



Appendix 6 Proposed SuDS



Strategic SuDS Features Schedule						
Strategic SuDS Feature	Contributing Catchment (ha)	% of Impermeability	Q ₁₀₀ for Catchment (l/s)	1 in 1 Year Storage Volume (m ³)	1 in 1 Year Resulting Discharge (l/s)	1 in 100-40% CC Storage Volume (m ³)
A	2.037	65	18.4	165	17.8	802
	0.260	100				18.3
B	3.750	65	30.0	260	28.1	1224
C	6.806	65	54.5	405	50.1	2172
D	2.391	65	27.1	244	23.7	1112
	3.650	65				27
E	0.382	100	32.3	337	24.8	1706
F	3.360	65	26.9	241	23.9	1103
G	2.762	65	41.5	267	34.7	1450
	2.415	50				40.3
H	1.603	30	70.8	683	44.1	2694
	0.409	100				70.8
I	6.831	65				
J	1.556	65	29.6	314	26.7	1339
K	2.139	65	13.6	127	11.0	560
L	1.696	65	39.6	433	32.5	1860
M	3.884	65				39.5
N	1.046	100				17.7
EM(Employment)	2.213	65	17.7	156	16.2	728
	5.759	65	46.1	477	31.1	1924
	2.029	85	16.3	150	15.5	878
						16.3

Stratton Park House, Wanborough Road
Swindon, SN3 4HG

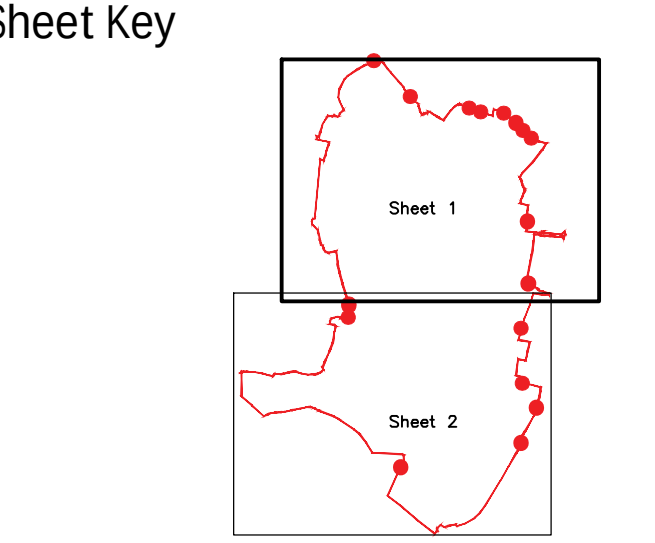
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For Planning
This drawing is produced for the purposes of supporting a planning application and should not be relied upon for tender, pricing, or construction purposes.

- NOTES
- This drawing should be read in conjunction with PFA Consulting's Flood Risk Assessment (Doc ref G277-0001 FRA - Issue 2) dated May 2021.
 - This drawing is based on the Topographical Survey undertaken by Meyer Brown Limited, Drawing No:R.SAV.1.21.1, Rev E, dated 05 May 2014.
 - This site layout is based on Thrive's Concept Masterplan, Drawing number EAST200403 CMP 01 Rev P13, dated 04.12.20
 - Main River designation based on Flood Map for Planning.
 - All SuDS features shown on this drawing are subject to detailed design.
 - Typical Layout of Strategic SuDS Features to Inform Detailed Design shown on drawing number G277/23.
 - Detailed design of highway drainage features to provide attenuation and restrict flow to the downstream watercourse system. Sufficient attenuation should be provided to ensure discharge rates are restricted for all return periods up to the 100 year design event, including an appropriate allowance for climate change. Refer to PFA's Flood Risk Assessment (dated May 2021) document for guidance on flow rate restrictions.

Key

- Risk of Flooding from Surface Water Outfall
- Basin Catchment Allocation
- Q100+1050C Flood Outlines
- Q100+450C Flood Outlines
- Indicative Location of Foul Water Sewage Pumping Station with 10m water effect
- 5m Maintenance Access from Ordinary Watercourse
- 8m Maintenance Access offset from Main Rivers
- Opportunity for wide conveyance feature
- Direction of Excessance Flows
- Outlet from SuDS Feature to be conveyance swale where feasible
- Indicative Proposed Foul Rising Main
- Indicative Proposed Strategic Foul Sewer
- Indicative Foul flow direction



Rev	Date	Description	Drawn	Check
#	27/11/20	First issue	DAB	SAM
A	11/12/20	Revised to latest Masterplan & link road design	DAB	SAM
B	20/05/21	Revised following EA comments	DAB	MWS
C	21/05/21	Updated Proposed Foul sewer routes	DAB	SAM

Status
FOR PLANNING

Client
Eastleigh Borough Council

Project
**One Horton Heath
Hampshire**

Drawing Title
**Preliminary Water
Management Strategy Plan
(Sheet 1 of 2)**

Drawing No. **G277/21** Rev C
Date: November 2020 Scale: 1:1250 @ AO
E-Mail: DBuciak@pfaplac.com



Watercourse Crossing
Crossing requires a clear span of channel with soffit set to a minimum of 600mm above the 1 in 100 year flood level with an appropriate allowance for climate change.
Detailed design to include Level for Level Flood Plain Compensatory Storage.

Proposed location of highway drainage feature. Refer to Note 7.

SOLAR FARM

Existing Drainage Ditch to be aligned with layout (subject to detail design)

SuDS feature serving Southern Access. Part of infrastructure works to be implemented under Planning Permission X/19/86475 : (0/14/75735)

Offsite Foul Sewer connection proposed via Bubbs Lane to existing 525mm Foul Water Sewer located at Grange Road/Lacks Road roundabout (node SU4913 3703)

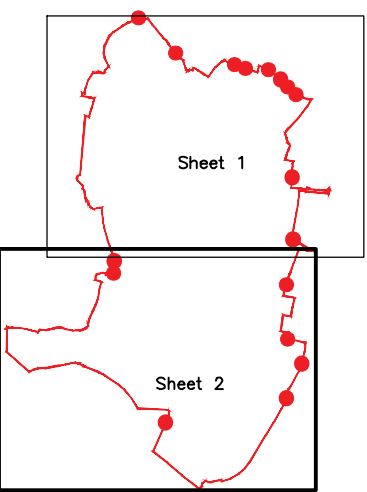
Strategic SuDS Features Schedule							
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- Key**
- Risk of Flooding from Surface Water Outfall
 - Basin Catchment Allocation
 - Q100 + 100CC Flood Outlines
 - Q100 + 40CC Flood Outlines
 - Indicative Location of Foul Water Sewage Pumping Station with 10m buffer offset
 - 5m Maintenance Access from Ordinary Watercourse
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 - Opportunity for waste conveyance feature
 - Direction of Excessance Flows
 - Outlet from SuDS Feature to be conveyance swale where feasible
 - Indicative Proposed Foul Rising Main
 - Indicative Proposed Strategic Foul Sewer
 - Indicative Foul flow direction

Sheet Key



Rev	Date	Description	Drawn	Check
#	27/11/20	First issue.	DAB	MWS
A	11/12/20	Revised to latest Masterplan & link road design	DAB	SAM
B	10/05/21	Revised following EA comments	DAB	MWS
C	21/05/21	Updated proposed foul sewer routes	DAB	SAM

Status
FOR PLANNING

Client

Eastleigh Borough Council

Project

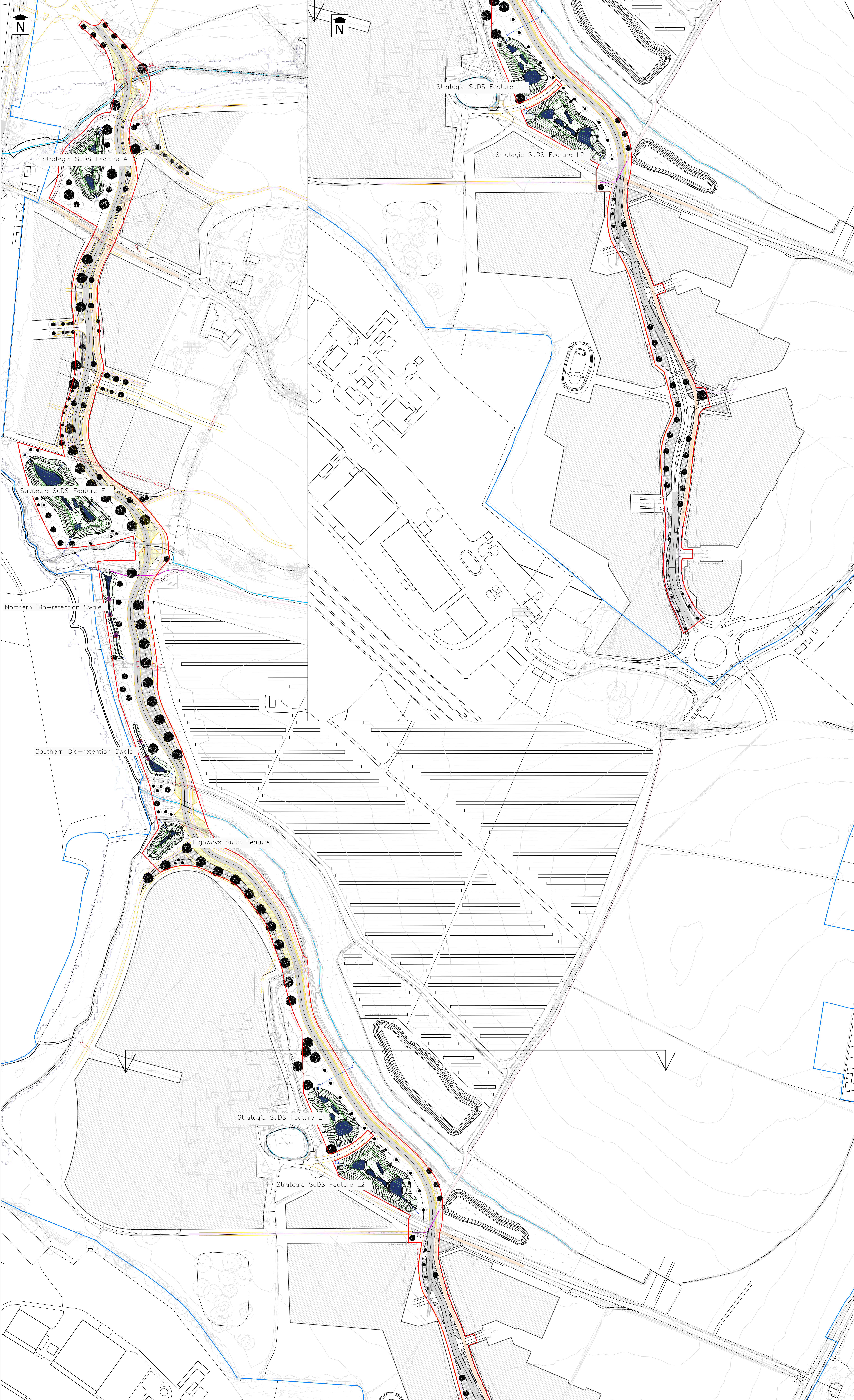
One Horton Heath
Hampshire

Drawing Title

Preliminary Water
Management Strategy Plan
(Sheet 2 of 2)

Drawing No. **G277/22** Rev C

Date: November 2020 Scale: 1:1250 @ AO
E-Mail: DBuciak@pfapl.com



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NOTES

1. This drawing is based on the Topographical Survey undertaken by Meyer Brown Limited, Drawing No:R/SAV/121.1, Rev E, dated 05 May 2014 and Encompass Surveys' drawing number ENC/ONE-HH-DEC20.
2. This drawing is based on Cloque Architects' Proposed Illustrative Plan drawing Extracts 1 - 7, drawing number 22100A/20 - 27.
3. Details of upstream surface water drainage network associated with the carriageway and shared paths/footway of Segment 3 of the Link Road is shown on Rusby & Stagg Drawings 10413-SEG 3-350 - 362, (as revised)
4. Typical SuDS drainage details, including typical headwall inlets and outlets is shown on drawing G277/30.
5. The design of the enhanced SuDS features including slope of embankments, is in accordance with best practice guidance outlined in the SuDS Manual 2015 (CIBA C763) and does not include assessment on of slope stability.
6. The permanent water/wetland base within the SuDS features is designed to be seasonally wet and any proposed planting within the features should be chosen accordingly with the ability to withstand the design conditions along with occasional inundation.
7. This drawing is subject to detailed design.
8. Section details of the SuDS features shown in this overview are shown on drawings G277/26 - 29.

KEY

- Site Boundary Red Line
- Land Owned by Applicant
- Watercourse
- Q100 + 105% Fluvial Flood Outline
- Q100 + 45% Fluvial Flood Outline

Rev	Date	Description	Drawn	Check
#	27/07/21	First issue	DAB	SMV
A	28/08/21	Minor amendment	DAB	SMV

Status	FOR PLANNING
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Client

Eastleigh Borough Council

Project

One Horton Heath -
Chalcroft Avenue

Drawing Title

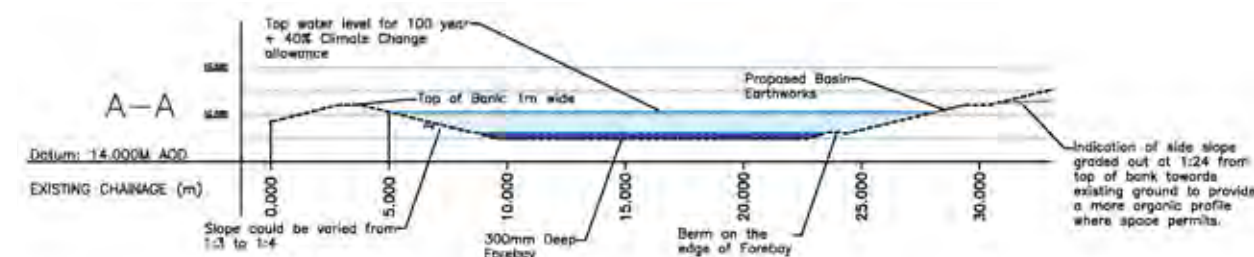
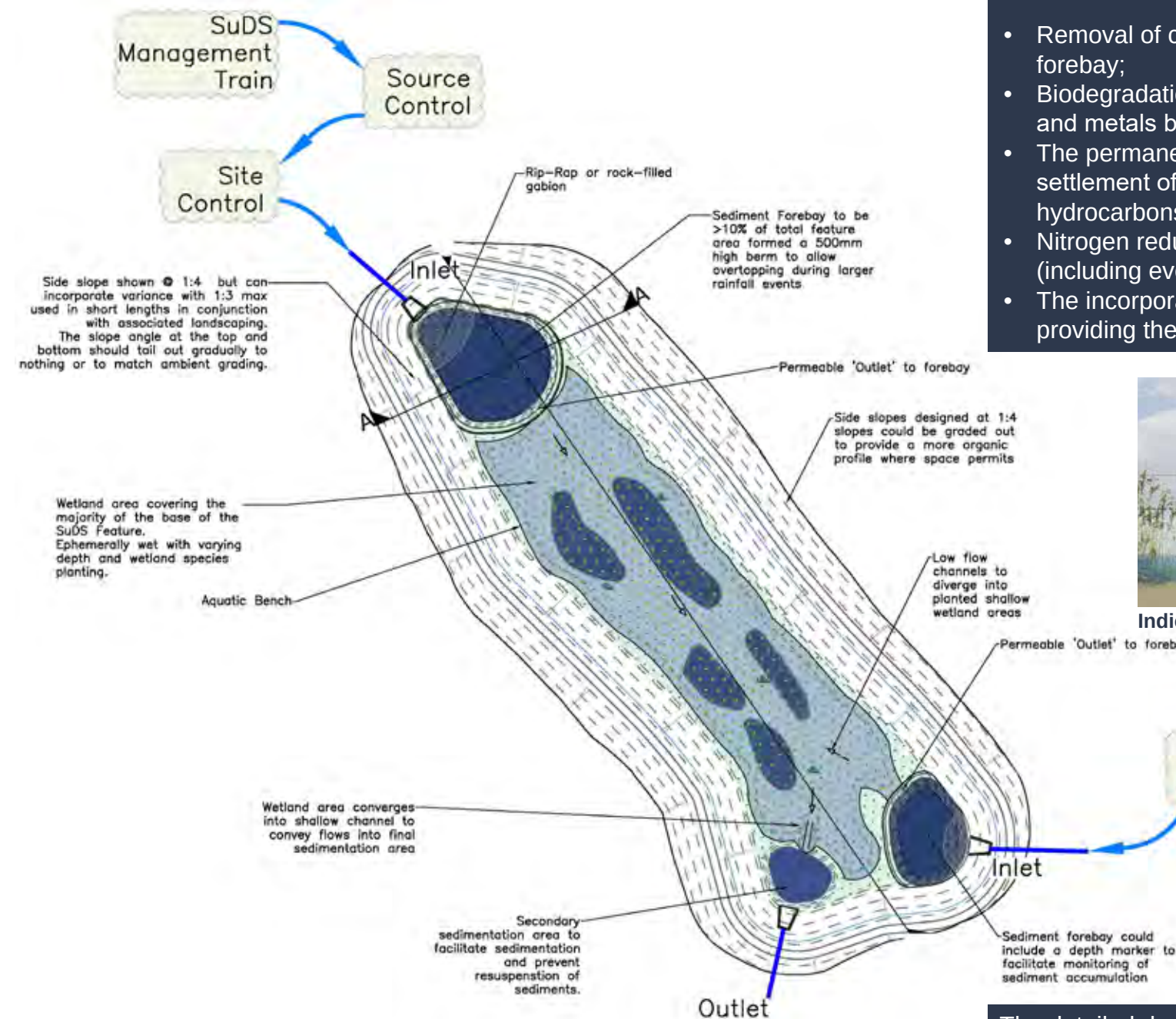
Segment 3 Strategic SuDS
Features Layout Plan

Drawing No. G277/25

Date: July 2021 Scale: 1:1250 @ A0
E-Mail: DBuckak@pfapl.com

1 Chalcroft Tolls

Enhanced Basins



Extract from PFA Consulting Typical Layout of Strategic SuDS features Drawing G 277/23

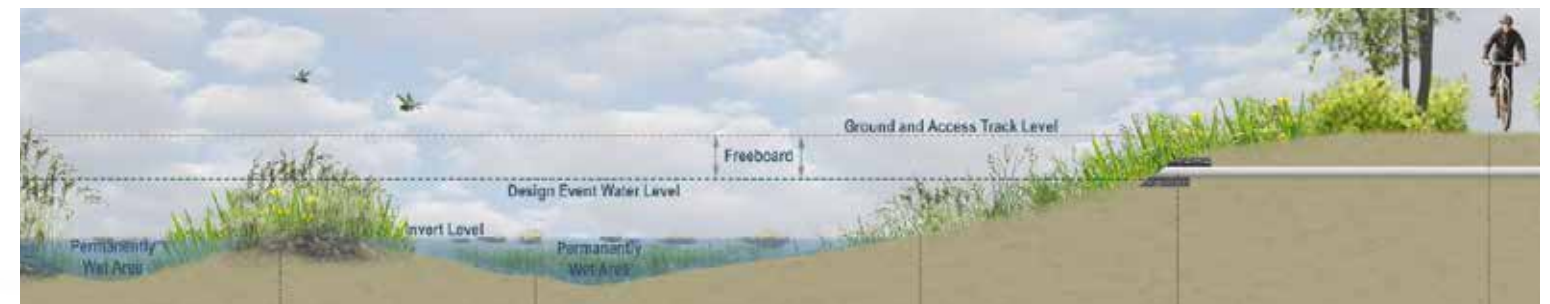
Enhanced Basins

The 3 stages of filtering and nitrate cleansing within the enhanced basins would be:

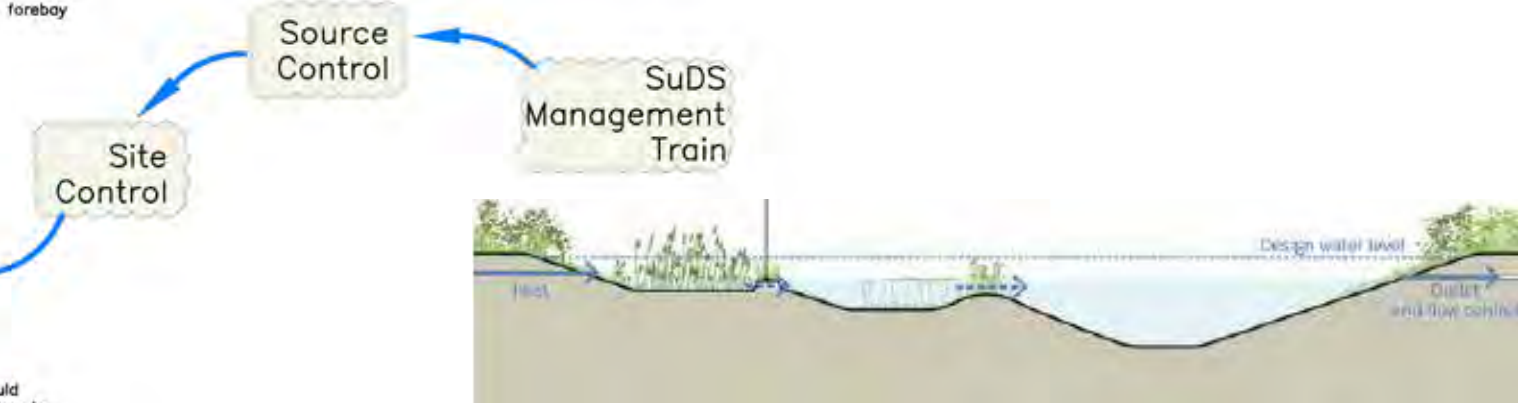
- Removal of coarse sediments within the sediment forebay;
- Biodegradation and removal of hydrocarbons, nutrients and metals by the specific planting; and
- The permanent pool of water provides further settlement of fine sediments and removal of nutrients, hydrocarbons and metals.
- Nitrogen reducing native marginal and aquatic species (including evergreen plants).
- The incorporation of distinct zones in the large basins providing the water quality and quantity volume

storage in a number of independent cells. These features create increased attenuation, longer pollutant removal pathways (and therefore enhanced pollution removal) an easier maintenance regime and more varied ecology.

- Basin Zones include a sediment forebay, permanent micro pools, attenuation storage volume above permanent pool water level and aquatic benches surrounding the permanent micro pools, which support wetland planting, acting as a biological filter and providing ecology amenity and safety benefits. Around the micro pools shallow wet/marshy grassland areas provide further filtration.
- Basins will be lined and anchored to prevent impact on functions from rising groundwater.



Indicative Section (ref: Jacobs A9 Basin Proposals)



Indicative Section showing forebay, benches and pools

The detailed design of basins will be subject to the CDM Regulations 2015. CDM Measures can include:

- High vertical drops/headwalls avoided
- Avoidance of fast flowing water (preference of velocities below 0.5m/s)
- Side slopes designed at 1 in 4 or shallower to 1 in 24 (no steeper than 1 in 3 in short lengths) to provide safe access and egress including for maintenance operations
- Restrictions on water depth
- Marginal planting designed to a height designed to not obstruct visibility of the water from the surrounding area
- Safety grilles at a 45 degree angle (to avoid blocking) can be placed on any pipes greater than 350mm diameter
- Removal of many pollutants and nutrients from a wider conveyance train closer to source
- A level dry bench at the top of all open structures, 1m wide and a wet bench 1m wide allows stationary rest for a person and safety access
- Danger signs and safety equipment should not be required if the final design incorporates built in safety measures