infrADAC MAP

Your solution to ADAC XML made easy.

User Manual

Revision: 1.0

Developed By:

GALAXY PIXEL STUDIOS

Change Log

Version	Date	Author	Comments
v1.0preview	01/09/2025	S.Whittaker	DRAFT Release

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Glossary of Terms

Term	Definition
ADAC	As Constructed Asset Data specification used by councils and utilities to standardise how asset data is exchanged. Version numbers such as v5.01 refer to the published schema.
ADACId	The schema identifier stored on each Feature inside the ADAC XML. Not the same as the app's internal Asset ID.
ADAC XML file	The file you load into the app containing Features, their geometry, attributes and required metadata defined by the ADAC schema.
Annotation	Text items in the ADAC file drawn on the map as graphics. They behave like selectable assets and may have their own styling and rotation.
Asset	A single, mappable record from the ADAC file that you can select on the map and inspect in the Asset Details panel.
Asset ID	The internal identifier the app assigns to an asset for selection and highlighting. Separate from the ADACId.
Asset labels	On-map text drawn for certain Features when appropriate, such as Lots and Easements, showing useful identifiers like Lot number, Plan number or area. Visibility depends on settings and zoom level.
Basemap	The underlying map style for context, such as Satellite or Vector.
Component Information	The set of required metadata blocks associated with a Feature, such as InfrastructureCode, Owner, Drawing details, dates, Surveyor and Engineer.
Dimension	Measurement graphics from the file, such as linear, aligned, angular, radius and arc-length dimensions, displayed with their text and reference lines.
Duplicate ADACId	A condition where the same ADACId appears more than once in a file. Explained in a tooltip on the header.
Element	The discipline grouping used across the ADAC XML standard, such as OpenSpace, Transport, WaterSupply, StormWater, Sewerage, Cadastre, Surface, Enhancements and Supplementary.
Error highlight	A red highlight style for assets flagged for attention, such as duplicate ADACIds or assets outside drawing extents. Controlled by the Error toggle.
Feature	An ADAC grouping that collects related Asset types within an Element. Often plural, for example "Easements" or "Lots". Shown alongside the Element in the Asset Details header.
Nil	How the app displays a property that has no value in the source file. Nil fields are hidden by default in the panel and can be shown on demand.
Outside drawing extents	Status for an asset whose geometry lies beyond the declared extents of the drawing or project. Explained in a tooltip on the header.
Properties	All other attributes supplied for the selected Feature that are not part of Component Information, such as dimensions, materials, codes or areas.
Supporting files	Linked documents or images referenced by a Feature. Common types open in an in-app viewer; others open in a browser tab.
Tooltip	Short on-hover help for labels and warnings in the panel, explaining field purposes or issues.
Zoom visibility	The minimum zoom level at which a class of assets or labels will draw. Adjustable in Settings.

1 Introduction

In modern infrastructure workflows, accurate spatial visualisation and validation of asset data are essential for effective project delivery and governance. As councils, authorities, and utility providers adopt digital standards such as ADAC XML, the ability to inspect, verify, and manage asset submissions spatially is critical. infrADAC Map provides a web-based interface for visualising and interacting with ADAC XML data, helping stakeholders validate submissions, analyse geometry, and ensure compliance before acceptance into operational systems.

infrADAC Map is a purpose-built web application designed to support councils, government agencies, and public utilities in reviewing and validating ADAC XML files. It offers a high-performance visual environment where submitted designs can be inspected spatially in real-world coordinates, highlighting geometry, metadata, and conformance to schema requirements. The tool enables stakeholders to streamline acceptance workflows, conduct visual audits, and explore asset data with map-integrated tools.

1.1 Key Features

infrADAC Map delivers a robust set of spatial and validation tools for ADAC asset data review. Key features include:

- **Interactive Map Viewer:** Displays ADAC XML files in real-world coordinates using a dynamic base map. Assets are rendered with colour-coded symbology, overlaid on satellite or vector map views.
- **LGA/Utility Selection:** Users can explore metadata for supported councils, utilities, and authorities. Map boundaries highlight supported regions, and panels show ADAC versions, consortium status, and related utility partnerships.
- **Asset Inspection Tools:** Enables users to inspect geometry, attributes, and relationships of assets in real time. Assets can be selected individually or in groups for review.
- **Measurement Tools:** Built-in tools allow distance, area, and coordinate measurement directly within the map environment to validate asset placement and scale.
- **Filter and Layer Management:** Users can toggle visibility of assets, classes, background layers, and administrative boundaries to suit their review needs.
- **Support Ticket System:** Allows users to flag issues or raise general enquiries directly through an integrated support modal.
- **No Installation, no payment:** infrADAC Map is a fully web-based platform requiring no installation. It is accessible from any modern browser and is available 100% free of charge.

With its integrated spatial interface and data-aware tools, infrADAC Map enables asset owners, designers, and validators to streamline the review of ADAC XML files in a geographic context, improving compliance, accuracy, and operational readiness.

infrADAC

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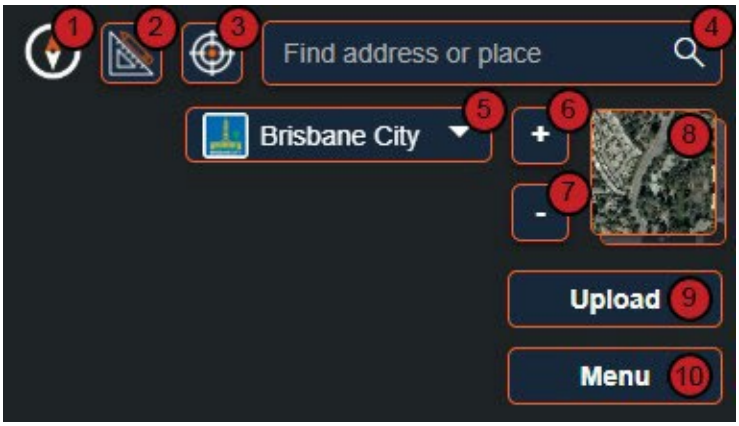
2 Map HUD

The Map HUD is the on-screen control bar above the map that provides quick access to common tasks: navigation, search, basemap switching, finding your location, selecting an LGA/Utility, uploading ADAC XML files, and opening the main menu. It stays visible while you work so you can pan and zoom without leaving the view.



1. Compass
Displays the current map orientation; click to reset north.

2. Measure Tools
Opens measurement tools (Length, Area, Coordinates).

3. Find My Location
Centers the map on the user's current location (if supported).

4. Address Search
Search for an address or location on the map.

5. LGA/Utility Selector
Select to display Local Government Area or Utility region.

6. Map Zoom In
Zoom in to the map view.

7. Map Zoom Out
Zoom out from the map view.

8. Toggle Basemap
Switch between available basemap styles; Vector and Satellite.

9. Upload
Upload ADAC XML file/s to the map space.

7. Menu Drop Down
Opens the main menu for additional tools and settings.

3 Map Interactions

3.1 Asset Geometry

The **Asset Geometry** feature processes and displays the spatial geometry of various infrastructure assets within the map interface. Each asset is classified, symbolised, and rendered according to its geometry type, dimensions and any associated annotation or measurement details.

1. Point

- Used for single location markers.
- Contains **X, Y, Z** coordinates.

2. MultiPoint

- Used for multiple discrete points within a single asset.
- All points share the same asset classification.

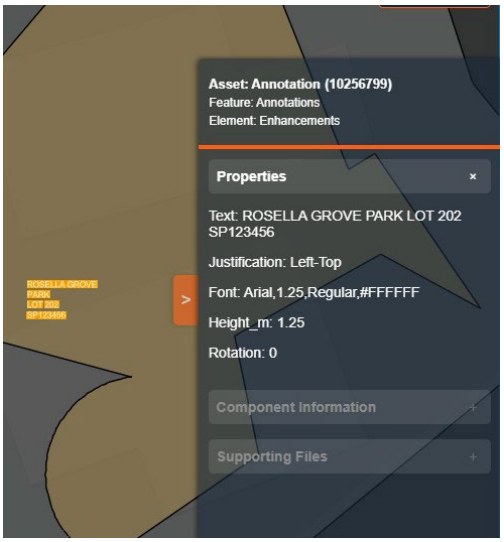
3. Polyline

- Represents linear features such as pipes, roads, or boundaries.
- Created from **Path** definitions.

4. Polygon

- Represents enclosed areas such as property boundaries, zones, or surface areas.
- Supports **Z-coordinates** for elevation data.

3.2 Annotations



Assets can include annotation graphics for labels or descriptive text.

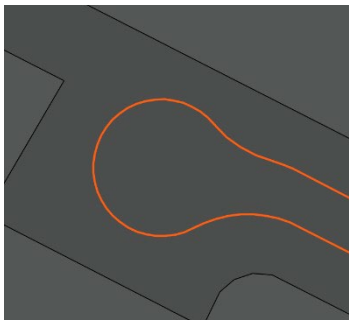
- **Font**: Always rendered in Arial.
- **Font size**: Scaled proportionally based on height in meters.
- **Alignment**: Supports left, right, and centre horizontal justification.
- **Rotation**: Text can be angled to match asset orientation.
- **Optional width**: Limits text width for wrapping.
- **Colour**: Extracted from asset data, defaults to whit e if unspecified.

3.3 Dimensions

Some assets include dimensioning information for technical measurements. Supported dimension types include:

- Aligned
- Linear
- Angular / Angular3D
- ArcLength
- Radius
- Diameter
- Ordinate
- Jogged

3.4 Curves and Arcs



The system supports:

- Circular arcs
- Elliptical arcs (with rotation, semi-major, and semi-minor axes)
- All curves are generated as segmented point sets for smooth rendering.

3.5 Zoom Visibility

The Zoom Visibility feature controls when specific assets appear or disappear on the map based on the user's zoom level. This ensures that the map remains clear and uncluttered, while still providing access to detailed information when needed.

How It Works

- Each asset class and geometry type can be assigned a **minimum zoom threshold**.
- The system automatically checks the current map scale before rendering a graphic.
- If the zoom level is outside the asset's visibility range, that asset is not drawn.
- Zoom thresholds can be **configured per asset type** to reflect the user's preferences.

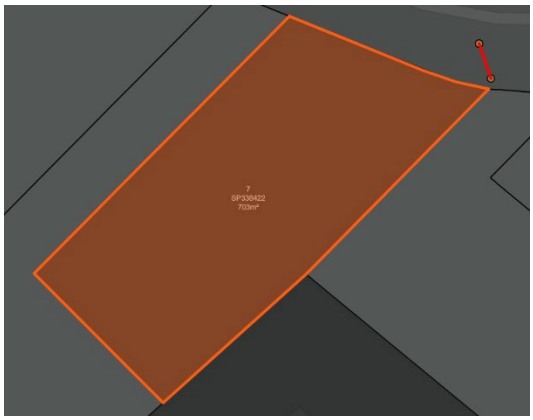
Default Visibility Rules

Asset Element	Approx. Zoom Scale
Cadastre	1:44,500
Surface	1:22,200
Transport	1:11,100
Supplementary	1:5,600
WaterSupply	1:2,800
OpenSpace	1:5,600
StormWater	1:2,800
Electrical	1:2,800
Communication	1:2,800
Sewerage	1:2,800
Enhancement	1:2,800

3.6 Selecting Assets

The selecting function allows you to focus on a specific feature in the map and review its details without visual clutter.

When selected, the asset is highlighted in orange to distinguish it from surrounding features. At the same time, the Asset Details panel displays all available information for that asset, including identifiers, attributes, and any related warnings.



Selecting

- Click directly on the asset within the map view.
- If the asset is currently hidden due to zoom visibility settings, zoom in until it appears before attempting selection.

Deselecting

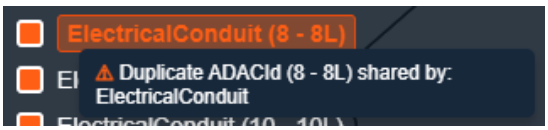
- Click the same asset again or click in an empty area of the map.
- The highlight is removed, and the asset returns to its default display. Standard colour for normal assets, red for error-marked assets.

Limitations

- Only one asset can be selected at a time. Selecting another automatically deselects the current one.
- Selecting an asset with an error temporarily changes its highlight from red to orange; upon deselection, it returns back to red.

3.7 Error Highlights

Assets with detected issues can be highlighted in red to make them stand out from normal features. This applies to all asset types and geometry, including polygons, lines, points, and annotations. Errors may indicate issues such as location outside expected boundaries, duplicate identifiers, or failed validation rules. When an error-marked asset is selected, its highlight changes to orange for clarity, then reverts to red when deselected. Error visibility can be toggled on or off to focus on problem areas or to declutter the map.



3.8 Asset Labels

Some asset types, such as lots and easements, contain information that can be displayed directly on the map for quick reference. This makes it easier to identify and work with these assets without having to select each to open and view their full details.

Labels are controlled from the Filters panel in the Project Details Menu. Toggling the checkbox for Asset Labels will display/hide labels for the active file.

When enabled, users can also choose which label information to show for that given asset type. Labels appear automatically when you are zoomed in close enough for them to be readable and disappear when you zoom out. You can change the label colour using the colour selector in Settings. Your label choices are remembered for each file (with cookie tracking enabled) so when you reopen it the same labels will be shown or hidden in your specified colour as before.

4 Menu Dropdown

The Menu provides quick access to key tools, resources and information within infrADAC Map. From here, users can explore example datasets, view the map legend, adjust settings, access help documentation, review application details, submit support requests, check the update log, and explore infrADAC CAD features. Each option is designed to enhance navigation, improve workflow efficiency and provide guidance when needed.

1. Examples
Opens example datasets to demonstrate infrADAC Map functionality.

2. Legend
Displays the map legend, showing symbols and colour codes for assets.

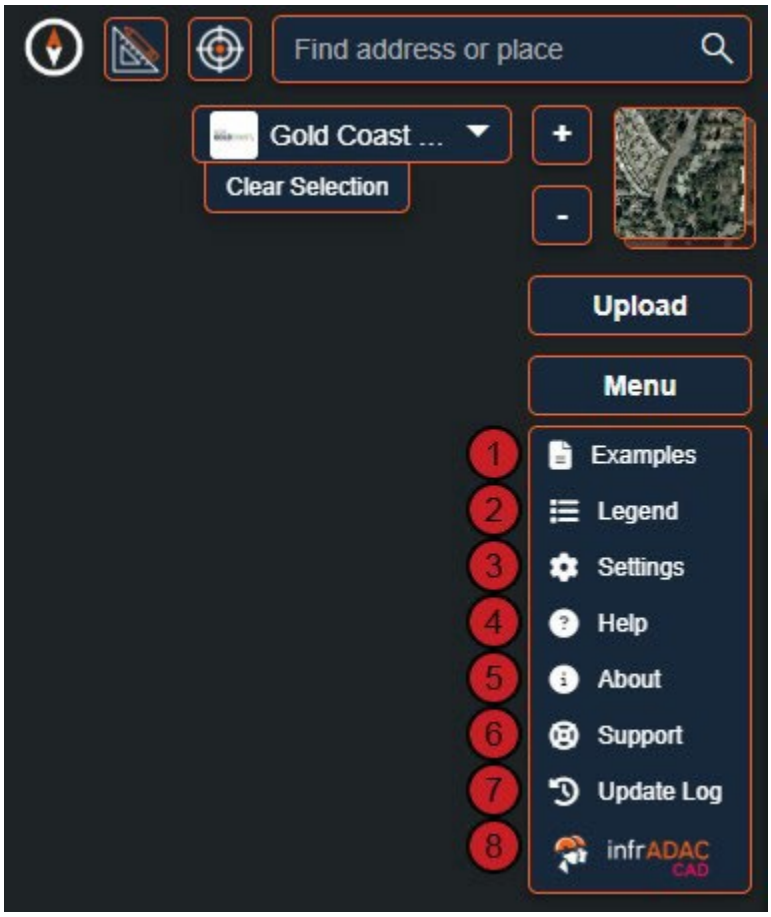
3. Settings
Opens the settings window to configure map display and preferences.

4. Help
Opens the help documentation for guidance on using infrADAC Map.

5. About
Displays application information, version number and credits.

6. Support
Opens support ticket menu for troubleshooting, bug reports and general assistance.

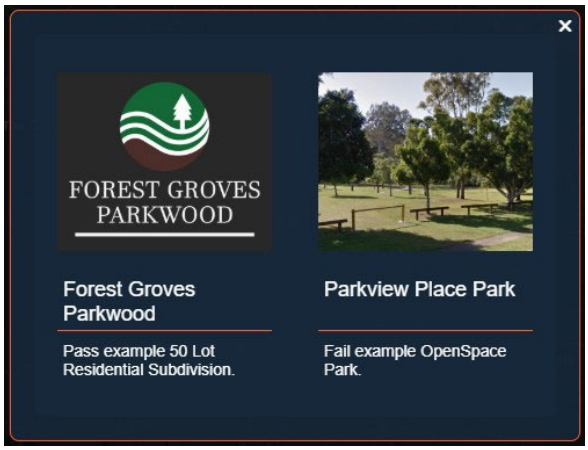
7. Update Log
Displays the list of recent updates, changes and improvements.



8. Explore infrADAC CAD.
Links to infrADAC CAD features and capabilities.

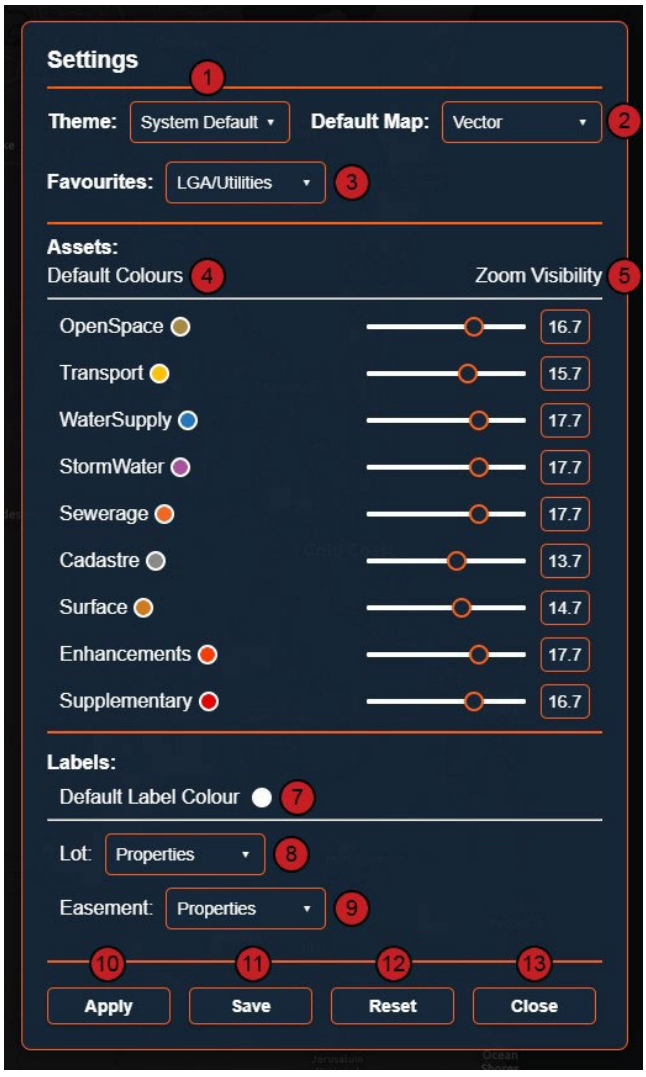
5 Examples

The application includes two built-in ADAC XML example projects that can be loaded from the Examples menu. These allow you to see how data is displayed for both successful and failed validation cases. **Forest Groves Parkwood** is a pass example representing a 50-lot residential subdivision. **Parkview Place Park** is a fail example representing an open space park with validation issues. Selecting an example will load it into the map so you can explore asset labels, error highlights, and other features in a realistic context.



6 Settings

The Settings Window allows users to customise various aspects of the interface and map behaviour to suit their workflow. Users can select a preferred interface theme and default map type that loads on startup. The favourites dropdown enables quick access to commonly used LGAs or utilities by pre-selecting them in the feature selector. Asset categories can be individually styled by choosing default colours and setting the zoom level at which each asset becomes visible. Label settings include a default label colour and attribute visibility options for lot and easement assets. All changes can be applied to the current session without saving or permanently saved for future sessions if cookie tracking is enabled. Users can also reset all values to default or close the window without applying changes.



1. Theme
Select the interface theme (System Default, Light, Dark).

2. Default Map
Set the default map type on startup (Vector, Satellite).

3. Favourites
Choose the default favourite LGA/Utilities for quick access.

4. Default Colours *(Asset Elements)*
Define the default colour for each asset type.

5. Zoom Visibility *(Asset Elements)*
Set the zoom level at which specified asset categories becomes visible.

6. Default Colour *(Labels)*
Set the default colour for specific asset categories.

7. Lot Properties
Select the visible property attributes to display for lot assets.

8. Easement Properties
Select the visible property attributes to display for easement assets.

9. Apply
Apply changes to the current session without closing the window.

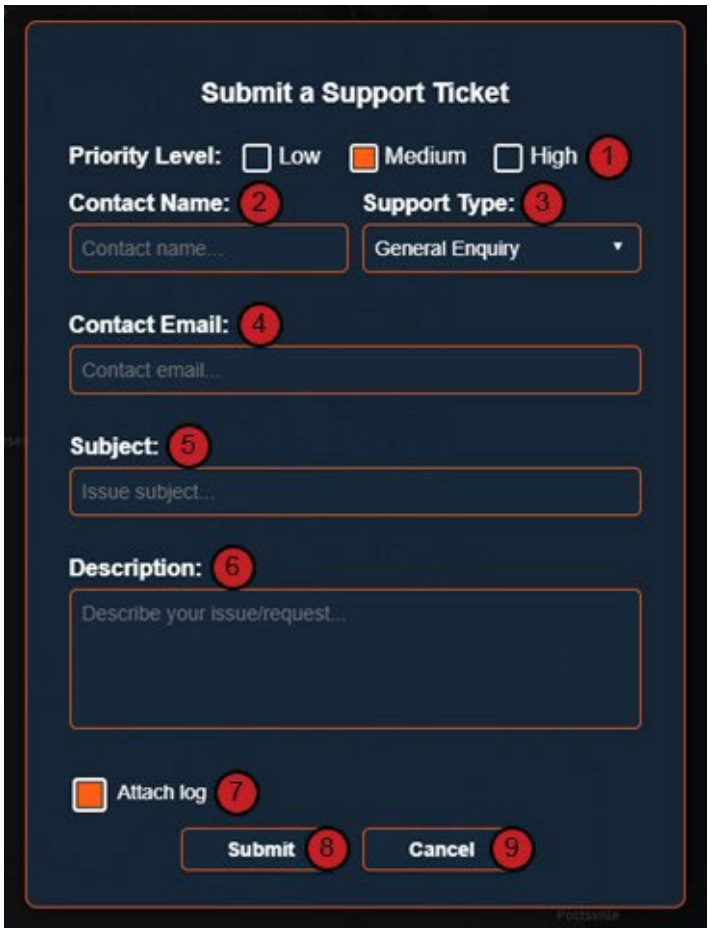
10. Save
Save settings as defaults for current and future sessions.

11. Reset
Restore all settings to default values.

12. Close
Close the window without saving changes.

7 Support Ticket

The Support Ticket modal allows users to submit issues, requests, or enquiries directly to the support team. The form includes mandatory fields for name, email, subject, and description, each of which is validated before submission. Priority level and support type help categorise the ticket for proper handling. An optional log attachment can be included to assist with diagnostics by capturing internal application activity.

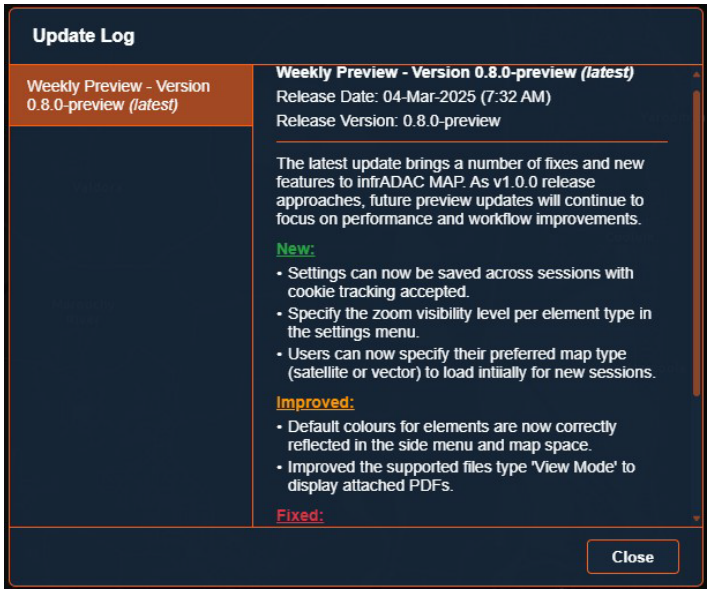


1. Priority Level
Select the urgency of the support request (Low, Medium, High).
2. Contact Name
Enter a contact name for the support ticket.
3. Support Type
Select the type of support request (e.g., General Enquiry, Bug Report, Feature Request).
4. Contact Email
Enter the email address for support correspondence.
5. Subject
Enter a brief title describing the issue or request.
6. Description
Provide a detailed description of the issue or request.
7. Attach Log
Option to attach application logs for troubleshooting.
8. Submit
Send the completed support ticket to the support team.
9. Cancel
Cancel the ticket submission and close the window.

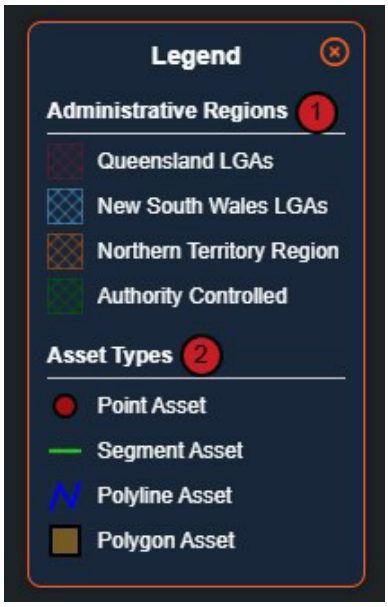
8 Update Log

The Update Log lists release notes for each version and highlights the most recent entry with "*(latest)*." Use the list on the left to pick a version. The details panel on the right shows the release title, date, version number, a short summary, and the changes grouped under New, Improved, and Fixed. Click an item to view its notes. Close the window with Close or by clicking outside the panel.

Notes are ordered with the newest at the top. The log currently uses built-in data and will display the latest updates and fixes from the server when available.



9 Map Legend

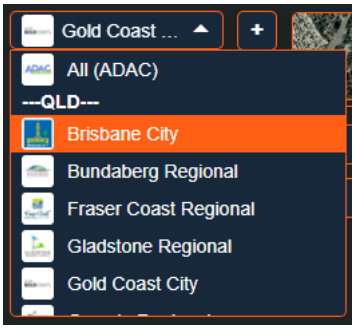


The Map Legend provides visual references for interpreting both regional boundaries and asset geometry on the map interface. Administrative regions are displayed as coloured boundary overlays, distinguishing jurisdictions and Authority Controlled areas. Asset types are represented using standardised map symbols for different geometries, allowing users to quickly identify points, segments, polylines, and polygons. The legend is toggled via the main menu and can be repositioned freely by the user.

1. Administrative Regions
Displays boundary overlays for regional administrative areas (e.g., Queensland LGAs, NSW LGAs, NT Region, Authority Controlled).

2. Asset Types
Shows the map symbols used for different asset geometry (Point, Segment, Polyline, Polygon).

10 LGA/Utility/Authority Selector

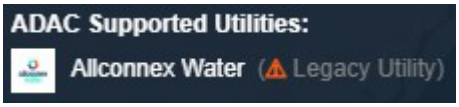


The **LGA, Utility, and Authority Selector** provides detailed information panels based on the selected organisation type. Each panel also corresponds to live map data, with the selected LGA or utility's supported regions and boundaries visually highlighted on the map for spatial reference.

LGAs (Councils)

When an LGA is selected, the panel displays:

- **Council Name**: The geographic area or administrative zone the council is part of (e.g. Brisbane City, Gold Coast City).
- **ADAC Consortium Member**: Indicates whether the council is a certified member of the ADAC Consortium:
- **Website**: Link to the official council website.
- **Supported ADAC Standard**: The version of ADAC the council supports.
- **ADAC Supported Utilities**: Lists utility organisations working with the council, each with its icon. Legacy utilities such as *Allconnex Water* are marked with a warning indicator and labelled accordingly.



Utilities

When a Utility is selected, the panel displays:

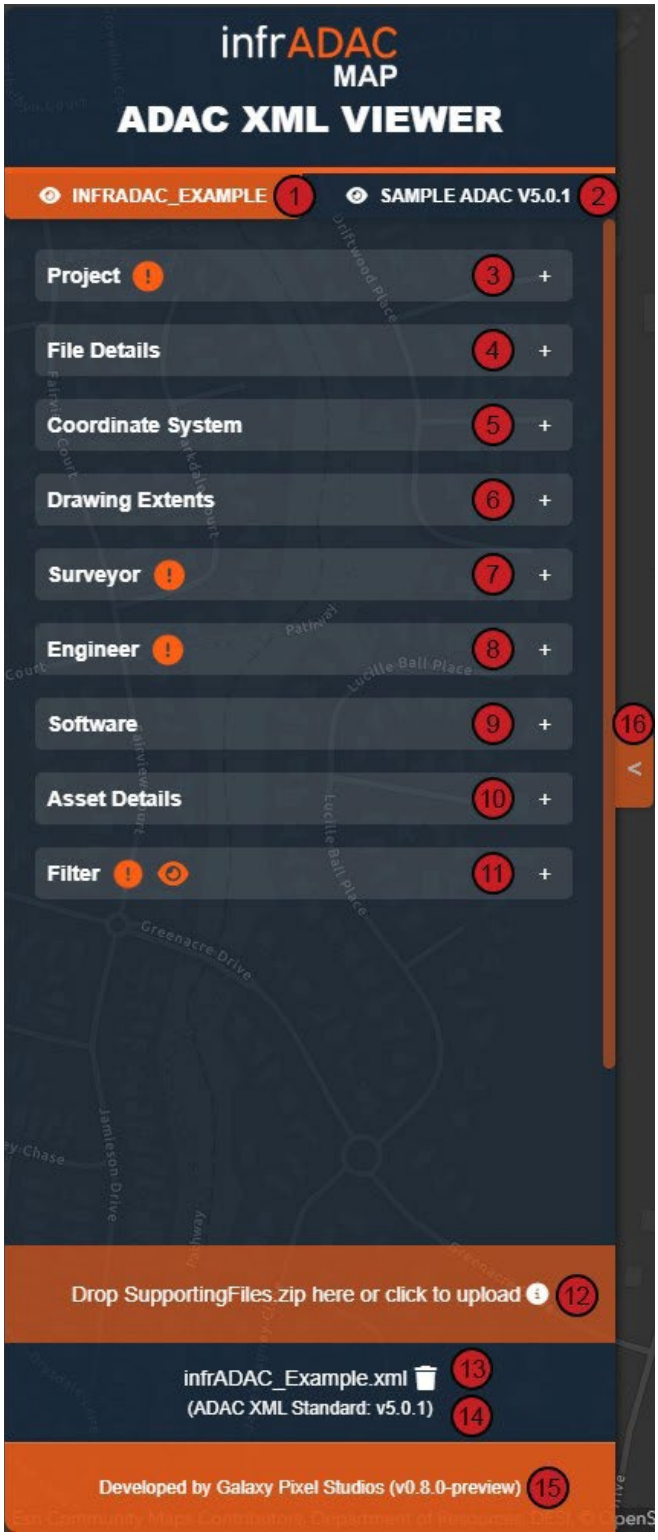
- **ADAC Consortium Member**: Status indicator for membership.
- **Website**: A link labelled *Utility Website* pointing to the organisation's homepage.
- **Supported ADAC Standard**: The utility's implemented ADAC version.
- **Utility Type**: Lists supported infrastructure types.
- **Supported LGAs**: Displays all councils serviced by the utility. Each entry includes:
    - Council name
    - Council icon
    - ADAC support status
- **ADAC Supported Utilities**: (if applicable) Lists additional utilities that may collaborate with the selected utility.

Authorities (e.g. Port of Brisbane)

Authorities are technically handled as utilities with a special case override. The panel displays:

- **ADAC Consortium Member**: Status indicator for membership.
- **Website**: Labelled *Authority Website*.
- **Supported ADAC Standard**: Version supported.
- **Supported LGAs**: Lists LGAs that interact with or fall under the authority's service scope.
- **ADAC Supported Utilities**: Shown similarly to council panels, listing utility organisations the authority works with (e.g. *Urban Utilities* for Port of Brisbane).

11 Project Details Menu



1. Loaded ADAC XML File *(Current)*
Indicates the currently active ADAC XML file being viewed.

2. Loaded ADAC XML File/s
Indicates other loaded ADAC XML files (not currently selected). Up to five XML files can be loaded at a time.

3. Project
Displays general project level information from the currently selected ADAC XML file.

4. File Details
Displays ADAC XML file metadata including information such as owner, receiver, drawing numbers and dates.

5. Coordinate System
Displays the coordinate reference system information as defined in the currently selected ADAC XML file.

6. Drawing Extents
Contains information about the ADAC XML file's drawing extents.

7. Surveyor
Displays the surveyor details of the ADAC XML file.

8. Engineer
Displays the engineer details of the ADAC XML file.

9. Software
Displays the software information recorded at the creation of the ADAC XML file.

10. Asset Details
Displays general asset information from the currently loaded ADAC XML file.

11. Filter
Enables filtering of displayed ADAC XML asset data.

12. ADAC XML Supporting Files
Upload supporting files linked to the current ADAC XML file.

13. ADAC XML File Name
Displays the name of the loaded ADAC XML file.

14. ADAC XML File Version
Displays the ADAC XML standard version of the file.

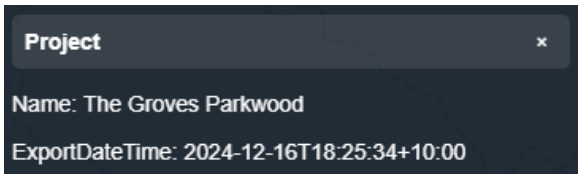
15. Footer Information
Displays the current application's version information.

16. Menu Hide/Show
Toggles the visibility of the Project Details Menu.

11.1 Project Tab

The Project tab displays two key properties from the loaded ADAC XML file:

- **Project Name** – The name of the project as defined in the XML file.
- **Export DateTime** – The date and time the file was exported from the software that created it.

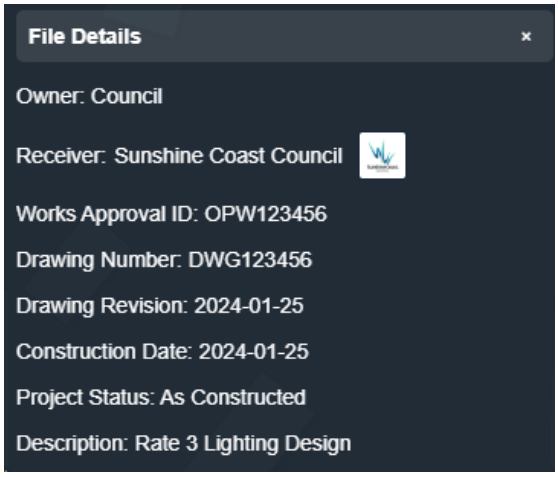


The Export DateTime value is subject to ISO 8601 formatting requirements. Many software packages incorrectly format this value, assuming that their default output meets ISO 8601. infrADAC Map enforces full compliance and any deviation from the standard will result in an audit error.

11.2 File Details Tab

The File Details tab displays key project information taken directly from the loaded ADAC XML file. The properties include:

- **Owner** – The owner of the project.
- **Receiver** – The council, utility, or organisation receiving the ADAC data.
- **Works Approval ID** – The relevant works approval identifier.
- **Drawing Number** – The project drawing number.
- **Drawing Revision** – The drawing revision identifier.
- **Construction Date** – The project's construction completion date.
- **Project Status** – The project status (e.g. As Constructed).
- **Description** – A short description of the project.



The Receiver property is audited in connection with the Drawing Extent coordinates. Both must align so that the receiver's name matches one of the approved receiver names for the Local Government Area (LGA) determined from the extents.

- **Valid Receiver in Correct Area**
  If the receiver name matches an approved name for the LGA based on the extents, it is accepted. Valid receivers are displayed with an icon that links to their official website.
- **Valid Receiver Name in Incorrect Area**
  If the receiver name is correct but the drawing extents place the project outside that receiver's approved area, it is highlighted as an issue.

- **Invalid Receiver Name**
  If the receiver name does not match any approved receivers, it is rejected outright and flagged as an error.

- **Legacy Receivers**
  Some receivers, such as *Allconnex Water*, are recognised as legacy receivers. These are supported for backward compatibility, but when the icon is hovered, the user is notified that the receiver is legacy.

11.3 Coordinate System Tab

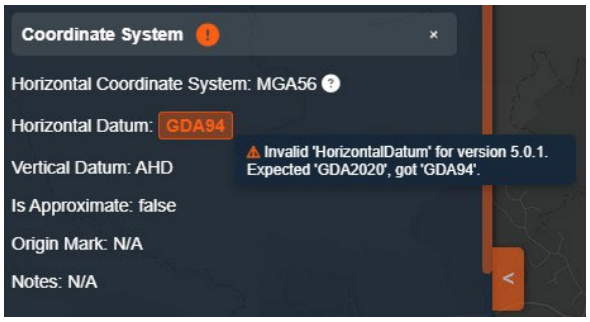
The Coordinate System tab displays information about the coordinate reference system defined in the ADAC XML file and validates it against the expected ADAC standard.

The tab lists the Horizontal Coordinate System, Horizontal Datum, Vertical Datum, and related properties. This information is taken directly from the XML file. Hovering the ? icon next to the Horizontal Coordinate System property will show the project extents on the MGA zone map. This visual assist's the user in confirming that the drawing extents align with the specified MGA zone.

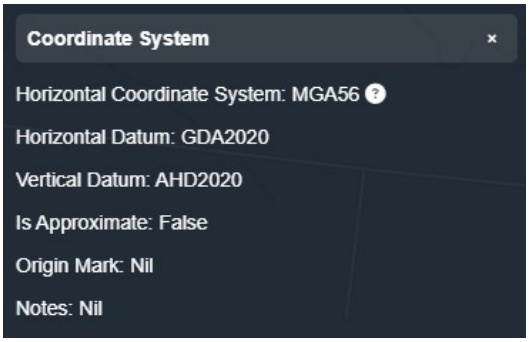
The Horizontal Datum value is compared directly with the expected standard for the loaded ADAC XML file version:

- **ADAC XML v5.0.1 and later**
  The expected Horizontal Datum is GDA2020. If the file specifies any other datum, such as GDA94, the tab will display an error. This ensures that projects submitted under current ADAC versions use the correct coordinate system.

- **ADAC XML versions prior to v5.0.1**
  The Horizontal Datum check is not enforced. These earlier standards may legitimately use datums such as GDA94 without triggering an error.



If the MGA zone defined in the Horizontal Coordinate System is valid, the extents are further checked to ensure they fall within acceptable MGA bounds (easting range). Any extents outside the expected range for the specified zone will generate a warning.



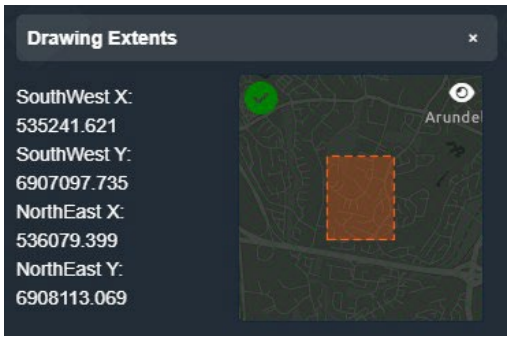
The Coordinate System tab updates automatically with the currently selected ADAC XML file. Selecting a different file will refresh the displayed values and recheck against the appropriate version requirements.

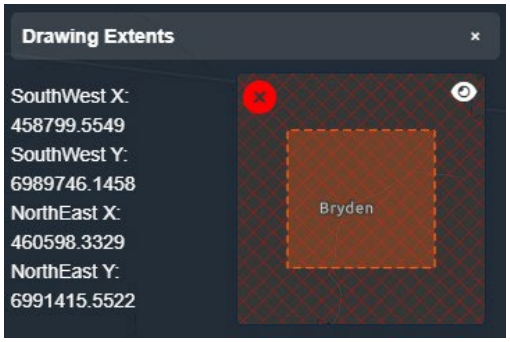
11.4 Drawing Extents Tab

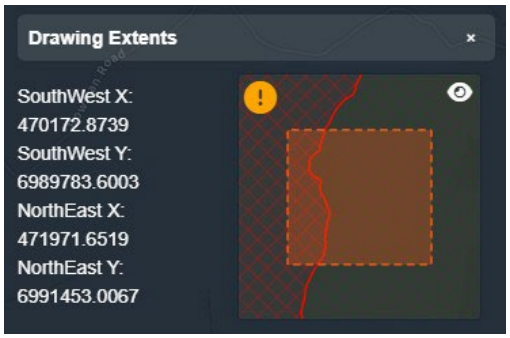
The Drawing Extents tab displays the coordinate bounds of the loaded ADAC XML file and verifies whether the extents fall within an approved Local Government Area (LGA). The extents are defined by their SouthWest (X, Y) and NorthEast (X, Y) coordinates.

The system performs an automatic validation against approved LGAs when the file is loaded. The validation results are displayed in the Drawing Extents tab using status icons and messages:

- **Approved within a single LGA**
  When the drawing extents fall entirely within a recognised and approved LGA boundary, the tab displays a green status indicator. The name of the approved LGA is shown beneath the extent coordinates. In this case, no corrective action is required.
- **Extents not within any approved LGA**
  If the drawing extents do not intersect with any approved LGA boundaries, the tab displays a red status indicator. The map panel will show the extents outlined, and the system will advise that the extents are outside all approved LGAs. The user should review and correct the coordinate data to ensure the project is located within an approved LGA.
- **Extents cover multiple LGAs**
  When the drawing extents overlap more than one LGA, the tab displays an amber status indicator. The system lists both the approved and denied LGAs and recommends that drawing extents be adjusted to fall entirely within a single approved LGA. This ensures clarity in jurisdiction and compliance with ADAC submission requirements.



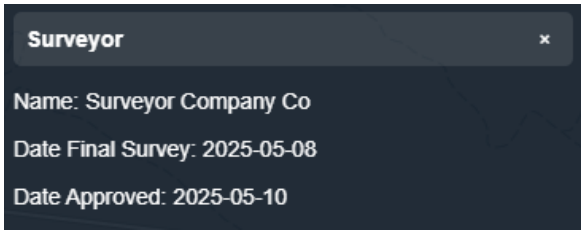




The Drawing Extents tab updates dynamically with the currently selected ADAC XML file. Adjusting extents or selecting a different file will refresh the validation results accordingly.

11.5 Surveyor Tab

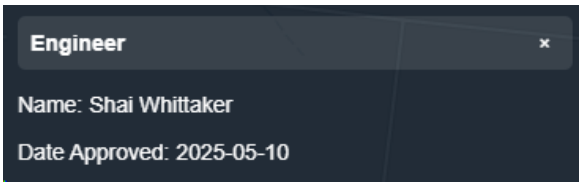
The Surveyor tab displays the surveyor responsible for the project as recorded in the ADAC XML file. It includes the surveyor's name, the date the final survey was completed, and the date the survey was approved.



The information is provided for reference only and is not subject to any audit or validation by infrADAC Map. The tab updates automatically to show the details relevant to the currently selected ADAC XML file.

11.6 Engineer Tab

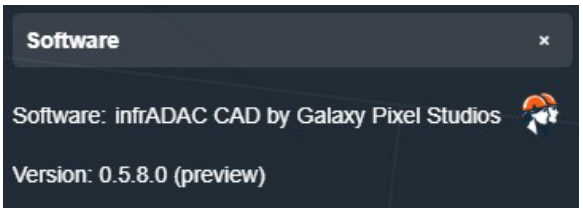
The Engineer tab displays the engineer responsible for the project as recorded in the ADAC XML file. It includes the engineer's name and the date the work was approved.



Like the Surveyor tab, this information is for reference only and is not audited. The tab updates automatically when switching between loaded ADAC XML files to display the details for the currently selected file.

11.7 Software Tab

The Software tab displays the software application used to create the loaded ADAC XML file, along with its version number. This information is extracted directly from the file metadata.



There is no audit process associated with the Software tab. Its primary purpose is to provide reference information to identify the originating software. Recognised software packages are displayed with their respective application icon and include a direct link to the developer's website.

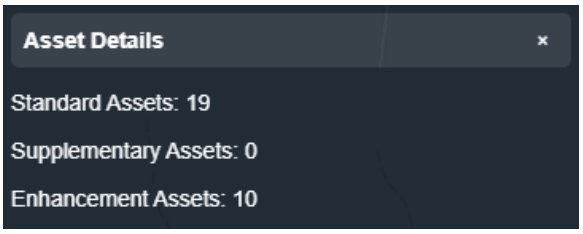
If the software is not recognised, no icon or link will be shown, but the software name and version (as recorded in the ADAC XML file) will still be displayed. Developers who wish for their software to be recognised by infrADAC Map can apply through the support ticket system.

11.8 Asset Details Tab

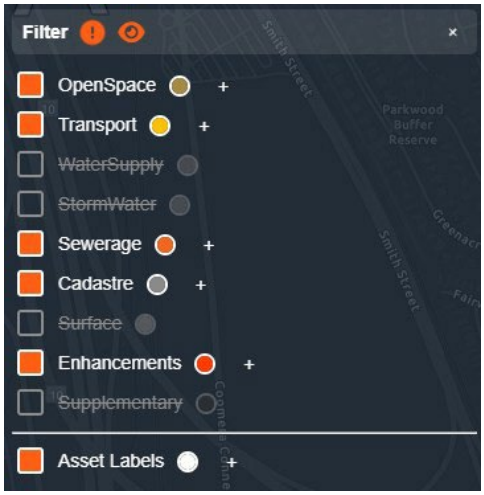
The Asset Details tab provides a summary of the total number of assets recorded in the currently selected ADAC XML file, grouped by asset type.

The three categories displayed are:

- Standard Assets – The total number of standard assets defined in the file.
- Supplementary Assets – The total number of supplementary assets defined in the file.
- Enhancement Assets – The total number of enhancement assets defined in the file.



11.9 Filter Tab

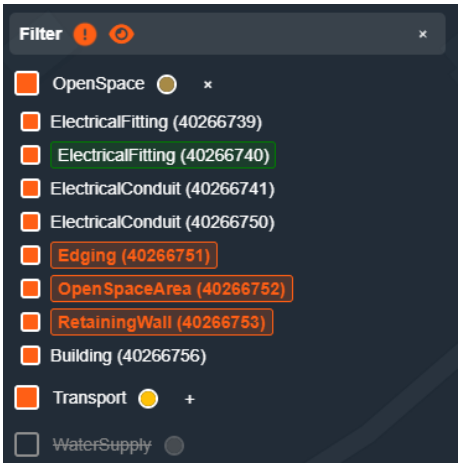


The Filter tab provides full control over the visibility and display colours of asset classes and individual assets within the drawing space for the currently selected ADAC XML file. It is also where users can expand asset classes to inspect each asset by name and ADACId.

Asset classes that are not used in the currently selected ADAC XML file will appear greyed out. These cannot be expanded or toggled because there is no corresponding data in the active file.

For asset classes that are present:

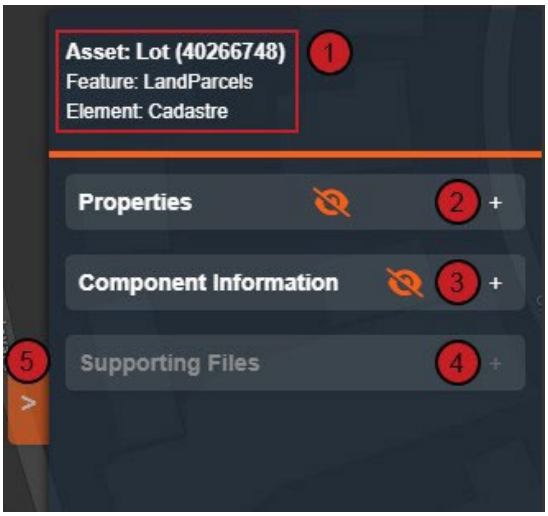
- **Colour Swatch**: The coloured square beside each asset class sets the display colour for that class in the drawing space. Clicking the swatch opens the colour picker. Changing the colour affects all loaded ADAC XML files that contain that class.
- **Class Visibility**: The checkbox beside the asset class name controls whether all assets in that class are visible or hidden in the drawing space.
- **Expanding a Class**: Selecting the **+** icon to the right of the class name expands the class to show all individual assets in that class. Each is listed with its asset name and ADACId.
- **Individual Asset Visibility**: Each individual asset in the expanded list has its own checkbox that allows the user to toggle its visibility separately from the rest of the class.



Assets that have issues identified during auditing will be highlighted in the expanded asset list. Hovering the cursor over an asset with an issue will display a tooltip containing the specific error message. When an asset is selected directly in the drawing space, it will also be highlighted in green within the Filter tab for easy identification.

Changes made in the Filter tab are applied in real time to the drawing space. The Filter tab always reflects the currently selected ADAC XML file, and selecting another file will update the tab to display that file's available asset classes and assets.

12 Asset Details Menu



1. Header
Shows the asset name and ID, plus the Feature and Element.

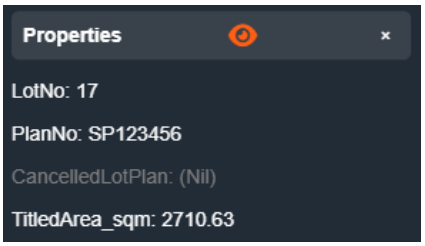
2. Properties
Lists recorded attributes for the selected asset.

3. Component Information
Shows standard project and compliance fields such as Infrastructure Code, Owner, drawing and approval details, Status, and Data Quality.

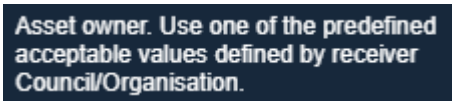
4. Supporting Files
Lists files linked to the asset when available.

5. Menu Hide/Show
Toggles the visibility of the Project Details Menu.

12.1 Properties Tab

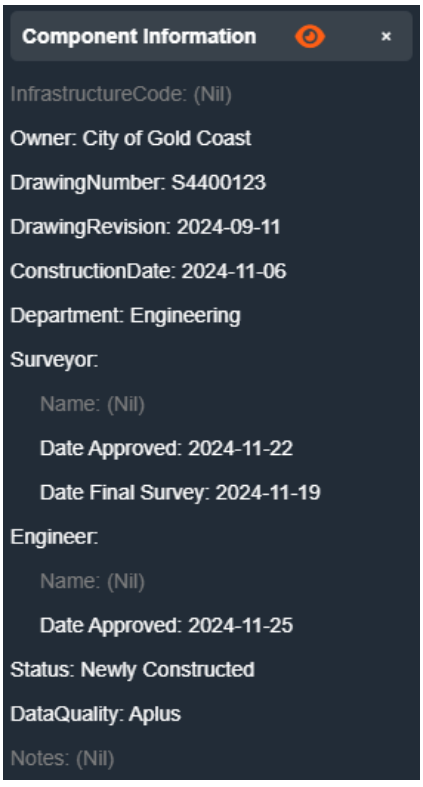


The **Properties** tab displays all recorded attributes for the selected asset, showing each property name alongside its value. Properties with no recorded value are marked as **(Nil)** and are hidden by default to keep the view uncluttered. These can be revealed by selecting the eye icon in the section header, and the panel will automatically resize to fit the additional fields.



Tooltips are available for many labels, providing a short description of a field's purpose or expected content when you pause the pointer over them. Section headers may be highlighted to indicate warnings or data issues. Hovering over a highlighted header will explain the cause, such as duplicate IDs or locations outside the drawing extents.

12.2 Component Information Tab



The **Component Information** section provides a breakdown of all components linked to the selected asset. Each component is listed with its relevant details. Nil fields are hidden by default here as well and can be shown or hidden by selecting the eye icon in the section header. The toggle helps control how much information is displayed on screen.

Like the Properties section, component labels may also include hover help tooltips. These clarify the meaning of specific fields or explain the role of a component within the asset. This is particularly useful for more specialised or uncommon components where the field names alone may not be self-explanatory.

12.3 Supporting Files Tab

The **Supporting Files** section provides a breakdown of all external documents linked to the selected asset. For details regarding Supporting files please see Section 15.

13 Auditing

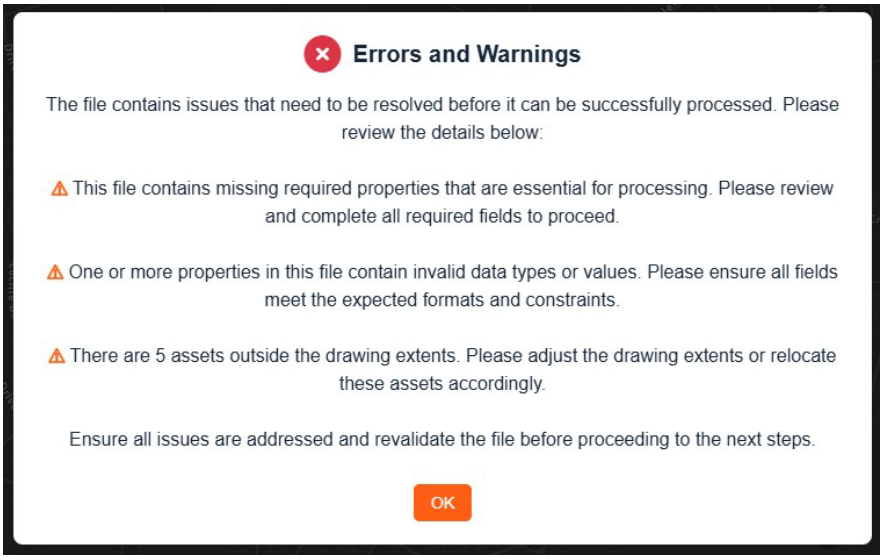
infrADAC Map is equipped with a basic auditing tool that evaluates the currently loaded ADAC XML file and highlights issues in relation to the current ADAC XML standards. IPWEAQ's ADAC XML data dictionary is used to verify specific assets, property types, and general project details.

The auditing tool analyses six specific components of the ADAC XML file:

- Project detail property types (strings, integers, floats, bools, etc.)
- Drawing extent coordinates and their correlation to the specified *Receiver* and *Region*,
- Required fields at the project level
- Asset positioning within drawing extents
- ADACId duplication
- Asset geometry type

Note: Only infrADAC CAD has the ability to audit specific asset properties in detail and generate a full audit report. infrADAC Map's audit should be used as a general guide only, as issues may still be present with specific asset properties.

Each file is automatically audited when loaded into infrADAC Map. The user is initially notified of all detected issues via an on-screen popup notification, as shown below.



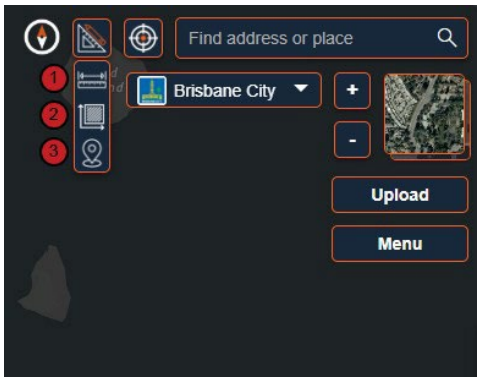
To view each issue identified in the ADAC XML file, the **Project Details Menu** automatically highlights each affected project detail tab with a flashing caution icon. Hovering over this icon displays a tooltip with details of the issue in the tab dropdown. Opening an affected tab will highlight the specific property with a similar tooltip message.

The **Filter** tab lists all issues identified with individual assets. Assets whose geometry lies partly or entirely outside the drawing extents area are flagged as issues. All asset ADACId values are also checked to ensure uniqueness across the ADAC XML file. Assets with names, categories, or property details that do not match IPWEAQ's data dictionary will not be highlighted as issues. It is the responsibility of the designer to ensure these details are correct. Assets with issues can be highlighted in *red* within the drawing space by clicking the eye icon in the **Filter** tab. For full audit capability of ADAC XML files, including detailed reporting, please use infrADAC CAD.

When multiple files are loaded, auditing errors are only visible for the currently selected ADAC XML file. Clicking another file's tab will display that file's specific errors and issues, if any.

14 Measurement Tools:

The Measure Tools provide precise measurement functionalities directly within your application interface. Accessible via a convenient toolbar button, the Measure Tools include three primary features:

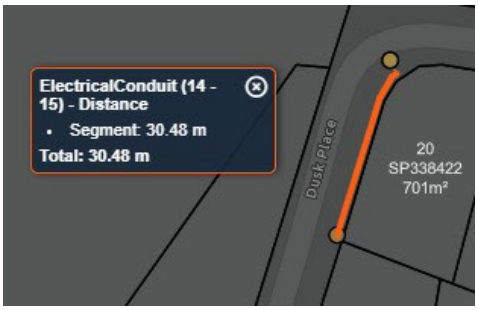


1. Distance Measurement
Measures the distance between selected points on the map.

2. Area Measurement
Calculates the area within a defined boundary on the map.

3. Display Coordinates
Displays the geographic coordinates of a selected point *(Easting, Northing in MGA)*.

14.1 Measure Distance

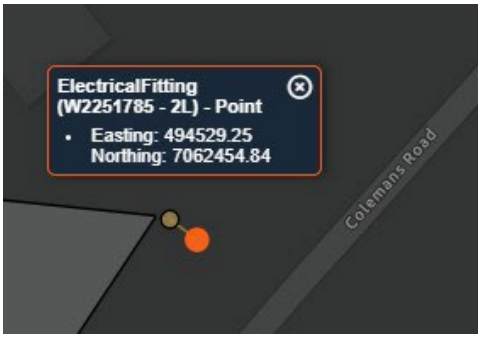


- Click the Measure Tools button on the toolbar and select "Measure Distance" from the dropdown.
- If you have an asset already selected, their total distance per segment will be automatically measured and displayed.
- If no assets are selected, click sequentially on the map or interface to define measurement points.
- The total distance between the selected points is dynamically displayed as points are added.
- Click the Measure Tools button again to reset and exit measurement mode.

14.2 Measure Area

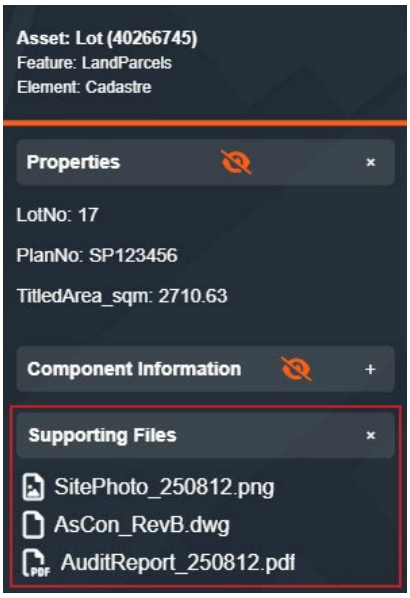
- Activate the Measure Tools button and select "Measure Area" from the dropdown.
- If an asset is already selected, the area and perimeter of the asset will be automatically calculated and displayed.
- If no asset is selected, click on the map to define the vertices of the area you wish to measure.
- Complete the measurement by double-clicking the last vertex point.
- The enclosed area and perimeter is displayed and updated as additional vertices are added.
- Exit measurement mode by clicking the Measure Tools button again.

14.3 Display Coordinates



- Select "Display Coordinates" from the Measure Tools dropdown menu.
- If an asset is already selected, its coordinates are immediately displayed.
- If no asset is selected, click on the desired location on the interface.
- The coordinates of the selected point are instantly shown.
- To measure coordinates of another point, simply click another location.
- Exit coordinate display mode by clicking the Measure Tools button again.

15 Supporting Files:

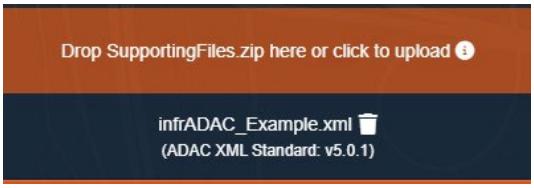


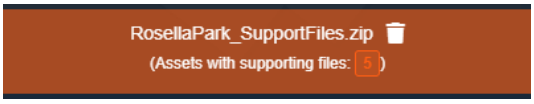
The *Supporting Files* feature allows you to attach external documents, images, and other file types to individual assets in your uploaded XML dataset. These files are packaged in a single ZIP archive and linked to assets by matching folder names in the ZIP to the AssetType and ADACId values from the XML file. This feature helps consolidate all asset-related records into one location for easy reference.

Supporting files may include:

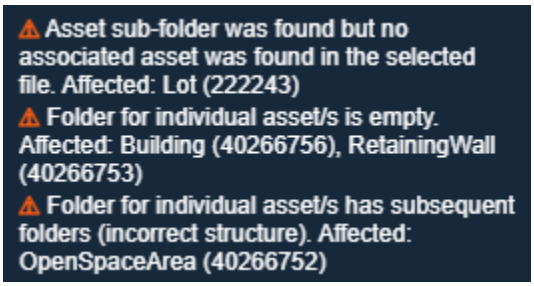
- PDF inspection reports
- Photos
- CAD drawings
- Spreadsheets
- Manufacturer manuals
- Any other relevant documentation

15.1 Uploading Supporting Files





1. **Upload an XML File First**
   Supporting files are only accepted after an XML file has been uploaded and selected.
   If no XML file is active, an error will be displayed.
2. **Access the Upload Section**
   - After uploading an XML file, the *Supporting Files* upload section becomes visible.
   - You can drag and drop your ZIP into this area or click to browse for it.
3. **Accepted Format**
   The ZIP must follow the **exact folder structure rules** described below. The system audits the contents during upload.
4. **Audit Feedback**
   - The application will display the number of assets with linked supporting files.
   - If structure issues are detected (empty folders, incorrect names, nested subfolders, or unmatched folders), the count will be highlighted, and a tooltip will display the list of issues.



15.2 ZIP Folder Structure Requirements

To be recognised and linked, your ZIP archive must meet the following requirements:

Rule	Requirement
Top-level folders only	Only folders in the ZIP root are considered.
Folder naming pattern	AssetType (ADACId). Must match the asset type and ADACId exactly as they appear in the XML. Case-sensitive.
No subfolders	Files must be directly inside the asset folder. Subfolders trigger a structure warning.
Not empty	Each asset folder must contain at least one file. Empty folders trigger an empty-folder warning.
Matching rule	If no asset in the XML matches the folder name, it is flagged as *no match*.
File types	Any file extension is accepted. No content validation is performed.

15.3 XML Format Structure Requirements

For supporting files to be linked correctly, the uploaded XML file must meet the following requirements:

1. **SupportingFiles Element Location**
   - The <SupportingFiles> element must be placed inside the <ComponentInfo> element for the asset it belongs to.
     Note: namespace prefix has been excluded from element names for clarity.
2. **Content Format**
   - The <SupportingFiles> element must contain a comma-separated list of bare file names (with extensions).
   - File names must match the files placed in the corresponding ZIP folder for that asset.
   - Do **not** include file paths, media types, or any other metadata.
3. **File Name Match**
   - Each file name listed in <SupportingFiles> must exactly match (case-sensitive) a file name inside the correct ZIP folder for that asset.
4. **No Extra XML Tags**
   - Do not wrap individual file names in <File> or any other sub-elements.
   - Only plain, comma-separated text is supported.

Appendix A

Example XML and Zip Folder Structure (Supporting Files)

XML Structure:

```
<SupportingFiles>
      SitePhoto_250812.pdf, AsCon_RevB.dwg, AuditReport_250812.pdf
</SupportingFiles>
```

Zip File Structure:

```
SupportingFiles.zip
└──── Lot (40266745)
      ├──── AsCon_RevB.dwg
      ├──── AuditReport_250812.pdf
      └──── SitePhoto_250812.png
```

```
FOLDER_NAME.zip
└──── ASSET_TYPE (ADACID)
      ├──── FILE_A.EXT
      ├──── FILE_B.EXT
      └──── FILE_C.EXT
```