

BARUGH GREEN ROUNDABOUT SURFACE WATER MANHOLE SCHEDULE									
REF.	COVER LEVEL	INVERT LEVEL	SUMP DEPTH	DEPTH	EASTINGS	NORTHINGS	DIAMETER	TYPE	COVER
001	87.070m	85.870m - 2250 OUT	0.000m	1.200m	431535.630	407899.395	1200Ø	TYPE B	600x600 - CLASS D400
002	86.408m	85.200m - 2250 OUT	0.000m	1.208m	431546.062	407924.298	1200Ø	TYPE B	600x600 - CLASS D400
003	85.981m	84.780m - 2250 OUT	0.000m	1.201m	431556.648	407937.600	1200Ø	TYPE B	600x600 - CLASS D400
004	86.014m	83.435m - 2250 IN 84.780m - 2250 OUT	0.500m	3.079m	431541.185	407952.693	2400Ø	TYPE B	600x600 - CLASS D400
005	87.048m	85.545m - 2250 OUT	0.000m	1.503m	431511.756	407955.258	1200Ø	TYPE B	600x600 - CLASS D400

BARUGH GREEN ROUNDABOUT FOUL WATER MANHOLE SCHEDULE									
REF.	COVER LEVEL	INVERT LEVEL	SUMP DEPTH	DEPTH	EASTINGS	NORTHINGS	DIAMETER	TYPE	COVER
217	86.259m	83.750m - 3750 IN 84.125m - 2250 IN 83.975m - 3750 OUT	0.000m	2.284m	431537.284	407948.055	1200Ø	TYPE B	600x600 - CLASS D400
218	86.091m	83.915m - 3750 IN	0.000m	2.176m	431539.923	407944.551	1200Ø	TYPE B	600x600 - CLASS D400

BARUGH GREEN ROUNDABOUT FOUL WATER PIPE SCHEDULE									
REF.	LENGTH	FALL	GRADIENT	DIAMETER	U/S INVERT LEVEL	D/S INVERT LEVEL	U/S MANHOLE	D/S MANHOLE	
1	16.705m	0.060m	1.278	3750	83.975m	83.915m	217	218	
2	53.287m	0.178m	1.300	3750	84.153m	83.975m		217	
3	30.000m	0.200m	1.150	2250	84.325m	84.125m		217	

BARUGH GREEN ROUNDABOUT SURFACE WATER PIPE SCHEDULE									
REF.	LENGTH	FALL	GRADIENT	DIAMETER	U/S INVERT LEVEL	D/S INVERT LEVEL	U/S MANHOLE	D/S MANHOLE	
1	14.655m	0.745m	1.20	2250	85.545m	84.800m	005		
3	27.000m	0.670m	1.40	2250	85.870m	85.200m	001	002	
4	17.001m	0.420m	1.40	2250	85.200m	84.780m	002	003	
5	21.609m	1.345m	1.16	2250	84.780m	83.435m	003	004	
6	7.000m	0.215m	1.33	2250	83.650m	83.435m		004	
7	19.762m	0.135m	1.146	2250	83.435m	83.300m	004		

LAND DRAINAGE MANHOLE SCHEDULE									
REF.	COVER LEVEL	INVERT LEVEL	SUMP DEPTH	DEPTH	EASTINGS	NORTHINGS	DIAMETER	TYPE	COVER
010	89.199m	88.350m - 1500 OUT	0.500m	1.349m	431461.533	407949.390	450Ø	PPIC	600x600 - CLASS D400
011	88.828m	87.975m - 1500 IN 87.975m - 1500 OUT	0.500m	1.353m	431468.201	407946.960	450Ø	PPIC	600x600 - CLASS D400
012	87.216m	86.365m - 1500 IN 86.365m - 1500 OUT	0.500m	1.351m	431500.992	407947.757	450Ø	PPIC	600x600 - CLASS D400
013	87.211m	86.335m - 1500 IN 86.335m - 1500 OUT	0.500m	1.376m	431501.656	407945.008	450Ø	PPIC	600x600 - CLASS D400
014	87.048m	86.210m - 1500 IN 86.210m - 1500 OUT	0.500m	1.338m	431512.019	407938.674	450Ø	PPIC	600x600 - CLASS D400
015	86.821m	85.750m - 1500 IN 85.400m - 3000 IN 85.400m - 3000 OUT	0.500m	1.721m	431522.177	407919.755	1200Ø	TYPE E	600x600 - CLASS D400
016	86.701m	84.470m - 3000 IN 84.470m - 3000 OUT	0.000m	2.231m	431544.447	407916.550	1200Ø	TYPE B	600x600 - CLASS D400
017	85.505m	84.095m - 3000 IN 84.095m - 3000 OUT	0.000m	1.410m	431563.509	407940.997	1200Ø	TYPE E	600x600 - CLASS D400
018	87.147m	86.150m - 3000 IN 86.150m - 3000 OUT	0.000m	0.997m	431519.517	407901.724	600Ø	PPIC	600x600 - CLASS D400

LAND DRAINAGE PIPE SCHEDULE									
REF.	LENGTH	FALL	GRADIENT	DIAMETER	U/S INVERT LEVEL	D/S INVERT LEVEL	U/S MANHOLE	D/S MANHOLE	
10	20.500m	3.700m	1.6	300Ø	89.850m	86.150m		018	
11	18.296m	0.550m	1.33	300Ø	86.150m	85.600m	018	015	
12	22.500m	1.130m	1.20	300Ø	85.600m	84.470m	015	016	
13	31.000m	0.375m	1.83	300Ø	84.470m	84.095m	016	017	
14	20.681m	0.095m	1.218	300Ø	84.095m	84.000m	017	099	
15	22.343m	0.460m	1.49	150Ø	86.210m	85.750m	014	015	
16	38.000m	1.610m	1.24	150Ø	87.975m	86.365m	011	012	
17	2.828m	0.030m	1.94	150Ø	86.365m	86.335m	012	013	
18	7.097m	0.375m	1.19	150Ø	86.335m	87.975m	010	011	
19	12.146m	0.125m	1.97	150Ø	86.335m	86.210m	013	014	

DO NOT SCALE

NOTES

GENERAL NOTES

- ALL MATERIALS AND WORKMANSHIP IS TO COMPLY WITH JPG CONSULTANTS STANDARD SPECIFICATION & ALL RELEVANT BRITISH & EUROPEAN STANDARDS.
- THE DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, M & E CONSULTANTS AND JPG CONSULTANTS DRAWINGS.
- ANY DISCREPANCIES SHOULD BE REPORTED TO THE ENGINEER IMMEDIATELY SO THAT CLARIFICATION CAN BE Sought PRIOR TO COMMENCEMENT OF WORKS.

SEWER AND DRAIN TESTING NOTES

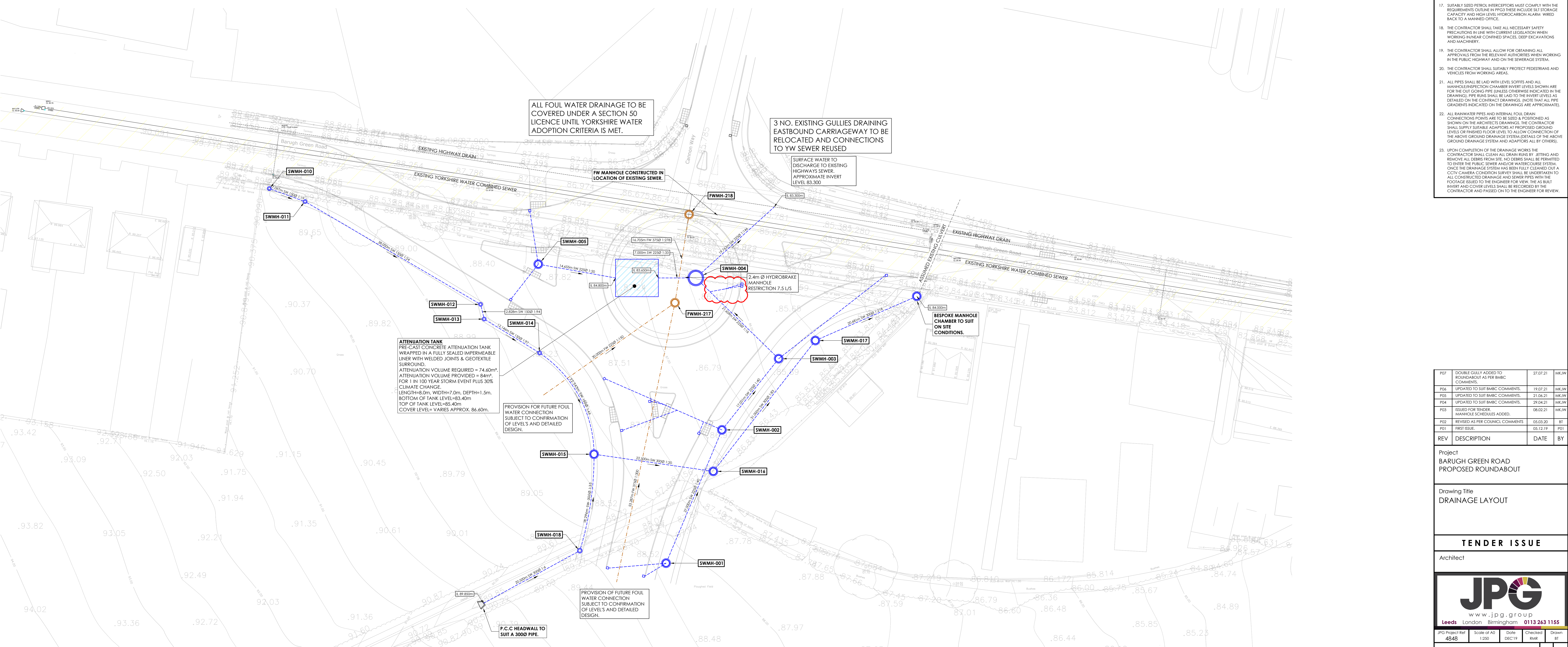
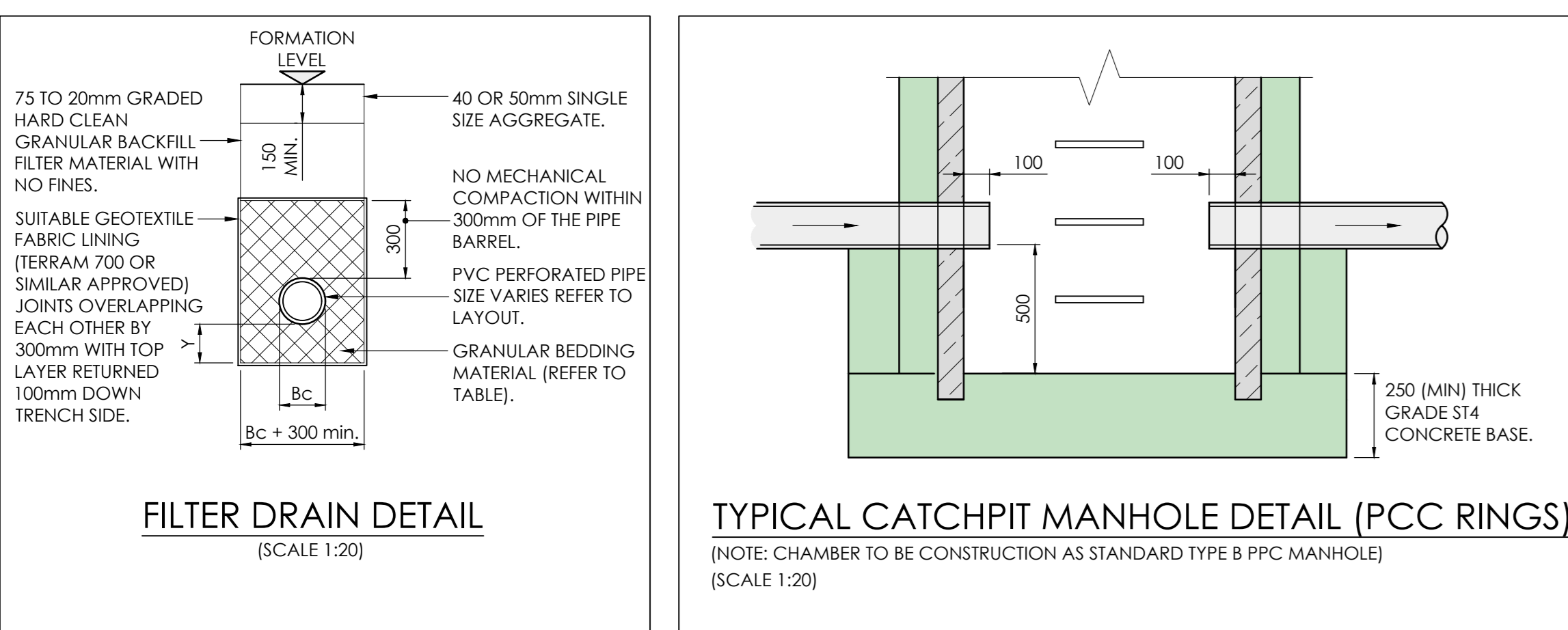
- ALL SEWERS AND DRAINS CONSTRUCTED AS PART OF THE CONTRACT SHALL BE TESTED AFTER THEY ARE JOINED AND BEFORE ANY CONCRETE OR BACKFILLING IS COMMENCED. OTHER THAN SUCH AS MAY BE NECESSARY FOR STRUCTURAL STABILITY WHILE UNDER TEST.
- TESTING SHALL BE IN ACCORDANCE WITH SIA AND BS EN 1610.
- TESTING OF PIPES UP TO AND INCLUDING 750mm NOMINAL DIAMETER SHALL BE BY MEANS OF AN AIR OR WATER TEST. FOR PIPES LARGER THAN 750mm NOMINAL DIAMETER A VISUAL EXAMINATION SHALL BE CARRIED OUT.
- A FURTHER TEST SHALL BE CARRIED OUT AFTER THE BACKFILLING IS COMPLETE.
- ADDITIONAL TESTING MAY BE INSTRUCTED BY THE WATER COMPANY AND/OR HIGHWAYS INSPECTOR REPRESENTATIVE.
- AIR TESTS SHALL BE CARRIED OUT IN ACCORDANCE WITH SIA SECTION 5.7.4 AND BS EN 1610.
- WATER TESTS SHALL BE CARRIED OUT IN ACCORDANCE WITH SIA SECTION 5.7.4 AND BS EN 1610.
- VISUAL INSPECTIONS (CCTV SURVEY) SHALL BE CARRIED OUT BY A QUALIFIED AND APPROVED CONTRACTOR AND IN ACCORDANCE WITH THE WFA/FWR MODEL CONTRACT DOCUMENT FOR SEWER CONDITION INSPECTIONS.
- THE FOUL WATER RING MAIN SHALL BE PRESSURE TESTED BY THE MAIN CONTRACTOR AND CERTIFICATION PROVIDED TO THE WATER COMPANY A REPRESENTATIVE FROM THE WATER COMPANY MAY NEED TO BE PRESENT DURING THE TESTING THE CONTRACTOR SHALL LIASE WITH THE WATER COMPANY INSPECTOR AS TO THEIR REQUIREMENTS.

LEGEND:

- EXISTING SITE BOUNDARY
- EXISTING FW DRAINS/SEWERS
- EXISTING SW DRAINS/SEWERS
- PROPOSED SW DRAINS/SEWERS
- PROPOSED FW RISING MAIN
- EXISTING COMBINED DRAINS/SEWERS
- PROPOSED COMBINED DRAINS/SEWERS
- EXISTING FW MANHOLE
- EXISTING SW MANHOLE
- PROPOSED FW MANHOLE
- PROPOSED SW MANHOLE

DRAINAGE NOTES

- ALL EXISTING DRAINAGE WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH BS EN 752:2008 DRAINAGE AND SEWER SYSTEMS OUTSIDE BUILDINGS, THE CURRENT BUILDING REGULATIONS AND THE LOCAL AUTHORITY BUILDING CONTROL SPECIFICATIONS AND REQUIREMENTS.
- ANY DRAINAGE TO BE PUT FORWARD FOR ADOPTION EITHER BY THE LOCAL AUTHORITY OR BY THE LOCAL AUTHORITY SHALL BE FOR ADOPTION LATEST EDITION AND ANY SPECIFIC REQUIREMENTS OF THE ADOPTING SEWERAGE/WATER AUTHORITY.
- THE LOCATION, SIZE AND DEPTH OF ALL EXISTING DRAINAGE SYSTEMS SHALL BE DETERMINED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORKS ON SITE. ANY DISCREPANCIES SHOULD BE REPORTED TO THE ENGINEER IMMEDIATELY SO THAT CLARIFICATION CAN BE Sought PRIOR TO COMMENCEMENT OF WORKS.
- THE CONTRACTOR SHALL ALLOW FOR THE PROTECTION, TEMPORARY AND PERMANENT SUPPORT AND DIVERSION WORKS AS NECESSARY, TO ALL EXISTING SERVICES TO THE SATISFACTION OF THE RELEVANT COMPANIES.
- THE CONTRACTOR SHALL ALLOW FOR DEBRIS WITH SURFACE WATER RUN OFF INTO EXCAVATIONS AND FROM GROUNDWATER BY MEANS OF SUMPS, PUMPS AND DE WATERING AS APPROPRIATE. IN ORDER TO KEEP THE EXCAVATION AS DRY AS POSSIBLE PRIOR TO THE CONSTRUCTION OF THE WORKS.
- ALL LEVELS AND DIMENSIONS SHALL BE VERIFIED ON SITE PRIOR TO COMMENCEMENT OF ANY WORKS. ANY DISCREPANCIES SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
- ALL EXISTING DRAINAGE LOCATIONS AND LEVELS ARE TO BE CONFIRMED BY THE CONTRACTOR AND THE ENGINEER NOTIFIED BEFORE ANY DRAIN RUNS ARE CONSTRUCTED.
- THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER SHOULD ANY EXISTING LIVE DRAINAGE BE FOUND WITHIN THE SITE BOUNDARY SERVING ADJACENT PROPERTIES.
- ALL EXISTING DRAINAGE WITHIN THE SITE NOT REQUIRED FOR THE NEW DEVELOPMENT SHALL BE ABANDONED. DRAINS AND SEWER LESS THAN 1.500m DEEP WHICH ARE IN OPEN GROUND SHOULD BE SEALED AT BOTH ENDS AND AT ANY POINT OF CONNECTION AND BE GRIFFED TO PREVENT GULLIES WHICH CANNOT GAIN ACCESS. LARGER PIPES 2250 OR ABOVE SHOULD BE GRIFFED TO PREVENT SUBSIDENCE OR DAMAGE TO BUILDINGS OR SERVICES IN THE EVENT OF COLLAPSE.
- ALL MANHOLE/CHAMBER COVER LEVELS ARE APPROXIMATE AND SHALL BE ADJUSTED ON SITE TO SUIT THE PROPOSED FINISHED LEVELS.
- CONNECTIONS FROM WPC TO BE LAD AT 1/40 MINIMUM AND 1/10 MAXIMUM GRADEMENTS WHERE CONSTRUCTED UNDER THE BUILDING.
- ALL PIPE CONNECTIONS FROM DRAINAGE CHANNELS AND GULLIES SHALL BE 1500 PIPES AT A MINIMUM GRADEMENT OF 1:100 WITH CLASS 5 BEDDING UNLESS OTHERWISE SPECIFIED.
- ALL PIPE CONNECTIONS FROM RWPTS TO BE 1000 AT 1/40 MIN. WITH CLASS 5 BEDDING BENEATH THE BUILD AND CLASS 2 UNDER EXTERNALS WHERE COVER IS LESS THAN 1.200m UNDO. ON THE DRAWING LOCATION OF RWPTS TO BE CONFIRMED BY THE ARCHITECT SHOWN INDICATIVELY ON THE DRAWING.
- ALL SYNCHRONIC RWP SYSTEMS TO BE DESIGNED BY OTHERS. PREPARED FROM DOWN PIPE TO FIRST MANHOLE TO BE SIZED/DESIGNED BY SYNCHRONIC SYSTEM DESIGNER. THE FIRST MANHOLE TO HAVE AN OPEN GRADE COVER SHALL BE 2000 - D400 OR SIMILAR APPROVED.
- ALL PIPE CONNECTIONS FROM RWPTS TO FIRST CHAMBER SHALL BE 1000 AT 1/40 MIN. WITH CLASS 5 BEDDING BENEATH THE BUILD AND CLASS 2 UNDER EXTERNALS WHERE COVER IS LESS THAN 1.200m UNDO. ON THE DRAWING LOCATION OF RWPTS TO BE CONFIRMED BY THE ARCHITECT AND TENANT (NOTE ADDITIONAL CHAMBERS AND PIPE WORK MAY BE REQUIRED TO SUIT THE TENANT'S LAYOUT).
- LOCATION SIZE AND SETTING OUT OF ALL RAINWATER AND WASTE PIPE CONNECTIONS REFER TO THE RELEVANT ARCHITECTS DRAWING FOR DESIGN PURPOSES THESE HAVE BEEN ASSUMED.
- SUITABLY SIZED PETROL INTERCEPTORS MUST COMPLY WITH THE REQUIREMENTS OUTLINE IN PP103 THESE INCLUDE Silt STORAGE CAPACITY AND HIGH LEVEL HYDROCARBON ALARM. WIPED BACK TO A MANNED OFFICE.
- THE CONTRACTOR SHALL TAKE ALL NECESSARY SAFETY PRECAUTIONS IN LINE WITH CURRENT LEGISLATION WHEN WORKING IN NEAR CONFINED SPACES, DEEP EXCAVATIONS AND MACHINERY.
- THE CONTRACTOR SHALL ALLOW FOR OBTAINING ALL APPROVALS FROM THE RELEVANT AUTHORITIES WHEN WORKING IN THE PUBLIC HIGHWAY AND ON THE SEWERAGE SYSTEM.
- THE CONTRACTOR SHALL SUITABLY PROTECT PEDESTRIANS AND VEHICLES FROM WORKING AREAS.
- ALL PIPES SHALL BE LAD WITH LEVEL SOFFITS AND ALL MANHOLE/INSPECTION CHAMBER INVERT LEVELS SHOWN ARE FOR THE OUT GOING PIPE UNLESS OTHERWISE INDICATED IN THE DRAWINGS. PIPE RUNS SHALL BE LAD TO THE INVERT LEVELS AS DETAIL ON THE CONTRACT DRAWINGS. NOTE THAT ALL PIPE GRADEMENTS INDICATED ON THE DRAWINGS ARE APPROXIMATE.
- ALL RAINWATER PIPES AND INTERNAL FOUL DRAIN CONNECTIONS POINTS ARE TO BE SIZED & POSITIONED AS SHOWN ON THE ARCHITECTS DRAWINGS. THE CONTRACTOR SHALL SUITABLY ADAPT AT PROPOSED GROUND LEVELS OR FINISHED FLOOR LEVEL TO ALLOW CONNECTION OF THE ABOVE DRAINAGE SYSTEM AND ADAPTATIONS AS SET OUT BY OTHERS.
- UPON COMPLETION OF THE DRAINAGE WORKS THE CONTRACTOR SHALL CLEAN ALL DRAIN RUNS BY JETTING AND REMOVE ALL DEBRIS FROM PIPE. NO DEBRIS SHALL BE PERMITTED TO ENTER THE PUBLIC SEWER AND/OR WATERCOURSE SYSTEM. ONCE THE DRAINAGE SYSTEM HAS BEEN FULLY CLEANED OUT A CCTV CAMERA CONDITION SURVEY SHALL BE UNDERTAKEN TO ALL CONSTRUCTED DRAINAGE AND SEWER PIPES WITH THE FOOTAGE ISSUED TO THE ENGINEER FOR VIEW. THE AS BUILT INVERT AND COVER LEVELS SHALL BE RECORDED BY THE CONTRACTOR AND PASSED ON TO THE ENGINEER FOR REVIEW.



REV	DESCRIPTION	DATE	BY
P07	DOUBLE GULLY ADDED TO ROUNDABOUT AS PER BM&C COMMENTS.	27.02.21	MJ/JW
P06	UPDATED TO SUIT BM&C COMMENTS.	19.02.21	MJ/JW
P05	UPDATED TO SUIT BM&C COMMENTS.	21.06.21	MJ/JW
P04	UPDATED TO SUIT BM&C COMMENTS.	29.04.21	MJ/JW
P03	ISSUED FOR TENDER. MANHOLE SCHEDULES ADDED.	08.02.21	MJ/JW
P02	REVISED AS PER COUNCIL COMMENTS	05.03.20	BT
P01	FIRST ISSUE.	05.12.19	PO1

Project
BARUGH GREEN ROAD
PROPOSED ROUNDABOUT

Drawing Title
DRAINAGE LAYOUT

TENDER ISSUE

Architect

JPG
www.jpg.group
Leeds London Birmingham 0113 263 1155

JPG Project Ref: 4848 Scale of A0: 1:250 Date: DEC 19 Checked: Drawn: BT

4848 - JPG - SW - 00 - DR - D - 1402 54