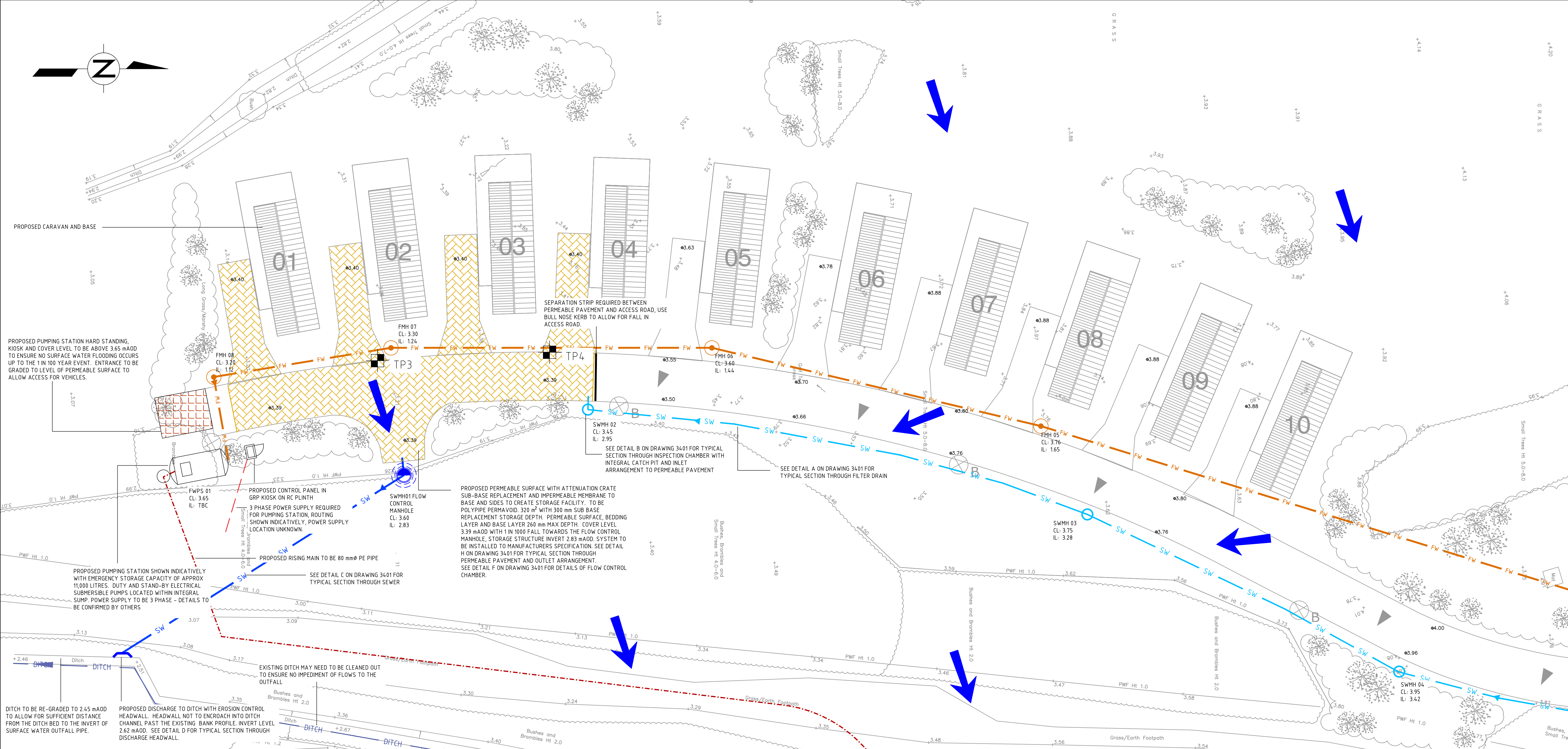




LEGEND

TP1

PROPOSED PRIVATE SURFACE WATER FILTER DRAIN WITH VEGETATED FILTER STRIP BETWEEN THE ROAD AND DRAIN. 150 mm ϕ TOP PERFORATED PIPE TO CONVEY FLOWS AT 1:25 GRADIENT

PROPOSED PRIVATE SURFACE WATER UNDERGROUND SEWER 150 mm ϕ WITH 1:50 MIN GRADIENT - TO BE DUCTILE IRON WITH CONCRETE SURROUND FOR COVER PROTECTION

PROPOSED INSPECTION CHAMBER WITH SILT TRAP

PROPOSED FLOW CONTROL MANHOLE INSTALLED TO MANUFACTURERS SPECIFICATION

PROPOSED PERMEABLE SURFACE WITH SUB-BASE REPLACEMENT ATTENUATION STORAGE POLYPIPE PERMAVOID OR SIMILAR. SEE NOTES ON DRAWING FOR DIMENSIONS. TO BE INSTALLED USING IMPERMEABLE MEMBRANE TO BASE AND SIDES TO CREATE STORAGE TANK

PROPOSED COVER LEVELS

PROPOSED SURFACE WATER DISCHARGE HEADWALL TO DITCH WITH EROSION CONTROL

ACCESS ROAD CROSS-FALL TO DIRECT RUNOFF ONTO FILTER STRIP AND DRAIN

INDICATIVE OVERLAND EXCEEDANCE FLOW ROUTING

PROPOSED RISING MAIN 80 mm ϕ INTERNAL - NOTE WASHOUT AND/OR AIR VALVES MAY BE REQUIRED - TBC IN DETAILED DESIGN.

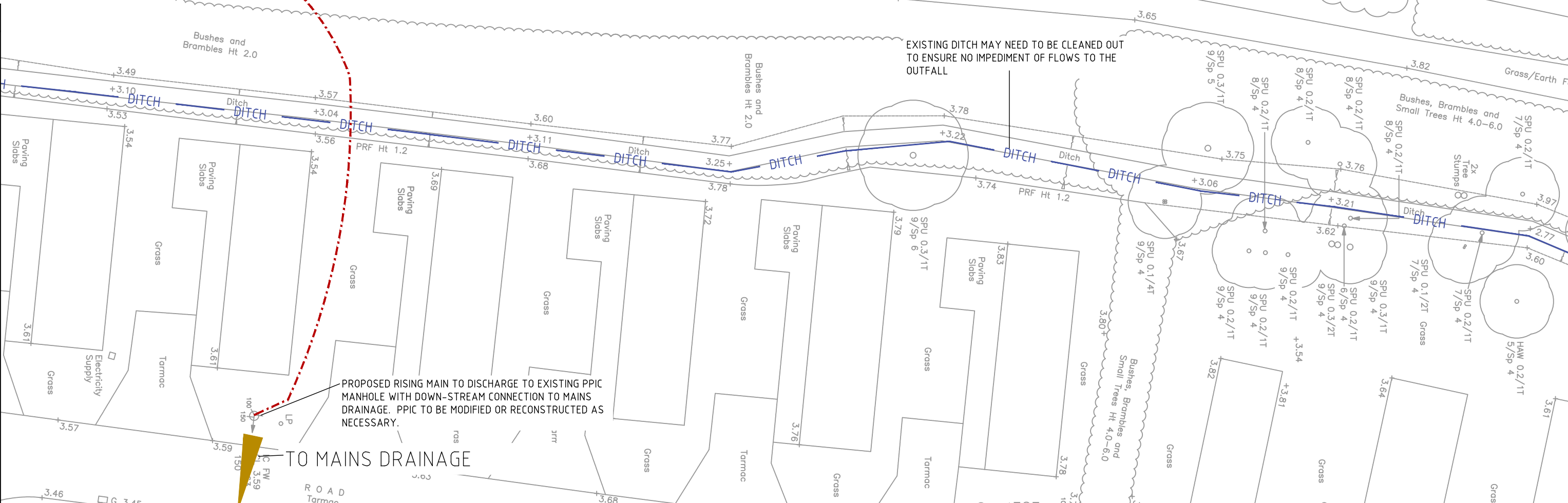
PROPOSED PRIVATE FOUL SEWER 100 mm ϕ INSTALLED AT MINIMUM 1:80 GRADIENT

PROPOSED PRIVATE FOUL SEWER 150 mm ϕ INSTALLED AT MINIMUM 1:50 GRADIENT

PROPOSED PRIVATE FOUL PPIC 475 mm ϕ

PROPOSED HARD STANDING FOR PUMP STATION ACCESS

PROPOSED PUMP STATION AND WASHOUT VALVE WITH EMERGENCY STORAGE PROVISION. NOTE THREE PHASE POWER SUPPLY IS REQUIRED FOR THE PUMP STATION. DETAILS CURRENTLY UNKNOWN.



SURFACE WATER DRAINAGE METHODOLOGY & PHASING SCHEME

DEEP AND SHALLOW SURFACE WATER INFILTRATION TESTS WERE INCONCLUSIVE DURING TESTING, INDICATING INFILTRATION IS NOT VIABLE AS A MEANS OF SURFACE WATER DISCHARGE ON SITE. GROUNDWATER DEPTHS VARIED FROM 1.2 TO 2.3 m DEEP.

POST DEVELOPMENT, THE SURFACE WATER RUNOFF CREATED BY ADDITIONAL IMPERMEABLE AREAS AT THE SOUTHERN EXTENT OF THE SITE SHOWN HERE WILL BE DISCHARGED TO A SUBS CELLULAR ATTENUATION STORAGE STRUCTURE LOCATED BENEATH A PERMEABLE SURFACE. THIS IS TO BE AS A SUB-BASE REPLACEMENT SYSTEM, POLYPIPE PERMAVOID OR SIMILAR. WATER WILL THEN BE DISCHARGED TO A NEARBY DITCH VIA A 150 mm SEWER AT FLOW RATES AS CLOSE AS PRACTICABLE TO GREENFIELD RUNOFF RATES AT LESS THAN 15 l/s USING A VORTEX FLOW CONTROL DEVICE. HYDROBRAKE OPTIMUM OR SIMILAR. SURFACE WATER CREATED FROM IMPERMEABLE AREAS UPSTREAM OF THE PERMEABLE SURFACE WILL BE COLLECTED USING A FILTER DRAIN ADJACENT TO THE ACCESS ROAD. THIS SHOULD BE LINED WITH GEOTEXTILE AND A VEGETATED FILTER STRIP SHOULD BE INSTALLED BETWEEN THE ACCESS ROAD AND THE FILTER DRAIN. 150 mm ϕ TOP PERFORATED PIPE INSTALLED WITHIN THE FILTER DRAIN WILL CONVEY FLOWS TO THE ATTENUATION STRUCTURE. INSPECTION CHAMBERS WITH INTEGRAL SILT TRAPS WILL BE INSTALLED AT REGULAR INTERVALS TO ALLOW FOR MAINTENANCE.

DESIGN CALCULATIONS INDICATE A STORAGE VOLUME OF 90 m³ WILL BE REQUIRED TO ATTENUATE RUNOFF UNDERGROUND FOR THE 1 IN 100 YEAR PLUS CLIMATE CHANGE EVENT. CELLULAR STORAGE COMPRISING OF 300 mm TOTAL DEPTH PERMAVOID UNITS WITH A SURFACE AREA OF 320 m² WILL PROVIDE THE REQUIRED STORAGE CAPACITY.

THE PERMEABLE SURFACE INFRASTRUCTURE SHOULD BE INSTALLED FOLLOWING THE FOUL WATER PUMPING STATION AND CARAVAN BASES TO REDUCE HEAVY TRAFFIC LOADING ON THE STRUCTURE. SEDIMENT CONTROLS SUCH AS SILT FENCING AND TEMPORARY DRAINAGE FEATURES SHOULD BE INSTALLED DURING THE CONSTRUCTION PHASE TO CONTROL POLLUTION FROM RAINFALL EVENTS.

SURFACE WATER DRAINAGE MAINTENANCE AND MANAGEMENT

THE FOLLOWING MAINTENANCE AND MANAGEMENT PLAN SHALL BE ADHERED TO:

THE PROPOSED DRAINAGE SYSTEMS WILL REMAIN PRIVATE AND WILL BE OPERATED AND MAINTAINED BY THE SITE OWNER/USER OR CARRIED OUT BY A MANAGEMENT COMPANY.

MAINTENANCE INSPECTIONS OF THE DRAINAGE INFRASTRUCTURE INCLUDING ALL FILTER DRAINS, LINEAR DRAINS, INSPECTION CHAMBERS AND ATTENUATION STORAGE UNITS SHOULD BE CARRIED OUT FREQUENTLY. VISUAL INSPECTION SHOULD BE CARRIED OUT ON A MONTHLY BASIS OR AFTER ANY HEAVY RAINFALL EVENT FOR THE FIRST 6 MONTHS, THEN 6 MONTHLY AFTER THAT, PARTICULAR ATTENTION SHOULD BE PAID DURING THE AUTUMN MONTHS WHEN LEAF LITTER AND OTHER DEAD PLANT MATERIAL MAY CAUSE OBSTRUCTION. ANY FILTER MEDIA SHOULD BE CHANGED AS PER MANUFACTURER SPECIFICATIONS.

SEDIMENT, SILT AND OTHER GRANULAR MATERIAL ENTERING THE PERMEABLE SURFACED AREAS SHOULD BE CLEARED ON A REGULAR BASIS, MONTHLY, OR AS REQUIRED.

ANY ISSUES OR FAILURES IDENTIFIED WITH THE SYSTEM SHOULD BE RECTIFIED IMMEDIATELY BY A SUITABLE CONTRACTOR, OBSERVING SUITABLE WORKING PRACTICES.

FOUL DRAINAGE METHODOLOGY

FOUL FLOWS WILL BE FED VIA A GRAVITY SEWER FROM THE PROPOSED 22 STATIC CARAVANS TO A FOUL PUMPING STATION. FLOWS WILL THEN BE PUMPED VIA AN 80 mm INTERNAL DIAMETER RISING MAIN TO THE NEAREST SUITABLE FOUL INSPECTION CHAMBER WITHIN THE EXISTING PARK INFRASTRUCTURE AS INDICATED. FROM THIS LOCATION FLOWS WILL BE CONVEYED AS PER THE EXISTING FOUL DRAINAGE SYSTEM TO THE PUBLIC SEWER.

PEAK FOUL FLOWS ARE CALCULATED AT 10650 l/DAY USING FLOWS AND LOADS 4. THE PEAK FLOW ENTERING THE PUBLIC SEWER WILL BE 4-6 l/s WHEN THE PUMPING STATION IS OPERATING.

THE PUMP STATION IS TO HAVE EMERGENCY STORAGE OF 10.65 m³ BETWEEN THE HIGH LEVEL ALARM FLOAT SWITCH AND THE LOWEST INCOMING FOUL INSPECTION CHAMBER COVER LEVEL. THIS IS TO PROVIDE 24 HOUR EMERGENCY STORAGE IN THE EVENT OF A SYSTEM FAILURE.

THE FOUL DRAINAGE SYSTEM IS TO REMAIN PRIVATELY OWNED, OPERATED AND MAINTAINED BY THE SITE OWNER/USER.

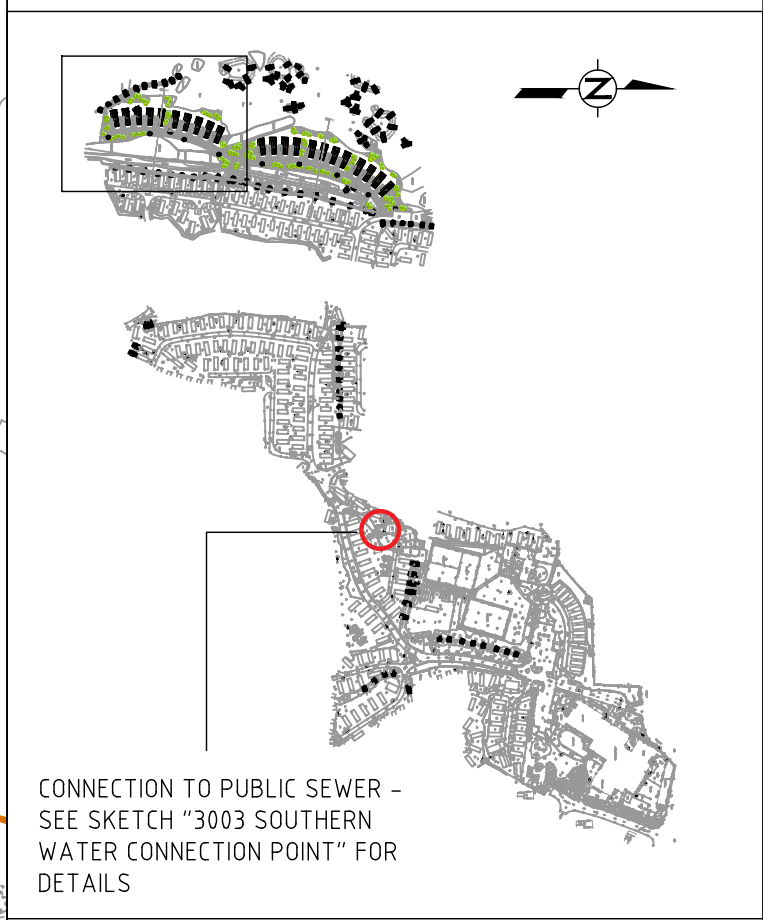
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 - MATERIALS AND WORKMANSHIP SHALL COMPLY TO THE APPROPRIATE BRITISH STANDARDS AND CODES OF PRACTICE UNLESS OTHERWISE STATED.
 - THE ACTIVITIES REQUIRED TO CONSTRUCT THE WORK, SHOWN ON DRAWINGS CLEARLY MARKED FOR CONSTRUCTION, MAY BE SUBJECT TO THE PROVISIONS OF THE CONSTRUCTION (DESIGN AND MANAGEMENT) REGULATIONS 2015. THE CONTRACTOR AND CLIENT MUST ENSURE THAT THEY ARE ADEQUATELY CONVERSANT WITH THESE REGULATIONS AND THAT THE APPROPRIATE PROCEDURES REQUIRED UNDER THE REGULATIONS ARE OBSERVED AT ALL TIMES.
 - DESIGN RISK ASSESSMENT

A RISK ASSESSMENT RELATING TO POTENTIAL HAZARDS ASSOCIATED WITH THE CONSTRUCTION, OPERATION AND DEMOLITION OF THE WORK DESCRIBED WITHIN THIS DRAWING, IN SO FAR AS IT HAS BEEN DESIGNED BY NIJHUIS H2OK LTD, HAS BEEN UNDERTAKEN. RISKS SO IDENTIFIED HAVE BEEN ELIMINATED BY DESIGN WHEREVER PRACTICABLE. THE SITUATION WITH REGARD TO RESIDUAL RISKS IS AS FOLLOWS:

THE WORK IS OF LOW COMPLEXITY WITH LOW LEVEL OF RISK; IT IS CONSIDERED THAT THERE ARE NO SIGNIFICANT RESIDUAL RISKS THAT WOULD NOT BE READILY FORESEEABLE BY A COMPETENT CONTRACTOR, OBSERVING GOOD WORKING PRACTICES.

DESIGNER - A WOOLLEY DRAWING REVISION - C
DATE - 19.07.17



19.07.17	AW	-		D	NOTE ADDED REGARDING DISCHARGE HEADWALL
19.07.17	AW	WOM		C	AMENDMENTS TO SURFACE WATER DESIGN FOR PLANNING
09.05.17	AW	WOM		B	WITH CLIENT AMENDMENTS - PUMPING STATION AND PERMEABLE SURFACE
21.04.17	AW	BD		A	FOR INFORMATION
DATE.	DRWN.	CHKD.	APPR.	REV.	NOTES.

PROJECT MANAGER-	DANIEL KENNARD
ASSISTANT-	ANDY WOOLLEY
DRAWN DATE-	APRIL 2017
SCALE & SHEET SIZE-	1200 @ A1

FOR PLANNING

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CLIENT			
BOURNE LEISURE			
PROJECT			
CHURCH FARM GOLF DEVELOPMENT, CHURCH FARM HOLIDAY PARK, PAGHAM, PO21 4NR			
DRAWING TITLE			
CHURCH FARM GOLF DEVELOPMENT DRAINAGE LAYOUT FOR PLANNING 2 OF 2			
PROJECT No.	DRAWING No.		REV.
J-11399	3002		D