

HBF NATIONAL TECHNICAL CONFERENCE – NOVEMBER 2011



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## **FLOOD & WATER MANAGEMENT ACT 2010**

**ARE YOU PREPARED?**

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# Legislative Timetable

- **The Flood & Water Management Act 2010 came onto the Statute Book on the 8<sup>th</sup> April 2010 - enabling legislation that confers upon the Minister the right to progressively introduce 'Standards' & further legislation**
- **July 2011 – Regulations for private sewer transfer came into force**
- **1<sup>st</sup> October 2011 – automatic transfer of private sewers to WaSCs commenced ... but there are notable exceptions**
- **Introduction of Section 42 – unknown at this stage**
- **1<sup>st</sup> October 2016 – latest date by which all adoptable pumping stations transfer**
- **Defra/DCLG/HBF Meeting 7<sup>th</sup> July 2011 – Mutually agreed guidance notes issued by HBF in August**

# Criteria for automatic vesting

- Definition of a 'private sewer' - an important material fact
  - *“a pipe that serves two or more properties”*
- Criteria for automatic vesting of private sewers:-
  - Sewer must serve 2 or more dwellings
  - Must connect to the existing public sewer network
  - Must have been in the ground on 1<sup>st</sup> July 2011
  - Applies to foul, SW or combined sewers but individual connections from SVP's do not transfer
- Automatic vesting/transfer – 1<sup>st</sup> October 2011
- Structural and/or hydraulic deficiencies will not prevent the transfer from taking place

# Automatic transfer – other issues

- Exclusions – SWS discharging to watercourses, rivers and canals
- At present - no other body responsible for SWS adoption therefore we could be left with ‘orphaned surface water sewers’ – SAB unlikely to be given powers to adopt historic piped SWS networks discharging to watercourses etc
- Possible S 38 implications in relation to orphaned SWS’s? – not considered. Still an issue that HBF is encouraging Defra to deal with through their intended Memorandum of Understanding
- On sites where sewers are still to be constructed and which are covered by a S104 Agreement, these sewers will be adopted either in accordance with the T & Cs of the agreement or by way of a further announcement by the Minister.
- HBF/Defra advice – continue to secure S104 technical approvals in accordance with SfA 6<sup>th</sup> Edition and Part H Building Regulations

# Other aspects of the FWMA 2010

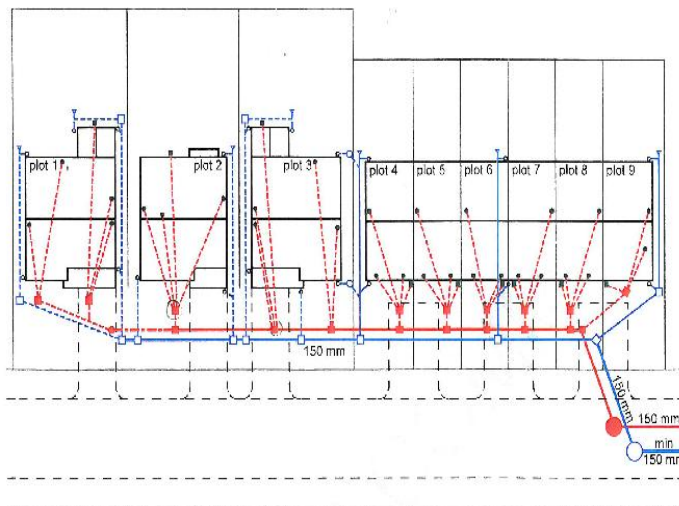
- LA's will be required to prepare 'Local Flood Risk Management Strategies' - these will direct/inform the 'planning process'. (SWMP's ?)
- Risk-based approach to reservoir management – RA capacity now reduced to 10,000m<sup>3</sup> - annual inspections by an EA appointed 'Engineer' will be required – effective 1<sup>st</sup> October 2011
- Automatic right of connection to public surface water sewers (Section 106 WIA 1991) now severely restricted by virtue of Section 42 FWMA 2010
- Introduces mandatory build standards (MBS) for adoptable private sewers – this is still to be consulted upon **(before the end of 2011) therefore possible delay with MBS. Note: Welsh Assembly currently consulting on their own version of the MBS**
- From April 2012 WaSC's are to adopt only domestic foul drainage systems ....but until the SAB is established they will continue to be responsible for SW sewers

# An important message!

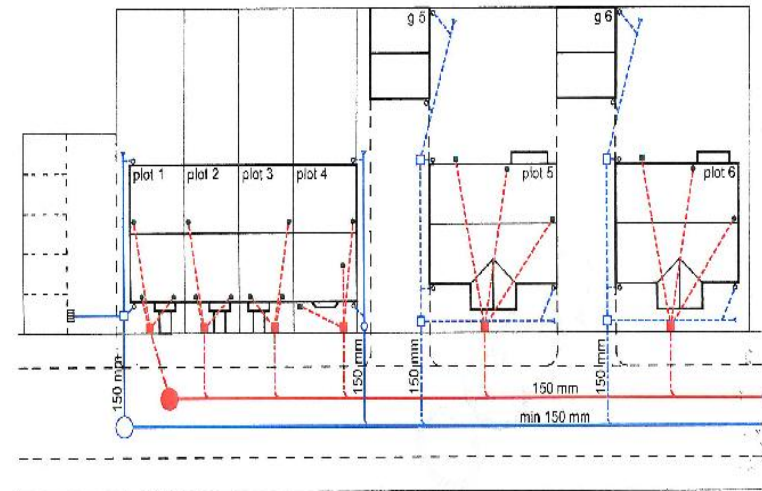
- **Once S 42 and the new standards are in place starting construction at risk will no longer be an option**
- **Signed Section 104 Agreement must be in place accompanied by consent to connect to the public sewerage system – Section 106 WIA 1991**
- **Once the SuDS Standards are in place formal approval from the SAB must be obtained before construction starts, even if we have planning consent**
- **Penalty for starting without the above – formal notice under Section 109 and a hefty fine**
- **Technical Depts will have their work cut out securing the necessary approvals as quickly as possible after the grant of planning consent**

# Typical MBS drainage layouts

FIGURE 2.3



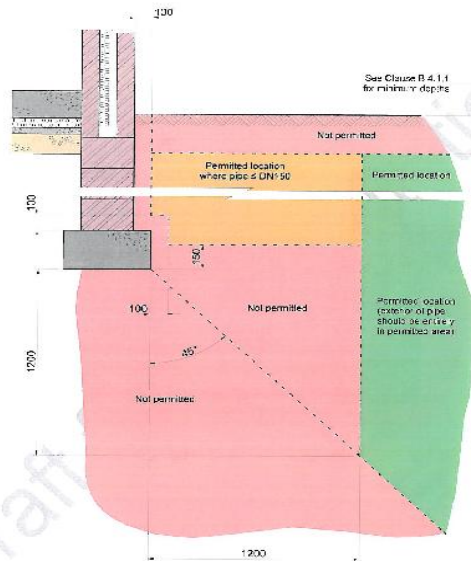
**Note: Drainage to the front**



**Home-zone/limited space**

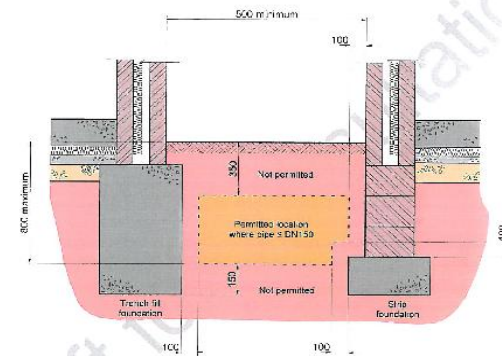
# What will the MBS look like?

Figure B.1 Permitted location of sewers and lateral drains in proximity to buildings



Not to scale, dimensions in millimetres

Figure B.2 Permitted location of sewers and lateral drains between buildings (where Fig B.1. not applicable)



Not to scale, dimensions in millimetres



## MBS for adoptable private sewers

- **Design & construction standards for conventional adoptable sewers (i.e. current Section 104) largely unchanged – MBS an extension of SfA Edition 6 but at an additional cost (likely we will see SfA 7<sup>th</sup> Edition introduced at the same time as S42)**
- **The MBS does not cover SW drainage**
- **Private Drainage will continue to meet the requirements of Part H of the Building Regs**
- **Supervision arrangements and fees still to be resolved by Gov't**
- **Does not apply in Scotland – existing system/processes are to be maintained**

# A few design implications

- **Drainage to the rear of a property is likely to be opposed by WaSCs**
- **Significant increase in foul drainage runs under floor slabs**
- **Over-riding requirement – unimpeded access for the WaSC to undertake inspections/maintenance**
- **To maintain adequate self-cleansing velocity (0.75 m/sec) each property will require at least one 4.5 litre WC flush – conflict with Part G and the CfSH's. Latest WRc research findings - increasing pipe gradients does not solve the problem of inadequate depth of flow**
- **Space for domestic drainage compromised when LPA's/HCA impose Home Zones – significant sections of drainage could end up in the road at increased cost**

# More implications!

- **Competition for space with SuDS – in particular soakaways/infiltration cells/swales**
- **Landscaping – position and type will be affected, particularly to the front of a dwelling**
- **Where trees & shrubs are planned in close proximity to sewers all plastic sewers are to have welded/fused joints – cost/construction implications!**
- **All pipelines must be capable of withstanding increased jetting pressures - 4000 psi (276 Bar) has been suggested by Water UK but HBF have advised this is impractical and unnecessary – this has found its way into the Welsh version of the MBS**
- **Conflict with Part H, which will still apply to certain sections of drainage – therefore we will have varying design/construction standards. Or will Industry move to MBS by default?**

# What does this mean for construction?

- **Clearly defined positions and depth of drainage pipelines – possible need for additional protection to shallow sewers**
- **Exclusion zones – this could affect drainage routing**
- **Wherever possible all drainage to be taken under the slab and to the front of the dwelling**
- **NO CONTRACTOR AMENDMENTS TO THE APPROVED DRAINAGE DESIGN CAN BE UNDERTAKEN DURING EXECUTION OF THE WORKS**
- **As built surveys will need to be extended to cover private drainage**
- **Additional supervision therefore additional costs/fees**

# MBS cost implications

- **Design approval by WaSCs – submission and supervision fees have yet to be determined – no information available from Defra as yet**
- **Bond/Surety will be required – limits have yet to be set**
- **Alternative to bonding - Accredited Contractor Scheme, both Lloyds Accredited and Insurance backed – being actively considered by NHBC. Discussions well advanced, could be in place by the time S42 becomes operative but bonding will still be an alternative for SMEs**
- **Increase in construction cost for domestic drainage between current estimates place this in the region of £100 to £500/dwelling.....but further evaluation work essential before we can advise on what cost provisions need to be included in LPV's**

# Sustainable drainage (SuDS)

- **SuDS Approving Body (SAB) – new statutory body to be created within County and Unitary Authorities; could be in place by April 2012 earliest**
- **Planning & SAB applications to be made at the same time but there may be a phased introduction of SuDS**
- **SAB will have statutory powers and will influence/direct the planning approval process – An FRA need not be accepted by the SAB; appeal provisions will be available but Defra have yet to clarify**
- **In conjunction with the WaSCs, the SAB will agree/consent to a particular Surface Water run-off discharge rate, i.e. green-field or less. Brownfield will not be excluded. Signed Section 104 agreement for any outfall to sewer must be in place before construction can commence**
- **The jury is out on whether or not piped surface water drainage systems will be accepted, i.e. conventional u/ground attenuation/storage**

# SuDS - design & construction

- **Design and Construction standards not yet available**
- **SuDS Standards may be accompanied by statutory guidance**
- **Likely that the guidance contained in the CIRIA SuDS Manual (C687) will be followed**
- **Standards and guidance to be subjected to public consultation later this year.**
- **SuDS Management Train will determine how we arrive at the most appropriate site specific solution**

# SuDS management train

## Hierarchy of Surface Water Run-off Discharge/Management

- **Level 1: Infiltration – soakaways, infiltration drainage; highways to incorporate infiltration cells whenever possible**
- **Level 2: Above ground storage/attenuation – swales, ponds discharging to a water course or water receiving body**
- **Level 3: Limited discharge to Surface Water Sewer**
- **Level 4: Limited discharge to Combined Sewer**
- **Note: At all levels water quality will be a key consideration**
- **Will hard-engineered solutions still have their place?**



# Wider impact of SuDS

- Additional land required but actual amount dependent upon what the the SAB is prepared to accept and the size of the site – 5 to 10%+ (Evidence to this effect submitted to Defra by HBF)
- Intervening third party land between a site and the point of discharge/overflow – **SAB has no clearly defined requisitioning powers therefore potential ransom may exist.** Further legislation may be required! NB: If Stokes-v-Cambridge applies ransom could be a third of the land value
- Not all soils are capable of supporting infiltration drainage systems
- Certain rock formations (e.g. Limestone and Gypsum) not conducive to certain SuDS. Groundwater levels can also be influenced by seasonal and/or tidal fluctuations. Land bids - refine land searches to determine level/type of SuDS
- **Groundwater risk assessments have assumed even greater importance.** Rising groundwater in former mining areas needs careful consideration/evaluation – wider implications for ground investigations i.e. source > pathway > receptor
- Cost – two Miller Homes projects incorporating SuDS have resulted in extra over drainage costs of £1158/dwelling and £2700+/dwelling respectively

# Additional implications

- **Don't expect the SAB to be sufficiently experienced when it comes to SuDS approval – knowledge of hydraulics, geology, hydro-geology, geo-chemistry, geotechnics and environmental/civil law are essential requirements**
- **Significant changes will be required to our standard documentation e.g. conveyancing documentation/deed plans, sales information, handover information – timing & cost implications**
- **Once the drainage system is designed and approved, no subsequent variations will be permitted. Direction of build therefore an essential pre-requisite at the design stage**
- **Purchasers will have to be provided with more detailed information concerning restrictions on garden use/extensions and the ownership/maintenance responsibility for different parts of the drainage infrastructure – PMA implications!**

# Other factors

- **SAB will be responsible for both approval and adoption but.....**
- **Both application and supervision fees have yet to be set**
- **Supervision fee could be a further cost of £???**
- **At present 100% of the capital cost of SuDS will require a bond but Accredited Contractor Scheme could negate this requirement**
- **SAB will only adopt SuDS serving 2 or more dwellings – SuDS serving a single dwelling will remain house-holder responsibility**

# Impact of SuDS - summary

- **We can expect plotting densities to reduce**
- **The various treatment stages to ensure satisfactory water quality are land intensive and costly – major issue in Scotland at present and one that is seriously affecting layout densities**
- **As yet we do not know if permeable paving is to be a mandatory requirement for all driveways – reflect upon current planning policies dealing with drive extensions/replacements!**
- **An additional requirement for ‘as-built’ surveys/drawings – time/cost implications but Defra have yet to confirm this requirement**
- **MBS weighted towards WaSCs demands rather than harmonised standards**
- **Future pumping stations – how are these to be dealt with?**

# How will these changes affect us?

- **Detailed drainage considerations must become an integral part of our due diligence processes – i.e. ground conditions, space for SuDS, water treatment and foul drainage**
- **Early discussions with LPA, SAB, WaSC, EA essential**
- **Local Planning policies will need to be more thoroughly policed/interrogated – even more important now we have the ‘Localism Agenda’**
- **From 2011, surface water drainage strategies will play a key role in determining land allocations and the outcome of planning applications**
- **Geology and hydro-geology will be legitimate considerations both for and against new development – expect the emergence of ‘SuDS Advice Maps’ to support key planning decisions**

# Business health check

- **Extend the procurement process to include discussions with drainage product providers – need for cost effective design solutions**
- **Land purchase contracts – from hereon prudent that they be conditional upon planning and satisfactory SAB approval**
- **From 1<sup>st</sup> October 2011 Section 102 may still be an alternative adoption/vesting arrangement but there is some uncertainty at present**

# Business needs

- **All disciplines will need to be brought up to speed with the consequences of this change in legislation and how it affects their role and contribution within the business**
- **Need to educate road, sewer & ground-works sub-contractors – consider possible role/impact of Accredited Contractor Scheme**
- **Selection/retention of appropriately experienced geo-environmental consultants is critical**
- **Provision of standard (workable) drainage details – i.e. the most cost-effective solutions – resource implications**
- **Crystallised, robust cost information for land purchase viabilities and site budgets – this is an urgent requirement but fettered by a lack of publicly available information concerning respective standards**

Questions?