



Providing Electronic Information on Waste Water Discharge Locations

Application Guidance Notes

Environmental Protection Agency

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ABOUT THESE GUIDANCE NOTES

These guidance notes have been prepared to assist applicants in the preparation of an application for a Waste Water Discharge Licence. While every effort has been made to ensure the accuracy of the material contained in this document, the EPA assumes no responsibility and gives no guarantees, undertakings and warranties concerning the accuracy, completeness or up-to-date nature of the information provided herein and does not accept any liability whatsoever arising from any errors or omissions.

Should there be any contradiction between the information requirements set out in the Application Form and any content contained in this Guidance Note, then the requirements in the Application Form should take precedence.

For queries of an administrative or technical nature in relation to submitting digital drawing files and tabular data templates please contact:

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1. INTRODUCTION

During the licence application process applicants are required to submit drawings / maps of the waste water works extent and boundary, site boundary and plan, primary discharge point, secondary discharge point(s), storm water overflow discharge point(s), and plant processes. In addition to submitting the drawings / maps in paper format with the application, applicants are required to submit digital drawing / map files electronically on a separate CD included with the application. The information should be supplied to the EPA in an electronic format and geo-referenced within the Irish National Grid system. The preferred format is ESRI Shapefile or MapInfo Tab files however geo-referenced AutoCAD files are also acceptable. The EPA incorporates these drawings / maps within the EPA's geographical information management systems (GIS) to facilitate the licensing process. This document provides detailed guidance on the information required and the procedures for preparing data for submission with the licence application.

2. OVERVIEW OF DATA REQUIRED

Applicants are required to submit geo-referenced digital drawing / map files (e.g. ESRI Shapefile, MapInfo Tab or AutoCad files) with the application, showing the following in Irish National Grid projection:

- Agglomeration served by the waste water works showing the boundary clearly marked in red under section B.1 of the application.
- Site boundary and overall site plan including labelled discharge, monitoring and sampling points under section B.2 of the application.
- Primary discharge point including labelled monitoring and sampling points under section B.3 of the application.
- Secondary discharge point(s) including labelled monitoring and sampling points under section B.4 of the application.
- Storm water overflow discharge point(s) including labelled monitoring and sampling points under section B.5 of the application.
- Plant or process drawings under section C.1 of the application.

Acceptable drawing file formats include ESRI Shapefile, MapInfo Tab, DXF, DWG, DGN or other upon agreement with the EPA. This data should be submitted to the EPA on a separate CD-ROM.

In addition to the drawing / map files applicants are required to submit tabular data templates outlining the following information:

- The primary, secondary and storm water overflow discharge points as outlined in section D.2 of the application. The template will include information on the emission point code, emission type, local authority area, receiving water name and type, designation, Irish Grid reference (6E, 6N) and state if verified with a GPS.
- The monitoring and sampling points as outlined in section E.3 of the application. The template will include information on the monitoring/sampling point code, point type, monitoring type, Irish Grid references (6E, 6N) and state if verified with a GPS.
- The drinking water abstraction points downstream of primary and secondary emission points as outlined in section F.2 of the application. The template will include information on the agglomeration, agglomeration served, volume

abstracted, upstream discharge point code, distance downstream from discharge, Irish Grid references (6E, 6N) and state if verified with a GPS.

The data for the above sections should be entered into separate tabular data templates and submitted to the EPA on the CD containing the digital drawing / map files outlined above. Tabular data templates can be downloaded from the Licensing pages of the EPA website at www.epa.ie.

3. PREPARATION OF ESRI SHAPEFILE OR MAPINFO TAB MAP FILES

The preferred format for the submission of drawings and maps is in ESRI Shapefile or MapInfo Tab file format for integration with the EPA Geographic Information System. If the maps and drawings have been produced or are available in ArcGIS or MapInfo systems they should be submitted to the EPA in this format. All maps and drawings should be projected in Irish National Grid with appropriate labels included as an attribute field within the mapping datasets. If the only format available is AutoCAD drawings the data must be projected in Irish National Grid (i.e. geo-referenced) using the steps outlined in section 4 *“Preparation of Digital AutoCAD Drawing Files”*.

4. PREPARATION OF DIGITAL AUTOCAD DRAWING FILES

The preparation and submission of detailed drawings / maps outlining the site boundary, overall site plan, primary and secondary emission points, associated monitoring and sampling points, extent and boundary of waste water works, extent and boundary of agglomeration are a requirement of the application process. The EPA requires applicants to submit these site plans in a digital format (DXF, DWG, DGN, ESRI Shapefile, or MapInfo) and projected within the Irish National Grid projection system. The production of such drawings is most commonly carried out in AutoCAD. This section outlines the method for projecting AutoCAD files such as DXF, DWG and DGN formats in Irish Grid projection.

The Irish Grid as mentioned above is the primary projection system used in Ireland and by the EPA. Point locations are represented by 6 digit Eastings and Northings. For example 315986, 234395 is the Irish Grid Reference for the centre point of O’Connell Bridge in Dublin. Further technical details on the Irish National Grid coordinate system are available from the Ordnance Survey of Ireland website at www.osi.ie. The Irish National Grid is the projection system required for all digital drawing files and point locations being submitted to the EPA as part of the application process.

Confirming a Drawing File’s Projection:

To confirm whether or not a drawing has already been projected in Irish National Grid the drawing can be checked in AutoCAD using the following steps.

1. Open the file in AutoCAD.
2. In the lower left corner of the AutoCAD window, the co-ordinates of the drawing can be viewed. If the co-ordinates are not visible, right click on the corner to turn them on (Fig. 1).

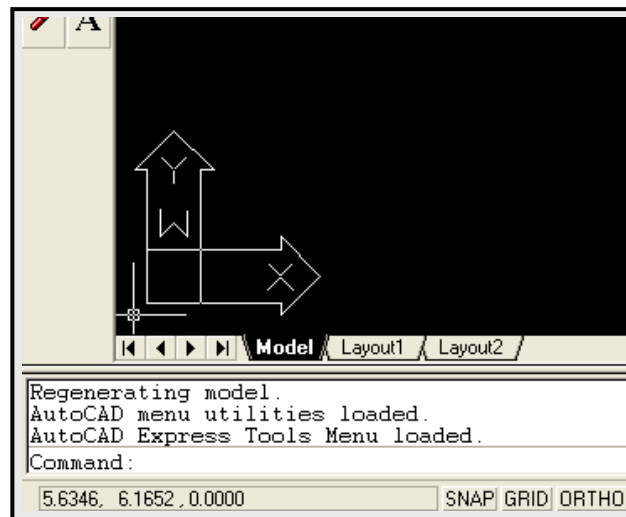


Fig.1: Location of Drawing Co-ordinates in the bottom left corner

3. If the co-ordinates are large number of digits, similar to the known grid references it is probable that the drawing has already been projected in Irish National Grid. This should be verified against known reference points. If drawings are verified as projected Irish National Grid they are ready for submission.
4. If the co-ordinates are similar to the format -7.46, 53.20, it is likely that the drawing has been projected using decimal degrees. Drawings projected using decimal degrees should be re-projected in Irish National Grid.
5. Drawings that are not projected will have co-ordinates near 0,0,0 when the cursor is moved towards the bottom left hand corner of the window. Such maps have been drawn using 0,0,0 as the base point and will need to be projected into the Irish National Grid as outlined in the next section of this document.

Projecting a Drawing File in Irish National Grid:

If it has been confirmed that the drawing file has not already been projected into the Irish National Grid, the file can be projected using the following steps.

Before converting the drawing file

1. Ensure that the correct Irish National Grid reference of at least one easily identifiable point in the drawing is known. For example the most northerly emission point or the bottom left corner of the main building.
2. In AutoCAD set the drawing units to metres:
 - Go to the *Format* menu,
 - Select *Units* (Fig.2),
 - In the *Drawing Units* dialog box that opens, choose metres as the *Insertion Scale* and click OK (Fig.3).

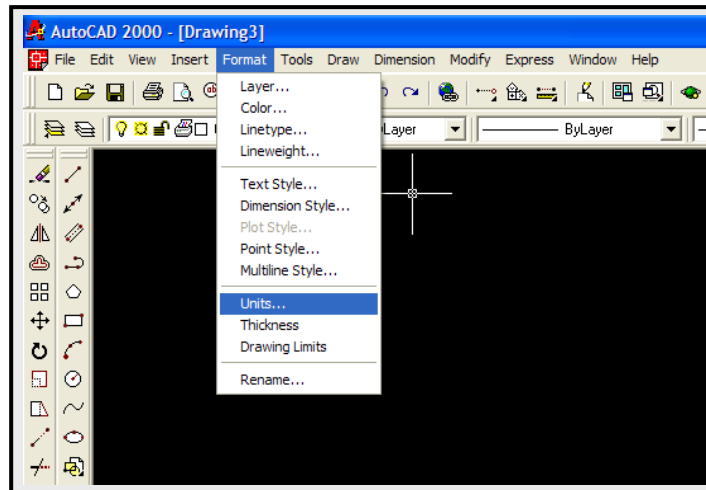


Fig.2: Format Menu, Select Units

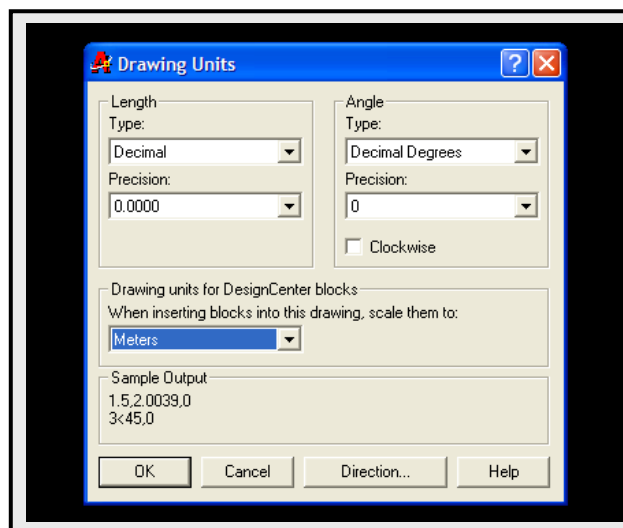


Fig.3: Drawing Units Window – Drawing units should be set to metres

3. Open the .dwg file within AutoCAD
 - Go to the *File* menu,
 - Select *Open*, a new window should open to browse to the required drawing file.
4. For ease of viewing, zoom to the extent of the drawing
 - Right click mouse, choose *Zoom* (Fig.4),
 - Right click mouse again, choose *Zoom Extents* (Fig.5),
 - Hit escape (Esc) on the keyboard.

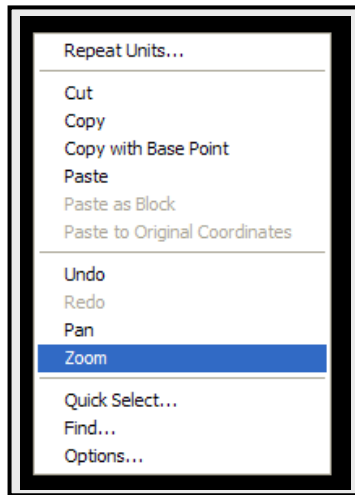


Fig.4: Right Click – Zoom

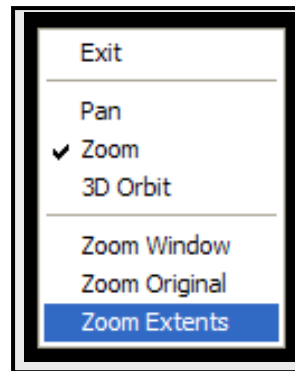


Fig.5: Right Click

5. Ensure that the Object Snapping option is turned on
 - Go to the *Tools* menu,
 - Select *Drafting Settings* (Fig.6).
 - In the *Drafting Settings* dialog box, go to the *Object Snap* tab and select *Object Snap On*. In the *Object Snap Modes*, ensure that at least *endpoint*, *centre*, *node* and *intersection* are turned on. Then click *OK* (Fig.7).

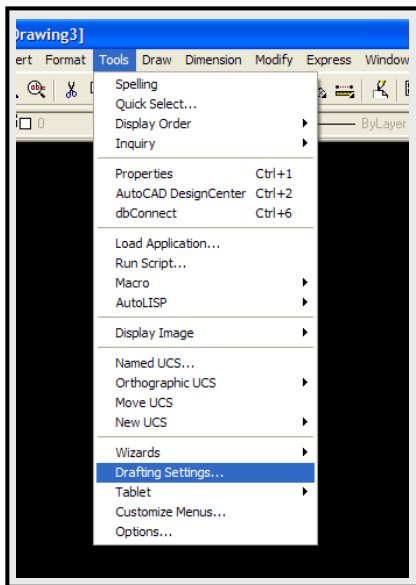


Fig.6: Tools menu, Drafting Settings
Snap is turned on

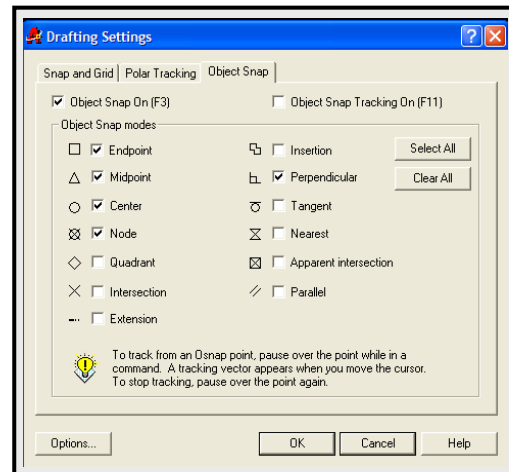


Fig.7 Drafting Settings – ensure Object

6. Check the current co-ordinates of the drawing. The co-ordinates of the drawing can be viewed in the very bottom left corner of the AutoCAD window (see section on *"Confirming a Drawing Files Projection"*). If the drawing is not already geo-referenced, when the mouse cursor is moved towards the lower left hand corner of the screen, the co-ordinates should be 0,0,0 or close to that.

Geo-Referencing the Drawing File (Fig.8)

7. To move the scaled site drawing from its current co-ordinates to new Irish Grid co-ordinates carry out the following steps:
 - In the Command line
Type **MOVE** and hit the return key.
 - The user will be requested to **SELECT OBJECTS**
Type **ALL**
Hit return, users may have to hit return twice.
 - The user will then be asked to **SPECIFY BASE POINT OR [DISPLACEMENT]**
Using the mouse click onto the known base point on the screen. The base point is a point for which exact 6E 6N Irish National Grid references are known. Ensure that the cursor snaps to exactly the right point.

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Command: MOVE
Select objects: ALL
16 found
Select objects:
Specify base point or displacement: Specify second point of displacement or
<use first point as displacement>: 315986,234395
Command: ZOOM
Specify corner of window, enter a scale factor (nX or nXP), or
[All/Center/Dynamic/Extents/Previous/Scale/Window] <real time>: EXTENTS
Regenerating model.
Command:
316015.9330, 234271.6158, 0.0000  SNAP GRID ORTHO POLAR OSNAP OTRACK LWT MODEL

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Fig.8: Command lines for moving the drawing

8. The user will then be asked to **SPECIFY SECOND POINT**, at this point type in the correct Irish National Grid Co-ordinates in the Command line and hit return. If the drawing disappears from the screen zoom to the extent of the drawing by right clicking the mouse and choose zoom, then right clicking again and choose *Zoom Extents*.
9. The drawing should now be accurately geo-referenced. You can check this by moving the mouse over the point for which you have set the co-ordinates. In the lower left hand corner of the screen the new co-ordinates of the drawing should be visible and should have changed from 0,0,0 to coordinates similar to those just entered.
10. The same process should be carried out for all drawings that are being submitted to the EPA as part of the application process.

5. PREPARATION OF TABULAR DATA TEMPLATES

The preparation and submission of Irish National Grid references (6E 6N) for all primary and secondary emission points, monitoring and sampling points, and drinking water abstraction points is a requirement of sections E and F of the application form. The EPA also require applicants to submit this data in a digital format on tabular data templates (e.g. in Excel, Access files or similar on agreement). Separate tabular data templates for primary and secondary discharge points, monitoring and sampling points, and drinking water abstraction points are available for download on the Licensing pages of the EPA website at www.epa.ie. This section outlines the format of the tabular data templates and the type of information required within the templates.

Tabular Data Template for Primary, Secondary and Storm Water Overflow Discharge Points

Applicants are required to list all primary, secondary and storm water discharge points as outlined in sections D.2 of the application. The template should be structured in the same way as the templates outlined in Fig.9 and Fig.10. One row should be assigned to each emission point with the correct information for each field.

PT_CD	PT_TYPE	LA_NAME	RWB_TYPE	RWB_NAME	DESIGNATION	EASTING	NORTHING	VERIFIED
Point Code Provide label ID's	Point Type (e.g., Primary/ Secondary/ Storm Water Overflow)	Local Authority Name (e.g., Donegal County Council)	Receiving Water Body Type (e.g., River, Lake, Groundwater, Transitional, Coastal)	Receiving Water Body Name (e.g., River Suir)	Protected Area Type (e.g., SAC, candidate SAC, NHA, SPA etc.)	6E-digit GPS Irish National Grid Reference	6N-digit GPS Irish National Grid Reference	Y = GPS used N = GPS not used

Fig.9: Structure of tabular data template for primary and secondary emission points

PT_CD	PT_TYPE	LA_NAME	RWB_TYPE	RWB_NAME	DESIGNATION	EASTING	NORTHING	VERIFIED
SW1	Primary	Cork County Council	River	LEE	NHA	158444	071375	Y
SW2	Secondary	Cork County Council	Transitional	LEE	NHA	159493	071447	Y
GW1	Secondary	Cork County Council	Groundwater	Not Applicable	Not Applicable	160997	070875	Y

Fig.10: Sample emission point data (sample data not real emission points)

Tabular Data Template for Monitoring and Sampling Points

Applicants are required to list all monitoring and sampling points as outlined in section E.3 of the application. The template should be structured in the same way as the templates outlined in Fig.11 and Fig.12. One row should be assigned to each monitoring and sampling point with the correct information for each field.

PT_CD	PT_TYPE	MON_TYPE	EASTING	NORTHING	VERIFIED
Point Code Provide label ID's assigned in section E of application	Point Type (e.g., Primary, Secondary, Storm Water Overflow)	Monitoring Type M = Monitoring S = Sampling	6E-digit GPS Irish National Grid Reference	6N-digit GPS Irish National Grid Reference	Y = GPS used N = GPS not used

Fig.11: Structure of tabular data template for emissions monitoring and sampling points

PT_CD	PT_TYPE	MON_TYPE	EASTING	NORTHING	VERIFIED
aSW1u	Primary	M	158210	071390	Y
aSW1d	Primary	M	158644	071571	Y
aSW2u	Secondary	M	159145	071566	Y
aSW2d	Secondary	M	160002	071371	Y
GW1	Secondary	M	160997	070875	Y

Fig.12: Sample emissions monitoring and sampling point data (sample data not real emission points)

Tabular Data Template for Drinking Water Abstraction Points

Applicants are required to list drinking water abstraction points downstream of primary and secondary emission points as outlined in section F.2 of the application. The template should be structured in the same way as the templates outlined in Fig.13 and Fig.14. One row should be assigned to each drinking water abstraction point with the correct information for each field.

ABS_CD	AGG_SERVED	ABS_VOL	PT_CD	DIS_DS	EASTING	NORTHING	VERIFIED
Abstraction Code	Agglomeration served	Abstraction Volume in m ³ /day	Point Code Provide label ID's	Distance Downstream in meters from Emission Point to Abstraction Point	6E-digit GPS Irish National Grid Reference	6N-digit GPS Irish National Grid Reference	Y = GPS used N = GPS not used

Fig.13: Structure of tabular data template for drinking water abstraction points downstream of primary and secondary emission points

ABS_CD	AGG_SERVED	ABS_VOL	PT_CD	DIS_DS	EASTING	NORTHING	VERIFIED
0400PUB1001	Cork City	25000	SW1	6756	164738	071454	Y
0400PUB1001	Cork City	25000	SW2	6000	164738	071454	Y

Fig.14: Sample of drinking water abstraction points downstream of primary and secondary emission points data (sample data not real emission points)

6. SUBMITTING DIGITAL DRAWING/ MAP FILES AND TABULAR DATA TEMPLATES

All digital drawing / map files and tabular data templates should be submitted on a separate CD and delivered with the application to the EPA. The CD should contain the following data:

1. Digital drawing file of site boundary and overall site plan including labelled monitoring and sampling points projected in Irish National Grid (section B.2 of application).
2. Digital drawing file of primary discharge point including labelled monitoring and sampling points projected in Irish National Grid (section B.3 of application).
3. Digital drawing file of secondary discharge point(s) including labelled monitoring and sampling points projected in Irish National Grid (section B.4 of application).
4. Digital drawing file of all storm water overflow point(s) associated with waste water works including labelled monitoring and sampling points projected in Irish National Grid (section B.5 of application).
5. Digital drawing file of all plant or process drawings projected in Irish National Grid (section C.1 of application).
6. Digital tabular data template for all discharge points including 6E 6N Irish National Grid references for each point (section D.2 of application).
7. Digital tabular data template for all monitoring and sampling points including 6E 6N Irish National Grid references for each point (section E.3 of application).

8. Digital tabular data template for all drinking water abstraction points including 6E 6N Irish National Grid references for each point (section F.2 of application).

It is recommended that the data be stored on the CD using the folder structure outlined in Fig.15.

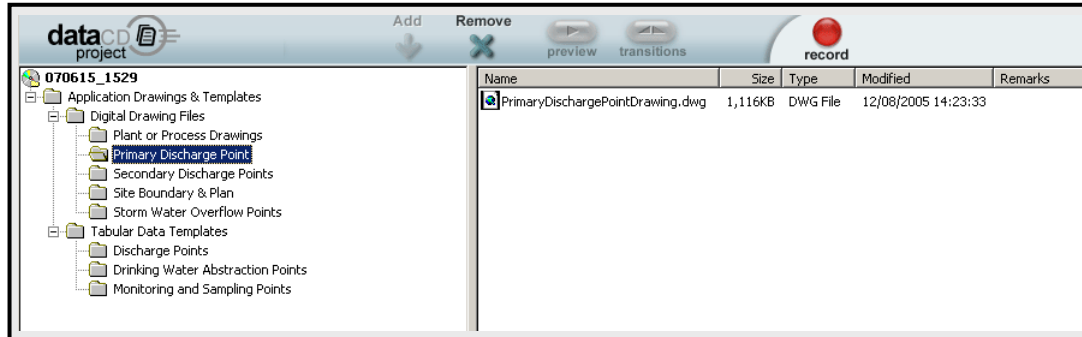


Fig.15: Recommended folder structure for storing required data on CD