



ALL FOUL DRAINAGE MANAGED UNDER S104 SEVERN TRENT AGREEMENT
STORM DRAINAGE MANAGED BY A PRIVATE MAINTENANCE COMPANY UNLESS NOTED ON PLAN WHERE MANAGED UNDER S104 SEVERN TRENT AGREEMENT.

SW PACKAGE PUMPING STATION
DESIGNED IN ACCORDANCE WITH LOCAL STANDARD N OF THE SCC SUDS HANDBOOK WITH A USE OF DUAL PUMPS ON DUTY/STANDBY. ALSO, INSTALLED SEER TELEMETRY SYSTEM FOR 24/7 MONITORING BY TT-PUMPS OR SIMILAR APPROVED.

PRIVATE FW PACKAGE PUMPING STATION

PERMEABLE PAVING USED AS TREATMENT AND ATTENUATION INCLUDING BAFFLES DUE TO HIGHWAY GRADIENT

S3
HYDRO-BRAKE FLOW CONTROL CHAMBER
DISCHARGE - 1.0lit/sec
CL 133.00
IL 129.00

PRIVATELY MAINTAINABLE CELLULAR STORAGE SYSTEM BY SDS OR SIMILAR APPROVED TO ALLEVIATE FLOODING AT THE HEAD OF THE RUN.
TOTAL STORAGE VOLUME 40m³
ADDITIONAL 20m³ STORAGE VOLUME TO ALLOW FOR ADDITIONAL 15min AND 50mm/hr PRECIPITATION RATE
TANK HEIGHT 1.0m
IL 129.05

PRIVATELY MAINTAINABLE CELLULAR STORAGE SYSTEM BY SDS OR SIMILAR APPROVED TO WORK AS BACKING UP ATTENUATION SYSTEM.
TOTAL STORAGE VOLUME 180.5m³
TANK HEIGHT 2.0m
TANK PLAN AREA 95m²
IL 129.20

NO-DIG CONSTRUCTION OF PERMEABLE PAVING WITH A USE OF CELLWEB PRODUCT BY GEOSYNTHETICS OR SIMILAR

MANAGEMENT AND MAINTENANCE OF THE PROPOSED TANKS HAVE ACCESS VIA SHARED DRIVEWAY.

SEVERN TRENT ADAPTABLE 30yr CELLULAR STORAGE SYSTEM BY SDS OR SIMILAR APPROVED.
TOTAL STORAGE VOLUME 118.75m³
TANK HEIGHT 2.5m
TANK PLAN AREA 50m²
IL 128.20

S18
HYDRO-BRAKE FLOW CONTROL CHAMBER
DISCHARGE - 2.7lit/sec
CL 131.60
IL 128.20
DESIGN HEAD 3.00m

EXISTING SEVERN TRENT SURFACE WATER MANHOLE 3905
CL131.18
IL128.08 TBC

EXISTING SEVERN TRENT FOUL WATER MANHOLE 3907
CL131.32
IL129.61 TBC

DUE TO PROXIMITY OF THE FOUL DRAINAGE TO PLOT 34, FOUNDATION LEVEL TO BE 130m AOD.

NO-DIG CONSTRUCTION OF PERMEABLE PAVING WITH A USE OF CELLWEB PRODUCT BY GEOSYNTHETICS OR SIMILAR

PRIVATELY MAINTAINABLE INFILTRATION CELLULAR STORAGE SYSTEM BY SDS OR SIMILAR APPROVED TO TOTAL STORAGE VOLUME 80m³
TANK HEIGHT 1.0m

DRAINAGE STRATEGY

SURFACE WATER

- GROUND CONDITIONS ARE EXTREMELY VARIABLE ACROSS THE SITE AS DETAILED IN THE GEOTECHNICAL REPORT REFERENCE 2689 DATED APRIL 2022. INFILTRATION TESTING WAS UNDERTAKEN AT 5 TRIAL PITS ACROSS THE SITE ACHIEVING A VARIED RESULTS.
- DUE TO THE VARIED INFILTRATION RESULTS AND TO MAXIMIZE THE USE OF INFILTRATION, IT IS PROPOSED THAT INFILTRATION SURFACE WATER DISPOSAL STRATEGY WILL BE UTILIZED FOR PLOTS ONLY BASED ON THE GROUND CONDITIONS. FROM THE GEOTECHNICAL REPORT, INFILTRATION WILL BE UTILIZED FOR THE FOLLOWING PLOTS - 8-16 AND 44-50. THIS WILL BE IN THE FORM OF POROUS DRIVEWAY WITH AN UNDERDRAIN CONVEYING THE ROOF RUNOFF.
- DUE TO THE HIGH CONTOUR LEVELS IN CENTER OF THE SITE AND TO AVOID MAJOR EXCAVATION FOR STORM NETWORK, STORM PUMPING STATION WILL BE PROVIDED FOR ACCESS ROAD FOR ~40m FROM ENTRANCE TO SITE. THEN THE STORM NETWORK WILL BE DISCHARGED WITH USE OF TRADITIONAL GRAVITY NETWORK.
- THE PROPOSED ACCESS ROAD AND ALL OTHER PLOTS NOT SUITABLE FOR INFILTRATION DISPOSAL WILL DISCHARGE INTO A STORM WATER RECEIVED BY SEVERN TRENT AT AN ATTENUATED RATE OF 2.7lit/sec. BASED UPON A SURFACE WATER RUNOFF RATE OF 5.0lit/sec/Ha AS AGREED UNDER PLANNING APPLICATION SMD/2018/0509.
- BELOW GROUND ATTENUATION SYSTEM IN THE FORM OF CELLULAR STORAGE CRATES WILL BE PROVIDED IN THE LANDSCAPE AREA FRONTING PLOT 34 DESIGNED FOR A TOTAL OF 30yr RETURN PERIOD PLUS 40% FOR CLIMATE CHANGE. ALSO, PRIVATE CELLULAR STORAGE CRATES WILL BE PROVIDED IN THE LANDSCAPE AREA FRONTING PLOT 43, DESIGNED FOR A TOTAL OF 100YRS WITH RETURN PERIOD PLUS 40% FOR CLIMATE CHANGE.
- THE DRAINAGE SYSTEM AND THE STORAGE CRATE UP TO 30yr RETURN PERIOD WILL BE OFFERED FOR ADOPTION BY SEVERN TRENT. THE ADDITIONAL STORAGE CRATE FORM 30-100YR RETURN PERIOD WILL REQUIRE MAINTENANCE FROM A PRIVATE MAINTENANCE COMPANY.
- FOR ADDITIONAL STORAGE ON SITE EACH PRIVATE DRIVEWAY TO HAVE AN ORIFICE PLATE USED FOR ATTENUATION. DUE TO MAJORITY OF HIGHWAY IS PERMEABLE PAVING, ADDITIONAL ORIFICE PLATE CHAMBERS TO BE PROVIDED WITHIN THE HIGHWAY TO PROVIDE ADDITIONAL STORAGE.
- IN ORDER TO IMPROVE SURFACE WATER QUALITY THROUGHOUT THE SITE, RAINGARDEN AREAS HAVE BEEN INTRODUCED FOR INDIVIDUAL PLOTS BEFORE DISCHARGING INTO THE ADAPTABLE STORM WATER NETWORK.
- ADDITIONAL 10% OF URBAN CREEP HAS BEEN ADDED TO CLIMATE CHANGE CALCULATION, THEREFORE TOTAL CLIMATE CHANGE IS 50%

FOUL WATER

- AN ADAPTABLE GRAVITY SYSTEM IS ACHIEVABLE FOR THE PROPOSED DEVELOPMENT CONNECTING INTO A SEVERN TRENT FOUL SYSTEM ALONG THE SOUTHERN BOUNDARY OF THE DEVELOPMENT.
- DUE TO THE HIGH CONTOUR LEVELS IN CENTER OF THE SITE AND TO AVOID MAJOR EXCAVATION FOR FOUL, A PUMPING STATION FOR PLOT 1 ONLY WILL BE PROVIDED.
- THEN THE FOUL WILL BE DISCHARGED WITH USE OF TRADITIONAL GRAVITY NETWORK.

GENERAL NOTES

- 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

- 100mmØ ADAPTABLE FOUL DRAINAGE SYSTEM UNLESS STATED IN MANHOLE SCHEDULES
- 150mmØ ADAPTABLE STORM DRAINAGE SYSTEM UNLESS STATED IN MANHOLE SCHEDULES
- 300mmØ ADAPTABLE PERFORATED STORM DRAINAGE SYSTEM UNLESS STATED IN MANHOLE SCHEDULES
- 150mmØ PRIVATELY MAINTAINABLE STORM DRAINAGE SYSTEM UNLESS STATED IN MANHOLE SCHEDULES
- 150mmØ PRIVATELY MAINTAINABLE PERFORATED STORM DRAINAGE SYSTEM UNLESS STATED IN MANHOLE SCHEDULES
- SURFACE WATER GULLY AND CONNECTING PIPEWORK
- PRIVATELY MAINTAINABLE POROUS SURFACE CONSTRUCTION WITH TYPE 3 SUBBASE
- PRIVATELY MAINTAINABLE POROUS SURFACE CONSTRUCTION WITH TYPE 3 SUB-BASE USED FOR ATTENUATION ONLY
- PRIVATELY MAINTAINABLE POROUS SURFACE CONSTRUCTION WITH TYPE 3 SUBBASE AND BAFFLES
- EXISTING SEVERN TRENT FOUL WATER SYSTEM
- EXISTING SEVERN TRENT SURFACE WATER SYSTEM
- STORM RISING MAIN
- FOUL RISING MAIN
- CELLULAR STORAGE SURFACE WATER ATTENUATION STRUCTURE DESIGNED TO 30yr STORM EVENT
- PRIVATE CELLULAR STORAGE SURFACE WATER ATTENUATION STRUCTURE DESIGNED TO 100yr STORM EVENT
- BIO-RETENTION (RAINGARDEN) COLLECTING RAINWATER WITH BELOW GROUND PERFORATED PIPES.
- PRIVATE WATER BUTT.
- PRIVATE RODDING EYE.
- PRIVATE ORIFICE PLATE STORM WATER CHAMBER
- PRIVATE DISTRIBUTION BOX.

DRAINAGE NOTES

- 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 DESIGN & CONSTRUCTION GUIDANCE AND THE REQUIREMENTS OF SEVERN TRENT AS THE STATUTORY SEWERAGE UNDERTAKER
- THE ADAPTABLE DRAINAGE SYSTEMS SUBJECT TO A S104 AGREEMENT NEEDS TO BE IN PLACE PRIOR TO CONSTRUCTION WORK COMMENCING.
- A SECTION 106 APPLICATION TO CONNECT MUST BE MADE TO DOWN. THE DEVELOPER SHALL GIVE 21 DAYS' NOTICE PRIOR TO CONNECTION. THE WORKS MAY ONLY BE UNDERTAKEN BY A SSP ACCREDITED CONTRACTOR.
- CONTRACTOR TO ALLOW FOR ALL NECESSARY STREET WORKS LICENSES ASSOCIATED WITH DRAINAGE SERVICE INSTALLATION IN EXISTING PUBLIC HIGHWAY.
- 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 SEWER 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.
- ALL ADAPTABLE SEWERS OR LATERAL DRAINS ARE TO BE LAID AT A MINIMUM GRADIENT OF 1:80 FOR 100mmØ PIPES, 1:150 FOR 150mmØ PIPES AND A MAXIMUM GRADIENT OF 1:5. WHERE SITE LAYOUT DICTATES A RAISED BACKDROP MAY BE UTILISED, ALTHOUGH STEEPER GRADIENTS ARE PREFERRED, AND SHOULD BE PROVIDED WHERE PRACTICABLE
- 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
- MINIMUM CLEAR OPENING OF MANHOLE COVERS TO BE 600 X 600mm FOR FOUL WATER AND 675 X 675mm FOR SURFACE WATER.
- 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.
- ALL ON PLOT ADAPTABLE DEMARCATION CHAMBERS AND PRIVATELY MAINTAINABLE INSPECTION CHAMBERS TO BE IN ACCORDANCE WITH DESIGN & CONSTRUCTION GUIDANCE TYPE E, B125 COVER GRADE, APPROXIMATELY 1200mm DEEP.
- RAINWATER DOWN PIPES ARE TO BE CONNECTED DIRECTLY TO THE STORM DRAIN VIA A SUITABLE ADAPTOR, REMOVABLE TO PERMIT ACCESS FOR RODDING.
- WATER BUTT TO BE INCLUDED AT EACH PLOT WITH A SUITABLE CONNECTION FORM THE RWP.
- ALLOW FOR A15 LOADING GRADE THRESHOLD LINEAR CHANNEL AT ALL LEVEL THRESHOLD DRIVEWAYS OR SIMILAR APPROVED.
- POSITIONS OF SOIL PIPES, SUB STACKS, WC OUTLETS ETC. TO BE CONFIRMED BY OTHERS.

Rev.	Comments	By	Date
H	DRAWING UPDATED TO SUIT SOC COMMENTS	AJ	14.12.23
G	DRAWING UPDATED TO SUIT SOC COMMENTS	AJ	02.10.23
F	DRAWING UPDATED TO SUIT CLIENT COMMENTS	AJ	05.01.22
E	BIO-RETENTION AREAS AMENDED ACCORDING TO LANDSCAPE ARCHITECT'S DESIGN FOR PLOTS 1,34,39 & 53.	AJ	25.11.22
D	DRAWING UPDATED TO SUIT LATEST SITE LAYOUT	AJ	21.11.22
C	DRAWING UPDATED TO SUIT LATEST SITE LAYOUT	AJ	31.10.22
B	REMOVED 'DO NOT SCALE' NOTE	TE	07.07.22
A	REVISED HYDRO-BRAKE DISCHARGE RATE AND PRIVATE 100YR TANK	TE	10.05.22

Rev.	Detail	By	Date
Revisions			

Reinforcement schedules nos.



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Client



Project
PROPOSED RESIDENTIAL DEVELOPMENT AT UTOXETER ROAD, UPPER TEAN

Drawing Title
LAYOUT PLAN DRAINAGE

PRELIMINARY

Project No.	Drawing No.
C1941	C-SK03
Scale: 1:500	Date: 29.04.22
Drawn: DH	Checked: DF
Sheet Size: A1	Revision: H