



RAINWATER BUTTS REQUIRED AT
SELECTED RAINWATER DOWN PIPE TO
EACH INDIVIDUAL PLOT. ARCHITECT TO
CONFIRM PREFERRED LOCATIONS.

PROPOSED DISCHARGE INTO
EXISTING DITCH
DITCH LEVEL~78.00
OUTLET LEVEL-78.10

S6
PROPOSED HYDRO-BRAKE
FLOW CONTROL
DISCHARGE RATE-7.8lit/sec
CL-80.10
IL-79.00
DESIGN HEAD-0.80m

DETENTION BASIN 2
TOP LEVEL-80.100
BASE LEVEL-79.20
DEPTH-0.9m
AREA-106m²
MAX WATER LEVEL-0.6m

S5-65mm
ORIFICE PLATE
DCWW ADOPTABLE TYPE 2
PUMPING STATION

S4
PROPOSED HYDRO-BRAKE
FLOW CONTROL
CL-81.95
IL-80.325
DESIGN HEAD-1.425m
DISCHARGE RATE-6.0lit/sec

DETENTION BASIN 1
TOP LEVEL-81.95
BASE LEVEL-81.35
SUBBASE LEVEL-80.60
DEPTH-0.6m
AREA-65m²
MAX WATER LEVEL-0.4m
600mm DEEP GRANULAR
BLANKET UNDERLAYER

500mmØ CULVERT &
ALTHON, TYPE-SFA10B
HEADWALL OR SIMILARY
APPROVED BY OWC.

PHASE 1 SURFACE WATER
RUNOFF DISCHARGING
INTO PHASE 2 DRAINAGE
NETWORK VIA 60mm
ORIFICE PLATE CHAMBER

DRAINAGE STRATEGY

- ACCESS ROAD TO BE POROUS ASPHALT ATTENUATING RUN-OFF WITHIN THE SUB-BASE, DISCHARGING TO A BASIN VIA A FLOW CONTROL DEVICE.
- EACH PROPERTY ROOF & PARKING AREA TO CONNECT INTO THE POROUS ACCESS ROAD VIA SINGLE PERFORATED PIPE.
- FINALLY, ROAD AND PLOT DRAINAGE TO DISCHARGE INTO AN ATTENUATION BASIN BEFORE DISCHARGING INTO AN EXISTING STREAM AT AN ATTENUATED RATE OF 7.8lit/sec.

- S1
- REUSE - SURFACE WATER RUN-OFF TO BE COLLECTED WITHIN DETENTION BASIN AND REUSED BY THE HYDRATION OF PLANTING & WATER BUTTS ARE PROPOSED TO COLLECTING ROOF RUNOFF AT EACH PROPERTY WITH AN OVERFLOW INTO INDIVIDUAL PARKING BAY TO SUB-BASE.
 - INFILTRATION- SITE INVESTIGATION WERE UNDERTAKEN IN FEBRUARY 2019, 3NO. SOAKAWAY TESTS WERE UNDERTAKEN TO THE REQUIREMENTS OF BRE DIGEST 365 AND NO INFILTRATION WAS RECORDED DURING THE TESTING.
 - WATER COURSE - SURFACE WATER ONSITE IS TO DISCHARGE INTO PROPOSED DETENTION BASIN BEFORE DISCHARGING INTO A NEARBY STREAM VIA A HYDROBRAKE AT AN ATTENUATED RATE. THE PROPOSED DISCHARGE RATE HAS BEEN CALCULATED USING THE PREVIOUSLY APPROVED DISCHARGE RATE FOR PHASE 1 OF 3.5lit/sec BASED ON A CONTRIBUTING AREA OF 0.169Ha - USING THE TOTAL HARD PAVED AREA FOR PHASE 1 & 2 OF 0.421Ha A DISCHARGE RATE OF 8.7lit/sec HAS BEEN CALCULATED. HOWEVER, TO ALLOW FOR A 10% BETTERMENT OUR FINAL DISCHARGE RATE IS 7.8lit/sec.
 - SURFACE WATER SEWER - NOT REQUIRED FOR THIS DEVELOPMENT.
 - COMBINED SEWER - NOT REQUIRED FOR THIS DEVELOPMENT.

- S2
- FIRST 5MM WILL BE CATERED FOR IN THE INITIAL ABSORPTION OF THE PARKING AREA/ ACCESS ROAD SUB-BASE AND VEGETATED BASIN.
 - SURFACE WATER SYSTEM TO BE DESIGNED TO FOR A RETURN PERIOD OF 100YRS + 30% CLIMATE CHANGE.

- S3
- WATER QUALITY WILL BE ACHIEVED VIA THE POROUS ACCESS ROAD SUBBASE & VEGETATED DETENTION BASIN.

- S4
- VEGETATED DETENTION BASIN WILL BE AN IMPORTANT PART OF THE LANDSCAPE DESIGN. THE AREA WILL BE PLANTED AS PER THE LANDSCAPE ARCHITECTS SPECIFICATION AND WILL PROVIDE AMENITY CONTRIBUTION.
 - PERMEABLE ASPHALT WILL PROVIDE AMENITY IN THE FORM OF THEIR VISUAL ASPECT OF THE SURFACE MATERIAL.

- S5
- DETENTION BASIN WILL BE PLANTED WITH NATIVE PLANT SPECIES TO PROVIDE DENSE AND DURABLE COVER OF VEGETATION THAT CREATES APPROPRIATE HABITAT FOR INDIGENOUS SPECIES.
 - PERMEABLE ASPHALT WILL NOT PROVIDE DIRECT BIODIVERSITY BENEFITS, ALTHOUGH THEY WILL TREAT AND CONTROL WATER TO MAXIMIZE BIODIVERSITY DOWNSTREAM.

- S6
- POROUS ACCESS ROAD & DETENTION BASIN TO BE OFFERED FOR LOCAL AUTHORITY ADOPTION.

FOUL STRATEGY

- PROPOSED PUMPING STATION TO DISCHARGE FOUL WATER VIA RISING MAIN TO AN EXISTING DCWW SEWER WITHIN THE A487 - SUBJECT TO S104 APPROVAL.

GENERAL NOTES

- DO NOT SCALE THIS DRAWING.
- CONTRACTOR TO CHECK ALL DIMENSIONS AND REPORT ALL ERRORS AND OMISSIONS TO THE ENGINEER.
- ANY DISCREPANCY TO BE REPORTED IMMEDIATELY TO THE ENGINEER.
- THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, SUBCONTRACTORS AND SPECIALISTS DRAWINGS AND SPECIFICATIONS.

KEY

- PHASE 2 SITE BOUNDARY
- LOCAL AUTHORITY ADOPTED STORM DRAINAGE
- LOCAL AUTHORITY ADOPTED DRAINAGE - PERFORATED PIPES
- PRIVATELY MAINTAINABLE STORM DRAINAGE
- PRIVATELY MAINTAINABLE DRAINAGE - PERFORATED PIPES
- PROPOSED DCWW ADOPTABLE GRAVITY FOUL DRAINAGE
- PROPOSED DCWW ADOPTABLE RISING MAIN
- LOCAL AUTHORITY DETENTION BASIN
- LOCAL AUTHORITY ACCESS ROAD PERMEABLE BLOCKWORK CONSTRUCTION
- PRIVATE PARKING BAY PERMEABLE ASPHALT CONSTRUCTION
- IMPERMEABLE SERVICE STRIP BLOCKWORK CONSTRUCTION
- PRIVATE DRAINAGE DISTRIBUTION BOX - SPEC. 354x708x150mm
- LOCAL AUTHORITY ADOPTED SURFACE WATER OVERFLOW GULLY CHANNEL
- PRIVATE LINEAR DRAINAGE CHANNEL

DRAINAGE NOTES

- DRAINAGE DESIGN AND CONSTRUCTION IN ACCORDANCE WITH SEWERS FOR ADOPTION 7TH EDITION AND THE REQUIREMENTS OF THE STATUTORY UNDERTAKER.
- THE ADOPTABLE DRAINAGE SYSTEMS SUBJECT TO A S104 AGREEMENT NEEDS TO BE IN PLACE PRIOR TO CONSTRUCTION WORK COMMENCING.
- ANY CONNECTIONS TO THE PUBLIC SEWERS REQUIRE SECTION 106 APPROVAL PRIOR TO CONNECTION TAKING PLACE.
- 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'.
- 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.
- PRIOR TO LAYING ANY MATERIAL THE SUBGRADE MUST BE INSPECTED AND ANY SOFT SPOTS REMOVED AND FILLED WITH TYPE 1 MATERIAL TO SHW CLAUSE 803-14.
- RAINWATER DOWN PIPES ARE TO BE CONNECTED DIRECTLY TO THE DRAIN VIA A SUITABLE ADAPTOR, REMOVABLE TO PERMIT ACCESS FOR RODDING.

A	POROUS SURFACE SPEC. AMENDED TO TARMAC	CH	07.10.22
Rev.	Detail	By	Date

Reinforcement schedules nos.



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Project
**PHASE TWO OF HOUSING
DEVELOPMENT AT THE
BARN, DINAS CROSS,
PEMBROKESHIRE**

Drawing Title
**LAYOUT PLAN
DRAINAGE**

PLANNING

Project No. C1996	Drawing No. C-SK02
Scales 1:200	Date 20.09.22
Drawn CH	Checked DH
Sheet Size A1	Revision A