

## Appendix F – Water Quality Classification

### Environment Agency’s River Ecosystem Classification and General Quality Assessment

Historically the EA have used RQOs, planned targets for water quality, to help protect and improve the quality of the water in watercourses. The principal non-statutory RQO system is the RE Classification scheme which comprises five hierarchical classes in order of decreasing quality, ranging from ‘very good quality’ to ‘poor quality’ (Table B-1). Each stretch of river is given a RE target such that if the river achieves this target it means that the river will be of adequate quality to support the required ecosystem.

**Table B-1: Environment Agency River Ecosystem Classification Summary**

Class	Quality	Description/Use
RE1	Very good quality	Suitable for all fish species
RE2	Good quality	Suitable for all fish species
RE3	Fairly good quality	Suitable for high-class coarse fisheries
RE4	Fair quality	Suitable for coarse fisheries
RE5	Poor quality	Likely to limit fish populations

Whereas the EA use RQOs for planning purposes (i.e. for setting water quality targets and assessing compliance with those targets), the GQA scheme is designed to provide an assessment of the general state of water quality and changes in this state over time. The GQA scheme comprises several separate aspects of water quality falling under chemical (inc. nutrients) and biological monitoring and assessment (Table B-2). A monitoring programme at a set number of sites has been undertaken on a monthly basis to assess the quality of individual stretches of river.

**Table B-2: General Quality Assessment (GQA) Classes for Chemistry and Biology**

Chemistry Assessment			Biology Assessment		
Grade	Quality	Likely Uses and Characteristics <sup>18</sup>	Grade	Quality	Description
A	Very Good	<ul style="list-style-type: none"> <li>All abstractions</li> <li>Very good salmonid fisheries</li> <li>Salmonid fisheries</li> <li>Cyprinid fisheries</li> <li>Natural ecosystems</li> </ul>	A	Very Good	Biology similar to that expected for an unpolluted river
B	Good	<ul style="list-style-type: none"> <li>All abstractions</li> <li>Cyprinid fisheries</li> <li>Ecosystems at or close to natural</li> </ul>	B	Good	Biology is a little short of an unpolluted river
C	Fairly Good	<ul style="list-style-type: none"> <li>Potable supply after advanced treatment</li> <li>Other abstractions</li> <li>Good cyprinid fisheries</li> <li>Natural ecosystems, or those corresponding to good cyprinid</li> <li>Fisheries</li> </ul>	C	Fairly Good	Biology worse than expected for unpolluted river
D	Fair	<ul style="list-style-type: none"> <li>Potable supply after advanced treatment</li> <li>Other abstractions</li> <li>Fair cyprinid fisheries</li> <li>Impacted ecosystems</li> </ul>	D	Fair	A range of pollution tolerant species present
E	Poor	<ul style="list-style-type: none"> <li>Low grade abstraction for industry</li> <li>Fish absent or sporadically present, vulnerable to pollution<sup>19</sup></li> <li>Impoverished ecosystems</li> </ul>	E	Poor	Biology restricted to pollution tolerant species
F	Bad	<ul style="list-style-type: none"> <li>Very polluted rivers which may cause nuisance</li> <li>Severely restricted ecosystems</li> </ul>	F	Bad	Biology limited to a small number of species very tolerant of pollution

As well as the chemical and biological quality, river systems are also sampled to determine the concentration of nutrients in given reaches. Excessive nutrients (especially phosphorus) can allow eutrophication if other factors are not limiting. This allows nuisance species such as algae to proliferate at an undesirable level and at the expense of other aquatic life which rely on the system (fish and aquatic plants); the overall effect is to reduce biodiversity. The two most important nutrients in terms of eutrophication are nitrogen and phosphorus; these are each assessed using a separate GQA grade (Table B-3).

<sup>18</sup> Provided other standards are met

<sup>19</sup> Where the grade is caused by discharges of organic pollution

**Table B-3: General Quality Assessment Classes for Nutrients**

Nitrate Grades	Grade limit (mg NO <sub>3</sub> /l) (Mean)	Description	Phosphate Grades	Grade limit (mg P/l) (Mean)	Description
1	5	Very Low	1	0.02	Very Low
2	10	Low	2	0.06	Low
3	20	Moderately Low	3	0.1	Moderate
4	30	Moderate	4	0.2	High
5	40	High	5	1.0	Very High
6	>40	Very High	6	>1.0	Excessively High

Nutrient concentrations in rivers exhibit considerable spatial and seasonal variability, and in common with other GQA sampling, monthly 'grab' samples will not reflect the true temporal variation. Storm events, for example, can mobilise nutrients from several sources and transient, but potentially very important, large concentrations of substances such as N and P will not be captured by monthly sampling regimes. There are also seasonal effects, such as a natural 'flush' of nitrate from soil during early autumn as the soil reaches field capacity and field drains begin to flow.

A grade from 1 to 6 is derived for both phosphate and nitrate based on the average concentration over the previous three years. There are no set 'good' or 'bad' concentrations for nutrients in rivers in the way that is used to describe chemical and biological quality. Rivers in different parts of the country have naturally different concentrations of nutrients. 'Very low' nutrient concentrations, for example, are not necessarily good or bad; the classifications merely state that concentrations in this river are very low relative to other rivers.

Of all forms of P, it is desirable to determine the concentrations of Soluble Reactive Phosphorus (SRP) as this form of P is most immediately available to aquatic macrophytes and algae. Phosphorus is usually the limiting nutrient in inland freshwaters and gives an indication of the likelihood of eutrophication within a water environment.

## Freshwater Fish Directive

As well as the RE Classification scheme and GQA, waters are also designated and assessed against the Freshwater Fish Directive. The EC Freshwater Fish Directive (78/659/EEC) was adopted in 1978 and updated in 2006 (2006/44/EC), and seeks to protect those fresh water bodies identified by Member States as waters suitable for sustaining fish populations<sup>20</sup>. For those waters it sets physical and chemical water quality objectives for salmonid and cyprinid waters:

- Salmonid fish (salmon and trout) - these are generally fast flowing stretches of river that have a high oxygen content and a low level of nutrients; and
- Cyprinid fish (coarse fish - carp, tench, barbel, rudd, roach) - these are slower flowing waters, that often flow through lowlands.

<sup>20</sup> See <http://www.defra.gov.uk/environment/water/quality/fwfish/>

The Directive sets different standards for salmonid and cyprinid waters (Table B-4). There are two types of standards within each water category:

- Imperative values - these are standards that must be met if the stretch is to pass the Directive (for the stretch to be 'compliant'). Values have been set for dissolved oxygen, pH, non-ionised ammonia, total ammonium, total residual chlorine, zinc and (for thermal discharges) temperature; and
- Guideline values - these are quality standards that should be achieved where possible. Values have been set here for other chemical parameters, such as copper, biochemical oxygen demand and suspended solids.

In 2013, this directive will be repealed and waters currently designated as Fish Directive waters will become protected areas under the WFD.

**Table B-4: Freshwater Fish Directive Imperative and Guideline Standards**

Parameter	Units	Salmonid Standard	Cyprinid Standard	Notes
<b>Imperative Standards</b>				
Temperature	°C	1.5	3.0	Increase due to thermal discharge
	°C	21.5	28.0	Maximum at monitoring site
	°C	10	10.0	Maximum for breeding season
Dissolved Oxygen	mg/l	>9	>7	50% of samples must meet this standard. Absolute minimum.
pH	-	6 – 9	6 - 9	Derogation allowed in naturally acidic areas.
Non-ionised ammonia	mg/l	0.025	0.025	Calculated from temperature, total ammonia and pH
Total ammonium (mg/l NH <sub>4</sub> )	mg/l	1	1	Relaxed standard of 3 mg/l can be applied where there is good evidence of healthy fish populations.
Total residual chlorine	mg/l	0.005	0.005	
Total zinc (standard is dependent on the average yearly hardness)	mg/l	0.03	0.3	Hardness <= 10 mg CaCO <sub>3</sub> / litre
	mg/l	0.2	0.7	Hardness <= 50 & > 10 mg CaCO <sub>3</sub> / litre
	mg/l	0.3	1.0	Hardness <= 100 & > 50 mg CaCO <sub>3</sub> / litre
	mg/l	0.5	2.0	Hardness > 100 mg CaCO <sub>3</sub> / litre
<b>Guideline Standards</b>				
Dissolved oxygen	mg/l	>9	>8	50% of samples must meet this standard.
	mg/l	>7	>5	100% of samples must meet this standard.
Suspended solids	mg/l	25	25	
BOD	mg/l	3	6	
Nitrites	mg/l	0.01	0.03	
Non-ionised ammonia	mg/l	0.005	0.005	
Total ammonium	mg/l	0.04	0.2	
Dissolved copper (standard is dependent on the average yearly hardness)	mg/l	0.005	0.005	Hardness <= 10 mg CaCO <sub>3</sub> / litre
	mg/l	0.022	0.022	Hardness <= 50 & > 10 mg CaCO <sub>3</sub> / litre
	mg/l	0.04	0.04	Hardness <= 100 & > 50 mg CaCO <sub>3</sub> / litre
	mg/l	0.112	0.112	Hardness > 100 mg CaCO <sub>3</sub> / litre

## Water Framework Directive

### Introduction

Over the next two to three years, the existing statutory targets and legislation relating to water quality will be replaced with a new set of water quality standards under the umbrella of the Water Framework Directive (WFD) which was passed into UK law in 2003. The competent authority responsible for its implementation is the EA in England and Wales. The overall requirement of the directive is that all water bodies in the UK must achieve “*good ecological and good chemical status*” by 2015 unless there are grounds for derogation.

The WFD will for the first time combine water quantity and water quality issues together. The directive combines previous water legislation and in certain areas strengthens existing legislation. An integrated approach to the management of all freshwater bodies, groundwaters, estuaries and coastal waters at the river basin level will be adopted. Involvement of stakeholders is seen as key to the success in achieving the tight timescales and objectives set by the directive. The WFD states that all countries in the European Union have to:

- Prevent deterioration in the classification status of aquatic ecosystems, protect them and improve the ecological condition of waters,
- Aim to achieve at least good status for all waters. Where this is not possible, good status should be achieved by 2021 or 2027,
- Promote sustainable use of water as a natural resource,
- Conserve habitats and species that depend directly on water,
- Progressively reduce or phase out releases of individual pollutants or groups of pollutants that present a significant threat to the aquatic environment,
- Progressively reduce the pollution of groundwater and prevent or limit the entry of pollutants,
- Contribute to mitigating the effects of floods and droughts.

The water environment within England and Wales has been divided into units called ‘water bodies’ and designated as rivers, lakes, estuaries, the coast or groundwater. Some water bodies have been designated as artificial or heavily modified if they are substantially modified or created for water supply, urban purposes, flood protection and navigation. This designation is important because it recognises their uses, whilst making sure that ecology is protected as far as possible. All water bodies will be designated a status. For surface waters, the status has an ecological and a chemical component; Ecological status is measured on the scale high, good, moderate, poor and bad; and good chemical status as pass or fail. For groundwater, good status has a quantitative and a chemical component, which together provide a single final classification: good or poor status. Good ecological status is defined as a slight variation from undisturbed natural conditions, but artificial and heavily modified waters are not able to achieve natural conditions. Instead the target for these waters is good ecological potential. This is also measured on the scale high, good, moderate, poor and bad. The chemical status of these water bodies is measured in the same way as natural water bodies.

## WFD Standards

Standards are being developed by the UK Technical Advisory Group (UKTAG) with which to measure status covering a range of criteria including water quality, biological quality, and morphology<sup>21</sup>. The environmental standards assess whether environmental conditions are good enough to support appropriate aquatic life for the system. The status of each surface water body is judged using separate 'Ecological classification' and 'Chemical classification' systems. The overall status of the water body will be determined by whichever of these is the poorer. To achieve 'good status' overall, a water body must achieve both good ecological and good chemical status.

One of the key objectives of the WFD is to 'prevent deterioration of the status of all water bodies of surface water'. This states that there should be a prevention of deterioration between status classes, which applies to each water body. The status class reported for a surface water body will be dictated by the quality element worst affected by human activity. However, a 'less stringent objective' does not mean that (a) the other quality elements are permitted to deteriorate to the status dictated by the worst affected quality element or (b) the potential for improvement in the condition of other quality elements can be ignored.

The proposed WFD water quality standards for lowland, high alkalinity river water bodies is provided in Table B-5.

**Table B-5: WFD Standards for Lowland, High Alkalinity River Water Bodies**

Level	Ammonia (mg/l) 90%ile	BOD (mg/l) 90%ile	DO (% saturation) 10%ile	SRP <sup>22</sup> (mg/l) AA	pH
High	0.3	4	70	0.05	>=6 to <=9 (9 and 95%ile)
Good	0.6	5	60	0.12	
Moderate	1.1	6.5	54	0.25	4.7 (10%ile)
Poor	2.5	9	45	1.0	4.2 (10%ile)

## River Basin Management Plans

As stated, the aim is for all water bodies to reach 'good status' or higher by 2015. In order to do so, the EA are developing a series of River Basin Management Plans (RBMPs) for the major River Basins in England and Wales. The final RBMPs, which sets out detailed proposals for the next 6 years, were published on 22<sup>nd</sup> December 2009 and contain the Programme of Measures to bring about the changes necessary in order to bring the water bodies which are currently failing the required standards up to good status. The measures in the draft plans have been developed with the assistance of the River Basin Liaison Panels, and include Government and EA actions, as well as actions delivered by others. The River Liaison Panels include representatives from businesses, planning authorities, environmental organisations, agriculture, forestry,

<sup>21</sup> UK Environmental Standards and Conditions (Phase I) Final Report, April 2008. UK Technical Advisory Group on the Water Framework Directive

<sup>22</sup> SRP = Total Reactive Phosphorous

consumers, fishing bodies, ports, drainage boards and regional government, which will all have key roles to play in implementing the plan.

The Final RBMPs focus on achieving the protection, improvement and sustainable use of the water environment including surface freshwaters (lakes, streams and rivers), groundwater, ecosystems such as some wetlands that depend on groundwater, estuaries and coastal waters (out to one nautical mile). The plans set out the proposed measures to improve water quality to the required standard and achieve the set environmental objectives. The WFD allows the EA, where costs would be disproportionate or where it isn't technically feasible to achieve the objectives by 2015, to work on a longer timescale (to 2021 or 2027) or to set lesser objectives, provided certain conditions are met.



## Appendix G – Data Catalogue

<b>Data Type</b>	<b>Stakeholder source</b>
<b>PLANNING AND BACKGROUND</b>	
Master Plan Layout Drawing to enable ID of wastewater drainage & water supply areas;	Council
OS Base Mapping;	Council
Emerging Local Development Frameworks	Council
Local Plans	Council
Development Plan Documents	Council
Other relevant planning documentation relating to development i.e. SPDs	Council
<b>FLOODING</b>	
Drainage Problem areas	Council
Records of surface water flooding	Council
Topographic data (river surveys etc)	EA
Remote Topographic Data (LIDAR and/or SAR data) for the study area	EA
Existing Hydrometric Monitoring locations for potentially affected watercourses	EA
Information on Existing Hydraulic Models - coverage and return periods run	EA
Identification of Main River, Critical Ordinary Watercourses	EA
Location of flood defences or alleviation schemes	EA
Design standards of flood defences	EA
Condition of existing defences	EA
Flood Zone outlines - 2, 3a, and 3b and flood levels	EA
Historical flooding records (from rivers and groundwater)	EA
Details of Improvements Programme top flood defences / schemes	EA
Areas benefiting from flood warning procedures and management strategies	EA
<b>WATER QUALITY / ENVIRONMENTAL</b>	
General Quality Assessment (GQA) data – water quality	EA
WFD status	EA
Ecological monitoring data for the two main Rivers	EA
Location and details of abstractions (groundwater and surface) in the study area	EA
Location and details of discharges to ground and to local watercourses	EA
Geology for the area	EA
Groundwater level records	EA
Areas of protected or designated status (SSSI, SAC, SPA) - boundaries and reasons for designations	EA
Areas of national or local conservation / interest (SNCI, NNR, LNR)	EA
<b>WASTEWATER</b>	
Location of current STWs, their consent details, treatment type and spare capacity details (both hydraulic and process capacity)	ST
Any known problem locations for the existing sewer network	ST
Data from sewerage and treated water capacity assessment studies in support of the development of Business Plans for Price Review 09.	ST
Sewerage Network layout, pipe diameter, capacities, pumping stations and CSOs, (Combined Sewer Overflows) and coverage of network models	ST
Discharge locations and consent details for consented discharges for Bassetlaw	ST
<b>WATER RESOURCES (SUPPLY)</b>	
Data and information from Water Resource Plans draft (2009) and interim 2006	ST, AWS
Information pertaining to relevant water resource schemes proposed for the development of draft Business Plans 09.	ST, AWS
Existing Water Volumes being supplied (i.e. current and also projected), including:	ST, AWS
Water Consumption per capita/property or per property/day assumed in planning	ST, AWS
water treatment works current and projected outputs (capacities), location (layout drawings and location maps), treatment levels (chemical, power consumptions, etc rough cost of treatment/ltm3)	ST, AWS
Distribution supply Network layout, (trunk mains, pipe diameters and capacities) and confirmation of coverage of network models	ST, AWS
locations of service reservoirs	ST, AWS
Raw Water Abstraction License and limits including Locations	ST, AWS
Pumping Stations locations (clean water)	ST, AWS
Existing water consumption control measures assumed in planning	ST, AWS
Coverage of clean water network models	ST, AWS
The latest demand forecasts – Dry Year Annual Average unrestricted daily demand and Average Day Demand in Peak Week. Do these include the latest growth forecasts contained in the East of England RSS Plan?	ST, AWS
Details of any water quality issues affecting outputs from the WTWs supplying Bassetlaw	ST, AWS
Pressure information in water distribution system	ST, AWS

## Appendix H – Developer Checklist

### Key

	Water Cycle Study Recommended Policy
	Environment Agency and Natural England policy and recommendations
	Local Policy
	National Policy or Legislation

No.	Item	Response	Policy / Legislation
<b>Flood Risk Assessment</b>			
1	Is the Development within Flood Zones 2 or 3 as defined by the flood zone mapping in the SFRA?	Y - go to 5 N - go to 2	PPS25
2	Development is within Flood Zone 1: <ul style="list-style-type: none"> <li>• Site larger than 1 Ha?</li> <li>• Site smaller than 1 Ha?</li> </ul>	go to 5 go to 3	
3	Is the development residential with 10 or more dwellings or is the site between 0.5Ha and 1Ha?	Y - go to 6 N - go to 4	
4	Is the development non-residential where new floorspace is 1,000m <sup>2</sup> or the site is 1 Ha or more	Y - go to 6 N - go to 7	
5	The development constitutes major development and requires a FRA (in accordance with PPS25 and the SFRA) and the Environment Agency are required to be consulted.	Go to 8	
6	The development constitutes major development and is likely to require a Flood Risk Assessment (in accordance with PPS25 and the SFRA) but the Environment Agency may not be required to be consulted.	Go to 8	
7	An FRA is unlikely to be required for this development, although a check should be made against the SFRA and with to ensure that there is no requirement for a FRA on the grounds of critical drainage issues. Does the SFRA or do the Council consider an FRA is required?	Y – go to 8 N – go to 9	
8	Has an FRA been produced in accordance with PPS25 and the SFRA?	Y/N or N/A	
<b>Surface Water Runoff</b>			
9	A) What was the previous use of the site? B) What was the extent of impermeable areas both before and after development?	% before % after	Environment Agency Requirement for FRA.
10	If development is on a Greenfield site, have you provided evidence that post development run-off will not be increased above the Greenfield runoff rates and volumes using SUDS attenuation features where feasible (see also 18 onwards).  If development is on a brownfield site, have you provided evidence that the post development run-off rate has not been increased, and as far as practical, will be decreased below existing site runoff rates using SUDS attenuation features where feasible (see also 17 onwards).	Y/N or N/A  Y/N or N/A	PPS25
11	Is the discharged water only surface water (e.g. not foul or from highways)?  If no, has a discharge consent been applied for?	Y/N  Y/N	Water Resources Act 1991
12	A) Does your site increase run-off to other sites? B) Which method to calculate run-off have you used?	Y/N	PPS 25

12	Have you confirmed that any surface water storage measures are designed for varying rainfall events, up to and including, a 1 in 100 year + climate change event (see PPS25 Annex B, table B.2)?	Y/N	PPS25
13	For rainfall events greater than the 1 in 100 year + climate change, have you considered the layout of the development to ensure that there are suitable routes for conveyance of surface flows that exceed the drainage design?	Y/N	PPS25 Guidance Notes
14	Have you provided layout plans, cross section details and long section drawings of attenuation measures, where applicable?	Y/N	
15	If you are proposing to work within 8 m of a watercourse have you applied, and received Flood Defence Consent from the Environment Agency?	Y/N or N/A	Water Resources Act 1991 Land Drainage Act 1991
16	The number of outfalls from the site should be minimised. Any new or replacement outfall designs should adhere to standard guidance form SD13, available from the local area Environment Agency office. Has the guidance been followed?	Y/N	Guidance Driven by the Water Resources Act 1991
<b>Sustainable Drainage Systems</b>			
17	A) Has the SUDS hierarchy been considered during the design of the attenuation and site drainage? Provide evidence for reasons why SUDS near the top of the hierarchy have been disregarded.  B) Have you provided detail of any SUDS proposed with supporting information, for example, calculations for sizing of features, ground investigation results and soakage tests? See CIRIA guidance for more information. <a href="http://www.ciria.org.uk/suds/697.htm">http://www.ciria.org.uk/suds/697.htm</a>	Y/N	PPS25 Guidance
18	A) Are Infiltration SUDS to be promoted as part of the development? If Yes, the base of the system should be set at least 1m above the groundwater level and the depth of the unsaturated soil zones between the base of the SUDS and the groundwater should be maximised.  B) If Yes – has Infiltration testing been undertaken to confirm the effective drainage rate of the SUDS?	Y/N Y/N	
19	A) Are there proposals to discharge clean roof water direct to ground (aquifer strata)?  B) If Yes, have all water downpipes been sealed against pollutants entering the system from runoff or other discharge?	Y/N Y/N	
20	Is the development site above a Source Protection Zone (SPZ)?	If Y go to 22 If N go to 23	
21	A) Is the development site above an inner zone (SPZ1)?  B) If yes, discharge of Infiltration of runoff from car parks, roads and public amenity areas is likely to be restricted – has there been discussion with the Environment Agency as to suitability of proposed infiltration SUDS?	Y/N Y/N	Groundwater Regulations 1998
22	A) For infill development, has the previous use of the land been considered?  B) Is there the possibility of contamination?  C) If yes, infiltration SUDS may not be appropriate and remediation required to be undertaken. A groundwater Risk Assessment is likely to be required (Under PPS23) Has this been undertaken before drainage design is considered in detail?	Y/N Y/N Y/N	PPS23
23	Have oil separators been designed into the highway and car parking drainage? PPG23: <a href="http://publications.environment-agency.gov.uk/pdf/PMHO0406BIYL-e-e.pdf">http://publications.environment-agency.gov.uk/pdf/PMHO0406BIYL-e-e.pdf</a>	Y/N	PPG23

24	Have you confirmed whether the proposed SUDS are to be adopted as part of public open space, or by a wastewater undertaker and provide supporting evidence?  Alternatively, have you provide details of the maintenance contributions to be provided over the life of the development.	Y/N  Y/N	
25	Have you provided details of any proposed measures to encourage public awareness of SUDS and increase community participation?	Y/N	
<b>Water Consumption</b>			
26	A) Have you provided the expected level of water consumption and hence the level to be attained in the Code for Sustainable Homes <a href="http://www.planningportal.gov.uk/england/professionals/en/1115314116927.html">http://www.planningportal.gov.uk/england/professionals/en/1115314116927.html</a> B) Have you considered whether the development can achieve a water consumption lower than 120 l/h/d (105 l/h/d for Levels 3 & 4 in the Code for Sustainable Homes, 80l/h/d as required for Levels 5 & 6)	Y/N	
27	Is the proposed development likely to achieve a water consumption of between 120 l/h/d and 135 l/h/d as consistent with the latest DEFRA strategy? <a href="http://www.defra.gov.uk/environment/water/strategy/pdf/future-water.pdf">http://www.defra.gov.uk/environment/water/strategy/pdf/future-water.pdf</a>	Y/N	
28	Have you provided details of water efficiency methods to be installed in houses?	Y/N	
29	Have you confirmed whether the development will utilise rainwater harvesting (minimum tank size 2.5m <sup>3</sup> per house, see <a href="http://www.environment-agency.gov.uk/subjects/waterres/286587/286911/548861/861599/?lang=e">http://www.environment-agency.gov.uk/subjects/waterres/286587/286911/548861/861599/?lang=e</a> )	Y/N	
30	Has a practicable alternative strategy been included for the supply of water for fire fighting?	Y/N	
31	Have you confirmed whether grey water recycling is to be utilised and provided details?	Y/N	
32	Have you provided details of any proposed measures to increase public awareness and community participation in water efficiency?	Y/N	
<b>Pollution Prevention</b>			
33	Have you provided details of construction phase works method statement, outlining pollution control and waste management measures? See PPG2, PPG5, PPG6, PPG21 ( <a href="http://www.environment-agency.gov.uk/business/444251/444731/ppg/?version=1&amp;lang=e">http://www.environment-agency.gov.uk/business/444251/444731/ppg/?version=1&amp;lang=e</a> ) and DTI Site Waste Management Plan, (SWMP, <a href="http://www.constructingexcellence.org.uk/resources/publications/view.jsp?id=2568">http://www.constructingexcellence.org.uk/resources/publications/view.jsp?id=2568</a> )	Y/N	PPG2, PPG5, PPG6, PPG21
34	A) Have you provided details of pollution prevention measures for the life of the development, such as oil and silt interceptors?  B) Have you considered whether permeable pavement areas are protected from siltation?  C) Have you provided details of maintenance – as with the SUDS?	Y/N  Y/N  Y/N	
<b>Water Supply and Wastewater Treatment</b>			
35	Have you provided evidence to confirm that water supply capacity is available, and that demand can be met in accordance with the Water Cycle Study?	Y/N	
36	Have you provided evidence to confirm that sewerage and wastewater treatment capacity is available, and that demand can be met in accordance with the Water Cycle Study?	Y/N	
<b>Conservation / Enhancement of Ecological Interest</b>			
37	Have you confirmed that at least 25% of flood attenuation ponds/wetlands will be designed for multifunctional uses, such as providing access, footpaths, cycleways, recreational uses, and submit Preliminary details as suggested under Natural England guidelines?	Y/N	
38	A) Have you shown the impacts your development may have on the water environment?  B) Is there the potential for beneficial impacts?	Y/N  Y/N	Town and Country Planning Regulations 1999.

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39	Have you confirmed all ponds within 500m of the site boundary have been surveyed for presence of great-crested newt populations?	Y/N	Habitats Directive
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Further information can be found in the Environment Agency's guide for developers  
<http://www.environment-agency.gov.uk/business/444304/502508/1506471>