

National Underground Asset Register (NUAR)

NUAR Data Model Publication

Presentation Specification for the NUAR Web Portal

Publication History

Date	Version	Description
12/08/2024	0.1	First publication of the NUAR Data Model
10/03/2025	1.0	Publication of the NUAR Data Model – V2.1.3

Purpose of this document

This document describes how Feature Types and attribute values in the NUAR Harmonised Data Model are translated into cartographic elements and attribute display values in the NUAR Web Portal.

Information is correct at the time of writing. The NUAR platform is under development, so this information is still evolving and subject to change, particularly the order and content of attribute information.











































1 Colours, Linestyles and Symbolology

1.1 Combined Map


































The table below gives the colours, linestyles and symbols used to present features in the data model on the combined map in the NUAR platform.

Sectors are listed in the same order as presented in the platform layer control, in terms of ascending nominal/standard depth (i.e. the order in which these assets would broadly be expected to be encountered during an excavation).

In the NUAR platform the sector to which a feature belongs is inferred from the table from which it is retrieved.

Sector	Colour (RGB)	Lines (Underground)	Lines (Above Ground)	Nodes (Underground)	Nodes (Above Ground)	Descriptions	Property Changes	Cross- Sections
Drainage	0, 213, 213							
Telecoms	82, 82, 82							
Electricity	245, 37, 0							
Gas	255, 153, 0							
Thermal	59, 153, 80							
Water	2, 87, 222							









Sector	Colour (RGB)	Lines (Underground)	Lines (Above Ground)	Nodes (Underground)	Nodes (Above Ground)	Descriptions	Property Changes	Cross- Sections
Sewer	155, 73, 0							
Fuel & Chemicals	141, 0, 207							
Transport	255, 114, 241							
Non-utility objects	155, 155, 155							N/A
Planning Areas	131, 233, 21							N/A

1.2 Gas Sector Map

The “Isolated Views” feature in the NUAR platform allows data from individual organisations to be viewed in isolation, and in this view custom symbology reflecting existing standards for different sectors may be switched on. Initially, this custom symbology has been defined for the Gas sector given that the colours, linestyles and symbology for different pressure tiers and equipment types is long established and homogenous across the different gas networks.










1.2.1 Line Features

The colour and linestyle of linear features is dictated by the Pressure Tier recorded in the database.

Description	Colour (RGB)	Style	Example
Low Pressure	255, 0, 0	Solid	
Medium Pressure	0, 197, 255	Line-Dash-Line	
Intermediate Pressure	85,255,0	Line-Dash-Dash-Line	
Local High Pressure	255,127,39	Line-Dash-Dash-Dash-Line	
National High Pressure	255,0,255	Line-Dash-Dash-Dash-Dash-Line	
Other/Unknown	255, 153, 0	Solid	

1.2.2 Point Features

The colour of point features, like linear features is dictated by the pressure tier recorded against them, and the symbol used is dictated by the component type value.

Description	Symbol (no colour)
Cathodic Protection Node	
End Closure/Capped End	
Regulator (Governor)	
Pressure Reduction	
Syphon	
Tee	
Trap	
Valve	
Other/Unknown	

1.3 Other Sectors

Custom colours, linestyles and symbology for other sectors is TBC.

2 Attribute Display Values

2.1 Sections

Feature attributes in the NUAR Web Portal are displayed in the Feature Panel and divided into sections as follows:

- **Headline Asset Information.** Most important information about the selected feature.
- **Headline Owner Information.** Key contact information about the asset owner organisation.
- **Observation Details.** Information for Observation features only.
- **Ownership and Operation.** Details of any different organisations involved with the asset, its operation and data management.
- **Description.** Detailed description of the feature.
- **Installation Details.** Details of how and when the asset was installed.
- **Status.** The status of the asset.
- **Data Currency.** Information about the data currency.
- **Location.** Any description of the location of the feature.
- **Measurement and Accuracy.** Details about the measurement and capture of the feature.
- **Contact Details.** Full contact details for this asset.
- **Associated Guidance.** Textual guidance related to the asset.
- **Linked Files.** Links to any files associated with the feature.
- **Disclaimers.** Any disclaimers associated with the feature.

Not all of these sections will be populated for all features.

2.2 Display Values - all

Section	Sector	Display Value	Attribute Name
Headline Asset Information	All assets	Operational status Depth Material	operationalstatus depth_depth + depth_unitofmeasure material
	All network nodes and links	Asset type Owner	componenttype dataowner
	Access accessories	Asset type	accesstype
	Container accessories	Asset type	containertype
	Protection accessories	Asset type	protectiontype



	Support accessories	Asset type	supporttype
	All asset description objects	Item type Item text	descriptiontype associatedtext
	Sites	Asset type	sitetype
	Electricity Features	Voltage level Voltage	conveyancemethod operatingvoltage_operatingvoltage + operatingvoltage_unitofmeasure
	Gas Features	Pressure tier Diameter Carrier material Carrier diameter	conveyancemethod insidewidth_width + insidewidth_unitofmeasure outermaterial outsidewidth_width + outsidewidth_unitofmeasure
	Sewer Features	Diameter/Width Height	insidewidth_width + insidewidth_unitofmeasure insideheight_height + insideheight_unitofmeasure
	Thermal Features	Diameter	insidewidth_width + insidewidth_unitofmeasure
	Water Features	Commodity type Diameter	utilitytype insidewidth_width + insidewidth_unitofmeasure
	Headline Owner Information	All Asset Features	Data provider Emergency contact details Business contact details Last reviewed in NUAR Expected data refresh period
	Observation Details	All Observation Features	observationtype nuaractor:displayname observationcategory objectname notes datelastupdated

		Associated files	[nuarlinkedfile: Compound File Details]
Ownership and Operation	All Assets	Asset owner Data owner Operator	objectowner dataowner operator
	All Reference and non-utility features	Owner Operator	objectowner operator
Description	SEE DEDICATED TABLE BELOW	SEE DEDICATED TABLE BELOW	SEE DEDICATED TABLE BELOW
Installation Details	All Assets	Position Depth Date of installation Installation method Installation method description	undergroundstatus depth_depth dateofinstallation installationmethod installationmethodsubtype
Status	All Assets	Additional requirements Operational status Date status changed	enhancedmeasures operationalstatus dateoflaststatuschange
Data Currency	All Assets	Date of last data collection Original date of data collection Last refreshed in NUAR Last reviewed in NUAR Expected data refresh period	datedatacollected originaldatedatacollected systemloaddate datelastupdated expectedrefreshperiod
Location	All Assets	Location reference Location reference type	localreference localreferencetype
Measurement and Accuracy	All Assets	Surveyed quality level Method of location capture Method of depth capture	qualitylevel horizontalmeasurementmethod depthmethod

Contact Details	Emergency	Department Telephone Email Web form Address	departmentname telephonenumber emailaddress webform singlelineaddress
	Business	Department Telephone Email Web form Address	departmentname telephonenumber emailaddress webform singlelineaddress
Associated Guidance	All Assets	Type Description	name description
Linked Files	All Assets	Associated files	[nuarlinkedfile: Compound File Details]
Disclaimers	All Assets	Disclaimer	disclaimertext

2.3 Display Values – Description section

Sector	Type	Display Value	Attribute Name
Drainage	Nodes	Asset ID Asset name Asset description Asset type Asset type description Material Material description Colour Internal width Internal height Internal length Auxiliary Asset?	objectownerassigneduniqueid objectname description componenttype componentsubtype material materialsubtype colour insidewidth_width insideheight_height insidelength_length isauxiliary
	Links	Asset ID Asset name Asset description Purpose Commodity Type Asset type	objectownerassigneduniqueid objectname description conveyancecategory utilitysubtype componenttype



		Asset type description Material Material description Colour Diameter Auxiliary Asset?	componentsubtype material materialsubtype colour insidewidth_width isauxiliary
Electricity	Nodes	Asset ID Asset name Asset description Asset type Asset type description Voltage tier Voltage Cross-sectional area Material Material description Colour Auxiliary Asset?	objectownerassigneduniqueid objectname description componenttype componentsubtype conveyancemethod operatingvoltage insidewidth_width material materialsubtype colour isauxiliary
	Links	Asset ID Asset name Asset description Asset type Asset type description Voltage tier Voltage Cross-sectional area Material Material description Colour Auxiliary Asset?	objectownerassigneduniqueid objectname description componenttype componentsubtype conveyancemethod operatingvoltage insidewidth_width material materialsubtype colour isauxiliary
Fuel & Chemicals	Nodes	Asset ID Asset name Commodity type Asset description Asset type Asset type description Pressure tier	objectownerassigneduniqueid objectname utilitytype description componenttype componentsubtype conveyancemethod



		Material Material description Colour Internal width Internal height Internal length Cathodic Protected? Auxiliary Asset?	material materialsubtype colour insidewidth_width insideheight_height insidelength_length iscathodicprotected isauxiliary
	Links	Asset ID Asset name Commodity type Asset description Asset type Major accident hazard pipeline? Asset type description Pressure tier Material Material description Material grade Colour Diameter Wall thickness Outer material Outer material description Outer diameter Cathodic Protected? Slabbing? Tape? Auxiliary Asset?	objectownerassigneduniqueid objectname utilitytype description componenttype mahp componentsubtype conveyancemethod material materialsubtype materialgrade colour insidewidth_width wallthickness outermaterial outermaterialsubtype outsidewidth_width iscathodicprotected slabbing tape isauxiliary
Gas	Nodes	Asset ID Asset name Asset description Asset type Asset type description Pressure tier Material	objectownerassigneduniqueid objectname description componenttype componentsubtype conveyancemethod material



		Material description Colour Internal width Internal height Internal length Cathodic Protected? Auxiliary Asset?	materialsubtype colour insidewidth_width insideheight_height insidelength_length iscathodicprotected isauxiliary
	Links	Asset ID Asset name Asset description Asset type Major accident hazard pipeline? Asset type description Pressure tier Material Material description Diameter Wall thickness Carrier material Carrier material description Carrier diameter Colour Cathodic Protected? Auxiliary Asset?	objectownerassigneduniqueid objectname description componenttype mahp componentsubtype conveyancemethod material materialsubtype insidewidth_width wallthickness outermaterial outermaterialsubtype outsidewidth_width colour iscathodicprotected isauxiliary
Sewer	Nodes	Asset ID Asset name Asset description Asset type Asset type description Material Material description Colour Internal width Internal height Internal length Auxiliary Asset?	objectownerassigneduniqueid objectname description componenttype componentsubtype material materialsubtype colour insidewidth_width insideheight_height insidelength_length isauxiliary



	Links	Asset ID Asset name Asset description Sewer type Flow type Asset type Asset type description Material Material description Colour Diameter/Width Height Auxiliary Asset?	objectownerassigneduniqueid objectname description utilitysubtype conveyancemethod componenttype componentsubtype material materialsubtype colour insidewidth_width insideheight_height isauxiliary
Telecoms	Nodes	Asset ID Asset name Asset description Asset type Asset type description Material Material description Colour Auxiliary Asset?	objectownerassigneduniqueid objectname description componenttype componentsubtype material materialsubtype colour isauxiliary
	Links	Asset ID Asset name Asset description Asset type Asset type description Material Material description Colour Auxiliary Asset?	objectownerassigneduniqueid objectname description componenttype componentsubtype material materialsubtype colour isauxiliary
Thermal	Nodes	Asset ID Asset name Asset description Asset type Asset type description Operating temperature	objectownerassigneduniqueid objectname description componenttype componentsubtype operatingtemperature



		Operating temperature range Material Material description Colour Internal width Internal height Internal length Auxiliary Asset?	operatingtemperaturerange material materialsubtype colour insidewidth_width insideheight_height insidelength_length isauxiliary
	Links	Asset ID Asset name Asset description Commodity type Purpose Asset type Asset type description Operating temperature Operating temperature range Material Material description Colour Diameter Wall thickness Outer material Outer material description Outer diameter Auxiliary Asset?	objectownerassigneduniqueid objectname description utilitysubtype conveyancecategory componenttype componentsubtype operatingtemperature operatingtemperaturerange material materialsubtype colour insidewidth_width wallthickness outermaterial outermaterialsubtype outsidewidth_width isauxiliary
Transport	Nodes	Asset ID Asset name Asset description Asset type Asset type description Material Material description Colour Auxiliary Asset?	objectownerassigneduniqueid objectname description componenttype componentsubtype material materialsubtype colour isauxiliary
	Links	Asset ID Asset name	objectownerassigneduniqueid objectname



		Asset description Asset type Asset type description Material Material description Colour Auxiliary Asset?	description componenttype componentsubtype material materialsubtype colour isauxiliary
Water	Nodes	Asset ID Asset name Asset description Asset type Asset type description Material Material description Colour Internal width Internal height Internal length Auxiliary Asset?	objectownerassigneduniqueid objectname description componenttype componentsubtype material materialsubtype colour insidewidth_width insideheight_height insidelength_length isauxiliary
	Links	Asset ID Asset name Asset description Purpose Commodity type Asset type Asset type description Material Material description Colour Diameter Wall thickness Outer material Outer material description Outer diameter Cathodic protected? Auxiliary Asset?	objectownerassigneduniqueid objectname description conveyancecategory utilitysubtype componenttype componentsubtype material materialsubtype colour insidewidth_width wallthickness outermaterial outermaterialsubtype outsidewidth_width iscathodicprotected isauxiliary
	Access	Asset ID	objectownerassigneduniqueid



All Accessories		Asset description Asset type Asset type description Number of covers Material Material description Colour	description accesstype accesssubtype numberofcovers material materialssubtype colour
	Container	Asset ID Asset description Asset type Asset type description Material Material description Colour	objectownerassigneduniqueid description containertype containersubtype material materialssubtype colour
	Physical Protection	Asset ID Asset description Protection type Protection type description Material Material description Colour	objectownerassigneduniqueid description physicalprotectiontype physicalprotectionsubtype material materialssubtype colour
	Support	Asset ID Asset description Asset type Asset type description Material Material description Colour	objectownerassigneduniqueid description supporttype supportsubtype material materialssubtype colour
All Sites	All	Site ID Site name Site description Site type Site type description	objectownerassigneduniqueid objectname description sitetype sitesubtype materialssubtype colour
Description Objects	All	Item ID Item name	objectownerassigneduniqueid objectname



		Item description Item type Item text	description descriptiontype associatedtext
Non-utility Objects	All	Object type ID Name Description Date of installation Width Height Length	type objectownerassigneduniqueid objectname description dateofinstallation insidewidth_width insideheight_height insidelength_length
Planning	Archaeological Site	Area type ID Name Description Additional Information Grade	planningareatype objectownerassigneduniqueid objectname description additionalinformation grade
	Conservation Area	Area type ID Name Description Additional Information	planningareatype objectownerassigneduniqueid objectname description additionalinformation
	SSSI England	Area type ID Name Description Additional Information	planningareatype objectownerassigneduniqueid objectname description additionalinformation
	SSSI Wales	Area type ID Name Description Additional Information	planningareatype objectownerassigneduniqueid objectname description additionalinformation
	ASSI NI	Area type ID Name Description	planningareatype objectownerassigneduniqueid objectname description



		Additional Information	additionalinformation
	Tree Location	Area type ID TPO? Species Description Additional Information	planningareatype objectownerassigneduniqueid treepreservationorder species description additionalinformation
	Site of Previous Industrial Use	Area type ID Previous use End date Description Additional Information	planningareatype objectownerassigneduniqueid previoususe enddate description additionalinformation
	General Planning Area	Area type ID Description Additional Information	planningareatype objectownerassigneduniqueid description additionalinformation
	Restricted Planning Area	Area type ID Description Additional Information	planningareatype objectownerassigneduniqueid description additionalinformation