



FastTrack Drainage

Template guidance

FastTrack Drainage is the UK's first automated drainage validation system, created to simplify and speed up the design process, making your life easier.

This guide provides guidance to completing the following documents:

Hydraulic microdrainage (.mdx)

Site layout AutoCAD (.dwg)

Application form (.xlxs)



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Introduction

1. FastTrack Drainage guidance

FastTrack Drainage is an innovative system, created to take the pain out of drainage design validation. Simple to use, our automated technology will review your design, flagging up any issues in a fraction of the time it normally takes.

In order to submit your designs, it's important that your AutoCad and Microdrainage files are in the right format so that they're compatible with our system. We also need a completed application form, all of which can be found on www.scottishwaterhorizons.co.uk/services/developers/fasttrack-drainage.

The following guidance has been designed to help you through this process.

1.2 About FastTrack Drainage

FastTrack Drainage is an online, automated validation service, created to assist you through Scottish Water's technical approval when designing new sewerage infrastructure.

The system compares your sewerage design information against the Sewers for Scotland Technical Specification (SFS4) [Version 4 dated October 2018].

The system provides you with a report which lets you know how your designs compare with SFS4, including a list of areas where your design doesn't conform, giving you the chance to amend any issues before submission.

Your report will provide you with evidence that your sewerage design is compliant with SFS4 technical specification, helping to speed up the approval process with Scottish Water.

1.3 How it works

Once submitted, your designs pass through two main stages: **pre-flight checks** and **validation**.

The pre-flight check stage ensures that all of the information you submit is complete and in the correct format for our system to read. If there's a problem we'll let you know; you'll be able to make the required changes and resubmit your designs.

Once your design passes pre-flight checks, it will go through the whole validation process, performing a detailed check that your designs meet the standards detailed in SFS4.

At the end of the process, we'll provide you with a report which will give you one of three outcomes:

- Confirm that your design complies with SFS4
- Confirm that your design complies with SFS4, with exceptions which are subject to discussion with Scottish Water
- Advise that there are items that will have to be changed before submission to Scottish Water

1.4 Formatting

FastTrack Drainage works by looking for data to be structured in a particular format, so it's important that these guidelines are followed in order to ensure we can process your application as quickly as possible.

To enable the AutoCAD and Microdrainage input data to move through the online service smoothly, this document has been created, and will talk you through how best to complete your application.

If at any point you need help with your application, you can contact us by emailing DeveloperEnquiries@Scottishwaterhorizons.co.uk.

Please note

FastTrack Drainage does not form any part of or replace Scottish Water's application and technical approval process for new sewerage infrastructure.

The system does not provide a guarantee that your design information will be automatically accepted and/or approved by Scottish Water. It will, however, provide evidence that your proposal for new sewerage infrastructure has been independently and objectively assessed against SFS4 with the aim of simplifying and increasing the speed of the application process.

1.5 Your design documents

Your FastTrack Drainage application requires three separate documents to be uploaded via the system. These are:

1. Microdrainage Model

The model should be produced with a standard set of design criteria and parameters. Multiple microdrainage models can be uploaded (i.e. for multiple phases). However, these must be stored in one workspace and uploaded in a single file that also matches a single AutoCAD drawing.

2. AutoCAD Drawing with supplementary ESRI Tagged Data

The drawings produced for use with the online service will also require to be set to a standard in terms of entity types used to show drainage, SuDS and development infrastructure elements (i.e. roads, houses etc). To provide a level of additional information to the online service these entities also require to be attributed with data utilising a free AutoCAD plugin developed by ESRI. A single AutoCAD drawing shall be uploaded for each application, however as noted in point 1 above, several networks can correspond to this.

3. Application Excel Template

This template requires you to populate contact and development specific details to enable the application to be processed. There are also a number of declarations that you're required to confirm prior to submitting the application to the online service. If any of these declarations cannot be answered with a 'yes' then you should take corrective action to the submission in order to enable a 'yes' response to be entered into the template. Any applications submitted with declarations set to a 'no' response will fail pre-flight checks and the application will be returned.

1.6 Information criteria

It's important that the information in your design is compatible with our system. A common approach adopted by hydraulic modelling software is to divide sewerage infrastructure into nodes and links, which the FastTrack Drainage system follows.

It is also important to highlight the requirement that the CAD model and Microdrainage model must be consistent and fully match. For sewers, their XY coordinates in AutoCAD must be within 200 mm of their XY coordinates in the Microdrainage model.

These coordinates should be geographically the same as the physical location of the site. The online system will check whether the application matches a location in Scotland, and if not, the application will fail pre-flight checks.

For manholes, and any other nodes objects the AutoCAD shape (circles for manholes) must contain the XY coordinate point of the same object in the Microdrainage model. If not, when the files are uploaded to the online service, they will fail the pre-flight checks, and you'll receive a notification asking you to revise and resubmit the data.

In addition to the above, it's critical that items are applied to the correct feature class. For example, the online service would be unable to tell if private parking had been incorrectly attributed as public parking within the feature class properties. If this happened, then the results generated by the online service would be invalid.

This guidance document will provide you with indepth information in order to support you through the FastTrack Drainage process.

1.7 Accessing FastTrack Drainage

The FastTrack Drainage online service can be accessed from the following link.

www.scottishwaterhorizons.co.uk/developers/fasttrack-drainage

Please note that at the present time the website needs to be accessed using Google Chrome. Access using Internet Explorer or Microsoft Edge is not currently supported.

2. Application process

2.1 Uploading your designs

The portal is accessed through the Scottish Water Horizons website, which can be found here:

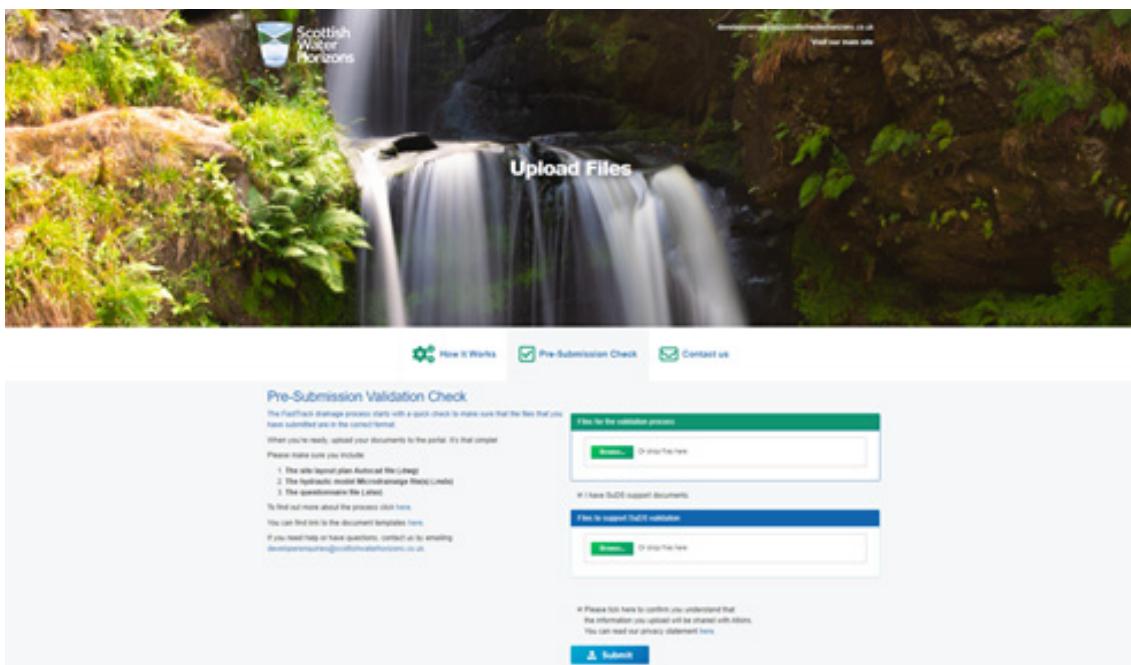
www.scottishwaterhorizons.co.uk/developers/fasttrack-drainage

On this page, you will find further links to our support videos, pricing details and the portal itself. You will also be able to download this guidance document, AutoCAD template and Excel application form.

If you have any issues, you can get in touch with us via the 'Contact Us' link on the website or by emailing DeveloperEnquiries@scottishwaterhorizons.co.uk.

FastTrack Drainage portal

Once you have clicked through to the portal, you will see the following submission upload page:



This page allows you to upload your drainage design files. You can upload your files by simply dragging and dropping them onto the submission form, or by pressing browse.

The minimum information required for upload is:

- Microdrainage Model
- AutoCAD Drawing with supplementary ESRI Tagged Data
- Excel Application Template

2. Application process

2.2 Using SuDs

If the application includes a SuDs feature that is to be considered for technical approval by Scottish Water (Pond, Detention Basin, Swale, Piped Filter Trench, Underground Storage), then the following must be uploaded by clicking the 'I have SuDs support documents' check box.

1. Detailed drawings (i.e. plan, cross-section and long-section) of the proposed SuDs asset
2. A PDF copy of the Microdrainage calculations and model simulations (1, 30 and 200 year)
3. The following information:
 - Impermeable area (of the development site)
 - Permeable area (of the development site)
 - Volume (total)
 - Permanent pond volume
 - Pond / detention basin embankment volume
 - Max flood water level
 - Max groundwater level
 - Max 1-year water level
 - Max 30-year water level
 - Max 200-year water level
 - Max 1-year water level in the adjacent watercourse
 - Floor level in adjacent premises
 - Drain time
 - Outlet - discharge control orifice diameter
 - Outlet - discharge control rate
 - Discharge rate in accordance with the Local Authority requirements

Additional information for swales

- Average residence time for the 1 in 1 year flow
- Ground Level
- The top of the swale outlet headwall

Additional information for filter trenches

- Ground Level
- Piped filter trench depth

3. Microdrainage model

3.1 General microdrainage requirements

The Microdrainage file uploaded to the online service should only include the latest foul and surface water network model revisions. Any previous versions of the network's should be deleted using the 'Network Manager' tool prior to upload.

The Microdrainage file should consist of all drainage structures being proposed, including manholes, pipes, underground attenuation and SuDS features. A valid diameter of an outfall structure should be defined in the model. This can either be the size of the existing or proposed pipe at the point of connection.

At present, the online service can validate the foul sewer network that is designed by the 'Foul – Main' network methodology, with domestic flow input only. Any industry / trade flow will not be validated and adding this type may result in a failure in the pre-flight check.

A 3D ground surface (tin surface) showing the proposed development ground level should be included as part of the Microdrainage model that is uploaded. This 3D ground surface should cover the entire development area where existing or proposed sewers are present, otherwise online service validation will fail for rules relating to sewer or manhole depth.

3. Microdrainage model

3.2 Stormwater design

The stormwater microdrainage model will be set out with the design criteria as shown in Figure 1.

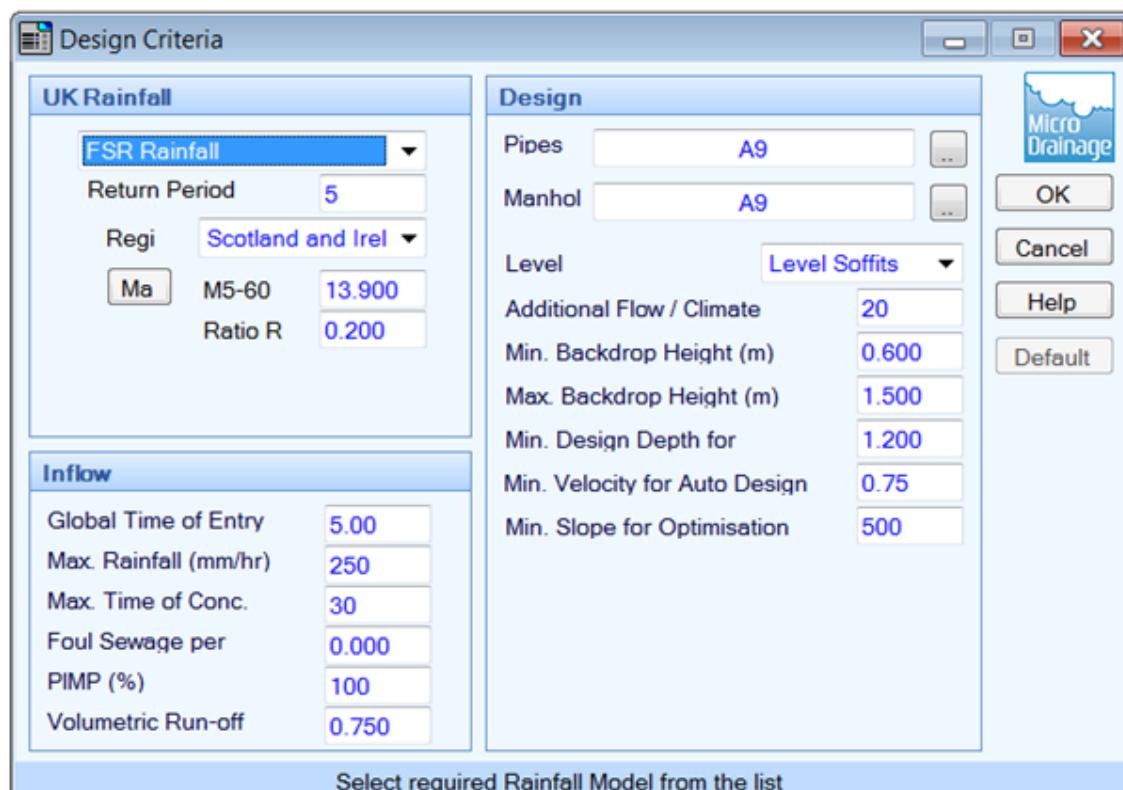


Figure 1. Microdrainage stormwater design criteria

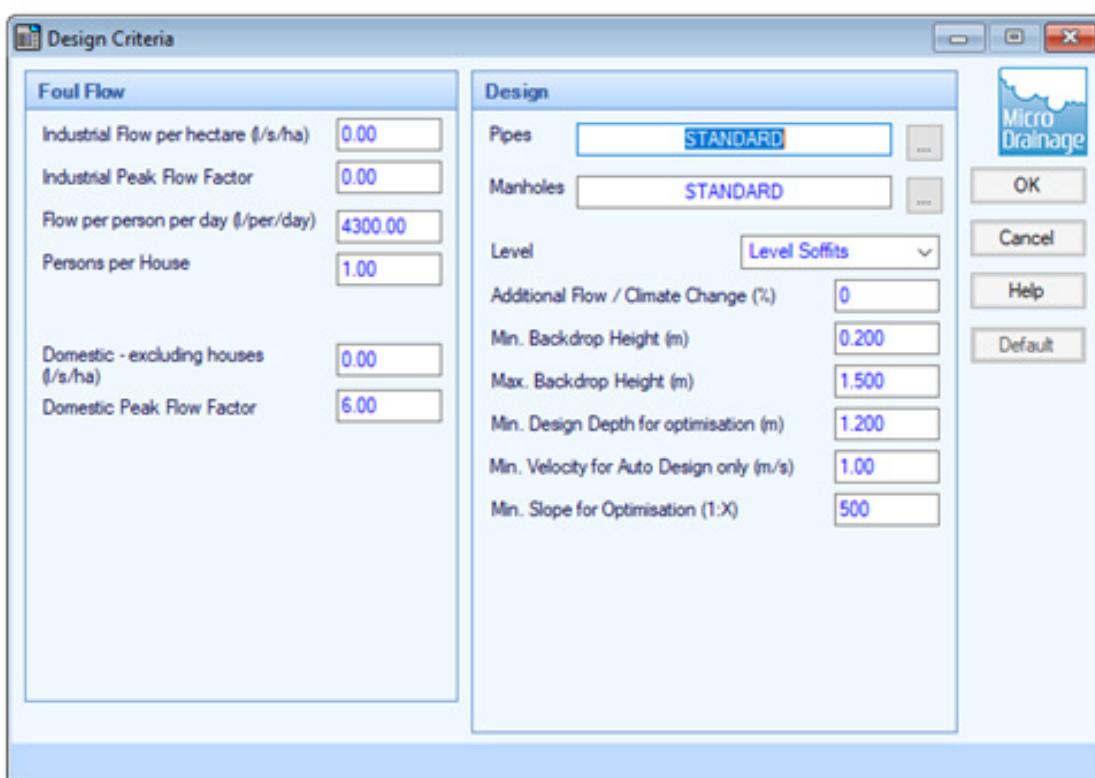
In addition, care should be taken to ensure that the parameters identified within Sewers for Scotland Version 4 are selected. Particular attention should be made to:

- M5-60 & Ratio, R are taken for the correct location.
- Ensure correct allowance is added for climate change.
- Ensure correct roughness values are used - 0.6mm for Surface Water Sewers.
- Ensure 10% Urban Creek has been considered for the future development. This can be achieved by reducing the permeability of the permeable area by 10%.
- Ensure manhole size to be set up to the Sewers for Scotland 4th edition standard.
- Ensure the minimum surface water pipe diameter to be 150mm.

3. Microdrainage model

3.3 Foul water design

Foul sewer design for housing can be designed using a peak flow rate of 4300 litres /dwelling / 24 hours or in accordance with BS EN752 using the discharge unit method described in BS EN 12056-2. For the purposes of the online service, it is assumed that the housing input data will be based on 4300 litres /dwelling / 24 hours. This can be achieved by ensuring that the value of Flow per person per day multiplied by persons per house is equal to 4300 l/s/day as below example:



- Ensure correct roughness values are used – 1.5mm for Foul Water Sewers
- Ensure the minimum foul sewer pipe diameter to be 150mm.

4. Layout drawing template

4.1 Layout layering

The supporting layout drawing submitted should reflect accurately the drainage infrastructure designed in the Microdrainage hydraulic model, with additional supplementary information to put the drainage design in context i.e. road line/kerb strings, building outlines etc.

The layout drawing will be submitted using the template file 'FastTrack Drainage Layout Template', this contains the approved FastTrack Drainage feature classes that the software engine can process. To apply the AutoCAD elements to feature classes a process of mapping 'user organisation' layer names to FastTrack Drainage defined feature classes is used. This process will allow online service user to maintain their organisations layering convention and apply AutoCAD entities to FastTrack Drainage feature classes, assuming drafting rules, specified in subsequent sections have been followed.

Once the user layer names have been applied to the FastTrack Drainage feature classes, this association can be saved and imported to future submissions negating the need to map layers across to feature classes with each submission, assuming that a consistent layering convention has been used over the submissions.

It is critical that items are applied to the correct feature class. For example, the online service would be unable to tell if trees had been incorrectly placed on the shrubs layer. If this happened, then the results generated by the online service would be invalid and would not be able to detect a non-compliance with Sewers for Scotland.

Refer to Table below for a list feature classes stored within the 'FastTrack Drainage Layout Template' file.

4. Layout drawing template

Table 4.1 Feature classes

D3i_Boundaries
D3i_Buildings
D3i_Channels
D3i_DisconnectingChamber
D3i_Flora
D3i_Gullies
D3i_Headwalls
D3i_Laterals
D3i_LocalAuthorityLand
D3i_Manholes
D3i_PrivateGardens
D3i_PrivateParking
D3i_PublicParking
D3i_PublicSpaces
D3i_Roads
D3i_Sewers
D3i_SiteBoundary
D3i_SUDS

4. Layout drawing template

4.2 Layout entities

Additionally, the drawing entities will also require to be drawn or generated in a specific format that is recognised by the online service (i.e. line, polyline, closed polyline, circle, donut etc).

For further information on entities please refer to Appendix A.2.

4.3 General drafting

The submitted Layout Template should be as clean and tidy as possible and contain only agreed relevant information within and immediately adjacent to the site. It should contain only items within the model space, no populated layout tab is required.

Before submission to the FastTrack Drainage Online Service, it should be ensured that no external references or blocks containing unvalidatable information are contained within the final layout document. The layout should be purged and audited before final submission.

Any existing drainage assets should be drawn on the AutoCAD drawing to identify their accurate position and dimensions. Further supplementary information relating to the cover level and invert level of existing assets should be added via the ESRI plug in (see section 3.4 below).

There are a few critical drafting rules that require to be adhered to in order that the online service can logically process the information contained within the AutoCAD plan:

- Existing chambers require a unique manhole reference to be attributed within the feature classes;
- Existing sewers require to terminate in a chamber, with upstream and downstream manhole attributed with the unique manhole reference;
- Abandoned sewers should be attributed as 'proposed' and 'is abandoned' within the feature class;
- Any drawn elements outside of the development boundary should be removed. This is to ensure that the online service is not processing unwanted data that is not relevant to the application;
- SuDS features within the plan require to be ring-fenced by a closed polyline which is then applied to the D3i_SUDS feature class, this is to ensure further manual checks can be carried out against the supporting SuDS documentation.

Please refer to Appendix A.3 for details of additional data attributes within the feature classes that will require to be populated for the existing entities shown within the AutoCAD plan.

4. Layout drawing template

4.4 ESRI plug-in to AutoCAD

The Microdrainage mdx file and the AutoCAD dwg files together convey a lot of information. However, they do not convey all the information that the FastTrack Drainage service requires in order to be successful.

Here is an example of missing data: Existing sewers and manholes. These are typically absent from the Microdrainage model because the modeller is interested in proving the performance of new proposed drainage rather than existing drainage. Existing sewers and manholes shall be represented in the uploaded AutoCAD dwg file as mandated in this User Guide. However, these are typically portrayed in simplistic 2D line work in plan, frequently derived from Water Companies 2D GIS systems as lines and nodes. Therefore, the AutoCAD lines and nodes do not inherently contain information in the vertical axis such as manhole cover levels, sewer invert levels, manhole structure underside level etc. If the sewers are represented by a simple centreline then the diameter and cross section shape of the sewers is also missing.

There are other examples of missing data, such as information about design intent – e.g. “This sewer to be protected by concrete surround” or “This manhole to be demolished and replaced due to its condition.” For an automated process like the FastTrack Drainage Online Portal to succeed, it is necessary to capture such annotations against the objects that they relate to, and to categorise them to some degree since computers (with rare exceptions) cannot easily and reliably read language and derive meaning very well.

It is therefore necessary to tag the objects with additional data directly within AutoCAD using an ESRI plug in.

4. Layout drawing template

4.4 ESRI plug-in to AutoCAD (cont.)

The screenshot below shows such a typical tagging system. The plug-in for AutoCAD shown below was developed by ESRI and is freely downloadable from their website and takes around 5 or 6 minutes to install. In the picture below, you can see a simple example of a line and a circle which represent the simplistic linework of sewers and manholes respectively.

The “Sewer” and “Manhole” FeatureClass has been defined to contain the fields shown by way of an example of what might be included. These FeatureClasses automatically apply themselves to all circles or lines in a given AutoCAD layer as set up in the FeatureClass definitions. What it means to you as an AutoCAD drainage designer is that every time you create a new circle or a new line, these FeatureClasses automatically attach themselves to your new circle or line without you needing to do anything at all.

The ESRI plug in can be downloaded and installed free via the following link;

<https://www.esri.com/en-us/arcgis/products/arcgis-for-autocad>

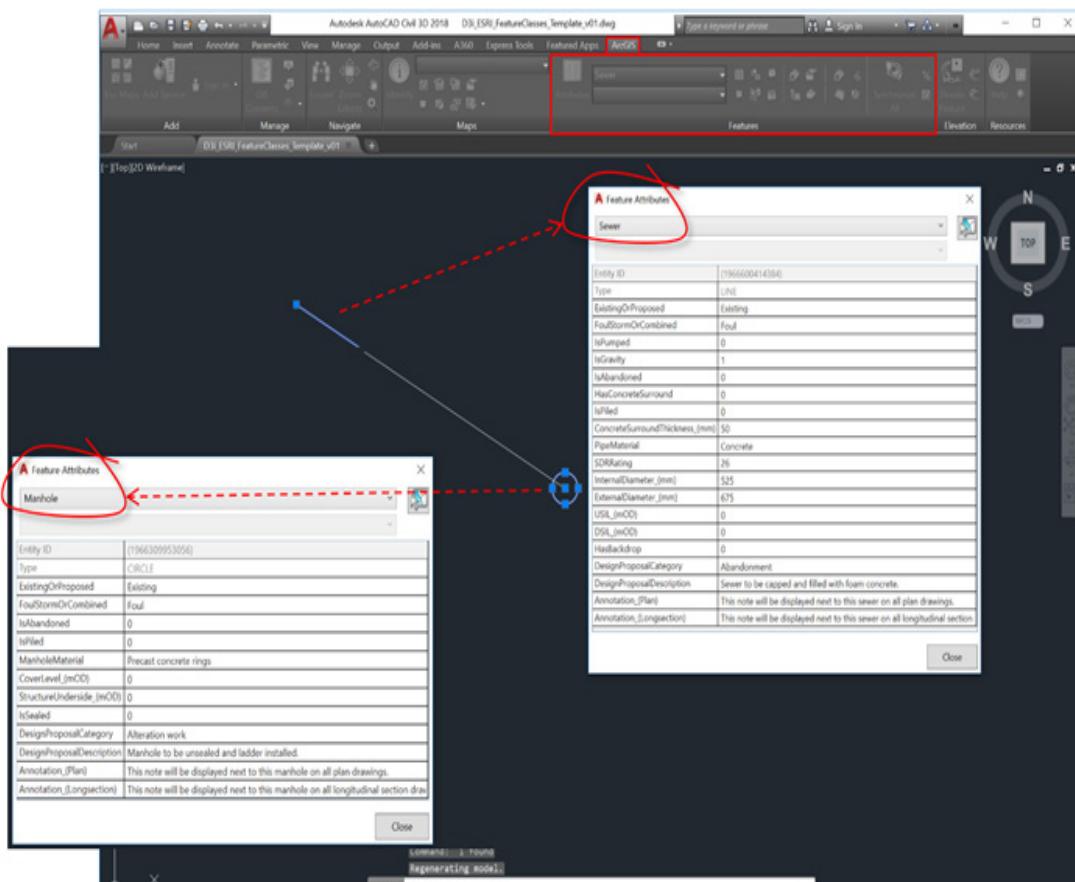


Figure 2. ESRI ArcGIS AutoCAD plug-in



Appendices

The following section contains appendices as referenced throughout this guidance document:

A.2 Expected layout entities

A.3 Features classes and attributed data

A.2 Expected layout entities

Please see below for a list of expected entities contained within the layout drawing.

Validated Items	Expected Entity Type	Associated Feature Class	Comments
Proposed Gravity Drainage Infrastructure			
D3i - Proposed Foul Water Sewer	Line / Polyline	D3i_Sewers	Foul Sewer to be adopted by Scottish Water.
D3i - Proposed Foul Water Sewer Chambers	Circle / Donut	D3i_Manholes	Foul Manholes to be adopted by Scottish Water. Chamber to be drawn as 'donut' entity with zero value inside diameter and 1 value outside diameter
D3i - Proposed Foul Water Laterals	Line / Polyline	D3i_Laterals	Foul Lateral to be adopted by Scottish Water
D3i - Proposed Foul Water Disconnecting Chambers	Circle / Donut	D3i_	Foul Disconnecting chamber to remain private. Chamber to be drawn as 'donut' entity with zero value inside diameter and 1 value outside diameter
D3i - Proposed Surface Water Sewer	Line / Polyline	D3i_Sewers	Surface Water Sewer to be adopted by Scottish Water.
D3i - Proposed Surface Water Sewer Chambers	Circle / Donut	D3i_Manholes	Surface Water Manholes to be adopted by Scottish Water. Chamber to be drawn as 'donut' entity with zero value inside diameter and 1 value outside diameter
D3i - Proposed Surface Water Laterals	Line / Polyline	D3i_Laterals	Surface Water Lateral to be adopted by Scottish Water
D3i - Proposed Surface Water Disconnecting Chambers	Circle / Donut	D3i_	Surface Water Disconnecting chamber to remain private. Chamber to be drawn as 'donut' entity with zero value inside diameter and 1 value outside diameter

A.2 Expected layout entities (cont.)

Validated Items	Expected Entity Type	Associated Feature Class	Comments
Proposed Gravity Drainage Infrastructure cont.			
D3i - Proposed Surface Water Channels	Line / Polyline	D3i_Channels	
D3i - Proposed Road Gullies	Closed Polyline	D3i_Gullies	Item to be shown including tail as closed polyline
D3i - Proposed Combined Sewer	Line / Polyline	D3i_Sewers	Combined Sewer to be adopted by Scottish Water. (Unlikely to be applicable)
D3i - Proposed Combined Sewer Chambers	Circle / Donut	D3i_Manholes	Combined Manholes to be adopted by Scottish Water. (Unlikely to be applicable) Chamber to be drawn as 'donut' entity with zero value inside diameter and 1 value outside diameter

Proposed Pumped Drainage Infrastructure

For information only – excluded from validation

D3i - Proposed Foul Water Pumping Station	Circle / Donut		Pumping station to be drawn as 'donut' entity with zero value inside diameter and 1 value outside diameter
D3i - Proposed Foul Water Rising Main	Line / Polyline		Route of proposed foul water rising main to be adopted by Scottish Water
D3i - Proposed Surface Water Pumping Station	Circle / Donut		Pumping station to be drawn as 'donut' entity with zero value inside diameter and 1 value outside diameter
D3i - Proposed Surface Water Rising Main	Line / Polyline		Route of proposed surface water rising main.

A.2 Expected layout entities (cont.)

Validated Items	Expected Entity Type	Associated Feature Class	Comments
General - Proposed			
D3i - Site Boundary	Closed Polyline	D3i_SiteBoundary	The development site boundary
D3i - Proposed Building Outline	Closed Polyline	D3i_Buildings	The outline of a single proposed building
D3i - Boundary Outline	Closed Polyline	D3i_Boundaries	The individual curtilage of a property
D3i - Road Edge Outline	Closed Polyline	D3i_Roads	This is the road kerbline
D3i - Proposed Private Parking	Closed Polyline	D3i_PrivateParking	This is the boundary of private parking spaces within private or management company ownership
D3i - Proposed Public Parking	Closed Polyline	D3i_PublicParking	This is the boundary of public parking spaces within Local Authority ownership
D3i - Proposed Public Spaces	Closed Polyline	D3i_PublicSpaces	Areas of the development excluding public roads and footpaths which are in Local Authority ownership
D3i - Private Spaces Outline	Closed Polyline	D3i_PrivateGardens	Areas of the development excluding property curtilage or private parking spaces that are in private ownership i.e. private courtyard
D3i - Proposed Headwall	Polyline	D3i_Headwalls	
D3i - Proposed Trees	Closed Polyline	D3i_Flora	Block to show mature tree canopy extents Assumes trees are deep rooted
D3i - Proposed Shrubs	Closed Polyline	D3i_Flora	Block to show mature shrub extents Assumes shrubs are shallow rooted

A.2 Expected layout entities (cont.)

Validated Items	Expected Entity Type	Associated Feature Class	Comments
Existing Gravity Drainage Infrastructure			
D3i - Existing Foul Water Sewer	Line / Polyline	D3i_Sewers	
D3i - Existing Foul Water Sewer Chambers	Circle / Donut	D3i_Manholes	Chamber to be drawn as 'donut' entity with zero value inside diameter and 1 value outside diameter
D3i - Existing Foul Water Laterals	Line / Polyline	D3i_Laterals	
D3i - Existing Surface Water Sewer	Line / Polyline	D3i_Sewers	
D3i - Existing Surface Water Sewer Chambers	Circle / Donut	D3i_Manholes	Chamber to be drawn as 'donut' entity with zero value inside diameter and 1 value outside diameter
D3i - Existing Surface Water Laterals	Line / Polyline	D3i_Laterals	
D3i - Existing Road Gullies	Closed Polyline	D3i_Gullies	Item to be shown including tail as closed polyline
D3i - Existing Combined Sewer	Line / Polyline	D3i_Sewers	
D3i - Existing Combined Sewer Chambers	Circle / Donut	D3i_Manholes	
Existing Pumped Drainage Infrastructure			
D3i - Existing Foul Water Pumping Station	Closed Polyline		Pumping station to be drawn as 'donut' entity with zero value inside diameter and 1 value outside diameter
D3i - Existing Foul Water Rising Main	Line / Polyline		
D3i - Existing Surface Water Pumping Station	Closed Polyline		Pumping station to be drawn as 'donut' entity with zero value inside diameter and 1 value outside diameter
D3i - Existing Surface Water Rising Main	Line / Polyline		

A.2 Expected layout entities (cont.)

Validated Items	Expected Entity Type	Associated Feature Class	Comments
Existing Drainage Infrastructure - to be abandoned			
D3i - Abandoned Combined Sewer Network	Line / Polyline / Hatching	D3i_Sewers	Combined sewer that is proposed to be abandoned
D3i - Abandoned Foul Water Network	Line / Polyline / Hatching	D3i_Sewers	Foul sewer that is proposed to be abandoned
D3i - Abandoned Surface Water Network	Line / Polyline / Hatching	D3i_Sewers	Surface Water sewer that is proposed to be abandoned
General - Existing			
D3i - Existing Building Outline	Closed Polyline	D3i_Buildings	The outline of a single proposed building
D3i - Existing Headwall	Polyline	D3i_Headwalls	
D3i - Existing Ditch Watercourse	Line / Polyline		
D3i - Existing Trees	Closed Polyline/Block	D3i_Flora	Block to show mature tree canopy extents
D3i - Existing Shrubs	Closed Polyline/Block	D3i_Flora	Block to show mature shrub canopy extents
SUDs			
For information only - excluded from validation			
Proposed SUDS Attenuation Features	SuDS items to be contained within closed polyline which is applied to the D3i_Suds feature class	D3i_Suds	Those SUDS features to be adopted by Scottish Water
Proposed Private SUDS Attenuation Features	SuDS items to be contained within closed polyline which is applied to the D3i_Suds feature class	D3i_Suds	Those SUDS features to be privately maintained
Additional			
D3i - Proposed Foul Water Network text	Text		Drafting purpose only - Items are not validated against
D3i - Proposed Surface Water Network text	Text		
D3i - Proposed Text	Text		

A.3 Feature classes and attributed data

Please see below for a list of defined feature classes and additional attributes required. This additional information will be added using the ESRI.

D3i_Boundaries

- Existing/proposed

D3i_Buildings

- Existing/proposed

D3i_Channels

- Base width
- Existing/proposed
- Left side slope
- Right side slope
- Top of bank right
- Top of bank left

D3i_DisconnectingChamber

- Existing/proposed
- Water type

D3i_Flora

- Existing/proposed
- Type

D3i_Gullies

- Existing/proposed
- Water type

D3i_Headwalls

- Existing/proposed
- Water type

D3i_Laterals

- Existing/proposed
- External diameter
- Internal diameter
- Material
- Nominal diameter
- Water type

D3i_LocalAuthorityLand

- No additional attributed data required

D3i_Manholes

- Access location bearing
- Cover level
- Existing/proposed
- External diameter
- Has backdrop
- Is abandoned
- Is piled
- Is sealed
- Material
- Name
- Shape
- Water type

A.3 Feature classes and attributed data (cont.)

D3i_PrivateGardens

- Existing/proposed

D3i_PrivateParking

- No additional attributed data required

D3i_PublicParking

- No additional attributed data required

D3i_PublicSpaces

- No additional attributed data required

D3i_Roads

- Existing/proposed

D3i_Sewers

- Connected dwellings
- DS invert level
- DS manhole
- Existing/proposed
- External diameter
- Gravity or pumped
- Has concrete surround
- Internal diameter
- Is abandoned
- Is piled
- Material
- Nominal diameter
- SDR rating
- US invert level
- US manhole
- Water type

Please note

This document and its contents have been prepared and are intended solely for Scottish Water Horizons customer information and for use in relation to Sewers for Scotland Version 4 applications to Scottish Water.

Scottish Water Horizons assumes no responsibility to any other party in respect of or arising out of or in connection with this document and/or its contents.

This document has 26 pages including the cover.



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Scottish Water Horizons

www.scottishwaterhorizons.co.uk

Scottish Water Horizons is a wholly owned subsidiary of Scottish Water. The company plays a key role in supporting the development of Scotland's sustainable and circular economy by making the most of the public utility's vast array of assets.