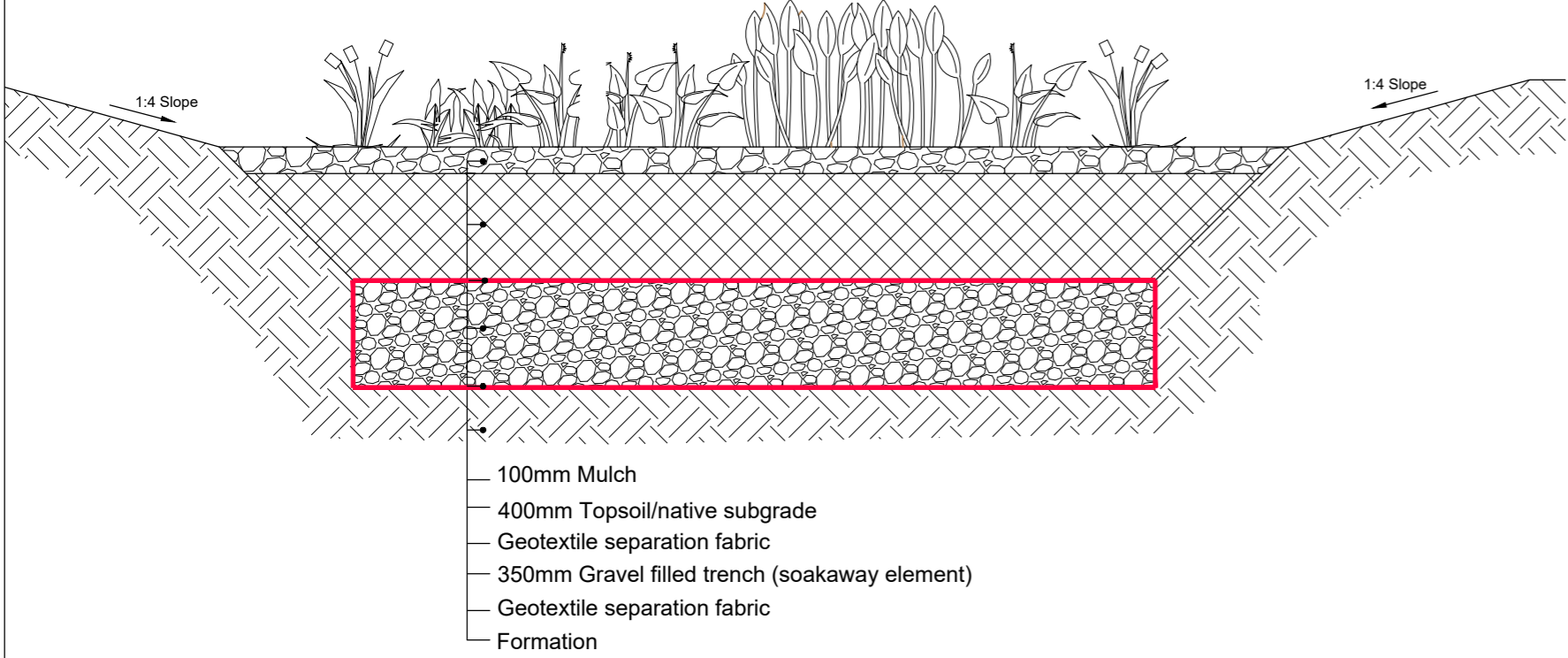
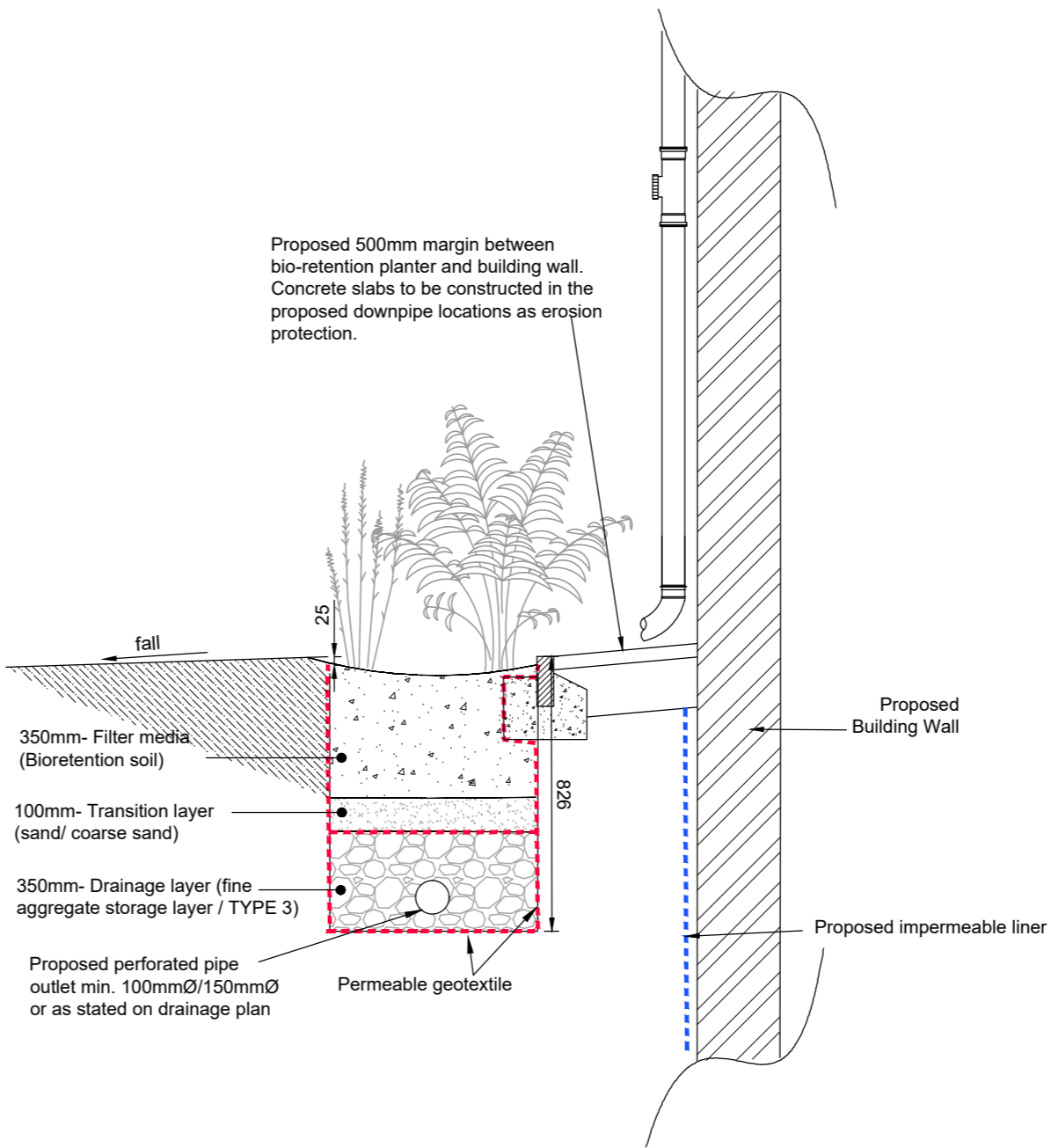


RAIN GARDENS TO BE PLANTED WITH A MINIMUM OF 10 SPECIES LISTED BELOW			
COMMON NAME	SCIENTIFIC NAME	HABIT	SUNLIGHT AND ASPECT
GUELDER ROSE	VIBURNUM OPULUS	PERENNIAL SHRUB	ANY
DOGWOOD	CORNUS SANGUINEA	PERENNIAL SHRUB	ANY
CULVERS ROOT	VERONICASTRUM VIRGINICUM	HERBACEOUS PERENNIAL	FULL SUN OR PARTIAL SHADE
ASTER	ASTER SPP.	HERBACEOUS PERENNIAL	FULL SUN OR PARTIAL SHADE
BLACK EYED SUSAN	RUDBECKIA BIRTA	HERBACEOUS ANNUAL OR BIENNIAL	FULL SUN OR PARTIAL SHADE
STINKING HELLEBORE	HELLEBORUS FOETIDUS	HERBACEOUS PERENNIAL	FULL SUN OR PARTIAL SHADE
MONTBRETIA	CROCOSMIA SPP.	DECIDUOUS RHIZOMATOUS PERENNIAL	PARTIAL SHADE
BUGLE	AJUGA REPTANS	RHIZOMATOUS PERENNIAL	PARTIAL SHADE
COLUMBINE	AQUILEGIA SPP.	HERBACEOUS PERENNIAL	FULL SUN OR PARTIAL SHADE
INULA	INULA HOOKERI	HERBACEOUS PERENNIAL	PARTIAL SHADE
HEMP AGRIMONY	EUPATORIUM CANNABINUM	HERBACEOUS PERENNIAL	FULL SUN OR PARTIAL SHADE
BELLFLOWER	CAMPANULA CLOMERATA	HERBACEOUS PERENNIAL	FULL SUN OR PARTIAL SHADE
SNEEZEWEED	HELENIUM SP.	HERBACEOUS PERENNIAL	FULL SUN
LESSER PERIWINKLE	VINCA MINOR	PERENNIAL SUB-SHRUB	ANY
ELEPHANTS EAR	BERGENIA SP.	RHIZOMATOUS PERENNIAL	FULL SUN OR PARTIAL SHADE
PLANTAIN LILIES	HOSTA SPP.	HERBACEOUS PERENNIAL	PART SHADE
YELLOW FLAG	IRIS PSEUDOCORUS	RHIZOMATOUS PERENNIAL	FULL SUN OR PARTIAL SHADE
SIBERIAN FLAG	IRIS SIBIRICA	RHIZOMATOUS PERENNIAL	FULL SUN OR PARTIAL SHADE
GARLIC AND ONIONS	BULBOUS SPP.	HERBACEOUS PERENNIALS	FULL SUN
SOFT RUSH	JUNCUS EFFUSUS	EVERGREEN PERENNIAL	FULL SUN OR PARTIAL SHADE
PENDULOUS SEDGE	CAREX PENDULA	RHIZOMATOUS PERENNIAL	FULL SUN OR PARTIAL SHADE
ZEBRA GRASS	MISCANTHUS SINENSIS	PERENNIAL, DECIDUOUS GRASS	FULL SUN
SWITCH GRASS	PANICUM VIRGATUM	DECIDUOUS PERENNIAL GRASS	FULL SUN
ROYAL FERN	OSMUNDA REGALIS	DECIDUOUS FERN	ANY
MALE FERN	DRYOPTERIS FELIX-MAS	"DECIDUOUS OR EVERGREEN FERN"	PARTIAL SHADE OR FULL SHADE
BROAD BUCKLER FERN	DRYOPTERIS DILATATA	"DECIDUOUS OR EVERGREEN FERN"	PARTIAL SHADE OR FULL SHADE



Typical Rain Garden Detail



Proposed Bio-retention Unit Typical Detail (Scale 1:20)

- Site Specific Notes**
- Proposed SW and FW drainage designed based on desktop study, infiltration test results, BGS Map viewer website and from information provided from site.
  - Based on the site walkover and existing drainage CCTV, it was confirmed that surface water runoff from the existing building discharges either onto the ground or into the existing ditch. The site's topography indicates that any overland flows are directed toward the existing ditch, flowing into the ground depression located northwest, adjacent to Slaught Lane. Surface water runoff then discharges into the wetland, from where it flows towards third-party land and ultimately into the existing shallow ditch, which directed surface water into the existing Slaught Mill Pond.
  - The proposed surface water management strategy involves collecting runoff and directing it into onsite bio-retention planters. Any excess runoff will then be discharged into the onsite rain garden, where it will infiltrate into the ground.
  - The proposed bio-retention planters will facilitate both infiltration and runoff interception, effectively reducing the required downstream storage and ensuring that the proposed raingarden half-empty time remains under 24 hours.
  - The proposed raingarden has been designed to accommodate the Critical 1 in 100 year + 45% CC rainfall event.
  - Drainage layout subject to external levels design by others.
  - Driveway to be constructed using permeable self-draining surface. Final surface construction to Client specifications.
  - Due to the proposed site being located within the area not served by public sewers, foul water is to be discharged into the onsite cesspool. Foul water is then to be tanked away once per month.
  - Proposed Cesspool tank location, size and type to be confirmed at detailed design stage.
  - All external levels to be designed by others. All surface levels shown for drainage purposes only. All the proposed external levels to be agreed prior construction.

- STANDARD DRAINAGE NOTES**
- DO NOT SCALE FROM THIS DRAWING. REFER TO FIGURED DIMENSIONS ONLY. THE CONTRACTOR SHOULD CHECK ALL DIMENSIONS ON SITE.
  - ALL DIMENSIONS IN MILLIMETRES AND ALL LEVELS ARE IN METERS UNLESS NOTED OTHERWISE.
  - THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT ARCHITECT AND ENGINEERING DETAILS, DRAWINGS AND SPECIFICATIONS.
  - ANY DISCREPANCIES SHOULD BE REPORTED TO THE ARCHITECT AND/OR ENGINEER IMMEDIATELY, SO THAT CLARIFICATION CAN BE SOUGHT PRIOR TO THE COMMENCEMENT OF WORK.
  - BEFORE COMMENCING CONSTRUCTION THE CONTRACTOR MUST CHECK THE INVERT LEVELS OF EXISTING SEWERS TO WHICH CONNECTIONS ARE MADE. IN ADDITION THE CONTRACTOR MUST LOCATE AND DETERMINE INVERT LEVELS OF THE EXISTING SPURS TO WHICH CONNECTIONS ARE PROPOSED. ANY DISCREPANCIES ARE TO BE NOTIFIED TO THE ENGINEER IMMEDIATELY, PRIOR TO CONSTRUCTION.
  - ALL DRAINAGE WORKS SHOULD COMMENCE AT THE PROPOSED DOWNSTREAM CONNECTION POINT. THE WORKS CONTINUING UPSTREAM FOLLOWING CONFIRMATION OF THE TIE-IN INVERT LEVELS TO THE ENGINEER. CONNECTIONS TO MANHOLES OR LARGER SIZED PIPES ETC. SHOULD BE SOFFIT TO SOFFIT UNLESS OTHERWISE INSTRUCTED BY THE ENGINEER. IF THIS IS NOT POSSIBLE INFORM THE ENGINEER IMMEDIATELY.
  - COVER LEVELS SHOWN ARE APPROXIMATE. COVERS AND FRAMES SHALL BE SET TO FINISHED GROUND LEVELS AND FALLS.
  - ALL UN-REFERENCED PIPES ARE TO BE 100mm DIA
  - ALL PIPES TO BE ADOPTED, OR CONNECTING TO ADOPTED SEWERS, TO BE VITRIFIED CLAY TO BS EN 295 AND BS65 (SWS ONLY), OR CONCRETE PIPES TO BE EN 1916 AND BS5911-PART 1.
  - ROAD GULLY OUTLET PIPES ARE TO BE 150mm DIA. WITH CONCRETE SURROUND AND FLEXIBLE JOINTS. ALL GULLIES SHALL BE FITTED WITH GRADE D400 GRATINGS AND FRAMES TO BS EN124, UNLESS OTHERWISE STATED.
  - ALL ADAPTABLE SEWERS SHALL BE CONSTRUCTED TO THE STANDARDS AND SPECIFICATION LAID DOWN DOWN IN 'SEWERS FOR ADOPTION' 6th EDITION, WITH A VIEW TO ADOPTION UPON COMPLETION OF WORKS.
  - ALL PRIVATE DRAINAGE TO BE IN ACCORDANCE WITH THE BUILDING REGULATIONS APPROVED DOCUMENT PART-H, AND TO THE SATISFACTION OF THE BUILDING CONTROL INSPECTOR.
  - THE CONTRACTOR IS TO KEEP A RECORD OF ANY VARIATIONS MADE ON SITE, INCLUDING THE RELOCATION OF SEWERS OR DRAINS, SO THAT AN AS CONSTRUCTED DRAWING CAN BE PREPARED UPON COMPLETION OF THE PROJECT.
  - STUB CONNECTIONS TO ADAPTABLE MANHOLES SHALL BE MADE FROM VITRIFIED CLAY AND CONSIST OF TWO ROCKER PIPES LAID AT THE SAME GRADIENT AS THE UP OR DOWNSTREAM PIPE.
  - IF ANY SUB SOIL DRAINAGE SYSTEMS ARE UNCOVERED DURING THE WORKS CONTACT THE ENGINEER FOR INSTRUCTIONS. SUB SOIL DRAINS ARE TO BE DIVERTED AROUND NEW WORKS AND CONNECTED INTO THE SURFACE WATER.
  - NO PRIVATE AREAS ARE TO DRAIN ONTO ADAPTABLE AREAS AND VICE VERSA.
  - ALL EXISTING MANHOLE COVERS, GULLIES, ETC. ARE TO BE RAISED/LOWERED TO SUIT NEW LEVELS.
  - IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONFIRM THE LOCATION AND DEPTH OF ALL EXISTING SERVICES AND UTILITIES THAT MAY BE PRESENT
  - UPON COMPLETION BUT PRIOR TO HANDOVER, CONTRACTOR TO CARRY OUT FULL CCTV SURVEY OF DRAINAGE SYSTEM WHICH IS TO BE REVIEWED BY ENGINEER TO ENSURE SATISFACTORY INSTALLATION
  - MANHOLE AND CHAMBER COVER GRADES:

- 'A15' IN ALL LANDSCAPED AREAS AND ON FOOTPATHS
- 'B125' IN ALL DRIVEWAYS
- 'C250' IN PRIVATE PARKING AREAS
- 'D400' IN CARRIAGEWAY/ACCESS ROAD



DESIGN SUBJECT TO THE APPROVAL OF:  
PLANNING AUTHORITY  
BUILDING CONTROL  
WATER AUTHORITY

DESIGN SUBJECT TO THE CONFIRMATION OF:  
EXTERNAL LEVELS DESIGN  
LOCATION AND DEPTH OF EXISTING UTILITIES  
ROOT PROTECTION AREAS

#### DRAINAGE LEGEND

##### EXISTING FEATURES

- Ex SWD Existing surface water sewer/drain and manhole (as taken from CCTV survey)
- Ex FWD Existing foul water sewer/drain and manhole (as taken from CCTV survey)

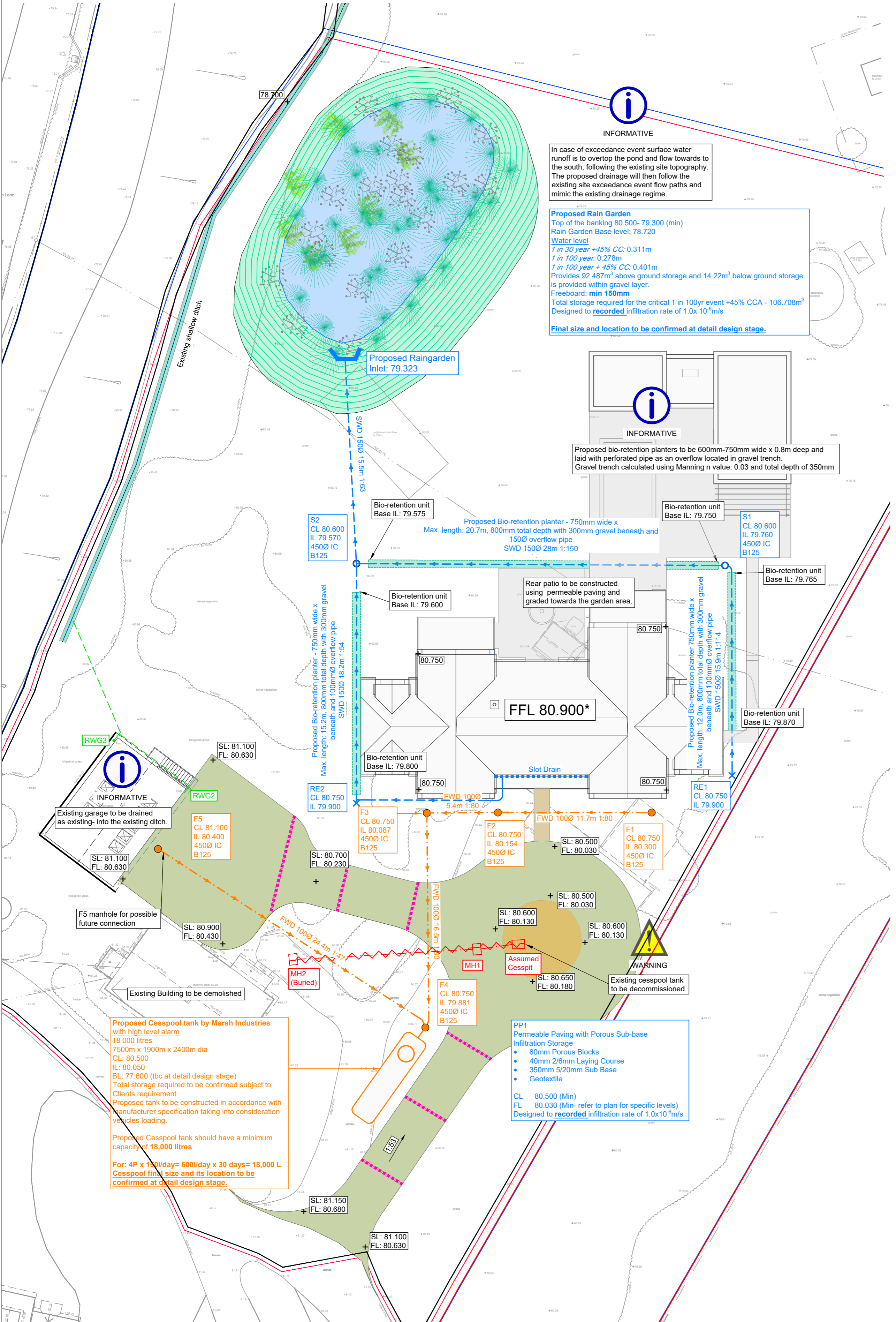
##### PROPOSED FEATURES

- FWD Foul Drainage
- SWD Surface Water Drainage
- Pipe crossing (thickening denotes pipe above)
- Storm water orifice flow control chamber (5000)
- Storm water access chamber (3000)
- Storm water rodding eye
- Proposed permeable driveway-acting as self-draining area
- Proposed impermeable footpath and patio areas
- Proposed bio-retention planter
- Foul water access chamber (3000)
- Foul water inspection chamber (4500)
- Proposed subbase concrete baffle. (See drainage 'Permeable Paving Calculations')
- Pipe info - diameter, length, gradient, bedding type
- Proposed surface and formation level- indicative only for drainage purposes. Surface levels to be designed by others.
- Fall in surface and gradient
- Finished floor level (assumed)

##### ABBREVIATIONS

- MH - MANHOLE
- IC - INSPECTION CHAMBER
- AC - ACCESS CHAMBER
- CP - CATCHPIT
- BC - BRAKE CHAMBER
- RE - RODDING EYE
- IL - INVERT LEVEL
- SL - SUMP LEVEL
- RA - RESTRICTED ACCESS COVER
- CL - COVER LEVEL
- TL - TOP OF CELLULAR SA
- BL - BASE OF CELLULAR SA
- FL - FORMATION LEVEL

Site Boundary (as taken from Thornton Architecture + Design 'Proposed Site Plan' drawing no: 2315.100, dated: 26.10.23)



Prefixed to drawing numbers shall signify the following:-			
PL = PLANNING	Shall not be used for contract or construction purposes		
P = PRELIMINARY	Shall not be used for contract or construction purposes		
T = TENDER	Shall not be used for construction purposes		
C = CONSTRUCTION	These are the only drawings that shall be used for construction purposes		
R = RECORD	Record of actual completed work		
P3	18.12.25	UPDATED TO NEW SITE PLAN	KCK CS CS
P2	19.03.25	UPDATED TO LPA COMMENTS	TZ CS CS
P1	30.01.25	UPDATED TO CLIENT COMMENTS	MR TZ CS
P	18.12.24	PRELIMINARY ISSUE	MR TZ CS
REV	DATE	DESCRIPTION	BY CHK APP

<div><div>cgs</div><div>civils</div><div>Consulting Civil Engineers</div></div>			
CLIENT DAVID SIMPSON & PHIL MARSHALL			
ARCHITECT THORNTON ARCHITECTURE + DESIGN			
JOB TITLE OLD PARK LODGE, WARNINGLID, RH17 5TJ			
DRAWING TITLE PROPOSED DRAINAGE STRATEGY			
DRAWN MR		ENGINEER TZ	
CHECKED TZ		APPROVED CS	
DATE DECEMBER 2024		SCALE @ A1 1:200	
JOB No. C3424		STATUS PL	
DRAWING No. 101		REV P3	