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## Technical note

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<b>Project</b>	Dacorum SFRA (Level 2)	<b>Date</b>	13 November 2007
<b>Note</b>	Survey Brief	<b>Ref</b>	WN/CBAD/23/D4590
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**1*****Introduction***

The survey is required as a part of Dacorum SFRA Level 2 Study to improve the existing River Gade flood maps at the town of Hemel Hempstead.

This note describes the requirements of the River Gade survey cross-sections and associated structures to build an ISIS 1D hydrodynamic model.

**2*****Site Location***

The survey will be required for the River Gade between Gadebridge Park (north Queensway) and its confluence with the Grand Union Canal west of Two Waters Road Bridge (see Figure 1).

Location of survey cross-sections and structures is based on the walkover survey carried out on 30 October 2007. Key structures and minimum representative cross-sections of the River Gade have been selected in order to construct ISIS hydrodynamic model.

The output could be supplied in AutoCAD and EEBY or XYZ format depending on the cost.

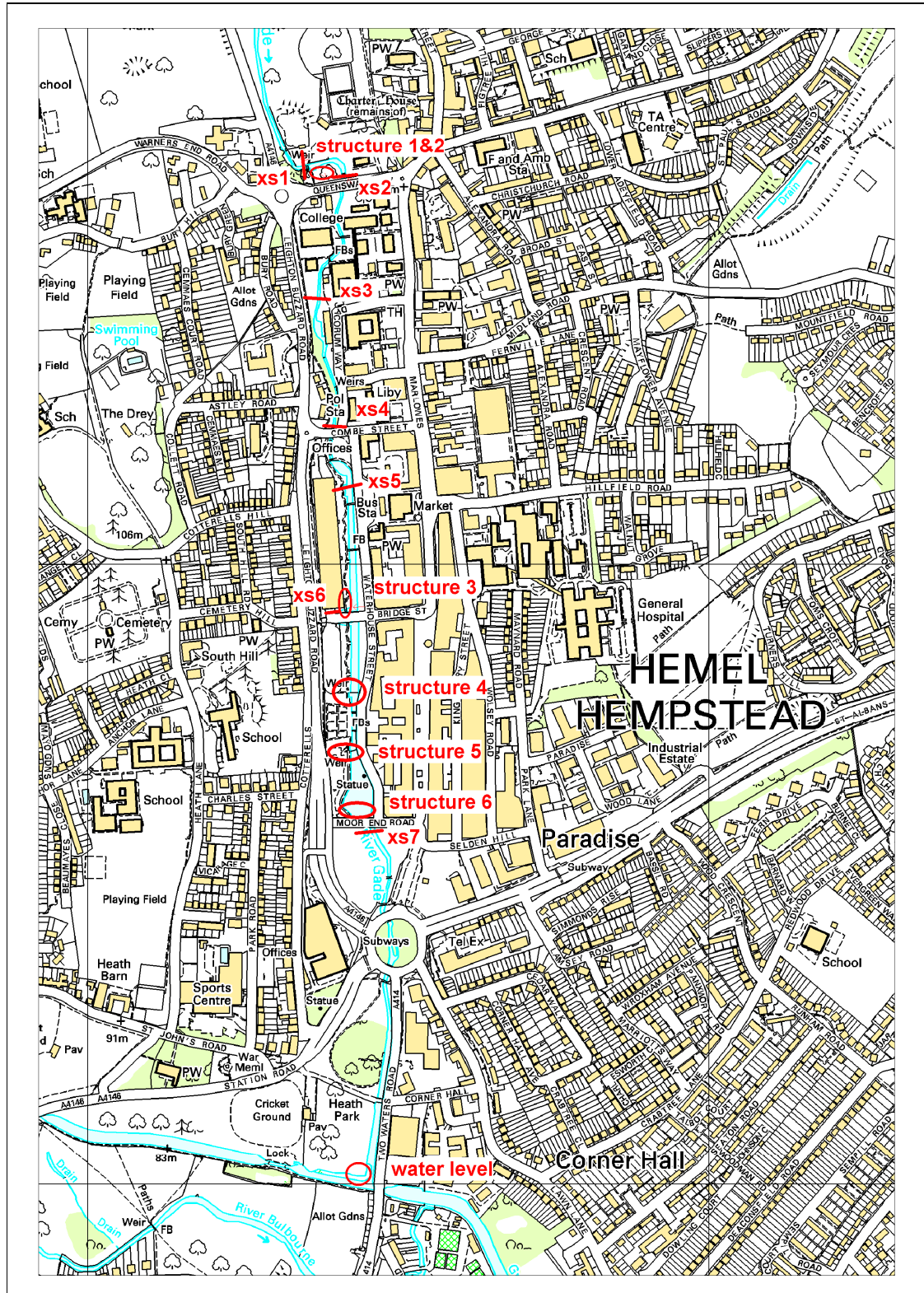


Figure 1: Extent of Survey and Cross-section location

**3*****Survey Sections and Levels***

7 river cross-sections (5 sections with small bridge structure), 5 weir and 1 culvert survey are required. Details of these are given in Table 1 and locations of these are shown in Figure 1.

<b><i>Name</i></b>	<b><i>River/ channel</i></b>	<b><i>Location</i></b>	<b><i>Requirements</i></b>
Xs1	Gade	North Queensway	Upstream river section with bridge
Structure 1 & 2	Gade	North Queensway	Side Weir (structure 1): length, crest level and upstream drop level Bypass Culvert (structure 2): Opening dimensions (width and height) and invert level
Xs2	Gade	Queensway	Upstream river section with bridge
Xs3	Gade	North of AcorumWay	River section
Xs4	Gade	Combe Street	Upstream river section with bridge
Xs5	Gade	Downstream of Combe Street	River section
Structure 3	Gade	Upstream of Bridge Street	Side Weir: length, crest level and upstream and downstream drop level
Xs6	Gade	Bridge Street	Upstream river section with bridge (if upstream is inaccessible then downstream section with bridge may be used)
Structure 4	Gade	Upstream of Footbridge	Weir: length, crest level and upstream and downstream drop level
Structure 5	Gade	Downstream of Footbridge	Weir: length, crest level and upstream and downstream drop level
Structure 6	Gade	Moor End Road	Weir: length, crest level and upstream and downstream drop level
Xs7	Gade	Downstream of Moor End Road	Downstream river section with bridge
Water Level	Confluence	River Gade with Grand Union Canal	Water level