

### Stage 1 Calculate Total Phosphorus (TP) in (Kg/year) derived from the development as a result of increased population

*Note: This calculation should only include the **additional** units resulting from the proposed development, including any development that will result in overnight accommodation. For land not currently in residential use, this will be the total units proposed by the development. However, for land already in residential use, this should only be the increase in units.*

1. Calculate the additional population	Value	Unit
Number of units as flats, care-home, residential institution proposed		dwellings
Average occupancy	1.65	persons/dwelling
Number of houses proposed		dwellings
Average occupancy	2.36	persons/dwelling
Number of <b>additional</b> rooms above 6 residents (sui generis) for houses in multiple occupation		dwellings
Average occupancy	1.65	persons/dwelling
Number of rooms in a hotel or guest house proposed		dwellings
Average occupancy	1.65	persons/dwelling
Number of weeks open per year (1-52)		Weeks
Average occupancy rate (1-100)		%
<b>Total population increase generated by the development</b>	<b>0</b>	<b>Persons</b>

Please select how the sewage from the proposed development will be handled, noting that a development must be handled by either WwTW or package treatment, and cannot be handled by both. Consideration of wastewater loading is not required where a site drains to a WwTW that does not drain in to the River Clun catchment - in this case the occupancy rate should be set to zero.

Is sewage to be handled by WwTW?

No

Is sewage to be handled by PTP?

No

#### 2a. TP budget that would exit the Wastewater Treatment Works (WwTW) after treatment

*Note: If the sewage is to be treated by WwTW then the user should select "Yes" in the list above. If PTP are to be used instead, then the user should select "No" above.*

*This is the process of collecting wastewater from houses and guiding it, via the sewage network, to a WwTW. The phosphorus concentration of the influent is calculated by multiplying the number of people by the expected water usage per day. The phosphorus concentration within the effluent is calculated by applying the discharge level of the appropriate WwTW. The TP loading is expressed in kg/year.*

Calculate the wastewater volume generated	Value	Unit
Total population increase generated by the development	0	Persons
Water use per person	110	Litres/person/day
<b>Wastewater volume generated by the development</b>	<b>0</b>	<b>Litres/day</b>

Confirm receiving WwTW and discharge level	Value	Unit
Select the WwTW the development will connect to	Bishops Castle	
<b>WwTW discharge level</b>	<b>0.90</b>	<b>mg/L</b>

*Note: Please use the drop down lists to select the WwTW that the proposed development will be connected to. If the WwTW is not known, then please select "Unknown" from the drop down list.*

Calculate the TP discharged by the WwTW	Value	Unit
TP discharged by WwTW	0	mg/day
TP discharged by WwTW	0.0000	Kg/day
<b>TP loading from WwTW</b>	<b>0.00</b>	<b>Kg/year</b>

#### 2b. TP budget for Package Treatment Plants (PTPs)

*Note: If the sewage is to be treated by PTP then the user should select "Yes" in the list above. If WwTW are to be used instead, then the user should select "No" above.*

*PTPs are pre-manufactured treatment facilities used to treat wastewater in smaller communities or on individual properties. This concept is defined as decentralized wastewater treatment. The phosphorus influent is calculated by multiplying the number of people by the expected loading per person. The phosphorus effluent is calculated by applying the PTP reduction efficiency. The TP loading is expressed in kg/year.*

Calculate TP load prior to treatment	Value	Unit
Total population increase generated by the development	0	Persons
Average TP loading per person	0.99	Kg/person/year
<b>Total Phosphorus prior to treatment</b>	<b>0.00</b>	<b>Kg/year</b>

Calculate TP load after treatment	Value	Unit
Receiving PTP reduction efficiency		%
TP discharge after PTP treatment	0.00	Kg/year

*Note: The user must input the reduction efficiency of the PTP. The efficiency of the PTP used must be evidenced. The evidence should include the test result documents from the laboratory (in English) and/or measured effluent concentrations from real world applications. If the efficiency is unknown then a precautionary value of 50% can be used.*

Calculate TP load from development wastewater with on-site PTP	Value	Unit
<b>PTP TP load</b>	<b>0.00</b>	<b>Kg/year</b>

3. Calculate the additional population TP load	Value	Unit
<b>TP load from additional population</b>	<b>0.00</b>	<b>Kg/year</b>