

**Dandara Southern Ltd**

**Reading Road, Arborfield**

## **Surface Water Hydraulic Modelling Report**

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Document Control Sheet

| REV | ISSUE PURPOSE | AUTHOR | CHECKED                                                                           | APPROVED                                                                            | DATE       |
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## 1. Introduction

- 1.1. Ardent Consulting Engineers (hereafter referred to as Ardent) has been instructed by Dandara Southern Ltd to undertake surface water hydraulic modelling in order to refine and confirm surface water flood risk to support residential development and associated infrastructure in Arborfield.
- 1.2. The site is located at land north of Reading Road in Arborfield, in the Borough of Wokingham in Berkshire. The nearest postcode is RG2 9HN. The site centre grid reference is 475,460E, 167,490N. The site location is shown in Figure 1-1.
- 1.3. Several unnamed ditches run through the southern edge of the site adjacent to Reading Road, moving from east to west. An unnamed ditch originates from Reading Road and flows northward to Church Lane, where it then changes direction to the west. Both of these unnamed watercourses join with the River Loddon, situated approximately 1 km to the west of the site.

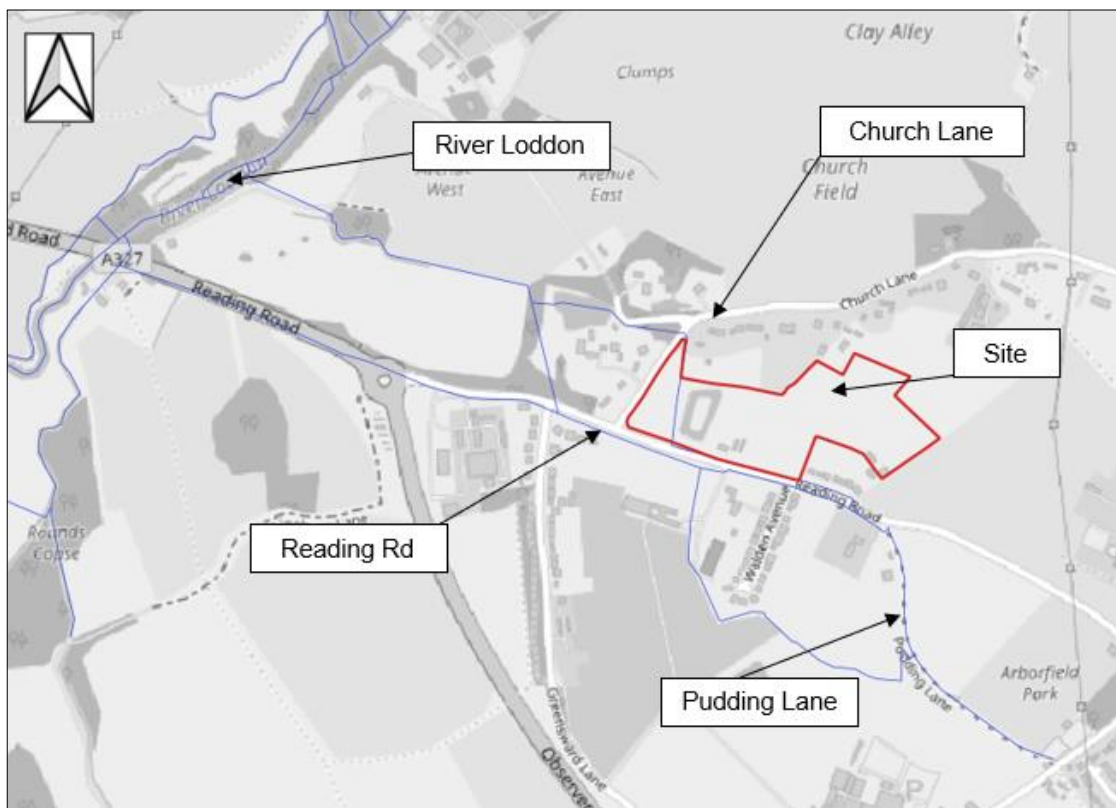


Figure 1-1: Site location plan

- 1.4. The Environment Agency's Risk of Flooding from Surface Water map, displayed on Figure 1-2 indicates that the majority of the site is classified as having a 'very low' risk of surface water flooding. However, there is a significant flow path, categorized as having a 'low' to 'medium' risk of flooding, that crosses the site from east to west, leading to accumulation on the western side, which is classified as having a

'high' flood risk. It is believed that changes in the topography have resulted in the water no longer ponding in this area.

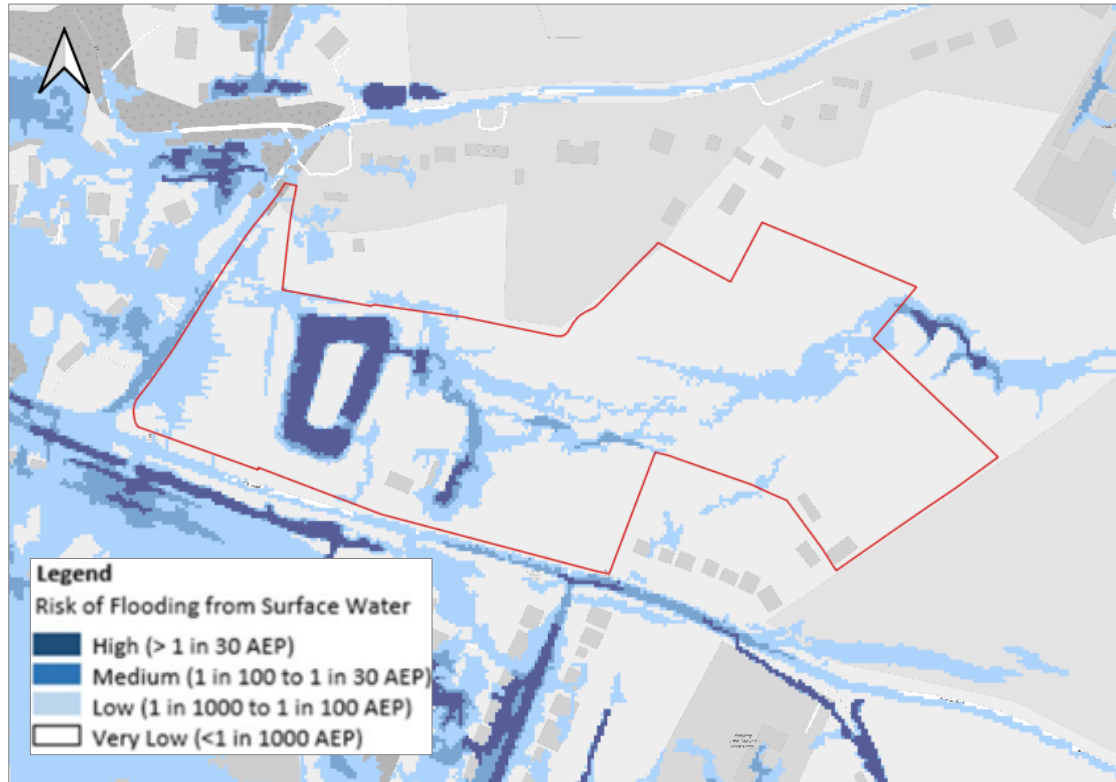


Figure 1-2: Environment Agency Flood Map for Surface Water

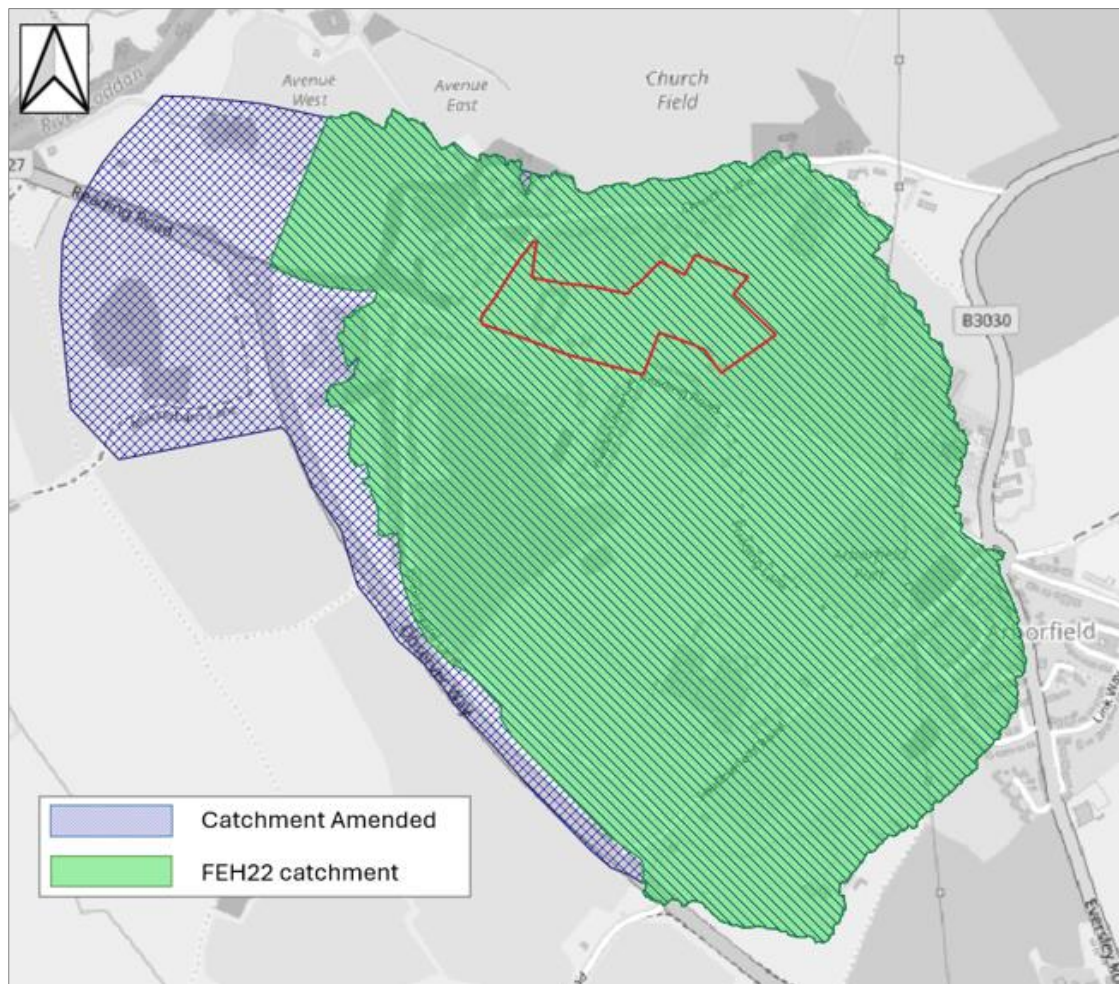
- 1.5. A site-specific assessment of surface water flood risk is necessary due to the high risk of flooding. The impact of the development on flood risk to third-party land will need to be assessed to confirm that flood risk off site is not increased.
- 1.6. Therefore, a detailed 1D-2D linked direct rainfall-runoff model has been developed using TUFLOW software to refine the understanding of surface water flood risk to the site and demonstrate the impact of the development on flood risk to third-party land, to address comments raised by the LLFA.
- 1.7. This report has therefore been prepared in support of a planning application for the development at Reading Road in Arborfield. The proposed development comprises of up to 111 residential dwellings with private gardens, access, open space and associated development infrastructure. See Figure 1-3 for details and Appendix A for details of proposed development.



Figure 1-3: Proposed illustrative masterplan

## 2. Hydrological Assessment

- 2.1. To inform the hydraulic modelling and assess surface water flood risk to the site, rainfall hyetographs were derived to input to the model.
- 2.2. FEH22 catchment descriptor data for the coordinates 474950, and 167750 covering the site was obtained from the Flood Estimation Handbook (FEH) Web Service.
- 2.3. A catchment analysis was undertaken using catchment delineation tools within QGIS to determine the catchment area draining to the site based on a 1m EA LIDAR DTM from 2022.
- 2.4. The derived catchment area is 1.563km<sup>2</sup>, compared to 1.249km<sup>2</sup> as taken from the FEH catchment. The FEH catchment and adjusted catchment boundary are shown in



- 2.5. Figure 2-1. The catchment descriptors were assessed against available data and considered appropriate.

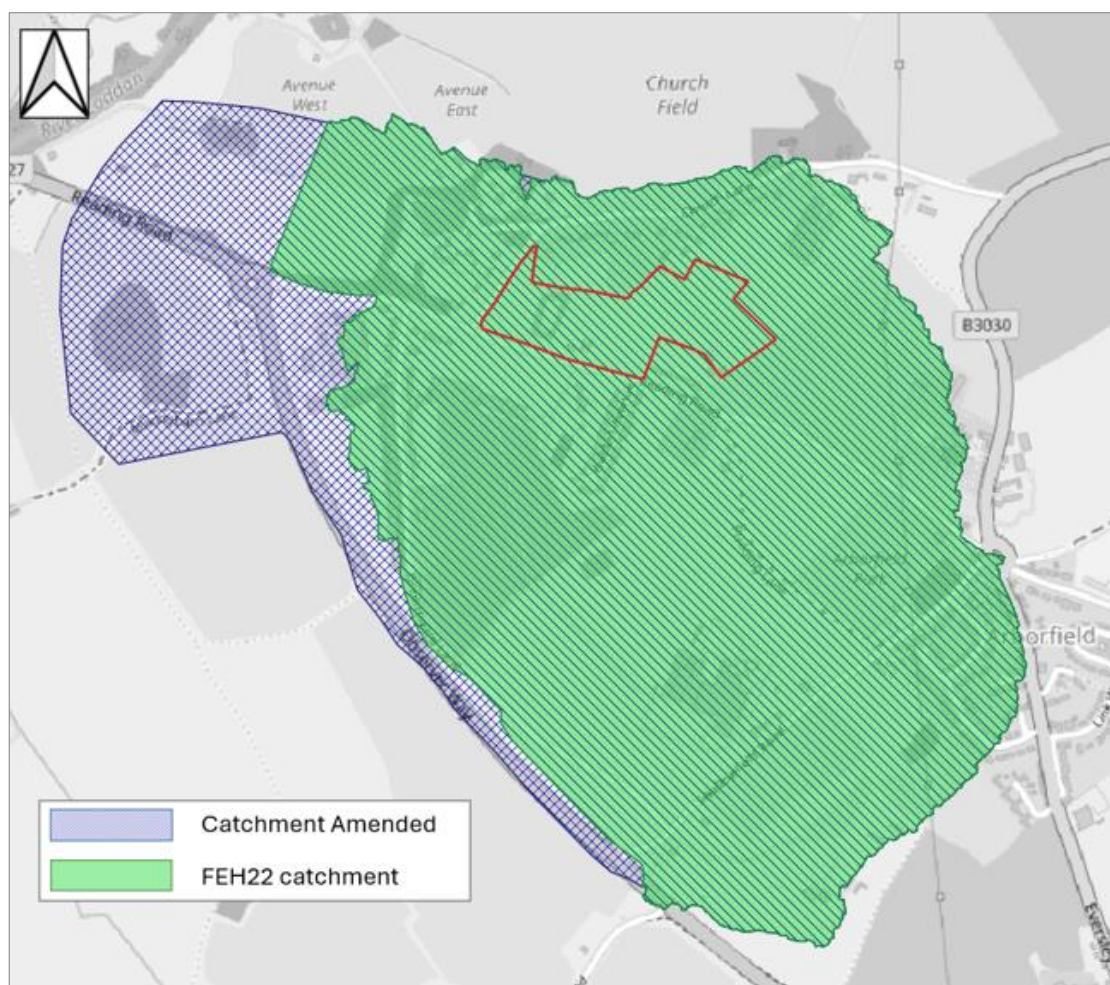


Figure 2-1: Estimated catchment boundary

- 2.6. The FEH22 data was inputted to the Revitalised Flood Hydrograph 2 (ReFH2) software, which was used to derive rainfall hyetographs for the 3.33%, 1%, and 0.1% Annual Exceedance Probability (AEP) events.
- 2.7. Rainfall hyetographs were also derived for the 3.33% AEP event uplifted by 35% and the 1% AEP event uplifted by 40% to account for the potential impacts of climate change, in line with the latest EA guidance for the 2070s epoch upper-end allowance in the Loddon and tributaries Management Catchment<sup>1</sup>.
- 2.8. A winter storm profile was used to derive the hyetographs as the FEH Catchment is classed as moderately urbanised (i.e. URBEXT2000 <0.15). Additionally, the site and area draining towards it is in majority rural.
- 2.9. The default storm duration for the catchment is 5.5 hours. Hyetographs were also derived for a 1.5-hour, 2.5-hour, 3.5-hour, 4.5-hour, and 6.5-hour storm duration,

<sup>1</sup> Loddon and tributaries Management Catchment peak rainfall allowances, Environment Agency. Available: <https://environment.data.gov.uk/hydrology/climate-change-allowances/rainfall?mgmtcatid=3048>

with all durations tested within the model for the 1% AEP plus 40% climate change event in the post-development model. The sensitivity runs found the 2.5-hour storm event resulted in the highest peak flood depths at key locations in the site, with this therefore used as the final design storm duration.

- 2.10. The design rainfall was exported from ReFH2, with losses then applied within the model domain. An example ReFH2 report for the 1% AEP plus 40% climate change is provided in Appendix B, including details of the catchment descriptor data.

### 3. Baseline model build

- 3.1. The baseline model has been built using the hydraulic modelling software TUFLOW using the latest version of the software 2023-03-AF-iSP-w64 (at the time of the model built). A model schematic is shown in Figure 3-1.

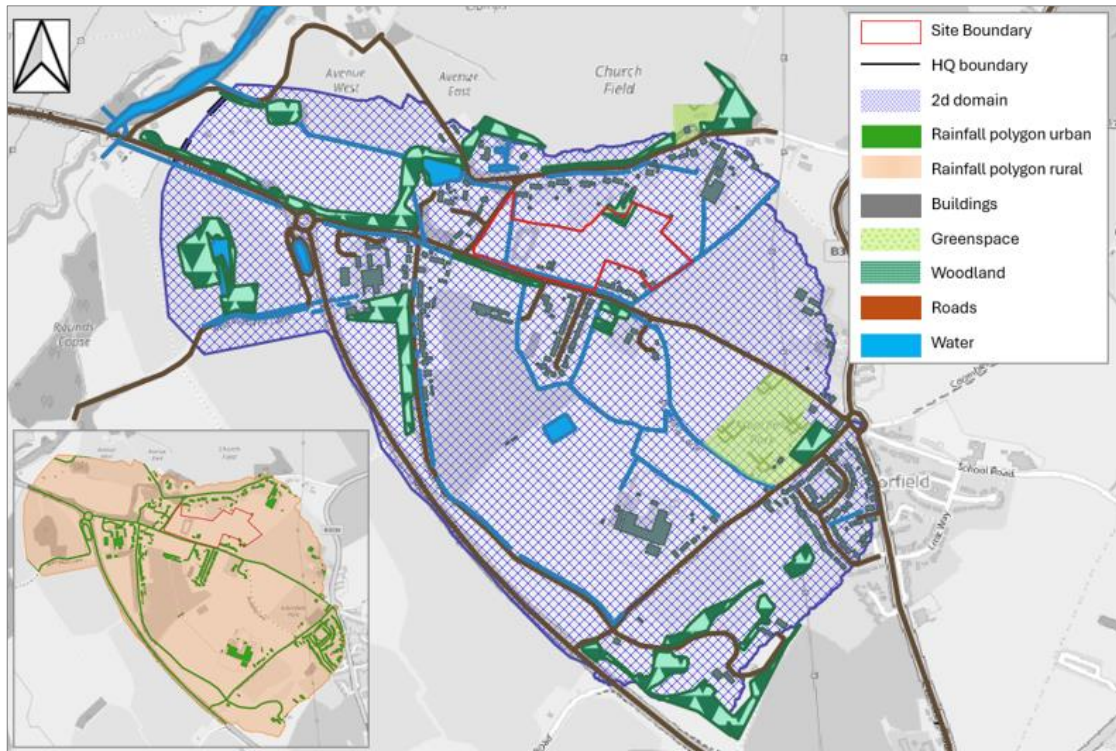


Figure 3-1: Model schematic

#### 1D build

- 3.2. The hydraulic model incorporates one culvert at the existing site entrance onto Reading Road. The diameter of the culvert as well as upstream and downstream invert levels were determined from the topographical survey.

#### 2D build

- 3.3. The wider catchment is represented in the 2D domain and covers an area of 1.563 km<sup>2</sup>, including the entire catchment derived as shown in Section 2.
- 3.4. The ground model at the site has been informed using a topographic survey collected by NRS Surveying Limited, in November 2024 (see Appendix B). Some adjustments to the ground model have been incorporated as per Figure 3-2.

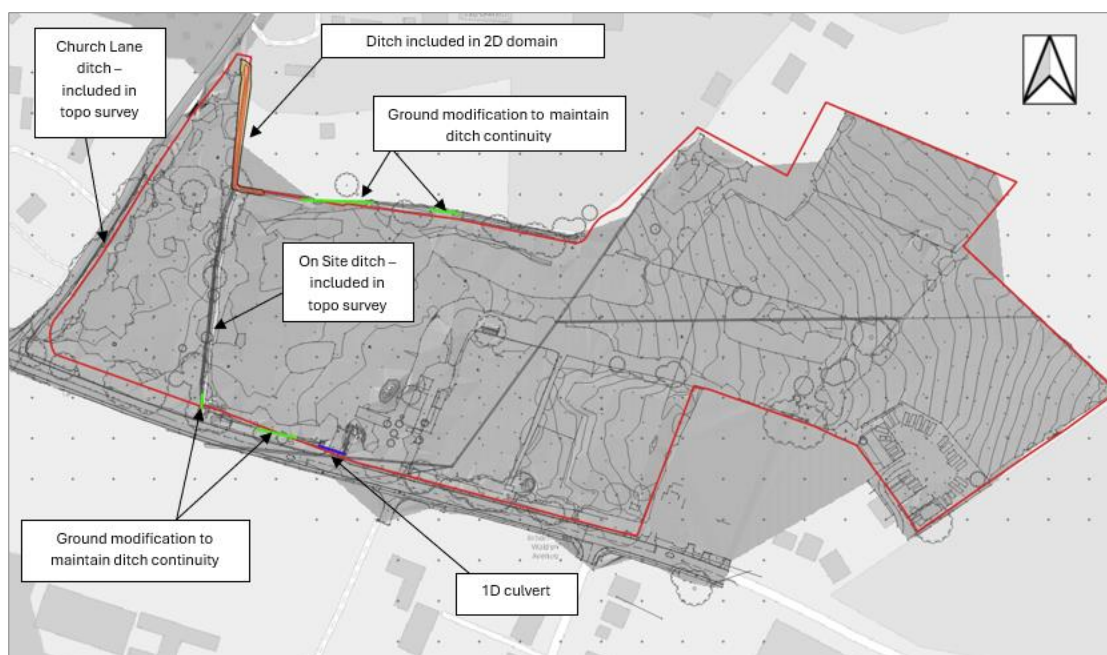


Figure 3-2: A topographic survey modification

- 3.5. Elevations across the wider catchment were derived from the 2022 EA 1m LIDAR DTM.
- 3.6. A 1m cell size has been applied across the model, ensuring surface water flow paths are adequately represented.
- 3.7. Different land uses derived from topographic surveys and OS VectorMapping across the model domain have been assigned roughness values within the 2D domain (see Figure 3-1). The values applied are shown in Table 3-1.

Table 3-1: 2D Manning's 'n' roughness values

| Land use   | Manning's 'n' roughness value |
|------------|-------------------------------|
| General    | 0.045                         |
| Greenspace | 0.055                         |
| Woodland   | 0.100                         |
| Roads      | 0.040                         |
| Water      | 0.030                         |
| Buildings  | 0.300                         |

- 3.8. Ground levels at buildings in the wider model domain have been raised by 0.3m in line with the approach used in the EA's RoFSW mapping.

### Boundary conditions

- 3.9. The final design rainfall hyetographs outlined in Section 2 were directly implemented across the entire 2D model domain, without any additional inflows introduced.
- 3.10. The entire model was rendered impermeable by assigning a soil parameter value of 99. Two distinct rainfall polygons were established—urban and rural.
- 3.11. The designed rainfall was applied to impermeable urban surfaces, such as roads and buildings. To account for infiltration losses and storage within urban environments, including gutters and drains, 90% of the total design rainfall hyetograph was allocated to these urban areas.
- 3.12. The rural net rainfall that accounts for soil characteristic at certain regions was applied to rural area.
- 3.13. To allow runoff to pass out of the 2D domain an HQ boundary was applied at the Reading Road and extended further north across the green area.

### Assumptions/Limitations

- 3.14. The representation of any complex system by a model requires several assumptions to be made. In the case of the 1D and 2D elements of the model, the following assumptions have been made:
- Model parameters, such as roughness and structure coefficients, are representative of the general conditions;
  - The units used to represent hydraulic structures within the model represent the situation accurately using the available information, including assumptions made to simplify representations where necessary;
  - The design hydrology accurately represents flows in the models given there was no flow/level data available for the catchment to calibrate flows in the model;
  - The LIDAR and OS mapping are representative of the land surface and are an up-to-date reflection of current ground levels and land uses.

## 4. Baseline modelling results

### Hydraulic Modelling Results

- 4.1. The baseline modelling results provide an analysis of surface water flows on the site under pre-development conditions, excluding any considerations for mitigation or additional drainage infrastructure.
- 4.2. The model has been run using the TUFLOW HPC solver with GPU. The model is run for a total duration of 10 hours to allow the full storm event to pass through the site. Model results have been filtered to remove depths below 0.05m.
- 4.3. Peak flood extents for the modelled storm events are shown in Figure 4-1.



Figure 4-1: Baseline model flood extents

- 4.4. The flood outlines shown above are as a result of surface water flow paths predicted to originate from offsite and impact the site.
- 4.5. The primary flow path is entering the site from the northeast flowing westward towards Church Lane.
- 4.6. A secondary flow path originates from Reading Road, directing water northward to merge with the primary flow path before continuing toward Church Lane. Water accumulates in a lower elevation area located east of the onsite ditch, from which it subsequently flows into the ditch.

- 4.7. Additionally, the ponding area to the west of the ditch is primarily formed by water overflowing from the onsite ditch, which then spills onto Church Lane and continues toward the River Loddon.
- 4.8. Peak modelled flood depths during the 1% AEP plus 40% climate change event are presented in Figure 4-2. Peak depths across the site are generally shallow, with depths along flow paths typically <0.30m. The greatest depths are predicted in a topographic depression along the ditch on the western side of the site along Church Lane where water ponds.

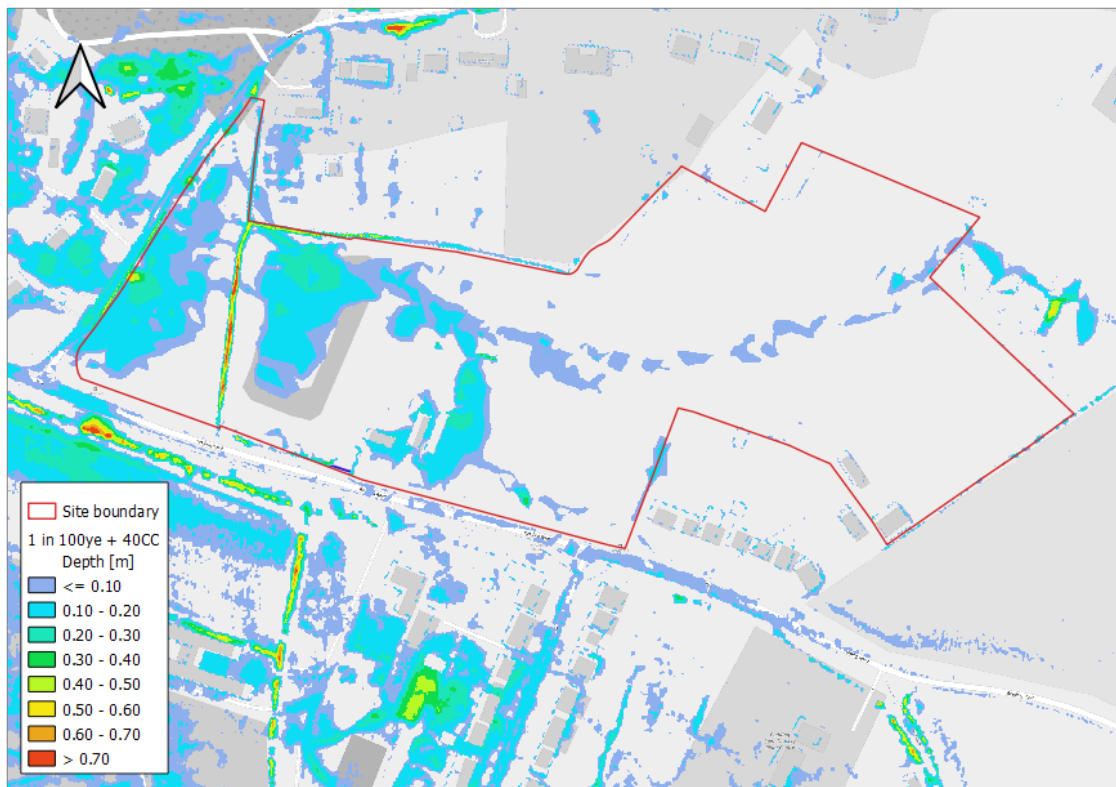


Figure 4-2: Peak modelled depths – 1% AEP plus 40% climate change

### Model stability

- 4.9. A review of the model outputs indicates the modelling is stable for the duration of the event, with total mass errors between 0.0% and 0.0%, and timestep efficiency above 99% after the model initialisation. The model runs have no negative depths.

## 5. Sensitivity analysis

- 5.1. It is standard hydraulic modelling practice to undertake a sensitivity analysis of key model parameters to consider any uncertainty attached to the adopted values and understand how sensitive the model is to changes in these parameters.
- 5.2. In the absence of any gauged data / recorded flood events / observable historical information, Ardent have undertaken a sensitivity test of key parameters in order to improve confidence in the model outputs and to ensure the model is robust to changes in these parameters. All sensitivity runs have been undertaken on the 1% AEP plus 40% climate change event during the baseline scenario.
- 5.3. Ardent has undertaken a sensitivity analysis on the following parameters for the post-development scenario:
- Critical storm duration; and,
  - Manning's 'n' roughness values +/- 20%.

### Critical storm duration

- 5.4. To determine the worst-case scenario storm event for flood risk on site, critical storm duration testing was undertaken. The 1% AEP plus 40% climate change event was run for storm durations of 1.5 hours, 2.5 hours, 3.5 hours, 4.5 hours and 5.25 hours.
- 5.5. The model results show a storm duration of 2.5 hours resulted in the greatest predicted flood depths at key areas across the site. As a result, a 2.5-hour storm duration was used for all design rainfall events applied to the model.

### Manning's 'n' roughness

- 5.6. Manning's 'n' roughness values have been adjusted by +/- 20% in the 2D domains. The peak modelled extents from the sensitivity testing are shown in Figure 5-1 with peak depths at the result points shown in Table 5-1.

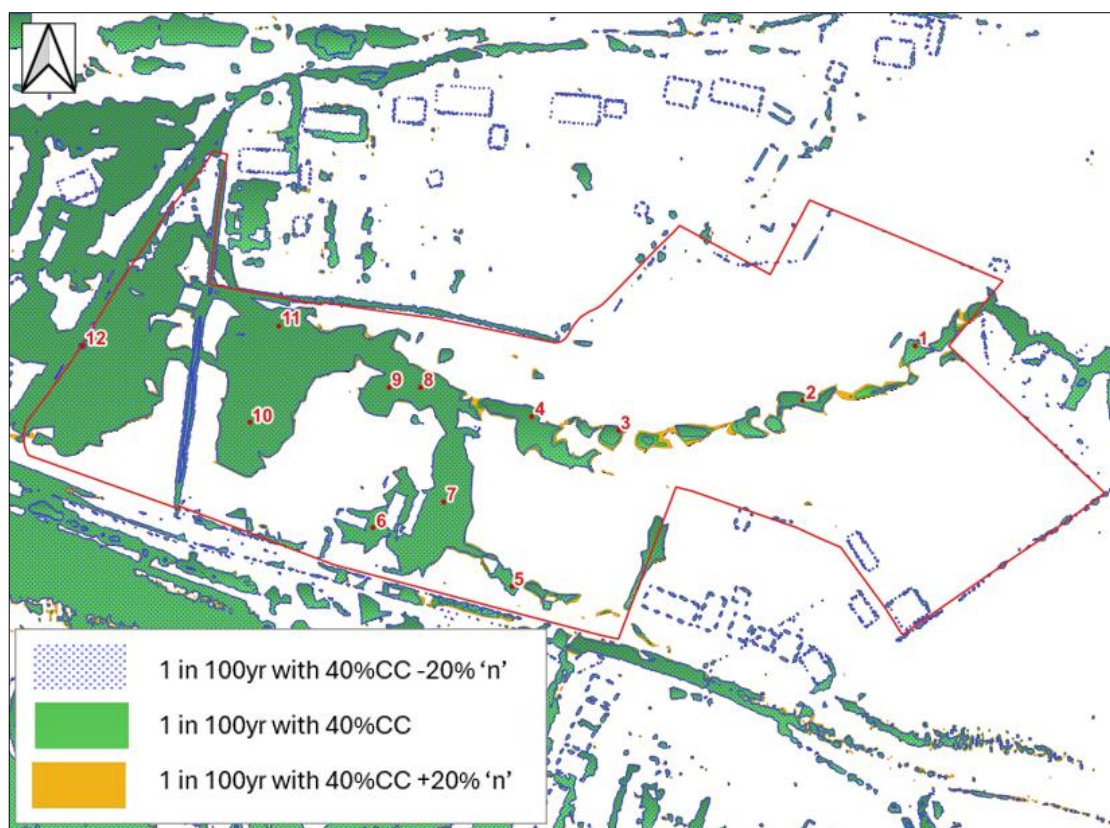


Figure 5-1: Roughness sensitivity extents – 1% AEP plus 40% climate change

Table 5-1: Roughness sensitivity peak depths at points shown in Figure 5-1

| Point | -20% 'n'  | 1% AEP plus 40% CC | +20% 'n' |
|-------|-----------|--------------------|----------|
|       | Depth (m) |                    |          |
| 1     | 0.216     | 0.219              | 0.221    |
| 2     | 0.081     | 0.087              | 0.091    |
| 3     | 0.061     | 0.066              | 0.069    |
| 4     | 0.128     | 0.133              | 0.137    |
| 5     | 0.341     | 0.345              | 0.349    |
| 6     | 0.175     | 0.178              | 0.181    |
| 7     | 0.264     | 0.269              | 0.272    |
| 8     | 0.110     | 0.116              | 0.121    |
| 9     | 0.207     | 0.209              | 0.211    |
| 10    | 0.157     | 0.161              | 0.165    |
| 11    | 0.212     | 0.217              | 0.220    |
| 12    | 0.560     | 0.561              | 0.565    |

- 5.7. The results show the model has a low sensitivity to the roughness values applied to the model domain, with only minor changes in the peak flood extents and negligible differences in peak flood depths at key locations across the site.

#### **Sensitivity test conclusions**

- 5.8. Ardent has carried out a range of sensitivity tests on key parameters for the hydraulic model in order to test the validity of the model outputs and ensure that the model fits for purpose. The review of the sensitivity test outlined above suggests that the adopted model parameters are appropriate, and the model is not sensitive to parameter change.

## 6. Post-development model scenario

- 6.1. To assess the surface water flood risk to the development proposals and demonstrate the impacts on flood risk to third-party land the proposed development was represented within the model, including associated flood risk mitigation measures.
- 6.2. The development proposals were aligned with the masterplan supplied by the Client (refer to Appendix A) and included mitigation measures such as drainage systems along the site boundaries and main access roads. Several culverts have been incorporated to channel water through the on-site swale network. This system is designed to manage overland surface water only, which will flow into a surface water basin, before being directed to the on-site ditch. Drainage from the development will discharge into a separate basin. Both the surface water basin (north) and the drainage basin (south) are incorporated into the model. A post-development model schematic is provided in Figure 6-1 and Outline Drainage Strategy Layout in Figure 6-2 and in Appendix D.



Figure 6-1: Post-development model schematic based on illustrative masterplan

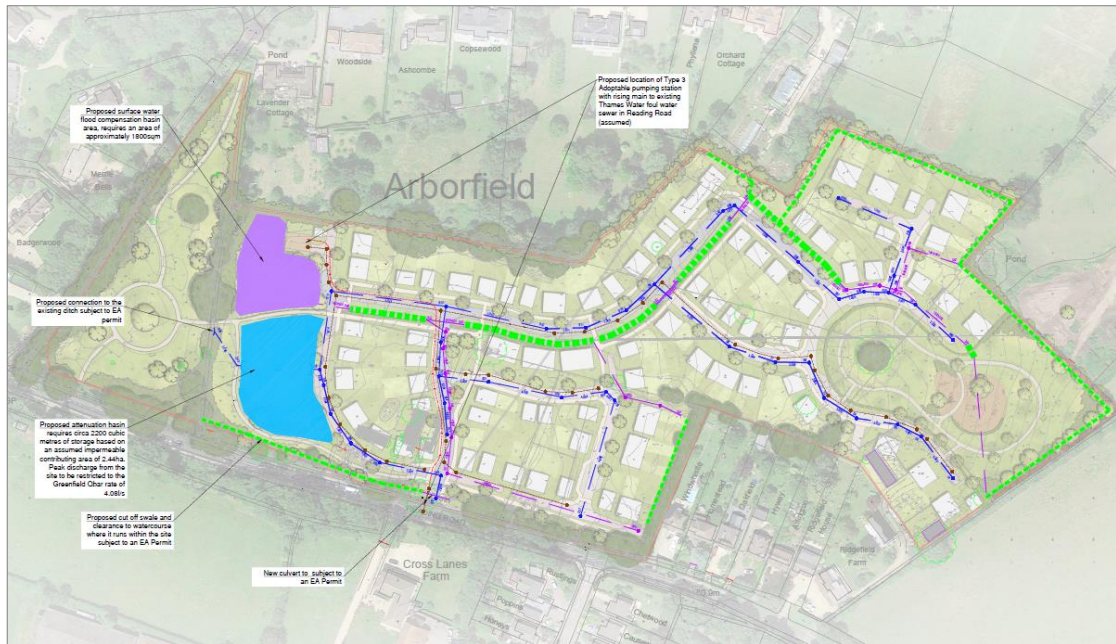


Figure 6-2: Outline Drainage Strategy Layout (showing both surface water system and development outline drainage strategy)

### 1D domain updates

- 6.3. The overland surface water proposal incorporate a number of swales and culverts (see Figures above). Culverts are represented in the 1D domain. Invert levels for culverts are determined based on the proposed development levels and drainage strategy provided by the RCP Engineers. The Manning's 'n' values of 0.015 are allocated. See Appendix D for the outline drainage strategy.
- 6.4. To represent inflows to the culverts, SX lines have been used to connect the 2D cells along the length of each run of pipe into the 1D pipe network. SX 'Z' flag was applied to meet the TUFLOW criteria for connecting SX cells into the 1D domain.
- 6.5. All swales channel overland flow towards the proposed flood compensation basin (north basin), which has an approximate area of 1800 m<sup>2</sup>. The discharge from the flood compensation basin will be channelled into the on-site ditch.

### 2D domain updates

- 6.6. The proposed development is represented by the '.asc' ground model which is based on the proposed triangulated levels. The proposed basins in the west part of the site are included in the '.asc' file.
- 6.7. The majority of swales are represented in the '.asc' grid supplied by the RCP Engineers, with an additional ground lowering of 0.5m incorporated into the hydraulic model. Further ground lowering using '.zpt' lines was discussed and

subsequently integrated into the model after the creation of the '.asc' grid. Building FFL's are represented by the '.asc' grid and are set above the adjacent ground level.

- 6.8. The 2D roughness files were updated within the site boundary to reflect the proposed buildings, hardstanding and permeable open spaces. Manning's 'n' values were applied in line with the baseline scenario.
- 6.9. The urban and rural rainfall polygons within the site boundary have also been updated. These areas were also set to have no rainfall applied to them, as it is assumed that any rainfall landing on these areas will be managed by the on-site surface water drainage network.

## 7. Post development modelling results

7.1. Peak flood extents during the post-development scenario for the modelled storm events are shown in Figure 7-1.



Figure 7-1: Post-development peak modelled flood extents

- 7.2. The main flow routes are now directed through a network of swales to the flood compensation basin, from which water is released via a 0.5m diameter culvert into the existing onsite ditch.
- 7.3. The hydraulic model does not include the onsite rainfall and therefore does not take into account the drainage network either. Residential buildings are shown to remain dry during all the modelled events. The water flows out of the site as in the baseline scenario.
- 7.4. The peak modelled flood depths during the 1% AEP plus 40% climate change event are shown in Figure 7-2, along with peak flood levels at locations across the site.

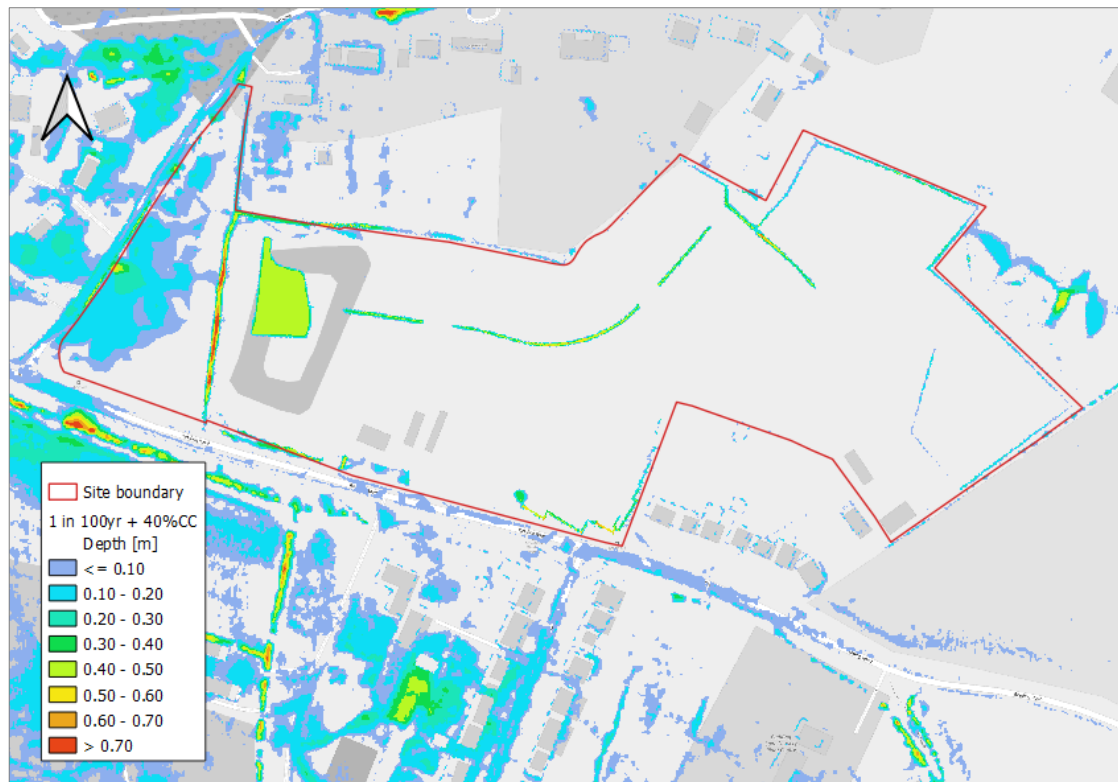


Figure 7-2: Post-development peak depths and extents - 1% AEP plus 40% CC

- 7.5. The results show that during the 1% AEP plus 40% climate change event, peak depths at the basin are predicted to be of up to 500mm. The overland flow basin includes 300mm freeboard. As the basin is located at the lowest part of the site, residential properties are above the maximum basin water level.
- 7.6. Depths greater than 500mm are predicted along the existing drains.

### Comparison Plots

- 7.7. Comparison mapping showing the change in peak flood depths between the baseline and post-development scenario during the 1% AEP plus 40% climate change scenario is presented in Figure 7-3.
- 7.8. The results demonstrate that the proposed development is not expected to adversely affect flood risk to third-party land, with the exception of minor increases in certain areas, specifically to the south of Reading Road and at the existing site entrance on Reading Road. The off-site increases are of up to 0.05m during peak flows only. There is no risk to residential properties. The off-site risk will be minimised during the detailed design phase.
- 7.9. The on-site water depths are predicted to increase primarily in the locations of the proposed basin and new swales along the planned roadways. Conversely, the peak

water depths along the flow paths at Church Lane are predicted to be lower. This reduction is primarily linked to the decrease in runoff produced from the site, attributed to the implementation of the proposed onsite drainage system in addition to the overland flow mitigation scheme.



Figure 7-3: Change in peak flood depths – 1% AEP plus 45% climate change

### Hazard Ratings

- 7.10. The peak modelled flood hazard during the 1% AEP plus 40% climate change event in the post-development scenario is shown in Figure 7-4. The peak modelled flood hazard is predicted to remain low during the design storm event across almost the entire site, meaning there is minimal risk to the site users. All site users are shown to have access to Reading Road via areas where flood depths are predicted to remain below 0.05m during the 1% AEP plus 40% climate change event.

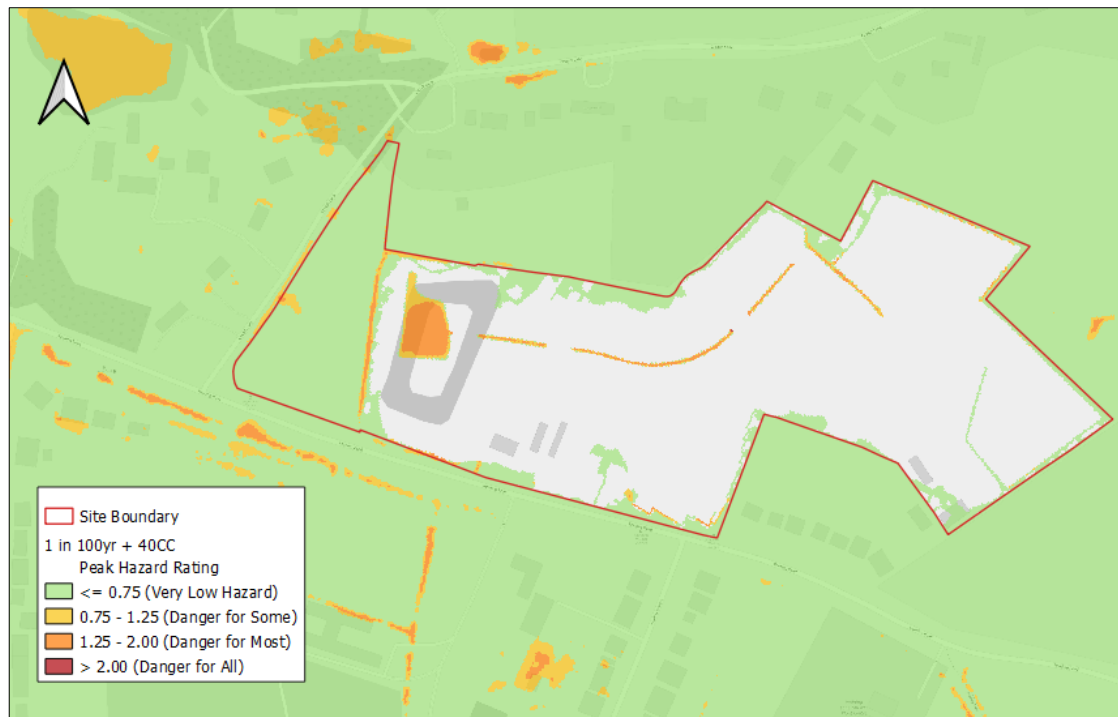


Figure 7-4: Post-development peak flood hazard – 1% AEP plus 40% CC

### Model stability

- 7.11. A review of the model outputs indicates the modelling is stable for the duration of the event, with total mass errors of -0.01% to 0.01% and timestep efficiency above 99% after the model initialisation. The model runs have no negative depths.

## 8. Conclusions

- 8.1. Ardent Consulting Engineers has been instructed by Dandara Southern Ltd to undertake surface water hydraulic modelling in order to refine and confirm surface water flood risk to support residential development and associated infrastructure in Arborfield.
- 8.2. A detailed 1D-2D linked direct rainfall-runoff model has been developed using TUFLOW software to refine the understanding of surface water flood risk to the site and demonstrate the impact of the development on flood risk to third-party land.
- 8.3. A hydrological analysis has also been undertaken to derive rainfall hyetographs for the study area.
- 8.4. A baseline hydraulic model has been built using a combination of LIDAR data and topographical survey data.
- 8.5. The hydraulic model has identified a surface water flow paths predicted to originate from offsite and impact the site. The primary flow path is entering the site from the northeast flowing westward towards Church Lane. A secondary flow path originates from Reading Road, directing water northward to merge with the primary flow path before continuing toward Church Lane. Water accumulates in a lower elevation area located east of the onsite ditch, from which it subsequently flows into the ditch.
- 8.6. Additionally, the ponding area to the west of the ditch is primarily formed by water overflowing from the onsite ditch, which then spills onto Church Lane and continues toward the River Loddon.
- 8.7. Peak depths across the site are generally shallow, with depths along flow paths typically <0.30m. The greatest depths are predicted in a topographic depression along the ditch on the western side along Church Lane where water ponds.
- 8.8. Sensitivity testing of boundary conditions, Manning's 'n' roughness values and critical storm duration has been carried out. The results of the analysis show that the model is not overly sensitive to changes in these parameters and that is fit for purpose.
- 8.9. The proposed development scenario has been represented in the model by including triangulated elevation points representing levels on site. The flood risk mitigation measures such as swales and detention basins were represented in the 2D domain with linking culverts in the 1D domain.

- 8.10. The overland surface water mitigation swales and basin are maintained independently from the development drainage basin, ensuring that only the effects of surface water are evaluated.
- 8.11. The results show that during the 1% AEP plus 40% climate change event, peak depths at the basin are predicted to be of up to 500mm. Depths greater than 500mm are predicted along the existing onsite ditch.
- 8.12. The development proposals have indicated slight increases in water levels at the ditch located south of Reading Road and at the current site entrance on Reading Road. There is no risk to residential properties. Otherwise, no offsite increases are observed during the 1% AEP plus 40% climate change scenario. There are reductions in flood depths along the baseline flow paths. On-site increases of up to 400mm are primarily limited to the swales and the proposed detention basin areas.

## **Appendix A**



## **Appendix B**

# UK Design Flood Estimation

Generated on 04 December 2024 14:13:12 by jaxton  
Printed from the ReFH2 Flood Modelling software package, version 4.1.8879.22310

## Summary of estimate using the Flood Estimation Handbook revitalised flood hydrograph method (ReFH2)

Site detailsChecksum: 594B-537E

Site name: FEH\_Catchment\_Descriptors\_474950\_167750\_v5\_0\_1\_Edited

Easting: 474950

Northing: 167750

Country: England, Wales or Northern Ireland

Catchment Area (km²): 1.25

Using plot scale calculations: No

Model: 2.3

Site description:None

## Model run: 100 year 1.4 CC

### Summary of results

|                        |       |                    |       |
|------------------------|-------|--------------------|-------|
| Rainfall - FEH22 (mm): | 81.43 | Total runoff (ML): | 29.66 |
| Total Rainfall (mm):   | 48.75 | Total flow (ML):   | 60.87 |
| Peak Rainfall (mm):    | 4.13  | Peak flow (m³/s):  | 1.75  |

### Parameters

Where the user has overridden a system-generated value, this original value is shown in square brackets after the value used.  
\* Indicates that the user locked the duration/timestep

#### Rainfall parameters (Rainfall - FEH22)

| Name                             | Value               | User-defined? |
|----------------------------------|---------------------|---------------|
| Duration (hh:mm:ss)              | 02:35:00 [05:30:00] | Yes           |
| Timestep (hh:mm:ss)              | 00:05:00 [00:30:00] | Yes           |
| SCF (Seasonal correction factor) | 0.62                | No            |
| ARF (Areal reduction factor)     | 0.97                | No            |
| Seasonality                      | Winter              | No            |
| Climate change factor            | 1.40                | Yes           |

#### Loss model parameters

| Name                        | Value  | User-defined? |
|-----------------------------|--------|---------------|
| Cini (mm)                   | 122.7  | No            |
| Cmax (mm)                   | 316.59 | No            |
| Use alpha correction factor | No     | No            |
| Alpha correction factor     | n/a    | No            |

#### Routing model parameters

| Name    | Value | User-defined? |
|---------|-------|---------------|
| Tp (hr) | 3.07  | No            |
| Up      | 0.65  | No            |
| Uk      | 0.8   | No            |

#### Baseflow model parameters

| Name                    | Value | User-defined? |
|-------------------------|-------|---------------|
| BF0 (m <sup>3</sup> /s) | 0.05  | No            |
| BL (hr)                 | 30.99 | No            |
| BR                      | 1.15  | No            |

#### Urbanisation parameters

| Name                                      | Value | User-defined? |
|-------------------------------------------|-------|---------------|
| Sewer capacity (m <sup>3</sup> /s)        | 0     | No            |
| Exporting drained area (km <sup>2</sup> ) | 0     | No            |
| Urban area (km <sup>2</sup> )             | 0.19  | No            |
| Effective URBEXT2000                      | 0.1   | n/a           |
| Impervious runoff factor                  | 0.7   | No            |
| Imperviousness factor                     | 0.4   | No            |
| Tp scaling factor                         | 0.75  | No            |
| Depression storage depth (mm)             | 0.5   | No            |

# Time series data

| Time<br>(hh:mm:ss) | Rain<br>(mm) | Sewer Loss<br>(m³/s) | Net Rain<br>(mm) | Runoff<br>(m³/s) | Baseflow<br>(m³/s) | Total Flow<br>(m³/s) |
|--------------------|--------------|----------------------|------------------|------------------|--------------------|----------------------|
| 00:00:00           | 0.318        | 0.000                | 0.129            | 0.000            | 0.044              | 0.044                |
| 00:05:00           | 0.383        | 0.000                | 0.157            | 0.000            | 0.043              | 0.044                |
| 00:10:00           | 0.460        | 0.000                | 0.191            | 0.001            | 0.043              | 0.044                |
| 00:15:00           | 0.552        | 0.000                | 0.231            | 0.002            | 0.043              | 0.045                |
| 00:20:00           | 0.663        | 0.000                | 0.278            | 0.003            | 0.043              | 0.046                |
| 00:25:00           | 0.795        | 0.000                | 0.335            | 0.005            | 0.043              | 0.048                |
| 00:30:00           | 0.952        | 0.000                | 0.404            | 0.007            | 0.043              | 0.050                |
| 00:35:00           | 1.141        | 0.000                | 0.488            | 0.011            | 0.043              | 0.054                |
| 00:40:00           | 1.364        | 0.000                | 0.589            | 0.016            | 0.043              | 0.058                |
| 00:45:00           | 1.630        | 0.000                | 0.711            | 0.021            | 0.043              | 0.064                |
| 00:50:00           | 1.945        | 0.000                | 0.858            | 0.029            | 0.043              | 0.071                |
| 00:55:00           | 2.316        | 0.000                | 1.037            | 0.038            | 0.043              | 0.080                |
| 01:00:00           | 2.749        | 0.000                | 1.252            | 0.049            | 0.043              | 0.091                |
| 01:05:00           | 3.248        | 0.000                | 1.509            | 0.063            | 0.043              | 0.105                |
| 01:10:00           | 3.796        | 0.000                | 1.804            | 0.080            | 0.043              | 0.123                |
| 01:15:00           | 4.131        | 0.000                | 2.013            | 0.101            | 0.043              | 0.143                |
| 01:20:00           | 3.796        | 0.000                | 1.895            | 0.126            | 0.043              | 0.169                |
| 01:25:00           | 3.248        | 0.000                | 1.656            | 0.156            | 0.043              | 0.199                |
| 01:30:00           | 2.749        | 0.000                | 1.426            | 0.189            | 0.043              | 0.233                |
| 01:35:00           | 2.316        | 0.000                | 1.219            | 0.227            | 0.044              | 0.270                |
| 01:40:00           | 1.945        | 0.000                | 1.037            | 0.267            | 0.044              | 0.311                |
| 01:45:00           | 1.630        | 0.000                | 0.878            | 0.310            | 0.045              | 0.355                |
| 01:50:00           | 1.364        | 0.000                | 0.741            | 0.355            | 0.046              | 0.400                |
| 01:55:00           | 1.141        | 0.000                | 0.624            | 0.402            | 0.046              | 0.448                |
| 02:00:00           | 0.952        | 0.000                | 0.524            | 0.450            | 0.047              | 0.497                |
| 02:05:00           | 0.795        | 0.000                | 0.439            | 0.500            | 0.048              | 0.548                |
| 02:10:00           | 0.663        | 0.000                | 0.368            | 0.551            | 0.049              | 0.600                |
| 02:15:00           | 0.552        | 0.000                | 0.307            | 0.602            | 0.051              | 0.653                |
| 02:20:00           | 0.460        | 0.000                | 0.257            | 0.655            | 0.052              | 0.707                |
| 02:25:00           | 0.383        | 0.000                | 0.214            | 0.708            | 0.054              | 0.762                |
| 02:30:00           | 0.318        | 0.000                | 0.178            | 0.761            | 0.055              | 0.817                |
| 02:35:00           | 0.000        | 0.000                | 0.000            | 0.815            | 0.057              | 0.872                |
| 02:40:00           | 0.000        | 0.000                | 0.000            | 0.869            | 0.059              | 0.928                |
| 02:45:00           | 0.000        | 0.000                | 0.000            | 0.922            | 0.061              | 0.983                |

| Time<br>(hh:mm:ss) | Rain<br>(mm) | Sewer Loss<br>(m <sup>3</sup> /s) | Net Rain<br>(mm) | Runoff<br>(m <sup>3</sup> /s) | Baseflow<br>(m <sup>3</sup> /s) | Total Flow<br>(m <sup>3</sup> /s) |
|--------------------|--------------|-----------------------------------|------------------|-------------------------------|---------------------------------|-----------------------------------|
| 02:50:00           | 0.000        | 0.000                             | 0.000            | 0.975                         | 0.063                           | 1.038                             |
| 02:55:00           | 0.000        | 0.000                             | 0.000            | 1.027                         | 0.066                           | 1.093                             |
| 03:00:00           | 0.000        | 0.000                             | 0.000            | 1.079                         | 0.068                           | 1.147                             |
| 03:05:00           | 0.000        | 0.000                             | 0.000            | 1.130                         | 0.071                           | 1.201                             |
| 03:10:00           | 0.000        | 0.000                             | 0.000            | 1.180                         | 0.073                           | 1.254                             |
| 03:15:00           | 0.000        | 0.000                             | 0.000            | 1.229                         | 0.076                           | 1.305                             |
| 03:20:00           | 0.000        | 0.000                             | 0.000            | 1.277                         | 0.079                           | 1.356                             |
| 03:25:00           | 0.000        | 0.000                             | 0.000            | 1.322                         | 0.082                           | 1.404                             |
| 03:30:00           | 0.000        | 0.000                             | 0.000            | 1.365                         | 0.085                           | 1.451                             |
| 03:35:00           | 0.000        | 0.000                             | 0.000            | 1.406                         | 0.088                           | 1.494                             |
| 03:40:00           | 0.000        | 0.000                             | 0.000            | 1.443                         | 0.092                           | 1.535                             |
| 03:45:00           | 0.000        | 0.000                             | 0.000            | 1.478                         | 0.095                           | 1.573                             |
| 03:50:00           | 0.000        | 0.000                             | 0.000            | 1.509                         | 0.099                           | 1.608                             |
| 03:55:00           | 0.000        | 0.000                             | 0.000            | 1.537                         | 0.103                           | 1.639                             |
| 04:00:00           | 0.000        | 0.000                             | 0.000            | 1.561                         | 0.106                           | 1.668                             |
| 04:05:00           | 0.000        | 0.000                             | 0.000            | 1.582                         | 0.110                           | 1.693                             |
| 04:10:00           | 0.000        | 0.000                             | 0.000            | 1.599                         | 0.114                           | 1.714                             |
| 04:15:00           | 0.000        | 0.000                             | 0.000            | 1.612                         | 0.118                           | 1.730                             |
| 04:20:00           | 0.000        | 0.000                             | 0.000            | 1.620                         | 0.122                           | 1.742                             |
| 04:25:00           | 0.000        | 0.000                             | 0.000            | 1.622                         | 0.126                           | 1.748                             |
| 04:30:00           | 0.000        | 0.000                             | 0.000            | 1.619                         | 0.131                           | 1.749                             |
| 04:35:00           | 0.000        | 0.000                             | 0.000            | 1.610                         | 0.135                           | 1.745                             |
| 04:40:00           | 0.000        | 0.000                             | 0.000            | 1.598                         | 0.139                           | 1.737                             |
| 04:45:00           | 0.000        | 0.000                             | 0.000            | 1.582                         | 0.143                           | 1.725                             |
| 04:50:00           | 0.000        | 0.000                             | 0.000            | 1.563                         | 0.147                           | 1.710                             |
| 04:55:00           | 0.000        | 0.000                             | 0.000            | 1.542                         | 0.151                           | 1.693                             |
| 05:00:00           | 0.000        | 0.000                             | 0.000            | 1.519                         | 0.155                           | 1.673                             |
| 05:05:00           | 0.000        | 0.000                             | 0.000            | 1.494                         | 0.159                           | 1.652                             |
| 05:10:00           | 0.000        | 0.000                             | 0.000            | 1.467                         | 0.162                           | 1.630                             |
| 05:15:00           | 0.000        | 0.000                             | 0.000            | 1.440                         | 0.166                           | 1.606                             |
| 05:20:00           | 0.000        | 0.000                             | 0.000            | 1.411                         | 0.170                           | 1.581                             |
| 05:25:00           | 0.000        | 0.000                             | 0.000            | 1.382                         | 0.173                           | 1.555                             |
| 05:30:00           | 0.000        | 0.000                             | 0.000            | 1.352                         | 0.177                           | 1.529                             |
| 05:35:00           | 0.000        | 0.000                             | 0.000            | 1.322                         | 0.180                           | 1.502                             |
| 05:40:00           | 0.000        | 0.000                             | 0.000            | 1.292                         | 0.183                           | 1.475                             |

| Time<br>(hh:mm:ss) | Rain<br>(mm) | Sewer Loss<br>(m <sup>3</sup> /s) | Net Rain<br>(mm) | Runoff<br>(m <sup>3</sup> /s) | Baseflow<br>(m <sup>3</sup> /s) | Total Flow<br>(m <sup>3</sup> /s) |
|--------------------|--------------|-----------------------------------|------------------|-------------------------------|---------------------------------|-----------------------------------|
| 05:45:00           | 0.000        | 0.000                             | 0.000            | 1.262                         | 0.187                           | 1.448                             |
| 05:50:00           | 0.000        | 0.000                             | 0.000            | 1.232                         | 0.190                           | 1.422                             |
| 05:55:00           | 0.000        | 0.000                             | 0.000            | 1.202                         | 0.193                           | 1.395                             |
| 06:00:00           | 0.000        | 0.000                             | 0.000            | 1.173                         | 0.196                           | 1.369                             |
| 06:05:00           | 0.000        | 0.000                             | 0.000            | 1.145                         | 0.199                           | 1.344                             |
| 06:10:00           | 0.000        | 0.000                             | 0.000            | 1.117                         | 0.201                           | 1.318                             |
| 06:15:00           | 0.000        | 0.000                             | 0.000            | 1.089                         | 0.204                           | 1.293                             |
| 06:20:00           | 0.000        | 0.000                             | 0.000            | 1.061                         | 0.207                           | 1.268                             |
| 06:25:00           | 0.000        | 0.000                             | 0.000            | 1.034                         | 0.209                           | 1.243                             |
| 06:30:00           | 0.000        | 0.000                             | 0.000            | 1.007                         | 0.212                           | 1.219                             |
| 06:35:00           | 0.000        | 0.000                             | 0.000            | 0.980                         | 0.214                           | 1.194                             |
| 06:40:00           | 0.000        | 0.000                             | 0.000            | 0.954                         | 0.216                           | 1.170                             |
| 06:45:00           | 0.000        | 0.000                             | 0.000            | 0.928                         | 0.219                           | 1.146                             |
| 06:50:00           | 0.000        | 0.000                             | 0.000            | 0.902                         | 0.221                           | 1.123                             |
| 06:55:00           | 0.000        | 0.000                             | 0.000            | 0.877                         | 0.223                           | 1.099                             |
| 07:00:00           | 0.000        | 0.000                             | 0.000            | 0.852                         | 0.225                           | 1.076                             |
| 07:05:00           | 0.000        | 0.000                             | 0.000            | 0.827                         | 0.227                           | 1.054                             |
| 07:10:00           | 0.000        | 0.000                             | 0.000            | 0.803                         | 0.228                           | 1.032                             |
| 07:15:00           | 0.000        | 0.000                             | 0.000            | 0.780                         | 0.230                           | 1.010                             |
| 07:20:00           | 0.000        | 0.000                             | 0.000            | 0.758                         | 0.232                           | 0.989                             |
| 07:25:00           | 0.000        | 0.000                             | 0.000            | 0.736                         | 0.233                           | 0.969                             |
| 07:30:00           | 0.000        | 0.000                             | 0.000            | 0.715                         | 0.235                           | 0.950                             |
| 07:35:00           | 0.000        | 0.000                             | 0.000            | 0.696                         | 0.236                           | 0.932                             |
| 07:40:00           | 0.000        | 0.000                             | 0.000            | 0.677                         | 0.238                           | 0.915                             |
| 07:45:00           | 0.000        | 0.000                             | 0.000            | 0.659                         | 0.239                           | 0.899                             |
| 07:50:00           | 0.000        | 0.000                             | 0.000            | 0.642                         | 0.240                           | 0.883                             |
| 07:55:00           | 0.000        | 0.000                             | 0.000            | 0.626                         | 0.242                           | 0.867                             |
| 08:00:00           | 0.000        | 0.000                             | 0.000            | 0.609                         | 0.243                           | 0.852                             |
| 08:05:00           | 0.000        | 0.000                             | 0.000            | 0.594                         | 0.244                           | 0.838                             |
| 08:10:00           | 0.000        | 0.000                             | 0.000            | 0.578                         | 0.245                           | 0.824                             |
| 08:15:00           | 0.000        | 0.000                             | 0.000            | 0.563                         | 0.246                           | 0.810                             |
| 08:20:00           | 0.000        | 0.000                             | 0.000            | 0.548                         | 0.247                           | 0.796                             |
| 08:25:00           | 0.000        | 0.000                             | 0.000            | 0.534                         | 0.248                           | 0.782                             |
| 08:30:00           | 0.000        | 0.000                             | 0.000            | 0.519                         | 0.249                           | 0.769                             |
| 08:35:00           | 0.000        | 0.000                             | 0.000            | 0.505                         | 0.250                           | 0.755                             |

| Time<br>(hh:mm:ss) | Rain<br>(mm) | Sewer Loss<br>(m <sup>3</sup> /s) | Net Rain<br>(mm) | Runoff<br>(m <sup>3</sup> /s) | Baseflow<br>(m <sup>3</sup> /s) | Total Flow<br>(m <sup>3</sup> /s) |
|--------------------|--------------|-----------------------------------|------------------|-------------------------------|---------------------------------|-----------------------------------|
| 08:40:00           | 0.000        | 0.000                             | 0.000            | 0.491                         | 0.251                           | 0.742                             |
| 08:45:00           | 0.000        | 0.000                             | 0.000            | 0.477                         | 0.252                           | 0.729                             |
| 08:50:00           | 0.000        | 0.000                             | 0.000            | 0.463                         | 0.253                           | 0.716                             |
| 08:55:00           | 0.000        | 0.000                             | 0.000            | 0.449                         | 0.254                           | 0.703                             |
| 09:00:00           | 0.000        | 0.000                             | 0.000            | 0.436                         | 0.254                           | 0.690                             |
| 09:05:00           | 0.000        | 0.000                             | 0.000            | 0.422                         | 0.255                           | 0.677                             |
| 09:10:00           | 0.000        | 0.000                             | 0.000            | 0.408                         | 0.256                           | 0.664                             |
| 09:15:00           | 0.000        | 0.000                             | 0.000            | 0.395                         | 0.256                           | 0.652                             |
| 09:20:00           | 0.000        | 0.000                             | 0.000            | 0.382                         | 0.257                           | 0.639                             |
| 09:25:00           | 0.000        | 0.000                             | 0.000            | 0.369                         | 0.258                           | 0.627                             |
| 09:30:00           | 0.000        | 0.000                             | 0.000            | 0.357                         | 0.258                           | 0.615                             |
| 09:35:00           | 0.000        | 0.000                             | 0.000            | 0.344                         | 0.259                           | 0.603                             |
| 09:40:00           | 0.000        | 0.000                             | 0.000            | 0.332                         | 0.259                           | 0.592                             |
| 09:45:00           | 0.000        | 0.000                             | 0.000            | 0.321                         | 0.260                           | 0.580                             |
| 09:50:00           | 0.000        | 0.000                             | 0.000            | 0.310                         | 0.260                           | 0.569                             |
| 09:55:00           | 0.000        | 0.000                             | 0.000            | 0.298                         | 0.260                           | 0.559                             |
| 10:00:00           | 0.000        | 0.000                             | 0.000            | 0.288                         | 0.261                           | 0.548                             |
| 10:05:00           | 0.000        | 0.000                             | 0.000            | 0.277                         | 0.261                           | 0.538                             |
| 10:10:00           | 0.000        | 0.000                             | 0.000            | 0.266                         | 0.261                           | 0.527                             |
| 10:15:00           | 0.000        | 0.000                             | 0.000            | 0.256                         | 0.261                           | 0.517                             |
| 10:20:00           | 0.000        | 0.000                             | 0.000            | 0.246                         | 0.261                           | 0.507                             |
| 10:25:00           | 0.000        | 0.000                             | 0.000            | 0.235                         | 0.262                           | 0.497                             |
| 10:30:00           | 0.000        | 0.000                             | 0.000            | 0.225                         | 0.262                           | 0.487                             |
| 10:35:00           | 0.000        | 0.000                             | 0.000            | 0.215                         | 0.262                           | 0.477                             |
| 10:40:00           | 0.000        | 0.000                             | 0.000            | 0.205                         | 0.262                           | 0.467                             |
| 10:45:00           | 0.000        | 0.000                             | 0.000            | 0.195                         | 0.262                           | 0.457                             |
| 10:50:00           | 0.000        | 0.000                             | 0.000            | 0.185                         | 0.262                           | 0.447                             |
| 10:55:00           | 0.000        | 0.000                             | 0.000            | 0.175                         | 0.262                           | 0.437                             |
| 11:00:00           | 0.000        | 0.000                             | 0.000            | 0.165                         | 0.262                           | 0.427                             |
| 11:05:00           | 0.000        | 0.000                             | 0.000            | 0.155                         | 0.261                           | 0.416                             |
| 11:10:00           | 0.000        | 0.000                             | 0.000            | 0.145                         | 0.261                           | 0.406                             |
| 11:15:00           | 0.000        | 0.000                             | 0.000            | 0.135                         | 0.261                           | 0.396                             |
| 11:20:00           | 0.000        | 0.000                             | 0.000            | 0.126                         | 0.261                           | 0.386                             |
| 11:25:00           | 0.000        | 0.000                             | 0.000            | 0.116                         | 0.260                           | 0.376                             |
| 11:30:00           | 0.000        | 0.000                             | 0.000            | 0.106                         | 0.260                           | 0.366                             |

| Time<br>(hh:mm:ss) | Rain<br>(mm) | Sewer Loss<br>(m <sup>3</sup> /s) | Net Rain<br>(mm) | Runoff<br>(m <sup>3</sup> /s) | Baseflow<br>(m <sup>3</sup> /s) | Total Flow<br>(m <sup>3</sup> /s) |
|--------------------|--------------|-----------------------------------|------------------|-------------------------------|---------------------------------|-----------------------------------|
| 11:35:00           | 0.000        | 0.000                             | 0.000            | 0.097                         | 0.260                           | 0.357                             |
| 11:40:00           | 0.000        | 0.000                             | 0.000            | 0.088                         | 0.259                           | 0.347                             |
| 11:45:00           | 0.000        | 0.000                             | 0.000            | 0.079                         | 0.259                           | 0.338                             |
| 11:50:00           | 0.000        | 0.000                             | 0.000            | 0.070                         | 0.259                           | 0.328                             |
| 11:55:00           | 0.000        | 0.000                             | 0.000            | 0.061                         | 0.258                           | 0.319                             |
| 12:00:00           | 0.000        | 0.000                             | 0.000            | 0.053                         | 0.258                           | 0.311                             |
| 12:05:00           | 0.000        | 0.000                             | 0.000            | 0.045                         | 0.257                           | 0.303                             |
| 12:10:00           | 0.000        | 0.000                             | 0.000            | 0.038                         | 0.257                           | 0.295                             |
| 12:15:00           | 0.000        | 0.000                             | 0.000            | 0.032                         | 0.256                           | 0.288                             |
| 12:20:00           | 0.000        | 0.000                             | 0.000            | 0.026                         | 0.255                           | 0.281                             |
| 12:25:00           | 0.000        | 0.000                             | 0.000            | 0.021                         | 0.255                           | 0.276                             |
| 12:30:00           | 0.000        | 0.000                             | 0.000            | 0.017                         | 0.254                           | 0.271                             |
| 12:35:00           | 0.000        | 0.000                             | 0.000            | 0.013                         | 0.254                           | 0.267                             |
| 12:40:00           | 0.000        | 0.000                             | 0.000            | 0.010                         | 0.253                           | 0.263                             |
| 12:45:00           | 0.000        | 0.000                             | 0.000            | 0.008                         | 0.252                           | 0.260                             |
| 12:50:00           | 0.000        | 0.000                             | 0.000            | 0.006                         | 0.252                           | 0.258                             |
| 12:55:00           | 0.000        | 0.000                             | 0.000            | 0.004                         | 0.251                           | 0.255                             |
| 13:00:00           | 0.000        | 0.000                             | 0.000            | 0.003                         | 0.250                           | 0.254                             |
| 13:05:00           | 0.000        | 0.000                             | 0.000            | 0.002                         | 0.250                           | 0.252                             |
| 13:10:00           | 0.000        | 0.000                             | 0.000            | 0.002                         | 0.249                           | 0.251                             |
| 13:15:00           | 0.000        | 0.000                             | 0.000            | 0.001                         | 0.248                           | 0.249                             |
| 13:20:00           | 0.000        | 0.000                             | 0.000            | 0.001                         | 0.248                           | 0.248                             |
| 13:25:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.247                           | 0.247                             |
| 13:30:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.246                           | 0.246                             |
| 13:35:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.246                           | 0.246                             |
| 13:40:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.245                           | 0.245                             |
| 13:45:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.244                           | 0.244                             |
| 13:50:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.244                           | 0.244                             |
| 13:55:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.243                           | 0.243                             |
| 14:00:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.242                           | 0.242                             |
| 14:05:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.242                           | 0.242                             |
| 14:10:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.241                           | 0.241                             |
| 14:15:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.240                           | 0.240                             |
| 14:20:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.240                           | 0.240                             |
| 14:25:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.239                           | 0.239                             |

| Time<br>(hh:mm:ss) | Rain<br>(mm) | Sewer Loss<br>(m <sup>3</sup> /s) | Net Rain<br>(mm) | Runoff<br>(m <sup>3</sup> /s) | Baseflow<br>(m <sup>3</sup> /s) | Total Flow<br>(m <sup>3</sup> /s) |
|--------------------|--------------|-----------------------------------|------------------|-------------------------------|---------------------------------|-----------------------------------|
| 14:30:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.239                           | 0.239                             |
| 14:35:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.238                           | 0.238                             |
| 14:40:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.237                           | 0.237                             |
| 14:45:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.237                           | 0.237                             |
| 14:50:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.236                           | 0.236                             |
| 14:55:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.235                           | 0.235                             |
| 15:00:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.235                           | 0.235                             |
| 15:05:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.234                           | 0.234                             |
| 15:10:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.233                           | 0.233                             |
| 15:15:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.233                           | 0.233                             |
| 15:20:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.232                           | 0.232                             |
| 15:25:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.232                           | 0.232                             |
| 15:30:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.231                           | 0.231                             |
| 15:35:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.230                           | 0.230                             |
| 15:40:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.230                           | 0.230                             |
| 15:45:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.229                           | 0.229                             |
| 15:50:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.228                           | 0.228                             |
| 15:55:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.228                           | 0.228                             |
| 16:00:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.227                           | 0.227                             |
| 16:05:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.227                           | 0.227                             |
| 16:10:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.226                           | 0.226                             |
| 16:15:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.225                           | 0.225                             |
| 16:20:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.225                           | 0.225                             |
| 16:25:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.224                           | 0.224                             |
| 16:30:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.224                           | 0.224                             |
| 16:35:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.223                           | 0.223                             |
| 16:40:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.222                           | 0.222                             |
| 16:45:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.222                           | 0.222                             |
| 16:50:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.221                           | 0.221                             |
| 16:55:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.221                           | 0.221                             |
| 17:00:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.220                           | 0.220                             |
| 17:05:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.219                           | 0.219                             |
| 17:10:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.219                           | 0.219                             |
| 17:15:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.218                           | 0.218                             |
| 17:20:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.218                           | 0.218                             |

| Time<br>(hh:mm:ss) | Rain<br>(mm) | Sewer Loss<br>(m <sup>3</sup> /s) | Net Rain<br>(mm) | Runoff<br>(m <sup>3</sup> /s) | Baseflow<br>(m <sup>3</sup> /s) | Total Flow<br>(m <sup>3</sup> /s) |
|--------------------|--------------|-----------------------------------|------------------|-------------------------------|---------------------------------|-----------------------------------|
| 17:25:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.217                           | 0.217                             |
| 17:30:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.217                           | 0.217                             |
| 17:35:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.216                           | 0.216                             |
| 17:40:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.215                           | 0.215                             |
| 17:45:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.215                           | 0.215                             |
| 17:50:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.214                           | 0.214                             |
| 17:55:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.214                           | 0.214                             |
| 18:00:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.213                           | 0.213                             |
| 18:05:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.212                           | 0.212                             |
| 18:10:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.212                           | 0.212                             |
| 18:15:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.211                           | 0.211                             |
| 18:20:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.211                           | 0.211                             |
| 18:25:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.210                           | 0.210                             |
| 18:30:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.210                           | 0.210                             |
| 18:35:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.209                           | 0.209                             |
| 18:40:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.209                           | 0.209                             |
| 18:45:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.208                           | 0.208                             |
| 18:50:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.207                           | 0.207                             |
| 18:55:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.207                           | 0.207                             |
| 19:00:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.206                           | 0.206                             |
| 19:05:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.206                           | 0.206                             |
| 19:10:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.205                           | 0.205                             |
| 19:15:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.205                           | 0.205                             |
| 19:20:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.204                           | 0.204                             |
| 19:25:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.204                           | 0.204                             |
| 19:30:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.203                           | 0.203                             |
| 19:35:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.202                           | 0.202                             |
| 19:40:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.202                           | 0.202                             |
| 19:45:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.201                           | 0.201                             |
| 19:50:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.201                           | 0.201                             |
| 19:55:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.200                           | 0.200                             |
| 20:00:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.200                           | 0.200                             |
| 20:05:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.199                           | 0.199                             |
| 20:10:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.199                           | 0.199                             |
| 20:15:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.198                           | 0.198                             |

| Time<br>(hh:mm:ss) | Rain<br>(mm) | Sewer Loss<br>(m <sup>3</sup> /s) | Net Rain<br>(mm) | Runoff<br>(m <sup>3</sup> /s) | Baseflow<br>(m <sup>3</sup> /s) | Total Flow<br>(m <sup>3</sup> /s) |
|--------------------|--------------|-----------------------------------|------------------|-------------------------------|---------------------------------|-----------------------------------|
| 20:20:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.198                           | 0.198                             |
| 20:25:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.197                           | 0.197                             |
| 20:30:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.197                           | 0.197                             |
| 20:35:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.196                           | 0.196                             |
| 20:40:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.195                           | 0.195                             |
| 20:45:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.195                           | 0.195                             |
| 20:50:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.194                           | 0.194                             |
| 20:55:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.194                           | 0.194                             |
| 21:00:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.193                           | 0.193                             |
| 21:05:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.193                           | 0.193                             |
| 21:10:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.192                           | 0.192                             |
| 21:15:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.192                           | 0.192                             |
| 21:20:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.191                           | 0.191                             |
| 21:25:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.191                           | 0.191                             |
| 21:30:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.190                           | 0.190                             |
| 21:35:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.190                           | 0.190                             |
| 21:40:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.189                           | 0.189                             |
| 21:45:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.189                           | 0.189                             |
| 21:50:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.188                           | 0.188                             |
| 21:55:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.188                           | 0.188                             |
| 22:00:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.187                           | 0.187                             |
| 22:05:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.187                           | 0.187                             |
| 22:10:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.186                           | 0.186                             |
| 22:15:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.186                           | 0.186                             |
| 22:20:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.185                           | 0.185                             |
| 22:25:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.185                           | 0.185                             |
| 22:30:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.184                           | 0.184                             |
| 22:35:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.184                           | 0.184                             |
| 22:40:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.183                           | 0.183                             |
| 22:45:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.183                           | 0.183                             |
| 22:50:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.182                           | 0.182                             |
| 22:55:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.182                           | 0.182                             |
| 23:00:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.181                           | 0.181                             |
| 23:05:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.181                           | 0.181                             |
| 23:10:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.180                           | 0.180                             |

| Time<br>(hh:mm:ss) | Rain<br>(mm) | Sewer Loss<br>(m <sup>3</sup> /s) | Net Rain<br>(mm) | Runoff<br>(m <sup>3</sup> /s) | Baseflow<br>(m <sup>3</sup> /s) | Total Flow<br>(m <sup>3</sup> /s) |
|--------------------|--------------|-----------------------------------|------------------|-------------------------------|---------------------------------|-----------------------------------|
| 23:15:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.180                           | 0.180                             |
| 23:20:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.179                           | 0.179                             |
| 23:25:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.179                           | 0.179                             |
| 23:30:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.178                           | 0.178                             |
| 23:35:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.178                           | 0.178                             |
| 23:40:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.177                           | 0.177                             |
| 23:45:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.177                           | 0.177                             |
| 23:50:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.176                           | 0.176                             |
| 23:55:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.176                           | 0.176                             |
| 24:00:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.176                           | 0.176                             |
| 24:05:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.175                           | 0.175                             |
| 24:10:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.175                           | 0.175                             |
| 24:15:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.174                           | 0.174                             |
| 24:20:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.174                           | 0.174                             |
| 24:25:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.173                           | 0.173                             |
| 24:30:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.173                           | 0.173                             |
| 24:35:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.172                           | 0.172                             |
| 24:40:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.172                           | 0.172                             |
| 24:45:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.171                           | 0.171                             |
| 24:50:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.171                           | 0.171                             |
| 24:55:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.170                           | 0.170                             |
| 25:00:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.170                           | 0.170                             |
| 25:05:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.170                           | 0.170                             |
| 25:10:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.169                           | 0.169                             |
| 25:15:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.169                           | 0.169                             |
| 25:20:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.168                           | 0.168                             |
| 25:25:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.168                           | 0.168                             |
| 25:30:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.167                           | 0.167                             |
| 25:35:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.167                           | 0.167                             |
| 25:40:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.166                           | 0.166                             |
| 25:45:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.166                           | 0.166                             |
| 25:50:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.165                           | 0.165                             |
| 25:55:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.165                           | 0.165                             |
| 26:00:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.165                           | 0.165                             |
| 26:05:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.164                           | 0.164                             |

| Time<br>(hh:mm:ss) | Rain<br>(mm) | Sewer Loss<br>(m <sup>3</sup> /s) | Net Rain<br>(mm) | Runoff<br>(m <sup>3</sup> /s) | Baseflow<br>(m <sup>3</sup> /s) | Total Flow<br>(m <sup>3</sup> /s) |
|--------------------|--------------|-----------------------------------|------------------|-------------------------------|---------------------------------|-----------------------------------|
| 26:10:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.164                           | 0.164                             |
| 26:15:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.163                           | 0.163                             |
| 26:20:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.163                           | 0.163                             |
| 26:25:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.162                           | 0.162                             |
| 26:30:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.162                           | 0.162                             |
| 26:35:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.162                           | 0.162                             |
| 26:40:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.161                           | 0.161                             |
| 26:45:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.161                           | 0.161                             |
| 26:50:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.160                           | 0.160                             |
| 26:55:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.160                           | 0.160                             |
| 27:00:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.159                           | 0.159                             |
| 27:05:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.159                           | 0.159                             |
| 27:10:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.159                           | 0.159                             |
| 27:15:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.158                           | 0.158                             |
| 27:20:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.158                           | 0.158                             |
| 27:25:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.157                           | 0.157                             |
| 27:30:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.157                           | 0.157                             |
| 27:35:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.156                           | 0.156                             |
| 27:40:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.156                           | 0.156                             |
| 27:45:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.156                           | 0.156                             |
| 27:50:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.155                           | 0.155                             |
| 27:55:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.155                           | 0.155                             |
| 28:00:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.154                           | 0.154                             |
| 28:05:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.154                           | 0.154                             |
| 28:10:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.153                           | 0.153                             |
| 28:15:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.153                           | 0.153                             |
| 28:20:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.153                           | 0.153                             |
| 28:25:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.152                           | 0.152                             |
| 28:30:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.152                           | 0.152                             |
| 28:35:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.151                           | 0.151                             |
| 28:40:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.151                           | 0.151                             |
| 28:45:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.151                           | 0.151                             |
| 28:50:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.150                           | 0.150                             |
| 28:55:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.150                           | 0.150                             |
| 29:00:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.149                           | 0.149                             |

| Time<br>(hh:mm:ss) | Rain<br>(mm) | Sewer Loss<br>(m <sup>3</sup> /s) | Net Rain<br>(mm) | Runoff<br>(m <sup>3</sup> /s) | Baseflow<br>(m <sup>3</sup> /s) | Total Flow<br>(m <sup>3</sup> /s) |
|--------------------|--------------|-----------------------------------|------------------|-------------------------------|---------------------------------|-----------------------------------|
| 29:05:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.149                           | 0.149                             |
| 29:10:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.149                           | 0.149                             |
| 29:15:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.148                           | 0.148                             |
| 29:20:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.148                           | 0.148                             |
| 29:25:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.147                           | 0.147                             |
| 29:30:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.147                           | 0.147                             |
| 29:35:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.147                           | 0.147                             |
| 29:40:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.146                           | 0.146                             |
| 29:45:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.146                           | 0.146                             |
| 29:50:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.145                           | 0.145                             |
| 29:55:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.145                           | 0.145                             |
| 30:00:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.145                           | 0.145                             |
| 30:05:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.144                           | 0.144                             |
| 30:10:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.144                           | 0.144                             |
| 30:15:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.143                           | 0.143                             |
| 30:20:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.143                           | 0.143                             |
| 30:25:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.143                           | 0.143                             |
| 30:30:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.142                           | 0.142                             |
| 30:35:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.142                           | 0.142                             |
| 30:40:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.142                           | 0.142                             |
| 30:45:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.141                           | 0.141                             |
| 30:50:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.141                           | 0.141                             |
| 30:55:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.140                           | 0.140                             |
| 31:00:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.140                           | 0.140                             |
| 31:05:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.140                           | 0.140                             |
| 31:10:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.139                           | 0.139                             |
| 31:15:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.139                           | 0.139                             |
| 31:20:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.139                           | 0.139                             |
| 31:25:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.138                           | 0.138                             |
| 31:30:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.138                           | 0.138                             |
| 31:35:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.137                           | 0.137                             |
| 31:40:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.137                           | 0.137                             |
| 31:45:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.137                           | 0.137                             |
| 31:50:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.136                           | 0.136                             |
| 31:55:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.136                           | 0.136                             |

| Time<br>(hh:mm:ss) | Rain<br>(mm) | Sewer Loss<br>(m <sup>3</sup> /s) | Net Rain<br>(mm) | Runoff<br>(m <sup>3</sup> /s) | Baseflow<br>(m <sup>3</sup> /s) | Total Flow<br>(m <sup>3</sup> /s) |
|--------------------|--------------|-----------------------------------|------------------|-------------------------------|---------------------------------|-----------------------------------|
| 32:00:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.136                           | 0.136                             |
| 32:05:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.135                           | 0.135                             |
| 32:10:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.135                           | 0.135                             |
| 32:15:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.135                           | 0.135                             |
| 32:20:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.134                           | 0.134                             |
| 32:25:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.134                           | 0.134                             |
| 32:30:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.133                           | 0.133                             |
| 32:35:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.133                           | 0.133                             |
| 32:40:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.133                           | 0.133                             |
| 32:45:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.132                           | 0.132                             |
| 32:50:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.132                           | 0.132                             |
| 32:55:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.132                           | 0.132                             |
| 33:00:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.131                           | 0.131                             |
| 33:05:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.131                           | 0.131                             |
| 33:10:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.131                           | 0.131                             |
| 33:15:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.130                           | 0.130                             |
| 33:20:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.130                           | 0.130                             |
| 33:25:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.130                           | 0.130                             |
| 33:30:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.129                           | 0.129                             |
| 33:35:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.129                           | 0.129                             |
| 33:40:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.129                           | 0.129                             |
| 33:45:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.128                           | 0.128                             |
| 33:50:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.128                           | 0.128                             |
| 33:55:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.127                           | 0.127                             |
| 34:00:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.127                           | 0.127                             |
| 34:05:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.127                           | 0.127                             |
| 34:10:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.126                           | 0.126                             |
| 34:15:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.126                           | 0.126                             |
| 34:20:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.126                           | 0.126                             |
| 34:25:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.125                           | 0.125                             |
| 34:30:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.125                           | 0.125                             |
| 34:35:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.125                           | 0.125                             |
| 34:40:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.124                           | 0.124                             |
| 34:45:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.124                           | 0.124                             |
| 34:50:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.124                           | 0.124                             |

| Time<br>(hh:mm:ss) | Rain<br>(mm) | Sewer Loss<br>(m <sup>3</sup> /s) | Net Rain<br>(mm) | Runoff<br>(m <sup>3</sup> /s) | Baseflow<br>(m <sup>3</sup> /s) | Total Flow<br>(m <sup>3</sup> /s) |
|--------------------|--------------|-----------------------------------|------------------|-------------------------------|---------------------------------|-----------------------------------|
| 34:55:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.123                           | 0.123                             |
| 35:00:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.123                           | 0.123                             |
| 35:05:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.123                           | 0.123                             |
| 35:10:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.122                           | 0.122                             |
| 35:15:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.122                           | 0.122                             |
| 35:20:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.122                           | 0.122                             |
| 35:25:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.121                           | 0.121                             |
| 35:30:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.121                           | 0.121                             |
| 35:35:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.121                           | 0.121                             |
| 35:40:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.120                           | 0.120                             |
| 35:45:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.120                           | 0.120                             |
| 35:50:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.120                           | 0.120                             |
| 35:55:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.120                           | 0.120                             |
| 36:00:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.119                           | 0.119                             |
| 36:05:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.119                           | 0.119                             |
| 36:10:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.119                           | 0.119                             |
| 36:15:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.118                           | 0.118                             |
| 36:20:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.118                           | 0.118                             |
| 36:25:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.118                           | 0.118                             |
| 36:30:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.117                           | 0.117                             |
| 36:35:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.117                           | 0.117                             |
| 36:40:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.117                           | 0.117                             |
| 36:45:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.116                           | 0.116                             |
| 36:50:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.116                           | 0.116                             |
| 36:55:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.116                           | 0.116                             |
| 37:00:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.115                           | 0.115                             |
| 37:05:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.115                           | 0.115                             |
| 37:10:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.115                           | 0.115                             |
| 37:15:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.114                           | 0.114                             |
| 37:20:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.114                           | 0.114                             |
| 37:25:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.114                           | 0.114                             |
| 37:30:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.114                           | 0.114                             |
| 37:35:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.113                           | 0.113                             |
| 37:40:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.113                           | 0.113                             |
| 37:45:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.113                           | 0.113                             |

| Time<br>(hh:mm:ss) | Rain<br>(mm) | Sewer Loss<br>(m <sup>3</sup> /s) | Net Rain<br>(mm) | Runoff<br>(m <sup>3</sup> /s) | Baseflow<br>(m <sup>3</sup> /s) | Total Flow<br>(m <sup>3</sup> /s) |
|--------------------|--------------|-----------------------------------|------------------|-------------------------------|---------------------------------|-----------------------------------|
| 37:50:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.112                           | 0.112                             |
| 37:55:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.112                           | 0.112                             |
| 38:00:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.112                           | 0.112                             |
| 38:05:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.111                           | 0.111                             |
| 38:10:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.111                           | 0.111                             |
| 38:15:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.111                           | 0.111                             |
| 38:20:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.111                           | 0.111                             |
| 38:25:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.110                           | 0.110                             |
| 38:30:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.110                           | 0.110                             |
| 38:35:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.110                           | 0.110                             |
| 38:40:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.109                           | 0.109                             |
| 38:45:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.109                           | 0.109                             |
| 38:50:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.109                           | 0.109                             |
| 38:55:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.108                           | 0.108                             |
| 39:00:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.108                           | 0.108                             |
| 39:05:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.108                           | 0.108                             |
| 39:10:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.108                           | 0.108                             |
| 39:15:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.107                           | 0.107                             |
| 39:20:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.107                           | 0.107                             |
| 39:25:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.107                           | 0.107                             |
| 39:30:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.106                           | 0.106                             |
| 39:35:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.106                           | 0.106                             |
| 39:40:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.106                           | 0.106                             |
| 39:45:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.106                           | 0.106                             |
| 39:50:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.105                           | 0.105                             |
| 39:55:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.105                           | 0.105                             |
| 40:00:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.105                           | 0.105                             |
| 40:05:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.104                           | 0.104                             |
| 40:10:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.104                           | 0.104                             |
| 40:15:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.104                           | 0.104                             |
| 40:20:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.104                           | 0.104                             |
| 40:25:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.103                           | 0.103                             |
| 40:30:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.103                           | 0.103                             |
| 40:35:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.103                           | 0.103                             |
| 40:40:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.103                           | 0.103                             |

| Time<br>(hh:mm:ss) | Rain<br>(mm) | Sewer Loss<br>(m <sup>3</sup> /s) | Net Rain<br>(mm) | Runoff<br>(m <sup>3</sup> /s) | Baseflow<br>(m <sup>3</sup> /s) | Total Flow<br>(m <sup>3</sup> /s) |
|--------------------|--------------|-----------------------------------|------------------|-------------------------------|---------------------------------|-----------------------------------|
| 40:45:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.102                           | 0.102                             |
| 40:50:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.102                           | 0.102                             |
| 40:55:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.102                           | 0.102                             |
| 41:00:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.101                           | 0.101                             |
| 41:05:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.101                           | 0.101                             |
| 41:10:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.101                           | 0.101                             |
| 41:15:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.101                           | 0.101                             |
| 41:20:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.100                           | 0.100                             |
| 41:25:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.100                           | 0.100                             |
| 41:30:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.100                           | 0.100                             |
| 41:35:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.100                           | 0.100                             |
| 41:40:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.099                           | 0.099                             |
| 41:45:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.099                           | 0.099                             |
| 41:50:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.099                           | 0.099                             |
| 41:55:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.098                           | 0.098                             |
| 42:00:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.098                           | 0.098                             |
| 42:05:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.098                           | 0.098                             |
| 42:10:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.098                           | 0.098                             |
| 42:15:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.097                           | 0.097                             |
| 42:20:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.097                           | 0.097                             |
| 42:25:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.097                           | 0.097                             |
| 42:30:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.097                           | 0.097                             |
| 42:35:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.096                           | 0.096                             |
| 42:40:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.096                           | 0.096                             |
| 42:45:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.096                           | 0.096                             |
| 42:50:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.096                           | 0.096                             |
| 42:55:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.095                           | 0.095                             |
| 43:00:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.095                           | 0.095                             |
| 43:05:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.095                           | 0.095                             |
| 43:10:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.095                           | 0.095                             |
| 43:15:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.094                           | 0.094                             |
| 43:20:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.094                           | 0.094                             |
| 43:25:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.094                           | 0.094                             |
| 43:30:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.094                           | 0.094                             |
| 43:35:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.093                           | 0.093                             |

| Time<br>(hh:mm:ss) | Rain<br>(mm) | Sewer Loss<br>(m <sup>3</sup> /s) | Net Rain<br>(mm) | Runoff<br>(m <sup>3</sup> /s) | Baseflow<br>(m <sup>3</sup> /s) | Total Flow<br>(m <sup>3</sup> /s) |
|--------------------|--------------|-----------------------------------|------------------|-------------------------------|---------------------------------|-----------------------------------|
| 43:40:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.093                           | 0.093                             |
| 43:45:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.093                           | 0.093                             |
| 43:50:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.093                           | 0.093                             |
| 43:55:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.092                           | 0.092                             |
| 44:00:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.092                           | 0.092                             |
| 44:05:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.092                           | 0.092                             |
| 44:10:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.092                           | 0.092                             |
| 44:15:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.091                           | 0.091                             |
| 44:20:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.091                           | 0.091                             |
| 44:25:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.091                           | 0.091                             |
| 44:30:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.091                           | 0.091                             |
| 44:35:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.090                           | 0.090                             |
| 44:40:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.090                           | 0.090                             |
| 44:45:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.090                           | 0.090                             |
| 44:50:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.090                           | 0.090                             |
| 44:55:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.089                           | 0.089                             |
| 45:00:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.089                           | 0.089                             |
| 45:05:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.089                           | 0.089                             |
| 45:10:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.089                           | 0.089                             |
| 45:15:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.088                           | 0.088                             |
| 45:20:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.088                           | 0.088                             |
| 45:25:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.088                           | 0.088                             |
| 45:30:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.088                           | 0.088                             |
| 45:35:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.087                           | 0.087                             |
| 45:40:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.087                           | 0.087                             |
| 45:45:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.087                           | 0.087                             |
| 45:50:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.087                           | 0.087                             |
| 45:55:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.087                           | 0.087                             |
| 46:00:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.086                           | 0.086                             |
| 46:05:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.086                           | 0.086                             |
| 46:10:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.086                           | 0.086                             |
| 46:15:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.086                           | 0.086                             |
| 46:20:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.085                           | 0.085                             |
| 46:25:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.085                           | 0.085                             |
| 46:30:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.085                           | 0.085                             |

| Time<br>(hh:mm:ss) | Rain<br>(mm) | Sewer Loss<br>(m <sup>3</sup> /s) | Net Rain<br>(mm) | Runoff<br>(m <sup>3</sup> /s) | Baseflow<br>(m <sup>3</sup> /s) | Total Flow<br>(m <sup>3</sup> /s) |
|--------------------|--------------|-----------------------------------|------------------|-------------------------------|---------------------------------|-----------------------------------|
| 46:35:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.085                           | 0.085                             |
| 46:40:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.084                           | 0.084                             |
| 46:45:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.084                           | 0.084                             |
| 46:50:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.084                           | 0.084                             |
| 46:55:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.084                           | 0.084                             |
| 47:00:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.084                           | 0.084                             |
| 47:05:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.083                           | 0.083                             |
| 47:10:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.083                           | 0.083                             |
| 47:15:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.083                           | 0.083                             |
| 47:20:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.083                           | 0.083                             |
| 47:25:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.082                           | 0.082                             |
| 47:30:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.082                           | 0.082                             |
| 47:35:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.082                           | 0.082                             |
| 47:40:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.082                           | 0.082                             |
| 47:45:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.082                           | 0.082                             |
| 47:50:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.081                           | 0.081                             |
| 47:55:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.081                           | 0.081                             |
| 48:00:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.081                           | 0.081                             |
| 48:05:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.081                           | 0.081                             |
| 48:10:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.080                           | 0.080                             |
| 48:15:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.080                           | 0.080                             |
| 48:20:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.080                           | 0.080                             |
| 48:25:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.080                           | 0.080                             |
| 48:30:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.080                           | 0.080                             |
| 48:35:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.079                           | 0.079                             |
| 48:40:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.079                           | 0.079                             |
| 48:45:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.079                           | 0.079                             |
| 48:50:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.079                           | 0.079                             |
| 48:55:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.079                           | 0.079                             |
| 49:00:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.078                           | 0.078                             |
| 49:05:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.078                           | 0.078                             |
| 49:10:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.078                           | 0.078                             |
| 49:15:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.078                           | 0.078                             |
| 49:20:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.078                           | 0.078                             |
| 49:25:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.077                           | 0.077                             |

| Time<br>(hh:mm:ss) | Rain<br>(mm) | Sewer Loss<br>(m <sup>3</sup> /s) | Net Rain<br>(mm) | Runoff<br>(m <sup>3</sup> /s) | Baseflow<br>(m <sup>3</sup> /s) | Total Flow<br>(m <sup>3</sup> /s) |
|--------------------|--------------|-----------------------------------|------------------|-------------------------------|---------------------------------|-----------------------------------|
| 49:30:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.077                           | 0.077                             |
| 49:35:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.077                           | 0.077                             |
| 49:40:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.077                           | 0.077                             |
| 49:45:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.076                           | 0.076                             |
| 49:50:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.076                           | 0.076                             |
| 49:55:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.076                           | 0.076                             |
| 50:00:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.076                           | 0.076                             |
| 50:05:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.076                           | 0.076                             |
| 50:10:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.075                           | 0.075                             |
| 50:15:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.075                           | 0.075                             |
| 50:20:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.075                           | 0.075                             |
| 50:25:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.075                           | 0.075                             |
| 50:30:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.075                           | 0.075                             |
| 50:35:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.074                           | 0.074                             |
| 50:40:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.074                           | 0.074                             |
| 50:45:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.074                           | 0.074                             |
| 50:50:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.074                           | 0.074                             |
| 50:55:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.074                           | 0.074                             |
| 51:00:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.073                           | 0.073                             |
| 51:05:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.073                           | 0.073                             |
| 51:10:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.073                           | 0.073                             |
| 51:15:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.073                           | 0.073                             |
| 51:20:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.073                           | 0.073                             |
| 51:25:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.072                           | 0.072                             |
| 51:30:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.072                           | 0.072                             |
| 51:35:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.072                           | 0.072                             |
| 51:40:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.072                           | 0.072                             |
| 51:45:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.072                           | 0.072                             |
| 51:50:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.072                           | 0.072                             |
| 51:55:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.071                           | 0.071                             |
| 52:00:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.071                           | 0.071                             |
| 52:05:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.071                           | 0.071                             |
| 52:10:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.071                           | 0.071                             |
| 52:15:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.071                           | 0.071                             |
| 52:20:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.070                           | 0.070                             |

| Time<br>(hh:mm:ss) | Rain<br>(mm) | Sewer Loss<br>(m <sup>3</sup> /s) | Net Rain<br>(mm) | Runoff<br>(m <sup>3</sup> /s) | Baseflow<br>(m <sup>3</sup> /s) | Total Flow<br>(m <sup>3</sup> /s) |
|--------------------|--------------|-----------------------------------|------------------|-------------------------------|---------------------------------|-----------------------------------|
| 52:25:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.070                           | 0.070                             |
| 52:30:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.070                           | 0.070                             |
| 52:35:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.070                           | 0.070                             |
| 52:40:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.070                           | 0.070                             |
| 52:45:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.069                           | 0.069                             |
| 52:50:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.069                           | 0.069                             |
| 52:55:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.069                           | 0.069                             |
| 53:00:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.069                           | 0.069                             |
| 53:05:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.069                           | 0.069                             |
| 53:10:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.069                           | 0.069                             |
| 53:15:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.068                           | 0.068                             |
| 53:20:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.068                           | 0.068                             |
| 53:25:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.068                           | 0.068                             |
| 53:30:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.068                           | 0.068                             |
| 53:35:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.068                           | 0.068                             |
| 53:40:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.067                           | 0.067                             |
| 53:45:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.067                           | 0.067                             |
| 53:50:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.067                           | 0.067                             |
| 53:55:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.067                           | 0.067                             |
| 54:00:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.067                           | 0.067                             |
| 54:05:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.067                           | 0.067                             |
| 54:10:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.066                           | 0.066                             |
| 54:15:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.066                           | 0.066                             |
| 54:20:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.066                           | 0.066                             |
| 54:25:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.066                           | 0.066                             |
| 54:30:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.066                           | 0.066                             |
| 54:35:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.065                           | 0.065                             |
| 54:40:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.065                           | 0.065                             |
| 54:45:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.065                           | 0.065                             |
| 54:50:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.065                           | 0.065                             |
| 54:55:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.065                           | 0.065                             |
| 55:00:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.065                           | 0.065                             |
| 55:05:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.064                           | 0.064                             |
| 55:10:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.064                           | 0.064                             |
| 55:15:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.064                           | 0.064                             |

| Time<br>(hh:mm:ss) | Rain<br>(mm) | Sewer Loss<br>(m <sup>3</sup> /s) | Net Rain<br>(mm) | Runoff<br>(m <sup>3</sup> /s) | Baseflow<br>(m <sup>3</sup> /s) | Total Flow<br>(m <sup>3</sup> /s) |
|--------------------|--------------|-----------------------------------|------------------|-------------------------------|---------------------------------|-----------------------------------|
| 55:20:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.064                           | 0.064                             |
| 55:25:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.064                           | 0.064                             |
| 55:30:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.064                           | 0.064                             |
| 55:35:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.063                           | 0.063                             |
| 55:40:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.063                           | 0.063                             |
| 55:45:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.063                           | 0.063                             |
| 55:50:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.063                           | 0.063                             |
| 55:55:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.063                           | 0.063                             |
| 56:00:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.063                           | 0.063                             |
| 56:05:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.062                           | 0.062                             |
| 56:10:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.062                           | 0.062                             |
| 56:15:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.062                           | 0.062                             |
| 56:20:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.062                           | 0.062                             |
| 56:25:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.062                           | 0.062                             |
| 56:30:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.062                           | 0.062                             |
| 56:35:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.061                           | 0.061                             |
| 56:40:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.061                           | 0.061                             |
| 56:45:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.061                           | 0.061                             |
| 56:50:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.061                           | 0.061                             |
| 56:55:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.061                           | 0.061                             |
| 57:00:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.061                           | 0.061                             |
| 57:05:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.060                           | 0.060                             |
| 57:10:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.060                           | 0.060                             |
| 57:15:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.060                           | 0.060                             |
| 57:20:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.060                           | 0.060                             |
| 57:25:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.060                           | 0.060                             |
| 57:30:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.060                           | 0.060                             |
| 57:35:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.059                           | 0.059                             |
| 57:40:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.059                           | 0.059                             |
| 57:45:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.059                           | 0.059                             |
| 57:50:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.059                           | 0.059                             |
| 57:55:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.059                           | 0.059                             |
| 58:00:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.059                           | 0.059                             |
| 58:05:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.058                           | 0.058                             |
| 58:10:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.058                           | 0.058                             |

| Time<br>(hh:mm:ss) | Rain<br>(mm) | Sewer Loss<br>(m <sup>3</sup> /s) | Net Rain<br>(mm) | Runoff<br>(m <sup>3</sup> /s) | Baseflow<br>(m <sup>3</sup> /s) | Total Flow<br>(m <sup>3</sup> /s) |
|--------------------|--------------|-----------------------------------|------------------|-------------------------------|---------------------------------|-----------------------------------|
| 58:15:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.058                           | 0.058                             |
| 58:20:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.058                           | 0.058                             |
| 58:25:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.058                           | 0.058                             |
| 58:30:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.058                           | 0.058                             |
| 58:35:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.058                           | 0.058                             |
| 58:40:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.057                           | 0.057                             |
| 58:45:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.057                           | 0.057                             |
| 58:50:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.057                           | 0.057                             |
| 58:55:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.057                           | 0.057                             |
| 59:00:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.057                           | 0.057                             |
| 59:05:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.057                           | 0.057                             |
| 59:10:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.056                           | 0.056                             |
| 59:15:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.056                           | 0.056                             |
| 59:20:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.056                           | 0.056                             |
| 59:25:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.056                           | 0.056                             |
| 59:30:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.056                           | 0.056                             |
| 59:35:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.056                           | 0.056                             |
| 59:40:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.056                           | 0.056                             |
| 59:45:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.055                           | 0.055                             |
| 59:50:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.055                           | 0.055                             |
| 59:55:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.055                           | 0.055                             |
| 60:00:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.055                           | 0.055                             |
| 60:05:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.055                           | 0.055                             |
| 60:10:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.055                           | 0.055                             |
| 60:15:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.055                           | 0.055                             |
| 60:20:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.054                           | 0.054                             |
| 60:25:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.054                           | 0.054                             |
| 60:30:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.054                           | 0.054                             |
| 60:35:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.054                           | 0.054                             |
| 60:40:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.054                           | 0.054                             |
| 60:45:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.054                           | 0.054                             |
| 60:50:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.053                           | 0.053                             |
| 60:55:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.053                           | 0.053                             |
| 61:00:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.053                           | 0.053                             |
| 61:05:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.053                           | 0.053                             |

| Time<br>(hh:mm:ss) | Rain<br>(mm) | Sewer Loss<br>(m <sup>3</sup> /s) | Net Rain<br>(mm) | Runoff<br>(m <sup>3</sup> /s) | Baseflow<br>(m <sup>3</sup> /s) | Total Flow<br>(m <sup>3</sup> /s) |
|--------------------|--------------|-----------------------------------|------------------|-------------------------------|---------------------------------|-----------------------------------|
| 61:10:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.053                           | 0.053                             |
| 61:15:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.053                           | 0.053                             |
| 61:20:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.053                           | 0.053                             |
| 61:25:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.052                           | 0.052                             |
| 61:30:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.052                           | 0.052                             |
| 61:35:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.052                           | 0.052                             |
| 61:40:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.052                           | 0.052                             |
| 61:45:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.052                           | 0.052                             |
| 61:50:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.052                           | 0.052                             |
| 61:55:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.052                           | 0.052                             |
| 62:00:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.052                           | 0.052                             |
| 62:05:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.051                           | 0.051                             |
| 62:10:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.051                           | 0.051                             |
| 62:15:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.051                           | 0.051                             |
| 62:20:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.051                           | 0.051                             |
| 62:25:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.051                           | 0.051                             |
| 62:30:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.051                           | 0.051                             |
| 62:35:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.051                           | 0.051                             |
| 62:40:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.050                           | 0.050                             |
| 62:45:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.050                           | 0.050                             |
| 62:50:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.050                           | 0.050                             |
| 62:55:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.050                           | 0.050                             |
| 63:00:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.050                           | 0.050                             |
| 63:05:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.050                           | 0.050                             |
| 63:10:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.050                           | 0.050                             |
| 63:15:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.049                           | 0.049                             |
| 63:20:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.049                           | 0.049                             |
| 63:25:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.049                           | 0.049                             |
| 63:30:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.049                           | 0.049                             |
| 63:35:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.049                           | 0.049                             |
| 63:40:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.049                           | 0.049                             |
| 63:45:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.049                           | 0.049                             |
| 63:50:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.049                           | 0.049                             |
| 63:55:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.048                           | 0.048                             |
| 64:00:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.048                           | 0.048                             |

| Time<br>(hh:mm:ss) | Rain<br>(mm) | Sewer Loss<br>(m <sup>3</sup> /s) | Net Rain<br>(mm) | Runoff<br>(m <sup>3</sup> /s) | Baseflow<br>(m <sup>3</sup> /s) | Total Flow<br>(m <sup>3</sup> /s) |
|--------------------|--------------|-----------------------------------|------------------|-------------------------------|---------------------------------|-----------------------------------|
| 64:05:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.048                           | 0.048                             |
| 64:10:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.048                           | 0.048                             |
| 64:15:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.048                           | 0.048                             |
| 64:20:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.048                           | 0.048                             |
| 64:25:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.048                           | 0.048                             |
| 64:30:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.048                           | 0.048                             |
| 64:35:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.047                           | 0.047                             |
| 64:40:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.047                           | 0.047                             |
| 64:45:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.047                           | 0.047                             |
| 64:50:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.047                           | 0.047                             |
| 64:55:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.047                           | 0.047                             |
| 65:00:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.047                           | 0.047                             |
| 65:05:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.047                           | 0.047                             |
| 65:10:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.047                           | 0.047                             |
| 65:15:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.046                           | 0.046                             |
| 65:20:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.046                           | 0.046                             |
| 65:25:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.046                           | 0.046                             |
| 65:30:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.046                           | 0.046                             |
| 65:35:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.046                           | 0.046                             |
| 65:40:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.046                           | 0.046                             |
| 65:45:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.046                           | 0.046                             |
| 65:50:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.046                           | 0.046                             |
| 65:55:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.045                           | 0.045                             |
| 66:00:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.045                           | 0.045                             |
| 66:05:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.045                           | 0.045                             |
| 66:10:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.045                           | 0.045                             |
| 66:15:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.045                           | 0.045                             |
| 66:20:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.045                           | 0.045                             |
| 66:25:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.045                           | 0.045                             |
| 66:30:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.045                           | 0.045                             |
| 66:35:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.044                           | 0.044                             |
| 66:40:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.044                           | 0.044                             |
| 66:45:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.044                           | 0.044                             |
| 66:50:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.044                           | 0.044                             |
| 66:55:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.044                           | 0.044                             |

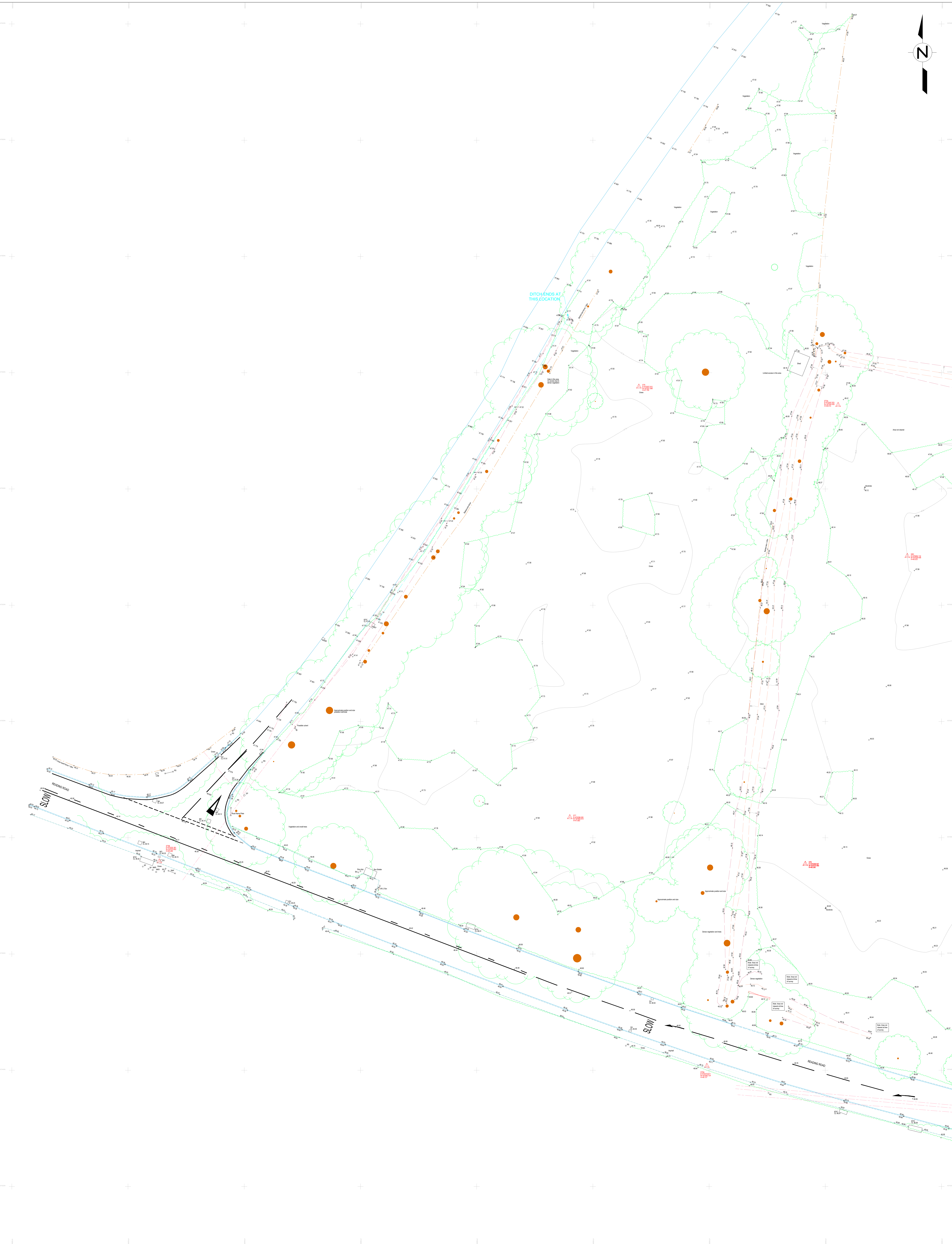
| Time<br>(hh:mm:ss) | Rain<br>(mm) | Sewer Loss<br>(m <sup>3</sup> /s) | Net Rain<br>(mm) | Runoff<br>(m <sup>3</sup> /s) | Baseflow<br>(m <sup>3</sup> /s) | Total Flow<br>(m <sup>3</sup> /s) |
|--------------------|--------------|-----------------------------------|------------------|-------------------------------|---------------------------------|-----------------------------------|
| 67:00:00           | 0.000        | 0.000                             | 0.000            | 0.000                         | 0.044                           | 0.044                             |

## Appendix

### Catchment descriptors

| Name                              | Value | User-defined value used? |
|-----------------------------------|-------|--------------------------|
| Area (km <sup>2</sup> )           | 1.25  | No                       |
| ALTBAR                            | 56    | No                       |
| ASPBAR                            | 304   | No                       |
| ASPVAR                            | 0.79  | No                       |
| BFIHOST                           | 0.34  | No                       |
| BFIHOST19                         | 0.39  | No                       |
| DPLBAR (km)                       | 1.03  | No                       |
| DPSBAR (mkm <sup>-1</sup> )       | 20.3  | No                       |
| FARL                              | 0.99  | No                       |
| LDP                               | 1.76  | No                       |
| PROPWET                           | 0.29  | No                       |
| RMED1H                            | 11.5  | No                       |
| RMED1D                            | 29    | No                       |
| RMED2D                            | 36.7  | No                       |
| SAAR (mm)                         | 648   | No                       |
| SAAR4170 (mm)                     | 649   | No                       |
| SPRHOST                           | 41.61 | No                       |
| URBEXT2000                        | 0.1   | No                       |
| URBEXT1990                        | 0.08  | No                       |
| URBCONC                           | 0.58  | No                       |
| URBLOC                            | 0.97  | No                       |
| DDF parameter C                   | -0.03 | No                       |
| DDF parameter D1                  | 0.27  | No                       |
| DDF parameter D2                  | 0.27  | No                       |
| DDF parameter D3                  | 0.32  | No                       |
| DDF parameter E                   | 0.3   | No                       |
| DDF parameter F                   | 2.63  | No                       |
| DDF parameter C (1km grid value)  | -0.03 | No                       |
| DDF parameter D1 (1km grid value) | 0.26  | No                       |
| DDF parameter D2 (1km grid value) | 0.26  | No                       |
| DDF parameter D3 (1km grid value) | 0.33  | No                       |
| DDF parameter E (1km grid value)  | 0.3   | No                       |
| DDF parameter F (1km grid value)  | 2.62  | No                       |

## **Appendix C**



Title:

Topographic Survey

Client:

dandara

Project:

Reading Road, Arbfield Return

Surveyed:

NR, GB & PS

Drawn:

MH

Checked:

NR, GB & PS

Scale:

1:200 (A0 Sheet)

Job No:

NRS001A

Sheet:

01

Rev:

A

Notes:

Previous Survey "NRS001 08/10/2024" has been inserted into this model for reference.

Warranty

This drawing does not provide an absolute representation of the sub-surface. Utilities have been detected using non-invasive technologies only, and the performance can be adversely affected by ground, weather and site conditions outside of NRS Surveying Ltd control, therefore, some utilities may be undetected. Whilst NRS Surveying Ltd uses reasonable endeavours to detect all utilities, it does not warrant that 100% detection will be achieved and that approximate depth penetration of the technologies NRS Surveying Ltd uses will not be greater than two metres.

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Hampshire  
PO9 3RY  
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Email: [nrsurveying@gmail.com](mailto:nrsurveying@gmail.com)

Sheet 01

Sheet 02

Sheet 03

Sheet 04

Sheet 05

GENERAL NOTES

Irrespective of the information provided by a utility survey and statutory notice, excavation work should be undertaken with extreme caution and in accordance with HSE Guidelines - HSG47 Avoiding Danger From Underground Services.  
Utilities may continue outside of the survey area. Any asset marked outside of the area is for investigative purposes only and may not represent the full extent of the sub-surface utilities.  
Where signs indicate a utility exists but which cannot be positively confirmed with the technology, an assumed result (ASR) has been highlighted in yellow.  
(ASR) have been highlighted with a background purple colour for visual enhancement.  
GPR is utilised across the whole site to access areas where ground conditions, obstructions above, Areas of dense vegetation, uneven or marshy land, the sub-surface etc, will not be covered by GPR.  
Vertical & Horizontal Position: Vertical position indicates a indicative to the top of the utility, the horizontal extent is shown in red. The horizontal position is returned to the service rather than the service base. Where depth information is not available to the technology it is either, depth is not within.  
Accuracy  
This drawing does not provide an absolute representation of the sub-surface. Utilities have been detected using non-invasive technologies only and the performance can be adversely affected by ground, weather and site conditions outside of NRS Surveying Ltd control, therefore, some utilities may be undetected. Whilst NRS Surveying Ltd uses reasonable endeavours to detect all utilities, it does not warrant that 100% detection will be achieved and that approximate depth penetration of the technologies NRS Surveying Ltd uses will not be greater than two metres.

PAS128 SURVEYS

0.00m SDP - 0.00m Depth in metres, 0.00m Quality Level, P = Post processed GPR

Key to Quality Levels

Quality Level

01

02

03

04

05

06

07

08

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ABBREVIATIONS

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CLP

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CLU

CLV

CLW

CLX

CLY

CLZ

CLAA

CLAB

CLAC

CLAD

CLAE

CLAF

CLAG

CLAH

CLAI

CLAJ

CLAK

CLAL

CLAM

CLAN

CLAO

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CLAS

CLAT

CLAU

CLAV

CLAW

CLAX

CLAY

CLAZ

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CLBC

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CLBE

CLBF

CLBG

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CLBO

CLBP

CLBQ

CLBR

CLBS

CLBT

CLBU

CLBV

CLBW

CLBX

CLBY

CLBZ

CLCA

CLCB

CLCC

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CLCE

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CLCN

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CLCP

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CLCR

CLCS

CLCT

CLCU

CLCV

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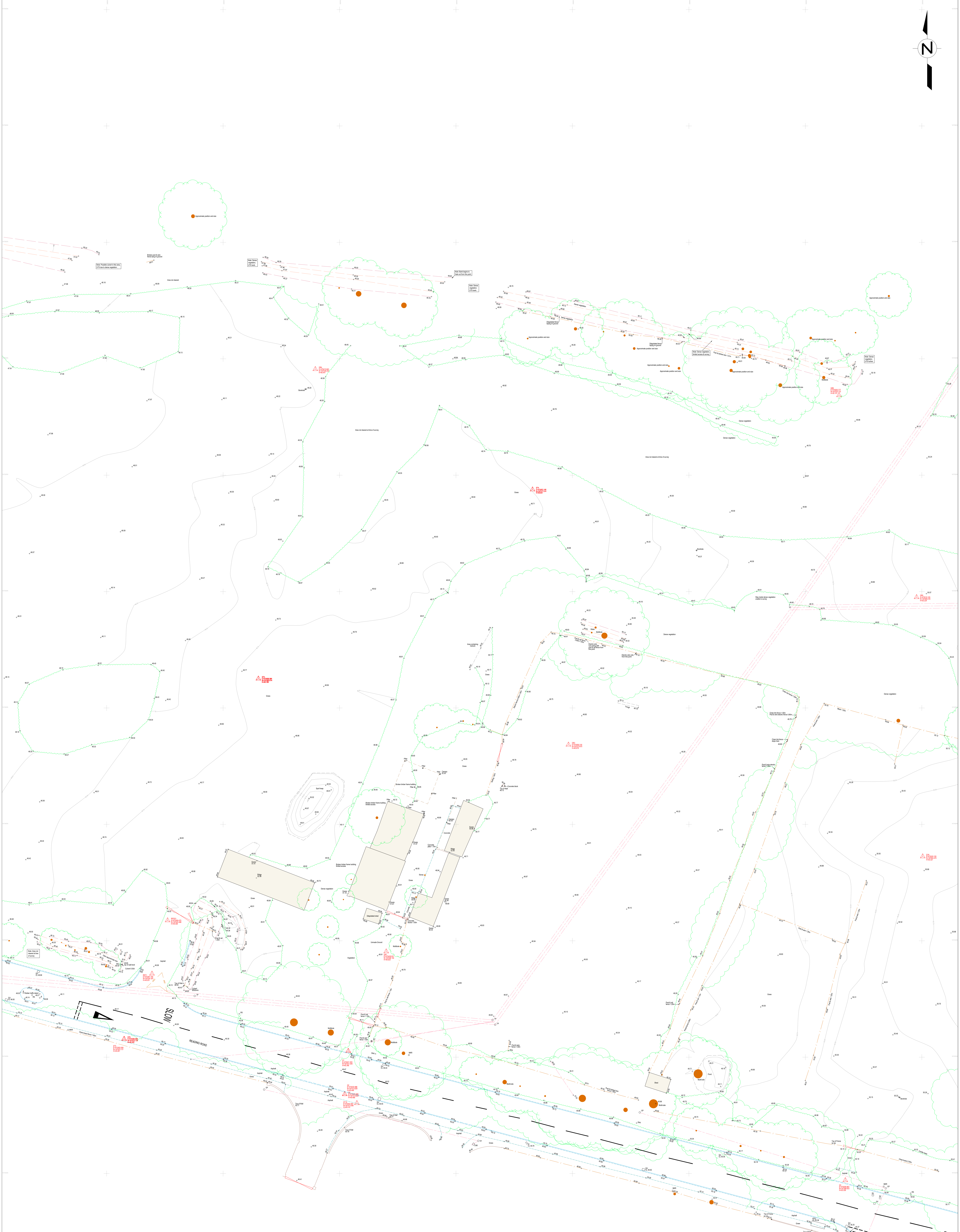
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Title:Topographic Survey

Client:

Project:Reading Road, Arbofield Return

Surveyed:NR, GB & PS

Drawn:MH

Checked:NR, GB & PS

Scale:1:200 (A0 Sheet)

Job No:NRS001A

Notes:Previous Survey "NRS001 08/10/2024" has been inserted into this model for reference.

Sheet:02

Rev:A

Drawn

Date

NRS Surveying Limited,  
6 Purbrook Way,  
Havant,  
Hampshire  
PO9 3RY  
Mobile:  
07564 602518.  
Email: [nrsurveying@gmail.com](mailto:nrsurveying@gmail.com)

Sheet Layout

**GENERAL NOTES**

Regardless of the information provided by a utility survey and statutory plans, excavation work should be undertaken with extreme caution and in accordance with HSE Guidelines - HSG67 Avoiding Danger from Underground Services

Utilities may continue outside of the survey area. Any point marks outside of the area are for investigative purposes only and may not represent the full extent of the sub-surface utilities.

Where logs indicate a utility exists but which cannot be positively confirmed with the technology, an assumed note (ASR) is recorded. All assumed service notes (ASR) have been highlighted with a background yellow colour for visual enhancement.

GPR is utilised across the site in all accessible areas where ground conditions, obstructions allow. Areas of dense vegetation, unclear areas, marsh land, steep banks etc. will not be covered by GPR.

**Vertical & Horizontal Position** - Vertical position (depth) is indicative to the top of the infrastructure and should not be taken as exact, as this could be the surround to the service rather than the service itself. Where depth information from the technology is unclear, depth is not shown.

**Warnings**

This drawing does not provide an absolute representation of the sub-surface. Utilities have been detected using non-invasive technologies only and the performance can be adversely affected by ground, weather and site conditions outside of NRS Surveying Ltd control, therefore, some utilities may be undetected. Whilst NRS Surveying Ltd uses reasonable endeavours to detect all utilities, it does not warrant that 100% detection will be achieved and that approximate depth penetration of the technologies NRS Surveying Ltd uses will not be greater than two metres.

**PAS128 SURVEYS**

(R) RDS (DP) 0.00m = Depth in metres, (Q) = Quoted Level, P = Post processed GPR

| Quality Level | Key to Quality Levels                                             |
|---------------|-------------------------------------------------------------------|
| Q1            | Undisturbed (open, sealed, concrete, asphalt)                     |
| Q2            | Disturbed (soil, gravel, concrete, asphalt)                       |
| Q3            | Horizontal position located by one technology only                |
| Q4            | Horizontal and vertical position located by one technology only   |
| Q5            | Horizontal and vertical position located by multiple technologies |
| Q6            | Horizontal and vertical position verified quality of the service  |

Where logs indicate a utility exists but which cannot be positively confirmed with the technology, an assumed note (ASR) is recorded. All assumed service notes (ASR) have been highlighted with a background yellow colour for visual enhancement.

| Symbol | Description                |
|--------|----------------------------|
|        | Building                   |
|        | Fence                      |
|        | Cover with Chamber Extents |
|        | Chamber Barrier            |
|        | Drainage Channel           |
|        | Drop Kerb                  |
|        | Edge Detail                |
|        | Enbankment Slope           |
|        | Possible Service           |
|        | Assumed Ground             |
|        | Kerb Channel               |
|        | Kerb Trap                  |
|        | Overhead Service           |
|        | Wall                       |

**ABBREVIATIONS**

|      |                       |
|------|-----------------------|
| BS   | Betterment            |
| BU   | Buried                |
| CL   | Cable                 |
| CS   | Cable Service         |
| CSA  | Cable Service Area    |
| CSL  | Cable Service Line    |
| CSM  | Cable Service Map     |
| CSN  | Cable Service Network |
| CSO  | Cable Service Overlay |
| CSU  | Cable Service Unit    |
| CSV  | Cable Service Volume  |
| CSW  | Cable Service Width   |
| CSX  | Cable Service X       |
| CSY  | Cable Service Y       |
| CSZ  | Cable Service Z       |
| CSAA | Cable Service Area    |
| CSAL | Cable Service Area    |
| CSAM | Cable Service Area    |
| CSAN | Cable Service Area    |
| CSAO | Cable Service Area    |
| CSAP | Cable Service Area    |
| CSAQ | Cable Service Area    |
| CSAR | Cable Service Area    |
| CSAS | Cable Service Area    |
| CSAT | Cable Service Area    |
| CSAU | Cable Service Area    |
| CSAV | Cable Service Area    |
| CSAW | Cable Service Area    |
| CSAX | Cable Service Area    |
| CSAY | Cable Service Area    |
| CSAZ | Cable Service Area    |

**UTILITY LEGEND**

|  |                    |
|--|--------------------|
|  | Light in Ground    |
|  | Manhole Cover      |
|  | Manhole Box        |
|  | No Depth Available |
|  | Polyethylene Pipe  |
|  | Rising Pipe        |
|  | Service in Ground  |
|  | Sewer Pipe         |
|  | Sewer Valve        |
|  | Trench Light       |
|  | Trench Marker      |
|  | Water Pipe         |
|  | Water Valve        |
|  | WV                 |

**UTILITY LEGEND**

|  |                        |
|--|------------------------|
|  | Ballast Track          |
|  | Gas Pipe               |
|  | Gas Target             |
|  | High Voltage Cable     |
|  | Multiple Service Lines |
|  | Old Pipeline           |
|  | Power Cable            |
|  | Traffic Control        |
|  | Unknown Service        |
|  | Unknown Cable          |
|  | Unknown Pipeline       |
|  | Water Main             |
|  | Fuel Pipeline          |
|  | Unknown GPR Target     |
|  | Unknown Service Lines  |
|  | Unknown Cable          |
|  | Unknown Pipeline       |
|  | Unknown Water Main     |
|  | Unknown Gas Pipe       |
|  | Unknown Sewer Pipe     |
|  | Unknown Trench Marker  |
|  | Unknown Trench Light   |
|  | Unknown Water Valve    |
|  | Unknown WV             |



[illegible]



## **Appendix D**



1. All dimensions are in metres unless stated otherwise.
2. Do not scale from this drawing. Only written dimensions are to be used.
3. **ANY VARIANCE OR DISCREPANCY MUST BE REPORTED BACK TO RCP ENGINEERING BEFORE WORK BEGINS.**

|                                                                                                                                                                                                                  |                                                                                     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Site Boundary                                                                                                                                                                                                    |  |
| Surface Water Drainage<br>(Subject to Detailed Design)                                                                                                                                                           |  |
| Onsite lined attenuation basin to<br>accommodate onsite surface water<br>run-off                                                                                                                                 |  |
| Foul Water Drainage<br>(Subject to Detailed Design)                                                                                                                                                              |  |
| Foul Water Drainage Rising Main<br>(Subject to Detailed Design)                                                                                                                                                  |  |
| Proposed culvert<br>(As part of existing surface water flood risk<br>mitigation measures)<br>(Subject to Detailed Design)                                                                                        |  |
| Proposed cut off/conveyance swale<br>(As part of existing surface water flood risk<br>mitigation measures)<br>(Subject to Detailed Design)                                                                       |  |
| Basin to accommodate compensatory<br>storage requirements for existing flood<br>risk from surface water<br>(As part of existing surface water flood<br>risk mitigation measures)<br>(Subject to Detailed Design) |  |

[illegible]

Client:-



Site:-  
Land North of  
Reading Road  
Arborefield

Drawing Title:-  
Outline Drainage  
Strategy Layout

|             |               |           |              |
|-------------|---------------|-----------|--------------|
| Date:       | November 2024 | Scales:   | 1:1000 at A1 |
| Drawn:      | TRS           | Checked:  | LAD          |
|             |               | Approved: | TRS          |
| Drawing No. |               |           |              |

DAN/E0254/001A

FOR INFORMATION ONLY

