Gateway, Rugby
R1/R2 Full Planning Application
Drainage Strategy

July 2010
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Appendix A  Drainage Strategy Plan 11050822/D002 Rev D
1 Introduction

1.1 BACKGROUND

1.1.1 The site is located to the west of the A426, Leicester Road and south of the M6. The land is currently used for agricultural purposes.

1.1.2 The overall residential development will comprise up to 1,300 dwellings and mixed use development incorporating B2 and B8 employment land uses, community facilities, a primary school, retail premises and an energy centre.

1.1.3 This Drainage Strategy has been prepared in support of the first phases of residential development (sites R1 and R2).

1.1.4 A Flood Risk Assessment (FRA), including drainage strategy plans, has been submitted with the application for outline planning consent on the whole site. This assessment involved consultation with the Environment Agency (EA), Severn Trent Water, Rugby Borough Council and British Waterways.

1.1.5 The Drainage Strategy for R1 and R2 complies in all respects with the FRA and Drainage Strategy.
2 Existing Site

2.1 EXISTING DRAINAGE

2.1.1 The existing site topography slopes down steeply from the A426 boundary, to the east of the site, in a series of small valleys to the western boundary with the Brownsover Canal arm.

2.1.2 There are no public sewers within the boundaries of the site. Surface water and land drainage from the site runs from east to west and largely discharges into the Brownsover Canal arm along the western boundary of the site.

2.1.3 The southern catchment of the site drains to a culvert beneath the canal to the River Swift which runs 100-300m to the west of the canal.
3 Development Proposals

3.1 DESCRIPTION

3.1.1 The first phase of development (sites R1 and R2) will comprise a total of approximately 465 dwellings including affordable housing.

3.1.2 Sites R1 and R2 will require earthworks cut and fill operations in order to reduce the site slopes to an acceptable gradient for build out.

3.1.3 The proposed development platform following the earthworks operations will generally allow drainage to the south and west.
4 Surface Water Strategy

4.1 R1/R2 DRAINAGE STRATEGY

4.1.1 See attached Strategy Plan 11050822/D-002 Rev D.

4.1.2 The southern areas of sites R1 and R2 will drain to the existing culvert beneath the Brownsover Canal arm via a series of balancing ponds/basins.

4.1.3 The remainder of sites R1 and R2 will drain via a series of swales to the north of site R2 and outfall into the Brownsover Canal arm, or into the basin/pond to the west of R2 then into the canal.

4.1.4 This strategy mirrors the existing drainage regime on the site.

4.1.5 This Drainage Strategy is included within the FRA which will be submitted to the EA for approval as part of the outline application process.

4.1.6 As indicated on the plan, attenuation is provided in the ponds/basins/swales. On site attenuation will also be required in oversized pipes or tanks. When combined the overall attenuation volume is sufficient to reduce the flow rate to existing run-off rates calculated using IH124.
5 Foul Water Strategy

5.1 R1/R2 DRAINAGE STRATEGY

5.1.1 See attached Strategy Plan 11050822/D-002 Rev D.

5.1.2 Foul water from site R1 will drain into a proposed adoptable gravity sewer situated along its western boundary. The outfall for this gravity sewer is to the south of the site near the Bell and Barge Public House in Leicester Road (approximately 580m from the site boundary). This location has been identified by Severn Trent Water through modelling, as their preferred connection point for the site.

5.1.3 The gravity sewer will be sized to accommodate future connections from the remainder of the site.

5.1.4 Foul water from site R2 will drain by gravity to a pumping station situated on its western boundary. Foul water is pumped from the station to the gravity sewer serving site R1.

5.1.5 This strategy assumes that the off-site gravity sewer, will if necessary, be requisitioned from Severn Trent Water.
6 Summary and Conclusions

6.1 SUMMARY

6.1.1 The residential development within sites R1 and R2 can adequately be drained as illustrated on the appended Drainage Strategy Plan and detailed within this report.

6.1.2 The surface water strategy requires the approvals of both British Waterways and the Environment Agency. Discussions continue with both authorities to finalise the details.

6.1.3 The foul water strategy requires the co-operation of the drainage authority (Severn Trent Water) and requisitioning may be required for the off-site gravity sewer. Again discussions on details are continuing with Severn Trent Water.
Appendices, Figures & Tables