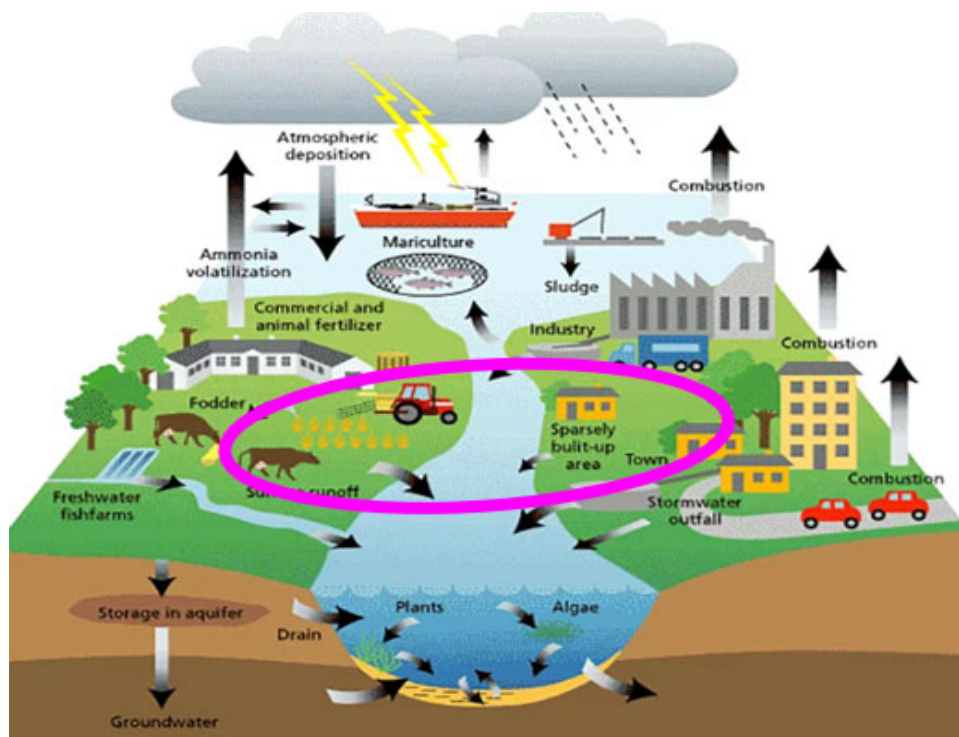


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Development Nitrogen Assessment



Change in nitrogen content of runoff from the site

Existing Land use type:	Nitrogen Load (kg/Ha)	Area (Ha)	Nitrogen discharge (Kg/yr)
1 N/A	0.0	0.000	0.000
2 N/A	0.0	0.000	0.000
3 N/A	0.0	0.000	0.000
4 N/A	0.0	0.000	0.000
5 Urban area	14.3	0.022	0.315
6 SANG/Low nitrogen	5.0	0.000	0.000
7 Open space	5.0	0.000	0.000
TOTAL SITE AREA (Ha)		0.022	0.315

Kg/yr Existing load

Land use load values taken Natural England values June 2020

Urban area = includes built form, gardens, road verges & any small areas of open space in the urban fabric

Proposed Land use type:	Nitrogen Load (kg/Ha)	Area (Ha)	Nitrogen discharge (Kg/yr)
5 Urban area	14.3	0.022	0.315
6 SANG/Low nitrogen	5.0	0.000	0.000
7 Open space	5.0	0.000	0.000
TOTAL SITE AREA (Ha)		0.022	0.315

Kg/yr Developed load

CHECK: Do existing and proposed land areas match? Yes

CHANGE IN NITROGEN LOAD FROM RUNOFF

0.000

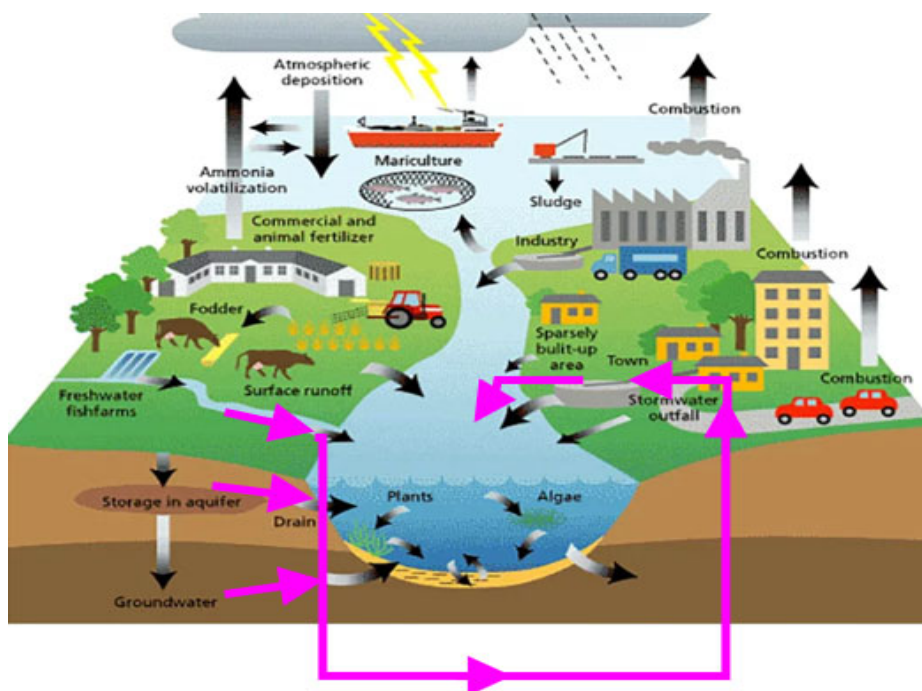
Kg/yr

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Development Nitrogen Assessment



Nitrogen content in wastewater works outfall

Waste Water works	Budds Farm	Permit	TN
WWTW discharge permit limit for Total Nitrogen (TN)	9.7	mg/l	(27.0 default)
Discharge at 90% of permit limit	8.730	mg/L	100% default & TIN
Deduct NEv5 allowance against water supply (2mg/L)	6.730	mg/L	
Additional dwellings proposed	10	Final No	10
Average population per dwelling	2.4	Existing No	0
Water consumption per capita	110		
Daily water consumption	2640	litres/person/day	
	x 365 days =	963600	L/year
NITROGEN IN WATER DISCHARGED		6.485	Kg/yr Caution applies

Mains water provider	Portsmouth Water			nitrogen comprises both nitrogen from development + not from the development but from the external environment.
Water supply zone/works	PW Havant			
	Nitrate NO ₃	Nitrite NO ₂	Ammonia NH ₄	
compound mg/L	34.2	0.002	0.017	
as nitrogen mg/L	7.73	0.001	0.013	Residual non development
Nitrogen content taken from environment			7.743	part
of which omitted from 2mg/L allowance			5.743	mg/L 5.53 Kg/yr
Water supply values taken from Water Company, water supply zone data August 2019				

Water supply values taken from Water Company, water supply zone data August 2019

TOTAL CHANGE IN NITROGEN	=	0.000	&	6.485	=	6.485	Kg/yr
Apply 20% buffer ie factor by 1.2					x	1.20	
+ values indicate increase to mitigate						7.782	Kg/yr
- values indicate reduction ie tradeable credit						Caution applies	

Nitrogen Budget Calculation

Planning Application Reference No.	
Site Name:	9 East Street, Havant
Additional Information:	
Date:	21 October 2020

Stage 1	Calculate total Nitrogen in kg per year derived from the development that would exit the Wastewater Treatment Works (WwTW) into Solent catchments after treatment	
Step 1	Calculate additional population	
	Enter the number of units proposed	10
	Net population increase per housing unit	2.40
	Total net population increase generated by the development	24.00
Step 2	Calculate wastewater volume generated by the development	
	Water use in litres per person per day	110
	Total wastewater volume generated by the development (litres per day)	2,640
Step 3	Confirm receiving WwTW and permit limit	
	Select the wastewater treatment works the development will connect to	Budds Farm
	Wastewater treatment works' permit limit (mg per litre)	9.7
	Wastewater treatment works' discharge level (mg per litre)	8.7
Step 4	Calculate total nitrogen in kg per year discharged by the WwTW	
	Deduct acceptable Nitrogen loading in wastewater (mg per litre)	6.7
	Total Nitrogen discharged by WwTW (mg per day)	17,767.2
	Total Nitrogen discharged by WwTW (kg per day)	0.0178
	Total Nitrogen discharged by WwTW (kg per year)	6.5

Stage 2	Calculate existing (pre-development) nitrogen from current land use of the development site	
Step 1	Total area of development site	
	Enter the total area of the development site (hectares)	0.02
Step 2	Identify current land uses of the development site	
	Enter area currently used for urban development (hectares)	0.02
	Enter area currently used for open space / greenfield (hectares)	0.00
	Enter area currently used for woodland (hectares)	0.00
	Enter area currently used for community food growing / catchment average (hectares)	0.00
	Enter area currently used for cereals (hectares)	0.00
	Enter area currently used for dairy (hectares)	0.00
	Enter area currently used for general cropping (hectares)	0.00
	Enter area currently used for horticulture (hectares)	0.00
	Enter area currently used for pig farming (hectares)	0.00
	Enter area currently used for lowland grazing (hectares)	0.00
	Enter area currently used for mixed farming (hectares)	0.00
	Enter area currently used for poultry farming (hectares)	0.00
	Check to help ensure that sum total of land uses in Step 2 equals site area in Step 1	0.0
Step 3	Calculate nitrogen load from current land usage	
	Total Nitrogen load from current land usage (kg per year)	0.3

Nitrogen Budget Calculation

Stage 3	Calculate nitrogen load for the non-built land uses proposed for the development site	
Step 1	Identify proposed land uses of the development site	
	Enter the total urban area to be created (hectares)	0.02
	Enter the total designated open space / SANG area to be created (hectares)	0.00
	Enter the total nature reserve area to be created (hectares)	0.00
	Enter the total woodland area to be created (hectares)	0.00
	Enter the total community orchard area to be created (hectares)	0.00
	Enter the total community food growing / allotment area to be created (hectares)	0.00
	<i>Check to help ensure that sum total of proposed land uses equals site area in Stage 2</i>	0.02
Step 2	Calculate total Nitrogen load from proposed land uses	
	<i>Total Nitrogen load from future land uses (kg per year)</i>	0.31

Stage 4	Calculate the net change in Nitrogen load from the proposed development	
Step 1	Identify Nitrogen load from wastewater (Stage 1)	
	<i>Nitrogen leaving wastewater treatment works (kg per year)</i>	6.49
Step 2	Calculate net change in Nitrogen load from land use changes	
	<i>Total Nitrogen load from future land use (kg per year)</i>	0.00
Step 3	Calculate total Nitrogen budget for the development site	
	<i>Nitrogen budget for the site (kg per year)</i>	6.49
Step 4	Calculate precautionary buffer if Nitrogen budget exceeds zero	
	<i>Precautionary Nitrogen buffer (kg per year)</i>	1.30

Total Nitrogen budget for the proposed development (kg per year)	7.8
Development will generate additional Nitrogen - Mitigation is required Please liaise with your Local Planning Authority for advice on next steps	