Sustainable Drainage Systems (SuDS) maintenance and adoption options (England)

This fact sheet is intended to support developers, designers and local authorities consider appropriate arrangements for the on-going maintenance of SuDS over the lifetime of the development. It will also be of use to designers who should design the SuDS to ensure that the maintenance and operation requirements are economically proportionate.

The author

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Introduction

A range of viable maintenance options for the ownership and adoption of sustainable drainage systems (SuDS) are available. The fact sheet is general guidance to support more detailed discussions. It is not exhaustive and the topic is expected to develop over time.

Background

SuDS provide opportunities to reduce the adverse impacts of traditional surface water systems; remove pollutants from urban run-off at source; and potentially combine surface water management with green space with benefits for amenity, recreation and wildlife.

Following a Written Statement, in England from 6 April 2015, local planning policy and decisions on Major Developments (10 dwellings or more; or equivalent non-residential or mixed development[1]) are expected to ensure that sustainable drainage systems for the management of run-off are put in place, unless demonstrated to be inappropriate.

"*In considering planning applications, local planning authorities should consult the relevant lead local flood authority on the management of surface water; satisfy themselves that the proposed minimum standards of operation are appropriate and ensure through the use of planning conditions or planning obligations that there are clear arrangements in place for ongoing maintenance over the lifetime of the development. The sustainable drainage system should be designed to ensure that the maintenance and operation requirements are economically proportionate*"[2]

Like all drainage systems, SuDS components need to be inspected and maintained to ensure efficient operation and prevent failures. Planning Practice Guidance[3] states '*When planning a sustainable drainage system, developers need to ensure their design takes account of the construction, operation and maintenance requirements of both surface and subsurface components, allowing for any personnel, vehicle or machinery access required to undertake this work.*' This is described in detail within the SuDS Manual (CIRIA C697, 2007) and a related Susdrain Factsheet on maintenance[4] (Wilson and Davies, 2012).

[1] http://tinyurl.com/p6nagdk
[2] http://tinyurl.com/n9g2jok
[3] http://tinyurl.com/nm9np83
[4] http://tinyurl.com/nlpc4o4

The challenge is that institutional arrangements for the ongoing maintenance of piped conventional drainage are clear, but remain less-so for non-traditional components such as ponds, swales and wetlands.

Traditional drainage systems consist of surface water sewers and lateral drains. Traditional systems focus on removing surface water as quickly as possible. The approach concentrates silts and other pollutants. Pipe design should maintain self-cleansing flow velocities to minimise maintenance requirements. Sewers are designed to industry standards (Sewers for Adoption, WRc) and then offered for adoption and maintenance by Water and Sewerage Companies (WaSC) into their regulated asset base under Section 104 of the Water Industry Act (WIA) 1991, subject to the payment of fees and charges. Highway gullies and associated drainage are designed to agreed standards with the local Highways Authority and then offered for adoption under Section 38 of the Highways Act 1980, and may require a commuted sum payment for exceptional future costs.

Effective SuDS are designed to slow water and trap silt. SuDS components on or near the surface are accessible to inspect and can usually be maintained using simple landscaping techniques. The arrangements for the future maintenance of the system should be considered during the early stages of SuDS design as this will influence the design.

Responsibilities

Selecting a responsible party to maintain SuDS
There are many options that will allow the successful operation and maintenance of a SuDS component for the lifetime of the development. With each option there may be associated risks for the onsite and surrounding land and property owners; Local Planning Authority, Local Highways Authority and Lead Local Flood Authority should the chosen maintenance option become compromised.

The appropriate responsible party to maintain (and operate) the SuDS component(s) should be evaluated on a site by site basis. Factors to consider include:

- Siting and selection of the SuDS component
- Function(s) and benefiting parties of SuDS component
- Complexity of the SuDS component
- Defined minimum standards of operation and maintenance
- Competence and longevity of prospective responsible party
- Land ownership and access
- Interaction with other assets

Default maintenance responsibility
The landowner is the party responsible for ensuring that SuDS component(s) within their land are maintained over the lifetime of the development even if it serves other properties, unless the SuDS component(s) have been adopted.

Adoption
Adoption is when an organisation agrees to take responsibility for the future management and maintenance of the SuDS component(s). There are examples where local authorities, water companies, private companies and other organisations have adopted SuDS components. Typically this calls for a payment and a legal agreement, possibly backed up by the deposit of a repayable performance bond. The adopting organisation will generally wish to approve the design before construction.

In many cases the property freehold is not transferred. The adopter will ensure they have the right to access and maintain the adopted asset. Some SuDS components, particularly surface SuDS components, may be adopted and the freehold of the land on which they lie is also transferred into the ownership of the same (or a different) authority.

Planning Conditions and Obligations

The Written Ministerial Statement notes that *local planning authorities should… ensure through the use of planning conditions or planning obligations that there are clear arrangements in place for on-going maintenance over the lifetime of the development.* Planning Practice Guidance sets out expectations on the use of planning

conditions[5] and planning obligations[6]. Statutory consultees may wish to recommend conditions for the local planning authorities' consideration.

Planning conditions may address the drainage design and maintenance, compliance with technical standards etc. Unless the permission otherwise states, planning permission runs with the land and any conditions imposed on the permission will bind future owners[7]. Planning conditions associated with flooding cannot be "deemed to be discharged" and must be reviewed and approved prior to discharge[8].

Breaches of planning conditions may be subject to enforcement action where the local planning authority considers it expedient. Section 187 A(2) provides that a breach of condition notice may be served on any person who is carrying out or has carried out the development or any person having control of the land. Development may become immune from planning enforcement if no action is taken over time[9]. In some circumstances, development may be regularised via certificates of lawfulness or retrospective planning applications where appropriate.

Planning obligations may be used in lieu of conditions. Section 106 of the Town and Country Planning Act 1990 (as amended) allows a local planning authority to enter into a planning obligation with a landowner in association with the granting of planning permission. These agreements are a way of delivering or addressing matters that are necessary to make a development acceptable in planning terms. Section 106 agreements can be used to require the payment of commuted sums or other provisions. The terms are negotiated with local planning authorities on an individual basis and can cater to the different aspects of a particular development. Planning obligations run with the land by virtue of Section 106 (3) of the Town and Country Planning Act 1990 (as amended) meaning that they are enforceable against the original covenanter and any subsequent owners of the land.

Sustainable drainage system maintenance responsibility options, risks and safeguards

The following table collates various options for sustainable drainage system maintenance responsibility. It provides a summary of the approaches and is intended to support a risk-based approach by Local Planning Authorities (LPAs) to ensuring there are clear arrangements in place for on-going maintenance over the lifetime of the development and informing prospective owners/responsible parties of sustainable drainage systems.

[5] http://tinyurl.com/m83e5n7
[6] http://tinyurl.com/lmjyb4o
[7] http://tinyurl.com/nl8qyoa
[8] http://tinyurl.com/qfgagm8
[9] http://tinyurl.com/muwnqsl

SuDS maintenance option	Type of application	Possible opportunities	Possible risks		Possible LPA mitigation measures and safeguards
All SuDS maintenance options			The arrangements for the future maintenance of the system should be considered during the early stages of SuDS design as this will influence the design.		**Note** - Satisfactory arrangements for maintenance should be agreed at earliest opportunity with pre-application discussion.
			Location of SuDS components, the responsible party for maintenance and maintenance requirements not known by responsible authority and risk getting lost in time.		**Action** - The LPA could include provision of 'as-built' record information to the LLFA as part of a drainage pre-occupation planning condition. This could be used by LLFA for FWMA Schedule 1 designation (see Management Company safeguards) and to add to the FWMA Schedule 21 Asset Register[10]. Note - Maintenance easements may be separately required for service strips, enforced by a Deed of Grant and applied to the freehold title.
Private residential and non-residential individual property owners	Where a SuDS is within the private curtilage of a property. Includes source control components such as rain gardens, water butts and soakaways.	It is reasonable to expect the owner(s) of a property drained by SuDS that do not also drain other properties to act as the responsible party to maintain the SuDS.	Often low risk – often localised flood risk effect as serving single property.	Asset failure impacts on third-parties.	**Note** - In general, failure of surface water drainage of single property likely to result in localised impact. Third-party could instigate civil litigation[11].
				Lack of awareness/ information to operate.	**Action** – Consider the merit of using a S106 planning obligation and maintenance agreement to ensure the provision of information on the location and details of the SuDS including maintenance and replacement requirements to owners.

[10] LLFA have a duty to maintain a register of structures or features which, in their opinion, are likely to have a significant effect on flood risk and record information including ownership and state of repair under Schedule 21 of the FWMA. Inclusion on the register is not designation under Schedule 1 FWMA and does not place a Local Land Charge on the title or require the owner to seek LLFA consent to alter, remove or replace the feature. Example guidance http://tinyurl.com/q7f7h9w

[11] Example guidance: http://tinyurl.com/pmek6n3

SuDS maintenance option	Type of application	Possible opportunities	Possible risks	Possible LPA mitigation measures and safeguards
Internal drainage boards (IDB)	For SuDS serving one or more properties. In drainage board areas, subject to IDB consent, by agreement and following either payment of a commuted sum or ongoing infrastructure charge, a developer may build (or contribute to) SuDS that IDB subsequently owns and/or maintains. Often IDBs will only adopt a limited number of SuDS types. Further, local investigations may find high groundwater levels constrain the use of some SuDS techniques.	IDBs have duties, under the Land Drainage Act 1991, to exercise a general supervision over all matters relating to water level management of land within its district. Within drainage board districts, and catchments that discharge into them, changes in surface water runoff as a result of changes to land will be subject to IDB consent under Land Drainage Act 1991 and bylaws. IDB consent is separate to planning permission. IDBs make recommendations on works to make the required positive contribution to reducing or managing flood risks in accordance with NPPF.	Low risk - adopted by public authority with established funding.	**Note** - Compensatory storage and contributions to improvement of local drainage infrastructure expected (payable before IDB consent). **Note** – Generally IDBs have established processes to adopt by agreement significant drainage infrastructure, built to agreed standards (fee for checking and inspection) with either a commuted sum or ongoing payments for a defined period for operational/repair costs. **Note** – Generally IDBs insist that any significant drainage infrastructure designed, constructed or financed by a developer will be adopted by a public authority, and that any surface water discharge from a development is to a publically adopted drainage network. **Action** - LLFA to add SuDS with significant effect on flood risk to asset register[6]

SuDS maintenance option	Type of application	Possible opportunities	Possible risks		Possible LPA mitigation measures and safeguards
Water and Sewerage Companies (WaSC)	For SuDS serving more than one property. By agreement, developer build (or contribute to) SuDS that WaSC subsequently owns. Included within ordinary charging.	WaSC have powers under the Water Industry Act Section 104 to adopt sewers through a vesting declaration, normally carried out upon the completion of works in accordance with the terms of an adoption agreement. A developer can, by agreement, build (or contribute towards the construction of) a SuDS that the WaSC would subsequently own. The SuDS would be included within the WaSC's ordinary charging scheme, and maintenance costs would be funded through the surface water drainage element of household water bills regulated by Ofwat. Some SuDS components may not be considered as adoptable sewerage assets. WaSCs have concern about their ability to adopt some types of SuDS as a 'sewer' under the WIA. Many SuDS components require comparable maintenance activities to the WaSC regulated asset base. Some WaSCs have a mature policy and guidance for SuDS adoption. Some will adopt certain components such as below ground SuDS (attenuation tanks, flow control chambers, bypass sewers) and outfalls associated with balancing ponds.	Low risk - adopted by organisation with regulated charging regime.	The position of each WaSC on the maintenance of SuDS is emerging and a variety of positions have been taken. Poorly designed SuDS present a risk of land drainage contributions to the sewer, which the WaSC must ensure are not captured. Some WaSCs will not adopt SuDS. Some will only adopt certain components of a SuDS scheme. For example some will not adopt surface SuDS components/structures linked by overland flow or connecting pipes from filter strips, permeable paving, swales, detention basins etc nor shared soakaways or infiltration trenches. The exclusions may limit amenity and biodiversity opportunities. Accepting and draining highway run-off and risk of groundwater inundation is also a discretionary point. Some WaSCs will approve new connections and adopt sewers downstream of SuDS approved by LPAs in consultation with the LLFA.	**Advice** - Discussions with individual WaSCs is recommended to understand their current position on maintenance of SuDS. **Note** - May require use of agreed construction standards of SuDS if WaSCs are intended to be responsible for their maintenance. For example WaSC likely to seek suitable measures to ensure debris is prevented from entering downstream sewer. **Note** – WaSC will seek developer contribution to reasonable costs of appraisal and/or network modelling to confirm impact of new development on critical sewers and overflows. **Note** – WaSC should be consulted on any variations to conditions of approval that affect discharge to public sewer.

SuDS maintenance option	Type of application		Possible opportunities	Possible risks		Possible LPA mitigation measures and safeguards
Local Authority	For SuDS serving one or more properties. By agreement, LAs maintaining as part of open space and amenity management, or publicly maintained highway.		Some local authorities may wish to take on responsibility for the maintenance of SuDS as part of their wider public open space and amenity management function and/or where SuDS provides advantages for the wider community. Public open-space maintenance activity synergy with surface SuDS components. Local authorities would need to charge to fund their activities in maintaining SuDS. Any contributions would be a matter of agreement through the planning process i.e. there is no requirement on either party.	Risk that maintenance liability if SuDS not fully funded by beneficiary for life time of development or that charges are prohibitive to development's overall viability.		**Advice** - Typical agreements include for developer to construct the SuDS and provide a scheme for its maintenance (a maintenance plan), with the developer maintaining for a minimum period, usually 24 months before handing over to the Local Authority. **Note** - Some Local Authorities define a minimum development size before adoption is considered or where sites have the potential to impact an area of high flood risk.
				Agreement could require design to a Local Authority's preference.		**Note/Action** - A preference for one form of drainage over another can be expressed in local policy including supplementary planning guidance or site development briefs. However applications would be determined on their merits and by a consideration of all relevant material considerations.
		Commuted sum	Simple approach with maintainer funding certainty. Section 106 of the Town and Country Planning Act 1990 contributions can require commuted sums to be paid towards matters which are directly related to the development involved. The method of calculating	Medium risk - public authority adopter but finite funding.	Section 106 agreements are generally negotiated at the outline stage where matters of principle are established.	**Note/Action** - An appropriate planning document may support the necessary contributions to be paid by the developer. **Note** –S106 agreements may be amended, requiring a Deed of Variation.

SuDS maintenance option	Type of application		Possible opportunities	Possible risks		Possible LPA mitigation measures and safeguards
			commuted sums can therefore vary by Local Authority.		Any commuted sum would need to be consistent with the need for the site to be viable. A commuted sum may not be able to be accommodated by the development's appraisal. The one-off charge is typically a disincentive for a developer. The finite commuted sum is agreed for a defined period, typically calculated over a duration shorter than the lifetime of the development, and so risks creating a future unfunded liability unless revenue allowances are made from elsewhere in the Local Authority. Unspent Section 106 funds may be required to be returned to the developer after the specified time period.	There is no mitigation for the finite period of funding. **Note/Action** - Some Authorities have developed commuted sum calculators with variables including unit costs of the drainage items taken from construction works price books, lifespan of the commuted sum and a contingency percentage for issues not necessarily covered by planned maintenance. **Note** - Some Local Authorities charge a fee to cover technical approval and maintenance liabilities for an appropriate period of time for the asset. For example, an Infrastructure Charge of 2.5% of the agreed estimated construction costs of the drainage infrastructure with additional commuted sums for certain SuDS components.
					It is not be acceptable to secure more than five contributions towards relevant infrastructure.	**Note/Action** - Consider provision of SuDS infrastructure through Community Infrastructure Levy (CIL) to support development. Guidance on spending the levy is available[12].

[12] http://tinyurl.com/nlwc74j

SuDS maintenance option	Type of application		Possible opportunities	Possible risks		Possible LPA mitigation measures and safeguards
		Occupier charging	Local Authorities can provide and charge occupiers for non-statutory services such as SuDS maintenance. Charging avoids developers incurring a one-off significant cost and passes the cost of maintenance to those property occupiers benefiting over time however there is a risk of non-payment. A Local Authority has used Section 123 of the Local Government Act 1972 to enter into contract with the developers for shared-SuDS on Local Authority retained land. The Local Authority then relied on its powers under Section 111 of the Local Government Act 1972 for the ongoing maintenance liability. They have also employed the Property Act 1925 which provides for the situation whereby a estate rent charge is placed on defined properties and costs recouped for defined activities with an agreement defining that costs can be reviewed after a defined period. Other occupier charging approaches are available such as utilising the Localism Act and a Local Authority could form a SuDS management company.	Low risk - public authority adopter but ongoing funding (provided suitable legal agreement).	Relies upon developer entering into Agreement with Local Authority and Local Authority accepting land and SuDS ownership and funded liability. Occupiers may consider this as another tax.	**Action** – Consider setting out maintenance responsibilities with details of obligations, fee calculation and management of any deficit/surplus. **Note** - Local Authority responsible for collection and recovery of any arrears.

SuDS maintenance option	Type of application	Possible opportunities	Possible risks		Possible LPA mitigation measures and safeguards
Local Highways Authority	For SuDS serving publically maintained highway	In many instances SuDS are also appropriate to drain the publicly maintained highway – the adoption of highway constructed by others is dealt with by agreement under Section 38 of the Highways Act 1980 (and Section 278 as necessary). In terms of drains, there is no clear definition on what can be adopted other than guidance from Section 264 of the Highways Act which provides that on the adoption of a road then the drains belonging to that road vest in the highway authority. Section 115 of the WIA provisions allow a Highway Authority to adopt a highway drain if it was also intended to convey survey water generally into the sewerage system. Land outside the highway can be adopted if it benefits the highway i.e. drainage channels. Some Local Authorities have entertained developers seeking the adoption SuDS serving the highway, within the highway boundary, or forming an integral part of a road being offered for adoption by voluntarily entering into agreement under Section 38 of the Highways Act 1980, financed by a commuted sum. Section 38 agreements can include provision for the construction to be monitored and inspected.	Medium risk - public authority but finite funding.	As with Local Authority commuted sums (see above)	As with Local Authority commuted sums (see above)

SuDS maintenance option	Type of application	Possible opportunities	Possible risks		Possible LPA mitigation measures and safeguards
Maintenance company (private company or trust)	For SuDS serving one or more properties. Householders pay annual service charge or commuted sum paid by the developer to the Maintenance Company (could be Trust or WaSC)	Maintenance Companies are often set up to manage public spaces on new developments and maintenance of sustainable drainage systems could be added to their remit. Under this option householders and premises occupiers would pay for sustainable drainage systems maintenance as part of the annual service charge or equivalent outdoor space service charges that they pay to cover a range of activities. Management company funded by annual payment by way of service charge/rent in a sum to be agreed which may be reviewed each year. Collected by or on behalf of the management company from each occupier. The buyer of a dwelling becomes a member or shareholder of the management company. Management company appoints third party company	Medium risk – private company with risk of financial insolvency.	SuDS components with potentially significant impact on local flood risk would not automatically be recorded by a responsible authority and risk being altered. Enforcement action and routes to counter-charge remedial works would be limited to individual property owners who might have paid all fees. If the management company fails to maintain in accordance with an agreed maintenance schedule, is it reasonable to take action against the subsequent land owner?	**Note/Action** – LPA to consider, in partnership with LLFA merits of Designation of the SuDS components[13]. Designating before developer sells individually to households ensures new purchaser is aware of component/responsibilities at time of purchase. Developer should be 'pre-warned' ideally through pre-application.

[13] LLFA have power to designate under Schedule 1 FWMA. Any physical structure or feature (natural or manmade) not 'owned' by another responsible authority can be designated. Designation is neither automatic nor mandatory. LLFAs are most likely to seek designation in situations where the considered flood risk and vulnerability to damage justifies its use. Designation means the owner needs to seek LLFA consent for alteration, removal and/or replacement. There is no obligation on an owner to maintain a designated structure or feature. The designated feature becomes a Land Charge, recorded on the property freehold title, so any new owner of the private feature would be alerted to it during the purchase of the land containing the feature. All designated structures are also included on the LLFA Asset Register. More information: http://tinyurl.com/p229sye

SuDS maintenance option	Type of application	Possible opportunities	Possible risks		Possible LPA mitigation measures and safeguards
		to be responsible for maintenance of SuDS in accordance with a management company. Some Local Authorities prefer to not undertake the maintenance themselves and will require a third party management company to be employed.		No public authority safeguard that SuDS to be maintained as designed for lifetime of development. If SuDS are maintained by a company then this presents a risk when agreeing adoption of assets which will rely on the performance of the SuDS. For example generally Local Highways Authorities require systems draining adopted highway water to be regulated over their lifetime. WaSCs often take a similar approach for SuDS communicating with their networks.	**Note/Action** – LPA to consider merits of transfer of land ownership to Local Authority or a Trust who in turn lease to the management company for a peppercorn and set out the maintenance obligations. The lease should contain provision for termination or forfeiture in event of breach by management company where it cannot be rectified. **Note** - Some WaSCs will adopt networks that discharge to SuDS that a management company is responsible for when the freehold of the SuDS is transferred to Local Authority.
				Risk that the management company becomes insolvent if charges not paid or costs of maintenance outweigh monies collected (e.g. future exceptional/unplanned maintenance/renewal). Unlikely owners could recover any sums paid to company prior to insolvency.	**Note/Action** – LPA to consider merit of S106 planning obligation requiring landowners to pay a SuDS service charge.

SuDS maintenance option	Type of application		Possible opportunities	Possible risks		Possible LPA mitigation measures and safeguards
	WaSC (non-regulated)	As above.	A WaSC could offer its services as a Service Management Company. In this instance it would not be exercising its statutory function so could not spread its charges amongst all its bill payers for those services. Instead the beneficiaries of the service would be billed (not regulated by Ofwat).	Company with largely regulated business although in unregulated division.	No WaSC offers this service currently.	As with Maintenance Companies (see above).

The following section outlines examples of approaches taken.

Case study 1 - Central Park, Darlington - Service Management Company

Central Park is a phased 30 ha brown field mixed-use regeneration site and includes part of the Tees Valley Enterprise Zone. Up to 500 new homes, commercial, leisure and community facilities are planned overall. The key component is a linear park throughout the development, designed to create high quality multi-functional open space. The land is owned by Darlington Borough Council.

Physical constraints make the only discharge option a Northumbria Water sewer. The SuDS includes a series of attenuation ponds within a linear park will cross through the site and will provide ecological and amenity value. Resilient planting will discourage access to the deeper pond. The level of amenity and ecological value is a design driver for the developer.

Maintenance of SuDS is the responsibility of the developer for the first five years, and this then transfers to Darlington Borough Council. The maintenance is to be undertaken by a management company. Contributions to the long term maintenance of the open space/green infrastructure will be achieved from a maintenance charge paid by households and businesses. A Friends of Central Park resident association interacts with a management company set up to maintain the open space. The resident association Board includes residents and the Council.

Case study 2 - Nottingham City

Nottingham City Council considers ownership and maintenance responsibility of SuDS on a site-by-site basis. Pre- (planning) application advice is provided for a fee charged by their Development Management department.

Generally speaking, where a SuDS component takes highway drainage only, the City Council will consider adopting it as part of the public highway. Acceptable measures are negotiated during pre-application stage. Some sites are currently under construction where geocellular units will be included beneath low traffic-loaded estate roads and some proposals are currently going through the planning process that have highway verges that double up as swales. The policy of the City Council has changed in the last year and they will no longer accept large areas of permeable (block) paving on adopted highway, though permeable paving is encouraged on private shared driveways.

Figure 1 - Central Park Masterplan, Darlington

Providing the SuDS take highway drainage only and the City Council accepts the design, the components are adopted using Section 38 of the Highways Act 1980.

The City Council encourages developers to install SuDS components that take non-highway surface water such that the maintenance liability transfers to the property owner: i.e. private soakaways in back gardens.

Ownership and maintenance is more complex where SuDS components take surface water from multiple property owners and is managed through negotiations with developers at pre-application stage. For Larkhill Retirement Village, the developer required SuDS to overcome an EA objection and constructed a large swale to attenuate surface water flows. Following construction and inspection, the land transferred to City Council ownership and a legal agreement was reached such that the component would be maintained by the site owner. The actual maintenance work is carried out by a management company on behalf of the site owner. If the management company fails to maintain the component then the legal agreement can be used to take action. In the event of default, the maintenance liability will transfer to the City Council. The risk to the Council at this site is considered low because a maintenance or management company was required to operate the retirement village site, regardless of any SuDS elements.

Bespoke arrangements such as that described above are considered for developments on a site-by-site basis once all other options have been exhausted.

Case study 3 - Milton Keynes - Nominated Adoption Body

Milton Keynes features a large number of balancing lakes for the town. The Local Authority has published Supplementary Planning Document that covers drainage and flood risk issues.

The Local Authority advocates a strategic integrated approach to surface water drainage, which incorporates the further benefits associated with incorporating these components within open green space. Therefore in their approach to adoption and maintenance they effectively separate the different functions of the green infrastructure, one function is surface water management (e.g. a dam/water control structure or a culvert) and the other is 'structural landscaping' (e.g. tree belts, planted-up noise attenuation bunds, blocks of shrub planting and grassland).

Developers are required to layout and construct surface water and structural landscaping green infrastructure in accordance with the required standards and planning approvals and conditions at their own cost.

Developers are required to offer to the Local Authorities' nominated adopting bodies all the green infrastructure. The Local Authority must therefore ensure the adopting bodies are happy with the standards and conditions the council imposes on developers.

The Local Authority nominates the Parks Trust (a Local Charitable Trust) to take all of the green infrastructure land (the boundary of which should include any surface water management components). This grants the Trust a 999-year parkland lease, which will then transfer the freehold to the Local Authority subject to the Trust's lease being in place. The parkland lease terms will give the Trust the obligation to maintain the land but, if necessary, could explicitly include the obligation to maintain specific surface water management components.

The Local Authority nominates the Internal Drainage Board to take on the strategic surface water features that fall within the area. This is covered through a separate adoption agreement between the IDB and the developer, as landowner, before transfer to the Parks Trust/Local Authority. The transfer to the Parks Trust leasehold and the Local Authority freehold is therefore subject to the IDB adoption agreement being in place. Hence it is critical that the terms and conditions of the leasehold, freehold and surface water are all matched and agreed between all parties.

The commuted sum to the Parks Trust for the obligations it takes on under the parkland lease (i.e. maintenance of the structural landscaping) is paid by the developer (not eligible to fall under the Milton Keynes Tariff). This could be calculated either according to a rate or formula written into the agreement under Section 106 of the Town and Country Planning Act 1990 (in this case the Parks Trust will need agree to what's written into the agreement) or as a separate agreement between the Trust and the developer.

The commuted sum to the IDB for the obligations under the surface water component adoption agreement will be paid from the Milton Keynes Tariff pot where eligible. If not eligible this can be covered under an agreement under Section 106 as above.

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