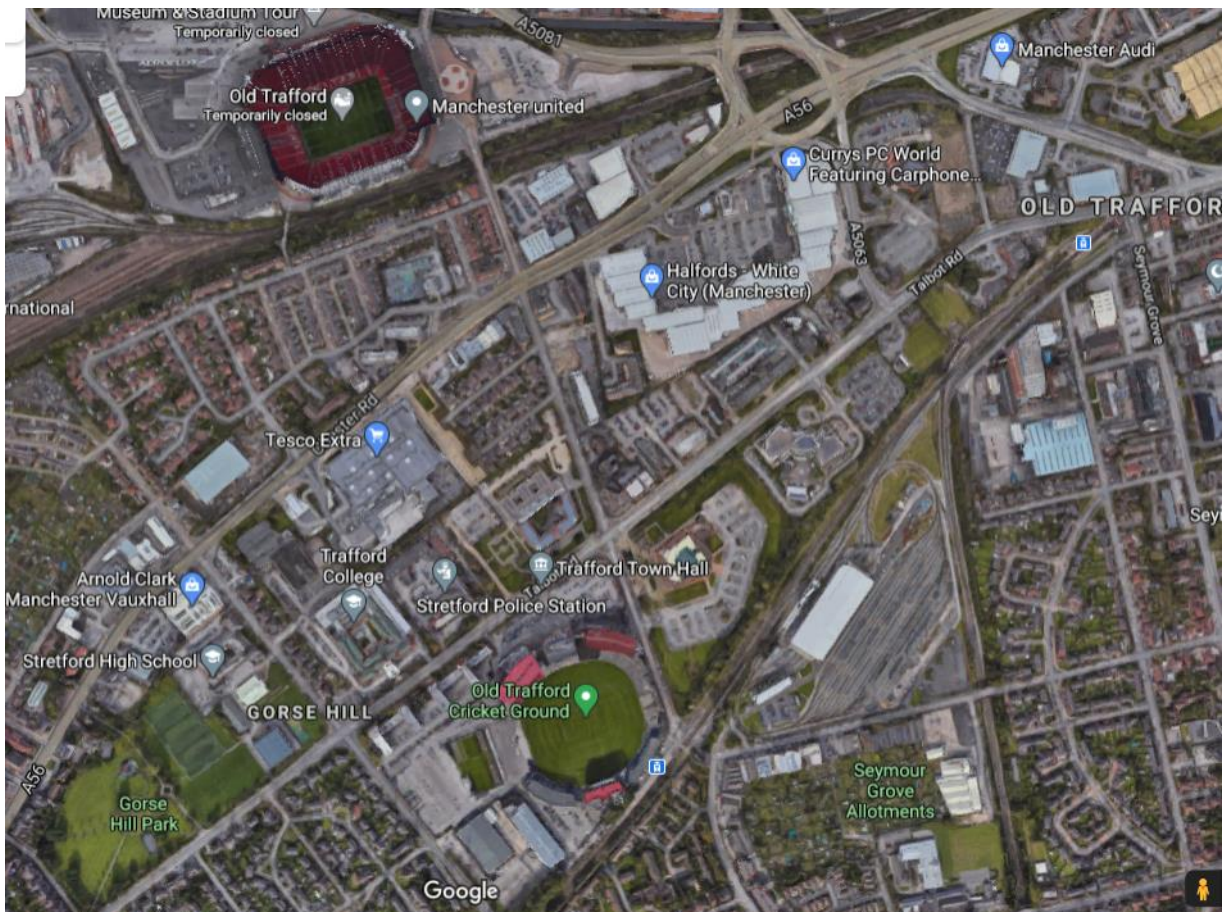


Trafford Civic Quarter constraints Report

Job Number: 13853
Project Title: Trafford Civic Quarter

Engineer: Ian Entwisle
Date: 14 January 2021



Introduction

Booth king partnership Ltd have been appointed by Bruntwood to provide civil engineering consultancy advice and guidance in relation to the proposed master planning of a 50-hectare site located within Trafford civic centre.

This report should be read in conjunction with **Appendix 1** which shows an indicative surface water drainage strategy and **Appendix 2** which shows an indicative foul drainage strategy. This report is intended to identify existing civil constraints which could have a cost implication on the master planning strategy for the wider site. It is intended to identify constraints relating principally to below ground drainage but also identifies other major below ground features which are readily identifiable from superficial surface inspection and by consulting water authority maps. Whilst we do identify other constraints on this drawing such as sub stations etc, this is outside of the remit of Booth King Partnership Ltd and a thorough investigation with report is anticipated to be provided by others.

For the purposes of clarity, we have broken the wider site down into sixteen distinct areas to simplify descriptions and help to locate constraints. We have provided a key plan (see the end of this document) which demonstrates how the site has been sub divided and referencing each smaller block.

General site wide comments

At this stage in the master planning process we are unclear regarding the specific intended end uses for each sub plot, but normal risks apply as follows:

1. Car parking may require bypass separator installation.
2. Parking for larger vehicles such as for HGV may require a full petrol interceptor.
3. Locations with fuel storage may require forecourt separators.
4. Food preparation outlets, cafes and restaurants will require grease interception.
5. In accordance with the lead flood Authority and the MS&T strategic Flood Risk Assessment, post development surface water flows will need to be attenuated. We are unclear on the form of this attenuation at present but have included scheme volumes for conventional tanked storage together with flow control devices as indicated on drawings numbered 13583- 500 to 504. These figures are only intended to provide some early scheme stage costing advice at this stage.
6. Where positive piped connections are required to tie the drainage into the adopted network within the surrounding roadways, our scheme designs show foul connected directly into the adopted combined system. The water Authority has taken some steps to install the beginnings of a surface water adopted network in some areas of the wider site. We have chosen to connect the site surface water directly into the adopted surface water network where it is available.
7. It is worth pointing out that some of the surface water network shown on the United Utilities maps are indicated as private. This may mean that they are highways drains which in fact are likely to be adopted by the Highways Authority. These networks are unlikely to be able to accept large volumes of surface water from the proposed developments.
8. To work to the normally recognised hierarchy of SUDS drainage options, location specific flood risk assessments and a detailed geotechnical and geochemical site investigation will be

required for each sub plot before a decision can be made of the form of the SUDS system which is most appropriate.

9. The scheme stage foul network indicated on drawings numbered 13853-510 to 514 shows a route only. For the purposes of determining concept stage costings assume an average pipe diameter of 225 mm, average manhole depths of 2.5 metres, an average manhole diameters of 1200 mm.
10. We suspect that the White city retail park has a relatively modern network of non-adopted foul and surface water drainage. It may be worth trying to map these networks in due course and considering modifying the proposed arrangement so that some or all of the existing network can be re-used. It is possible that this existing network could serve areas 6,7,10,11 & 12 as defined in this report.
11. It is worth pointing out that we do not currently have any information about on site non adopted drainage networks. Consequently our concept drainage proposals recommend new connections directly to the surrounding known adopted system It is likely that final non adopted foul and surface water manholes on each site could be retained this avoiding a significant amount of full or partial road closure work. We will only be able to comment further on this following a more detailed study of the drainage networks to each of the areas.
12. It is worth pointing out the proximity of areas 2,3,9,13 and 16 to the rail network. It is incumbent on any future developer to provide risk assessments and method statements to Railtrack for all works adjacent to Railtrack equipment. Permissions in relation to the rail network do result in cost implications.
13. From the current proposals we can see no instances of new roads which require a **section 38** adoption.
14. We also can see no instances of significant modification to existing adopted highways which would require **section 278** agreement. However, we believe that some modification to highways will be inevitable and we would propose to report on these in due course as the proposals develop.
15. We also can see no instances of minor modification to existing adopted highways which would require **section 111** agreement. However, we believe that some modification, in particular new and modified bell mouth's will be inevitable, and we would propose to report on these in due course as the proposals develop.
16. There is insufficient information to show whether new primary drainage arrangements located within each of the defined areas will be adopted or will remain private. For a civic centre site such as this we anticipate that the bulk of the drainage arrangements indicated on drawings numbered 13853- 501 to 514 will be adopted and will require **section 104** agreements.
17. Colour code key to water industry act and highways act agreements

Roads closed off (Section 247/248 Town and Country planning act)

Roads intended for adoption (section 38 Highways act)

Roads which require some modification (Section 278 Highways Act)

Roads which require minor modifications such as new bell mouths (section 111 Highways Act)

Drainage which is to be adopted by the water authority (section 104 of the water industry act)

Drainage abandonment of an adopted sewer (section 116 of the water industry act)

Drainage diversion of an adopted sewer (section 185 of the water industry act)

Drainage connection to an adopted network (section 106 of the water industry act)

Specific area Discussion

Area 1 - located to the western corner of the wider site and contained between Chester road to the north, Great Stone road to the West, Briggs Road to the south and Tesco's to the east. This site appears to be relatively straight forward. With the current adopted drainage arrangement, foul and surface water connections will be relatively straight forward with negligible abnormal cost. We anticipate a single **section 106** application necessary to connect both surface water and foul into Briggs road.

Area 2 - located to the south western corner of the wider site and contained between Great Stone road to the West, the railway lines to the south and Old Trafford Cricket ground to the east and north. This site appears to be relatively straight forward. With the current adopted drainage arrangement, foul and surface water connections will be relatively straight forward with negligible abnormal cost. We anticipate a single or possibly two **section 106** applications necessary to connect both surface water and foul into Great Stone road

Area 3 - The K site located to the south of the wider site and contained between Talbot road to the north West, Brian Statham Way to the west, the railway lines to the south and the British gas headquarters to the east. This site appears to be relatively straight forward. With the current adopted drainage arrangement, foul and surface water connections will be relatively straight forward with negligible abnormal cost. We anticipate two separate **section 106** connections and applications necessary to connect both surface water into Brian Statham Way and foul into Talbot Road.

Area 4 - located to the north western edge of the wider site and contained between Chester road to the north West, the rear gardens to the houses on Hornby road to the south east, Warwick road to the east and Tesco's to the west. This site appears to be relatively straight forward. With the current adopted drainage arrangement, foul and surface water connections will be relatively straight forward with negligible abnormal cost. We anticipate two separate **section 106** connections and applications necessary to connect both surface water into a highway drain or into Warwick road. and foul into Chester road.

Area 5 - located to the north western edge of the wider site and contained between Chester road to the north West, Warwick road to the west, Montague road to the east and Warwick gate house to the south. This site appears to be relatively straight forward. With the current adopted drainage arrangement, foul and surface water connections will be relatively straight forward with negligible abnormal cost. We anticipate two separate **section 106** connections and applications necessary to connect both surface water into Chester road and foul into Montague road. The only caveat is that the surface water may need to discharge into a relatively small diameter highway drain. The capacity of this outfall system must be investigated, and flows agreed with the highways agency. It is difficult to determine with the current master plan information but it is possible that Montague road is intended for full or partial removal. This will require a **section 247/248** agreement with the Planning Authority.

Area 6 - The western part of White City retail park, located to the north western edge of the wider site and contained between Chester road to the north West, Montague road to the west, the eastern part of white City retail park to the east. This site appears to be relatively straight forward. With the current adopted drainage arrangement, foul and surface water connections will be relatively straight forward with negligible abnormal cost. We anticipate two separate **section 106**

connections and applications necessary to connect both surface water into Chester road and foul into Montague Road.

Area 7 - The southern western part of White city retail park, located in the middle of the wider site and contained on the west by Montague street, area 6 to the north, area 8 to the south and Botanical Avenue and area 10 to the east. This site appears to be relatively straight forward. With the current adopted drainage arrangement, foul and surface water connections will be relatively straight forward with negligible abnormal cost. We anticipate a single **section 106** application necessary to connect both surface water and foul into Birch avenue.

Area 8 - located close to the middle of the wider site and contained between Talbot road and PHMG offices and Kinetic apartments to the south, Birch avenue to the south west, Botanical Avenue to the north East and area 7 to the north. This site appears to be relatively straight forward. With the current adopted drainage arrangement, foul and surface water connections will be relatively straight forward with negligible abnormal cost. We anticipate two separate **section 106** connections and applications necessary to connect both surface water and foul. Because of site levels, limitations in the surrounding adopted network capacity and availability of space for storage features, it may become necessary to connect the surface water through third party owned land

Area 9 - The British gas headquarters site, located to the south eastern edge of the wider site and contained between Talbot road to the north West, K site to the west, Old Trafford Bowling club to the east. And the railway lines to the south This site appears to be relatively straight forward. With the current adopted drainage arrangement, foul and surface water connections will be relatively straight forward with negligible abnormal cost. We anticipate two separate **section 106** connections and applications necessary to connect both surface water and foul. The water Authority maps show a non-adopted surface water run within the adjacent pavement. This could possibly be a totally private drain but equally it could be a highway drain owned by the Local Authority. At this stage it is worth allowing for additional costs to deal with this network. The options are abandonment, diversion or re assessing the layout of the site so that buildings are not located within an assumed easement zone. As this is not a water authority asset, the permissions for diversion or abandonment will have to be sought elsewhere. If this is genuinely a private drain, then no further approval will be needed as the modifications will be at the discretion of the landowner. If it is a highway drain, then approvals with the Highways Authority under the highways act will be required.

Area 10- The central part of White city Retail park located close to the middle of the wider site and contained between the end of Botanical Avenue to the south, area 7 to the west, area 12 to the east and area 11 to the north. It appears to consist of approximately three quarters of a hectare of soft and hard landscaping. We anticipate that this area offers the best chance of achieving some form of infiltration surface water drainage close to the top end of the Environment Agencies hierarchy. This is subject to the findings of future flood risk assessments and geochemical and geotechnical investigations. At present we indicate a conventional tanked arrangement with outfall via a single **section 106** connection and application into botanical avenue.

Area 11 - The north eastern part of White City retail park, located to the north western edge of the wider site and contained between Chester road to the north West, Montague road to the west, the eastern part of white City retail park to the east. This site appears to be relatively straight forward. With the current adopted drainage arrangement, foul and surface water connections will be relatively straight forward with negligible abnormal cost. We anticipate two separate **section 106** connections and applications necessary to connect both surface water and foul into Chester Road.

Area 12- The south eastern part of White City retail park, located centrally within the wider site and contained between Area 11 north West, Area 10 to the west, white City way to the east and The Grand united order of odd fellows and Bloom Day nursery to the south.. This site appears to be relatively straight forward. With the current adjacent adopted drainage arrangement, foul and surface water connections will be relatively straight forward with negligible abnormal cost. We anticipate two separate **section 106** connections and applications necessary to connect both surface water into White City way and foul indirectly into Talbot road. The only caveat is that the surface water may need to discharge into a relatively small diameter highway drain. The capacity of this outfall system must be investigated, and flows agreed with the highways agency.

Area 13- is located adjacent to the southern edge of the wider site and is contained between Talbot road to the north west, the Old Trafford Bowling club to the west, Trafford Hall hotel to the east and the railway lines to the south. This site appears to lie directly above a rail tunnel. At present we do not know whether this is still in use or disused. A part of the tunnel appears to be an open cutting. We anticipate that this part of the site will require some significant re design to work around this feature and that negotiation with rail track will be necessary to determine easements and obtain agreements on trafficking over and working adjacent to the tunnel.

A further complication with this area is that there is a large diameter combined sewer running from Talbot road in a south easterly direction towards the railway lines. This equipment is circa 4.0metres in diameter and at a depth of 10 metres below current ground level. This system appears to pass beneath the rail tunnel. We anticipate that due to its size this is a strategic part of the adopted network and any modifications to it will be resisted by the Water Authority. At this stage we would recommend leaving this in place and modifying the proposed layouts to work around it. We anticipate easements in the order of 6 meters on either side which should be avoided. It is also likely that negotiations with the Water Authority will be required to track over it and regarding any potential disruptive works close to it.

Both the tunnel and the Sewer are at a sufficient depth that it should not impede a future drainage arrangement. It is likely that new foul and surface water networks could pass over the top. We anticipate two separate **section 106** connections and applications necessary to connect the surface water into Talbot road. For the foul, the most appropriate connection seems to be at adopted combined manhole MH 5003 which could be located to the rear of Trafford Hall hotel.

Area 14- The site of the former GMP headquarters located to the east of the wider site and contained between White City way to the west, Bridge water way to the north, Chester Road and Bowyer street to the east and Talbot road to the south. This site appears to lie directly above a rail tunnel. At present we do not know whether this is still in use or disused. We anticipate that the tunnel cuts across the south eastern corner of area 14 close to the junction of Talbot road with Bowyer street. We anticipate that this part of the site will require some significant re design to work around this feature and that negotiation with rail track will be necessary to determine easements and obtain agreements relating to trafficking over and working adjacent to the tunnel.

There is an adopted foul run adjacent and parallel to the line of the tunnel. This combined sewer is circa 375 mm in diameter and at a depth of circa 9 metres below existing ground level. It picks up a highway drain in Bowyer street. We believe that this equipment is unlikely to be strategic and a section 185 diversion could be considered.

There is an adopted surface water sewer located within the northern part of the site. We suspect this is a remnant of an older system within a former road which no longer exists. We suspect that this pipe now serves the former GMP headquarters site. It is a small diameter pipe at circa 2metres

depth. We believe that this equipment is unlikely to be strategic and a **section 116** abandonment could be considered.

With the above exceptions, this site appears to be relatively straight forward. With the current adjacent adopted drainage arrangement, foul and surface water connections will be relatively straight forward with negligible abnormal cost. We anticipate two separate **section 106** connections and applications necessary to connect surface water into White City way and foul into Talbot Road. As with area 12, the only caveat is that the surface water may need to discharge into a relatively small diameter highway drain. The capacity of this outfall system must be investigated, and flows agreed with the highways agency. It may be worth considering replacing this section of 300 diameter highway drain with a larger diameter to provide capacity for the highway and both areas 12 and 14.

Area 15- The eastern most part of the wider site and contained between Bowyer street to the north west, Chester road to the north east and Talbot road to the south. This site appears to lie directly above a rail tunnel. At present we do not know whether this is still in use or disused. We anticipate that the tunnel cuts across the centre of area 15 running in a north easterly direction from the junction of Talbot road with Bowyer street. Up towards Chester road. We anticipate that this part of the site will require some significant re design to work around this feature and that negotiation with rail track will be necessary to determine easements and obtain agreements relating to trafficking over and working adjacent to the tunnel.

The Trafford metro tunnel also appears to cross the south easterly tip of area 15. This is almost certainly still in use. We anticipate that this part of the site will require some significant re design to work around this feature and that negotiation with rail track will be necessary to determine easements and obtain agreements relating to trafficking over and working adjacent to the tunnel.

There is an adopted surface water run adjacent and parallel to the line of the tunnel. We suspect this is a remnant of an older system within a former road which no longer exists. We suspect that this pipe now serves the current commercial properties. This sewer is small diameter and likely to be at a shallow depth. We believe that this equipment is unlikely to be strategic and a section 116 abandonment could be considered.

With the above exceptions, this site appears to be relatively straight forward. With the current adjacent adopted drainage arrangement, foul and surface water connections will be relatively straight forward with negligible abnormal cost. We anticipate three separate **section 106** connections and applications necessary to connect surface water into Bowyer street and Chester Road and foul into Talbot Road. As with areas 12 and 14, the only caveat is that the surface water may need to discharge into a relatively small diameter highway drain. The capacity of this outfall system must be investigated, and flows agreed with the highways agency. It may be worth considering replacing this section of 300 diameter highway drain with a larger diameter to provide capacity for the highway and both areas 12 and 14.

Area 16- located to the south eastern corner of the wider site and contained between Talbot road to the north east, Trafford Hall hotel to the west and the railway line to the south.

There is an adopted foul run which crosses the site from Talbot road, and which then hugs the southernmost boundary of the site. This combined sewer is circa 375 mm in diameter and at a depth of circa 12 metres below existing ground level. It picks up a highway drain and a combined sewer in Talbot road and could accept the proposed foul from area 15 in due course. We believe that this equipment is unlikely to be strategic and a **section 185** diversion could be considered. Alternatively, the proposals for this site should be re considered taking into account Water authority requirements for easement tracking over and working adjacent to their equipment.

With the above exceptions this site appears to be relatively straight forward. With the current adjacent adopted drainage arrangement, foul and surface water connections will be relatively straight forward with negligible abnormal cost. We anticipate two **section 106** applications necessary to connect surface water into Talbot road and foul into adopted manhole number 5003. It is worth pointing out the proximity of this site to the rail network. It is incumbent on the developer to provide risk assessments and method statements to Railtrack for all works adjacent to Railtrack equipment. Permissions in relation to the rail network do result in cost implications.

**KEY
PLAN**

