Nutrients from wastewater

This sheet contains 2 tables. The tables are separated by a heading, which describes the following table.
Note: You will need to fill in cells B5 to B10 in the first table 'Water infrastructure information'. Cell B11 is automatically calculated and will state '0.00' unless the user inputs have been entered. Cells A12 to A13 and B12 to B13 are automatically generated and will state 'Not applicable' depending on the inputs to cells B5 and B10. You may need to fill in cell C11 depending on the information you entered in cell B10. Cells C5 to C10 and cells C12 to C13 are intentionally blank cells.
You do not need to fill in any cells in the second table 'Final calculation of nutrient load from wastewater'. Cells B17 to B19 are automatically calculated and will state '0.00' unless the user inputs have been entered to the first table 'Water infrastructure information'. Cells A20 to A23, cell B21 and cell B23 are automatically generated and will state 'Not applicable' depending on the user inputs to the first table 'Water infrastructure information'. Cell B16, cell B20 and cell B22 are intentionally blank cells.
How to fill in the table 'Water infrastructure information'
Cell B5: Enter the date of first occupancy.
Cell B6: Enter the average occupancy rate of the development. The default rate is 2.4, this should not be edited without sufficient evidence.
Cell B7: Enter the water usage. This value should be kept at 120 unless other efficiency measures are used.
Cell B8: Enter the total number of dwellings or units that will be within the development site as of the project completion date.
Cell B9: Choose whether the development can apply deductible acceptable loading from the dropdown list.
Cell B10: Choose the receiving wastewater treatment works (WwTW) from the dropdown list.
If you select 'Package Treatment Plant user defined' or 'Septic Tank user defined', you must enter their certified value of total nitrogen (TN) in cell C11. Otherwise the default values will be used in the calculation of the nutrient load associated with wastewater.
Nutrient permits may be changing for the WwTW you select, from 01/01/2025, or 01/04/2030. If the date of first occupancy is in-between changing permit dates, multiple permit limits may be automatically generated in cells B11 to B13. If applicable, up to 3 values for the nutrient loading associated with wastewater will be presented in cell B19, B21, and B23.

Water infrastructure information

Description of required information	Data entry column - user inputs required	Additional data entry column - user inputs may be required
Date of first occupancy (dd/mm/yyyy):	01/07/2025	
Average occupancy rate (people/dwelling or people/unit):	2.05	
Water usage (litres/person/day):	120	
Development proposal (dwellings/units):	85	
Include deductible acceptable loading?	Yes	
Wastewater treatment works:	Budds Farm WwTW	
Current wastewater treatment works N permit (mg TN/litre):	**7.70**	
Not applicable	**Not applicable**	
Not applicable	**Not applicable**	

Final calculation of nutrient load from wastewater

Description of values generated	Values generated
Wastewater nutrient loading	
Additional population (people):	**174.25**
Wastewater by development (litres/day):	**20910.00**
Annual wastewater TN load (kg TN/yr):	**52.93**
Not applicable	
Not applicable	**Not applicable**
Not applicable	
Not applicable	**Not applicable**

Nutrients from current land use

This sheet contains 2 tables. The tables are separated by a heading, which describes the following table.
Note: You will need to fill in cells B5 to B8 in the first table 'Current land use information'. You will need to fill in cells A11 to A27, and B11 to B27 in the second table 'Current land uses'. Cells B28 and C11 to C28 are automatically calculated and will state '0.00' unless the user inputs have been entered. Cells D11 to D27 are automatically generated and will state 'Not applicable' depending on automatically generated data in cells C11 to C27. Row 28 is a Total Row. The Total Row states 'Totals:' in cell A28 and automatically calculates the total sum of cells B11 to B27 in cell B28 and C11 to C27 in cell C28. Cell D28 is intentionally blank.
How to fill in the table 'Current land use information'
Cell B5: Choose the operational catchment the site is located within from the dropdown list.
Cell B6: Choose the soil drainage type associated with the predominant soil type within the development site from the dropdown list.
Cell B7: Choose the annual average rainfall the development will receive from the dropdown list. If the rainfall volume is not on the list, select the nearest value.
Cell B8: Choose whether the development is in a nitrate vulnerable zone (NVZ) from the dropdown list.
How to fill in the table 'Current land uses'
Cell A11-A27: Choose the existing (pre-development) land use type(s) from the dropdown list.
Cells B11-B27: Enter the area in hectares of each land use type.
The nutrient load from current land uses is shown in cells C11-C27 for total nitrogen (TN).
The total nutrient load from current land uses is shown in cell C28 for TN.

Current land use information

Description of required information	Data entry column - user inputs required
Operational catchment:	East Hampshire Rivers
Soil drainage type:	Impeded drainage
Annual average rainfall (mm):	750.1 - 800
Within nitrate vulnerable zone (NVZ):	Yes

Current land uses

Existing land use type(s) - user inputs required	Area (ha) - user inputs required	Annual nitrogen nutrient export (kg TN/yr)	Notes on data
Open urban land	2.27	**19.33**	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
Totals:	**2.27**	**19.33**	

Nutrients from future land use

This sheet contains one table.
Note: You will need to fill in cells A5 to A21 and B5 to B21. Cells B22 and C5 to C22 are automatically generated calculations and will state '0.00' unless the user inputs have been entered. Row 22 is a Total Row. The Total Row states 'Totals:' in cell A22 and automatically calculates the total sum of cells B5 to B21 in cell B22 and C5 to C21 in cell C22.

How to fill in the table 'Future land uses'
Cells A5-A21: Choose the future (post-development) land use type(s) of landcover present on the new site from the dropdown list
Cells B5-B21: Enter the area in hectares of each land use type.
The nutrient load from future land uses is shown in cells C5 to C21 for total nitrogen (TN).
The total nutrient load from future land uses is shown in cell C22 for TN.

Future land uses

New land use type(s) - user inputs required	Area (ha) - user inputs required	Annual nitrogen nutrient export (kg TN/yr)
Residential urban land	2.27	**32.79**
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
Totals:	**2.27**	**32.79**

Nutrients from future land use after sustainable urban drainage system (SuDS) treatment

This sheet contains one table.
Note: You will need to fill in cells A5 to A29, cells B5 to B29, cells C5 to C29, cells E5 to E29 and cells F5 to F29 if you are including SuDS to remove nutrients from the surface runoff. Cell B30, cells D5 to D30 and cells G5 to G30 are automatically calculated and will state '0.00' unless the user inputs have been entered. Cells H5 to H29 are automatically generated and will state 'Not applicable' unless the total area of the landcover entered is larger than the total area of the landcover entered into the worksheet 'Nutrients_from_future_land_use'. Row 30 is a Total Row. The Total Row states 'Totals:' in cell A30 and automatically calculates the total sum of cells B5 to B29 in cell B30, cells D5 to D29 in cell D30 and cells G5 to G29 in cell G30. Cell C30, cell E30, cell F30 and cell H30 are intentionally blank.
How to fill in the table 'Suds information'
Cells A5 to A29: Choose the future (post-development) land use type(s) of landcover present on the new site within the SuDS catchment area from the dropdown list. Only landcovers entered into the worksheet titled 'Nutrients_from_future_land_use' can be entered.
Cells B5 to B29: Enter the area in hectares of each new land use type within the SuDS catchment area.
Cells C5 to C29: Enter the percentage of the flow entering the SuDS feature. If all flow is being diverted to the SuDS feature then this value should be set to 100%.
The annual total nitrogen (TN) loads associated with the landcovers in the SuDS catchment area are automatically calculated in cells D5 to D29.
Cells E5 to E29: Enter the name of the SuDS features used to intercept surface flows can be entered in. Any text can be entered into these cells.
Cells F5 to F29: Enter the nutrient removal rates associated with the SuDS features for TN.
Values for columns F must be identified by the user and must be specific to the SuDS features being implemented.
The annual TN loads removed by the SuDS features are automatically calculated in cells G5 to G29 for TN. These values are subtracted from the nutrient budget.
You do not need to fill in column H 'Notes on data'. It will state 'Not applicable' unless the total area of each landcover within the SuDS catchment area exceeds the area of the landcovers entered into the worksheet titled 'Nutrients_from_future_land_use'.
The total nutrient load removed through the SuDS features is shown in cell G30 for TN.

SuDS information

New land use type(s) within SuDS catchment area - user inputs required	SuDS catchment area (ha) - user inputs required	Percentage of flow entering the SuDS (%) - user inputs required	Annual nitrogen inputs to SuDS feature(s) (kg TN/yr)	Name of SuDS feature(s) - user inputs required	TN removal rate for features - user specified (%) - user inputs required	Annual nitrogen load removed by SuDS (kg TN/yr)	Notes on data
Residential urban land	2.27	100.00	**32.79**	SuDS Features - Not considered compliant	0.00	**0.00**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
			0.00			**0.00**	Not applicable
Totals:	**2.27**		**32.79**			**0.00**	

Final nutrient budgets

This worksheet contains one table. This table is automatically populated using the outputs from the previous worksheets.

Note: You do not need to fill in any cells in the table. Cells B5 to B8 and cell B10 are automatically calculated and will state '0.00' unless the user inputs have been entered to all of the required worksheets. Cells A11 to A14, cell B12 and cell B14 are automatically generated and will state 'Not applicable' depending on the user inputs to the worksheet 'Nutrients_from_wastewater'. Cell B9, B11 and B13 are intentionally blank.

This table presents calculations that underpin the final annual nutrient budget for the development site. Up to 3 values for the nutrient budget may be presented in cells B10, B12 and B14 for total nitrogen (TN).

Total nutrient budget calculations

Description of values generated	Values generated
Wastewater TN load (kg TN/year):	**52.93**
Net land use TN change (kg TN/year):	**13.46**
TN budget:	**66.39**
TN budget + 20% buffer:	**79.67**
Annual nutrient budget	
The total annual nitrogen load to mitigate is (kg TN/yr):	**79.67**
Not applicable	
Not applicable	**Not applicable**
Not applicable	
Not applicable	**Not applicable**