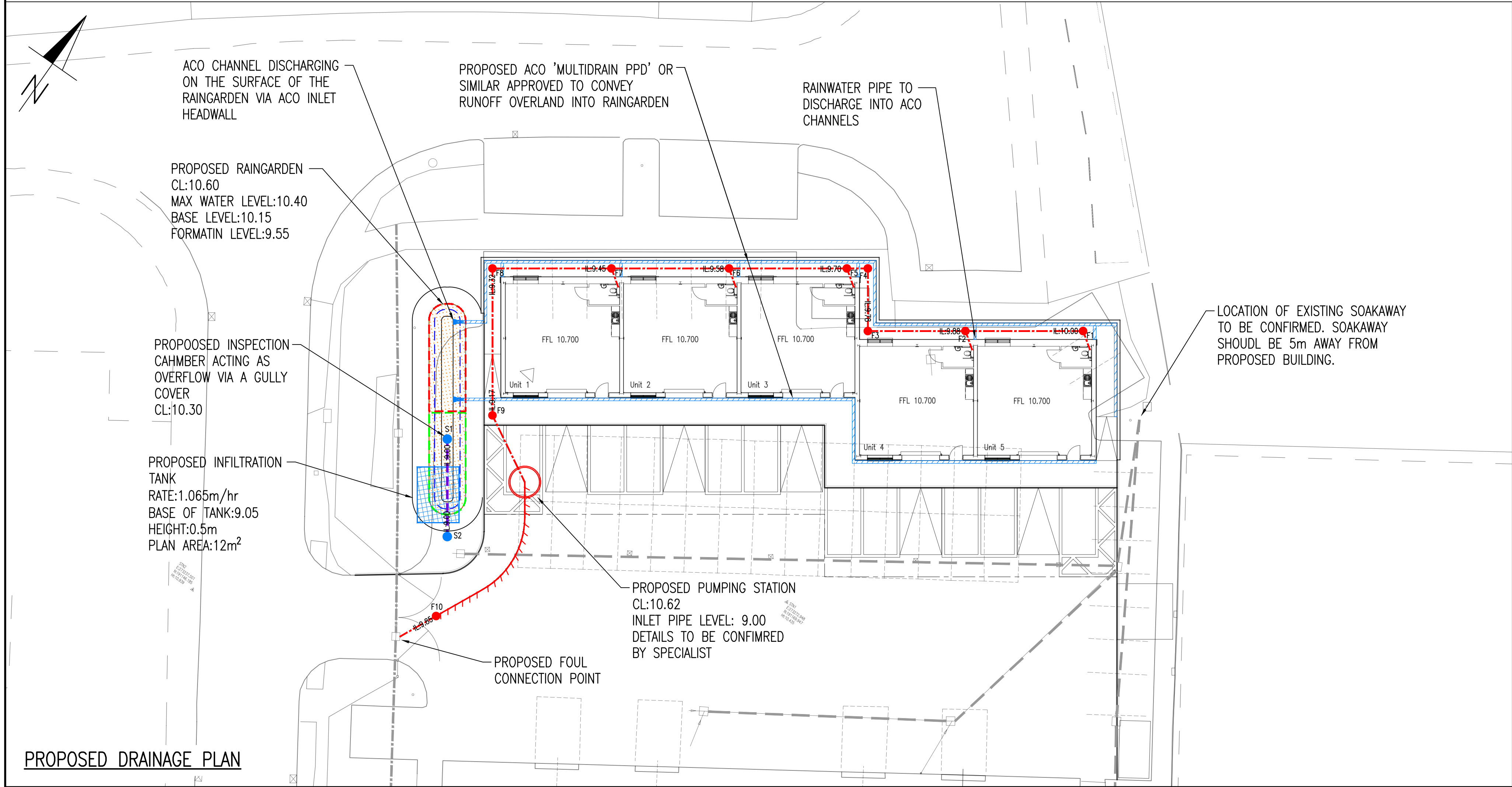
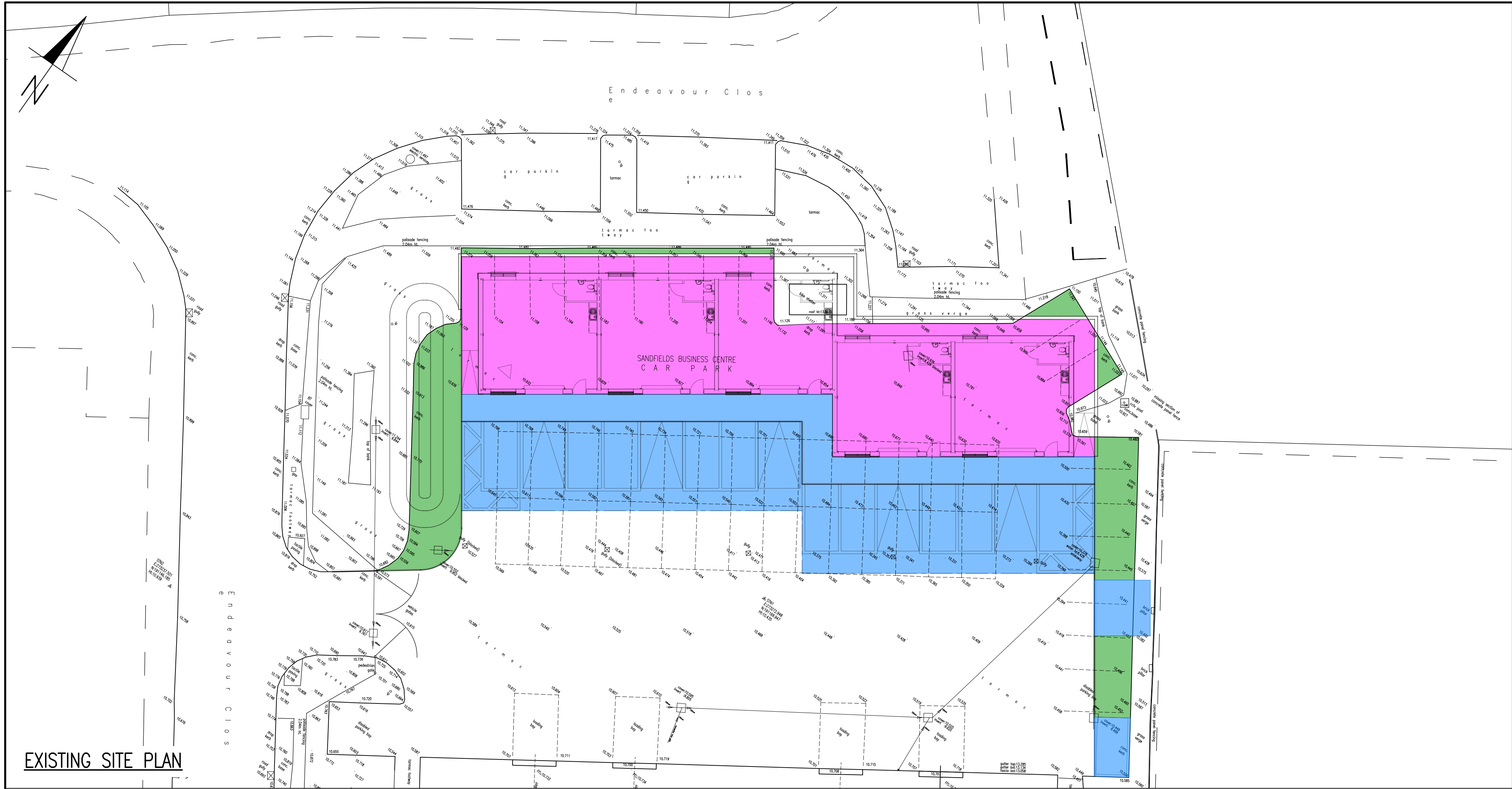




Drainage Strategy

Surface Water

VARIOUS INFILTRATION TESTING HAVE BEEN CARRIED OUT ACROSS THE SITE BY ESP, REPORT REF. ESP 9222.4325.01. THE SITE INVESTIGATION PROVES THAT INFILTRATION IS A VIABLE SURFACE WATER DISPOSAL METHOD ACHIEVING A RATE OF 2.96x10⁻⁴m/s. A FURTHER INFILTRATION TEST IS RECOMMENDED AT THE BASE LEVEL OF THE PROPOSED INFILTRATION DEVICE. POST-DEVELOPMENT SURFACE WATER RUNOFF WILL BE COLLECTED WITHIN A POSITIVE SYSTEM AND DISCHARGED INTO A PROPOSED INFILTRATION SYSTEM. A RAINGARDEN IS PROPOSED TO COLLECT AND TREAT THE SURFACE RUNOFF PRIOR TO DISCHARGE INTO GROUND.

In Accordance with the S.A.B. STANDARDS

STANDARD 1

- REUSE – SURFACE WATER RUN-OFF TO BE COLLECTED WITHIN SOFT LANDSCAPED AREAS, REUSED BY THE IRRIGATION OF PLANTING.
- INFILTRATION – 2 INFILTRATION TEST PIT AT CIRCA 2m DEEP WERE CARRIED OUT IN MAY 2025. TESTING WAS CARRIED OUT IN ACCORDANCE WITH BRE365 AND BS EN ISO 22882-2 (2012). AN INFILTRATION RATE OF 2.96x10⁻⁴m/s IS CALCULATED FOR THIS SCHEME.
- WATER BODY – NOT REQUIRED FOR THIS DEVELOPMENT
- SURFACE WATER SEWER – NOT REQUIRED FOR THIS DEVELOPMENT
- COMBINED SEWER – NOT REQUIRED FOR THIS DEVELOPMENT

STANDARD 2

- AS THE SCHEME PROPOSES AN INFILTRATION DISPOSAL METHOD FOR SURFACE WATER, NO RUNOFF IS ANTICIPATED TO DISCHARGE OFFSITE AS SUCH THE SCHEME COMPLIES WITH INTERCEPTION CRITERIA.
- SURFACE WATER SYSTEM TO BE DESIGNED TO FOR A RETURN PERIOD OF 100YRS + 30% CLIMATE CHANGE.
- THE INFILTRATION CALCULATION IS BASED ON A SAFETY FACTOR OF 3.
- BASED ON THE EXISTING TOPOGRAPHY, ANY EXCEEDANCE RUNOFF WILL FLOW TOWARDS THE EXISTING GULLIES SERVING THE CAR PARK AREA. AS A METHOD TO ASSESS THE POTENTIAL FOR EXCEEDANCE FLOOD VOLUME, CALCULATIONS FOR A 1 IN 200-YEAR RETURN PERIOD PLUS 30% CLIMATE CHANGE INDICATE THAT MAX WATER LEVELS WILL INCREASE TO 10.47m ONLY, PROVIDING SUFFICIENT CAPACITY WITHIN THE DRAINAGE SYSTEM.

STANDARD 3

- WATER QUALITY WILL BE ACHIEVED VIA THE PROPOSED RAINGARDEN FEATURE. VEGETATED RAINGARDENS WILL HELP TO RETAIN RUNOFF FROM SMALL EVENTS ON SITE, HELPING TO REDUCE CONTAMINANT LOADING VIA VOLUMETRIC CONTROL. THEY CAN ALSO TREAT RESIDUAL RUNOFF VIA GRAVITATIONAL SETTLING OF PARTICULATE POLLUTANTS.

STANDARD 4

- RAINGARDENS AREAS ARE AN IMPORTANT PART OF THE LANDSCAPE DESIGN. THESE FEATURES WILL BE PLANTED AS PER THE LANDSCAPE ARCHITECTS SPECIFICATION AND WILL PROVIDE AMENITY CONTRIBUTION.

STANDARD 5

- RAINGARDENS AREAS WILL BE PLANTED WITH NATIVE PLANT SPECIES TO PROVIDE DENSE AND DURABLE COVER OF VEGETATION THAT CREATES APPROPRIATE HABITAT FOR INDIGENOUS SPECIES.

STANDARD 6

- THE SUDS SOLUTION HAS BEEN DESIGNED IN ACCORDANCE WITH THE SUDS MANUAL AND THE SITE IS GENERALLY SERVED BY SHALLOW SUDS FEATURES, REDUCING THE CAPITAL COST AND MAINTENANCE COSTS OF THE SCHEME.
- SLOW GROWING VEGETATION IS TO BE PLANTED IN THE SOFT LANDSCAPED AREAS TO REDUCE THE NEED FOR MAINTENANCE AND REPLACEMENT.
- MAINTENANCE PLANS FOR THE SUDS FEATURES AND DRAINAGE ELEMENTS ARE PROVIDED.

Foul Water

- A GRAVITY CARRIER FOUL SYSTEM IS PROPOSED FOR THE DEVELOPMENT. SITE DISCHARGING INTO A PROPOSED PACKAGE PLUMING STATION. A RISING MAIN WILL DISCHARGE INTO AN ONSITE DEMARCATION CHAMBER WITH A FINAL GRAVITY CONNECTION INTO THE PUBLIC SEWER SYSTEM.
- THE FINAL FOUL DRAINAGE CONNECTION IS SUBJECT TO A 106 APPLICATION WITH DCWW.

KEY

- EXISTING DOWN PUBLIC SEWER
- - -●- - - EXISTING ONSITE STORM DRAINAGE SYSTEM
- ONSITE PRIVATELY MAINTAINED FOUL DRAINAGE SYSTEM
- ONSITE PRIVATELY MAINTAINED FOUL RISING MAIN
- ONSITE PRIVATELY MAINTAINED STORM DRAINAGE SYSTEM WITH PERFORATED PIPE
- PROPOSED LINEAR CHANNELS CONVEYING ROOF RUNOFF 'ACO M150PPD 0.0J' OR SIMILAR APPROVED
- PROPOSED RAINGARDEN WRAPPED IN AN IMPERMEABLE LINER DUE TO PROXIMITY TO BUILDING
- PROPOSED RAINGARDEN WRAPPED IN A PERMEABLE GEOTEXTILE TO ALLOW DISCHARGE INTO INFILTRATION TANK
- CELLULAR STORAGE INFILTRATION TANK DISCHARGING TO GROUND
- AREA OF EXISTING HARD PAVED SURFACE REMOVED FROM EXISTING DRAINAGE SYSTEM AND DISCHARGE INTO NEW SOAKAWAY SYSTEM: 420m²
- AREA OF EXISTING HARD PAVED SURFACE WHICH WILL REQUIRE RESURFACING TO CONTINUE TO DISCHARGE DIRECTLY TO THE LINEAR CHANNELS VIA A SUITABLE ADAPTOR, REMOVABLE TO PERMIT ACCESS FOR FLOODING.
- AREA OF EXISTING HARD PAVED SURFACE TO BECOME SOFT LANDSCAPING, AS SUCH REMOVING RUNOFF AREA FROM THE EXISTING SYSTEM: 125m²

DRAINAGE NOTES

1. THE DEVELOPER MUST SELF-VET AND CERTIFY THAT THE DESIGN CRITERIA, MATERIAL STANDARDS AND WORKMANSHIP SPECIFICATIONS FOR THE PROPOSED ADAPTABLE SEWERS ARE IN ACCORDANCE WITH THOSE SET OUT IN SEWERS FOR ADOPTION 7TH EDITION AND THE WELSH MINISTERS STANDARDS.
2. CONTRACTOR TO ALLOW FOR ALL NECESSARY STREET WORKS LICENSES ASSOCIATED WITH DRAINAGE SERVICE INSTALLATION IN EXISTING PUBLIC HIGHWAY.
3. ALL WORK TO BE CARRIED OUT IN CONNECTION WITH SEWERS AND MANHOLES TO BE IN ACCORDANCE WITH THE HEALTH AND SAFETY GUIDELINE NO. 2 'SAFE WORKING IN SEWERS AND SEWAGE WORKS'.
4. THE COVER AND INVERT LEVELS OF ANY EXISTING MANHOLES ARE TO BE VERIFIED ON SITE PRIOR TO THE COMMENCEMENT OF THE WORKS. ALSO TO INCLUDE VERIFICATION OF MANHOLE AND PIPE DIAMETERS.
5. ALL ADAPTABLE SEWERS OR LATERAL DRAINS ARE TO BE LAID AT A MINIMUM GRADIENT OF 1:80 FOR 100mm DIA PIPES, 1:150 FOR 150mm DIA PIPES AND A MAXIMUM GRADIENT OF 1:5. WHERE SITE LAYOUT DICTATES A SHARPER BACKSLOPE MAY BE UTILISED, ALTHOUGH STEEPER GRADIENTS ARE PREFERRED, AND SHOULD BE PROVIDED WHERE PRACTICABLE.
6. LATERAL PIPEWORK WITHIN 1.2m TO THE FACE OF PROPOSED BUILDING TO COMPLY WITH THE REQUIREMENT OF CLAUSE B3.1.4 AND FIGURE B.1.
7. MINIMUM CLEAR OPENING OF MANHOLE COVERS TO BE 600 X 600MM FOR FOUL WATER AND 675 X 675MM FOR SURFACE WATER.
8. PRIOR TO LAYING ANY MATERIAL THE SUBGRADE MUST BE INSPECTED AND ANY SOFT SPOTS REMOVED AND FILLED WITH TYPE 1 MATERIAL TO SHW CLAUSE B03-14.
9. ASSUMED RWP PIPE LOCATION SHOWN, EXACT NUMBER AND LOCATION TO BE PROVIDED BY OTHERS. RWP TO BE CONNECTED DIRECTLY TO THE LINEAR CHANNELS VIA A SUITABLE ADAPTOR, REMOVABLE TO PERMIT ACCESS FOR FLOODING.
10. ASSUMED SVP PIPE LOCATION SHOWN, EXACT NUMBER AND LOCATION TO BE PROVIDED BY OTHERS.
11. ALL PERFORATED PIPES TO BE FULLY PERFORATED AND WRAPPED IN PERMEABLE GEOTEXTILE.

GENERAL NOTES

1. DO NOT SCALE THIS DRAWING.
2. CONTRACTOR TO CHECK ALL DIMENSIONS AND REPORT ALL ERRORS AND OMISSIONS TO THE ENGINEER.
3. ANY DISCREPANCY TO BE REPORTED IMMEDIATELY TO THE ENGINEER.
4. THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, SUBCONTRACTORS AND SPECIALISTS DRAWINGS AND SPECIFICATIONS.
5. USE OF THIS DRAWING DOES NOT ABSOLVE THE CLIENT FROM HIS RESPONSIBILITIES UNDER THE HEALTH AND SAFETY: THE CONSTRUCTION DESIGN AND MANAGEMENT REGULATIONS 2015. THE PRINCIPAL DESIGNER IS REQUIRED TO CONTACT CBS CONSULTANT PRIOR TO PERMITTING THIS DRAWING TO BE USED IN CONNECTION WITH ANY CONSTRUCTION WORKS.
6. BEFORE COMMENCEMENT OF ANY WORKS ASSOCIATED WITH THE DRAWING REFER TO ALL RELEVANT HEALTH AND SAFETY INFORMATION FOR THE WORKS INCLUDING RESIDUAL RISK INFORMATION. THE CONTRACTOR SHOULD COMPLY WITH HSE(G) 47 'AVOIDING DANGER FROM UNDERGROUND SERVICES' WHEN PLANNING, LOCATING AND EXCAVATING AROUND EXISTING SERVICES. IT IS KNOWN THAT EXISTING UTILITY COMPANY UNDERGROUND SERVICES AND APPARATUS ARE PRESENT WITHIN THE PROPOSED WORKS AREA AND IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE EXISTING SERVICES ON SITE ACCURATELY.
7. INFORMATION REGARDING THE LOCATION AND DEPTH OF EXISTING SERVICES CANNOT BE GUARANTEED BY THE STATUTORY UNDERTAKER.
8. THIS DRAWING HAS BEEN BASED ON INFORMATION PROVIDED BY OTHER PARTIES AND CBS CONSULT DO NOT WARRANT THE ACCURACY OF THIS INFORMATION. DIMENSIONS SHALL NOT BE SCALED FROM THE DRAWING AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL DIMENSIONS AND LEVELS ON SITE FOR THE ACTUAL SETTING OUT OF THE WORKS. DIMENSIONS MARKED 'DIMENSIONS TO BE SITE CHECKED' ARE SUBJECT TO CONFIRMATION BY THE CONTRACTOR BEFORE THE WORKS COMMENCE.
9. TEMPORARY WORKS DESIGN ASSOCIATED WITH THE CONSTRUCTION OF THE WORKS SHALL BE RESPONSIBILITY OF THE CONTRACTOR.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN OF ALL TRAFFIC MANAGEMENT PROPOSALS & PHASING. SUCH DETAILS SHALL BE SUBMITTED TO THE LOCAL HIGHWAY AUTHORITY FOR APPROVAL PRIOR TO THE START OF THE WORKS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ASSOCIATED COSTS AND ORDERS.

Rev.	Detail	By	Date
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Revisions

Reinforcement schedules nos.

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Castell-nedd Port Talbot
County Borough Council Cyngor Bwrdeistref Sirol

SANDFIELDS YOUNG BUSINESS CENTRE

DRAINAGE LAYOUT PLAN

PRELIMINARY

Project No.	Drawing No.
C2317	C-001
Scales	Date
1:200	MAY, 2025
Drawn	Checked
RJ	DG
Sheet Size	Revision
A1	A