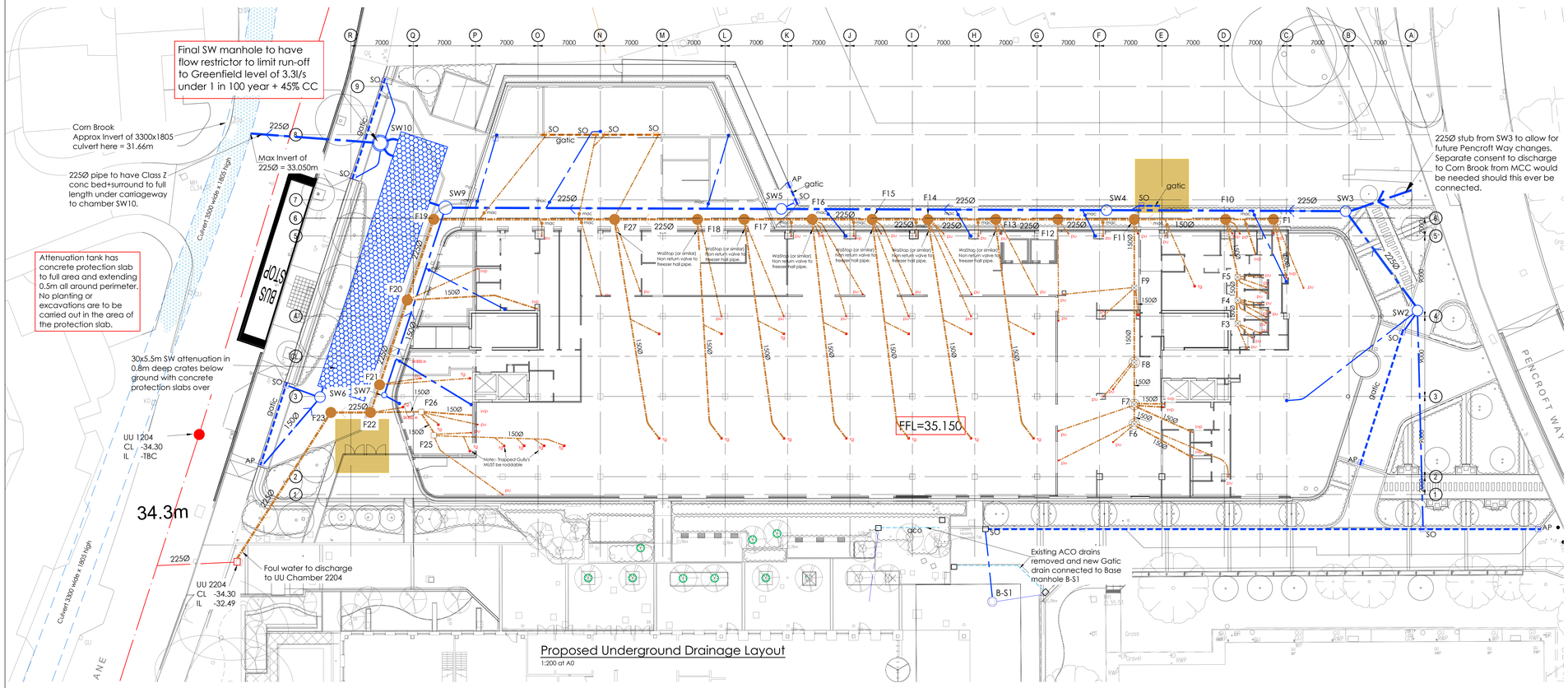
Underground storage attenuation tanks:-
Current design requires 160m² of 0.8m deep attenuation crates (approx 128m³) - Current configuration is for 1 tank: 30m x 5.5m on plan. Crates to have 100mm 6H sand blinding + 100mm MOT Type 1 + 175mm thick Grade C28/35 concrete slab with 2 layers A393 mesh. Finishes above to Landscape Architects details.




## KEY

- F1 — New private FOUL chamber
- S1 — New private SURFACE WATER chamber
- New private FOUL drain + flow direction (Hepworth Supersleve/Hepsleve or Ridgiewer) - Class S Bedding (Class Z under building)
- New private SURFACE WATER drain + flow direction (Hepworth Supersleve/Hepsleve or Ridgidrain) - Class S Bedding (Class Z under building)
- Existing ADOPTED combined sewer
- gatic — GATIC 150mm wide SLOT DRAIN (Medium duty) with D400 cover (U.N.O.) - 200mm C28/35 concrete bed+surround with trapped, roddable sump outlet and access points
- aco — ACO MULTIDRAIN with stainless steel SLOTTTOP CHANNEL 150mm wide slot drain (Medium duty) with D250 cover (U.N.O.) - 150mm C28/35 concrete bed+surround with trapped, roddable sump outlet and access points.
- MD — MEDIUM DUTY (GRADE C250)
- HD — HEAVY DUTY (GRADE D400)
- MAC MAC — 300Ø x 600dp MINI ACCESS CHAMBER (To foul or surface water) (Hepworth code Ref':- SDAC1/1)
- TG — FLOOR GULLY, TRAPPED WITH RODDABLE OUTLET
- PU — POP-UP IN FLOOR
- SO — SILT PIT WITH OUTLET AND + MD COVER TO BE TRAPPED AND RODDABLE
- AP — ACCESS POINT AND MD COVER
- svp — SOIL VENT PIPE
- RWP — RAIN WATER PIPE
- WaStop (or similar) Non return valve to all freezer hall pipework before it enters the foul drainage system.
- Approx location of crane bases as advised by Willmott Dixon

## GENERAL NOTES

Do not scale this drawing.

Contractor to check all dimensions and report all errors and omissions to the engineer.

1. All external setting out to be confirmed on Architects drawings.
2. Manhole IL's relate to outgoing main pipe. Where incoming pipes are of a smaller diameter to the outgoing pipes they are to be positioned with pipe soffits level UNO.
3. All pipes under the building to be given Class Z conc bed + surround. In addition all pipes in vehicle paved areas where the cover is less than 750mm are to be given a Class Z concrete bed + surround. Typically pipes to have Class S bedding.
4. For exact location of all SVP's, RWP's and Pop-Ups refer to M+E/Architect drawings.
5. All foul pipes to be 100Ø at min 1:60 fall unless noted otherwise.
6. All surface water pipes to be 150Ø unless noted otherwise.
7. Attenuation system and flow restrictor are based upon a max. discharge from the SW system being limited to 'Greenfield' run-off. This MUST be approved by the Local Authority and United Utilities prior to any works being carried out.
8. Legend refers to clay pipelines. Alternative twin wall pipes can be used, as DW Consulting Specification - contractor to choose.
9. For details of drainage refer to drawing GRE-DWC-ZZ-XX-DR-C-10002, 10003, 10004, 10005 & 10010.

### NEW FOUL CHAMBER SCHEDULE

| MH REF. | C.L. (m) TBC | I.L. (m) | MH TYPE & DETAIL No | MH SIZE | COVER & FRAME SIZE & TYPE | REMARKS |
|---|---|---|---|---|---|---|
| F1 | 35.150 | 33.950 | CONC | 1200 dia. | 600 x 600 MD | |
| | | | | | | |
| F3 | 35.150 | 34.150 | CONC | 1200 dia. | 600 x 600 MD | Double sealed internal cover. |
| F4 | 35.150 | 34.100 | CONC | 1200 dia. | 600 x 600 MD | Double sealed internal cover. |
| F5 | 35.150 | 34.050 | CONC | 1200 dia. | 600 x 600 MD | Double sealed internal cover. |
| F6 | 35.150 | 34.150 | CONC | 1200 dia. | 600 x 600 MD | Double sealed internal cover. |
| F7 | 35.150 | 34.100 | CONC | 1200 dia. | 600 x 600 MD | Double sealed internal cover. |
| F8 | 35.150 | 34.025 | CONC | 1200 dia. | 600 x 600 MD | Double sealed internal cover. |
| F9 | 35.150 | 33.925 | CONC | 1200 dia. | 600 x 600 MD | Double sealed internal cover. |
| F10 | 35.000 | 33.850 | CONC | 1200 dia. | 600 x 600 MD | |
| F11 | 35.000 | 33.650 | CONC | 1200 dia. | 600 x 600 MD | |
| F12 | 35.000 | 33.585 | CONC | 1200 dia. | 600 x 600 MD | |
| F13 | 35.000 | 33.530 | CONC | 1200 dia. | 600 x 600 MD | |
| F14 | 35.000 | 33.475 | CONC | 1200 dia. | 600 x 600 MD | |
| F15 | 35.000 | 33.425 | CONC | 1200 dia. | 600 x 600 MD | |
| F16 | 35.000 | 33.375 | CONC | 1200 dia. | 600 x 600 MD | |
| F17 | 35.000 | 33.315 | CONC | 1200 dia. | 600 x 600 MD | |
| F18 | 35.150 | 33.265 | CONC | 1200 dia. | 600 x 600 MD | |
| F19 | 35.000 | 33.050 | CONC | 1200 dia. | 600 x 600 HD | |
| F20 | 35.000 | 32.950 | CONC | 1200 dia. | 600 x 600 HD | |
| F21 | 34.850 | 32.860 | CONC | 1200 dia. | 600 x 600 HD | |
| F22 | 34.800 | 32.830 | CONC | 1200 dia. | 600 x 600 HD | |
| F23 | 34.700 | 32.775 | CONC | 1200 dia. | 600 x 600 HD | |
| F25 | 35.150 | 33.600 | CONC | 1200 dia. | 600 x 600 HD | Double sealed internal cover. |
| F26 | 35.150 | 33.400 | CONC | 1200 dia. | 600 x 600 HD | Double sealed internal cover. |
| F27 | 35.150 | 33.205 | CONC | 1200 dia. | 600 x 600 HD | |
| UU Manhole 2204 | 34.300** | 32.490** | Extg. | Extg. | Extg. | |

### NEW SURFACE WATER CHAMBER SCHEDULE

| MH REF. | C.L. (m) TBC | I.L. (m) | MH TYPE & DETAIL No | MH SIZE | COVER & FRAME SIZE & TYPE | REMARKS |
|---|---|---|---|---|---|---|
| SW1 | | | | | | |
| SW2 | 35.150 | 34.150 | CONC | 1050 dia. | 600 x 600 MD | Recessed cover for finishes |
| SW3 | 35.150 | 34.050 | CONC | 1050 dia. | 600 x 600 MD | Recessed cover for finishes |
| SW4 | 35.150 | 33.850 | CONC | 1050 dia. | 600 x 600 MD | Recessed cover for finishes |
| SW5 | 35.150 | 33.575 | CONC | 1200 dia. | 600 x 600 MD | Recessed cover for finishes |
| SW6 | 34.625 | 33.300 pipes 33.000 sump | CONC | 1200 dia. | 600 x 600 HD | Silt pit manhole - 300mm deep. All pipe inverts level |
| SW7 | 34.850 | 33.800 | PPIC | 475 dia. | 450 x 450 MD | |
| SW9 | 35.000 | 33.275 pipes 32.975 sump | CONC | 1200 dia. | 600 x 600 HD | Silt pit manhole - 300mm deep. All pipe inverts level |
| SW10 | 34.600 | 33.225 pipes 32.775 sump | CONC | 1500 dia. | 750 x 600 HD | 450mm deep silt pit manhole with flow control fitted in MH. Flow restricted to greenfield runoff of 3.3l/s. All pipe inverts level. Ref DW drawing 10003 |

* Denotes proposed levels to be confirmed on site

** Denotes existing sewer levels to be confirmed on site

Note:
All manhole covers in external hard surfacings, and all internal covers are to be recessed to receive finishes to match their location

Note:
ALL Cover Levels to be confirmed following final confirmation of external surface levels. ALL invert levels are based upon INTERPOLATED levels of the existing adopted surface and foul runs outside the site boundary.

Note:
Location of all RWP's, Foul Pop-Ups and internal gullys etc. are T.B.C by BDP / SL

| Rev | Detail | By | Chk | Date |
|---|---|---|---|---|
| C06 | Notes added re- Spur to manhole S3, protection slab to attenuation tank and confirmation of the location of Gatic drain outlets. | cc | | 11.7.24 |
| C05 | Updated to suit MCC requirements. | cc | | 23.5.24 |
| C04 | Additional freezer hall drainage added. Chambers moved as needed and added. Invert levels checked throughout. | cc | cc | 19.4.24 |
| C03 | Updated to suit changes to GF layout and pop up locations. Drainage rerouted around crane base to west elevation | cc | cc | 27.3.24 |
| C02 | Pop ups and svp positions changed to suit latest layouts. Foul drainage changed & manholes added to suit confirmed crane base positions. | cc | cc | 13.2.24 |
| C01 | First Construction Issue | rm | cc | 18.12.23 |
| P05 | Renumbered | rm | cc | 12.12.23 |
| P04 | Redrawn to suit WD request | rm | cc | 11.12.23 |

Revisions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Client
**Bruntwood SciTech**

Project
Greenheys Redevelopment
Manchester Science Park

Drawing Title
Proposed Underground Drainage Layout & Details

Drawing Status
construction

Drawing No.
GRE-DWC-ZZ-XX-DR-C-10001

| Scale | Sheet Size | Revision |
|---|---|---|
| 1:200 | A0 | C06 |

| Date | Drawn | Checked | Auth |
|---|---|---|---|
| Feb'23 | rm | cc | cc |


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