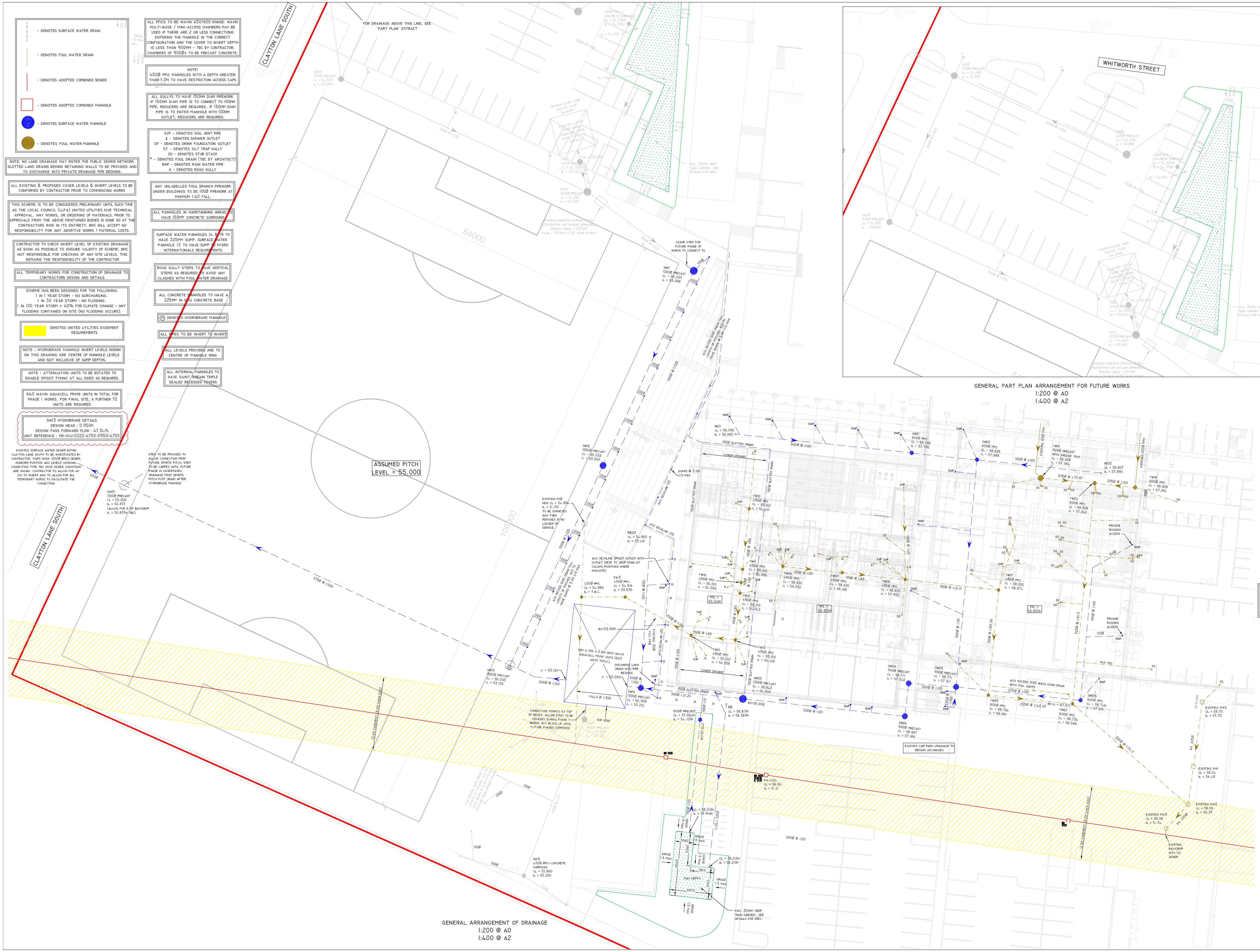

- - - - DENOTES SURFACE WATER DRAIN
- - - - DENOTES FOUL WATER DRAIN
| - DENOTES ADOPTED COMBINED SEWER
□ - DENOTES ADOPTED COMBINED MANHOLE
● - DENOTES SURFACE WATER MANHOLE
● - DENOTES FOUL WATER MANHOLE

NOTE, NO LAND DRAINAGE MAY ENTER THE PUBLIC SEWER NETWORK. SLOTTED LAND DRAINS BEHIND RETAINING WALLS TO BE PROVIDED AND TO DISCHARGE INTO PRIVATE DRAINAGE PIPE BEDDING.

ALL EXISTING & PROPOSED COVER LEVELS & INVERT LEVELS TO BE CONFIRMED BY CONTRACTOR PRIOR TO COMMENCING WORKS

THIS SCHEME IS TO BE CONSIDERED PRELIMINARY UNTIL SUCH TIME AS THE LOCAL COUNCIL (LLFA) UNITED UTILITIES GIVE TECHNICAL APPROVAL. ANY WORKS, OR ORDERING OF MATERIALS, PRIOR TO APPROVALS FROM THE ABOVE MENTIONED BODIES IS DONE SO AT THE CONTRACTORS RISK IN ITS ENTIRETY. BMC WILL ACCEPT NO RESPONSIBILITY FOR ANY ABORTIVE WORKS / MATERIAL COSTS.

CONTRACTOR TO CHECK INVERT LEVEL OF EXISTING DRAINAGE AS SOON AS POSSIBLE TO ENSURE VALIDITY OF SCHEME. BMC NOT RESPONSIBLE FOR CHECKING OF ANY SITE LEVELS. THIS REMAINS THE RESPONSIBILITY OF THE CONTRACTOR

ALL TEMPORARY WORKS FOR CONSTRUCTION OF DRAINAGE TO CONTRACTORS DESIGN AND DETAILS

SCHEME HAS BEEN DESIGNED FOR THE FOLLOWING;
1 IN 1 YEAR STORM - NO SURCHARGING.
1 IN 30 YEAR STORM - NO FLOODING.
1 IN 100 YEAR STORM + 40% FOR CLIMATE CHANGE - ANY FLOODING CONTAINED ON SITE (NO FLOODING OCCURS).

🟨 DENOTES UNITED UTILITIES EASEMENT REQUIREMENTS

NOTE : HYDROBRAKE MANHOLE INVERT LEVELS SHOWN ON THIS DRAWING ARE CENTRE OF MANHOLE LEVELS AND NOT INCLUSIVE OF SUMP DEPTHS.

NOTE : ATTENUATION UNITS TO BE ROTATED TO ENABLE SPIGOT FIXING AT ALL SIDES AS REQUIRED.

640 WAVIN AQUACELL PRIME UNITS IN TOTAL FOR PHASE 1 WORKS. FOR FINAL SITE, A FURTHER 72 UNITS ARE REQUIRED.

SW13 HYDROBRAKE DETAILS
DESIGN HEAD : 0.950M
DESIGN PASS FORWARD FLOW : 47.5L/S
UNIT REFERENCE : MD-SCU-0222-4750-0950-4750

EXISITNG SURFACE WATER SEWER WITHIN CLAYTON LANE SOUTH TO BE INVESTIGATED BY CONTRACTOR. MAPS SHOW 1200Ø BRICK SEWER, HOWEVER POSITION AND LEVELS UNKNOWN. CONNECTION TYPE TBC ONCE SEWER CONDITIONS ARE KNOWN. CONTRACTOR TO ALLOW FOR 4M DIG TO INVERT AND TO ALLOW FOR ALL TEMPORARY WORKS TO FACILITATE THE CONNECTION

STEM TO BE PROVIDED TO ALLOW CONNECTION FROM FUTURE SPORTS PITCH. STEM TO BE CAPPED UNTIL FUTURE PHASE IS UNDERTAKEN. DRAINAGE FROM SPORTS PITCH MUST DRAIN AFTER HYDROBRAKE MANHOLE

ALL PPICS TO BE WAVIN 450/600 RANGE. WAVIN MULTI-BASE / MINI-ACCESS CHAMBERS MAY BE USED IF THERE ARE 2 OR LESS CONNECTIONS ENTERING THE MANHOLE IN THE CORRECT CONFIGURATION AND THE COVER TO INVERT DEPTH IS LESS THAN 900MM - TBC BY CONTRACTOR. CHAMBERS OF 900Ø+ TO BE PRECAST CONCRETE.

NOTE!
450Ø PPIC MANHOLES WITH A DEPTH GREATER THAN 1.2M TO HAVE RESTRICTION ACCESS CAPS

ALL GULLYS TO HAVE 150MM DIAM PIPEWORK. IF 150MM DIAM PIPE IS TO CONNECT TO 100MM PIPE, REDUCERS ARE REQUIRED. IF 150MM DIAM PIPE IS TO ENTER MANHOLE WITH 100MM OUTLET, REDUCERS ARE REQUIRED.

SVP - DENOTES SOIL VENT PIPE
£ - DENOTES SHOWER OUTLET
DF - DENOTES DRINK FOUNDATION OUTLET
ST - DENOTES SILT TRAP GULLY
SS - DENOTES STUB STACK
* - DENOTES FOUL DRAIN (TBC BY ARCHITECT)
RWP - DENOTES RAIN WATER PIPE
G - DENOTES ROAD GULLY

ANY UNLABELLED FOUL BRANCH PIPEWORK UNDER BUILDINGS TO BE 100Ø PIPEWORK AT MINIMUM 1:40 FALL.

ALL MANHOLES IN HARSTANDING AREAS TO HAVE 150MM CONCRETE SURROUND

SURFACE WATER MANHOLES 14 & 19 TO HAVE 325MM SUMP. SURFACE WATER MANHOLE 13 TO HAVE SUMP TO HYDRO INTERNATIONALS REQUIREMENTS

ROAD GULLY STEMS TO HAVE VERTICAL STEMS AS REQUIRED TO AVOID ANY CLASHES WITH FOUL WATER DRAINAGE

ALL CONCRETE MANHOLES TO HAVE A 225MM IN-SITU CONCRETE BASE

(H) DENOTES HYDROBRAKE MANHOLE

ALL PIPES TO BE INVERT TO INVERT

ALL LEVELS PROVIDED ARE TO CENTRE OF MANHOLE RING

ALL INTERNAL MANHOLES TO HAVE SAINT GOBAIN TRIPLE SEALED RECESSED COVERS

GENERAL PART PLAN ARRANGEMENT FOR FUTURE WORKS
1:200 @ A0
1:400 @ A2

GENERAL ARRANGEMENT OF DRAINAGE
1:200 @ A0
1:400 @ A2

GENERAL NOTES:

1. THIS DRAWING IS COPYRIGHT AND THE PROPERTY OF BELL MUNRO CONSULTING LTD. THE DRAWING MUST NOT BE REPRODUCED IN PART OR IN WHOLE WITHOUT PRIOR WRITTEN AUTHORITY.

2. THIS DRAWING MUST NOT BE SCALED BY EITHER CONTRACTORS OR OTHER CONSULTANTS ANY DIMENSIONAL OR SETTING - OUT DISCREPANCIES ARE TO BE REPORTED TO BELL MUNRO CONSULTING PRIOR TO CONSTRUCTION / FABRICATION COMMENCING.

3. THIS DRAWING MUST BE READ IN CONJUNCTION WITH THE RELEVANT BMC SPECIFICATIONS TOGETHER WITH THE APPROPRIATE ARCHITECTS AND SERVICES CONSULTANTS DRAWINGS AND SPECIFICATIONS.

4. TEMPORARY STABILITY DURING CONSTRUCTION IS THE RESPONSIBILITY OF THE MAIN CONTRACTOR AND SHOULD BE ASSESSED ACCORDINGLY.

DRAINAGE NOTES

1. EXACT SVP AND GULLEY LOCATIONS TO BE CONFIRMED FROM SERVICES ENGINEERS'/ARCHITECTS DRAWINGS AND DETAILS.

2. ALL NEW PIPEWORK TO BE WAVIN OSMADRAIN OR WAVIN ULTRARIB UPVC (OR SIMILAR APPROVED) UNLESS NOTED OTHERWISE.

3. PLASTIC PIPES (PVC-U)TO BE FLEXIBLY JOINTED AND COMPLY WITH THE REQUIREMENTS OF BS EN 1401-1 1998.

4. WHERE COVER TO PIPES IS LESS THAN 900 IN ROADS AND HARDSTANDINGS OR 400 MM ELSEWHERE, CONCRETE SURROUND IS TO BE PROVIDED IN ACCORDANCE WITH THE DETAIL (CLASS Z BEDDING).

5. ALL OTHER PIPEWORK TO BE IN CLASS S BEDDING.

6. N.B. UNTIL FINAL SERVICE IS PLACED, HEAVY TRAFFIC IS NOT TO BE ALLOWED OVER PIPE TRENCHES WITHOUT SPECIAL PRECAUTIONS.

7. PIPES AND FITTINGS ARE TO BE LAID IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS.

8. MANHOLE COVERS IN CAR PARKS TO BE LOAD CLASS D400 TO BS EN 124.

9. MANHOLE COVERS IN LANDSCAPED AND PAVED AREAS TO BE LOAD CLASS B125 BS EN 124.

10. MANHOLE COVERS IN PAVED AREAS TO BE RECESSED TO ACCEPT PAVING FINISH.

11. ACCESS COVERS FOR GULLIES IN KERBSIDES TO BE LOAD CLASS C250 BS EN 124.

12. ALL INTERNAL POP UPS TO HAVE RODDABLE ACCESS.

13. ANY PPIC MANHOLE DEEPER THAN 1200MM MUST BE FITTED WITH ACCESS RESTRICTOR CAP.

14. PPIC MANHOLES WITHIN TRAFFICKED AREAS TO BE PROVIDED WITH 150MM ST4 CONCRETE SURROUND

15. ALL EXISTING DRAINAGE TO BE CONFIRMED PRIOR TO CONSTRUCTION COMMENCING.

16. PIPEWORK PASSING THROUGH BUILDING WALLS SHALL BE FITTED WITH ROCKER PIPES AS PER STANDARD DETAIL.

17. ANY UNLABELLED FOUL BRANCH PIPEWORK TO BE 100Ø PIPEWORK AT MINIMUM 1:40 FALL.

18. ANY UNLABELLED STORM WATER BRANCH PIPEWORK TO BE 100Ø AT MINIMUM 1:80 FALL.

19. ALL RWP LOCATIONS AND NUMBERS ARE TO BE CONFIRMED BY ARCHITECT PRIOR TO COMMENCING CONSTRUCTION.

NOTE: SCHEME IS FOR PHASE 1 WORKS ONLY. CAR PARK PHASE HAS BEEN DESIGNED TO BE ACCOMMODATED WITHIN SCHEME SHOWN ON THIS DRAWING AND IS TO CONNECT INTO SW11 WITH THE SCHEME SHOWN IN GRAY. NEW PITCH DRAINAGE TO HAVE OWN ATTENUATION AND MUST CONNECT AFTER SW13. A STEM HAS BEEN PROVIDED FROM SW11.

ALLOWABLE DISCHARGE RATES GIVEN IN BDP REPORT
P3000247 OPE-BDP-RPT-S-005

TOTAL PROPOSED DEVELOPMENT
1:1 YEAR = 26.23L/S (26.1L/S ACTUAL)
1:100 YEAR + 40% = 82.82L/S (57.4L/S ACTUAL)

PRELIMINARY SUBJECT TO COMMENTS

REV	COMMENTS	DATE	BY
04	REVISED TO CONTRACTOR'S COMMENTS	04.12.20	SMB
03	REVISED TO CONTRACTOR'S COMMENTS	19.10.20	SMB
02	FOUL CONNECTION POINT UPDATED TO AS BUILT	27.08.20	AM
01	WORKSHOP FOUL DRAINAGE UPDATED	20.08.20	AM
-	INITIAL ISSUE	07.06.20	AM

BMC

BELL MUNRO
CONSULTING LTD

CONSULTING CIVIL & STRUCTURAL ENGINEERS
TURING HOUSE
5 ARCHWAY
MANCHESTER
M15 5RL
TEL: 0161 2098032
FAX: 0161 2098033
EMAIL: CONSULTING@BELLMUNRO.CO.UK
WWW.BELLMUNRO.CO.UK

CLIENT: CADDICK CONSTRUCTION LTD.
PROJECT: OPENSHAW CAMPUS
TITLE: GENERAL ARRANGEMENT OF BELOW GROUND DRAINAGE
DRAWN BY: AM
CHECKED BY: CM
SCALE: 1:200
DATE: 03/20
DRAWING NUMBER: OC-BM-ZZ-FN-DR-D-4001
REVISION: 04