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Nunwell Estate

Field Use and Nitrates Mitigation Capacity Statement and Nitrates Management plan

Update: 16th May 2022

In considering the suitability and capacity of any site to mitigate for nitrogen inputs into the Solent, Natural England set out a series of criteria that was previously calculated following Natural England's Advice reference: Natural England Document Advice on Achieving Nutrient Neutrality for New Development in the Solent Region Version 5 June 2020), on March 16th 2022 Natural England issued revised advice regarding the methodology that should be applied to calculate both the impact of developments and the capacity of land to mitigate for those impacts.

The following statement incorporates the March 2022 advice, the updated NE calculator issued on 21st April 2022 and the results of discussions held between Natural England and the Wildlife Trust on 28th April 2022, the results of which were confirmed by Natural England in an email sent on 13th May 2022.

Approach for applying revised methodology to Nunwell Estate agreed with Natural England in the meeting on 28th April and subsequently confirmed by NE in email of 13th May 2022 is set out below:

The Trust has recalculated the remaining Nitrate mitigation capacity available at the Nunwell Estate utilising the following inputs:

- Natural England had previously agreed that the evidence presented to NE regarding previous land use support the classification of the site as cereals we see no reason to change that previously agreed classification we will therefore classify the site as cereals for the purposes of the calculator.
- The Trust has utilised the soilscape drainage maps linked to the revised calculator to confirm the drainage characteristics of each field at Nunwell Estate.
- The rainfall database provided in the calculator from the UK Centre for Ecology and Hydrology uses data from 1961 to 1990, with data for the Isle of Wight extrapolated from Southampton. The Trust has therefore looked into finding more local and recent sources of annual rainfall data to ensure an accurate rainfall band is selected. Three local weather stations have been identified: two on the Isle of Wight and one to the northeast of the Island on the mainland. Using monthly rainfall data from these three weather stations, an average annual rainfall level was calculated: World Weather Online Isle of Wight Station (10 year): 1127.43mm; World Weather Online Gosport (10 year): 1079.81mm; and Met Office Shanklin: 941.95mm. The mean of these three values is 1049.73mm, indicating that average annual rainfall for the Nunwell Estate should sit within the 1000-1100mm band.
- The Trust utilise the greenspace (3kg) residual discharge rate for each hectare.

Natural England's Advice on Achieving Nutrient Neutrality for New Development in the Solent Region states that "Permanent land use change by converting agricultural land with higher nitrogen loading to alternative uses with lower nitrogen loading, such as for local communities, wildlife, and under schemes for flood management or to deliver the UK Government's Net Zero greenhouse gas emissions target by 2050, is one way of neutralising nutrient burdens from development." The Hampshire & Isle of Wight Wildlife Trust is proposing to take land with high nitrogen loading at the Nunwell Estate, on the Isle of Wight, and convert it into a lower nitrogen loading management regime.

To be able to demonstrate that the proposal will provide nitrogen mitigation, Natural England's advice sets down a number of criteria which need to be fulfilled:

The first criteria is that location of the mitigation site will ensure that discharges from that site fall into the same catchment as discharges from the Waste Water Treatment Works serving the development. The Nunwell Estate straddles two catchments, the majority of the land drains to the Monkton Mead and into the Solent at Ryde, a small area of the land acquired by the Trust drains to the Eastern Yar which discharges to the sea via Bembridge Harbour. Natural England's advice states that discharges

5.33 For development that drains to ground within the catchment of or direct to the each of the Isle of Wight rivers, e.g. Eastern Yar, mitigation land is limited to within the same river catchment.

5.39 For development that drains to Peel Common WwTW, mitigation is appropriate in the following catchments – River Meon, Portsmouth Harbour, Medina Estuary, Wootton Creek, Newtown Harbour, Langstone Harbour.

5.40 For development that drains to Budds Farm WwTW, mitigation is appropriate in the following catchments – River Meon, Portsmouth Harbour, Langstone Harbour, Chichester Harbour, Wootton Creek, Medina Estuary (and the estuaries in between).

NE have subsequently confirmed that for developments that drain to Budds Farm and Peel Common WwTW the catchments that drain to the Monkton Mead and into the Solent at Ryde would be suitable for mitigation.

The majority of the Nunwell Estate land is therefore an appropriate location to mitigate for discharges via the Budds Farm and Peel Common wastewater treatment works and discharges to groundwater that enter the Solent on the north eastern coast of the Isle of Wight. A smaller area of the land is an appropriate location to mitigate for discharges to the Bembridge Harbour via the Eastern Yar.

Once it has been established that the location of the mitigation site is appropriate the total capacity to provide mitigation for nitrates must be established.

Establishing the total capacity of the mitigation site is a function of three variables:

The total area of mitigation land available

The level of nitrogen discharged associated with the previous land use

The level of nitrogen discharged associated with the future land use

The Total area of mitigation land available at the Nunwell Estate is:

Using the Ordnance Survey Mastermap mapping package the Wildlife Trust has mapped the Nunwell Estate Land excluding all areas of woodland, hard standing, tracks and other non-eligible features.

The total area of land under intensive cropping or intensively managed grassland

This work has concluded that the Total eligible area at Nunwell is 126.45 ha of cereal crops and 14.80 ha of lowland grazing. The predominant land use covering more than 2/3 of the holding is therefore cereals which will be the land use applied to the entire holding.

The level of nitrogen discharged associated with the previous land use

Below is the table of field names and areas at Nunwell accurately mapped using Mastermap. Crop rotation information supplied by Brian Morris, the previous tenant, is provided in Appendix 2.

Field Number	Field Name	Soil Drainage Type	Rainfall (mm)	Land Use	Nitrate Vulnerable Zone	Area (Hectares)	Drains To	Kgs/N per ha (stage 2) Calculator v3	Residual Nitrates (User Inputs)	Net Total Per Kilogram	Total Per Field Unit	Hectares per kg
6318	Cottage North	Impeded	1000-1100	Cereals	No	10.12	Solent	21.13	3	18.13	183.39	0.055
8649	Broadley Mead	Impeded	1000-1100	Cereals	No	12.16	Solent	21.13	3	18.13	220.47	0.055
5687	Nuncrate North	Impeded	1000-1100	Cereals	No	0.03	Solent	21.13	3	18.13	0.48	0.055
8601	Ashley North	Impeded	1000-1100	Cereals	No	7.05	Solent	21.13	3	18.13	127.89	0.055
323	Little Bryans	Impeded	1000-1100	Cereals	No	3.58	Solent	21.13	3	18.13	64.88	0.055
7474	Ten Acres North	Impeded	1000-1100	Cereals	No	0.00	Solent	21.13	3	18.13	0.07	0.055
968	Broadley Ground	Impeded	1000-1100	Cereals	No	10.27	Solent	21.13	3	18.13	186.18	0.055
1413	Big Bryans	Impeded	1000-1100	Cereals	No	4.59	Solent	21.13	3	18.13	83.26	0.055
5987	Big Ground	Impeded	1000-1100	Cereals	No	8.58	Solent	21.13	3	18.13	155.53	0.055
836	Broadley Mead East	Impeded	1000-1100	Cereals	No	0.32	Solent	21.13	3	18.13	5.75	0.055
3038	Chair Barn	Impeded	1000-1100	Cereals	No	5.58	Solent	21.13	3	18.13	101.25	0.055
9315	Big Roke	Impeded	1000-1100	Cereals	No	6.42	Solent	21.13	3	18.13	116.40	0.055
2308	Broadley Ground North	Impeded	1000-1100	Cereals	No	0.08	Solent	21.13	3	18.13	1.47	0.055
3694	Copse Ground	Impeded	1000-1100	Cereals	No	7.44	Solent	21.13	3	18.13	134.86	0.055
8298	Little Roke	Impeded	1000-1100	Cereals	No	2.90	Solent	21.13	3	18.13	52.65	0.055
4659	Pond	Impeded	1000-1100	Cereals	Yes	2.43	Solent	21.11	3	18.11	43.96	0.055
5470	Seven Acres	Impeded	1000-1100	Cereals	No	2.88	Solent	21.13	3	18.13	52.21	0.055
5687	Nuncrate South	Slightly Impeded	1000-1100	Cereals	No	4.04	Solent	25.38	3	22.38	90.44	0.045
6319	Cottage South	Slightly Impeded	1000-1100	Cereals	No	0.18	Solent	25.38	3	22.38	3.94	0.045
7474	Ten Acres South	Slightly Impeded	1000-1100	Cereals	No	5.22	Solent	25.38	3	22.38	116.74	0.045
8601	Ashley South	Slightly Impeded	1000-1100	Cereals	No	0.85	Solent	25.38	3	22.38	19.05	0.045
8453	Cow Well South (Monktonmead)	Freely Draining	1000-1100	Cereals	No	0.92	Solent	27.26	3	24.26	22.24	0.041
2147	West Down Grass	Freely Draining	1000-1100	Cereals	No	14.79	Solent	27.26	3	24.26	358.81	0.041
8453	Cow Well North (E Yar)	Slightly Impeded	1000-1100	Cereals	No	3.31	Bembridge	25.38	3	22.38	74.07	0.045
8453	Cow Well North (Monktonmead)	Slightly Impeded	1000-1100	Cereals	No	2.30	Solent	25.38	3	22.38	51.42	0.045
8453	Cow Well South (E Yar)	Freely Draining	1000-1100	Cereals	No	0.04	Bembridge	27.26	3	24.26	1.04	0.041
7635	Eighteen Acres (E Yar)	Freely Draining	1000-1100	Cereals	Yes	3.29	Bembridge	27.22	3	24.22	79.78	0.041
7635	Eighteen Acres (Monktonmead)	Freely Draining	1000-1100	Cereals	Yes	2.18	Solent	27.22	3	24.22	52.85	0.041
4422	West Down Arable (E Yar)	Freely Draining	1000-1100	Cereals	No	1.88	Bembridge	27.26	3	24.26	45.64	0.041
4422	West Down Arable (Monktonmead)	Freely Draining	1000-1100	Cereals	No	17.84	Solent	27.26	3	24.26	432.76	0.041
						141.27				Total	2879.47	

Table 1. Table of fields and sizes used for mitigation of nitrates-nitrogen utilising the 16th March 2022 methodology and the revised calculator issued on 21st April 2022.

Screen shots provided in Appendix 2 shows the NE calculator results for the various inputs included in Table 1 above.

Summary:

The previous version of the calculator enables the Trust to provide an average per ha mitigation capacity for much of the site, the new calculator includes a more detailed consideration of the drainage status of the soils found on sites, which has added a significant increase in complexity.

Table 1 above, details how the Trust has calculated the mitigation capacity of each field utilising the approach outlined above and agreed with Natural England. The Trust will therefore apply the appropriate density of credits for each field as applicants require them.

Following the re-calculation the Summary breakdown of the Capacity of the Nunwell state is as follows:

2678.95 kgs/N per year to the Solent
200.52 kgs/N per year to Bembridge Harbour

The Total nitrate-nitrogen mitigation capacity of the land at Nunwell is 2879.47 kg/N per year, with 2678.95 kgs/N/year distributed to the Solent and 200.52 kgs/N/year to Bembridge.

Nitrates Management Plan

Overview:

As with the calculation of the nitrate mitigation capacity set out above the Trust's approach to ensuring that the reductions in nitrate inputs identified above relies on an agreed list of prohibited uses for the land that have been agreed by Natural England rather than a define list of activities that are permitted. The rationale behind this approach is that the aim if the scheme is to reduce nitrate inputs into the Solent not to define how a particular area of land should be managed. Therefore, by prohibiting certain activities that cause nitrate discharges the Trust, Natural England and Local Planning Authorities can be confident that the mitigation capacity identified above is being delivered.

Detailed management prescriptions will be developed over the next few years as the results of initial surveys and monitoring work help to inform management practices. In addition to the primary objective of reducing the discharge of nitrates to the Solent the Trust's secondary aim will be to maximise of the wildlife value of the areas under management. While some management practices will undoubtedly develop the principles which underpin management decisions will remain constant.

Buffer areas:

The Wildlife Trust voluntarily removes 5% of the capacity of its schemes to ensure that, while the legal test is to ensure nutrient neutrality, the Trust's schemes actually deliver a small net improvement in the nutrient position in the Solent. The 5% buffer areas will be separately identified and mapped and the nitrate mitigation capacity of these areas will not be sold.

The Trust's Objectives at Nunwell:

The Trust's reasons for securing land must always reflect the organisation's charitable objectives and it was the requirement to comply with these objectives that has provided Natural England with confidence that zero inputs system of land management is entirely in line with the Trust's long-term objectives for the site. The Trust's charitable objectives are listed below:

- (a) For the benefit of the public, to advance, promote and further the conservation, maintenance and protection of:
 - (i) Wildlife and its habitats
 - (ii) Places of natural beauty
 - (iii) Places of zoological, botanical, geographical, archaeological or scientific interest;
 - (iv) Features of landscape with geological, physiographical or amenity value in particular, but not exclusively, in ways that further biodiversity
- (b) To advance the education of the public in:
 - (i) The principles and practice of sustainable development
 - (ii) The principles and practice of biodiversity conservation
- (c) To promote research in all branches of nature study and to publish the useful results thereof

Reflecting these principles, the Trust's objectives for the land at Nunwell are:

- To reduce the impacts of nitrate pollution on the Natura 2000 sites in the Solent and Eastern Yar.
- To create a wildlife rich landscape which will enhance the landscape of the Island.

- To utilise the Trust's management of Nunwell to promote better understanding of ways in which arable landscapes can be restored.
- To use Nunwell to carry out research to inform future management practices both within the Trust's estate and beyond.

The Trust will continue to manage the Nunwell Estate land in line with its charitable objectives, even when the contractual obligations have expired. This in effect would prohibit the type of intensive agricultural management that might cause nitrate inputs.

List of Prohibited Activities:

Below is the list of prohibited uses that the Trust must not carry out at Nunwell:

- The introduction (whether by way of fertilizer, animal feed or otherwise) of new nitrogen onto the Credits Linked Land;
- the supplementary feeding of livestock, with the exception of mineral licks;
- Use for the rearing or release of pheasants or other game birds on the Credits Linked Land;
- Dairy farming;
- Commercial horticulture or the commercial growing of cereal crops;
- Use for the keeping of livestock that requires supplementary feeding (excluding mineral licks) to maintain the condition of animals and where the average grazing density across the Credits Linked Land exceeds 0.5 grazing livestock units, where a grazing livestock unit is one cow on one hectare per year or 0.3 sheep per hectare per year;
- Ploughing or subsoiling of the land with the exception of the use of minimum tillage techniques to plant cover/nectar crops to support farmland birds and pollinators, where the area of these crops will not exceed 10% of any single field and may not be applied to areas where pasture has been established.

Detailed prescriptions:

Grassland and open habitats management with Zero inputs of nitrogen:

With the exception of woodlands all semi-natural systems in the UK, that exhibited high levels of biodiversity are effectively low nutrient ecosystems. The addition of fertilisers to grassland systems benefits a fairly narrow group of species that require high fertility to thrive. Given sufficient fertility, these species, which include nettles and coarse grasses, will dominate grasslands and grow so vigorously that they will completely exclude less competitive species. These less competitive species include the herbs and flowering plants that we associate with species rich grassland.

The Trust's aim is to increase species diversity within the grasslands and open habitats within Nunwell and the addition of any organic or inorganic fertilisers would run entirely contrary to the aims and objectives of the site.

The aim of a grassland management is therefore to progressively reduce nitrate levels within the grassland through a mix of mechanical removal, utilising hay making and cut and collect machinery, or extensive grazing regimes.

Grazing Prescriptions:

Natural England have agreed that a grazing density of 0.25 grazing livestock units, combined with a prohibition on supplementary feeding (excluding mineral licks) would ensure that the presence of grazing animals would comply with the aims of reducing nitrate inputs on the land.

The definition of a grazing livestock unit is set out below:

The **livestock unit**, abbreviated as **LSU** (or sometimes as **LU**), is a reference unit which facilitates the aggregation of livestock from various species and age as per convention, via the use of specific coefficients established initially on the basis of the nutritional or feed requirement of each type of animal (see Table 2 below for an overview of the most commonly used coefficients).

The reference unit used for the calculation of livestock units (=1 LSU) is the grazing equivalent of one adult dairy cow producing 3 000 kg of milk annually, without additional concentrated foodstuffs.

Holdings with livestock can have zero livestock units as LSU is only calculated for bovine animals, goats, sheep, equidae, pigs, poultry, and female breeding rabbits. Holdings with livestock and no LSU are holdings which have beehives or other livestock not elsewhere classified.

Bovine animals	Under 1 year old	0,400
	1 but less than 2 years old	0,700
	Male, 2 years old and over	1,000
	Heifers, 2 years old and over	0,800
	Dairy cows	1,000
	Other cows, 2 years old and over	0,800
Sheep and goats		0,100
Equidae		0,800
Pigs	Piglets having a live weight of under 20 kg	0,027
	Breeding sows weighing 50 kg and over	0,500
	Other pigs	0,300
Poultry	Broilers	0,007
	Laying hens	0,014
	Ostriches	0,350
	Other poultry	0,030
Rabbits, breeding females		0,020

Table 2. Livestock unit coefficients

The Trust will ensure that accurate records of livestock numbers on the site are kept to ensure that no single field parcel or aggregate of field parcels has a livestock density that exceeds 0.25 units, as defined by in Table 2 above.

As supplementary feeding is prohibited, the dung produced by any livestock on site is only recycling the nitrates that are contained within the forage that the livestock eats. In a self-contained system of this kind it is impossible for the presence of grazing animals to result in a net discharge of nitrates and will actually result in a reduction in soil fertility, as animals utilise the nutrients they consume to put on body mass.

Ploughing, subsoiling and cropping:

Within areas where nitrate mitigation commitments have crystallised (i.e. areas which have been allocated for mitigation) the Trust will not carry out ploughing or subsoiling work. Ensuring that soils are not subject to ploughing or subsoiling will prevent historic nitrates inputs that are bound to the soil being released into the adjacent water courses and ultimately into the Solent.

Within the establishment phase of the project (the first 5 years after the signing of the agreement), minimum tillage techniques may be used to establish grassland cover over the area. Established grassland covers will minimise run off and reduce the potential for residual nitrates to be leached from the soil.

Beyond the establishment phase minimum tillage techniques may be utilised to plant crops that provide bird food or nectar sources may be employed provided the area of cropping does not exceed 10% of the overall field unit.

Shallow surface scarification may be utilised in a small scale way to create conditions that support rare arable weeds. These areas will generally be located on buffer areas which are not providing nitrate mitigation.

Tree and scrub establishment:

The natural regeneration of scrub and woodland habitats will be encouraged in a number of areas across the site. These natural processes will be supplemented by tree planting under the following circumstances:

- To restore or create historic parkland or wood pasture landscapes.
- To deliver specific biodiversity objectives

- To increase the capacity of the area to sequester carbon
- To recreate historic hedgerows
- To establish traditional orchards

Whether woodland and tree cover is established through natural regeneration or planned planting, no organic or inorganic fertilisers will be used during the planting or establishment phases.

Summary:

While the exact nature of the long-term management of the Trust's holdings at the Nunwell Estate may vary, as the results of our monitoring and ecological restoration works becomes clearer over the coming years, the Trust will ensure that the principles set out above and included in the section 106 agreement are followed at all times.

Following these principles will ensure that there is no possibility of additional nitrate inputs being applied to the credit linked land at Nunwell and the Trust, Natural England and the Local Planning Authorities can be confident that the nitrate mitigation capacity identified in Table 1 will be delivered.

Appendix 1

Cropping History at Nunwell Estate

New Farm Cropping History Plan 2009 to 2020 - Hectares

		2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
	ha												
10 Acres	5.22	WW	WW	OSR	WW	OSR	WW	Mz	WW	Mz	OSR	Mz	Mz
18 Acres	6.3	WW	WW	OSR	WW	OSR	WW	WW	Beans	ww	OSR	WW	SB
7 Acre	2.91	WW	M	WW	OSR	WW	MZ	WW	Maize	Mz	W B	Mz	Mz
Ashey	7.93	WW	WW	OSR	WW	MZ	WW	Mz	WW	Mz	Mz	Trit	Mz
Big Brians	4.62	WW	WW	OSR	WW	MZ	WW	WW	Maize	TG	TG	TG	Mz
Big Ground	8.67	WW	Break	WW	OSR	WW	OSR	WW	Oats/Maiz	Mz	W B	Mz	Mz
Big Roke	6.44	WW	Break	WW	OSR	WW	OSR	WW	Rye	Oats	WW	SB	Nectar
Brading Waste	0.31												
Brading/Chalk	10.11	WW	WW	OSR	WW	OSR	WW	WW	Oats	ww	OSR	WW	SB
Broadley Grou	10.36	WW	break	WW	OSR	WW	OSR	WW	Oats	Mz	Mz	Mz	Mz
Broadley Mea	12.28	WW	WW	OSR	WW	OSR	WW	WW	Maize	Mz	S B	Mz	Mz
Chair Piece &	5.94	WW	break	WW	MZ	WW	MZ	WW	S Barley	Mz	WW	Mz	Mz
Coach Lane	10.68	OSR	WW	WW	OSR	WW	WW	OSR	WW	Wbarley	Mz	Mz	Mz
Copse Ground	7.46	WW	break	WW	OSR	WW	OSR	WW	Oats	mz	WW	Mz	Mz
Cottage	10.39	WW	WW	OSR	WW	MZ	WW	OSR	WW	Mz	Mz	Trit	Mz
Court Land	7.34	OSR	WW	OSR	WW	OSR	WW	OSR/Bear	WW	Wbarley	Mz	WW	Mz
Downs	7.29	G	G	G	G	G	G	G	G	G	G	G	G
East Mead	7.69	OSR	WW	WW	OSR	WW	OSR	WW	S Barley	Mz	WW	Mz	Mz
Football	9.67	OSR	WW	WW	OSR	WW	WW	OSR	WW	Wbarley	Mz	Mz	SB
Garden	5.69	WW	WW	OSR	WW	MZ	WW	OSR	S Barley	TG	TG	TG	Mz
Grain Store	0.51	G	G	G	G	G	G	G	G	G	G	G	G
Grove	2.28	OSR	WW	Mz	WW	MZ	WW	WW	Maize	Mz	WW	Mz	Mz
Harding Shute	9.58	OSR	WW	WW	OSR	WW	OSR	WW	Maize	Mz	WW	Mz	Mz
Hump	2.32	G	G	G	G	G	G	G	G	G	G	G	G
Kelly	1.26	G	G	G	G	G	G	G	G	G	G	G	G
Kings Land	13.46	G	G	G	G	G	G	G	G	WW	WW	Mz	Mz
Kings Rew	0.32												
Lawns	5.02	G	G	G	G	G	G	G	G	G	G	G	G
Little Brians	3.56	WW	WW	OSR	WW	OSR	WW	Mz	WW	Mz	Mz	SB	Mz
Little Rickets	7.04	Mz	WW	WW	OSR	WW	WW	OSR	WW	Wbarley	Mz	WW	Mz
Little Roke	2.92	WW	Break	WW	OSR	WW	OSR	WW	Oats	Oats	WW	Bird Cover	
New Farm,	14.33	G	G	G	G	G	G	G	G	G	G	G	G
Nuncrate	4.11	WW	WW	OSR	WW	MZ	WW	OSR	WW	Mz	Mz	Trit	Mz
Nunwell	9.49	G	G	G	G	G	G	G	G	G	G	G	G
Nunwell House	4.42	G	G	G	G	G	G	G	G	G	G	G	G
Oxlease	10.22	G	G	G	G	G	G	grass	grass	ww	WW	Trit	Mz
Paddock	0.89	G	G	G	G	G	G	G	G	G	G	G	G
Park	3.46	OSR	WW	OSR	WW	MZ	WW	Beans	WW	Wbarley	Beans	Bird Cover	
Peakey Close	7.2	WW	Break	WW	OSR	WW	WW	OSR	WW	Wbarley	Mz	WW	SB
Pond	3.29	WW	M	WW	OSR	WW	MZ	WW	S Barley	Mz	W B	Mz	Mz
Pond	0.2												
Pony Paddock	0.41	G	G	G	G	G	G	G	G	G	G	G	G
Rick House	0.41												
Ricketts&Row	8.28	WW	break	WW	OSR	WW	WW	OSR	WW	Wbarley	Mz	Mz	Mz
Sale	4.16	G	G	G	G	G	G	G	G	G	G	G	G
Signal	7.52	WW	WW	OSR	WW	OSR	WW	WW	Oats	ww	OSR	WW	SB
Slink	0.7	G	G	G	G	G	G	G	G	G	G	G	G
Slink Wood	0.1												
Stable	7.33	G	G	G	G	G	G	G	G	ww	WW	SB	Mz
Triangle	0.32	G	G	G	G	G	G	G	G	G	G	G	G
Waste	1.45												
Waste Brd	0.33												
Well	6.7	WW	WW	OSR	WW	OSR	WW	WW	Maize	Mz	WW	Mz	Mz
West Down A	20.38	OSR	WW	OSR	WW	OSR	WW	WW	Oats	ww	OSR	WW	SB
West Down G	14.63	G	G	G	G	G	G	G	G	G	G	G	G
Withy	4.29	OSR	WW	Mz	WW	OSR	WW	WW	Maize	mz	WW	Mz	Mz
Withy Wood	0.32												
Wood Arable	4.4	WW	Break	WW	MZ	WW	WW	Beans	WW	Wbarley	Mz	WW	SB
Wood Grass	3.85	G	G	G	G	G	G	G	G	G	G	G	G
	338.76												

* * * * *

Appendix 2

Screen shots of NE calculator for relevant inputs at the Nunwell Estate:

AutoSave Solent Nutrient Budget Calculator - Version 2 (003) - Read-Only Search (Alt+Q) John Durnell

File Home Insert Draw Page Layout Formulas Data Review View Help Comments Share

Clipboard Font Alignment Sensitivity Number Styles Cells Editing Analysis

E10 Freely draining

Stage 2

User Inputs

Catchment: Isle of Wight Rivers
Soil drainage type: Freely draining
Annual average rainfall (mm): 1,000.1 - 1,100
Within Nitrate Vulnerable Zone (NVZ): No

Please enter the soil drainage type for the development site. If unsure please see the instructions page (Section 3.2) for guidance on how to determine this.

Existing land use type(s)	Area (ha)	Annual nitrogen nutrient export (kg TN)
Cereals	1.00	27.26
Total:	1	27.26

In the absence of real world data, this figure has been generated using the most relevant average nutrient reduction coefficient.

Stage 1 Stage 2 Stage 3 Stage 4 Lookups

Ready Accessibility: Investigate Messaging extensions 70%

AutoSave Solent Nutrient Budget Calculator - Version 2 (003) - Read-Only Search (Alt+Q) John Durnell

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Clipboard Font Alignment Sensitivity Number Styles Cells Editing Analysis

E10 Slightly impeded drainage

Stage 2

User Inputs

Catchment: Isle of Wight Rivers
Soil drainage type: Slightly impeded drainage
Annual average rainfall (mm): 1,000.1 - 1,100
Within Nitrate Vulnerable Zone (NVZ): No

Please enter the soil drainage type for the development site. If unsure please see the instructions page (Section 3.2) for guidance on how to determine this.

Existing land use type(s)	Area (ha)	Annual nitrogen nutrient export (kg TN)
Cereals	1.00	25.38
Total:	1	25.38

In the absence of real world data, this figure has been generated using the most relevant average nutrient reduction coefficient.

Stage 1 Stage 2 Stage 3 Stage 4 Lookups

Ready Accessibility: Investigate Messaging extensions 70%

AutoSave Solent Nutrient Budget Calculator - Version 2 (003) - Read-Only John Durnell

File Home Insert Draw Page Layout Formulas Data Review View Help

Clipboard Font Alignment Sensitivity Number Styles Cells Editing Analysis

E10 Impeded drainage

Stage 2

User Inputs

Catchment: Isle of Wight Rivers
Soil drainage type: Impeded drainage
Annual average rainfall (mm): 1,000.1 - 1,100
Within Nitrate Vulnerable Zone (NVZ): No

Please enter the soil drainage type for the development site. If unsure please see the instructions page (Section 3.2) for guidance on how to determine this.

Existing land use type(s)	Area (ha)	Annual nitrogen nutrient export (kg TN)
Cereals	1.00	21.13
Total:	1	21.13

In the absence of real world data, this figure has been generated using the most relevant average nutrient reduction coefficient.

Stage 1 Stage 2 Stage 3 Stage 4 Lookups

Ready Accessibility: Investigate Messaging extensions 70%