatory attribute

Stormwater Headwall lookup tables

Lookup tables used in the *acdc_SW_HEADWALL* block are listed below.

Table 69 Stormwater Headwall lookup tables

Lookup Table	Values
LU_WALL_MATRL	COMPOSITE - REINFORCED CONCRETE + EARTH FILL EMBANKMENT COMPOSITE - REINFORCED CONCRETE + ZONED EARTH FILL EMBANKMENT CORRUGATED GALVANISED STEEL CORRUGATED STEEL DUCTILE IRON CEMENT LINED EARTH C/F EMBANK AND CEMENT MOTOR EARTH FILL EMBANKMENT ENKAMAT FIBRE REINFORCED CEMENT PIPES GABION STONE BASKET GLASS REINFORCED PLASTIC GRASS GRASS AND MATTRESS GRASS WITH JUTE MESH GRASS WITH LOW FLOW PIPE GRASS WITH OPEN CONCRETE INVERT GRASS WITH REINFORCED CONCRETE INVERT GROUT MAT HIFLO HIGH DENSITY POLYETHYLENE HOTMIX BITUMEN HOTMIX BITUMEN BASE WITH REINFORCED CONCRETE BLOCK WALL LANDSCAPING TREES + SCRUBS MATTRESS NO END WALL OPEN CONCRETE INVERT ORGANIC FIBRE MAT GENERALLY SPRAYED WITH BITUMEN EMULSION PRECAST CONCRETE PRECAST REINFORCED CONCRETE REINFORCED CONCRETE REINFORCED CONCRETE ARCH REINFORCED CONCRETE GRAVITY REINFORCED CONCRETE INVERT REINFORCED CONCRETE INVERT LEVEL WITH STONE PITCHED WALL REINFORCED CONCRETE WITH GROUT MAT REINFORCED CONCRETE WITH REINFORCED CONCRETE BLOCK WALL ROCK FILL EMBANKMENT ROCK MATTRESS ROLLER COMPACTED CONCRETE GRAVITY SANDBAGS STEEL REINFORCED CONCRETE PIPES STONE PITCHED WITH MORTAR POINTING STONE PITCHED WITH REINFORCED CONCRETE BASE + POINTING

Lookup Table	Values
	STONE PITCHING ON A CONCRETE BASE STONE PITCHING WITH CEMENT MORTAR UNLINED (ROCK) UNPLASTICISED POLYVINYL CHLORIDE PIPES VITRIFIED CLAY PIPES OTHER UNKNOWN
LU_HD_END_WALL_CONST	CAST IN-SITU HAND PLACED PRECAST OTHER
LU_HD_END_APRON_TYPE	GABION + RENO MATTRESS (STORM BASKET) GRASS GROUT MAT HEAD/END WALL ROCK MATTRESS AT INLET/OUTLET PRECAST CONCRETE REINFORCED CONCRETE ROCK FILLED GABION MATTRESS ROCK RIP RAP STONE PITCHING ON A CONCRETE BASE STONE PITCHING WITH CEMENT MORTAR TRASH RACK

Lined Channels



Note:

Municipal standards for stormwater assets are being reviewed by Roads ACT. The stormwater blocks and attribute information will be updated following this review. New infrastructure types such as stormwater quality improvement devices will be incorporated as part of this updated standard.




Overview

Lined channels are represented by a linear feature (line, lightweight polyline) signifying the centreline with the **acdc_SW_LINEDCHANNEL** block inserted at a midpoint along one of the features segments with attribute values specifying as constructed information.

Stormwater Lined Channel layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 70 Stormwater Lined Channel layers

Layer	Description	Linetype	Colour
acdc_SW_LINEDCHANNEL_NEW	New stormwater lined channel	Continuous	 90
acdc_SW_LINEDCHANNEL_EXG	Existing stormwater lined channel	Continuous	 63
acdc_SW_LINEDCHANNEL_REM	Removed stormwater lined channel	Continuous	 Red

Stormwater Lined Channel attribute information

The stormwater lined channel block **acdc_SW_LINEDCHANNEL** has 12 attributes. The table below lists each of these attributes and their requirements.

Table 71 Stormwater Lined Channel block acdc_SW_LINEDCHANNEL attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table
LCH_STRUCTURE_ID	Structure ID	Character	80	
LCH_CHANNEL_MATERIAL	Channel Material	Character	80	Yes LU_LINED_CHNL_MATRL
LCH_RESERVE_MATERIAL	Reserve Material	Character	80	Yes LU_LINED_CHNL_MATRL
LCH_DERIVED_LENGTH	WAE Derived Length	Real	11.3	
LCH_GRADE	Grade	Real	7.2	
LCH_UP_INVERT*	Up Invert	Real	11.2	
LCH_DOWN_INVERT	Down Invert	Real	11.2	
LCH_CHANNEL_SHAPE	Channel Shape	Character	80	Yes LU_LINED_CHNL_SHP
LCH_BASE_WIDTH	Base Width	Real	11.2	
LCH_TOP_WIDTH	Top Width	Real	11.2	
LCH_DEPTH	Depth	Real	11.2	
LCH_NAME	Name	Character	80	

* Designates Mandatory attribute

Stormwater Lined Channel lookup tables

Lookup tables used in the *acdc_SW_LINEDCHANNEL* block are listed below.

Table 72 Stormwater Lined Channel lookup tables

Lookup Table	Values
LU_LINED_CHNL_MATRL	COMPOSITE - REINFORCED CONCRETE + EARTH FILL EMBANKMENT COMPOSITE - REINFORCED CONCRETE + ZONED EARTH FILL EMBANKMENT CORRUGATED GALVANISED STEEL CORRUGATED STEEL DUCTILE IRON CEMENT LINED EARTH C/F EMBANK AND CEMENT MOTOR EARTH FILL EMBANKMENT ENKAMAT FIBRE REINFORCED CEMENT PIPES GABION STONE BASKET GLASS REINFORCED PLASTIC GRASS GRASS AND MATTRESS GRASS WITH JUTE MESH GRASS WITH LOW FLOW PIPE GRASS WITH OPEN CONCRETE INVERT GRASS WITH REINFORCED CONCRETE INVERT GROUT MAT HIFLO HIGH DENSITY POLYETHLENE HOTMIX BITUMEN HOTMIX BITUMEN BASE WITH REINFORCED CONCRETE BLOCK WALL LANDSCAPING TREES + SCRUBS MATTRESS NO END WALL OPEN CONCRETE INVERT ORGANIC FIBRE MAT GENERALLY SPRAYED WITH BITUMEN EMULSION PRECAST CONCRETE PRECAST REINFORCED CONCRETE REINFORCED CONCRETE REINFORCED CONCRETE ARCH REINFORCED CONCRETE GRAVITY REINFORCED CONCRETE INVERT REINFORCED CONCRETE INVERT LEVEL WITH STONE PITCHED WALL REINFORCED CONCRETE WITH GROUT MAT REINFORCED CONCRETE WITH REINFORCED CONCRETE BLOCK WALL ROCK FILL EMBANKMENT ROCK MATTRESS ROLLER COMPACTED CONCRETE GRAVITY SANDBAGS STEEL REINFORCED CONCRETE PIPES STONE PITCHED WITH MORTAR POINTING STONE PITCHED WITH REINFORCED CONCRETE BASE + POINTING

Lookup Table	Values
	STONE PITCHING ON A CONCRETE BASE STONE PITCHING WITH CEMENT MORTAR UNLINED (ROCK) UNPLASTICISED POLYVINYL CHLORIDE PIPES VITRIFIED CLAY PIPES OTHER UNKNOWN
LU_LINED_CHNL_SHP	RECTANGULAR SEMI-CIRC TRAPEZOIDAL TRAINGULAR U SHAPE DRAIN

Manholes

Note:

Municipal standards for stormwater assets are being reviewed by Roads ACT. The stormwater blocks and attribute information will be updated following this review. New infrastructure types such as stormwater quality improvement devices will be incorporated as part of this updated standard.






Overview

Manholes are represented by the **acdc_SW_MANHOLE** block inserted at the centre of the feature with attribute values specifying as constructed information.

Stormwater Manhole layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 73 Stormwater Manhole layers

Layer	Description	Linetype	Colour
acdc_SW_MANHOLE_NEW	New stormwater manhole	Continuous	 90
acdc_SW_MANHOLE_EXG	Existing stormwater manhole	Continuous	 Red
acdc_SW_MANHOLE_REM	Removed stormwater manhole	Continuous	 Red

Stormwater Manhole attribute information

The stormwater manhole block **acdc_SW_MANHOLE** has 5 attributes. The table below lists each of these attributes and their requirements.

Table 74 Stormwater Manhole block acdc_SW_MANHOLE attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table
MNH_STRUCTURE_ID	Structure ID	Character	50	
MNH_SURFACE_LEVEL	Surface Level	Real	11.2	
MNH_INVERT_LEVEL	Invert Level	Real	11.2	
MNH_DEPTH	Depth	Real	11.2	
MNH_LID_TYPE	Lid Type	Character	80	Yes LU_MANHOLE_LID_TYPE

* Designates Mandatory attribute

Stormwater Manhole lookup tables

Lookup tables used in the *acdc_SW_MANHOLE* block are listed below.

Table 75 Stormwater Manhole lookup tables

Lookup Table	Values
LU_MANHOLE_LID_TYPE	CAST IRON GRATE CIRCULAR AND RECTANGULAR CI+D CLASS D CAST IRON CONCRETE LINTEL WITH GRATED INLET HEAVY DUTY GATIC HEAVY DUTY GATIC L185AS3996 HEAVY DUTY LID PS + PD 550X690 REINFORCED CONCRETE QS + QD 840X690 REINFORCED CONCRETE RD 830X690 REINFORCED CONCRETE STANDARD REINFORCED CONCRETE STANDARD REINFORCED CONCRETE CIRCULAR LID STEEL GRILL WEBFORGE GALVANISED STEEL SERIES 2 WA 325 WEBFORGED GALVANISED STEEL OPEN GRATE CIRCULAR OTHER

Pipes



Note:

Municipal standards for stormwater assets are being reviewed by Roads ACT. The stormwater blocks and attribute information will be updated following this review. New infrastructure types such as stormwater quality improvement devices will be incorporated as part of this updated standard




Overview

Stormwater pipes are represented by a linear feature (line, lightweight polyline) signifying the centreline with the **acdc_SW_PIPE** block inserted at a midpoint along one of the features segments with attribute values specifying as constructed information.

Stormwater Pipe layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 76 Stormwater Pipe layers

Layer	Description	Linetype	Colour
acdc_SW_PIPE_NEW	New stormwater pipe	Continuous	 90
acdc_SW_PIPE_EXG	Existing stormwater pipe	Continuous	 94
acdc_SW_PIPE_REM	Removed stormwater pipe	Continuous	 Red

Stormwater Pipe attribute information

The stormwater pipe block **acdc_SW_PIPE** has 10 attributes. The table below lists each of these attributes and their requirements.

Table 77 Stormwater Pipe block acdc_SW_PIPE attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table	
PIPE_MATERIAL	Pipe Material	Character	80	Yes	LU_PIPE_MATRL
PIPE_DIAMETER	Pipe Diameter	Integer	7	Yes	LU_PIPE_DIA
PIPE_DERIVED_LENGTH	WAE Derived Length	Real	11.3		
PIPE_GRADE	Grade	Real	7.2		
PIPE_UP_INVERT	Up Invert	Real	9.2		
PIPE_DOWN_INVERT*	Down Invert	Real	6.3		
PIPE_JOINT_TYPE	Joint Type	Character	80	Yes	LU_PIPE_JOINT_TYPE
PIPE_CLASS*	Pipe Class	Character	50		
PIPE_CURVED_PIPELINE	Curved Pipelines	Character	80	Yes	LU_PIPE_CURVED
PIPE_CURVED_RADIUS	Curved Centreline Radius	Real	10.3		

* Designates Mandatory attribute

Stormwater Pipe lookup tables

Lookup tables used in the *acdc_SW_PIPE* block are listed below.

Table 78 Stormwater Pipe lookup tables

Lookup Table	Values
LU_PIPE_MATRL	DUCTILE IRON CEMENT LINED PIPES (DIDL) FIBRE REINFORCED CEMENT PIPES (FRC) GALVANISED STEEL PIPES (GS) STEEL REINFORCED CONCRETE PIPES (SRC) UNKNOWN UNPLASTICISED POLYVINYL CHLORIDE PIPES (UPVC) VITRIFIED CLAY PIPES (VC)
LU_PIPE_DIA	-1 675 0 750 80 825 90 900 100 1000 105 1050 150 1200 200 1350 225 1500 250 1650 275 1800 300 1950 350 2100 375 2250 400 2400 450 2550 525 2700 600 3000
LU_PIPE_JOINT_TYPE	BUTT WELDED JOINT CEMENT / WELDED JOINT FLEXIBLE GASKET FLUSH JOINT POLYETHYLENE WELDING JOINT RUBBER RING JOINT SPIGOT + SOCKET JOINT SUPERTITE JOINT / COUPLING BAND UNKNOWN
LU_PIPE_CURVED	CURVED PIPELINE (NORMAL) CURVED PIPELINE (SPLAYED) NOT CURVED PIPELINE

Retarding Basins

Note:

Municipal standards for stormwater assets are being reviewed by Roads ACT. The stormwater blocks and attribute information will be updated following this review. New infrastructure types such as stormwater quality improvement devices will be incorporated as part of this updated standard.






Overview

Retarding basins are represented by a closed lightweight polyline signifying the perimeter with the **acdc_SW_RETARDING_BASIN** block inserted inside with attribute values specifying as constructed information.

Stormwater Retarding Basin layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 79 Stormwater Retarding Basin layers

Layer	Description	Linetype	Colour
acdc_SW_RETARDING_BASIN_NEW	New stormwater retarding basin	Continuous	 94
acdc_SW_RETARDING_BASIN_EXG	Existing stormwater retarding basin	Continuous	 8
acdc_SW_RETARDING_BASIN_REM	Removed stormwater retarding basin	Continuous	 Red

Stormwater Retarding Basin attribute information

The stormwater retarding basin block **acdc_SW_RETARDING_BASIN** has 9 attributes. The table below lists each of these attributes and their requirements.

Table 80 Stormwater Retarding Basin block acdc_SW_RETARDING_BASIN attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table
RTBN_NAME	Name	Character	40	
RTBN_CONSTRUCTION	Construction	Character	80	Yes LU_RETARDING_BASIN_CONST
RTBN_DROP_HEIGHT	Drop Height	Real	11.2	
RTBN_MIN_HEIGHT	Min Height	Real	11.2	
RTBN_MAX_HEIGHT	Max Height	Real	11.2	
RTBN_SKEW_ANGLE	Skew Angle	Character	80	
RTBN_DAM_MATERIAL	Dam Material	Character	80	Yes LU_RETARDING_BASIN_MATRL
RTBN_EARTHWORK_LENGTH	Earthwork Length	Real	24.2	
RTBN_AREA	Area	Real	22.4	

* Designates Mandatory attribute

Stormwater Retarding Basin lookup tables

Lookup tables used in the *acdc_SW_RETARDING_BASIN* block are listed below.

Table 81 Stormwater Retarding Basin lookup tables

Lookup Table	Values
LU_RETARDING_BASIN_CONST	CAST IN-SITU HAND PLACED PRECAST OTHER
LU_RETARDING_BASIN_MATRL	COMPOSITE - REINFORCED CONCRETE + EARTH FILL EMBANKMENT COMPOSITE - REINFORCED CONCRETE + ZONED EARTH FILL EMBANKMENT CORRUGATED GALVANISED STEEL CORRUGATED STEEL DUCTILE IRON CEMENT LINED EARTH C/F EMBANK AND CEMENT MOTOR EARTH FILL EMBANKMENT ENKAMAT FIBRE REINFORCED CEMENT PIPES GABION STONE BASKET GLASS REINFORCED PLASTIC GRASS GRASS AND MATTRESS GRASS WITH JUTE MESH GRASS WITH LOW FLOW PIPE GRASS WITH OPEN CONCRETE INVERT GRASS WITH REINFORCED CONCRETE INVERT GROUT MAT HIFLO HIGH DENSITY POLYETHYLENE HOTMIX BITUMEN HOTMIX BITUMEN BASE WITH REINFORCED CONCRETE BLOCK WALL LANDSCAPING TREES + SCRUBS MATTRESS NO END WALL OPEN CONCRETE INVERT ORGANIC FIBRE MAT GENERALLY SPRAYED WITH BITUMEN EMULSION PRECAST CONCRETE PRECAST REINFORCED CONCRETE REINFORCED CONCRETE REINFORCED CONCRETE ARCH REINFORCED CONCRETE GRAVITY REINFORCED CONCRETE INVERT REINFORCED CONCRETE INVERT LEVEL WITH STONE PITCHED WALL REINFORCED CONCRETE WITH GROUT MAT REINFORCED CONCRETE WITH REINFORCED CONCRETE BLOCK WALL ROCK FILL EMBANKMENT ROCK MATTRESS ROLLER COMPACTED CONCRETE GRAVITY

Lookup Table	Values
	SANDBAGS STEEL REINFORCED CONCRETE PIPES STONE PITCHED WITH MORTAR POINTING STONE PITCHED WITH REINFORCED CONCRETE BASE + POINTING STONE PITCHING ON A CONCRETE BASE STONE PITCHING WITH CEMENT MORTAR UNLINED (ROCK) UNPLASTICISED POLYVINYL CHLORIDE PIPES VITRIFIED CLAY PIPES OTHER UNKNOWN

Sumps

Note:

Municipal standards for stormwater assets are being reviewed by Roads ACT. The stormwater blocks and attribute information will be updated following this review. New infrastructure types such as stormwater quality improvement devices will be incorporated as part of this updated standard.






Overview

Sumps are represented by the **acdc_SW_SUMP** block inserted at the centre of the feature with attribute values specifying as constructed information.

Stormwater Sump layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 82 Stormwater Sump layers

Layer	Description	Linetype	Colour
acdc_SW_SUMP_NEW	New stormwater sump	Continuous	 90
acdc_SW_SUMP_EXG	Existing stormwater sump	Continuous	 94
acdc_SW_SUMP_REM	Removed stormwater sump	Continuous	 Red

Stormwater Sump attribute information

The stormwater sump block **acdc_SW_SUMP** has 8 attributes. The table below lists each of these attributes and their requirements.

Table 83 Stormwater Sump block acdc_SW_SUMP attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table
SMP_STRUCTURE_NUMBER	Structure Number	Character	50	
SMP_TYPE	Sump Type	Character	80	Yes LU_SUMP_SUB_TYPE
SMP_SURFACE_LEVEL	Surface Level	Real	11.2	
SMP_INVERT_LEVEL*	Invert Level	Real	11.2	
SMP_DEPTH	Depth	Real	11.2	
SMP_LID_TYPE	Lid Type	Character	80	Yes LU_SUMP_LID_TYPE
SMP_LID_SIZE	Lid Size	Character	80	Yes LU_SUMP_LID_SIZE
SMP_COVER_TYPE	Cover Type	Character	80	Yes LU_SUMP_COVER_TYPE

* Designates Mandatory attribute

Stormwater Sump lookup tables

Lookup tables used in the *acdc_SW_SUMP* block are listed below.

Table 84 Stormwater Sump lookup tables

Lookup Table	Values
LU_SUMP_SUB_TYPE	DOUBLE GRATED SUMP DOUBLE KERB INLET SUMP DOUBLE LINTEL SUMP DOUBLE PLANTATION SUMP DOUBLE QS SUMP DOUBLE R SUMP END PIPE END WALL GRATED SUMP HEAD WALL INSPECTION PIT IP4 SMP, MAY BUILD ON THE TOP OF PANEL WALL KERB INLET SUMP LARGE CAPACITY INLET STRUCTURE LARGE MANHOLE LARGE SUMP LINTEL SUMP LITTER CONTROL SUMP MAJOR GPT MEIAN GULLY PIT AUDRUPLE GRATE MEIAN GULLY PIT DOUBLE GRATE MEIAN GULLY PIT SINGLE GRATE MEIAN GULLY PIT TRIPLE GRATE MINOR GPT MNH CLASS D WITH GATIC COVER MODIFIED MOUNTABLE SUMP MULTIPLE KERB INLET SUMP MULTIPLE PD SUMP MULTIPLE PLANTATION SUMP MULTIPLE QD SUMP MULTIPLE QS SUMP MULTIPLE R SUMP OVERLAND FLOW PATH - RESERVES PARK INLET SUMP PD SUMP PLANTATION SUMP PLANTATION SUMP WITH DOUBLE APRON PLANTATION SUMP WITH SINGLE APRON PS SUMP QD SUMP QS PLANTATION SUMP DOUBLE APRON QS PLANTATION SUMP SINGLE APRON QS SUMP

Lookup Table	Values
	R PLANTATION SUMP DOUBLE APRON R PLANTATION SUMP SINGLE APRON R SUMP SEALED SUMP SO1 GRATED SUMP SO2 GRATED SUMP SPECIAL CHAMBERED SPECIAL CHAMBERED SEALED SPECIAL INLET STRUCTURE, SUMP SPECIAL LARGE MANHOLE SPECIAL MANHOLE WITH HEAVY DUTY LID SPECIAL MANHOLE WITH SURCHARGE CAPACITY SPECIAL STRUCTURE SQUAT CONE STANDARD STANDARD SEALED STORMWATER MAINTENANCE HOLE SUMP SUMP, DROP INLET STRUCTURE SURCHARGE PIT SURCHARGE SUMP TABLE DRAIN GULLY PIT TYPE F STANDARD GULLY PIT (DOUBLE GRATE) UNKNOWN
LU_SUMP_LID_TYPE	CAST IRON GRATE CIRCULAR AND RECTANGULAR CI+D CLASS D CAST IRON CONCRETE LINTEL WITH GRATED INLET HEAVY DUTY GATIC HEAVY DUTY GATIC L185AS3996 HEAVY DUTY LID OTHER PS + PD 550X690 REINFORCED CONCRETE QS + QD 840X690 REINFORCED CONCRETE RD 830X690 REINFORCED CONCRETE STANDARD REINFORCED CONCRETE STANDARD REINFORCED CONCRETE CIRCULAR LID STEEL GRILL WEBFORGE GALVANISED STEEL SERIES 2 WA 325 WEBFORGED GALVANISED STEEL OPEN GRATE CIRCULAR
LU_SUMP_LID_SIZE	450MM X 450MM GALVANISED LOCKABLE GRATE 550MM X 690MM REINFORCED CONCRETE 600MM X 300MM DIAMETRE 600MM X 600MM DIAMETER 600MM X 900MM DIAMETER 720MM DIAMETER 830MM X 690MM REINFORCED CONCRETE 840MM X 690MM REINFORCED CONCRETE 900MM X 900MM GRATED PIT

Lookup Table	Values
	GRATED INLET WEB FORGED GALVANISED STEEL HUMES 900MM X 600MMX 600MM PRECAST GS OTHER CIRCULAR OTHER RECTANGULAR
LU_SUMP_COVER_TYPE	CAST IRON HEAVY DUTY COVER HEAVY DUTY GATIC HEAVY DUTY WITH SPECIAL GRATE COVER REINFORCED CONCRETE SPECIAL GRATE COVER STEEL GRILL WEBFORGE GALVANISED STEEL

Stormwater Ties

Note:

Municipal standards for stormwater assets are being reviewed by Roads ACT. The stormwater blocks and attribute information will be updated following this review. New infrastructure types such as stormwater quality improvement devices will be incorporated as part of this updated standard.






Overview

Stormwater ties are represented by a linear feature (line, lightweight polyline) signifying the centreline with the **acdc_SW_TIE** block inserted at a midpoint along one of the features segments with attribute values specifying as constructed information.

Stormwater Tie layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 85 Stormwater Tie layers

Layer	Description	Linetype	Colour
acdc_SW_TIE_NEW	New stormwater tie	Continuous	 90
acdc_SW_TIE_EXG	Existing stormwater tie	Continuous	 94
acdc_SW_TIE_REM	Removed stormwater tie	Continuous	 Red

Stormwater Tie attribute information

The stormwater tie block **acdc_SW_TIE** has 7 attributes. The table below lists each of these attributes and their requirements.

Table 86 Stormwater Tie block acdc_SW_TIE attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table
PIPE_MATERIAL	Pipe Material*	CHARACTER	80	Yes LU_PIPE_MATRL
PIPE_DIAMETER	Pipe Diameter*	INTEGER	7	Yes LU_PIPE_DIA
PIPE_DERIVED_LENGTH	Length*	REAL	11.3	
DS_BDY_DISTANCE	Distance to downstream block boundary*	REAL	7.2	
DEPTH	Indicative depth*	INTEGER	7	

* Designates Mandatory attribute

Stormwater Tie lookup tables

Lookup tables used in the *acdc_SW_TIE* block are listed below.

Table 87 Stormwater Tie lookup tables

Lookup Table	Values
LU_PIPE_MATRL	DUCTILE IRON CEMENT LINED PIPES (DACL) FIBRE REINFORCED CEMENT PIPES (FRC) GALVANISED STEEL PIPES (GS) STEEL REINFORCED CONCRETE PIPES (SRC) UNPLASTICISED POLYVINYL CHLORIDE PIPES (UPVC) VITRIFIED CLAY PIPES (VC) UNKNOWN
LU_PIPE_DIA	-1 675 0 750 80 825 90 900 100 1000 105 1050 150 1200 200 1350 225 1500 250 1650 275 1800 300 1950 350 2100 375 2250 400 2400 450 2550 525 2700 600 3000

Streetlights






Overview

Streetlights are represented by the **acdc_STREETLIGHT** block inserted at the centre of the feature with attribute values specifying as constructed information.

Streetlight layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 88 Streetlight layers

Layer	Description	Linetype	Colour
acdc_STREETLIGHT_NEW	New streetlight	Continuous	 50
acdc_STREETLIGHT_EXG	Existing streetlight	Continuous	 52
acdc_STREETLIGHT_REM	Removed streetlight	Continuous	 Red

Streetlight attribute information

The streetlight block **acdc_STREETLIGHT** has 16 attributes. The table below lists each of these attributes and their requirements.

Table 89 Streetlight block acdc_STREETLIGHT attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table
SLCO_ASSET_NUMBER	Asset Number	Character	80	
SLCO_COLUMN_TYPE	Column Type	Character	80	Yes LU_TRITS12_COLUMN
SLCO_HEIGHT	Height	Real	5.2	
SLCO_CATEGORY	Category	Character	5	Yes LU_TRITS12_CATEGORY
SLCO_MATERIAL	Column Material	Character	80	Yes LU_TRITS12_COLMATRL
SLCO_OUTREACH_ARM	Outreach Arm	Character	80	Yes LU_STRLGHT_OUTREACH
SLCO_MOUNTING	Mounting	Character	80	Yes LU_STRLGHT_MOUNTING
SLCO_LUMINAIRE	Primary Luminaire	Character	80	Yes LU_TRITS12_LUMINAIRES
SLCO_LUMINAIRE2	Secondary Luminaire	Character	120	Yes LU_TRITS12_LUMINAIRES
SLCO_LAMP_TYPE	Primary Lamp Type	Character	80	Yes LU_TRITS12_LAMPTYPE
SLCO_LAMP_TYPE2	Secondary Lamp Type	Character	80	Yes LU_TRITS12_LAMPTYPE
SLCO_LAMP_COUNT	Primary Lamp Count	Integer	4	
SLCO_LAMP_COUNT2	Secondary Lamp Count	Integer	4	
SLCO_LAMP_WATTAGE	Primary Lamp Wattage	Integer	80	
SLCO_LAMP_WATTAGE2	Secondary Lamp Wattage	Integer	80	
SLCO_NOTES	Notes	Character	255	

* Designates Mandatory attribute

Streetlight lookup tables

Lookup tables used in the *acdc_STREETLIGHT* block are listed below.

Table 90 Streetlight lookup tables

Lookup Table	Values	
LU_TRITS12_COLUMN	COLUMN - CCA TIMBER COLUMN - COMBINED TRAFFIC SIGNALS COLUMN COLUMN - DECORATIVE COLUMN - ELECTRICTY UTILITY POLE COLUMN - FORDE TYPE 1 COLUMN - FORDE TYPE 2 COLUMN - FORDE TYPE 3 COLUMN - FORDE TYPE 4 COLUMN - FYNTRIM MULTIPOLE COLUMN - HERITAGE COLUMN - IMPACT ABSORBING COLUMN - NCC COLUMN - SPECIAL COLUMN - TAPERED COLUMN - TAPERED OCTAGONAL COLUMN - VICPOLE	STRUCTURE - AWNINGS STRUCTURE - BOLLARD STRUCTURE - BRIDGE STRUCTURE - BUS SHELTER STRUCTURE - GROUND STRUCTURE - OTHER STRUCTURE - PEDESTRIAN OVERPASS STRUCTURE - STAIRWAY STRUCTURE - TOILET BLOCK STRUCTURE - TUNNEL STRUCTURE - UNDERPASS STRUCTURE - WALL
LU_TRITS12_COLMATRL	ALUMINIUM CONCRETE GALVANISED STEEL N/A	STAINLESS STEEL STEEL WOOD
LU_STRLGHT_MOUNTING	BASE MOUNTED DIRECT BURIED DIRECT BURIED SLIP BASE PLATE IN GROUND RAG BOLT RAG BOLT MOUNTED SLIP BASE	ROOF MOUNTED STEEL BASE STRUCTURE UNKNOWN WALL MOUNT

Lookup Table	Values
LU_STRLGHT_OUTREACH	NONE
	0.0
	0.15
	0.15 13 DEGREES
	0.15 13 DEGREES TWIN ARM
	0.15 ARM WITH LADDER REST
	0.15 HORIZONTAL
	0.15 HORIZONTAL TWIN ARM
	0.3
	0.5
	0.5 13 DEGREES
	0.5 13 DEGREES TWIN ARM
	0.5 HORIZONTAL
	0.5 HORIZONTAL TWIN ARM
	0.5 HORIZONTAL FOUR WAY
	0.5 HORIZONTAL THREE WAY
	0.6
	0.6 13 DEGREES
	0.6 13 DEGREES TWIN ARM
	0.6 HORIZONTAL
	0.6 HORIZONTAL TWIN ARM
	0.6 HORIZONTAL FOUR WAY
	0.6 HORIZONTAL THREE WAY
	0.75
	1
	1.5
	1.5 13 DEGREES
	1.5 13 DEGREES TWIN ARM
	1.5 HORIZONTAL
	1.5 HORIZONTAL FOUR WAY
	1.5 HORIZONTAL THREE WAY
	1.5 HORIZONTAL TWIN ARM
	1.5 M SINGLE
	1.5 M TWIN
	2
	2.5
	3
	3 13 DEGREES
	3 13 DEGREES TWIN ARM
	3 HORIZONTAL
	3 HORIZONTAL FOUR WAY
	3 HORIZONTAL THREE WAY
	3 HORIZONTAL TWIN ARM
	3.0 ARM PLUS 1.0 PEDESTRIAN ARM
	3.0 M TWIN
	3.5
	3.5 M SINGLE
	3.5 M TWIN
	3.7
	3.7 13 DEGREES
	3.7 13 DEGREES TWIN ARM
	3.7 HORIZONTAL
	3.7 HORIZONTAL FOUR WAY
	3.7 HORIZONTAL THREE WAY
	3.7 HORIZONTAL TWIN ARM
	4.0
	4.0 M SPECIAL
	4.3
	4.5
	4.5 13 DEGREES
	4.5 13 DEGREES TWIN ARM
	4.5 ARM PLUS 1.5 PEDESTRIAN ARM
	4.5 HORIZONTAL
	4.5 HORIZONTAL TWIN ARM
	4.5 M SINGLE
	4.5 M TWIN
	6.0 13 DEGREES
	6.0 13 DEGREES TWIN ARM
	6.0 HORIZONTAL
	6.0 HORIZONTAL TWIN ARM
	UNSPECIFIED

Lookup Table	Values	
LU_TRITS12_CATEGORY	P1 P2 P3 P4 P5 P6 P7 P8 P9 P10 P11 P12	PX1 PX2 PX3 V1 V2 V3 V4 V5
LU_TRITS12_LUMINAIRES	BEGA 8081 BEGA 8082 COLONIAL LIGHTING ALN 440 COLONIAL LIGHTING WAVERLY KIM ARCHETYPE LOUIS POLSEN KIPP MV TECHNOLOGY SKY-GEN 7001 MV TECHNOLOGY SKY-GEN PRO OTHER REXEL DARWIN (ACT) REXEL OPTISPAN MAJOR REXEL OPTISPAN MINOR REXEL SENTRY PX SHREDER ALURA SYLVANIA B2001 (ACT)	SYLVANIA BURKEHILL 'CLASSICAL' MOD A SYLVANIA CLIP 28 SYLVANIA CLIP 34 SYLVANIA CONDOR S33306 SYLVANIA NIGHTSTAR COMPACT SYLVANIA PARKVILLE CLASSICAL MOD A SYLVANIA ROADSTER IP66 OPTICAL CHAMBER SYLVANIA SLYPROOF STAINLESS SYLVANIA SYLFLOOD AS SYLVANIA SYLMASTER SYLVANIA URBAN VERSALIGHT RHINO
LU_TRITS12_LAMPTYPE	FLUORESCENT HIGH PRESSURE SODIUM VAPOUR INDUCTION LED LED 24V MERCURY VAPOUR METAL HALIDE	

Landscape Asset Specific Requirements

Artwork






Overview

Artwork is represented by the **acdc_ARTWORK** block inserted at the centre of the feature with attribute values specifying as constructed information.

Artwork layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 91 Artwork layers

Layer	Description	Linetype	Colour
acdc_ARTWORK_NEW	New artwork	Continuous	 50
acdc_ARTWORK_EXG	Existing artwork	Continuous	 52
acdc_ARTWORK_REM	Removed artwork	Demolished	 Red

Artwork attribute information

The artwork block **acdc_ARTWORK** has five attributes. The table below lists each of these attributes and their requirements.

Artwork block acdc_ARTWORK attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table
ARTW_NAME	Name	Character	50	
ARTW_TYPE*	Artwork Type	Character	60	Yes LU_ARTWORK_TYPE
ARTW_PART_OF_WALL*	Part of Wall	Character	5	Yes LU_GEN_YESNO
ARTW_ARTIST*	Artist	Character	100	
ARTW_MATERIALS*	Material	Character	60	Yes LU_ARTWORK_MATERIAL

* Designates Mandatory attribute

Artwork lookup tables

Lookup tables used in the *acdc_ARTWORK* block are listed below.

Table 92 Artwork lookup tables

Lookup Table Name	Allowable Values
LU_ARTWORK_TYPE	LEGAL GRAFFITI SITES MOSAICED SURFACE (SMALL TILES) PAINTING MURAL SCULPTURE STREET ART TILED (LARGE TILES) OTHER
LU_ARTWORK_MATERIAL	ALUMINIUM BRASS BRASS AND CONCRETE BRICK BRONZE BRONZE AND ROCK CONCRETE FIBREGLASS METAL PAINT PLASTIC RUBBER STAINLESS STEEL STONE TILE TIMBER TIMBER AND METAL UNKNOWN
LU_GEN_YESNO	YES NO

Barbeques






Overview

Barbeques are represented by the **acdc_BARBEQUE** block inserted at the centre of the feature with attribute values specifying as constructed information.

Barbeque layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 93 Barbeque layers

Layer	Description	Linetype	Colour
acdc_BARBEQUE_NEW	New barbeque	Continuous	 253
acdc_BARBEQUE_EXG	Existing barbeque	Continuous	 251
acdc_BARBEQUE_REM	Removed barbeque	Demolished	 Red

Barbeque attribute information

The barbeque block **acdc_BARBEQUE** has 8 attributes. The table below lists each of these attributes and their requirements.

Table 94 Barbeque block acdc_BARBEQUE attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table
BBQ_TYPE*	BBQ Type	Character	60	Yes LU_BBQ_TYPE
BBQ_HOTPLATE	Hotplate	Character	30	Yes LU_BBQ_HOTPLATE
BBQ_TAP	Tap on BBQ	Character	5	Yes LU_GEN_YESNO
BBQ_CONSTRUCTED_BY	Constructed By	Character	50	
BBQ_MAKE	BBQ Make	Character	50	
BBQ_SERIAL*	Serial Number	Character	25	
BBQ_BENCH_TYPE	Bench Type	Character	50	Yes LU_BBQ_BENCH_TYPE
BBQ_HOTPLATE_MATERIAL	Hotplate Material	Character	50	Yes LU_BBQ_HOTPLATE_MATRL

* Designates Mandatory attribute

Barbeque lookup tables

Lookup tables used in the *acdc_BARBEQUE* block are listed below.

Table 95 Artwork lookup tables

Lookup Table	Values
LU_BBQ_TYPE	ELECTRIC GAS WOOD
LU_BBQ_HOTPLATE	DOUBLE SINGLE
LU_BBQ_HOTPLATE_MATRL	NONE ALUMINIUM CAST IRON SHEET STEEL STAINLESS STEEL UNKNOWN
LU_BBQ_BENCH_TYPE	BRICK CONCRETE STEEL TILE
LU_GEN_YESNO	YES NO

Open Space Bins






Overview

Open space bins are represented by the **acdc_BIN** block inserted at the centre of the feature with attribute values specifying as constructed information.

Open Space Bin layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 96 Open Space Bin layers

Layer	Description	Linetype	Colour
acdc_BIN_NEW	New open space bin	Continuous	 50
acdc_BIN_EXG	Existing open space bin	Continuous	 52
acdc_BIN_REM	Removed open space bin	Continuous	 Red

Open Space Bin attribute information

The open space bin block **acdc_BIN** has 4 attributes. The table below lists each of these attributes and their requirements.

Table 97 Open Space Bin block acdc_BIN attributes

Block Attribute	Attribute Label	Data Type	Max Length		Lookup Table
OSBN_TYPE	Bin Type	Character	50	Yes	LU_OSBN_TYPE
OSBN_SIZE	Bin Size	Character	50	Yes	LU_OSBN_BIN_SIZE
OSBN_SHROUD	Shroud Material	Character	50	Yes	LU_OSBN_SHROUD
OSBN_FIXED	Fixed Location	Character	5	Yes	LU_GEN_YESNO

* Designates Mandatory attribute

Open Space Bin lookup tables

Lookup tables used in the *acdc_BIN* block are listed below.

Table 98 Open Space Bin lookup tables

Lookup Table	Values
LU_OSBN_TYPE	COMPACTOR WHEELIE BIN HAND BIN RECYCLE WHEELIE BIN WHEELIE BIN WHEELIE STYLE OF GARBAGE BIN WHEELIE STYLE OF RECYCLE BIN
LU_OSBN_BIN_SIZE	80 LITRES 120 LITRES 240 LITRES UNKNOWN
LU_OSBN_SHROUD	CONCRETE METAL NO SHROUD PLASTIC WOOD
LU_GEN_YESNO	YES NO

Boundary Features

Bollards






Overview

Bollards are represented by the **acdc_BOLLARD** block inserted at the centre of the feature with attribute values specifying as constructed information.

Bollard layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 99 Bollard layers

Layer	Description	Linetype	Colour
acdc_BOLLARD_NEW	New bollard	Continuous	 140
acdc_BOLLARD_EXG	Existing bollard	Continuous	 147
acdc_BOLLARD_REM	Removed bollard	Continuous	 13

Bollard attribute information

The bollard block **acdc_BOLLARD** has 3 attributes. The table below lists each of these attributes and their requirements.

Table 100 Bollard block acdc_BOLLARD attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table	
BOLL_MATERIAL	Construction Material	Character	20	Yes	LU_BOLLARD_MATERIAL
BOLL_REMOVABLE*	Removable	Character	5	Yes	LU_GEN_YESNO
BOLL_LOCKTYPE	Lock Type	Character	80		

* Designates Mandatory attribute

Bollard lookup tables

Lookup tables used in the **acdc_BOLLARD** block are listed below.

Table 101 Bollard lookup tables

Lookup Table	Values
LU_GEN_YESNO	YES NO
LU_BOLLARD_MATERIAL	CONCRETE METAL PLASTIC ROCK TIMBER UNKNOWN WOOD

Boundaries






Overview

Boundary features like fencing, multiple log barriers and multiple rock boulders are represented by a linear feature (line, lightweight polyline) signifying the centreline with the **acdc_BOUNDARY** block inserted at a midpoint along one of the features segments with attribute values specifying as constructed information.

Boundary layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 102 Boundary layers

Layer	Description	Linetype	Colour
acdc_BOUNDARY_NEW	New boundary	Continuous	 240
acdc_BOUNDARY_EXG	Existing boundary	Continuous	 246
acdc_BOUNDARY_REM	Removed boundary	Continuous	 Red

Boundary attribute information

The boundary block **acdc_BOUNDARY** has 10 attributes. The table below lists each of these attributes and their requirements.

Table 103 Boundary block acdc_BOUNDARY attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table
BND_TYPE	Boundary Type	Character	60	Yes LU_BOUNDARY_TYPE
BND_LENGTH	Boundary Length	Real	22.3	
BND_MATERIAL	Boundary Material	Character	60	Yes LU_BOUNDARY_BOLL_MATRL
BND_PURPOSE*	Boundary Purpose	Character	50	Yes LU_BOUNDARY_PURPOSE
BND_WIRE	Boundary Wire	Character	50	
BND_POSTS	Boundary Posts	Character	50	Yes LU_BOUNDARY_POSTS
BND_END_ASSEMB	End Assembly	Character	50	Yes LU_BOUNDARY_POSTS
BND_TENURE	Boundary Tenure	Character	50	
BND_TERRAIN	Terrain	Character	50	
BND_VEGETATION_TYPE	Vegetation Type	Character	50	Yes LU_BOUNDARY_PCL_VEG

* Designates Mandatory attribute

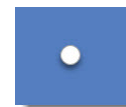
Boundary lookup tables

Lookup tables used in the *acdc_BOUNDARY* block are listed below.

Table 104 Boundary lookup tables

Lookup Table	Values
LU_BOUNDARY_TYPE	AGRICULTURAL (NETTING, RINGLOCK, PLAIN) BOLLARD (MULTIPLE) BOLLARD WITH CHAIN (MULTIPLE) DECORATIVE FENCE HIGH STANDARD ENCLOSURE FENCING LOG BARRIER (MULTIPLE) PALING PIPE FENCING POOL STYLE FENCING (PLAYGROUNDS) POST AND RAIL RAIL ROCK BOULDER (MULTIPLE) OTHER
LU_BOUNDARY_BOLL_MATRL	CONCRETE TIMBER METAL PLASTIC ROCK WOOD
LU_BOUNDARY_PURPOSE	AESTHETIC SCREENING CARPARK CONTAINMENT EASEMENT EXTERNAL BOUNDARY FENCE HISTORIC INTERNAL LITTER RETAINMENT PLAYGROUND ENCLOSURE RESTRICTING VEHICLE ACCESS RURAL LEASE FENCE SECURITY SOUND REDUCTION URBAN BOUNDARY WILDLIFE ENCLOSURE
LU_BOUNDARY_POSTS	CONCRETE GALVANISED WATER PIPE HARDWOOD STEEL TREATED PINE
LU_BOUNDARY_PCL_VEG	HEAVY FOREST IMPROVED PASTURE OR NATIVE GRASSLANDS LIGHT FOREST REGROWTH

Gates






Overview

Gates are represented by the **acdc_GATE** block inserted at the centre of the feature with attribute values specifying as constructed information.

Gate layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 105 Gate layers

Layer	Description	Linetype	Colour
acdc_GATE_NEW	New gate	Continuous	 140
acdc_GATE_EXG	Existing gate	Continuous	 7
acdc_GATE_REM	Removed gate	Continuous	 Red

Gate attribute information

The gate block **acdc_GATE** has 12 attributes. The table below lists each of these attributes and their requirements.

Table 106 Gate block acdc_GATE attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table
GATE_NAME	Gate Name	Character	50	
GATE_TYPE*	Gate Type	Character	50	Yes LU_GATE_TYPE
GATE_SIGN	Gate Sign	Character	50	Yes LU_GEN_YESNO
GATE_SINGLE_DOUBLE	Single or Double	Character	50	Yes LU_GATE_SINGLE_DOUBLE
GATE_COLLECTED_BY	Collected By	Character	50	
GATE_DATE_COLLECTED	Date Collected	Date		
GATE_WIDTH	Opening Width	Real	10	
GATE_PADLOCK_NUMBER_1	Padlock Number 1	Character	20	
GATE_PADLOCK_NUMBER_2	Padlock Number 2	Character	50	
GATE_PADLOCK_NUMBER_3	Padlock Number 3	Character	50	
GATE_PADLOCK_NUMBER_4	Padlock Number 4	Character	50	
GATE_PADLOCK_NUMBER_5	Padlock Number 5	Character	50	

* Designates Mandatory attribute

Gate lookup tables

Lookup tables used in the *acdc_GATE* block are listed below.

Table 107 Gate lookup tables

Lookup Table	Values
LU_GATE_TYPE	AGRICULTURAL GATE CATTLE GRID CATTLE GRID (BIKE) CAVELLETTI CHAIN GATE ENCLOSURE PEDESTRIAN ENCLOSURE VEHICLE LOG GATE PEDESTRIAN GATE PIPE GATE SECURITY SQUEEZE POST STEP GATE SUPERGATE TYPE NOT KNOWN
LU_GEN_YESNO	YES NO
LU_GATE_SINGLE_DOUBLE	SINGLE DOUBLE

Retaining Walls






Overview

Retaining walls are represented by a linear feature (line, lightweight polyline) signifying the centreline with the **acdc_WALL** block inserted at a midpoint along one of the features segments with attribute values specifying as constructed information.

Retaining Wall layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 108 Retaining Wall layers

Layer	Description	Linetype	Colour
acdc_RETAININGWALL_NEW	New retaining wall	Continuous	 140
acdc_RETAININGWALL_EXG	Existing retaining wall	Continuous	 141
acdc_RETAININGWALL_REM	Removed retaining wall	Continuous	 Red

Retaining Wall attribute information

The retaining wall block **acdc_WALL** has 8 attributes. The table below lists each of these attributes and their requirements.

Table 109 Retaining Wall block acdc_WALL attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table	
WALL_MATERIAL*	Wall Material	Character	80	Yes	LU_WALL_MATRL
WALL_SLOPE	Slope	Character	80		
WALL_LENGTH	Length	Real	22.3		
WALL_WIDTH	Width	Real	22.3		
WALL_MIN_HEIGHT*	Min Height	Real	22.2		
WALL_MAX_HEIGHT	Max Height	Real	11.2		
WALL_RAILING_ABOVE	Railing Above	Character	5	Yes	LU_GEN_YESNO
WALL_PAINTED	Wall Painted	Character	3	Yes	LU_GEN_YESNO

* Designates Mandatory attribute

Retaining Wall lookup tables

Lookup tables used in the *acdc_WALL* block are listed below.

Table 110 Retaining Wall lookup tables

Lookup Table	Values
LU_GEN_YESNO	YES NO
LU_WALL_MATRL	BESSER BLOCKS BRICK CAST IN SITU CONCRETE WALL COMPOSITE - REINFORCED CONCRETE + EARTH FILL EMBANKMENT COMPOSITE - REINFORCED CONCRETE + ZONED EARTH FILL EMBANKMENT CONCRETE EARTH FILL EMBANKMENT GABION MATTRESS WALL GLASS MASONRY PRECAST CONCRETE WALL REINFORCED CONCRETE ARCH REINFORCED CONCRETE GRAVITY ROCK FILL EMBANKMENT ROLLER COMPACTED CONCRETE GRAVITY SANDSTONE STEEL STONE STONE/CONCRETE TIMBER OTHER

Drinking Fountains






Overview

Drinking fountains are represented by the **acdc_DRINKING_FOUNTAIN** block inserted at the centre of the feature with attribute values specifying as constructed information.

Drinking Fountain layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 111 Drinking Fountain layers

Layer	Description	Linetype	Colour
acdc_DRINKING_FOUNTAIN_NEW	New drinking fountain	Continuous	 140
acdc_DRINKING_FOUNTAIN_EXG	Existing drinking fountain	Continuous	 162
acdc_DRINKING_FOUNTAIN_REM	Removed drinking fountain	Continuous	 Red

Drinking Fountain attribute information

The drinking fountain block **acdc_DRINKING_FOUNTAIN** has 2 attributes. The table below lists each of these attributes and their requirements.

Table 112 Drinking Fountain block acdc_DRINKING_FOUNTAIN attributes

Block Attribute	Attribute Label	Data Type	Max Length		Lookup Table
DRFN_MATERIAL*	Material	Character	50	Yes	LU_DRFN_MATERIAL
DRFN_OPERATIONAL	Operational	Character	50	Yes	LU_GEN_YESNO

* Designates Mandatory attribute

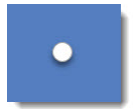
Drinking Fountain lookup tables

Lookup tables used in the **acdc_DRINKING_FOUNTAIN** block are listed below.

Table 113 Drinking Fountain lookup tables

Lookup Table	Values
LU_DRFN_MATERIAL	CONCRETE METAL PLASTIC
LU_GEN_YESNO	YES NO

Fitness Equipment






Overview

Fitness equipment is represented by the **acdc_FITNESS_SITE** block inserted at the centre of the feature with attribute values specifying as constructed information.

Fitness Equipment layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 114 Fitness Equipment layers

Layer	Description	Linetype	Colour
acdc_FITNESS_SITE_NEW	New fitness equipment	Continuous	 20
acdc_FITNESS_SITE_EXG	Existing fitness equipment	Continuous	 16
acdc_FITNESS_SITE_REM	Removed fitness equipment	Continuous	 Red

Fitness Equipment attribute information

The fitness equipment block **acdc_FITNESS_SITE** has 1 attribute. The table below lists each of these attributes and their requirements.

Table 115 Fitness Equipment block acdc_FITNESS_SITE attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table	
FISI_TYPE*	Type	Character	50	Yes	LU_FITNESS_SITE_TYPE

* Designates Mandatory attribute

Fitness Equipment lookup tables

Lookup tables used in the *acdc_FITNESS_SITE* block are listed below.

Table 116 Fitness Equipment lookup tables

Lookup Table	Values
LU_FITNESS_SITE_TYPE	AEROBIC WALKER BALANCE BEAM BENCH DIP BODY DIPS & LEG RAISES BODY LIFT BODY PULLS & PUSH UPS BODY TWIST BOX JUMPS CHEST PRESS CHEST PRESS & PULL DOWNS CHINUP BAR CLIMB OVER EXERCISE BIKE GORILLA BARS HORIZONTAL BAR HORIZONTAL LADDER HURDLES JUMP TO TOUCH LEAP FROG POLE LEG PRESS LEG RAISES & PULL UPS LOG HOP MULTI BENCH MULTI STATION PARALLEL BARS PING PONG TABLE PULL DOWNS PULL UPS PUSH UPS ROMAN RINGS SHOULDER PRESS SIT UP BENCH STAR JUMPS STEP UPS STRETCHING EQUIPMENT VAULT OTHER

Flags






Overview

Flags are represented by the **acdc_FLAGPOLE** block inserted at the centre of the feature with attribute values specifying as constructed information.

Flag layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 117 Flag layers

Layer	Description	Linetype	Colour
acdc_FLAG_NEW	New flag	Continuous	 50
acdc_FLAG_EXG	Existing flag	Continuous	 52
acdc_FLAG_REM	Removed flag	Continuous	 Red

Flag attribute information

The flag block **acdc_FLAGPOLE** has 3 attributes. The table below lists each of these attributes and their requirements.

Table 118 Flag block acdc_FLAGPOLE attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table	
FLAG_NAME	Name	Character	50		
FLAG_TYPE*	Type	Character	40	Yes	LU_FLAG_TYPE
FLAG_HALLARD	Halliard	Character	40	Yes	LU_FLAG_HALLIARD

* Designates Mandatory attribute

Flag lookup tables

Lookup tables used in the **acdc_FLAGPOLE** block are listed below.

Table 119 Flag lookup tables

Lookup Table	Values
LU_FLAG_HALLIARD	INTERNAL EXTERNAL
LU_FLAG_TYPE	WOOD METAL OTHER

Fountains






Overview

Fountains are represented by the **acdc_FOUNTAIN** block inserted at the centre of the feature with attribute values specifying as constructed information.

Fountain layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 120 Fountain layers

Layer	Description	Linetype	Colour
acdc_FOUNTAIN_NEW	New fountain	Continuous	 140
acdc_FOUNTAIN_EXG	Existing fountain	Continuous	 162
acdc_FOUNTAIN_REM	Removed fountain	Continuous	 Red

Fountain attribute information

The fountain block **acdc_FOUNTAIN** has 5 attributes. The table below lists each of these attributes and their requirements.

Table 121 Fountain block acdc_FOUNTAIN attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table
FNTN_NAME	Fountain Name	Character	50	
FNTN_PUMP_MAKE	Pump Make	Character	50	
FNTN_INSTALLATION_DATE	Installation Date	Date		
FNTN_ARTIST_NAME	Artist Name	Character	100	
FNTN_PURPOSE	Fountain Purpose	Character	100	

* Designates Mandatory attribute

Grassed Areas






Overview

Grassed areas are represented by a closed lightweight polyline signifying the perimeter with the **acdc_GRASS** block inserted inside with attribute values specifying as constructed information.

Grass layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 122 Grass layers

Layer	Description	Linetype	Colour
acdc_GRASS_NEW	New grass	Continuous	 82
acdc_GRASS_EXG	Existing grass	Continuous	 86
acdc_GRASS_REM	Removed grass	Continuous	 Red

Grass attribute information

The grass block **acdc_GRASS** has one attribute. The table below lists each of these attributes and their requirements.

Table 123 Grass block acdc_GRASS attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table
GRAS_TYPE	Grass Type	Character	50	Yes LU_GRASS_LAND_TYPE

* Designates Mandatory attribute

Grass lookup tables

Lookup tables used in the **acdc_GRASS** block are listed below.

Table 124 Grass lookup tables

Lookup Table	Values
LU_GRASS_LAND_TYPE	DRYLAND GRASS GRASS IN CONSOLIDATION PHASE IRRIGATED GRASS IRRIGATED TURF NATIVE GRASSLAND/WOODLAND SITE NON IRRIGATED TURF SYNTHETIC GRASS

Hard Landscape Areas






Overview

Hard landscaped areas including granite gravel, permeable paving and stone pitching are represented by a closed lightweight polyline signifying the perimeter with the **acdc_HARD_LANDSCAPE_AREA** block inserted inside with attribute values specifying as constructed information.

Hard Landscape Area layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 125 Hard Landscape Area layers

Layer	Description	Linetype	Colour
acdc_HARD_LANDSCAPED_AREA_NEW	New hard landscape area	Continuous	 9
acdc_HARD_LANDSCAPED_AREA_EXG	Existing hard landscape area	Continuous	 251
acdc_HARD_LANDSCAPED_AREA_REM	Removed hard landscape area	Continuous	 Red

Hard Landscape Area attribute information

The hard landscape area block **acdc_HARD_LANDSCAPE_AREA** has 2 attributes. The table below lists each of these attributes and their requirements.

Table 126 Hard Landscape Area block acdc_HARD_LANDSCAPE_AREA attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table	
GGBD_MATERIAL*	Material	Character	50	Yes	LU_GGBD_MATRL
EDGE_MATERIAL	Edge Material	Character	50	Yes	LU_EDGE_MATRL

* Designates Mandatory attribute

Hard Landscape Area lookup tables

Lookup tables used in the **acdc_HARD_LANDSCAPE_AREA** block are listed below.

Table 127 Hard Landscape Area lookup tables

Lookup Table	Values
LU_GGBD_MATRL	ASPHALT CONCRETE GRANITE GRAVEL PERMEABLE PAVING RUBBER SOFTFALL SHALE MULCH STONE PITCHING WHITE GRAVEL OTHER
LU_EDGE_MATRL	NONE BRICK CONCRETE METAL PAVER PLASTIC TIMBER

Irrigation System Controllers






Overview

Irrigation system controllers are represented by the **acdc_IRRIGATION** block inserted at the centre of the feature with attribute values specifying as constructed information.

Irrigation layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 128 Irrigation layers

Layer	Description	Linetype	Colour
acdc_IRRIGATION_NEW	New irrigation controller	Continuous	 140
acdc_IRRIGATION_EXG	Existing irrigation controller	Continuous	 162
acdc_IRRIGATION_REM	Removed irrigation controller	Continuous	 Red

Irrigation attribute information

The irrigation block **acdc_IRRIGATION** has 2 attributes. The table below lists each of these attributes and their requirements.

Table 129 Irrigation block acdc_IRRIGATION attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table
IRSY_NAME	Name	Character	80	
IRSY_MAKE	Make	Character	80	

* Designates Mandatory attribute



Boat Ramps




Overview

Boat ramps are represented by a closed lightweight polyline signifying the perimeter with the **acdc_BOATRAMP** block inserted inside with attribute values specifying as constructed information.

Boat Ramp layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 130 Boat Ramp layers

Layer	Description	Linetype	Colour
acdc_BOATRAMP_NEW	New boat ramp	Continuous	 253
acdc_BOATRAMP_EXG	Existing boat ramp	Continuous	 7
acdc_BOATRAMP_REM	Removed boat ramp	Continuous	 Red

Boat Ramp attribute information

The boat ramp block **acdc_BOATRAMP** has 2 attributes. The table below lists each of these attributes and their requirements.

Table 131 Boat Ramp block acdc_BOATRAMP attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table
BORA_NAME	Name	Character	50	
PAVE_SURFACE*	Path Surface	Character	80	Yes LU_PAVEMENT_SRFC

* Designates Mandatory attribute

Boat Ramp lookup tables

Lookup tables used in the **acdc_BOATRAMP** block are listed below.

Table 132 Boat Ramp lookup tables

Lookup Table	Values
LU_PAVEMENT_SRFC	BITUMEN BITUMEN + CONCRETE BITUMEN + CONCRETE + PAVERS CONCRETE GRAVEL MIXTURE OF BITUMEN + PAVERS MIXTURE OF CONCRETE + PAVERS PAVERS OR CONCRETE BLOCKS WOODEN (USUALLY A BRIDGE) OTHER UNKNOWN

Booms






Overview

Lake booms are represented by a linear feature (line, lightweight polyline) signifying the centreline with the **acdc_BOOM** block inserted at a midpoint along one of the features segments with attribute values specifying as constructed information.

Boom layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 133 Boom layers

Layer	Description	Linetype	Colour
acdc_BOOM_NEW	New boom	Continuous	 187
acdc_BOOM_EXG	Existing boom	Continuous	 7
acdc_BOOM_REM	Removed boom	Continuous	 Red

Boom attribute information

The boom block **acdc_BOOM** has 3 attributes. The table below lists each of these attributes and their requirements.

Table 134 Boom block acdc_BOOM attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table
BOOM_NAME	Name	Character	50	
BOOM_FLOAT	Boom Float	Integer	8	
BOOM_LENGTH	Length	Real	22.3	

* Designates Mandatory attribute

Buoys






Overview

Buoys are represented by the **acdc_BUOY** block inserted at the centre of the feature with attribute values specifying as constructed information.

Buoy layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 135 Buoy layers

Layer	Description	Linetype	Colour
acdc_BUOY_NEW	New buoy	Continuous	 232
acdc_BUOY_EXG	Existing buoy	Continuous	 236
acdc_BUOY_REM	Removed buoy	Continuous	 Red

Buoy attribute information

The buoy block **acdc_BUOY** has 1 attribute. The table below lists each of these attributes and their requirements.

Table 136 Buoy block acdc_BUOY attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table
BUOY_COLOR	Buoy Color	Character	10	

* Designates Mandatory attribute

Lake Fences






Overview

Lake fences are represented by a linear feature (line, lightweight polyline) signifying the centreline with the **acdc_LAKE_FENCE** block inserted at a midpoint along one of the features segments with attribute values specifying as constructed information.

Lake Fence layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 137 Lake Fence layers

Layer	Description	Linetype	Colour
acdc_LAKE_FENCE_NEW	New lake fence	Continuous	 232
acdc_LAKE_FENCE_EXG	Existing lake fence	Continuous	 236
acdc_LAKE_FENCE_REM	Removed lake fence	Continuous	 Red

Lake Fence attribute information

The lake fence block **acdc_LAKE_FENCE** has 1 attribute. The table below lists each of these attributes and their requirements.

Table 138 Lake Fence block acdc_LAKE_FENCE attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table
LAFE_FENCE_TYPE*	Fence Type	Character	30	Yes LU_LAKE_FENCE_TYPE

* Designates Mandatory attribute

Lake Fence lookup tables

Lookup tables used in the **acdc_LAKE_FENCE** block are listed below.

Table 139 Lake Fence lookup tables

Lookup Table	Values
LU_LAKE_FENCE_TYPE	METAL WOOD






Overview

Jetties are represented by a closed lightweight polyline signifying the perimeter with the **acdc_JETTY** block inserted inside with attribute values specifying as constructed information.

Jetty layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 140 Jetty layers

Layer	Description	Linetype	Colour
acdc_JETTY_NEW	New jetty	Continuous	 232
acdc_JETTY_EXG	Existing jetty	Continuous	 236
acdc_JETTY_REM	Removed jetty	Continuous	 Red

Jetty attribute information

The jetty block **acdc_JETTY** has 2 attributes. The table below lists each of these attributes and their requirements.

Table 141 Jetty block acdc_JETTY attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table
JETT_NAME	Name	Character	50	
JETT_HANDRAIL_TYPE	Handrail Type	Character	40	Yes LU_JETTY_HANDRAIL_TYPE

* Designates Mandatory attribute

Jetty lookup tables

Lookup tables used in the **acdc_JETTY** block are listed below.

Table 142 Jetty lookup tables

Lookup Table	Values
LU_JETTY_HANDRAIL_TYPE	NONE METAL PLASTIC TIMBER

Lake Ladders






Overview

Lake ladders are represented by the **acdc_LAKE_LADDER** block inserted at the centre of the feature with attribute values specifying as constructed information.

Lake Ladder layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 143 Lake Ladder layers

Layer	Description	Linetype	Colour
acdc_LAKE_LADDER_NEW	New lake ladder	Continuous	 232
acdc_LAKE_LADDER_EXG	Existing lake ladder	Continuous	 236
acdc_LAKE_LADDER_REM	Removed lake ladder	Continuous	 Red

Lake Ladder attribute information

The lake ladder block **acdc_LAKE_LADDER** has 1 attribute. The table below lists each of these attributes and their requirements.

Table 144 Lake Ladder block acdc_LAKE_LADDER attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table
LALA_LOCATION	Location	Character	80	

* Designates Mandatory attribute

Lake Posts






Overview

Lake posts are represented by the **acdc_LAKE_POST** block inserted at the centre of the feature with attribute values specifying as constructed information.

Lake Post layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 145 Lake Post layers

Layer	Description	Linetype	Colour
acdc_LAKE_POST_NEW	New lake post	Continuous	 232
acdc_LAKE_POST_EXG	Existing lake post	Continuous	 8
acdc_LAKE_POST_REM	Removed lake post	Continuous	 Red

Lake Post attribute information

The lake post block **acdc_LAKE_POST** has 1 attribute. The table below lists each of these attributes and their requirements.

Table 146 Lake Post block acdc_LAKE_POST attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table
LAPO_MATERIAL	Material	Character	50	

* Designates Mandatory attribute

Lakes

Beaches






Overview

Beaches are represented by a linear feature (line, lightweight polyline) signifying the shoreline with the **acdc_BEACH** block inserted at a midpoint along one of the features segments with attribute values specifying as constructed information.

Beach layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 147 Beach layers

Layer	Description	Linetype	Colour
acdc_LAKE_BEACH_NEW	New beach	Continuous	 140
acdc_LAKE_BEACH_EXG	Existing beach	Continuous	 170
acdc_LAKE_BEACH_REM	Removed beach	Continuous	 Red

Beach attribute information

The beach block **acdc_BEACH** has 2 attributes. The table below lists each of these attributes and their requirements.

Table 148 Beach block acdc_BEACH attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table
BEAC_NAME	Beach Name	Character	50	
BEAC_AREA	Area	Real	22.3	

* Designates Mandatory attribute

Ponds






Overview

Ponds including bio retention basins, lakes, wetlands and water reservoirs are represented by a closed lightweight polyline signifying the perimeter with the **acdc_POND** block inserted inside with attribute values specifying as constructed information.

Pond layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 149 Pond layers

Layer	Description	Linetype	Colour
acdc_POND_NEW	New pond	Continuous	 140
acdc_POND_EXG	Existing pond	Continuous	 170
acdc_POND_REM	Removed pond	Continuous	 Red

Pond attribute information

The pond block **acdc_POND** has 3 attributes. The table below lists each of these attributes and their requirements.

Table 150 Pond block acdc_POND attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table
ULP_NAME*	Name	Character	50	
ULP_TYPE*	Type	Character	50	Yes LU_URBN_LAKES_PND_TYPE
ULP_WATER_BODY	Water Body Area	Varchar	22	Yes LU_GEN_YESNO

* Designates Mandatory attribute

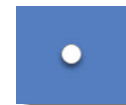
Pond lookup tables

Lookup tables used in the **acdc_POND** block are listed below.

Table 151 Pond lookup tables

Lookup Table	Values
LU_GEN_YESNO	YES NO
LU_URBN_LAKES_PND_TYPE	BIO RETENTION BASIN CREEK (MAN MADE) NOT HANDED OVER TO DEPARTMENT RIVER URBAN LAKE URBAN POND WATER FEATURE WATER RESEVOIR WETLAND

Memorials






Overview

Memorials are represented by the **acdc_MEMORIAL** block inserted at the centre of the feature with attribute values specifying as constructed information.

Memorial layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 152 Memorial layers

Layer	Description	Linetype	Colour
acdc_MEMORIAL_NEW	New memorial	Continuous	 50
acdc_MEMORIAL_EXG	Existing memorial	Continuous	 52
acdc_MEMORIAL_REM	Removed memorial	Continuous	 Red

Memorial attribute information

The memorial block **acdc_MEMORIAL** has 6 attributes. The table below lists each of these attributes and their requirements.

Table 153 Memorial block acdc_MEMORIAL attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table
MEMO_PURPOSE	Purpose	Character	100	
MEMO_PART_OF_WALL	Part of Wall	Character	5	Yes LU_GEN_YESNO
MEMO_NAME*	Name	Character	50	
MEMO_CONSTRUCTED_BY	Constructed By	Character	50	
MEMO_CONSTRUCTION_MATERIAL	Construction Material	Character	50	Yes LU_MEMO_CONST_MATRL
MEMO_INSTALLATION_DATE	Installation Date	Date		

* Designates Mandatory attribute

Memorial lookup tables

Lookup tables used in the **acdc_MEMORIAL** block are listed below.

Table 154 Memorial lookup tables

Lookup Table	Values
LU_GEN_YESNO	YES NO
LU_MEMO_CONST_MATRL	GARDEN BED PART OF WALL PAVING ROCK SCULPTURE SEAT OTHER

Notice Boards






Overview

Noticeboards are represented by the **acdc_NOTICEBOARD** block inserted at the centre of the feature with attribute values specifying as constructed information.

Notice Board layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 155 Notice Board layers

Layer	Description	Linetype	Colour
acdc_NOTICEBOARD_NEW	New notice board	Continuous	 20
acdc_NOTICEBOARD_EXG	Existing notice board	Continuous	 16
acdc_NOTICEBOARD_REM	Removed notice board	Continuous	 Red

Notice Board attribute information

The notice board block **acdc_NOTICEBOARD** has 5 attributes. The table below lists each of these attributes and their requirements.

Table 156 Notice Board block acdc_NOTICEBOARD attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table
NTB_TYPE*	Type	Character	50	
NTB_CONSTRUCTION_MATERIAL*	Construction Material	Character	50	Yes LU_NOTICEBOARD_CONST
NTB_COVERED	Covered	Character	10	Yes LU_GEN_YESNO
NTB_LOCK_TYPE	Lock Type	Character	20	
NTB_KEY HOLDER	Key Holder	Character	50	

* Designates Mandatory attribute

Notice Board lookup tables

Lookup tables used in the **acdc_NOTICEBOARD** block are listed below.

Table 157 Notice Board lookup tables

Lookup Table	Values
LU_GEN_YESNO	YES NO
LU_NOTICEBOARD_CONST	CONCRETE METAL METAL/GLASS METAL/PLASTIC TIMBER TIMBER/GLASS TIMBER/PLASTIC

Park Structures






Overview

Park structures are represented by the **acdc_PARK_STRUCTURE** block inserted at the centre of the feature with attribute values specifying as constructed information.

Park Structure layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 158 Park Structure layers

Layer	Description	Linetype	Colour
acdc_PARK_STRUCTURE_NEW	New park structure	Continuous	 51
acdc_PARK_STRUCTURE_EXG	Existing park structure	Continuous	 8
acdc_PARK_STRUCTURE_REM	Removed park structure	Continuous	 Red

Park Structure attribute information

The park structure block **acdc_PARK_STRUCTURE** has 6 attributes. The table below lists each of these attributes and their requirements.

Table 159 Park Structure block acdc_PARK_STRUCTURE attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table
PSTR_NAME	Name	Character	50	
PSTR_TYPE*	Type	Character	50	Yes LU_PARK_STRUC_TYPE
PSTR_DESCRIPTION	Description	Character	200	
PSTR_FRAME_MATERIAL	Frame Material	Character	50	
PSTR_DECK_MATERIAL	Deck Material	Character	50	
PSTR_CONSTRUCTION_MATERIAL	Other Construction Material	Character	50	

* Designates Mandatory attribute

Park Structure lookup tables

Lookup tables used in the **acdc_PARK_STRUCTURE** block are listed below.

Table 160 Park Structure lookup tables

Lookup Table	Values
LU_PARK_STRUC_TYPE	BIRD HIDE BOARDWALK CAGE DOG PARK FENCED EXERCISE AREA FLOOD DEBRIS FENCE FORMER BAT CAVE FORMER TROUT HATCHERY HANDRAIL LOOKOUT OTHER TYPE OF STRUCTURE RURAL OWNED BUILDING SHIPPING CONTAINER SOLAR PANEL STAGE WATER PUMP

Park Signs






Overview

Park signs are represented by the **acdc_SIGNAGE** block inserted at the centre of the feature with attribute values specifying as constructed information.

Park Sign layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 161 Park Sign layers

Layer	Description	Linetype	Colour
acdc_PARK_SIGNAGE_NEW	New park sign	Continuous	 50
acdc_PARK_SIGNAGE_EXG	Existing park sign	Continuous	 51
acdc_PARK_SIGNAGE_REM	Removed park sign	Continuous	 Red

Park Sign attribute information

The park sign block **acdc_SIGNAGE** has 6 attributes. The table below lists each of these attributes and their requirements.

Table 162 Park Sign block acdc_SIGNAGE attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table
SIGN_TYPE	Type	Character	80	Yes LU_PARK_SIGN_TYPE
SIGN_PURPOSE	Purpose	Character	50	
SIGN_DESCRIPTION	Description	Character	254	
SIGN_MATERIAL	Sign Material	Character	50	Yes LU_PARK_SIGN_MATRL
SIGN_CONSTRUCTION_VALUE	Construction Value	Real	10.3	
SIGN_TEXT	Sign Text	Character	200	

* Designates Mandatory attribute

Park Sign lookup tables

Lookup tables used in the *acdc_SIGNAGE* block are listed below.

Table 163 Park Sign lookup tables

Lookup Table	Values
LU_PARK_SIGN_MATRL	METAL MASONRY PLASTIC PLYWOOD TIMBER OTHER
LU_PARK_SIGN_TYPE	CAT CONTAINMENT AREA FIRE SIGN FITNESS SITE SIGN HORSE SIGNS ILLEGAL DUMPING INFORMATION PANEL METAL BLADE ON POST RESERVE ENTRY MAJOR RESERVE ENTRY MINOR ROAD SIGNS TCCS STANDARD DISTRICT PARK AND URBAN OPEN SPACE INFORMATION AND DIRECTION TCCS STANDARD DISTRICT PARK AND URBAN OPEN SPACE MINOR IDENTIFICATION TCCS STANDARD DISTRICT PARK MAJOR IDENTIFICATION TCCS STANDARD NEIGHBOURHOOD PARK INFORMATION AND IDENTIFICATION TCCS STANDARD TOWN PARK DIRECTION TCCS STANDARD TOWN PARK IDENTIFICATION TCCS STANDARD TOWN PARK INFORMATION TIMBER TOTEM WALK MARKER WARNING OTHER

Parks






Overview

Parks are represented by a closed lightweight polyline signifying the perimeter with the **acdc_PARK_AREA** block inserted inside with attribute values specifying as constructed information.

Park layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 164 Park layers

Layer	Description	Linetype	Colour
acdc_PARK_NEW	New park	Continuous	 50
acdc_PARK_EXG	Existing park	Continuous	 7
acdc_PARK_REM	Removed park	Continuous	 Red

Park attribute information

The park block **acdc_PARK_AREA** has 5 attributes. The table below lists each of these attributes and their requirements.

Table 165 Park block acdc_PARK_AREA attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table
UOS_NAME*	Name	Character	50	
UOS_PARK_TYPE*	Park Type	Character	40	Yes LU_URBN_OPN_SPC_TYPE
UOS_TERRITORY_PLAN*	Territory Plan	Character	5	
UOS_PARK_AREA	Park Area	Real	22.3	
UOS_GAZETTED_NAME	Gazetted Name	Character	50	

* Designates Mandatory attribute

Park lookup tables

Lookup tables used in the *acdc_PARK_AREA* block are listed below.

Table 166 Park lookup tables

Lookup Table	Values
LU_URBN_OPN_SPC_TYPE	COMMUNITY PARK DISTRICT PARK LANEWAY MAINTAINED BY DEVELOPER MANAGED BY NCA FOR PCL NATIVE GRASSLAND SITE NEIGHBOURHOOD PARK PEDESTRIAN PARKLAND ROAD MEDIAN ROAD VERGE SEMI NATURAL OPEN SPACE TOWN PARK UOS IN CONSOLIDATION PHASE UOS INTERIM HANDOVER - MAINTAINED BY DEVELOPER UOS NOT IN CONSOLIDATION OR HANDED OVER YET

Playground Features - Playground Areas






Overview

Playground areas are represented by a closed lightweight polyline signifying the perimeter with the **acdc_PLAYGROUND_AREA** block inserted inside with attribute values specifying as constructed information.

Playground Area layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 167 Playground Area layers

Layer	Description	Linetype	Colour
acdc_PLAYGROUND_AREA_NEW	New playground area	Continuous	 50
acdc_PLAYGROUND_AREA_EXG	Existing playground area	Continuous	 40
acdc_PLAYGROUND_AREA_REM	Removed playground area	Continuous	 Red

Playground Area attribute information

The playground area block **acdc_PLAYGROUND_AREA** has 13 attributes. The table below lists each of these attributes and their requirements.

Table 168 Playground Area block acdc_PLAYGROUND_AREA attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table	
PLAR_SURFACE*	Surface Type	Character	50	Yes	LU_PLAYGRND_SRFC_TYPE
PLAR_SURFACE_AREA	Surface Area	Real	50.2		
PLAR_PERIMETER	Perimeter	Real	50.2		
PLAR_EDGING	Edging	Character	50	Yes	LU_GEN_YESNO
PLAR_EDGING_TYPE	Edging Type	Character	50	Yes	LU_PLAYGRND_EDGE_TYPE
PLAR_FENCING_TYPE	Fencing Type	Character	50		
PLAR_OTHER_UNDERSURFACE_1	Other undersurface1	Character	50		
PLAR_OTHER_SURFACE_TYPE	Other Surface Type	Character	50		
PLAR_OTHER_SURFACE_AREA	Other Surface Area	Character	50		
PLAR_AGE_RANGE03	Age Range - 0 To 3	Character	50	Yes	LU_GEN_YESNO
PLAR_AGE_RANGE07	Age Range - 4 To 7	Character	50	Yes	LU_GEN_YESNO
PLAR_AGE_RANGE12	Age Range - 8 To 12	Character	50	Yes	LU_GEN_YESNO
PLAR_AGE_RANGE_13	Age Range - 13 Plus	Character	50	Yes	LU_GEN_YESNO

* Designates Mandatory attribute

Playground Area lookup tables

Lookup tables used in the *acdc_PLAYGROUND_AREA* block are listed below.

Table 169 Playground Area lookup tables

Lookup Table	Values
LU_GEN_YESNO	YES NO
LU_PLAYGRND_EDGE_TYPE	NONE BLUESTONE BRICK CONCRETE FENCE MIXED PAVERS PLASTIC ROCK ROCK WALL RUBBER TIMBER (COPPERS LOG) TIMBER (SLEEPER)
LU_PLAYGRND_SRFC_TYPE	NONE ASPHALT SURFACE CONCRETE SURFACE GRASS (SYNTHETIC) GRAVEL SURFACE MULCH NATURAL MIXED RUBBER SURFACE SAND SURFACE TANBARK SURFACE

Playground Equipment






Overview

Playground equipment is represented by the **acdc_PLAYGROUND_EQUIPMENT** block inserted at the centre of the feature with attribute values specifying as constructed information.

Playground Equipment layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 170 Playground Equipment layers

Layer	Description	Linetype	Colour
acdc_PLAYGROUND_EQUIPMENT_NEW	New playground equipment	Continuous	 230
acdc_PLAYGROUND_EQUIPMENT_EXG	Existing playground equipment	Continuous	 234
acdc_PLAYGROUND_EQUIPMENT_REM	Removed playground equipment	Continuous	 Red

Playground Equipment attribute information

The playground equipment block **acdc_PLAYGROUND_EQUIPMENT** has 2 attributes. The table below lists each of these attributes and their requirements.

Table 171 Playground Equipment block acdc_PLAYGROUND_EQUIPMENT attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table
EQPM_TYPE*	Equipment Type	Character	50	Yes LU_PLAY_EQUIPMENT
EQPM_DETAILS	Equipment Details	Character	50	

* Designates Mandatory attribute

Playground Equipment lookup tables

Lookup tables used in the *acdc_PLAYGROUND_EQUIPMENT* block are listed below.

Table 172 Playground Equipment lookup tables

Lookup Table	Values	
LU_PLAY_EQUIPMENT	ACCESS (RAMP)	PANEL (2 HORIZONTAL GUARDRAILS)
	ACCESS (RUNG LADDER)	PANEL (3 HORIZONTAL GUARDRAILS)
	ACCESS (STAIRWAY)	PANEL (ABACUS)
	ACCESS (STEP LADDER)	PANEL (ACTIVITY)
	ARCH	PANEL (ALPHABET)
	BALANCE BEAM	PANEL (ARCH)
	BALANCE BEAM (CHAIN SUSPENDED)	PANEL (BALL PLAY)
	BALANCE BEAM (SEESAW WALK)	PANEL (BUBBLE)
	BALANCE BEAM (SPRING WALK)	PANEL (CHALKBOARD)
	BALANCE PLATFORM	PANEL (CLOCK)
	BALANCE ROCKING TUBE	PANEL (CRAWL THROUGH)
	BALANCE SKATEBOARD SIMULATOR	PANEL (CUBBY/HALF HEIGHT)
	BALANCE STOOLS	PANEL (INFILLED)
	BALANCE WALK	PANEL (KALEIDOSCOPE)
	BEAD ELEMENT	PANEL (MAZE)
	BINOCULARS	PANEL (MIRROR)
	BOAT (SMALL)	PANEL (MOON AND STARS)
	BRIDGE (ARCHED)	PANEL (OTHER)
	BRIDGE (BURMESE)	PANEL (SEAT)
	BRIDGE (CAT/HALF HOOPS)	PANEL (SHOP COUNTER)
	BRIDGE (CLATTER)	PANEL (SHOPFRONT)
	BRIDGE (HOOP)	PANEL (SUN)
	BRIDGE (INCLINED LADDER)	PANEL (TIC-TAC-TOE)
	BRIDGE (INCLINED)	PANEL (VERTICAL RAILS)
	BRIDGE (JUNGLE POLES)	PANEL (WINDOW)
	BRIDGE (LATTICE)	PARALLEL BARS (HORIZONTAL)
	BRIDGE (NETTING)	PERISCOPE
	BRIDGE (OTHER)	PLAY HOOPS
	BRIDGE (OVERHEAD FIXED RINGS)	PLAY LETTERS
	BRIDGE (OVERHEAD LADDER)	PLAY POLES
	BRIDGE (OVERHEAD SPIN RINGS)	PLAY STATION
	BRIDGE (OVERHEAD SWING RINGS)	PLAY WALL
	BRIDGE (POMMEL WALK)	PLAYPADS
	BRIDGE (REVERSE ARCH)	POMMEL WALK
	BRIDGE (RUBBER BELT)	PUNCHING BAG
	BRIDGE (STRAIGHT)	ROCKER (MULTIDIRECTIONAL)
	BRIDGE (SUSPENSION)	ROCKER (SEESAW FRAME MOUNTED)
	BRIDGE (TYRE)	ROCKER (SEESAW NO SPRINGS)
	BRIDGE (VERTICAL HOOPS)	ROCKER (SEESAW OTHER)
	BRIDGE (WAVE)	ROCKER (SEESAW SPRINGS)
	BUBBLE (BOUNCING)	ROCKER (SPRING DOUBLE)
	BUBBLE (SPINNER)	ROCKER (SPRING)
	CAROUSEL	ROCKER (SPRINGLESS RIDER)
	CAROUSEL (ROTATING EGG)	ROCKER (WIDE SEESAW SPRINGS)
	CAROUSEL (ROTATING SAUCER)	ROOF
	CAROUSEL (TURNTABLE)	SAND BUCKET AND WINCH
	CHILD CENTRE ITEMS (OTHER)	SAND DIGGER

CHIN-UP/TURN-OVER BARS	SAND PIT
CLATTER WHEEL	SAND PLAY FEATURE
CLIMBER (ARCH RUNG-CONCAVE)	SAND/MULCH SCOOP (HAND HELD)
CLIMBER (ARCH RUNG-CONVEX)	SAND/MULCH SHUTE
CLIMBER (BEAD)	SCALE ROCKER (DOUBLE)
CLIMBER (BELL TOWER)	SCALE ROCKER (SINGLE)
CLIMBER (BLOCK SCRAMBLER)	SCULPTURE
CLIMBER (CLEATED/ROCK RAMP)	SEAT
CLIMBER (CORKSCREW-ANGLED)	SLIDE (CURVED)
CLIMBER (CORKSCREW-VERTICAL)	SLIDE (EMBANKMENT)
CLIMBER (DNA)	SLIDE (ROLLER)
CLIMBER (HALF HOOPS-ANGLED)	SLIDE (SNAKE)
CLIMBER (HALF HOOPS-ARCHED)	SLIDE (SPIRAL)
CLIMBER (HONEYCOMB)	SLIDE (STRAIGHT)
CLIMBER (HOOP-ANGLED)	SLIDE (STRAIGHT-TWIN)
CLIMBER (HOOP-ARCHED)	SLIDE (TRIPLE)
CLIMBER (HOOP-VERTICAL)	SLIDE (TUNNEL-CURVED)
CLIMBER (INFINITY LOOP)	SLIDE (TUNNEL-STRAIGHT)
CLIMBER (LADDER)	SLIDE (TWIN POLE)
CLIMBER (LATTICE)	SLIDE (WAVE)
CLIMBER (OTHER)	SLIDE (WAVE-TWIN)
CLIMBER (POMMEL)	SLIDE (WIDE)
CLIMBER (POMMEL-TRI)	SLIDE BAR (BANISTER RAIL)
CLIMBER (RING WALL)	SOUND DISHES
CLIMBER (RIPPLE RAMP)	SOUND TUBE
CLIMBER (RUNG CHAIN LADDER)	SPIN BOWL
CLIMBER (RUNG CHAIN NET)	SPIN PLATFORM (TURNTABLE)
CLIMBER (SCRAMBLE NET)	SPIN POLE
CLIMBER (SNAKE)	SPINNER
CLIMBER (SPACENET)	SPINNER (COMET)
CLIMBER (SPIDER NET)	SPINNER (OVERHEAD)
CLIMBER (STEP)	SPINNING EGG
CLIMBER (TRI-BALL)	SQUEEZE BARS
CLIMBER (TUNNEL LADDER)	STEERING WHEEL
CLIMBER (TYRE WALL)	STEPPING STONES
CLIMBER (TYRES-HORIZONTAL)	SUPERNOVA
CLIMBER (ZIPPER)	SWING (BALL ROPE)
CLIMBING STRUCTURE (OTHER)	SWING (CHAIR)
CLIMBING STRUCTURE (SPIDER NET)	SWING (CLIMBING ROPE)
CLIMBING WALL (ROCK TYPE)	SWING (CRADLE SEAT)
CLIMBING WALL (WITH CHAIN)	SWING (DISK)
CLIMBING WALL (WITH FOOT/HANDHOLDS)	SWING (EQUAL ACCESS)
CLIMBING WALL (WITH ROPE)	SWING (FLAT SEAT)
COMMANDO ROPES	SWING (LADDER)
COMPASS	SWING (NEST/BASKET)
CONVEYOR BELT	SWING (POMMEL)
CUBBY HOUSE	SWING (ROMAN RINGS)
DECK	SWING (SHORT)
DECK (CIRCULAR/OVAL)	SWING (STRAP SEAT)
DECK (POLYGON)	SWING (TODDLER SEAT)
DECK (RECTANGULAR)	SWING (TRAPEZE)
DECK (SQUARE)	SWING (TYRE BASKET)
DECK (TRANSITION)	SWING (TYRE-MULTIDIRECTIONAL)
DECK (TRIANGULAR)	SWING (WHEELCHAIR)

DIGGING PIT	SWING FRAME (DOUBLE)
EXERCISE ARM WINCH	TABLE
EXERCISE BENCH	TELESCOPE
EXERCISE HURDLES	TRACKGLIDE
EXERCISE PUSH-UP BARS	TRACTOR
FIRE POLE	TRAIN / VEHICLE / CARRIAGE
FLYING FOX (ON WIRE/ROPE)	TRESTLES/A-FRAMES
FORT / PLATFORM	TRUCK
GOALS	TUNNEL (ABOVE GROUND)
HAMMOCK	TUNNEL (IN GROUND)
KALEIDOSCOPE VIEWER	TUNNEL (VERTICAL WITH LADDER)
LOG ROLLER	TURNOVER HOOPS
MAZE	TYRE
MEGAPHONE	UFO SEAT
MONKEY BARS	VEHICLE
MUSICAL ELEMENT	WATER PLAY FEATURE
PADDLE WHEEL	WATER PUMP
PANEL	WEAVE POLES
PANEL (HORIZONTAL GUARDRAIL)	

Power Outlets






Overview

Power outlets are represented by the **acdc_POWER_OUTLET** block inserted at the centre of the feature with attribute values specifying as constructed information.

Power Outlet layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 173 Power Outlet layers

Layer	Description	Linetype	Colour
acdc_POWER_OUTLET_NEW	New power outlet	Continuous	 50
acdc_POWER_OUTLET_EXG	Existing power outlet	Continuous	 52
acdc_POWER_OUTLET_REM	Removed power outlet	Continuous	 Red

Power Outlet attribute information

The power outlet block **acdc_POWER_OUTLET** has 7 attributes. The table below lists each of these attributes and their requirements.

Table 174 Power Outlet block acdc_POWER_OUTLET attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table
PWOT_3PHASE	Number of 3 Phase Outlets	Integer	2	
PWOT_MATERIALS	Construction Material	Character	50	LU_PWOT_CONST_MAT Yes RL
PWOT_240V	Number of 240V Outlets	Integer	2	
PROT_15A	Number of 15 Amp Outlets	Integer	10	
PROT_DISTRIBUTION_BOARD_ID	Distribution Board ID	Character	80	
PROT_DISTRIBUTION_BOARD_LOC	Distribution Board Location	Character	80	
PWOT_CIRCUIT_BREAKER_ID	Circuit Breaker Number	Character	80	

* Designates Mandatory attribute

Power Outlet lookup tables

Lookup tables used in the **acdc_POWER_OUTLET** block are listed below.

Table 175 Power Outlet lookup tables

Lookup Table	Values
LU_PWOT_CONST_MATRL	MASONRY METAL PART OF WALL OTHER

Recreational Courts






Overview

Recreational courts including basketball courts, handball courts and tennis courts are represented by a closed lightweight polyline signifying the perimeter with the **acdc_RECREATIONAL_COURT** block inserted inside with attribute values specifying as constructed information.

Recreational Court layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 1 Recreational Court layers

Layer	Description	Linetype	Colour
acdc_RECREATIONAL_COURT_NEW	New recreational court	Continuous	 50
acdc_RECREATIONAL_COURT_EXG	Existing recreational court	Continuous	 52
acdc_RECREATIONAL_COURT_REM	Removed recreational court	Continuous	 Red

Recreational Court attribute information

The recreational court block **acdc_RECREATIONAL_COURT** has 4 attributes. The table below lists each of these attributes and their requirements.

Table 2 Recreational court block acdc_BASKETBALLCOURT attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table
BSKT_SPORT	Sport	Character	80	Yes LU_BSKBALL_SPORT
BSKT_NOTES	Notes	Character	200	
BSKT_TYPE*	Type	Character	50	Yes LU_BSKBALL_CRT_TYPE
BSKT_SURFACE	Surface Material	Character	50	Yes LU_BSKBALL_CRT_SRFC_TYPE

* Designates Mandatory attribute

Recreational Court lookup tables

Lookup tables used in the *acdc_RECREATIONAL_COURT* block are listed below.

Recreational court lookup tables

Lookup Table Name	Allowable Values
LU_BSKBALL_SPORT	BASKETBALL HANDBALL MULTIPURPOSE NETBALL TENNIS VOLLEYBALL OTHER
LU_BSKBALL_CRT_TYPE	4 WAY HOOP DOUBLE COURT HALF COURT SINGLE COURT OTHER
LU_BSKBALL_CRT_SRFC_TYPE	ASPHALT CONCRETE GRASS (SYNTHETIC)

Seats






Overview

Seats and benches are represented by the **acdc_SEAT** block inserted at the centre of the feature with attribute values specifying as constructed information.

Seat layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 176 Seat layers

Layer	Description	Linetype	Colour
acdc_SEAT_NEW	New seat	Continuous	 20
acdc_SEAT_EXG	Existing seat	Continuous	 16
acdc_SEAT_REM	Removed seat	Continuous	 Red

Seat attribute information

The seat block **acdc_SEAT** has 3 attributes. The table below lists each of these attributes and their requirements.

Table 177 Seat block acdc_SEAT attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table
SEAT_CONSTRUCTION_MATERIAL*	Seat Construction Material	Character	50	Yes LU_SEAT_MATRL
SEAT_FRAME_MATERIAL	Frame Construction Material	Character	50	Yes LU_SEAT_FRAME_MATRL
SEAT_BENCH	Bench	Character	20	Yes LU_GEN_YESNO

* Designates Mandatory attribute

Seat lookup tables

Lookup tables used in the *acdc_SEAT* block are listed below.

Table 178 Seat lookup tables

Lookup Table	Values
LU_GEN_YESNO	YES NO
LU_SEAT_FRAME_MATRL	BRICK CONCRETE METAL PLASTIC TIMBER
LU_SEAT_MATRL	CONCRETE FIBREGLASS METAL PLASTIC STONE TIMBER

Shelters






Overview

Shelters including pergolas, sails and screens are represented by the **acdc_SHELTER** block inserted at the centre of the feature with attribute values specifying as constructed information.

Shelter layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 179 Shelter layers

Layer	Description	Linetype	Colour
acdc_SHELTER_NEW	New shelter	Continuous	 20
acdc_SHELTER_EXG	Existing shelter	Continuous	 16
acdc_SHELTER_REM	Removed shelter	Continuous	 Red

Shelter attribute information

The shelter block **acdc_SHELTER** has 4 attributes. The table below lists each of these attributes and their requirements.

Table 180 Shelter block acdc_SHELTER attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table
SHTR_NAME	Name	Character	50	
SHTR_TYPE*	Type	Character	50	Yes LU_SHELTER_TYPE
SHTR_VEGETATION	Vegetation	Character	10	Yes LU_GEN_YESNO
SHTR_MATERIAL	Material	Character	50	

* Designates Mandatory attribute

Shelter lookup tables

Lookup tables used in the **acdc_SHELTER** block are listed below.

Table 181 Shelter lookup tables

Lookup Table	Values
LU_GEN_YESNO	YES NO
LU_SHELTER_TYPE	FIXED ROOF PERGOLA SAIL SCREEN OTHER

Shrub Beds






Overview

Shrub beds including rain gardens and mulched areas are represented by a closed lightweight polyline signifying the perimeter with the **acdc_SHRUBBED** block inserted inside with attribute values specifying as constructed information.

Shrub Bed layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 182 Shrub Bed layers

Layer	Description	Linetype	Colour
acdc_SHRUBBED_NEW	New shrub bed	Continuous	 82
acdc_SHRUBBED_EXG	Existing shrub bed	Continuous	 86
acdc_SHRUBBED_REM	Removed shrub bed	Continuous	 Red

Shrub Bed attribute information

The shrub bed block **acdc_SHRUBBED** has 5 attributes. The table below lists each of these attributes and their requirements.

Table 183 Shrub Bed block acdc_SHRUBBED attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table
SHBD_TYPE*	Type	Character	50	Yes LU_SHRUB_BED_TYPE
SHBD_SPECIES	Dominant Species	Character	50	
SHBD_FEATURE	Landscaped Road Feature	Character	5	Yes LU_GEN_YESNO
SHBD_FLORAL	Floral Bed	Character	5	Yes LU_GEN_YESNO
SHBD_AQUATIC	Aquatic Planting	Character	5	Yes LU_GEN_YESNO

* Designates Mandatory attribute

Shrub Bed lookup tables

Lookup tables used in the **acdc_SHRUBBED** block are listed below.

Table 184 Shrub Bed lookup tables

Lookup Table	Values
LU_GEN_YESNO	YES NO
LU_SHRUB_BED_TYPE	EXOTIC SHRUB MIXED SHRUBS MULCH BED ONLY (SHRUBS ABSENT) NATIVE SHRUB RAIN GARDEN SWALE (WATER WAY) UNKNOWN

Skate Parks






Overview

Skate parks are represented by a closed lightweight polyline signifying the perimeter with the **acdc_SKATEPARK** block inserted inside with attribute values specifying as constructed information.

Skate Park layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 185 Skate Park layers

Layer	Description	Linetype	Colour
acdc_SKATEPARK_NEW	New skate park	Continuous	 253
acdc_SKATEPARK_EXG	Existing skate park	Continuous	 251
acdc_SKATEPARK_REM	Removed skate park	Continuous	 Red

Skate Park attribute information

The skate park block **acdc_SKATEPARK** has 2 attributes. The table below lists each of these attributes and their requirements.

Table 186 Skate Park block acdc_SKATEPARK attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table
SKPK_NAME*	Skate Park Name	Character	50	
SKPK_TYPE	Skate Park Type	Character	50	Yes LU_SKATE_PARK_CATGRY

* Designates Mandatory attribute

Skate Park lookup tables

Lookup tables used in the **acdc_SKATEPARK** block are listed below.

Table 187 Skate Park lookup tables

Lookup Table	Values
LU_SKATE_PARK_CATGRY	MAJOR MINOR






Overview

Sportsgrounds are represented by a closed lightweight polyline signifying the perimeter with the **acdc_SPORTSGROUND** block inserted inside with attribute values specifying as constructed information.

Sportsground layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 188 Sportsground layers

Layer	Description	Linetype	Colour
acdc_SPORTSGROUND_NEW	New sportsground	Continuous	 50
acdc_SPORTSGROUND_EXG	Existing sportsground	Continuous	 52
acdc_SPORTSGROUND_REM	Removed sportsground	Continuous	 Red

Sportsground attribute information

The sportsground block **acdc_SPORTSGROUND** has 5 attributes. The table below lists each of these attributes and their requirements.

Table 189 Sportsground block acdc_SPORTSGROUND attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table
SPGR_GROUND_TYPE*	Ground Type	Character	50	Yes LU_SPORTSGROUND_TYPE
SPGR_NAME	Name	Character	50	
SPGR_LEASED*	Leased	Character	5	Yes LU_GEN_YESNO
SPGR_GROUND_AREA*	Ground Area	Real	22.3	
SPGR_TERRITORY_PLAN	Territory Plan	Character	5	

* Designates Mandatory attribute

Sportsground lookup tables

Lookup tables used in the **acdc_SPORTSGROUND** block are listed below.

Table 190 Sportsground lookup tables

Lookup Table	Values
LU_GEN_YESNO	YES NO
LU_SPORTSGROUND_TYPE	COMMUNITY RECREATION IRRIGATED PARKS DISTRICT PLAYING FIELD ENCLOSED OVAL INFORMAL USE OVAL NEIGHBOURHOOD OVAL SPECIAL PURPOSE AREA SWIMMING POOL

Tables



Overview

Tables are represented by the **acdc_TABLE** block inserted at the centre of the feature with attribute values specifying as constructed information.

Table layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 191 Table layers




Layer	Description	Linetype	Colour
acdc_TABLE_NEW	New table	Continuous	 20
acdc_TABLE_EXG	Existing table	Continuous	 16
acdc_TABLE_REM	Removed table	Continuous	 Red

Table attribute information

The table block **acdc_TABLE** has 3 attributes. The table below lists each of these attributes and their requirements.

Table 192 Table block acdc_TABLE attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table
TABL_MATERIAL	Table Construction Material	Character	50	Yes LU_TABLE_MATRL
TABLE_FRAME_MATERIAL	Frame Construction Material	Character	50	Yes LU_TABLE_FRAME_MATRL
TABL_LIGHTING	Lighting	Character	20	Yes LU_GEN_YESNO

* Designates Mandatory attribute

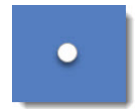
Table lookup tables

Lookup tables used in the **acdc_TABLE** block are listed below.

Table 193 Table lookup tables

Lookup Table	Values
LU_GEN_YESNO	YES NO
LU_TABLE_FRAME_MATRL	BRICK CONCRETE METAL PLASTIC STONE TIMBER
LU_TABLE_MATRL	CONCRETE FIBREGLASS METAL PLASTIC TIMBER

Toilets






Overview

Toilets are represented by the **acdc_TOILET** block inserted at the centre of the feature with attribute values specifying as constructed information.

Toilet layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 194 Toilet layers

Layer	Description	Linetype	Colour
acdc_TOILET_NEW	New toilet	Continuous	 20
acdc_TOILET_EXG	Existing toilet	Continuous	 16
acdc_TOILET_REM	Removed toilet	Continuous	 Red

Toilet attribute information

The toilet block **acdc_TOILET** has 14 attributes. The table below lists each of these attributes and their requirements.

Table 195 Toilet block acdc_TOILET attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table	
TOLT_NAME	Name	Character	50		
TOLT_TYPE	Toilet Type	Character	50	Yes	LU_TOILET_TYPE
TOLT_DISABLED_ACCESS	Disabled Access	Character	5	Yes	LU_GEN_YESNO
TOLT_SHARPS_DISPOSAL	Sharps Disposal	Character	10	Yes	LU_GEN_YESNO
TOLT_MALE_CUBICLE	Male Cubicle	Character	10	Yes	LU_GEN_YESNO
TOLT_FEMALE_CUBICLE	Female Cubicle	Character	10	Yes	LU_GEN_YESNO
TOLT_UNISEX_CUBICLE	Unisex Cubicle	Character	10	Yes	LU_GEN_YESNO
TOLT_DISABLED_CUBICLE	Disabled Cubicle	Character	3	Yes	LU_GEN_YESNO
TOLT_URINAL	Urinal	Character	10	Yes	LU_GEN_YESNO
TOLT_SINK	Sink	Character	3	Yes	LU_GEN_YESNO
TOLT_WATER_SUPPLY	Water Supply	Character	50	Yes	LU_TOILET_WATER
TOLT_TOILET_SYSTEM	Toilet System	Character	50	Yes	LU_TOILET_SYSTEM
TOLT_ACCESS	Access	Character	50	Yes	LU_TOILET_ACCESS
TOLT_COMMENTS	Comments	Character	200		

* Designates Mandatory attribute

Toilet lookup tables

Lookup tables used in the *acdc_TOILET* block are listed below.

Table 196 Toilet lookup tables

Lookup Table	Values
LU_GEN_YESNO	YES NO
LU_TOILET_ACCESS	24 HOURS ACCESS BY KEY SUPPLIED BY AGENCY EXTENDED HOURS (6:30AM TO 10-11PM) OFFICE HOURS
LU_TOILET_SYSTEM	BIOLOGICAL AQUATIC SYSTEM COMPOSTING SYSTEM CONNECTED TO TOWN SEWERAGE PIT TOILET PUMPOUT SYSTEM SEPTIC SYSTEM
LU_TOILET_TYPE	AUTOMATIC PIT PORTALOO SHOWER BLOCK TOILET BLOCK WITHIN BUILDING
LU_TOILET_WATER	BORE RAIN RIVER RIVER/BORE TOWN

Trees






Overview

Trees are represented by the **acdc_TREE** block inserted at the centre of the feature with attribute values specifying as constructed information.

Tree layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 197 Tree layers

Layer	Description	Linetype	Colour
acdc_TREE_NEW	New tree	Continuous	 82
acdc_TREE_EXG	Existing tree	Continuous	 86
acdc_TREE_REM	Removed tree	Continuous	 Red

Tree attribute information

The tree block **acdc_TREE** has 8 attributes. The table below lists each of these attributes and their requirements.

Table 198 Tree block acdc_TREE attributes

Block Attribute	Attribute Label	Data Type	Max Length		Lookup Table
DS23_CODE	DS23 Code	Character	50	Yes	LU_TREE_DS23_CODE
TREE_SPECIES	Species	Character	200		
PLANT_SUPPLIER	Plant Supplier	Character	200		
TREE_PLANTING_DATE	Planting Date	Date			
WATERING_COIL	Watering Coil	Character	7	Yes	LU_GEN_YESNO
ROOT_BARRIER	Root Barrier	Character	7	Yes	LU_GEN_YESNO
TREE_GRATE	Tree Grate	Character	7	Yes	LU_GEN_YESNO
TREE_GUARD	Tree Guard	Character	7	Yes	LU_GEN_YESNO

* Designates Mandatory attribute

Tree lookup tables

Lookup tables used in the *acdc_TREE* block are listed below.

Note: for a detailed list of DS23 values, see Appendix B

Table 199 Tree lookup tables

Lookup Table	Values
LU_GEN_YESNO	YES NO
LU_TREE_DS23_CODE	AAb ACab ACb ACg ACgh ACj ACjv ACp ACpk ACps ACro ACt ACv ALg ALI APc APf ARa ARan ARm ARu Aca Acy Aml Ape BRp BTI BTp CATb CDa CDd CDI CHt Cle CLg CLm CRps CRs CUa CUc CUG CUs CUT GLco GLsh GLsu JUn KOp LAb LAk LAm LAn LAo LAs LAt LitLQf LQp LQs LQt LRn LXd MAf MAh MAi MAp MAs MAT MEc MEe Mba Mli NYs OTHER PAT PHa Pib Pic Ple Plh Pip Pipi Pls Plt PLag PLch PLd

Lookup Table	Values	
	Cdr	PLo
	Cha	POdw
	Ckp	POg
	Csc	POs
	Csp	POT
	DAi	PSc
	Eac	PYca
	Eag	PYcc
	Eah	PYcl
	Eal	PYcr
	Ean	Pag
	Eap	Pam
	Eba	Pbl
	Ebe	Pca
	Ebl	Pcn
	Ebr	Pcos
	Ebx	Pcp
	Eci	Pmu
	Ecu	Ppa
	Ede	Ppe
	Edi	Pse
	Eel	Psf
	Egl	Psk
	Ego	Pst
	Egr	Pys
	Elm	Qls
	Elr	Qac
	Ema	Qbi
	Emc	Qca
	Emd	Qce
	Eme	Qco
	Emf	Qdo
	Emfl	Qen
	Emh	Qfr
	Emi	Qil
	Emo	Qlo
	Emt	Qma
	Eni	Qpa
	Eno	Qpaf
	Epa	Qpap
	Epo	Qph
	Epp	Qrf
	Era	Qro
	Ero	Qsu
	Eru	SOj
	Esc	TAd
	Esi	Tlc
	Esr	Tle
	Est	TOs
	Evi	Uag
	Fls	Uam
	FRa	Ugh

Lookup Table	Values	
	FRao FRar FRe FRew FRo FRp FRpc FRpu FRpw FRv Fsp Glb	Ugl Upa Upe Upr Upt Upy ZEgv ZEmu ZEs ZEsw

Water Tanks






Overview

Water tanks are represented by the **acdc_WATERTANK** block inserted at the centre of the feature with attribute values specifying as constructed information.

Water Tank layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 200 Water Tank layers

Layer	Description	Linetype	Colour
acdc_WATERTANK_NEW	New water tank	Continuous	 140
acdc_WATERTANK_EXG	Existing water tank	Continuous	 162
acdc_WATERTANK_REM	Removed water tank	Continuous	 Red

Water Tank attribute information

The water tank block **acdc_WATERTANK** has 3 attributes. The table below lists each of these attributes and their requirements.

Table 201 Water Tank block acdc_WATERTANK attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table
TANK_NAME	Name	Character	80	
TANK_MATERIAL	Tank Material	Character	80	Yes LU_TANK_MATRL
TANK_SIZE	Tank Size	Real	22.3	

* Designates Mandatory attribute

Water Tank lookup tables

Lookup tables used in the **acdc_WATERTANK** block are listed below.

Table 202 Water Tank lookup tables

Lookup Table	Values
LU_TANK_MATRL	CONCRETE METAL PLASTIC WOOD OTHER

Water Features






Overview

Water features are represented by the **acdc_WATER_FEATURE** block inserted at the centre of the feature with attribute values specifying as constructed information.

Water Feature layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 203 Water Feature layers

Layer	Description	Linetype	Colour
acdc_WATER_FEATURE_NEW	New water feature	Continuous	 232
acdc_WATER_FEATURE_EXG	Existing water feature	Continuous	 7
acdc_WATER_FEATURE_REM	Removed water feature	Continuous	 Red

Water Feature attribute information

The water feature block **acdc_WATER_FEATURE** has 2 attributes. The table below lists each of these attributes and their requirements.

Table 204 Water Feature block acdc_WATER_FEATURE attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table
WAFE_NAME*	Name	Character	50	
WAFE_TYPE*	Type	Character	50	Yes LU_WAFE_TYPE

* Designates Mandatory attribute

Water Feature lookup tables

Lookup tables used in the **acdc_WATER_FEATURE** block are listed below.

Table 205 Water Feature lookup tables

Lookup Table	Values
LU_WAFE_TYPE	URBAN WETLAND WATER FEATURE






Overview

Water meters are represented by the **acdc_WATERMETER** block inserted at the centre of the feature with attribute values specifying as constructed information.

Water Meter layers

The table below displays the standard layers for this feature. The layer names used must match those in the table below. Alternative linetypes and colours will not impact validation.

Table 206 Water Meter layers

Layer	Description	Linetype	Colour
acdc_WATERMETER_NEW	New water meter	Continuous	 140
acdc_WATERMETER_EXG	Existing water meter	Continuous	 162
acdc_WATERMETER_REM	Removed water meter	Continuous	 Red

Water Meter attribute information

The water meter block **acdc_WATERMETER** has 2 attributes. The table below lists each of these attributes and their requirements.

Table 207 Water Meter block acdc_WATERMETER attributes

Block Attribute	Attribute Label	Data Type	Max Length	Lookup Table
WAME_METERID	Meter ID/Number	Character	50	
WAME_TYPE	Meter Type	Character	50	Yes LU_WATER_METER_TYPE

* Designates Mandatory attribute

Water Meter lookup tables

Lookup tables used in the **acdc_WATERMETER** block are listed below.

Table 208 Water Meter lookup tables

Lookup Table	Values
LU_WATER_METER_TYPE	BBQ BUILDING IRRIGATION WATERWAY IRRIGATION

Appendix

Drawing Submission Requirements

Summary Drawings can now be submitted using the Open Spatial portal which is available at <https://www.asconstructed.com/>. Consultants must have access to this portal, which can be provided by contacting support@openspatial.com. The below instructions detail the process of submitting your Summary Drawing to the online portal for validation. The latest Ref 11 standard, Ref 11 Toolkit, Menus, blocks and videos can be downloaded from the Documents tab.

1. Navigate to <https://www.asconstructed.com/> and select “Sign In” in the upper right-hand corner.
2. Use the Login page to sign into your account.
3. Navigate to the “Validations” page.

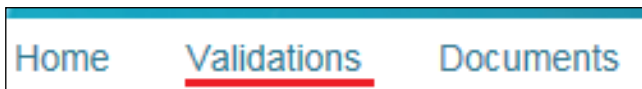


Figure 2 Open Spatial portal – Validations link

4. Select “Submit New” while on the Validations page.
5. Complete the new validation form with the necessary information. Upload your drawing file using the “Select Drawing” button, or dragging your drawing file into the box at the bottom of the form. Under the Project field, select **TCCS Ref 11 Validation Site**

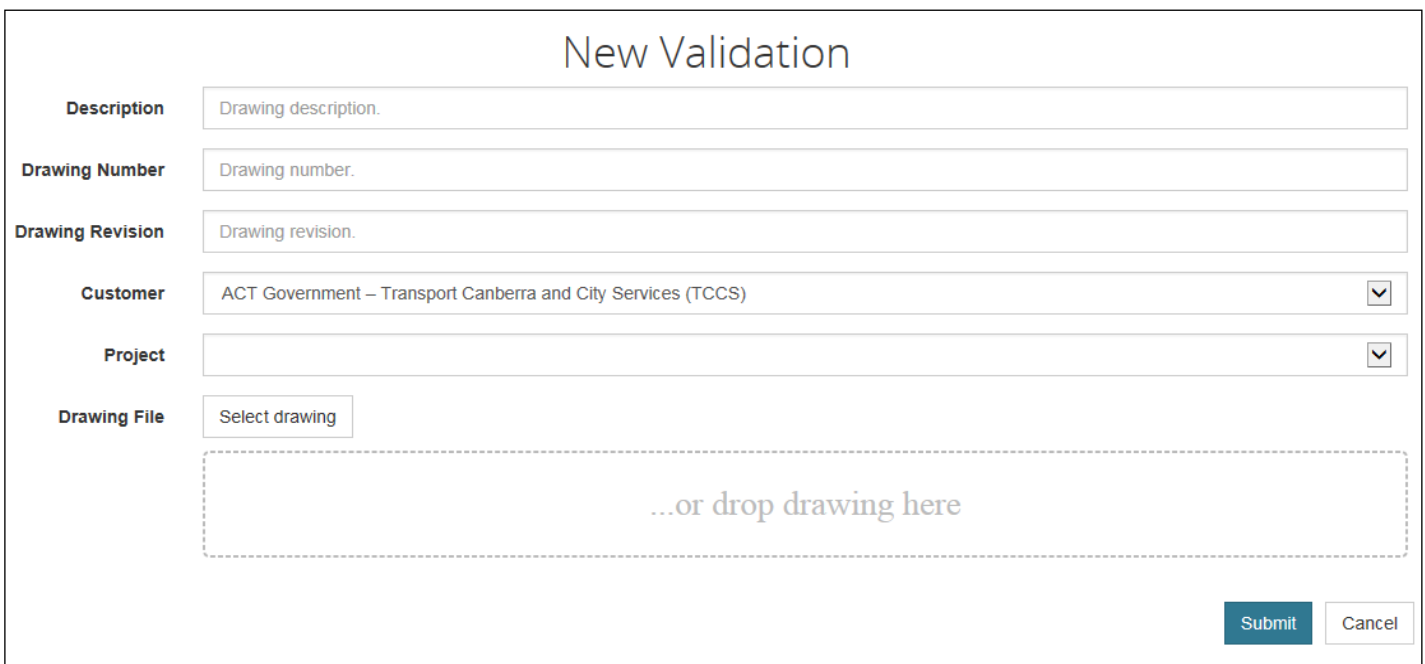
A screenshot of the 'New Validation' form in the Open Spatial portal. The form is titled 'New Validation' and contains several input fields: 'Description' (with placeholder text 'Drawing description.'), 'Drawing Number' (with placeholder text 'Drawing number.'), 'Drawing Revision' (with placeholder text 'Drawing revision.'), 'Customer' (a dropdown menu with 'ACT Government – Transport Canberra and City Services (TCCS)' selected), 'Project' (a dropdown menu), and 'Drawing File' (a button labeled 'Select drawing'). Below the 'Drawing File' field is a large dashed box with the text '...or drop drawing here'. At the bottom right of the form are two buttons: 'Submit' and 'Cancel'.

Figure 3 Portal validation submission screen

6. Once the information has been entered, select “Submit”.
7. You will see your submission at the top of the Validations page. The validation process should take no longer than 5 minutes. Use the refresh button at the top-right of the Validations table (shown below) to update the list of submissions to check the status of your submission.



Figure 4 Validations page Refresh button

8. The drawing will now have a status of either “Certified” or “Failed”. You can use the “Action” button next to your submission to download the updated drawing file.

Tree Blocks – Species

The below table displays the Tree Species and DS23 codes to use when creating new Tree Blocks.

DS23 Code	Tree Species
AAb	ARAUCARIA BIDWILLII
Aca	ACACIA CAERULESCENS
ACab	ACER X FREEMANII ‘JEFFERSRED’ AUTUMN BLAZE
ACb	ACER BUERGERANUM
ACg	ACER GRISEUM
ACgh	ACER GROSSERI VAR. HERSII
ACj	ACER JAPONICUM
ACjv	ACER JAPONICUM ‘VITIFOLIUM’
ACp	ACER PLATANOIDES
ACpk	ACER PLATANOIDES ‘CRIMSON KING’
ACps	ACER PLATANOIDES ‘CRIMSON SENTRY’
ACro	ACER RUBRUM ‘OCTOBER GLORY’
ACt	ACER PALMATUM ‘TROMPENBURG’
ACv	ALLOCASUARINA VERTICILLATA
Acy	ACACIA COVENYI

DS23 Code	Tree Species
ALg	ALLOCASUARINA GLAUCA
ALI	ALLOCASUARINA LITTORALIS
Aml	ACACIA MELANOXYLON
APc	ANGOPHORA COSTATA
Ape	ACACIA PENDULA
APf	ANGOPHORA FLORIBUNDA
ARa	ARBUTUS X ANDRACHNOIDES
ARan	ARBUTUS ANDRACHNE
ARm	ARBUTUS MENZIESII
ARu	ARBUTUS UNEDO
BRp	BRACHYCHITON POPULENUS
BTI	BETULA PENDULA 'LACINIATA'
BTp	BETULA PENDULA
CATb	CATALPA BIGNONIOIDES
CDa	CEDRUS ATLANTICA 'GLAUCA'
CDd	CEDRUS DEODARA
CDI	CEDRUS LIBANI
Cdr	CALLISTEMON VIMINALIS 'DAWSON RIVER WEEPER'
Cha	CALLISTEMON 'HARKNESS'
CHt	X CHITALPA TASHKENTENSIS
Ckp	CALLISTEMON 'KING'S PARK SPECIAL'
CLe	CALLITRIS ENDLICHERI
CLg	CALLITRIS GLAUCOPHYLLA
CLm	CALLITRIS MUELLERI
CRps	CRATAEGUS LAEVIGATA (SYN. OXYACANTHA) 'PAUL'S SCARLET'
CRs	CRATAEGUS 'SMITHIANA'
Csc	CASUARINA CUNNINGHAMIANA SUBSP. CUNNINGHAMIANA
Csp	CALLISTEMON CITRINUS 'SPLENDENS'
CUa	CUPRESSUS ARIZONICA
CUc	CUPRESSUS CASHMERIANA
CUg	CUPRESSUS SEMPERVIRENS 'SWANE'S GOLDEN'
CUs	CUPRESSUS SEMPERVIRENS 'STRICTA'
CUt	CUPRESSUS TORULOSA
DAi	DAVIDIA INVOLUCRATE
Eac	EUCALYPTUS ACACIIFORMIS
Eag	EUCALYPTUS AGGREGATA
Eah	EUCALYPTUS ANGOPHOROIDES
Eal	EUCALYPTUS ALBENS

DS23 Code	Tree Species
Ean	EUCALYPTUS ANDREWSII
Eap	EUCALYPTUS APICULATA
Eba	EUCALYPTUS BAUERIANA
Ebe	EUCALYPTUS BENTHAMII
Ebl	EUCALYPTUS BLAKELYI
Ebr	EUCALYPTUS BRIDGESIANA
Ebx	EUCALYPTUS BLAXLANDII
Eci	EUCALYPTUS CINEREA
Ecu	EUCALYPTUS CUNNINGHAMII
Ede	EUCALYPTUS DEALBATA
Edi	EUCALYPTUS DIVES
Eel	EUCALYPTUS ELATA
Egl	EUCALYPTUS GLOBOIDEA
Ego	EUCALYPTUS GONIOCALYX
Egr	EUCALYPTUS GRACILIS
Elm	EUCALYPTUS LACRIMANS (E. PAUCIFLORA TANTANGERA FORM)
Elr	EUCALYPTUS LEUCOXYLON 'ROSEA'
Ema	EUCALYPTUS MACRORHYNCHA
Emc	EUCALYPTUS MICROCARPA
Emd	EUCALYPTUS MAIDENII
Eme	EUCALYPTUS MELLIODORA
Emf	EUCALYPTUS MANNIFERA
Emfl	EUCALYPTUS MANNIFERA 'LITTLE SPOTTY'
Emh	EUCALYPTUS MICHAELIANA
Emi	EUCALYPTUS MITCHELLIANA
Emo	EUCALYPTUS MOOREI
Emt	EUCALYPTUS MELLIODORA (TARCUTTA FORM)
Eni	EUCALYPTUS NICHOLII
Eno	EUCALYPTUS NORTONII
Epa	EUCALYPTUS PARVULA
Epo	EUCALYPTUS POLYANTHEMOS SUBSP. POLYANTHEMOS
Epp	EUCALYPTUS PAUCIFLORA SUBSP. PAUCIFLORA
Era	EUCALYPTUS RADIATA
Ero	EUCALYPTUS ROSSII
Eru	EUCALYPTUS RUBIDA SUBSP. RUBIDA
Esc	EUCALYPTUS SCOPARIA
Esi	EUCALYPTUS SIDEROXYLON
Esr	EUCALYPTUS SIDEROXYLON 'ROSEA'

DS23 Code	Tree Species
Est	EUCALYPTUS STELLULATA
Evi	EUCALYPTUS VIMINALIS
Fls	FIRMIANA SIMPLEX
FRa	FRAXINUS AMERICANA
FRao	FRAXINUS ANGUSTIFOLIA SUBSP. OXYCARPA
FRar	FRAXINUS ANGUSTIFOLIA SUBSP. OXYCARPA 'RAYWOOD'
FRe	FRAXINUS EXCELSIOR 'AUREA'
FRew	FRAXINUS EXCELSIOR 'WESTHOF'S GLORIE' (F. VELUTINA ROOTSTOCK)
FRo	FRAXINUS ORNUS
FRp	FRAXINUS EXCELSIOR 'AUREA PENDULA'
FRpc	FRAXINUS PENNSYLVANICA 'CIMMZAM' (CIMMARON)
FRpu	FRAXINUS PENNSYLVANICA 'URBDELL (URBANITE)
FRpw	FRAXINUS PENNSYLVANICA 'WASKY' SKYWARD
FRv	FRAXINUS VELUTINA
Fsp	FAGUS SYLVATICA 'PURPUREA'
Glb	GINKGO BILOBA
GLco	GLEDITSIA TRIACANTHOS VAR. INERMIS 'CONTINENTAL'
GLsh	GLEDITSIA TRIACANTHOS 'SHADEMASTER'
GLsu	GLEDITSIA TRIACANTHOS 'SUNBURST'
JUn	JUGLANS NIGRA
KOp	KOELREUTERIA PANICULATA
LAB	LAGERSTROEMIA X L. FAURIEI 'BILOXI'
LAK	LAGERSTROEMIA FAURIEI 'KIOWA'
LAm	LAGERSTROEMIA X L. FAURIEI 'MUSKOGEE'
LAn	LAGERSTROEMIA X L. FAURIEI 'NATCHEZ'
LAo	LAGERSTROEMIA X L. FAURIEI 'OSAGE'
LAs	LAGERSTROEMIA X L. FAURIEI 'SIOUX'
LAt	LAGERSTROEMIA X L. FAURIEI 'TUSCARORA'
Lit	LIRIODENDRON TULIPIFERA
LQf	LIQUIDAMBAR STYRACIFLUA 'FESTER'
LQp	LIQUIDAMBAR STYRACIFLUA 'PALO ALTO'
LQs	LIQUIDAMBAR STYRACIFLUA
LQt	LIQUIDAMBAR STYRACIFLUA 'TIRIKI'
LRn	LAURUS NOBILIS
LXd	LARIX DECIDUAS
MAf	MALUS FLORIBUNDA
MAh	MALUS HALLIANA 'PARKMANII'
MAi	MALUS IOENSIS 'PLENA'

DS23 Code	Tree Species
MAp	MALUS X PURPUREA
MAs	MALUS SPECTABILIS
MAt	MALUS TSCHONOSKII
Mba	MELALEUCA BRACTEATA
MEc	MEILA AZEDARACH 'CAROLINE'
MEe	MELIA AZEDARACH 'ELITE'
Mli	MELALEUCA LINARIIFOLIA
NYs	NYSSA SYLVATCIA
OTHER	OTHER
Pag	PRUNUS 'AMANOGAWA'
Pam	PRUNUS AMYGDALUS (P. DULCIS)
PAt	PAULOWNIA TOMENTOSA
Pbl	PRUNUS X BLIREIANA
Pca	PRUNUS CAMPANULATA
Pcn	PRUNUS CERASIFERA 'NIGRA'
Pcos	PRUNUS CERASIFERA 'OAKVILLE CRIMSON SPIRE'
Pcp	PRUNUS CERASIFERA 'PISSARDII'
PHa	PHELLODENDRON AMURENSE
Plb	PINUS BRUTIA
Plc	PINUS CANARIENSIS
Ple	PINUS ELДАРICA
Plh	PINUS HALEPENSIS
Plp	PINUS PATULA
Plpi	PINUS PINEA
Pls	PINUS SABINANA
Plt	PINUS TORREYANA
PLag	PLATANUS ORIENTALIS VAR. INSULARIS 'AUTUMN GLORY'
PLch	PLATANUS (ORIENTALIS) X 'CHILENSIS'
PLd	PLATANUS ORIENTALIS VAR. 'DIGITATA'
PLo	PLATANUS ORIENTALIS
Pmu	PRUNUS MUME
POdw	POPULUS DELTOIDES 'WEETANGERA'
POg	POPULUS YUNNANENSIS 'GUNDAROO'
POs	POPULUS SIMONII
POT	POPULUS X CANESCENS 'TOWER'
Ppa	PRUNUS PADUS
Ppe	PRUNUS PERSICA
PSc	PISTACIA CHINENSIS (P. SINENSIS)

DS23 Code	Tree Species
Pse	PRUNUS SERRULATA
Psf	PRUNUS 'SHIROFUGEN'
Psk	PRUNUS 'SEKIYAMA' ('KANZAN')
Pst	PRUNUS 'SHIROTAI' ('MT. FUJI')
PYca	PYRUS CALLERYANA 'ARISTOCRAT'
PYcc	PYRUS CALLERYANA 'CAPITAL'
PYcl	PYRUS CALLERYANA 'CHANTICLEER' SYN. 'CLEVELAND SELECT'
PYcr	PYRUS CALLERYANA 'RED SPIRE'
Pys	PRUNUS X YEDOENSIS
Qac	QUERCUS ACUTISSIMA
Qbi	QUERCUS BICOLOR
Qca	QUERCUS CANARIENSIS
Qce	QUERCUS CERRIS
Qco	QUERCUS COCCINEA
Qdo	QUERCUS DOUGLASII
Qen	QUERCUS ENGELMANNII
Qfr	QUERCUS FRAINETTO
Qil	QUERCUS ILEX
Qls	QUILLAJA SAPONARIA
Qlo	QUERCUS LOBATA
Qma	QUERCUS MACROCARPA
Qpa	QUERCUS PALUSTRIS
Qpaf	QUERCUS PALUSTRIS 'FREE FALL'
Qpap	QUERCUS PALUSTRIS 'PRINGREEN' GREEN PILLAR
Qph	QUERCUS PHELLOS
Qrf	QUERCUS ROBUR 'FASTIGIATA'
Qro	QUERCUS ROBUR
Qsu	QUERCUS SUBER
SOj	STYPHNOLOBIUM JAPONICUM
TAd	TAXODIUM DISTICHUM
Tlc	TILIA CORDATA
Tle	TILIA X EUROPEA
TOs	TOONA SINENSIS
Uag	ULMUS 'SAPPORO AUTUMN GOLD'
Uam	ULMUS AMERICANA
Ugh	ULMUS GLABRA 'HORIZONTALIS'
Ugl	ULMUS GLABRA 'LUTESCENS'
Upa	ULMUS PARVIFOLIA 'EMER II' ALEE

DS23 Code	Tree Species
Upe	ULMUS PARVIFOLIA 'EMER I' ATHENA
Upr	ULMUS PROCERA
Upt	ULMUS PARVIFOLIA 'TODD'
Upy	ULMUS PARVIFOLIA 'YARRALUMLA CLONE'
ZEgv	ZELKOVA SERRATA 'GREEN VASE'
ZEmu	ZELKOVA SERRATA 'MUSASHINO'
ZEs	ZELKOVA SERRATA
ZEsw	ZELKOVA SERRATA 'SCHMIDTLOW' (WIRELESS)