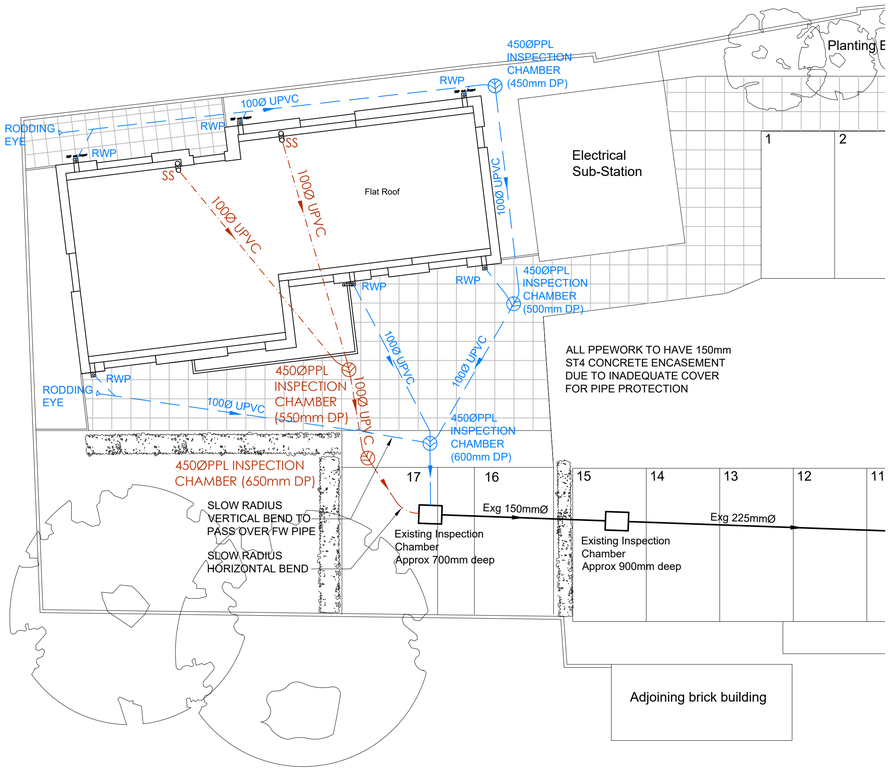
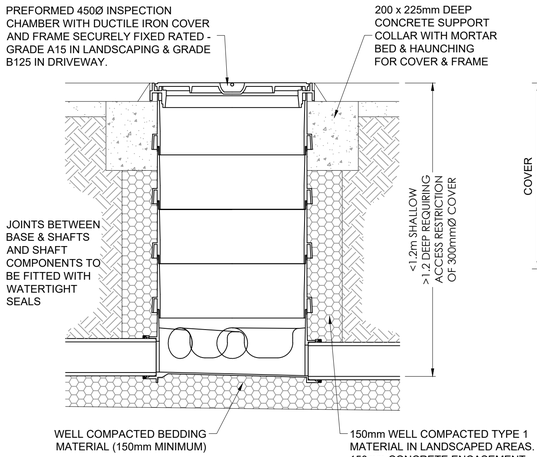
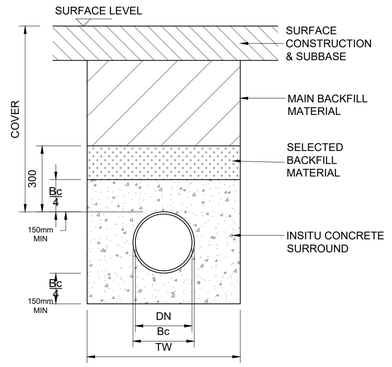


DRAINAGE GENERAL ARRANGEMENT
SCALE 1:100

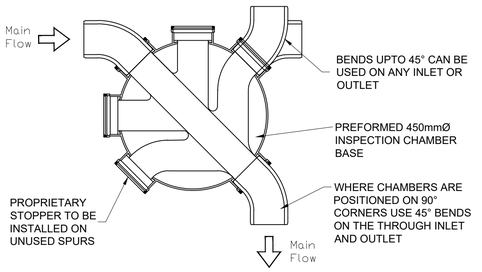


INSPECTION CHAMBER TRAFFICKED & NON TRAFFICKED AREAS
SCALE 1:10



EMBEDMENT CLASS Z
SCALE 1:10

PERMITTED USE:
FOR SHALLOW COVER WHERE MINIMUM REQUIRED COVER CANNOT BE PROVIDED. MINIMUM COVER MAY BE GOVERNED BY THE SURFACING CONSTRUCTION



TYPICAL INSPECTION CHAMBER (450Ø IC) PLAN ON BASE (5x100Ø INLETS)
SCALE 1:10

GENERAL NOTES

PIPE TRENCH MAIN BACK FILL

BACKFILLING TO PIPE TRENCHES BENEATH ROADS, CAR PARKING AND STRUCTURES TO BE APPROVED SELECTED GRANULAR MATERIAL OR MOT TYPE 1 GRANULAR MATERIAL UP TO FORMATION LEVEL FROM THE TOP OF SPECIFIED PIPE SURROUND (WELL COMPACTED IN 150mm MAX LAYERS)

BACKFILLING TO PIPE TRENCHES BENEATH SOFT LANDSCAPE AND FOOTWAYS TO BE SELECTED EXCAVATED MATERIAL FREE FROM STONES LARGER THAN 40mm, LUMPS OF CLAY OVER 100mm, ANY TIMBER, FROZEN MATERIAL OR VEGETABLE MATTER UP TO FORMATION FROM THE TOP OF THE SPECIFIED PIPE SURROUND (COMPACTED IN 150mm MAX LAYERS)

INSPECTION CHAMBERS

REFERENCE TO DIAMETERS OF CHAMBERS IS A NOMINAL MINIMUM. INDIVIDUAL PRODUCT SUPPLIERS WILL PROVIDE EQUIVALENT PRODUCTS WHERE THE ACTUAL DIAMETER IS DIFFERENT. IF IN DOUBT CONFIRM ACTUAL PRODUCT WITH THE ENGINEER.

GRANULAR BEDDING MATERIAL (BS EN 13242)

DN	GRADED	SINGLE SIZED
<140	-	4/10
150-300	2/14	4/10, 6/10
300-600	2/14, 4/20	6/10, 6/14
600-1200	4/20	10/20, 20/40

SELECTED BACKFILL MATERIAL

SHALL BE CLASS 8 LOWER TRENCH FILL IN ACCORDANCE WITH THE SPECIFICATION FOR HIGHWAY WORKS SERIES 600. NO STONES OR LUMPS OF CLAY >40mm GENERALLY OR >22mm FOR PIPES 150mm DIAMETER OR LESS.

CONCRETE SURROUND AND BEDDING

CONCRETE SHALL BE DESIGNATED MIX GEN3 FOR CLASS DC1 GROUND CONDITIONS. FOR OTHER GROUND CONDITIONS REFER TO THE ENGINEER.

CONCRETE SURROUNDS SHALL HAVE MOVEMENT JOINTS OF 20mm THICK COMPRESSIBLE BOARD PROVIDED AT PIPE JOINTS AND ROCKER PIPES AT TRANSITION FROM CONCRETE SURROUND TO GRANULAR SURROUND. MAX DISTANCE FROM FACE OF CONCRETE SURROUND TO FIRST FLEXIBLE JOINT TO BE 150mm.

ROCKER PIPE LENGTHS ; 100mm DIA = 600mm

TRENCH DIMENSIONS

DN	Y	TW (MINIMUM)
<400	100	Bc+300
400-700	150	Bc+450
725-900	200	Bc+600
925-1200	250	Bc+800

Y SHALL BE INCREASED BY 100mm WHERE TRENCH BOTTOM IS UNEVEN OR IN ROCK.

CONCRETE SPECIFICATION

GROUND CONDITIONS DC CLASS	CONCRETE SPEC TO BS EN 8500
DC1	GEN3 or ST4
DC2	FND2
DC3	FND3
DC4	FND4

MANHOLE COVER SPECIFICATION

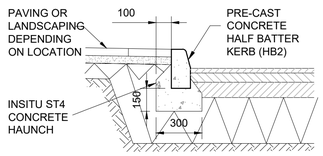
COVER GRADE TO BS EN 124	MAXIMUM PERMITTED USE
A15	AREAS WHICH CAN ONLY BE USED BY PEDESTRIANS AND PEDAL CYCLISTS.
B125	PRIVATE DRIVEWAY WITH LIGHT VEHICLE ACCESS.

DRAINAGE NOTES:

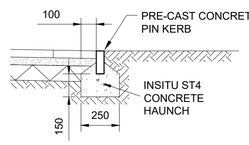
1. FOR RWP AND SVP DETAILS AND SIZES, REFER TO ARCHITECT. ALL GRAVITY RAINWATER PIPES, SVPS & SOIL STACKS TO HAVE GROUND LEVEL ACCESS PANELS.
2. UNLESS OTHERWISE STATED ALL SURFACE WATER DRAINS TO BE LAID TO A FALL OF 1 IN 100 FLATTEST AND TO HAVE RODDING FACILITIES AT THE TOP OF THE RUN.
3. UNLESS OTHERWISE STATED ALL FOUL DRAINS TO BE LAID TO A FALL OF 1 IN 80 FLATTEST AND TO HAVE RODDING FACILITIES AT THE TOP OF THE RUN. ALL FOUL PIPES UNDER SLABS TO BE LAID TO A FALL OF 1 IN 40 & CONC. ENCASED WHERE COVER TO CROWN IS LESS THAN 300mm.
4. ALL BRANCH DRAINS TO BE 100/150 DIA TO SUIT RWP & GULLY DETAIL BY ARCHITECT.
5. ALL INSPECTION CHAMBERS TO BE AS TYPICAL DETAIL.
6. ALL DRAINAGE COMPONENTS ARE TO COMPLY WITH THE RELEVANT REQUIREMENTS OF BS EN 752
7. ALL STRUCTURAL CONCRETE DRAINAGE PRODUCTS AND PIPES SHALL BE SULPHATE RESISTANT.
8. ALL GULLY AND SPUR CONNECTIONS SHALL INCLUDE FOR ALL JUNCTIONS BENDS AND OTHER FITTINGS.
9. MANHOLE COVERS AND GULLY GRATINGS ARE TO COMPLY WITH THE RELEVANT REQUIREMENTS OF BS EN 124 TO ALL VEHICULAR AREAS. MINIMUM GRADE B125 THROUGHOUT (INCLUDING PEDESTRIAN AREAS TO ALLOW TOR SMALL MEWP ACCESS)
10. BACKFILLING UNDER ROADS, CAR PARK, PAVING, AND UNDER BUILDINGS FROM TOP OF SPECIFIED SURROUND UP TO FORMATION IS TO BE TYPE 1 GRANULAR MATERIAL COMPACTED IN LAYERS NOT EXCEEDING 150mm.
11. BACKFILLING TO ALL OTHER AREAS FROM THE TOP OF THE SPECIFIED SURROUND IS TO BE IN SELECTED EXCAVATED MATERIAL FREE FROM STONES LARGER THAN 40mm, LUMPS OF CLAY OVER 100mm, ANY TIMBER, FROZEN MATERIAL OR ORGANIC MATTER.
12. CONNECTION OF NEW PIPEWORK TO EXISTING ADOPTED SEWERS IS TO BE TO THE REQUIREMENTS OF THE LOCAL AUTHORITY AND TO BE JETTED CLEAN, PRESSURE TESTED & CCTV SURVEYED. RESULTS TO BE ISSUED TO CLIENT & ENGINEER.
13. THE CONTRACTOR SHOULD COMPLY WITH ALL MANUFACTURERS INSTALLATION AND OPERATIONAL INSTRUCTIONS ESPECIALLY IN RELATION TO ATTENUATION TANKS, FLOW CONTROLS, SILT TRAPS AND NON-RETURN VALVES.
14. COVER LEVELS TO SUIT PROPOSED FINISH EXTERNAL LEVELS PROVIDED BY THE ARCHITECT.
15. EXISTING DRAINAGE INFORMATION MUST BE VERIFIED WITH STATUTORY AUTHORITY RECORDS PRIOR TO COMMENCEMENT OF WORKS.
16. CONSTRUCTION DETAILS & WORKMANSHIP ARE TO BE IN ACCORDANCE WITH "SEWERS FOR ADOPTION" 7th EDITION PUBLISHED BY WRC plc
17. ALL NEW DRAINAGE APPARATUS TO BE JETTED CLEAN PRESSURE TESTED & CCTV SURVEYED PRIOR TO HAND OVER. RESULTS TO BE ISSUED TO CLIENT AND ENGINEER.
18. THE PIPE MATERIAL FOR GRAVITY DRAINAGE IS GENERALLY CONTRACTORS CHOICE IN COMPLIANCE WITH DETAILS AND SPECIFICATION. PRESSURISED PIPES ARE TO BE ADVISED BY RELEVANT SPECIALIST.

LEGEND:

- SURFACE WATER CHAMBER AS SCHEDULE
- FOUL WATER CHAMBER AS SCHEDULE
- RWP — RAINWATER DOWN PIPE WITH BACK INLET GULLY ARCHITECT TO SIZE AND LOCATE ON ELEVATION DRAWINGS
- SS — SOIL STACK (VENTED IF SPECIFIED BY ABOVE GROUND DRAINAGE DESIGNER). SETTING OUT COORDINATES TO BE PROVIDED BY ARCHITECT. STACK TO BE PROVIDED WITH GROUND FLOOR ACCESS PANEL.
- F.P. — DENOTES FOUL WATER PUMPED APPARATUS FROM BASEMENT EN-SUITE - TO BE DESIGNED & DETAILED BY SPECIALIST MANUFACTURER.

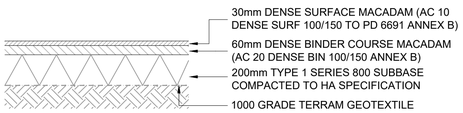


HALF BATTER KERB
SCALE 1:20

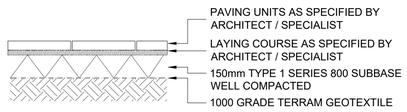


EDGING KERB (IF REQUIRED)
SCALE 1:20

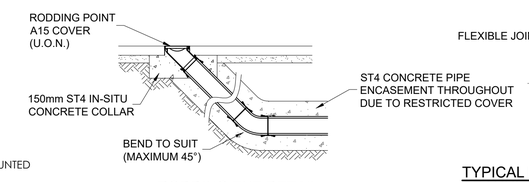
NOTE; THE POSITION & EXTENTS OF INDIVIDUAL KERBS ARE SHOWN ON THE ARCHITECT'S DRAWINGS INCLUDING ALL INFORMATION RELATING TO SETTING OUT



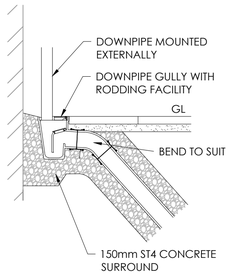
PARKING CONSTRUCTION
DESIGN BASED ON CBR 5%
TO BE VERIFIED AT FORMATION ON SITE



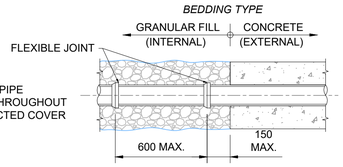
FOOTWAY PAVING CONSTRUCTION
DESIGN BASED ON CBR 5%
TO BE VERIFIED AT FORMATION ON SITE



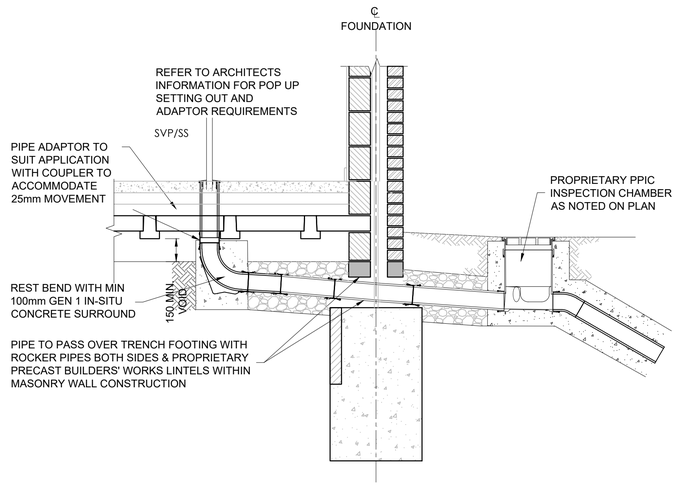
RODDING EYE DETAIL
SCALE 1:20



RAINWATER DOWNPIPE BACK INLET GULLY DETAIL
SCALE 1:20



TYPICAL ROCKER PIPE DETAIL AT TRANSITION BETWEEN GRANULAR PIPE SURROUND & CONCRETE ENCASEMENT
SCALE 1:20



TYPICAL FOUL DRAINAGE STACK ARRANGEMENT WHERE PIPE SLEEVES THROUGH GROUND BEAM
SCALE 1:20

SAFETY HEALTH AND ENVIRONMENTAL INFORMATION BOX
Construction Risks
• LOCAL DEEP EXCAVATIONS FOR CONNECTION OF PUMPED FOUL WATER APPARATUS AS PART OF BASEMENT CONSTRUCTION. CONTRACTOR TO ENSURE ALL NECESSARY TEMPORARY SUPPORT MEASURES ARE PROVIDED TO ENSURE THE STABILITY OF EXCAVATIONS AND ADJACENT ROAD.
Maintenance/Cleaning risks
• SILT TRAPS TO BE CLEANED OUT EVERY 6 MONTHS.
Demolition/adaptation risks
• FOUL WATER PUMP IN BASEMENT HAS BEEN DESIGNED BY SPECIALIST FOR THE FLOWS FROM THE APPARATUS SHOWN - NO INCREASE IN FLOWS PERMISSIBLE WITHOUT AN ASSESSMENT BY A SUITABLY QUALIFIED ENGINEER. • ANY FUTURE TREE PLANTING POST CONSTRUCTION REQUIRES ROOT BARRIERS TO AVOID DAMAGE TO TANK (& OTHER DRAINAGE APPARATUS)
IN ADDITION TO THE HAZARDS / RISKS NORMALLY ASSOCIATED WITH THE TYPE OF WORK DETAILED ON THIS DRAWING - THE CONTRACTOR IS TO TAKE NOTE OF THE ABOVE & ALSO THE HAZARDS IDENTIFIED IN THE RISK ASSESSMENT DOCUMENT. IT IS ASSUMED THAT ALL WORKS DETAILED ON THIS DRAWING WILL BE PERFORMED BY A COMPETENT CONTRACTOR WORKING, WHERE APPROPRIATE, TO AN APPROVED METHOD STATEMENT

Rev	Date	Description	By	Check	App.
P1	N.Y.I.	ISSUED FOR INFORMATION	SJT	SMF	SMF

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Client	HEATON ROAD PROPERTIES
Project	THE BUNGALOW MELMAR COURT, HEATON RD WITHINGTON
Office	ALTRINCHAM
Discipline	CIVIL / STRUCTURAL
Title	DRAINAGE DETAILS

Drawn	SJT	Date	OCTOBER 2020
Checked	SMF	Scale @ A1	1:100 & 1:20
Approved	SMF	Status	PRELIMINARY

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Job number	Drawing number	Revision
12/2937	EW01	P1