

KEY:

WATERCOURSE
1:100YR (+36% PEAK FLOWS) FLOOD EXTENT

EXISTING WATERCOURSE



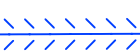
PROPOSED ATTENUATION BASIN

BOREHOLE & GROUNDWATER
MONITORING LOCATION

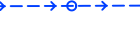
CROSS SECTION LOCATION



SITE APPLICATION BOUNDARY



PROPOSED SWALE/DITCH

PROPOSED SW DRAIN, ACCESS CHAMBER
& HEADWALL

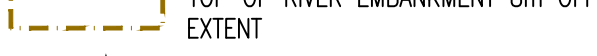
PROPOSED TOE DRAIN TO INTERCEPT GROUNDWATER ALONG BASIN EDGE



PROPOSED RAIN GARDEN AREA (EAST-WEST ACCESS CORRIDOR ONLY)



PROPOSED TREE PIT CORRIDOR (EAST-WEST ACCESS CORRIDOR ONLY)

PROPOSED TANKED PERV PAVING (SHOWN FOR CENTRAL CATCHMENT ONLY BUT TO
BE USED IN DRIVEWAYS & CAR PARK AREAS ACROSS THE WHOLE DEVELOPMENT)EXTENT OF LAND WHERE GROUND LEVELS ARE
LIKELY TO BE RAISED TO ALLOW DEVELOPMENTSUDS BASIN/RETAINED ORDINARY
WATERCOURSE 3m OFFSET EXTENTTOP OF RIVER EMBANKMENT 8m OFFSET
EXTENT

EXPECTED OVERLAND FLOW DIRECTION

SCALE FOR PLANNING PURPOSES ONLY

NOTES:

- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTURAL & ENGINEERING DOCUMENTS AND DRAWINGS.
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- UTILITY SURVEYED BY PULSE MAPPING AND SHOWN ON SURVEY DRG REF P160622-WESTERGATE (P01), 27/06/2016 REUSE CODE SURVEY TOPOGRAPHICAL SURVEY INFORMATION (REF:16-0102A REV C, (UNSPECIFIED DATE) PREPARED FOR THE SITE.
- INFORMATION AND DESIGN ON THIS DRAWING ARE BASED ON THWIE ARCHITECTS ILLUSTRATIVE LAYOUT OSML-01 REV/F3 DATED 31.07.23.

SURFACE WATER ATTENUATION STRATEGY - SUMMARY

	FLOW RESTRICTION TO LIDSEY RIVER (BASED ON QBAR = 3.8l/s/ha)	ESTIMATED ATTENUATION VOLUME REQUIRED (B) (##)	VOLUME AVAILABLE IN BASIN(S)	VOLUME AVAILABLE OTHER SUDS (###)
NORTHERN RESI. AREA: 1.912HA ESTIMATED IMP. AREA (B02): 1.15HA RESIDENTIAL LAND PARCEL: 0.65HA URBAN CREEP (B03): 0.04HA IMP. AREA+URBAN CREEP: 1.19HA	QBAR1=7.27l/s	QUICK STORAGE ESTIMATE (QSE): QSE30YR+40%=(746 TO 966m3) =857m3 QSE100YR+45%=(1020 TO 1304m3) =1162m3	VOLUME AVAILABLE IN BASIN 1 (B1) WITHIN 300mm FREEBOARD=732m3; AT MIN CREST LEVEL=1186m3	AVAILABLE (NOT ASSESSED) - TANKED PERVIOUS PAVING TO BE USED WHEN NEEDED INTO CAR PARK AREAS & DRIVEWAYS
CENTRAL RESI. AREA: 5.03HA ESTIMATED IMP. AREA (B02): 3.02HA RESIDENTIAL LAND PARCEL: 1.89HA URBAN CREEP (B03): 0.11HA IMP. AREA+URBAN CREEP: 3.13HA	QBAR2=22.59l/s	QUICK STORAGE ESTIMATE (QSE): QSE30YR+40%=(2,446 TO 3,164m3) =2805m3 QSE100YR+45%=(3,338 TO 4,257m3) =3797m3	VOLUME AVAILABLE IN BASIN 2 (B2) WITHIN 300mm FREEBOARD=1,781m3; AT MIN CREST LEVEL=2,715m3	TANKED PERVIOUS PAVING (DRIVEWAYS & CAR PARK AREAS): 1046m3 RAIN GARDENS (EAST WEST LINK CORRIDOR): 41m3 TREE PIT CORRIDORS (ALONG WEST LINK CORRIDOR): 96m3
SOUTHERN RESI. AREA: 5.68HA ESTIMATED IMP. AREA (B02): 3.41HA RESIDENTIAL LAND PARCEL: 2.12HA URBAN CREEP (B03): 0.13HA IMP. AREA+URBAN CREEP: 3.54HA	QBAR3=21.63l/s	QUICK STORAGE ESTIMATE (QSE): QSE30YR+40%=(2,219 TO 2,878m3) =2548m3 QSE100YR+45%=(3,035 TO 3,880m3) =3457m3	VOLUME AVAILABLE IN BASIN 3a&b (B3a+B3b) WITHIN 300mm FREEBOARD (800+1722)=2,522m3; AT MIN CREST LEVEL (1,115+2,284)=3,399m3	AVAILABLE (NOT ASSESSED) - TANKED PERVIOUS PAVING TO BE USED WHEN NEEDED INTO CAR PARK AREAS & DRIVEWAYS

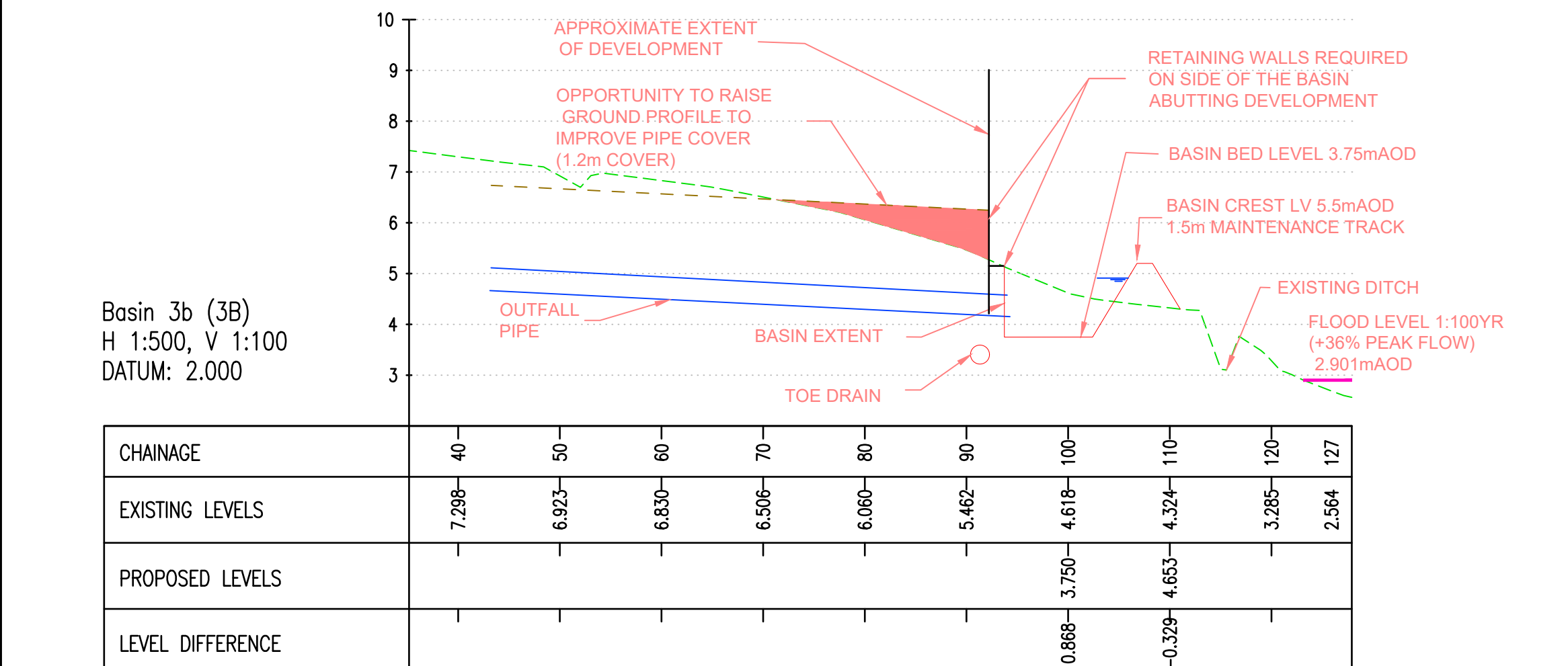
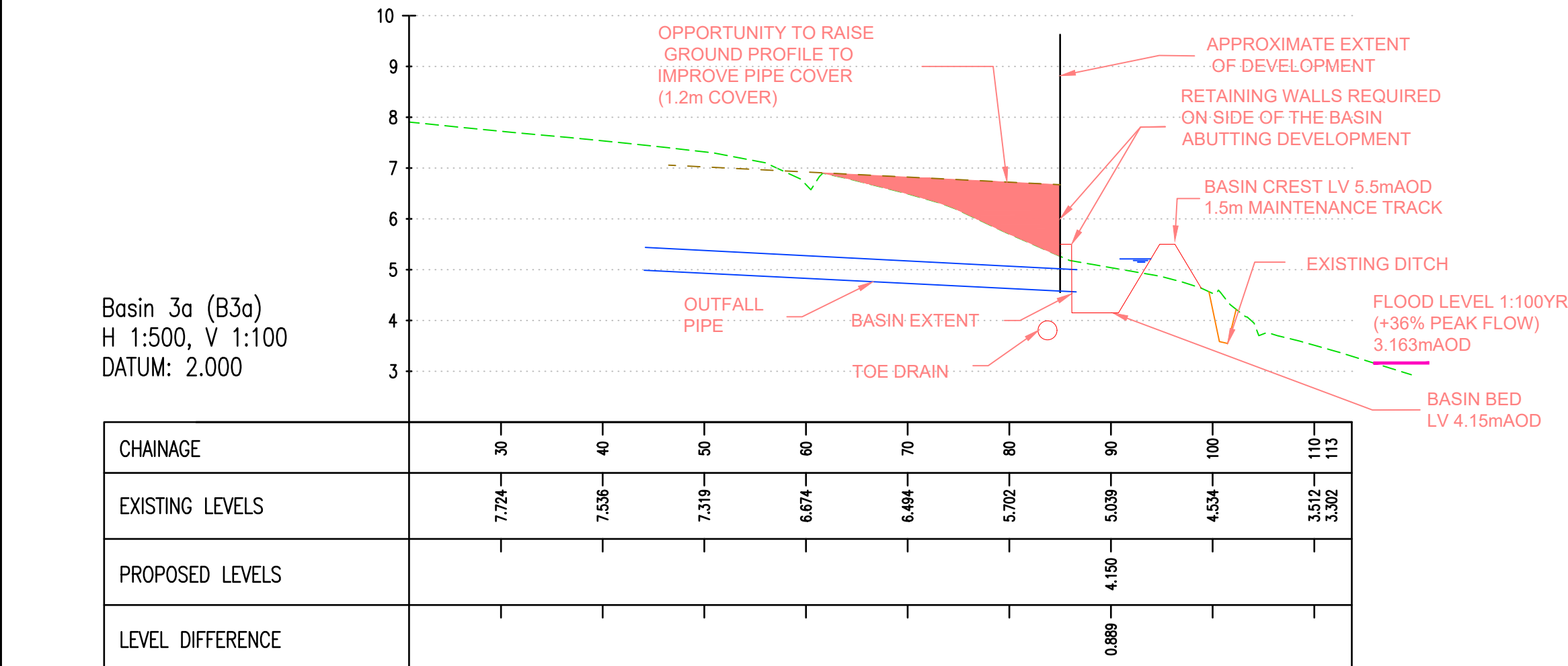
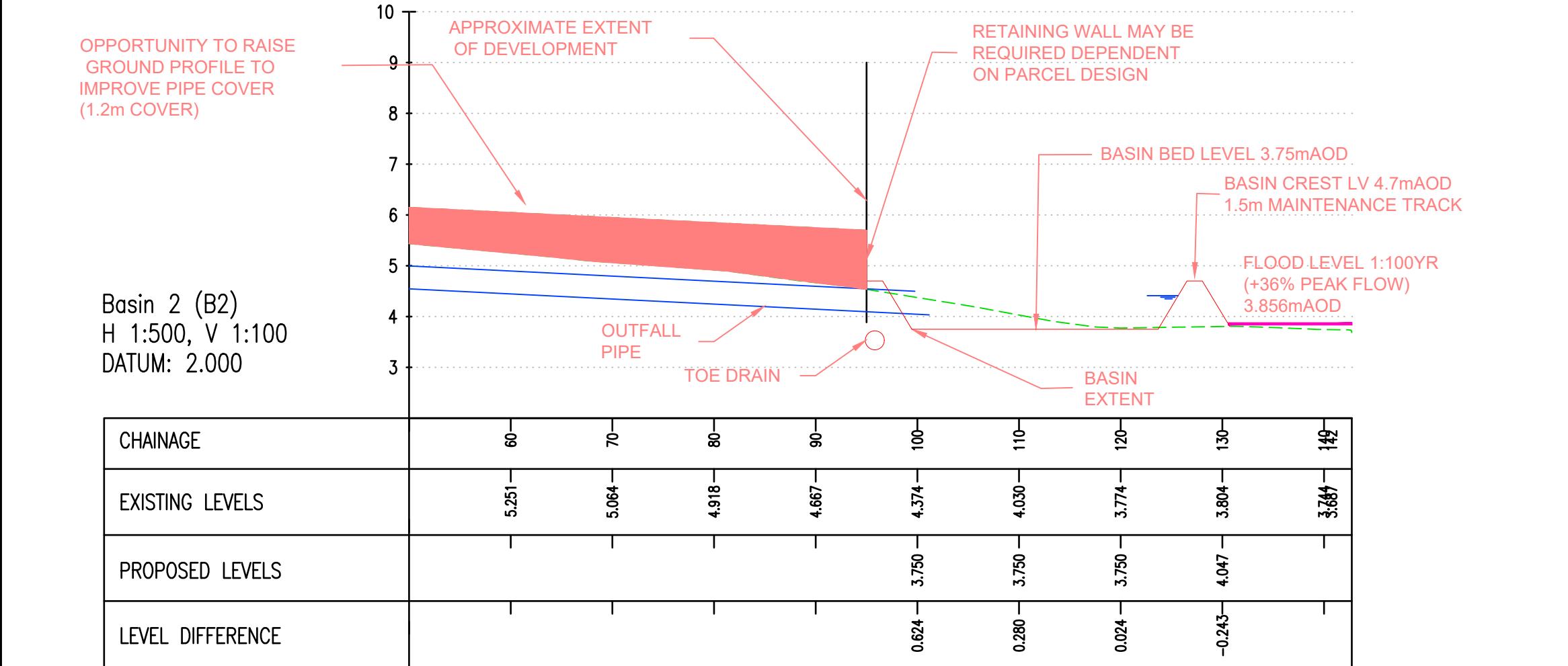
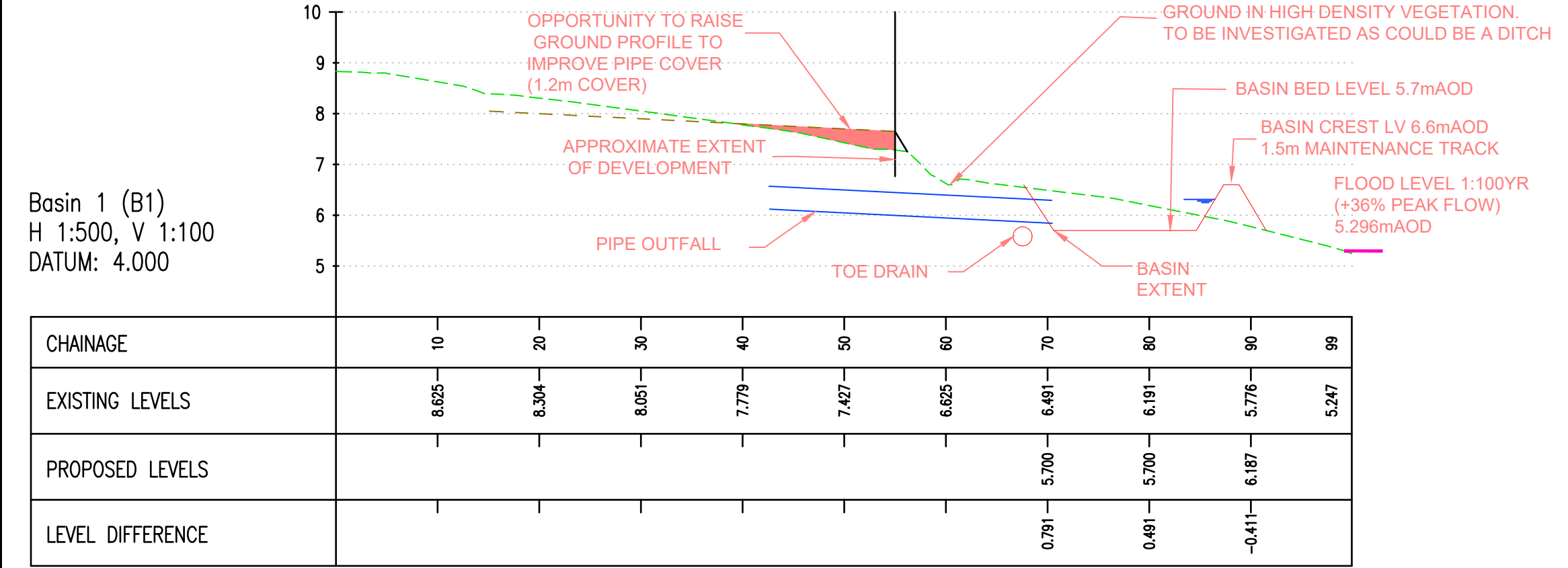
NOTES:
(B) QSE RESULTS BASED ON FEH 2022 RAINFALL DATA & CV VALUE OF 1.00% APPLIED TO CALCULATIONS.
(##) QSE RESULTS INCLUDE AN ALLOWANCE FOR URBAN CREEP (IN LINE WITH LATEST NON STATUTORY TECHNICAL STANDARDS FOR SUSTAINABLE DRAINAGE PRACTICE GUIDANCE FOR URBAN CREEP FACTOR FOR HOUSING DENSITY OF 35 DWELLING/HA).

(###) VOLUMES FOR OTHER SUDS ASSUME DEPTH OF EFFECTIVE STORAGE FOR TANKED PERV PAVING, 100mm FOR RAIN GARDENS, 1.00m IN TREE PIT CORRIDORS, 0.5 PERCENT & 5% VCL AVAILABILITY.

SURFACE WATER STRATEGY - SUDS MANAGEMENT TRAIN

	Residential Property SuDS management train.
Source Control	Rainwater collected on roof to drain to rainwater pipe Rainwater pipe to connect to garden water butt. Opportunity for attenuating planter or water butt where appropriate. Runoff from driveway, car park area and rainwater pipes to be filtered and stored into tanked pervious paving to be located under driveway and car park. Attenuated flows to be slowly released via orifice flow control to carrier pipe drainage system.
Site Control	Carrier pipe drainage system to convey flows toward attenuation basin where flows are slowly released via a Vortex flow control to a section of swale/ditch connecting to the river.
	Residential Low Traffic Road SuDS management train.
Source Control	Rainwater collected from footpath, verge and carriageway to be collected via road gully or channel drain to Carrier pipe drainage system. Carrier pipe drainage system to convey flows toward attenuation basin where flows are slowly released via a Vortex flow control to a section of swale/ditch connecting to the river.
Site Control	
	Main Road - East West Link Road SuDS management train
Source Control	Rainwater from footpath, cycleway, verge and carriageway to discharge into rain gardens (Bio retention area). Filtered flows and overflows from rain gardens to be collected to carrier pipe drainage system. Carrier pipe drainage system to convey flows toward attenuation basin where flows are slowly released via a Vortex flow control to a section of swale/ditch connecting to the river.
Site Control	

BASINS CROSS SECTIONS



HEALTH AND SAFETY SYMBOLS LEGEND

- Indicates a residual risk requiring a compulsory action
- Conveys information about a residual risk
- Indicates a residual risk requiring a specific action to be avoided
- Warns of a residual risk or information that is unusual and cannot be designed out
- Indicates an environmental hazard

1.1 - Existing Overhead Power Cables.
1.2 - Existing Water mains.

The table above is provided to assist the Principal Contractor to fulfil their obligations under the Construction Design & Management Regulations, 2015. It does not include residual risks that a competent Contractor will be aware of nor does it absolve the Principal Contractor of his legal responsibilities. For further hazard and risk information, refer to Design Risk Management Schedule (1446).

SAFETY HEALTH AND ENVIRONMENTAL INFORMATION BOX

SURFACE WATER QUALITY STRATEGY - POLLUTION HAZARD & MITIGATION SCORING

Driveways & Residential Car Parks Pollution Hazard and Mitigation	TSS	Metals	Hydrocarbons
Pollution Hazard scoring (A) Table 26.2 C10a C73	(-)0.5	(-)0.4	(-)0.4
Pollution Mitigation scoring for Tanked Pervious Paving (B)	(+)0.7	(+)0.6	(+)0.7
Pollution Mitigation scoring for Detention Basin (C)	(+)0.5/2	(+)0.5/2	(+)0.6/2
Pollution Mitigation scoring for Swale (D)	(+)0.5/2	(+)0.6/2	(+)0.6/2
Total Pollution Mitigation Score (B+C+D)	(+)1.20	(+)1.15	(+)1.30
Residual Impact (B+C+D)-(A)	(+)0.70	(+)0.75	(+)0.9

Low Traffic Roads Pollution Hazard and Mitigation	TSS	Metals	Hydrocarbons
Pollution Hazard scoring (A) Table 26.2 C10a C73	(-)0.5	(-)0.4	(-)0.4
Pollution Mitigation scoring for Detention Basin (C)	(+)0.5	(+)0.5	(+)0.6
Pollution Mitigation scoring for Swale (D)	(+)0.5/2	(+)0.6/2	(+)0.6/2
Total Pollution Mitigation Score (C+D)	(+)0.75	(+)0.80	(+)0.90
Residual Impact (C+D)-(A)	(+)0.25	(+)0.40	(+)0.5

Normal Traffic Roads Pollution Hazard and Mitigation	TSS	Metals	Hydrocarbons
Pollution Hazard scoring (A) Table 26.2 C10a C73	(-)0.7	(-)0.6	(-)0.7
Pollution Mitigation scoring for Rain Garden/Bio Retention areas (C)	(+)0.8	(+)0.8	(+)0.8
Pollution Mitigation scoring for Detention Basin (D)	(+)0.5/2	(+)0.5/2	(+)0.6/2
Pollution Mitigation scoring for Swale (E)	(+)0.5/2	(+)0.6/2	(+)0.6/2
Pollution Mitigation Score (C+D+E)	(+)1.30	(+)1.35	(+)1.40
Residual Impact (C+D+E)-(A)	(+)0.60	(+)0.75	(+)0.70

UNTIL TECHNICAL APPROVAL HAS BEEN OBTAINED FROM THE RELEVANT LOCAL AUTHORITIES OR STATUTORY BODIES, IT SHOULD BE UNDERSTOOD THAT ALL DRAWINGS ARE ISSUED AS PRELIMINARY AND NOT FOR CONSTRUCTION. SHOULD THE CONTRACTOR AND / OR EMPLOYER COMMENCE WORK PRIOR TO APPROVAL BEING GIVEN, IT IS ENTIRELY AT THEIR OWN RISK.

PO3	11/06/2024	QS	STRATEGY UPDATED TO ADDRESS COMMENTS	J	LP
PO2	21/09/2023	QS	STRATEGY UPDATED TO FIXED LAYOUT	J	LP
PO1	14/07/2023	PM	FIRST ISSUE	J	LP
REV	DATE	BY	DESCRIPTION	CHK	APP
DRAWING STATUS: B3 - FOR PLANNING					

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CALA HOMES SOUTH HOMES COUNTIESPROJECT
LAND AT WESTERGATEFILE
OUTLINE SURFACE WATER DRAINAGE STRATEGY

SCALE 1:1000	DRAWN	APPROVED
PROJECT NO. 70013258	DESIGNED	LRB
	PN	PN
	DATE	June 24
LAW-WSP-ZZ-ZZ-CDR-05000		
P03		
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