

C6 SEWER FLOODING

In this section the company should submit its proposals and strategy for dealing with any previously identified sewer flooding hotspots during the PC10 period. The company is only required to report on schemes whose primary focus is the alleviation of sewer flooding. The information for these schemes should be provided in accordance with the requirements set out below.

PC10 Objective

The company should set out clearly the volume, nature and costs of the schemes whose primary focus is solving sewer flooding problems during the PC10 period. A description of the work which will remain to be done during the NIAMP4 period and beyond would be of benefit in helping NIAUR understand the company's strategy for dealing with all sewer flooding issues and should therefore be included if available. Where appropriate the sewer flooding schemes for PC10 should be clearly linked to the company's plans for maintaining service and serviceability to customers set out in part B3, the supply/demand appraisal set out in part B5 and quality enhancement projects set out in part C5.

The information should demonstrate how the company's judgements about the costs and benefits of schemes have been arrived at. It should be sufficient to show the implications of taking different decisions about the volume or nature of the sewer-flooding programme.

Reporting guidance

The submission should include the following elements:

- A full description of the prioritisation system used by the company to develop and manage its programme. This should include details of the criteria used, any weightings applied to the various criteria and how scheme priorities are linked to the impact of flooding at individual properties as recorded in company's DG5 register, external flooding records or other relevant information.

The scheme description should include:

- the benefits to be delivered by the scheme in terms of the number of internally and externally flooded properties/areas;
- information on the frequency and severity of flooding incidents which these properties/areas have experienced; and
- any additional environmental benefits accruing from the schemes' completion;

- reference where appropriate to any linked schemes in either the environmental quality programme, base service or supply demand programme (by quoting the capital works' spreadsheet reference).
- Where local knowledge has significantly affected the prioritisation of a scheme the company should provide clear justification. Where appropriate, links to maintaining the base service (A5), the environmental quality (C5) or supply/demand programmes (B5) should be set out clearly.
- For each scheme the company proposes to carry out during NIAMP3, the year in which the work is currently planned to be completed in should also be provided.
- Details of the internal and external flooding history for the problems to be alleviated by each scheme should be provided electronically in the format provided in table C6.1. The commentary should, where necessary, explain any additional site specific impacts which will be alleviated by the scheme, or which require a specific solution option.
- Projected total costs for each the schemes primarily focused on the alleviation of sewer flooding which the company proposes to carry out during the PC10 period. For each scheme the company should indicate the basis of the cost estimate and the uncertainty around that estimate by means of upper and lower bound estimates. The proposed solution type for each scheme should be indicated according to the codes indicated in the cells of Table 1 below.

PC12 Objective

NIAUR will be expecting a full return for PC12 with regard to sewer flooding which will be more detailed than that requested for PC10. Guidance for sewer flooding for the PC12 period (2012 to 2017) submission will issue with the Business information guidance in 2011. This is likely to follow the format of the full Ofwat reporting requirements.

TABLE 1

Solution	Location on Network				
	Localised problem	General problem – Local sewer	General problem – Collector sewer	General problem – Main sewer	General problem – Trunk sewer
Isolate from system					
Individual property isolation (by P.Stn)	A1	A2	A3	A4	A5
Individual property isolation (by other means)	B1	B2	B3	B4	B5
Isolate area (provide P.Stn)	C1	C2	C3	C4	C5
Isolate area (provide package treatment plant)	D1	D2	D3	D4	D5
Purchase affected properties	E1	E2	E3	E4	E5
Increase capacity					
Sewer upsizing + new p.stn	F1	F2	F3	F4	F5
Sewer upsizing or duplication	G1	G2	G3	G4	G5
New or replacement pumping station	H1	H2	H3	H4	H5
Pumping station M&E upsizing	I1	I2	I3	I4	I5
Flow attenuation (storage)	J1	J2	J3	J4	J5
Sewer Upsize + New PS + Flow attenuation	K1	K2	K3	K4	K5
Sewer Upsize + New PS + New CSO	L1	L2	L3	L4	L5
Sewer upsizing-duplication + PS M&E upsizing	M1	M2	M3	M4	M5
Sewer upsizing-duplication + Flow attenuation (one also with Flow Diversion Local)	N1	N2	N3	N4	N5
Sewer upsizing-duplication + Flow diversion (local)	O1	O2	O3	O4	O5
New/replacement pumping station + flow attenuation	P1	P2	P3	P4	P5
Manage flow in system					
Flow diversion (local)	Q1	Q2	Q3	Q4	Q5
Flow diversion (catchment)	R1	R2	R3	R4	R5
New CSO	S1	S2	S3	S4	S5
Temporary solution: eg individual property isolation (by NRV), landscaping)	T1	T2	T3	T4	T5
Control flows entering the system					
Foul-surface separation – infiltration reduction	U1	U2	U3	U4	U5
Surface flow attenuation (eg water butts, dry ponds)	V1	V2	V3	V4	V5
Other (to be specified)	W1	W2	W3	W4	W5

Guidance to Reporter

The Reporter should check that the truncated list of schemes put forward by the company are those primarily focused on the alleviation of sewer flooding and that they are a true reflection of the hotspots of sewer flooding previously identified by the company.

Furthermore the Reporter should comment on the following.

- The list of schemes should be examined to establish that the prioritisation has been carried out consistently with the submitted prioritisation system.
- The data used should be checked for consistency with that held on the company's DG5 register and other sewer flooding records including, where appropriate, records of customer complaints.
- The DG5 register should currently be in place; comments are sought on the current status of development of the register and the programmed completion date.
- Where local knowledge is a significant factor in the prioritisation the Reporter should comment on whether this appears to have been reasonably applied. Where appropriate the Reporter should also confirm that all links to maintaining the base service, the supply/demand and environmental quality programmes and environmental benefits have been exposed.
- The schemes which the company proposes to carry out in the NIAMP3 period should be examined to confirm or otherwise that:
 1. the forecast costs are consistent with the sources quoted by the company;
 2. where appropriate they are consistent with the costs of other similar schemes previously carried out by the company and with the cost base submitted as part of the separate cost base submission ;
 3. the fitness for purpose of the proposed solutions;
 4. the company has identified correctly all other benefits arising from the scheme to the base service, environmental quality and supply/demand programmes; -and
 5. where there are links to the base service, environmental quality—or supply/demand programmes that costs have been appropriately allocated.
- the proposed programme of works is practicable -in the timescales proposed, including the phasing of the programme.
- The Reporter will be advised of NIAUR's requirements for the PC12 submission with the business Information Guidance to issue in 2011.

Table C6.1. Sewer flooding scheme details

SCHEME	LOCATION DETAILS	INTERNAL FLOODING				Date of first internal incident	Total number of internal incidents	Number of incidents caused by an event with a return period more frequent than 1:10	Number of incidents caused by an event with a return period less frequent than 1:10
		Total number of internal properties	Number of properties on the 1in10 register	Number of properties on the 2in10 register	Number of properties on the 1in20 register				
Note: <i>all schemes must include the capital works database reference where appropriate</i> Priory Road (ref. XXXX)	Scheme totals	3	2	1	0				
	68 Priory Road					Aug 08	2	2	
	70 Priory Road					Aug 08	4	3	1
	73 Priory Road					Aug 08	1	1	
	Priory Road								
	Priory Road Recreation Field								
TOTAL PROGRAMME OUTPUTS		nr	nr	nr	nr				

EXTERNAL FLOODING							COST	COST BASIS	SOLUTION	REFERENCE
Total number of external properties and areas	Date of first external incident	Total number of external incidents	Number of incidents where access/ egress impeded	Number of curtilage flooding incidents	Number of public and open space flooding incidents	Number of incidents caused by an event with a return period less frequent than 1:10	Total cost (£000's)	Cost basis (e.g needs statement, outline solution, final design)	Solution and matrix code (e.g. pipe upsize, off-line storage, tank sewer, cut and pump)	Unique scheme reference number (eg SF001)
4							280	Needs statement	J3 Off-line storage	XXXXX
	July 07	2	2							
	July 07	1	1							
	Aug 08	1		1						
	Aug 08	1			1					
nr							(£m)			