

- Drainage Notes:**
- The existing services shown on this drawing are not necessarily complete nor is their location with regard to position and depth precise. It is the Contractor's responsibility to liaise with all relevant services companies to ensure that all services are accurately located and adequately protected during construction.
 - Pipes up to and including 300mm diameter shall be verified clay to BS EN 295 with either sleeved or spigot and socket flexible joints, and shall satisfy the minimum crushing strengths stated below:
 1000 - 28 kN/m² 2250 - 28 kN/m²
 1500 - 28 kN/m² 3000 - 36 kN/m²
 - Alternatively a PVC system (complying with appropriate standards and drainage authority requirements) may be used when agreed with the engineer and installed in strict accordance with manufacturers recommendations.
 - Pipes of 375mm diameter and above shall be precast concrete class M with flexible joints to BS 5911 Part 100.
 - All pipes to be 1000 (unless noted otherwise) & laid to a minimum fall of 1:80 (unless noted otherwise). All pipes are to be laid in accordance with the Manufacturer's recommendations and sitework instructions.
 - Invert levels at connections to existing drainage to be confirmed by the Contractor to the Engineer prior to commencing drainage construction.
 - All new rainwater down pipes are to discharge into roddable connections.
 - Manhole cover grades are to be as follows:
 Grade Proposed Use
 A15 Landscaping
 B125 Pedestrian only Areas
 C250 Car Parking Areas
 D400 Highway
 - Precast concrete chamber sections and cover slabs to be to BS: 5911.
 - Chamber sizes:
 Main pipe dia (mm) Chamber dia (mm)
 < 375 1200 (1050 where depth to soffit is 1.35m-1.5m)
 375-450 1350
 500-700 1500
 750-900 1800
 > 900 Pipe dia. + 900
 - All pipes to be built into the manhole invert with soffits level.
 - All manhole and gully gratings to be to BS: EN 124.
 - Metal shims are to be placed beneath manhole cover frames as levelling aids. The shims are to remain in place when the frame is grouted in to position to avoid settlement under trafficking.
 - Section 106 connection application to be sought and approved prior to any connections to the public network being made.

Safety, Health & Environmental Information:
 In addition to the hazards and risks normally associated with the types of work detailed on this drawing, please note the significant hazards identified by symbols below.

INDICATES A RESIDUAL RISK AS A WARNING

INDICATES A RESIDUAL RISK FOR INFORMATION and described below:

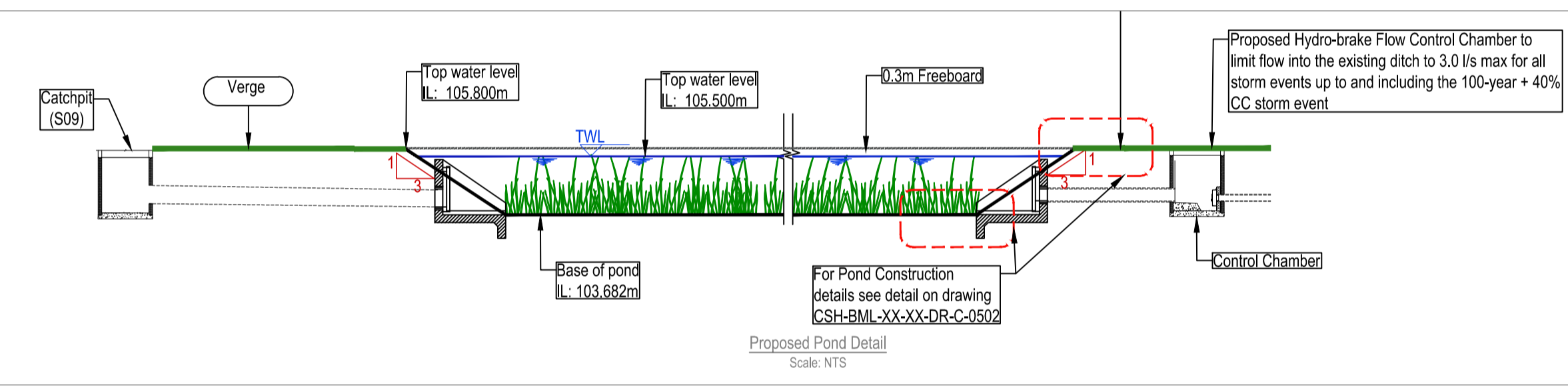
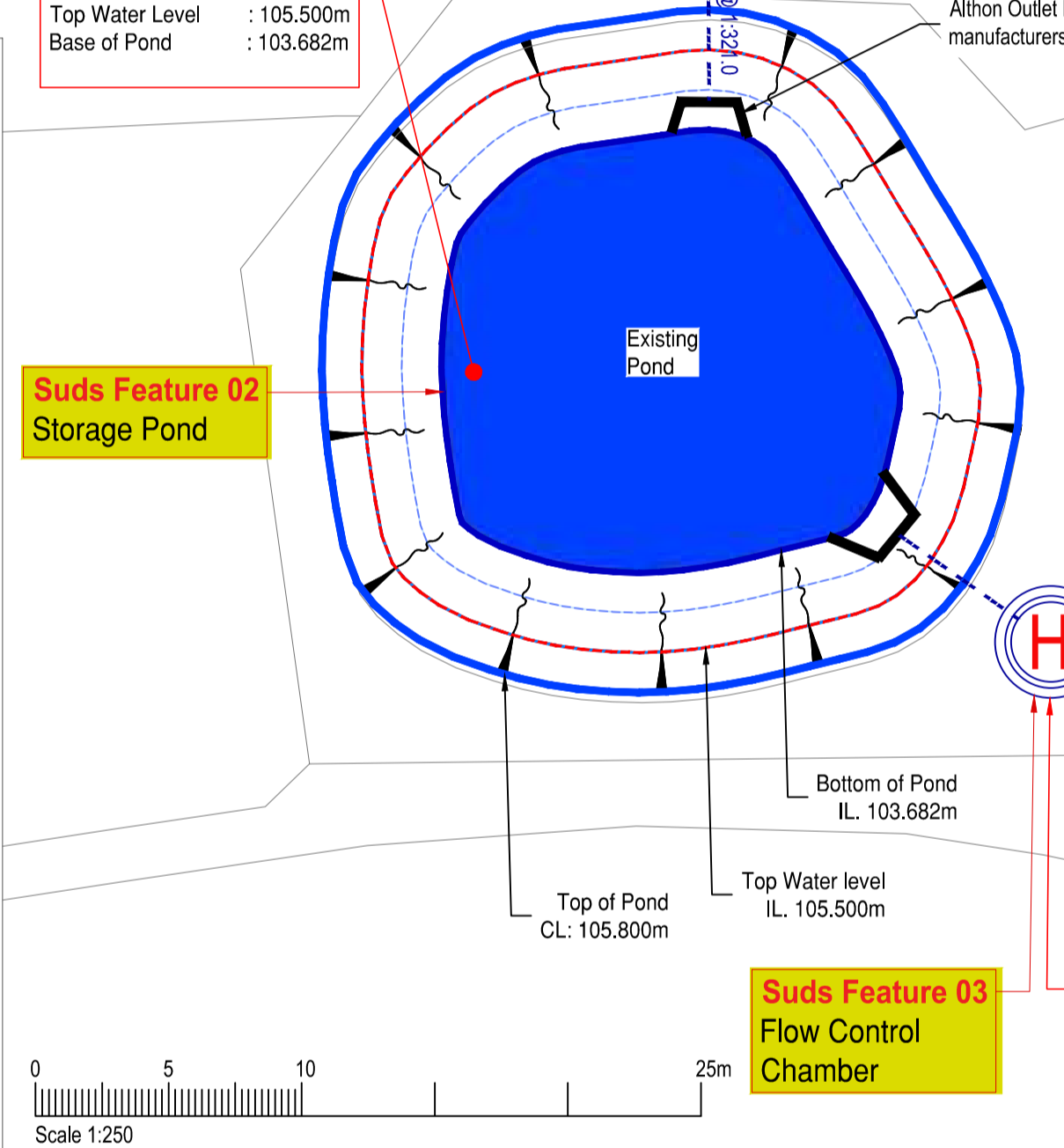
Construction/Maintenance/Cleaning/Demolition
 Refer to Drawing:

- General Notes:**
- Do not scale from this drawing.
 - All dimensions are in millimetres (mm), all levels in metres (m) unless noted otherwise.
 - Discrepancies or omissions are to be reported to the Engineer prior to work commencing.
 - Materials and workmanship are to comply in all respects with current British Standard Specifications, Codes of Practice, and Building Regulations Approved Documents.
 - The copyright of this drawing is vested in the Engineer and must not be copied or reproduced without written consent.
 - The Contractor is to check and verify all building and site dimensions, levels and sewer invert levels at connection points before work commences.
 - This drawing is to be read in conjunction with all relevant specifications and drawings issued by the Engineer, Architect and other Specialists.

Drainage Key:

	Proposed Stormwater
	Proposed Filter Drain
	Proposed Stormwater Manhole
	Proposed Ridgistor Separate Catchpit
	Proposed Stormwater Hydro-brake
	DN150 Gully / RWP Connector
	Proposed Rain Water Pipe
	Proposed Rodding Eye
	Proposed Finish Floor Level

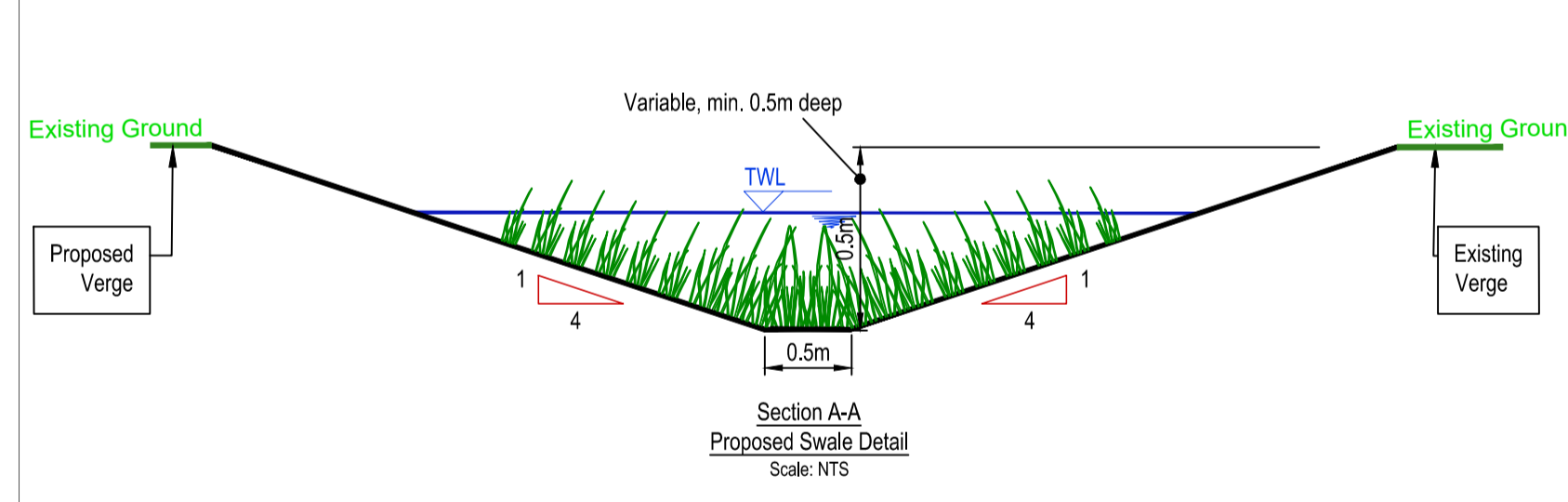
PROPOSED STORAGE POND
 Approx 472m³, 1.7m deep
 Pond - Side Slopes : 1 in 3
 Top of Pond : 105.800m
 Top Water Level : 105.500m
 Base of Pond : 103.682m



Greenfield Runoff Rates

ICP SUDS Mean Annual Flood

Input	Output
Return Period (years) 100	Scall 0.450
Area (ha) 0.604	Urban 0.000
SAAR (mm) 981	Region Number Region 10
Results l/s	
QBAR Rural 3.9	
QBAR Urban 3.9	
Q100 years 8.2	
Q1 year 3.4	
Q30 years 6.7	
Q100 years 8.2	



HYDRO-BRAKE FLOW CONTROL CHAMBER
 Proposed Flow Control Chamber
 Hydro-brake Optimum
 Unit Reference MD-SHE-0073-3000-1750-3000
 Design Head : 1.75m
 Design Flow : 3.0 l/s
 Minimum Outlet Pipe Diameter : 100 mm
 Manhole Diameter : 1200 mm
 Cover Level : 105.700m
 Invert Level : 103.628m

Maximum Peak Flow 3.0l/s
 - 1-year + 40% CC - 2.4l/s
 - 30-year + 40% CC - 2.5l/s
 - 100-year + 40% CC - 2.8l/s

P02	DI/AM	21/07/23	Preliminary Issue
P01	RA/GM	05/04/23	For Discussion
Rev	By / Chk'd	Date	Description

PRELIMINARY DRAWING
 This drawing is not to be used for construction

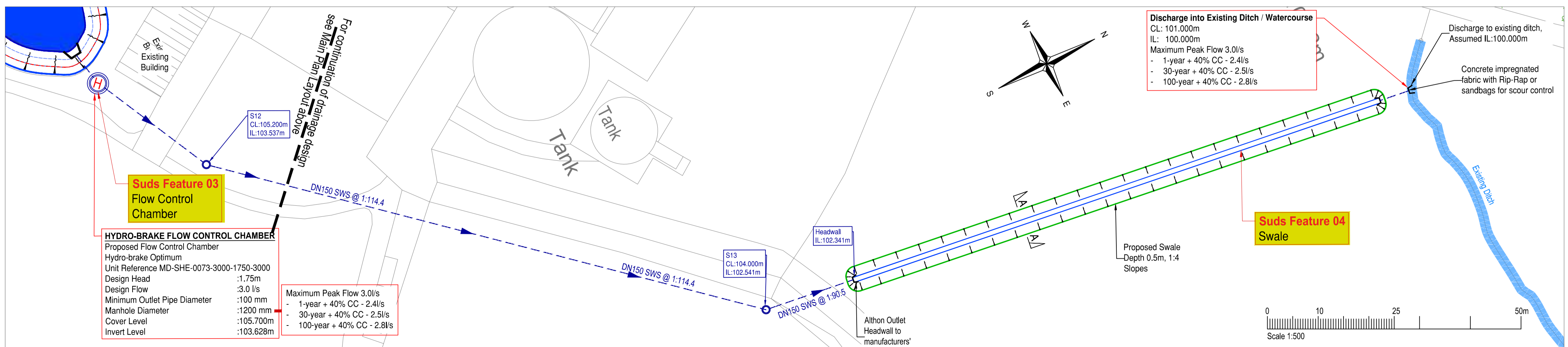


BarnsleyMarshall Limited
 1 Birch Court
 Blackpole East
 Worcester
 WR3 6SG
 Tel: 01905 330550
 Email: design@barnsleymarshall.co.uk
 Web: www.barnsleymarshall.co.uk

Project
Cow Shed
 Elmridge Lane, Preston,
 PR3 2NY

Drawing
Proposed Surface Water
Drainage Layout

By/Chk'd	RA/GM	Date	05/04/2023
Drawing No.	CSH-BML-XX-XX-DR-C-0500	Revision	P02
BML Job No.	1000-05	Status	-
Drawing Scale at A1:	As Shown		
CAD Filename:	Y:\projects\100-05 Cow Shed\Drawings - Working\DWG\CSH-BML-XX-XX-DR-C-0500.rvt - Orange Layout.rvt		



Insert A
 Scale 1:500

Scale 1:500