

- NOTE:** ALL BELOW GROUND DRAINAGE BRANCH PIPES TO MAIN RUNS SHALL PASS BENEATH FOUNDATIONS UNLESS OTHERWISE STATED
- NOTE:** DRAINAGE OUTSIDE OF ADOPTABLE HIGHWAY BOUNDARY BY OTHERS AS PART OF S278 WORKS PACKAGE
- NOTE:** THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS AND ENGINEERS DRAWINGS.
- NOTE:** THE COVERS SHALL BE SET TO SAME LEVEL AND FALL AS ADJACENT GROUND.
- NOTE:** DRAINAGE REQUIREMENTS FOR PLANTERS IS TO BE CONFIRMED
- NOTE:** ADOPTABLE HIGHWAY BOUNDARY BY OTHERS
- NOTE:** THE CONTRACTOR SHALL CHECK AND CONFIRM TO THE ENGINEER ASSUMED SIZES, DEPTHS, LEVELS AND LOCATIONS OF EXISTING SEWERS AND MANHOLES PRIOR TO CONSTRUCTION COMMENCING.
- NOTE:** ALL CAST IRON DRAINAGE WITHIN CONCRETE SHALL BE AIR TESTED BEFORE CONCRETE IS POURED TO ENSURE THAT THE SYSTEM IS AIR TIGHT AND ADEQUATELY SEALED.
- NOTE:** ALL DRAINAGE PIPES WITH LESS THAN 600mm COVER IN THE ROAD OR PRIVATE DRIVE SHALL BE PROTECTED WITH 150mm CONCRETE BED AND SURROUND.
- NOTE:** REMOVABLE ACCESS PLATES TO BE PROVIDED ABOVE FFL FOR ALL RWP, SS AND SVP
- NOTE:** SETTING OUT OF ALL RWP, STUB-STACK AND SVP POSITIONS BY ARCHITECT/IME.
- NOTE:** DRAWING IS SUBJECT TO ALTERATION PENDING RECEIPT OF REVISED ARCHITECTURAL GA / SECTIONS, FOUNDATION SOLUTION, FOUL WATER POP-UPS / RWP LOCATIONS, POOL BACKWASH DISCHARGE, CCTV SURVEY AND STATUTORY CONSULTANTS.
- NOTE:** FOR EXTERNAL LEVELS INFORMATION REFER TO WYTHE - WILLIAMS DRAWING WWA1611/L1/105.
- NOTE:** THIS DRAWING HAS BEEN BASED ON TOPOGRAPHICAL SURVEY PREPARED BY ENGINEERING LAND & BUILDING SURVEYS REF: B7542_TOPO_rev3 DATED MAY 2010 WHICH SHOULD BE REFERRED TO FOR KEY INFORMATION.
- NOTE:** ALL PIPEWORK NOT CAST WITHIN CONCRETE AND GREATER THAN 600mm BELOW SLABS SHALL BE UPVC IN ACCORDANCE WITH ALL RELEVANT MANUFACTURING STANDARDS, WITH A 150mm SHINGLE SURROUND, EXCEPT SEWER CONNECTIONS THAT SHALL BE VITRIFIED CLAY PIPES IN ACCORDANCE WITH BS EN 285.

- TO TEST SCALE THIS DRAWING ON PRINT OR ELECTRONICALLY WORK FROM FOURED DIMENSIONS ONLY.**
- Do not deviate from the details shown on this drawing is allowed without CampbellReith's prior permission in writing.
 - Read this drawing with all Architects, Services Engineers and CampbellReith's relevant details and drawings. All settings and dimensions are per the Architects drawings (see procedure).
 - All work is to be in accordance with the relevant specifications issued by CampbellReith, British Standard Codes of Practice, Statutory requirements and the Contract Documents.
 - DRAWING STATUS
 - ONLY STATUS C DRAWINGS TO BE USED FOR CONSTRUCTION**
- SUITABILITY CODE**
- WORK IN PROGRESS**
- SHARED (NON-CONTRACTUAL)**
- S1** - For coordination, **S2** - For information, **S3** - For internal review and comment, **S4** - For construction review
- DOCUMENTATION (FOR CONTRACTOR PURPOSES)**
- D1** - For covering, **D2** - For Tenders, **D3** - For contractor design, **D4** - For manufacturer's requirements
- CONSTRUCTION**
- C1** - For construction only, **C2** - For construction but with comments (i.e. areas in abeyance), **C3** - Comprehensive revisions required
- Existing details shown on this drawing including boundaries, sewerage, power, water, drainage, roads & services, shall be confirmed on site by the contractor for their accuracy. If any discrepancies occur the engineer must be informed.
 - The proposed building outline shown on this drawing is indicative only. Refer to architect's layouts for exact external outline of proposed building.
 - External rain water pipes, & external stacks, etc., to be fixed to floor gully locations/connections etc. Shown on this drawing are approximate/indicative only. Refer to archs dgs for their exact locations & sizes.
 - All external adaptable storm pipework & lateral connections shown shall be 110 unless stated otherwise.
 - All external private storm pipework & lateral connections shown on this drawing are to be 1000 & have a minimum fall of 1:100 unless stated otherwise. All external private foul pipework & lateral connections shown on this drawing are to be 1000 & have a minimum fall of 1:80 unless stated otherwise.
 - Existing adoption/adopted storm & foul water inlets & sewers which have been made redundant by new identified systems, shall be abandoned/removed. Existing sewer & manholes are to be abandoned/removed in compliance with L.A. specifications.
 - Cover works shown on this drawing are approximate & are to be adjusted to suit finished pavement levels on site by contractor. Covers shall be orientated to suit pavement finishes.
- UNDESIRABLE DRAINAGE CONNECTIONS**
- All undesirable foul connections upto first external inspection chamber manhole are to be 1000 & are to have a minimum fall of 1:80 unless stated otherwise. After first external inspection chamber/manhole connections are to be 1000 & have a minimum fall of 1:80 unless stated otherwise.
 - All undesirable storm connections upto first external inspection chamber manhole are to be 1000 & are to have a minimum fall of 1:80 unless stated otherwise. After first external inspection chamber/manhole connections are to be 1000 & have a minimum fall of 1:100 unless stated otherwise.
 - Final connection & position of first external chambers receiving undesirable connections are to be determined on site by contractor.
 - Bends along undesirable connections are to be long radius 5:45. Bends at bottom of adopted foul pipes are to be long radius 30°.
 - All under slab drainage connections are to be clear of unit foundations unless unavoidable. Refer to CRH drawings showing for exact location of unit foundations.
 - Finished undesirable drainage connections in Bend & straight connections are to be determined on site by the number of bends in each connection to be kept to a minimum.
- All adaptable sewerage runs to be laid soft to soft unless stated otherwise. All Adoptable foul sewerage runs to be laid soft to soft unless stated otherwise. All non-adaptable sewerage to be laid soft to soft unless stated otherwise.
 - External rainwater pipes are to be notifiable above ground (refer to details).
 - All works are non-adaptable unless stated otherwise.
 - Adaptable pipe work to be concrete or unglazed clay.
 - Class 2 concrete encasement required where vertical clearance between two pipes is less than 300mm.
 - For the provision of land drainage if required refer to landscape architect for details/definition.
 - At least one end pipe at the head of each run shall vent to the atmosphere.
 - All adaptable drainage shown on this drawing shall be constructed in accordance with water authorities association sewer for adoption 7th edition.

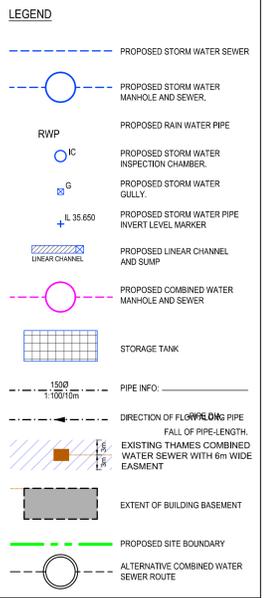
IF CWM2 HAS AN INVERT LEVEL GREATER THAN INDICATED, THE ALTERNATIVE ROUTE CAN BE UTILISED. CONTRACTOR SHALL MAKE A SUITABLE ALLOWANCE FOR THIS OPTION IN THE COST ESTIMATES

EXISTING OUTFALL INVERT LEVEL TO BE CONFIRMED PRIOR TO COMMENCEMENT OF WORKS

FFL 36.522

FFL 36.522

FFL 36.522



*CIPC - DENOTES CAST IN PILE CAP
 *CIGB - DENOTES CAST IN GROUND BEAM
 *CTGB - DENOTES CUT THROUGH GROUND BEAM AND CELLCORE LOCALLY REMOVED

NOTE: ALL PIPES TO PASS BENEATH GROUND BEAMS AND PILECAPS UNLESS NOTED OTHERWISE

P3	ISSUED FOR TENDER	01.12.16	ST
P2	ISSUED FOR TENDER	28.06.16	MG
P1	ISSUED FOR INFORMATION	24.03.16	MG

CampbellReith
 consulting engineers

LONDON 020 7340 1700 | MANCHESTER 0161 819 3060
 SURREY 01737 734 500 | BIRMINGHAM 01575 467 484
 BRISTOL 0117 916 1066 | DUBAI 00 971 4345 7098

www.campbellreith.com

Job Title: **GREENWOOD CENTRE**
 Client: **KIER**

PROPOSED STORM WATER DRAINAGE LAYOUT

Drawn	date	scale @ A0	CT checked	CR Project No.
MG	JUN16	1:100	RAI	12291

Orig No.	Issued	Revised	Status/Revision
12291-CRH-GC-XX-DR-C-5055	D2		P3