

AUSTRAX STRUCTURAL CIVIL ENGINEERS STORMWATER MANAGEMENT PLAN AND DETAIL

10 RAVEN CIRUIT, WARRIEWOOD NSW

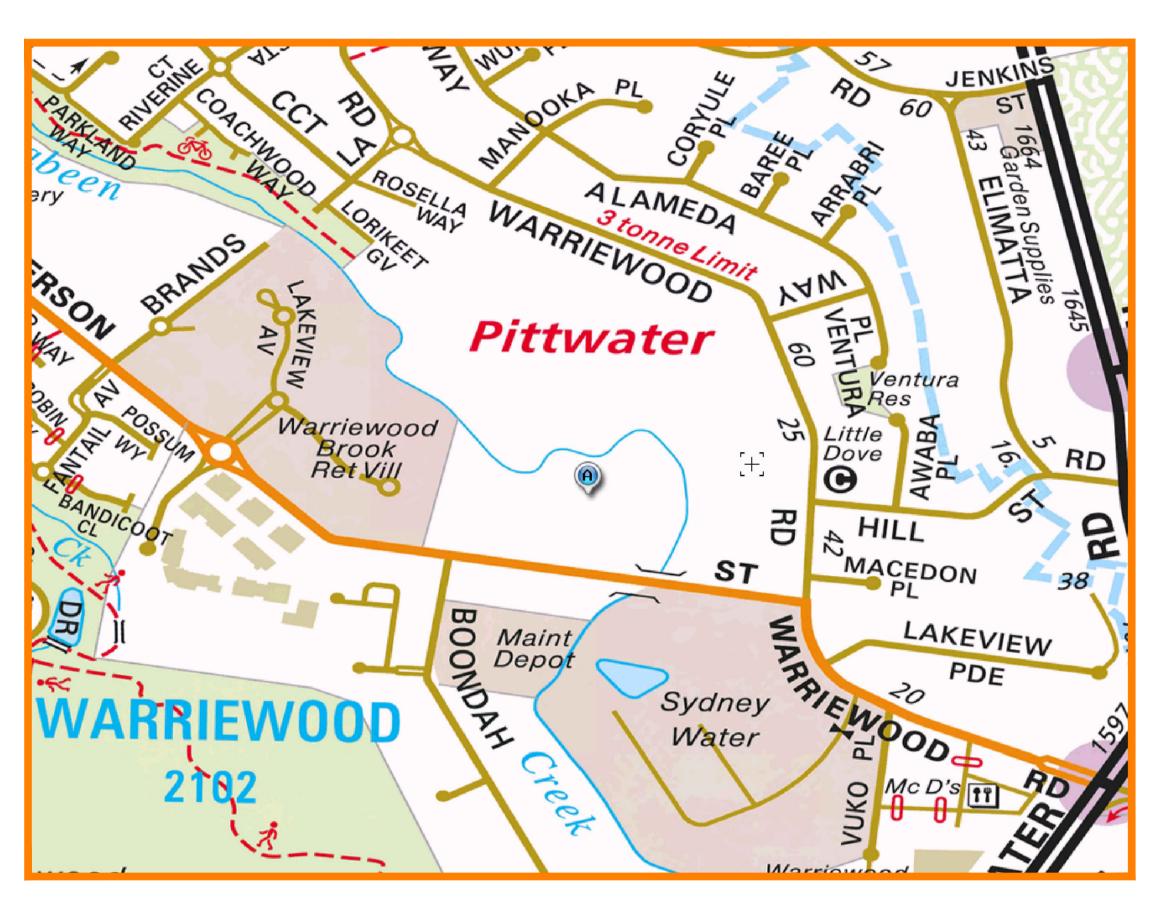
LEGEND:

<u>LLOLIND.</u>			
	STORMWATER LINE		
	CHARGED LINE		
SSD SSD	SUBSOIL LINE	ΔRRR	REVIATIONS:
330 330	STORMWATER RISING MAIN	<u> ADDI</u>	AL VIA HONS.
— SWKM— SWKM— SWKM—	STORMWATER RISING MAIN	ø or DIA	DIAMETER
OF OF OF	OVERFLOW LINE	CL CO	CENTER LINE CLEAR OUT
swswswsw	AUTHORITY STORMWATER LINE	DGS DP e	DENSE GRADED SUB-BASE DOWNPIPE EXISTING
— s — s — s — s —	AUTHORITY SEWER LINE	FFL GTD	FINISHED FLOOR LEVEL GRATED TRENCH DRAIN
— W — W — W — E — E — E — E	AUTHORITY WATER LINE EXISTING STORMWATER LINE AUTHORITY ELECTRICITY LINE	GSIP IL K&G OFP OSD	GRATED SURFACE INLET PIT INVERT LEVEL KERB & GUTTER OVERLAND FLOW PATH ON—SITE DETENTION
——————————————————————————————————————	AUTHORITY UNDERGROUND ELECTRICITY LINE AUTHORITY COMMS LINE	R RCP RL RW	RADIUS REINFORCED CONCRETE PIPE REDUCED LEVEL RETAINING WALL
	FENCE LINE	RWT SMH	RAINWATER TANK SEWER MAN HOLE
	GRATED SURFACE INLET PIT	SW SV TOK	STORMWATER STOP VALVE TOP OF KERB
	GRATED SURFACE INLET PIT WITH ENVIROPOD INSERT	TOW TWL UPVC	TOP OF WALL TOP WATER LEVEL UNPLASTICISED POLYVINYL CHLORIDE
	JUNCTION PIT	UNO FF TYP	UNLESS NOTED OTHERWISE FIRST FLUSH DEVICE TYPICAL
	KERB INLET PIT	OFP RWO	OVERLAND FLOW PATH
	EXISTING GRATED SURFACE INLET PIT	© CO Ø	RAINWATER OUTLET CLEAR OUT POINT
	EXISTING JUNCTION PIT	FF ∅ DDO	FIRST FLUSH
		Ø	DISH DRAIN OUTLET
eTEL	EXISTING KERB INLET PIT	PD ⊘ ⊘FW	PLANTER DRAIN FLOOR WASTE
e i E L	EXISTING TELSTRA PIT]	CAPPING
eHYD ⊞	EXISTING HYDRANT	1.01)	PIT TAG/NUMBER
_eSV		⊠ RH ●	RAINHEAD DOWNPIPE DROP
	EXISTING STOP VALVE	DP ●	DOWNPIPE
eGAS	EXISTING GAS VALVE	\bowtie	NON RETURN VALVE
ePP			WALL PENETRATION
0	EXISTING POWER POLE	DP	DOWNPIPE SPREADER
eBT □	EXISTING BOUNDARY TRAP	⊚ RH	RAINHEAD
eSMH			WARNING LIGHT
(\bigcirc)	EXISTING SEWER MANHOLE	0.00	SPOT LEVELS
		Å	BENCHMARK
		•	BENOTIMANI

DIAL BEFORE YOU DIG SHOULD BE CONTACTED PRIOR TO ANY EXCAVATION ON SITE

TM: TRADE MARK OF THE ASSOCIATION OF DIAL BEFORE YOU DIG SERVICES LTD. USED UNDER LICENSE.

SERVICES SHOWN ON PLAN ARE INDICATIVE, EXACT DEPTH AND LOCATION TO BE CONFIRMED ONSITE. CONTRACTOR TO CARRY OUT DIAL BEFORE YOU DIG APPLICATION AND ENGAGE A REGISTERED SURVEYOR TO PEG OUT ALL EXISTING SERVICES PRIOR TO ANY WORK COMMENCING ONSITE.



SITE LOCATION

	DRAWING REGISTER					
NUMBER	NUMBER NAME					
SWDP01	COVER SHEET	А				
SWDP02	EROSION SEDIMENT CONTROL PLAN	А				
SWDP03	STORMWATER MANAGEMENT PLAN	А				
SWDP04	STORMWATER DRAINAGE DETAILS	А				

DRAINAGE NOTES:

ALL PIPES TO BE LAID ON 75mm SAND BED WITH THE BARRELS FULLY

100mm AND 150mm DIAMETER PIPES TO BE LAID ON MINIMUM 1%

MINIMUM DEPTH OF COVER FOR PIPES NOT SUBJECT TO VEHICULAR

ALL DRAINAGE PIPES LAID UNDER PAVEMENT SHALL BE REINFORCED CONCRETE WITH RUBBER RING JOINTS

BACKFILL TRENCHES WITH COMPACTED SAND OR APPROVED AGGREGATE

ALL PITS TO HAVE 600x600mm INTERNAL DIMENSIONS (U.N.O.)

SILT ARRESTORS TO HAVE 900x900mm INTERNAL DIMENSIONS

HEAVY DUTY GRATES AND COVERS ARE TO BE PROVIDED IN TRAFFICABLE AREAS

PIT GRATE TO BE TYPE WELDLOK OR APPROVED EQUIVALENT

ALL PITS SHALL BE PROVIDED WITH A LOCKING CLIP

ALL PITS SHALL BE MAINTAINED REGULARLY

TOP OF BENCHING SHALL BE TO THE HALF OF THE OUTLET PIPE

MAXIMUM FRONT ENTRY PIPE: -STRAIGHT ENTRY - Ø750 SKEW ENTRY 45° - Ø525

TO PITS

Ø100 SUBSOIL DRAINAGE PIPE 3000mm LONG WRAPPED IN FABRIC SOCK TO BE PROVIDED ADJACENT TO INLET PIPES

COMPRESSIVE STRENGTH f'e FOR CAST IN SITU CONCRETE TO BE A MINIMUM OF 20MPa AT 28 DAYS

PROVIDE CLEANING EYES TO ALL DOWNPIPES NOT DIRECTLY CONNECTED

ISOLATED JOINTS TO BE PROVIDED TO ISOLATE CONCRETE PAVEMENTS

ALL TRENCH GRATES PROVIDED SHALL HAVE A MINIMUM CLEAR WIDTH

STORMWATER DRAINAGE CONNECTIONS TO THE MAIN SYSTEM SHALL BE

TO THE REQUIREMENTS AND THE SATISFACTION OF LOCAL COUNCIL

STORMWATER PIPE BEDDING/PAVING NOTES:

WHERE TRENCH BASE IS ROCK A MINIMUM OF 75mm BEDDING TO BE PROVIDED UNDER PIPE COLLARS.

STORMWATER PIPE BEDDING DETAIL TO BE IN ACCORDANCE WITH LOCAL COUNCIL REQUIREMENTS. BEDDING DETAILS TO BE CONFIRMED UPON EXCAVATION & PRIOR TO INSTALLATION OF PIPEWORK.

FOOTPATH REINSTATEMENT NOTES:

REMOVE ALL SAND FILL WITHIN THE FOOTPATH AREA TO THE EXISTING

THE CONTRACTOR SHALL PROVIDE CERTIFICATION OF COMPACTION FROM

SUPPORT ALL AUTHORITY SERVICES TO STRUCTURAL ENGINEERS DETAILS DURING EXCAVATION.

REINSTATE FOOTPATH SUBGRADE.

A NATA REGISTERED TESTING AUTHORITY. MINIMUM THREE TESTS PER LAYER AS FOLLOWS:

SELECT FILL 95% MODIFIED

SELECT FILL (LESS THAN 300mm BELOW BASE COURSE)

BASE COURSE

98% MODIFIED

100% MODIFIED

CHECKED:

REVISION NO.

G.K.

А	FOR CONSTRUCTION	11.01.2025	G.K.	
REV	DESCRIPTION	DATE	APP	\bigcirc

AUSTRAX STRUCTURAL CIVIL ENGINEERS

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CLIENT

WARRIEWOOD NSW Industrial Land Development

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NORTHERN BEACHES D PROJECTS

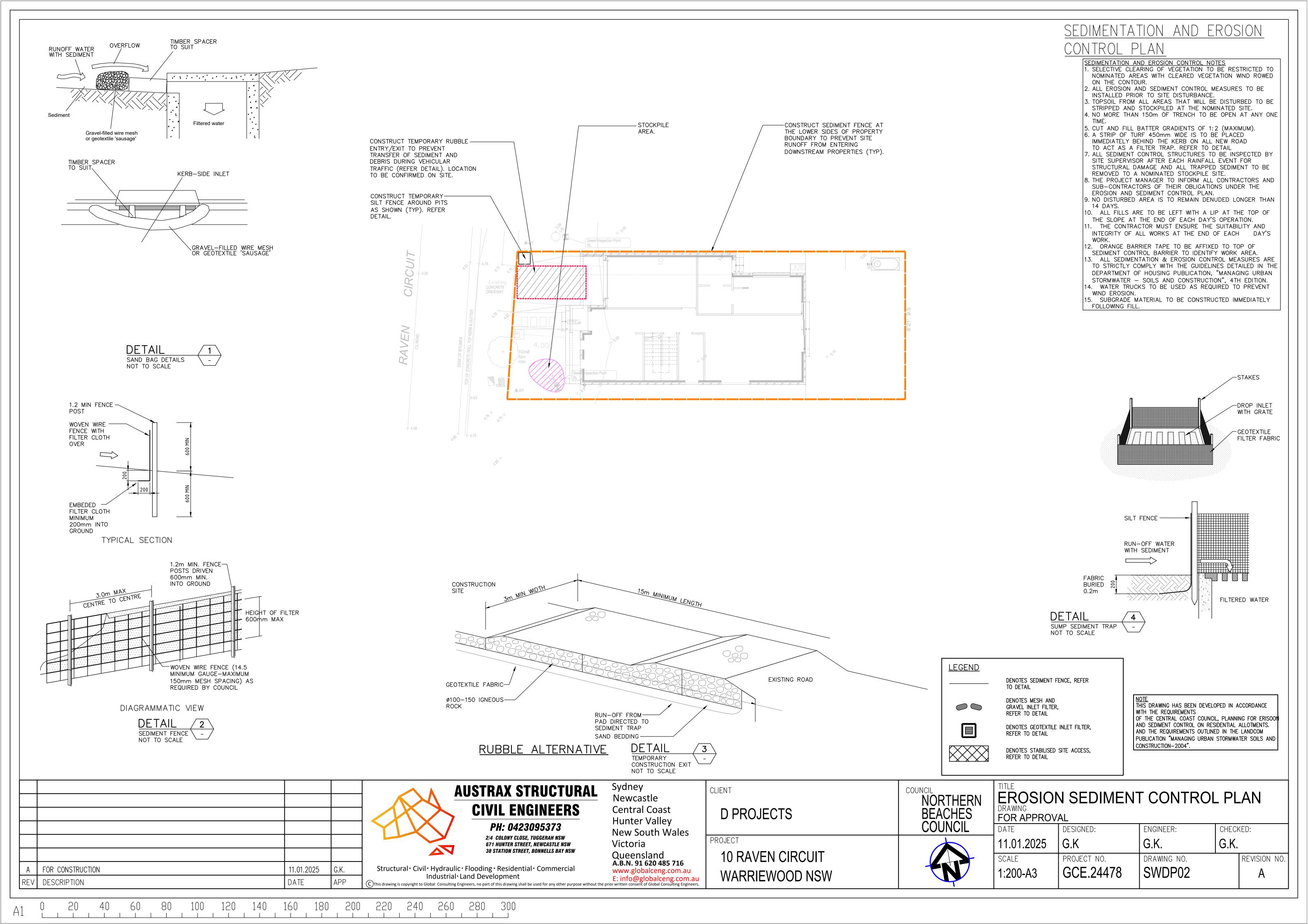
PROJECT 10 RAVEN CIRCUIT

COVER SHEET FOR APPROVAL

ENGINEER: DESIGNED: 11.01.2025 G.K. G.K SCALE PROJECT NO. DRAWING NO. GCE.24478 SWDP01 1:200-A3

Structural · Civil · Hydraulic · Flooding · Residential · Commercial

Industrial Land Development



OSD DESIGN PARAMETERS:

I. THE PRE/POST-DEVELPMENT IMPERVIOUS AREA WAS MEASURED THROUGH ÁUTOCAD.

2. THE POST-DEVELOPMENT IMPERVIOUS AREA WAS DESIGNATED A VALUE OF 100% FOR A MORE CONSERVATIVE VALUE AND TO REPLICATE THE PROPOSED IMPERVIOUS AREA FOR SIZING OSD ON DRAINS.

3. THE RAINFALL DATA WAS CALCULATED AND OBTAINED BY THE BUREAU OF METEOROLOGY, AUSTRALIA FOR THE RESPECTIVE LOCATION OF THE SITE.

- LATITUDE: -33.68885 - LONGITUDE: 151.29876

DESIGN NOTES:

THE SITE IS LOCATED IN NORTHERN BEACHES COUNCIL.

THE OSD STORAGE SYSTEM WILL BE BELOW GROUND.

OSD WAS DESIGNED USING DRAINS. THE RESULTS ARE SHOWN BELOW:

DRAINS MODELLING PARAMETERS:

THE STORAGE CAPACITY AND PERMISSIBLE SITE DISCHARGE OF THE OSD WAS CALCULATED THROUGH A DRAINS MODEL WITH REGARDS TO NORTHERN BEACHES COUNCIL DCP REQUIREMENTS LISTED BELOW;

100YR POST-DEVELOPMENT FLOWS RESTRICTED TO THE 20YR(5%AEP) PRE-DEVELOPMENT FLOWS.

PRE-DEVELOPMENT CATCHMENT = 0% IMPERVIOUS, 100% PERVIOUS. POST-DEVELOPMENT CATCHMENT = 60% IMPERVIOUS, 40% PERVIOUS.

TIME OF CONCENTRATION = 5min(s)

DESIGN NOTES:

THE SITE IS LOCATED IN CENTRAL COAST COUNCIL.

SITE AREA =676.5m² (BY CALC'S)

CONTRACTOR TO INSTALL RAINWATER TANK ON EACH DWELLING TO COLLECT REQUIRED MINIMUM ROOF AREA AS PER BASIX REQUIREMENT.

RAINWATER TANK TO BE EQUIPPED WITH FIRST FLUSH AND MOSQUITO PROTECTION DEVICES (REFER DETAIL).

ALL NEW STORMWATER PIPES TO HAVE A MINIMUM OF 100mm CONCRETE OR 300mm TOPSOIL COVER U.N.O.

ARROW DENOTES THE SLOPE OF FINISHED SURFACE LEVEL (TYP).

INSTALL CLEAR OUT WHERE REQUIRED FOR INSPECTION AND

MAINTENANCE PURPOSES.

INSTALL DOWNPIPE WITH SPREADER (IF REQUIRED) TO DISPERSE STORMWATER ONTO LOWER ROOF AREAS EFFECTIVELY.

ALL DOWNPIPES AND STORMWATER PIPES SHOWN ON PLAN ARE

ALL STORMWATER OSD/PITS AND PIPES TO BE A MINIMUM OF 0.6m

INSTALL CLEAR OUT FOR INSPECTION AND MAINTENANCE PURPOSES

CLEAR FROM EXISTING SEWER LINE IF PRESENT ON SITE (TYP).

ALL DOWNPIPES AND STORMWATER PIPES SHOWN ON PLAN ARE

ALL PROPOSED STORMWATER SERVICES TO BE CONSTRUCTED AT

CONTRACTOR TO DETERMINE EXACT SIZE, LOCATION AND DEPTH

CONTRACTOR TO ENSURE THERE ARE NO OBSTRUCTIONS (TYP).

RETAINING WALLS TO PREVENT LONG TERM SATURATION DURING

CONSTRUCTION OVER EASEMENTS LOCATED ON SITE IS PROHIBITED.

PROVIDE SUBSOIL DRAINAGE WITHIN LANDSCAPED AREAS & BEHIND

MINIMUM 0.6m CLEAR DISTANCE FORM EXISTING SEWER PIPE.

EXISTING SERVICES SHOWN ON PLAN ARE INDICATIVE ONLY.

PROPOSED DOWNPIPE LOCATIONS ARE NOMINAL AND TO BE

ALL STORMWATER PIPES ARE Ø100mm uPVC U.O.N.

ø100mm uPVC AND SLOPE AT 1% U.N.O (TYP).

ø100mm uPVC AND SLOPE AT 1% U.N.O (TYP).

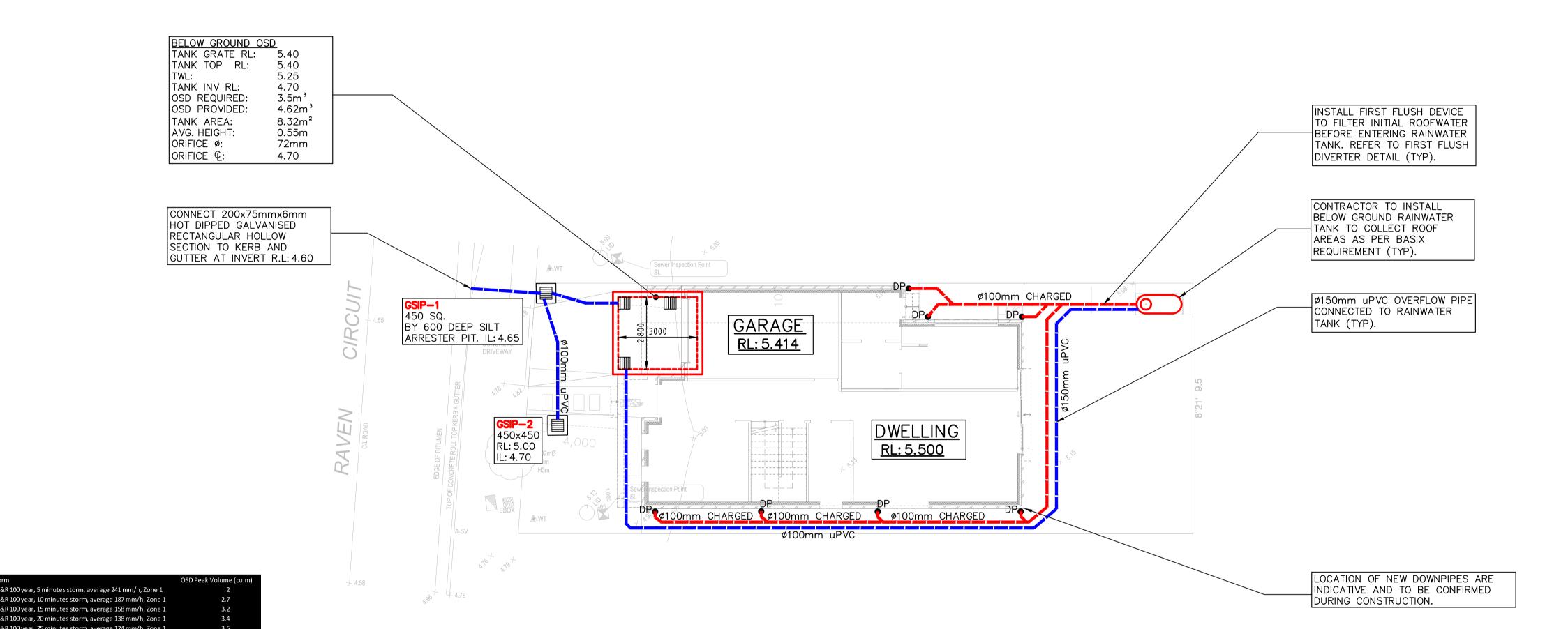
BEFORE COMMENCING ANY WORKS (TYP).

CONFIRMED DURING CONSTRUCTION (TYP).

DRAINAGE NOTES:

WHERE REQUIRED (TYP).

PROLONGED WET WEATHER.



POST-DEVELOPMENT OSD REQUIREMENTS:

&R 100 year, 1 hour storm, average 79.0 mm/h, Zone 1

&R 100 year, 3 hours storm, average 39.7 mm/h, Zone 1 &R 100 year, 4.5 hours storm, average 30.7 mm/h, Zone 1

	LOT AREA (m²)	PRE-DEV IMPERVIOUS (%)	POST-DEV IMPERVIOUS (%)	STORM (YR)	PRE-DEV FLOW (m ³ /s)	POST-DEV FLOW (m³/s)	PIPE OUTFLOW (m³/s)	WEIR OUTFLOW (m³/s)	TOTAL PSD (m³/s)	OSD VOLUME (m³)
				5	0.006	0.005	0.000	N/A	0.005	
240m²	0	60%	20	0.009	0.007	0.000	N/A	0.007	3.5	
			10	100	0.012	0.008	0.000	N/A	0.008	

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Sydney

CLIENT D PROJECTS

PROJECT

10 RAVEN CIRCUIT WARRIEWOOD NSW

COUNCIL NORTHERN BEACHES COUNCIL

STORMWATER DRAINAGE PLAN FOR APPROVAL

DESIGNED: ENGINEER: G.K. 11.01.2025 G.K SCALE PROJECT NO. DRAWING NO.

GCE.24478 1:200-A3 SWDP03

CHECKED:

REVISION NO.

G.K.

