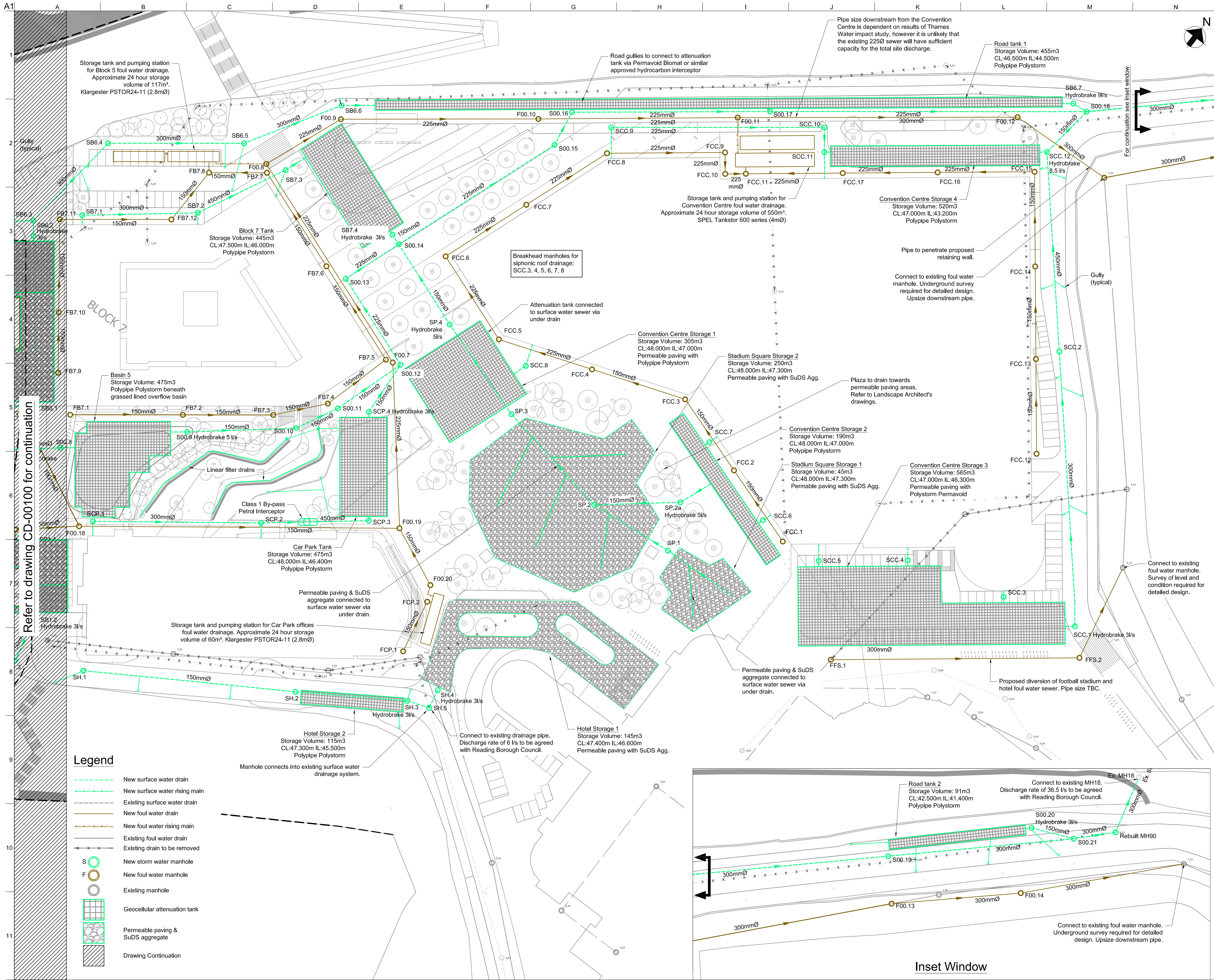




- Notes
1.

This drawing is to be read in conjunction with the manhole schedules 240524-ARP-XX-XX-DR-CD-00102 & 00103 and standard details 240524-ARP-XX-XX-DR-CD-00105 & 00106.
2.

Existing sewers are shown based on available survey and record drawings. Although every effort has been taken to check survey/site information used on this drawing, Arup is not responsible for its accuracy.
3.

Existing sewer depths are not known at the time of this drawing being made. Prior to detailed design a utilities survey, including a CCTV survey of the existing drainage condition, shall be procured to verify the levels and positions of existing drainage and underground services.
4.

The minimum pipe size for below ground foul and surface water drainage shall be 150mmØ.
5.

Pipes less than 300mmØ are to be uPVC. Pipes 300mmØ and larger are to be HDPE.
6.

Drainage laid beneath roads and car parks with less than 1200mm of cover shall be encased in 150mm concrete with the provision for movement at joints. All other drainage with less than 900mm cover shall be similarly treated.
7.

It is assumed that where possible the foul and rain water downpipes will be routed through the basement level to the proposed points of connection. If it is determined during detailed design that the pipes cannot traverse these distances, additional manholes may be required outside the buildings. The quantity of manholes is subject to change due to coordination with underground services and other site elements during detailed design.
8.

Thames Water is currently conducting an Impact Study for the proposed foul water connection to the public sewer. Storage tanks have been provided for all buildings to accommodate 24 hours of storage in accordance with Buildings Regulations Approved Document H. The exact pumping rate from each building is to be determined based on the result of the Impact Study, however it is assumed at this time that the allowable discharge rate will require replacing the existing sewer with a 300mmØ sewer.
9.

All disused drains to be grouted up or removed.
10.

All gullies are shown indicatively. Exact location and means of collection, i.e. gullies vs channels, to be coordinated during detailed design. Runoff from roads shall pass through an appropriate means of hydrocarbon separation (permeable paving, Biomat, etc) prior to entering the below ground drainage system.
11.

Geocellular tank products shall have interlocking capability for high horizontal shear strength. Subgrade preparation shall be per manufacturer's requirements and shall incorporate Tensar geogrid for additional stability.
12.

Similar proprietary products may be submitted to Engineer for approval in lieu of those shown herein.
- |                                |          |    |      |       |
|--------------------------------|----------|----|------|-------|
| P01                            | 11/01/16 | JW | TM   | DK    |
| Issue for Planning Application |          |    |      |       |
| Issue                          | Date     | By | Chkd | Appld |

ARUP

The Arup Campus, Blythe Gate, Blythe Valley Park  
Solihull, West Midlands B90 8AE  
T +44(0)121 213 3000 F +44(0)121 213 3001  
www.arup.com

Client  
Reading Football Club

Job Title  
Royal Elm Park  
(Land at Madejski Stadium)

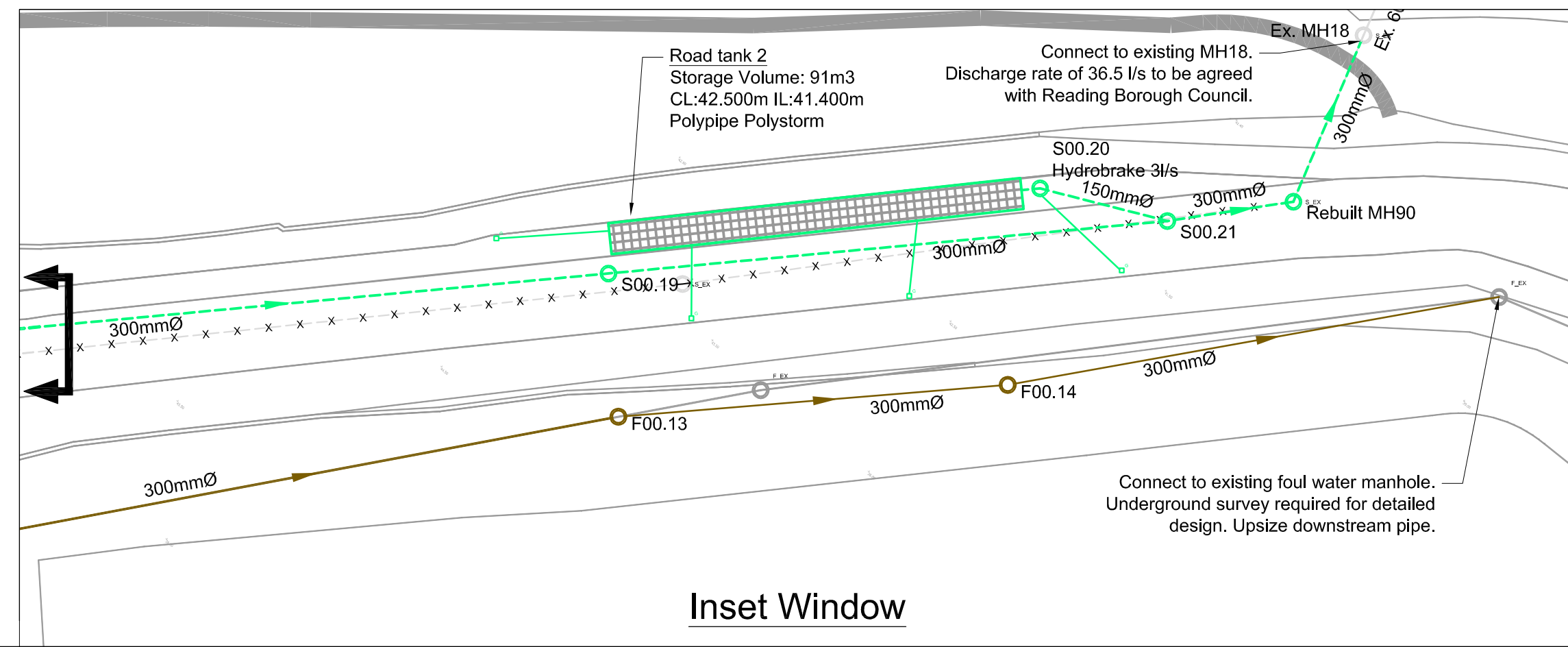
Drawing Title  
Proposed Drainage Layout  
for Detailed Planning Application

Scale at A1  
1:500

Discipline  
Civil

Drawing Status  
For Planning Application

|                     |                        |              |
|---------------------|------------------------|--------------|
| Job No<br>240524-00 | Drawing No<br>CD-00101 | Issue<br>P01 |
|---------------------|------------------------|--------------|



Inset Window

A1

A B C D E F G H I J K L M N

Surface Water Manhole Schedule

| Manhole Reference | Levels (m)     |                |                   | Approx. Membrane Level (m) | Depth (m) | Main Channel Size (mm) | Minimum Internal Size (mm) | Manhole Type (as per SFA 7th Edition) | Cover Size (mm) | Cover Type | Cover Grade (as per BS EN 124) | Manhole Construction Type | Remarks                                                                                    |
|-------------------|----------------|----------------|-------------------|----------------------------|-----------|------------------------|----------------------------|---------------------------------------|-----------------|------------|--------------------------------|---------------------------|--------------------------------------------------------------------------------------------|
|                   | Cover (Approx) | Manhole Invert | Downstream Invert |                            |           |                        |                            |                                       |                 |            |                                |                           |                                                                                            |
| S00.8             | 51.0           | 50.105         | 50.000            | 46.4                       | 0.895     | 150                    | 1200                       | 2                                     | 600 x 600       | Solid      | B 125                          | Concrete                  | Connection point for Outline Planning area                                                 |
| S00.9             | 51.5           | 49.686         | 48.293            | 46.4                       | 1.814     | 150                    | 1200                       | 2                                     | 600 x 600       | Solid      | B 125                          | Concrete                  | Hydrobrake chamber 5 l/s                                                                   |
| S00.10            | 50.0           | 48.293         | 46.488            | 46.2                       | 1.751     | 150                    | 1200                       | 2                                     | 600 x 600       | Inset      | B 125                          | Concrete                  |                                                                                            |
| S00.11            | 48.0           | 46.488         | 45.895            | 45.9                       | 1.512     | 150                    | 1200                       | 2                                     | 600 x 600       | Inset      | B 125                          | Concrete                  |                                                                                            |
| SCP.1             | 51.5           | 50.214         | 48.500            | 47.5                       | 1.286     | 300                    | 1200                       | 2                                     | 600 x 600       | Inset      | B 125                          | Concrete                  |                                                                                            |
| SCP.2             | 49.7           | 48.350         | 46.687            | 46.6                       | 1.350     | 450                    | 1350                       | 2                                     | 600 x 600       | Inset      | B 125                          | Concrete                  | Downstream pipe connects to petrol interceptor                                             |
| SCP.3             | 48.0           | 46.687         | 46.400            | 46.3                       | 1.313     | 450                    | 1350                       | 2                                     | 600 x 600       | Inset      | B 125                          | Concrete                  |                                                                                            |
| SCP.4             | 48.0           | 46.234         | 45.895            | 45.9                       | 1.768     | 150                    | 1350                       | 2                                     | 600 x 600       | Inset      | B 125                          | Concrete                  | Hydrobrake chamber 3 l/s                                                                   |
| S00.12            | 48.0           | 45.820         | 45.324            | 45.6                       | 2.180     | 225                    | 1200                       | 2                                     | 600 x 600       | Inset      | B 125                          | Concrete                  |                                                                                            |
| S00.13            | 47.5           | 45.324         | 44.730            | 45.0                       | 2.176     | 225                    | 1200                       | 2                                     | 600 x 600       | Inset      | B 125                          | Concrete                  |                                                                                            |
| SP.1              | 48.0           | 46.824         | 46.125            | 46.1                       | 1.176     | 150                    | 1200                       | 2                                     | 600 x 600       | Inset      | B 125                          | Concrete                  |                                                                                            |
| SP.2a             | 48.0           | 46.800         | 46.125            | 46.2                       | 1.200     | 150                    | 1200                       | 2                                     | 600 x 600       | Inset      | B 125                          | Concrete                  | Hydrobrake chamber 5 l/s                                                                   |
| SP.2              | 48.0           | 46.050         | 45.700            | 46.0                       | 1.950     | 225                    | 1200                       | 2                                     | 600 x 600       | Inset      | B 125                          | Concrete                  |                                                                                            |
| SP.3              | 48.0           | 45.700         | 45.350            | 45.7                       | 2.300     | 225                    | 1200                       | 2                                     | 600 x 600       | Inset      | B 125                          | Concrete                  |                                                                                            |
| SP.4              | 48.0           | 45.350         | 44.805            | 45.1                       | 2.650     | 150                    | 1200                       | 2                                     | 600 x 600       | Inset      | B 125                          | Concrete                  | Hydrobrake chamber 5 l/s                                                                   |
| SB7.1             | 49.5           | 48.060         | 47.163            | 45.6                       | 1.440     | 300                    | 1200                       | 2                                     | 600 x 600       | Solid      | B 125                          | Concrete                  |                                                                                            |
| SB7.2             | 48.3           | 47.013         | 46.261            | 45.0                       | 1.257     | 450                    | 1350                       | 2                                     | 600 x 600       | Solid      | B 125                          | Concrete                  |                                                                                            |
| SB7.3             | 47.5           | 46.261         | 46.000            | 44.7                       | 1.239     | 450                    | 1350                       | 2                                     | 600 x 600       | Inset      | B 125                          | Concrete                  |                                                                                            |
| SB7.4             | 47.5           | 45.700         | 45.530            | 44.6                       | 1.800     | 150                    | 1350                       | 2                                     | 600 x 600       | Inset      | B 125                          | Concrete                  | Hydrobrake chamber 3 l/s                                                                   |
| S00.14            | 47.5           | 44.730         | 43.980            | 44.6                       | 2.770     | 225                    | 1200                       | 2                                     | 600 x 600       | Inset      | B 125                          | Concrete                  | Backdrop connection from SB7.4                                                             |
| S00.15            | 47.0           | 43.980         | 43.810            | 44.0                       | 3.020     | 225                    | 1200                       | 1B                                    | 600 x 600       | Inset      | B 125                          | Concrete                  |                                                                                            |
| S00.16            | 46.5           | 43.810         | 42.810            | 43.8                       | 2.690     | 225                    | 1200                       | 2                                     | 600 x 600       | Solid      | D 400                          | Concrete                  |                                                                                            |
| S00.17            | 46.5           | 42.810         | 41.810            | 43.7                       | 3.690     | 225                    | 1200                       | 1B                                    | 600 x 600       | Solid      | D 400                          | Concrete                  |                                                                                            |
| SCC.9             | 47.5           | 45.618         | 44.736            | 43.9                       | 1.882     | 225                    | 1200                       | 2                                     | 600 x 600       | Solid      | D 400                          | Concrete                  |                                                                                            |
| SCC.10            | 47.0           | 44.736         | 44.633            | 44.0                       | 2.264     | 225                    | 1200                       | 2                                     | 600 x 600       | Inset      | D 400                          | Concrete                  |                                                                                            |
| SCC.11            | 47.0           | 43.850         | 43.700            | 44.1                       | 3.150     | 300                    | 1200                       | 1B                                    | 600 x 600       | Inset      | B 125                          | Concrete                  | Backdrop connection from SCC.10                                                            |
| SCC.1             | 47.0           | 45.500         | 44.275            | 45.7                       | 1.500     | 300                    | 1200                       | 2                                     | 600 x 600       | Solid      | D 400                          | Concrete                  | Hydrobrake chamber 3 l/s                                                                   |
| SCC.2             | 47.0           | 44.125         | 43.195            | 45.3                       | 2.875     | 450                    | 1350                       | 2                                     | 600 x 600       | Solid      | D 400                          | Concrete                  |                                                                                            |
| SCC.12            | 47.0           | 43.195         | 42.960            | 43.7                       | 3.805     | 150                    | 1350                       | 1B                                    | 600 x 600       | Solid      | D 400                          | Concrete                  | Hydrobrake chamber 8.5 l/s                                                                 |
| SB6.3             | 49.5           | 47.988         | 47.571            | 47.0                       | 1.515     | 300                    | 1200                       | 2                                     | 600 x 600       | Inset      | D 400                          | Concrete                  |                                                                                            |
| SB6.4             | 49.3           | 47.571         | 45.790            | 45.4                       | 1.679     | 300                    | 1200                       | 2                                     | 600 x 600       | Solid      | B 125                          | Concrete                  |                                                                                            |
| SB6.5             | 47.5           | 45.790         | 45.000            | 44.7                       | 1.710     | 300                    | 1200                       | 2                                     | 600 x 600       | Solid      | B 125                          | Concrete                  |                                                                                            |
| SB6.6             | 47.0           | 45.000         | 44.500            | 44.4                       | 2.000     | 300                    | 1200                       | 2                                     | 600 x 600       | Solid      | D 400                          | Concrete                  |                                                                                            |
| SB6.7             | 46.5           | 44.500         | 44.275            | 43.8                       | 2.000     | 150                    | 1200                       | 2                                     | 600 x 600       | Solid      | D 400                          | Concrete                  | Hydrobrake chamber 9 l/s                                                                   |
| S00.18            | 46.5           | 41.735         | 40.820            | 43.7                       | 4.765     | 300                    | 1200                       | 1B                                    | 600 x 600       | Solid      | D 400                          | Concrete                  | Backdrop connections from SCC.12 and SB6.7                                                 |
| S00.19            | 44.0           | 40.820         | 40.370            | 42.0                       | 3.150     | 300                    | 1200                       | 1B                                    | 600 x 600       | Solid      | D 400                          | Concrete                  |                                                                                            |
| S00.20            | 42.5           | 41.150         | 40.970            | 40.3                       | 1.350     | 150                    | 1200                       | 2                                     | 600 x 600       | Solid      | D 400                          | Concrete                  | Hydrobrake chamber 3 l/s                                                                   |
| S00.21            | 42.5           | 40.370         | 39.950            | 40.3                       | 2.130     | 300                    | 1200                       | 2                                     | 600 x 600       | Solid      | D 400                          | Concrete                  | Backdrop connection from S00.20                                                            |
| Existing MH90     | 42.6           | 39.950         | 38.775            | -                          | 2.663     | 300                    | 1200                       | 2                                     | 600 x 600       | Solid      | D 400                          | Concrete                  | Construct new manhole in place of existing MH90. Replace downstream pipe to existing MH18. |
|                   |                |                |                   |                            |           |                        |                            |                                       |                 |            |                                |                           |                                                                                            |
| SH.1              | 50.5           | 49.300         | 47.596            | 48.1                       | 1.200     | 150                    | 1200                       | 2                                     | 600 x 600       | Solid      | D 400                          | Concrete                  |                                                                                            |
| SH.2              | 48.9           | 47.521         | 47.500            | 47.0                       | 1.379     | 225                    | 1200                       | 2                                     | 600 x 600       | Solid      | D 400                          | Concrete                  |                                                                                            |
| SH.3              | 47.5           | 45.500         | TBC               | 46.0                       | 2.000     | 150                    | 1200                       | 2                                     | 600 x 600       | Solid      | D 400                          | Concrete                  | Hydrobrake chamber 3 l/s                                                                   |
| SH.4              | 47.4           | 46.000         | TBC               | 46.0                       | 1.400     | 150                    | 1200                       | 2                                     | 600 x 600       | Inset      | D 400                          | Concrete                  | Hydrobrake chamber 3 l/s                                                                   |
| SH.5              | 47.5           | TBC            | -                 | 46.0                       | TBC       | TBC                    | 1200                       | 2                                     | 600 x 600       | Solid      | D 400                          | Concrete                  | Connect to existing drainage pipe. Invert level required for detailed design.              |

Sustainable Drainage Schedule

| SuDS Reference Name         | SuDS Type                                                             | Catchment Served                       | Physical Volume (m³) | Storage Volume (m³) | Flow Control & Design Rate                   | Water Quality                                    | Remarks |
|-----------------------------|-----------------------------------------------------------------------|----------------------------------------|----------------------|---------------------|----------------------------------------------|--------------------------------------------------|---------|
| Basin 5                     | Geocellular attenuation tank + detention basin                        | Park 5 (+ Basin 4 in outline planning) | 487                  | 475                 | Hydrobrake 5 l/s                             | Surface water filtration through detention basin |         |
| Car Park Tank               | Geocellular attenuation tank                                          | Multi-Storey Car Park, Park 6          | 500                  | 475                 | Hydrobrake 3 l/s                             | Upstream oil interceptor                         |         |
| Block 7 Tank                | Geocellular attenuation tank                                          | Block 7, Stadium Square 2              | 470                  | 445                 | Hydrobrake 3 l/s                             |                                                  |         |
| Stadium Square Storage 1    | Permeable Paving with SuDS Agg sub base                               | Stadium Square 1                       | 225                  | 45                  | Check dams and underdrains                   | Treatment within pavement construction (biofilm) |         |
| Stadium Square Storage 2    | Permeable Paving with SuDS Agg sub base                               | Stadium Square 1                       | 1240                 | 250                 | Check dams and underdrains                   | Treatment within pavement construction (biofilm) |         |
| Convention Centre Storage 1 | Permeable Paving with geocellular sub base                            | Convention Centre 1, Stadium Square 1  | 530                  | 305                 | Check dams, underdrains and Hydrobrake 5 l/s | Treatment within pavement construction (biofilm) |         |
| Convention Centre Storage 2 | Geocellular attenuation tank                                          | Convention Centre 2 & Stadium Square 1 | 200                  | 190                 | Hydrobrake 5 l/s                             |                                                  |         |
| Convention Centre Storage 3 | Permeable Paving with geocellular attenuation tank +SuDS Agg Sub base | Convention Centre 3, 4, 6 & 7          | 910                  | 565                 | Check dams, underdrains and Hydrobrake 3 l/s | Treatment within pavement construction (biofilm) |         |
| Convention Centre Storage 4 | Geocellular attenuation tank                                          | Convention Centre 5 & 8, Road 4        | 550                  | 520                 | Hydrobrake 8.5 l/s                           |                                                  |         |
| Road Tank 1                 | Geocellular attenuation tank                                          | Road 1, 2, 3                           | 480                  | 455                 | Hydrobrake 9 l/s                             | Permavoid Biomat                                 |         |
| Road Tank 2                 | Geocellular attenuation tank                                          | Road 5                                 | 96                   | 91                  | Hydrobrake 3 l/s                             | Permavoid Biomat                                 |         |
| Hotel Storage 1             | Permeable Paving with SuDS Agg sub base                               | Hotel                                  | 480                  | 145                 | Check dams and underdrains                   | Treatment within pavement construction (biofilm) |         |
| Hotel Storage 2             | Geocellular attenuation tank                                          | MSCP Access                            | 120                  | 115                 | Hydrobrake 3 l/s                             |                                                  |         |

Notes

- This schedule is to be read in conjunction with the drainage layout 240524-ARP-XX-XX-DR-CD-00101 and standard details 240524-ARP-XX-XX-DR-CD-00105 & 00106.
- Proposed manholes and pipes outside of detailed planning boundary are not included on this schedule.
- All cover levels are approximate and should be verified with Landscape Architect's drawings or surveyed levels, as appropriate.
- Membrane level is approximate based on an assumed 1.3m depth below the existing ground level. Actual level may vary.
- All backdrops shall match the soffit level of the outgoing pipe, unless noted otherwise.
- Break head chambers for assumed syphonic drainage from Convention Centre are shown indicatively on layout and are therefore not included in manhole schedule.
- Similar proprietary products may be submitted to Engineer for approval in lieu of those shown hereon.

|                                |          |    |      |       |
|--------------------------------|----------|----|------|-------|
| P01                            | 11/01/16 | JW | TM   | DK    |
| Issue for Planning Application |          |    |      |       |
| Issue                          | Date     | By | Chkd | Appld |

ARUP

The Arup Campus, Blythe Gate, Blythe Valley Park  
Sollihull, West Midlands B90 8AE  
T +44(0)121 213 3000 F +44(0)121 213 3001  
www.arup.com

Client  
Reading Football Club

Job Title  
Royal Elm Park  
(Land at Madejski Stadium)

Drawing Title  
Surface Water Schedule

|                          |            |       |
|--------------------------|------------|-------|
| Scale at A1              | NTS        |       |
| Discipline               | Civil      |       |
| Drawing Status           |            |       |
| For Planning Application |            |       |
| Job No                   | Drawing No | Issue |
| 240524-00                | CD-00102   | P01   |

Foul Water Manhole Schedule

| Manhole Reference | Levels (m)     |                |                   | Approx. Membrane Level (m) | Depth (m) | Main Channel Size (mm) | Minimum Internal Size (mm) | Manhole Type (as per SFA 7th Edition) | Cover Size (mm) | Cover Type  | Cover Grade (as BS EN 124) | Manhole Construction Type | Remarks                                                                                                         |
|-------------------|----------------|----------------|-------------------|----------------------------|-----------|------------------------|----------------------------|---------------------------------------|-----------------|-------------|----------------------------|---------------------------|-----------------------------------------------------------------------------------------------------------------|
|                   | Cover (Approx) | Manhole Invert | Downstream Invert |                            |           |                        |                            |                                       |                 |             |                            |                           |                                                                                                                 |
| F00.18            | 51.5           | 49.606         | 46.942            | 47.5                       | 1.894     | 150                    | 1200                       | 2                                     | 600 x 600       | Inset       | B 125                      | Concrete                  | Connection point for Outline Planning area                                                                      |
| FCP.1             | 47.5           | 46.400         | 46.079            | 46.2                       | 1.099     | 150                    | 1200                       | 2                                     | 600 x 600       | Solid       | B 125                      | Concrete                  |                                                                                                                 |
| FCP.2             | 47.7           | 46.079         | 46.048            | 46.3                       | 1.629     | 150                    | 1200                       | 2                                     | 600 x 600       | Inset       | B 125                      | Concrete                  | Downstream pipe connects to pumping station                                                                     |
| F00.20            | 47.8           | 46.750         | 46.279            | 46.4                       | 1.010     | 150                    | 1200                       | 2                                     | 600 x 600       | Inset       | B 125                      | Concrete                  | Break head chamber                                                                                              |
| F00.19            | 48.0           | 46.204         | 45.560            | 46.3                       | 1.796     | 225                    | 1200                       | 2                                     | 600 x 600       | Inset       | B 125                      | Concrete                  | Backdrop connection from F00.18                                                                                 |
| F00.7             | 48.0           | 45.560         | 44.634            | 45.5                       | 2.440     | 225                    | 1200                       | 2                                     | 600 x 600       | Inset       | B 125                      | Concrete                  |                                                                                                                 |
| FB7.9             | 51.0           | 49.604         | 48.984            | 47.2                       | 1.396     | 150                    | 1200                       | 2                                     | 600 x 600       | Inset       | B 125                      | Concrete                  |                                                                                                                 |
| FB7.10            | 50.5           | 48.984         | 48.110            | 47.0                       | 1.516     | 150                    | 1200                       | 2                                     | 600 x 600       | Inset       | B 125                      | Concrete                  |                                                                                                                 |
| FB7.11            | 49.5           | 48.110         | 46.692            | 46.4                       | 1.390     | 150                    | 1200                       | 2                                     | 600 x 600       | Inset       | B 125                      | Concrete                  |                                                                                                                 |
| FB7.12            | 48.3           | 46.692         | 45.558            | 45.1                       | 1.582     | 150                    | 1200                       | 2                                     | 600 x 600       | Solid       | B 125                      | Concrete                  |                                                                                                                 |
| FB7.1             | 51.5           | 50.073         | 49.820            | 47.0                       | 1.427     | 150                    | 1200                       | 2                                     | 600 x 600       | Inset       | B 125                      | Concrete                  |                                                                                                                 |
| FB7.2             | 51.5           | 49.820         | 49.000            | 46.3                       | 1.680     | 150                    | 1200                       | 2                                     | 600 x 600       | Inset       | B 125                      | Concrete                  |                                                                                                                 |
| FB7.3             | 51.5           | 49.000         | 46.767            | 46.1                       | 2.500     | 150                    | 1200                       | 2                                     | 600 x 600       | Inset       | B 125                      | Concrete                  |                                                                                                                 |
| FB7.4             | 48.0           | 46.767         | 46.610            | 45.9                       | 1.233     | 150                    | 1200                       | 2                                     | 600 x 600       | Inset       | B 125                      | Concrete                  |                                                                                                                 |
| FB7.5             | 48.0           | 46.610         | 46.174            | 45.5                       | 1.390     | 150                    | 1200                       | 2                                     | 600 x 600       | Inset       | B 125                      | Concrete                  |                                                                                                                 |
| FB7.6             | 47.7           | 46.174         | 45.771            | 45.0                       | 1.554     | 150                    | 1200                       | 2                                     | 600 x 600       | Inset       | B 125                      | Concrete                  |                                                                                                                 |
| FB7.7             | 47.4           | 45.771         | 45.558            | 44.8                       | 1.675     | 150                    | 1200                       | 2                                     | 600 x 600       | Inset       | B 125                      | Concrete                  |                                                                                                                 |
| FB7.8             | 47.5           | 45.558         | 45.479            | 44.9                       | 1.948     | 150                    | 1200                       | 2                                     | 600 x 600       | Solid       | D 400                      | Concrete                  | Downstream pipe connects to pumping station                                                                     |
| F00.8             | 47.4           | 44.634         | 44.240            | 44.7                       | 2.742     | 225                    | 1200                       | 2                                     | 600 x 600       | Solid       | D 400                      | Concrete                  | Break head chamber                                                                                              |
| F00.9             | 46.9           | 44.240         | 43.349            | 44.3                       | 2.652     | 225                    | 1200                       | 2                                     | 600 x 600       | Solid       | D 400                      | Concrete                  |                                                                                                                 |
| F00.10            | 46.7           | 43.349         | 42.457            | 43.8                       | 3.343     | 225                    | 1200                       | 1B                                    | 600 x 600       | Solid       | D 400                      | Concrete                  |                                                                                                                 |
| FCC.1             | 48.0           | 46.950         | 46.636            | 46.0                       | 1.050     | 150                    | 1200                       | 2                                     | 600 x 600       | Inset       | B 125                      | Concrete                  |                                                                                                                 |
| FCC.2             | 48.0           | 46.636         | 46.323            | 46.1                       | 1.364     | 150                    | 1200                       | 2                                     | 600 x 600       | Inset       | B 125                      | Concrete                  |                                                                                                                 |
| FCC.3             | 48.0           | 46.323         | 45.892            | 45.7                       | 1.677     | 150                    | 1200                       | 2                                     | 600 x 600       | Inset       | B 125                      | Concrete                  |                                                                                                                 |
| FCC.4             | 48.0           | 45.892         | 45.536            | 45.4                       | 2.108     | 225                    | 1200                       | 2                                     | 600 x 600       | Inset       | B 125                      | Concrete                  |                                                                                                                 |
| FCC.5             | 48.0           | 45.536         | 45.177            | 45.2                       | 2.464     | 225                    | 1200                       | 2                                     | 600 x 600       | Inset       | B 125                      | Concrete                  |                                                                                                                 |
| FCC.6             | 47.5           | 45.177         | 44.829            | 44.6                       | 2.331     | 225                    | 1200                       | 2                                     | 600 x 600       | Inset       | B 125                      | Concrete                  |                                                                                                                 |
| FCC.7             | 47.2           | 44.829         | 44.481            | 44.1                       | 2.401     | 225                    | 1200                       | 2                                     | 600 x 600       | Inset       | B 125                      | Concrete                  |                                                                                                                 |
| FCC.8             | 47.0           | 44.481         | 44.051            | 44.0                       | 2.487     | 225                    | 1200                       | 2                                     | 600 x 600       | Inset       | B 125                      | Concrete                  |                                                                                                                 |
| FCC.9             | 47.0           | 44.051         | 43.895            | 44.0                       | 2.916     | 225                    | 1200                       | 2                                     | 600 x 600       | Inset       | B 125                      | Concrete                  |                                                                                                                 |
| FCC.10            | 47.0           | 43.895         | 43.744            | 44.3                       | 3.105     | 225                    | 1200                       | 1B                                    | 600 x 600       | Inset       | B 125                      | Concrete                  |                                                                                                                 |
| FCC.12            | 48.0           | 46.650         | 46.305            | 45.9                       | 1.350     | 150                    | 1200                       | 2                                     | 600 x 600       | Solid       | B 125                      | Concrete                  |                                                                                                                 |
| FCC.13            | 48.0           | 46.305         | 45.968            | 45.4                       | 1.695     | 150                    | 1200                       | 2                                     | 600 x 600       | Solid       | D 400                      | Concrete                  |                                                                                                                 |
| FCC.14            | 47.6           | 45.968         | 45.548            | 44.6                       | 1.598     | 150                    | 1200                       | 2                                     | 600 x 600       | Solid       | B 125                      | Concrete                  |                                                                                                                 |
| FCC.15            | 47.0           | 45.548         | 45.195            | 44.0                       | 1.421     | 225                    | 1200                       | 2                                     | 600 x 600       | Inset       | B 125                      | Concrete                  |                                                                                                                 |
| FCC.16            | 47.0           | 45.195         | 44.850            | 44.4                       | 1.805     | 225                    | 1200                       | 2                                     | 600 x 600       | Inset       | B 125                      | Concrete                  |                                                                                                                 |
| FCC.17            | 47.0           | 44.850         | 43.744            | 44.3                       | 2.150     | 225                    | 1200                       | 2                                     | 600 x 600       | Inset       | B 125                      | Concrete                  |                                                                                                                 |
| FCC.11            | 47.0           | 43.744         | 43.720            | 44.2                       | 3.256     | 225                    | 1200                       | 1B                                    | 600 x 600       | Inset       | B 125                      | Concrete                  | Downstream pipe connects to pumping station                                                                     |
| F00.11            | 46.7           | 42.382         | 41.129            | 43.7                       | 4.335     | 300                    | 1200                       | 1B                                    | 600 x 600       | Solid       | D 400                      | Concrete                  | Break head chamber                                                                                              |
| F00.12            | 46.7           | 41.129         | 40.639            | 43.9                       | 5.540     | 300                    | 1200                       | 1B                                    | 600 x 600       | Solid       | D 400                      | Concrete                  | Downstream pipe penetrates retaining wall                                                                       |
| F00.X1            | 43.1           | TBC            | TBC               | -                          | TBC       | 300                    | As Existing                | As Existing                           | As Existing     | As Existing | As Existing                | As Existing               | Connect to existing manhole. Invert level required for detailed design.                                         |
| F00.13            | 41.9           | TBC            | TBC               | -                          | TBC       | 300                    | 1200                       | TBC                                   | 600 x 600       | Solid       | D 400                      | Concrete                  |                                                                                                                 |
| F00.14            | 40.6           | TBC            | TBC               | -                          | TBC       | 300                    | 1200                       | TBC                                   | 600 x 600       | Solid       | D 400                      | Concrete                  |                                                                                                                 |
| F00.X2            | 41.3           | TBC            | -                 | -                          | TBC       | 300                    | As Existing                | As Existing                           | As Existing     | As Existing | As Existing                | As Existing               | Downstream pipes to Thames Water manhole may require upsizing from 225mm to 300mm. TBC pending TW impact study. |
| FFS.1             | 46.7           | TBC            | TBC               | 45.4                       | TBC       | TBC                    | 1200                       | TBC                                   | 600 x 600       | Inset       | B 125                      | Concrete                  | Connect to existing pipe. Invert level required for detailed design.                                            |
| FFS.2             | 47.0           | TBC            | TBC               | 45.7                       | TBC       | TBC                    | 1200                       | TBC                                   | 600 x 600       | Inset       | B 125                      | Concrete                  | Downstream pipe connects to existing manhole. Invert level required for detailed design.                        |

Notes

1.

This schedule is to be read in conjunction with the drainage layouts 240524-ARP-XX-XX-DR-CD-00101 and standard details 240524-ARP-XX-XX-DR-CD-00105 & 00106.
2.

Proposed manholes and pipes outside of detailed planning boundary are not included on this schedule.
3.

All cover levels are approximate and should be verified with Landscape Architect's drawings or surveyed levels, as appropriate.
4.

Membrane level is approximate based on an assumed 1.3m depth below the existing ground level. Actual level may vary.
5.

All backdrops shall match the soffit level of the outgoing pipe, unless noted otherwise.
6.

Pipes downstream of manhole F00.11 are shown as 300Ø based on currently assumed discharge rates. Existing drainage infrastructure is currently 225Ø. Pending Thames Water impact study, offsite drainage will require upsizing or onsite pumping rates will need to be reduced.

|                                |          |    |      |      |
|--------------------------------|----------|----|------|------|
| P01                            | 11/01/16 | JW | TM   | DK   |
| Issue for Planning Application |          |    |      |      |
| Issue                          | Date     | By | Chkd | Appl |

ARUP

The Arup Campus, Blythe Gate, Blythe Valley Park  
Sollihull, West Midlands B90 8AE  
T +44(0)121 213 3000 F +44(0)121 213 3001  
www.arup.com

Client  
Reading Football Club

Job Title  
Royal Elm Park  
(Land at Madejski Stadium)

Drawing Title  
Foul Water Schedule

Scale at A1 NTS  
Discipline Civil

Drawing Status  
For Planning Application

|           |            |       |
|-----------|------------|-------|
| Job No    | Drawing No | Issue |
| 240524-00 | CD-00103   | P01   |



**Legend**

— Surface Water Catchment Boundary

**Notes**

1. All catchments are assumed to be 100% impermeable. All surface water is positively managed due to the presence of the landfill capping membrane.

2. All areas are given in hectares unless otherwise stated.

|                                |          |    |      |      |
|--------------------------------|----------|----|------|------|
| P01                            | 11/01/16 | JW | TM   | DK   |
| Issue for Planning Application |          |    |      |      |
| Issue                          | Date     | By | Chkd | Appl |

**ARUP**

The Arup Campus, Blythe Gate, Blythe Valley Park  
Salford, West Midlands B90 8AE  
T +44(0)121 213 3000 F +44(0)121 213 3001  
www.arup.com

Client  
**Reading Football Club**

Job Title  
**Royal Elm Park  
(Land at Madejski Stadium)**

Drawing Title  
**Proposed Drainage Catchment Areas**

Scale at A1 1:1000

Discipline Civil

Drawing Status

**For Planning Application**

|                            |                               |                     |
|----------------------------|-------------------------------|---------------------|
| Job No<br><b>240524-00</b> | Drawing No<br><b>CD-00104</b> | Issue<br><b>P01</b> |
|----------------------------|-------------------------------|---------------------|