

PROPOSED DETACHED DUAL OCCUPANCY AT
26 RALSTON ROAD, PALM BEACH NSW 2108
CONCEPT STORMWATER DRAINAGE PLAN

LEGEND	
DP ●	DOWNPIPE
—>>>—	STORMWATER LINE
—>>>—	STORMWATER LINE DRAINING TO RWT
— OF —	OVER FLOW PIPE
— SSD —	SUBSOIL LINE
— SWRM —	STORMWATER RISING MAIN
— e —	EXISTING STORMWATER LINE
— SW — SW —	AUTHORITY STORMWATER LINE
— HL — HL —	HIGH LEVEL STORMWATER LINE
— S —	AUTHORITY SEWER LINE
— W —	AUTHORITY WATER LINE
— G — G —	AUTHORITY GAS LINE
— E —	AUTHORITY ELECTRICITY LINE
— FO — FO — FO —	AUTHORITY FIBRE OPTIC LINE
— TEL —	AUTHORITY COMMS LINE
— / — / —	FENCE LINE
	GRATED SURFACE INLET PIT
	GRATED SURFACE INLET PIT WITH ENVIROPOD INSERT
	JUNCTION PIT
	KERB INLET PIT
	EXISTING GRATED SURFACE INLET PIT
	GRATED TRENCH DRAIN
	EXISTING JUNCTION PIT
	EXISTING KERB INLET PIT
 eTEL	EXISTING TELSTRA PIT
 eHYD	EXISTING HYDRANT
 eSV	EXISTING STOP VALVE
 eGAS	EXISTING GAS VALVE
 ePP	EXISTING POWER POLE
 eBT	EXISTING BOUNDARY TRAP

LEGEND	
FF ●	FIRST FLUSH
 eSMH	EXISTING SEWER MANHOLE
OFF 	OVERLAND FLOW PATH
RWO ●	RAINWATER OUTLET
PS ●	PIPE STAND
CO ●	CLEAR OUT POINT
DDO ●	DISH DRAIN OUTLET
PD ●	PLANTER DRAIN
	CAPPING
 (1.0)	PIT TAG/NUMBER
RH 	RAINHEAD
	DOWNPIPE DROP
	NON RETURN VALVE
	WALL PENETRATION
DP 	DOWNPIPE SPREADER
	WARNING LIGHT
0.00 ●	SPOT LEVELS
	BENCHMARK

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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.

DRAWING REGISTER		
NUMBER	NAME	REVISION
SWDP01	COVER SHEET	A
SWDP02	EROSION & SEDIMENT CONTROL PLAN	A
SWDP03	BASEMENT PLAN & DETAILS	A
SWDP04	SITE STORMWATER PLAN & DETAILS	A
SWDP05	FIRST FLOOR, ROOF PLANS & DETAILS	A
SWDP06	DETAILS SHEET	A

DRAINAGE NOTES:

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

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

MINIMUM DEPTH OF COVER FOR PIPES NOT SUBJECT TO VEHICULAR LOADING TO BE 300mm

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

BACKFILL TRENCHES WITH COMPACTED SAND OR APPROVED AGGREGATE MATERIAL

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 DIAMETER

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

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

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

PROVIDE CLEANING EYES TO ALL DOWNPIPES NOT DIRECTLY CONNECTED TO PITS

ISOLATED JOINTS TO BE PROVIDED TO ISOLATE CONCRETE PAVEMENTS FROM PITS

ALL TRENCH GRATES PROVIDED SHALL HAVE A MINIMUM CLEAR WIDTH OF 200mm

STORMWATER DRAINAGE CONNECTIONS TO THE MAIN SYSTEM SHALL BE TO THE REQUIREMENTS AND THE SATISFACTION OF LOCAL COUNCIL

ABBREVIATIONS:

Ø or DIA	DIAMETER
CBR	CALIFORNIA BEARING RATIO
CH	CHAINAGE
CL	CENTER LINE
CO	CLEAR OUT
DD	DISH DRAIN
DDO	DISH DRAIN OUTLET
DEJ	DOWELLED EXPANSION JOINT
DEB	DENSE GRADED BASECOURSE
DOS	DENSE GRADED SUB-BASE
DP	DOWNPIPE
e	EXISTING
FFL	FINISHED FLOOR LEVEL
GTD	GRATED TRENCH DRAIN
GSIP	GRATED SURFACE INLET PIT
HYD	HYDRANT
IJ	ISOLATING JOINT
IK	INTEGRAL KERB
IL	INVERT LEVEL
IP	INTERSECTION POINT
KIP	KERB INLET PIT
KO	KERB ONLY
K&G	KERB & GUTTER
KR	KERB RETURN
LS	LONGITUDINAL SECTION
NGL	NATURAL GROUND LEVEL
OPF	OVERLAND FLOW PATH
OSD	ON-SITE DETENTION
R	RADIUS
RCP	REINFORCED CONCRETE PIPE
RK	ROLL KERB & GUTTER
RL	REDUCED LEVEL
RW	RETAINING WALL
RWT	RAINWATER TANK
SJ	SAWN CONTROL JOINT
SMH	SEWER MAN HOLE
SW	STORMWATER
SWP	STORMWATER PIT
SWRM	STORMWATER RISING MAIN
SWS	STORMWATER SUMP
SV	STOP VALVE
TOK	TOP OF KERB
TOW	TOP OF WALL
TWL	TOP WATER LEVEL
TP	TANGENT POINT
UPVC	UNPLASTICISED POLYVINYL CHLORIDE
UNO	UNLESS NOTED OTHERWISE
WPJ	WEAKENED PLANE JOINT
FF	FIRST FLUSH DEVICE
TYP	TYPICAL
BM	BENCH MARK

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 SUBGRADE.

SUPPORT ALL AUTHORITY SERVICES TO STRUCTURAL ENGINEERS DETAILS DURING EXCAVATION.

REINSTATE FOOTPATH SUBGRADE.

THE CONTRACTOR SHALL PROVIDE CERTIFICATION OF COMPACTION FROM A NATA REGISTERED TESTING AUTHORITY. MINIMUM THREE TESTS PER LAYER AS FOLLOWS:

SELECT FILL	95% MODIFIED
SELECT FILL (LESS THAN 300mm BELOW BASE COURSE)	98% MODIFIED
BASE COURSE	100% MODIFIED

EROSION & SEDIMENT CONTROL NOTES:

PROVIDE SILT FENCE/HAY BAIL BARRIERS TO THE LOW SIDE OF ALL EXPOSED EARTH EXCAVATIONS (TYPICAL).

ISOLATE EXISTING STORMWATER PITS WITH HAY BALES TO FILTER ALL INCOMING FLOWS.

DO NOT STOCK PILE EXCAVATED MATERIAL ON THE ROAD WAY.

SURVEY

THE EXISTING SITE CONDITIONS SHOWN ON THE FOLLOWING DRAWINGS HAVE BEEN INVESTIGATED BY C&A SURVEYORS NSW P/L, BEING REGISTERED SURVEYORS. THE INFORMATION IS SHOWN TO PROVIDE A BASIS FOR DESIGN. CAPITAL ENGINEERING CONSULTANTS DOES NOT GUARANTEE THE ACCURACY OR COMPLETENESS OF THE SURVEY BASE OR ITS SUITABILITY AS A BASIS FOR CONSTRUCTION DRAW.

SHOULD DISCREPANCIES BE ENCOUNTERED DURING CONSTRUCTION BETWEEN THE SURVEY DATA AND ACTUAL FIELD DATA, CONTACT CAPITAL ENGINEERING CONSULTANTS.

ADOPT DATUM SSM 52524 RL:103.088 (A.H.D) AS PER C&A SURVEYORS NSW P/L.

IT IS THE BUILDERS RESPONSIBILITY TO MAKE SURE ALL SURVEY MARKS TO BE PRESERVED AT ALL COST.

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DEVELOPMENT APPLICATION (DA)

FOR APPROVAL

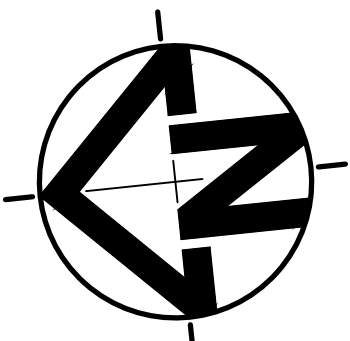
Rev.	Description	By.	Chk.	App.	Date
A	FOR APPROVAL	J.M.	J.D.	P.E.	03/02/2020



Client
TONY NASSIF

Project
26 RALSTON ROAD, PALM BEACH

Title
COVER SHEET



Date
03/02/2020

Scale
1:100 @ A1
(original size)

1:200 @ A3

Design
J.M.

Drawn
J.M.

Checked
J.D.

Project Number
SW19162

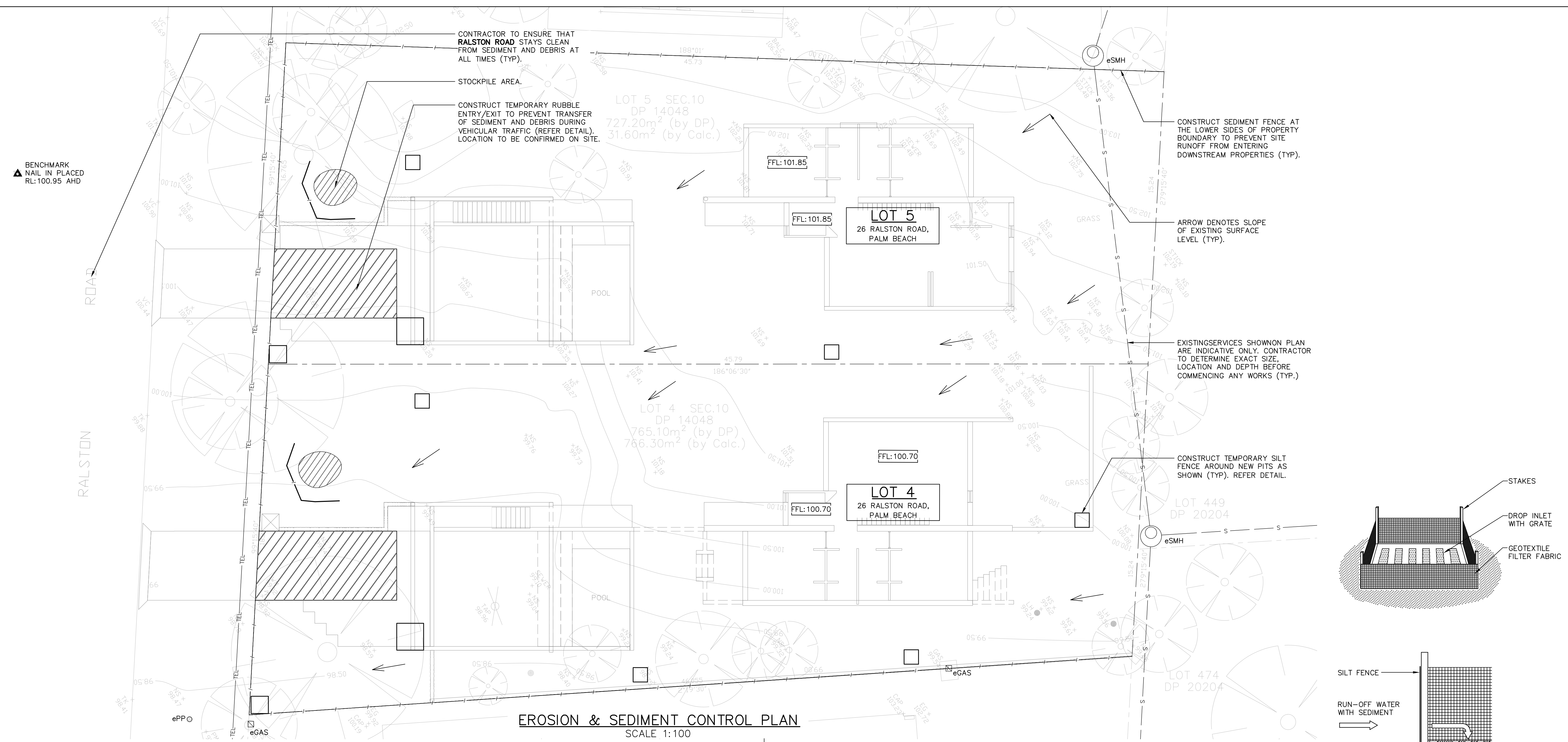
Approved

P.E.

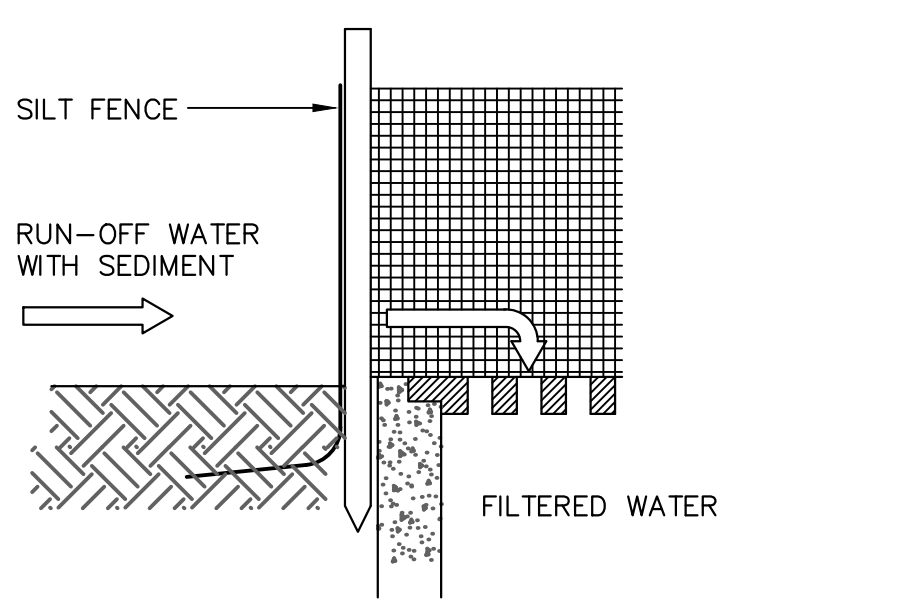
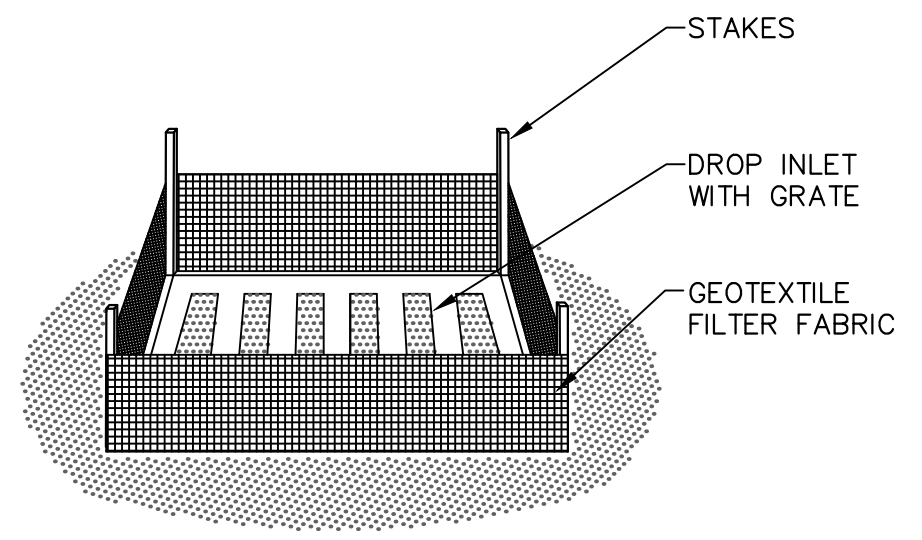
PAUL EL-BAYEH
B.E., M.E.(struct/foundation), M.I.E. Aust

Drawing Number
SWDP01

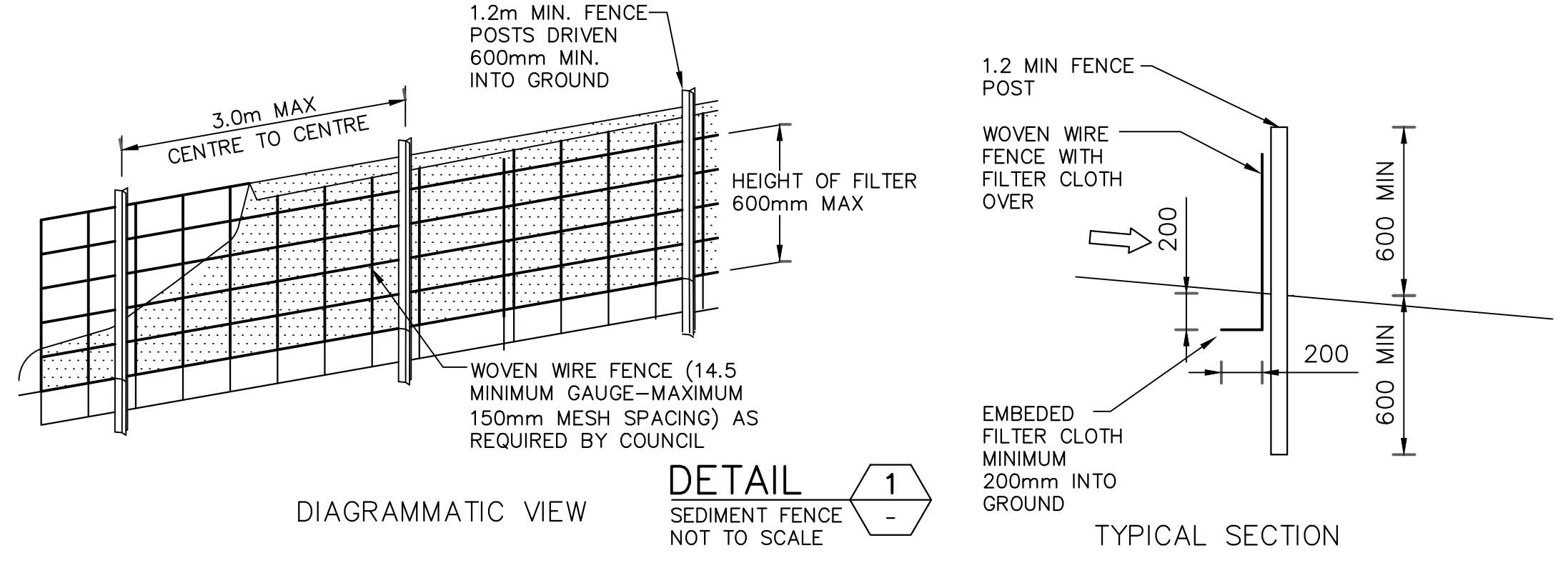
Revision
A



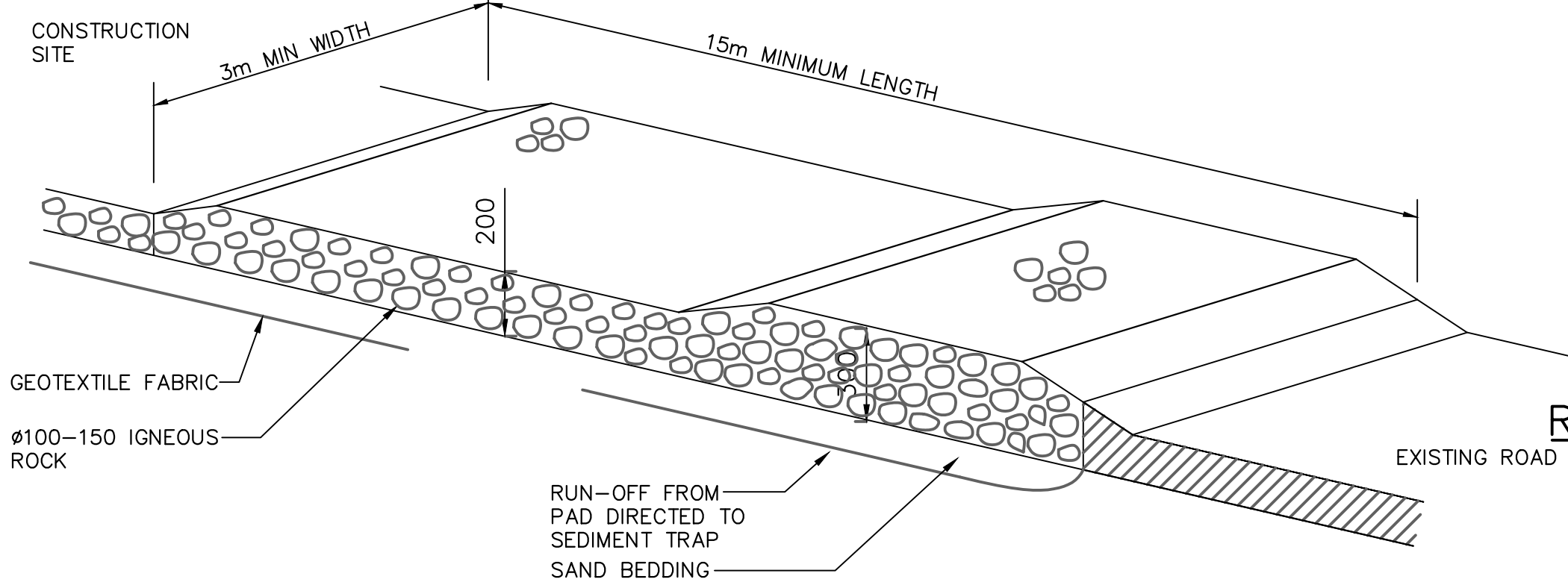
EROSION & SEDIMENT CONTROL PLAN
SCALE 1:100



DETAIL 3
SUMP SEDIMENT TRAP
NOT TO SCALE



DETAIL 1
SEDIMENT FENCE
NOT TO SCALE



RUBBLE ALTERNATIVE

DETAIL 2
TEMPORARY
CONSTRUCTION EXIT
NOT TO SCALE

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DEVELOPMENT APPLICATION (DA)

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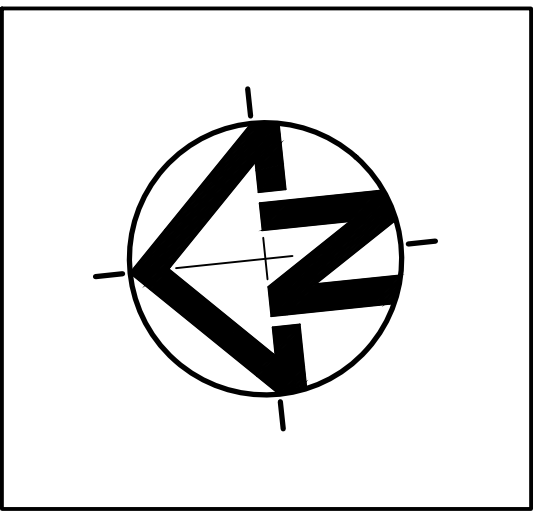
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capital engineering consultants

Shop 4 / 459-463 Church Street,
Parramatta
Ph: (02) 9630 0121
Fax: (02) 9630 0132
info@capitalengineering.com.au
www.capitalengineering.com.au

Client
TONY NASSIF

Project
26 RALSTON ROAD, PALM BEACH

Title
**EROSION & SEDIMENT
CONTROL PLAN**



Date
03/02/2020

Scale
**1:100 @ A1
(original size)**
1:200 @ A3

Design
J.M.

Drawn
J.M.

Checked
J.D.

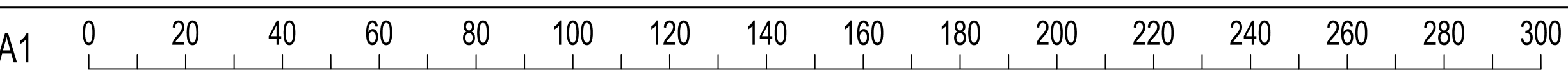
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Approved
P.E.

PAUL EL-BAYEH
B.E., M.E. (struct/foundation), M.I.E. Aust

Drawing Number
SWDP02

Revision
A



STANDARD PUMP-OUT DESIGN NOTES:

THE PUMP OUT SYSTEM SHALL BE DESIGNED TO BE OPERATED IN THE FOLLOWING MANNER: -

I). THE PUMPS SHALL BE PROGRAMMED TO WORK ALTERNATELY TO ALLOW BOTH PUMPS TO HAVE AN EQUAL OPERATION LOAD AND PUMP LIFE.

II). A FLOAT SHALL BE PROVIDED TO ENSURE THAT THE MINIMUM REQUIRED WATER LEVEL IS MAINTAINED WITHIN THE SUMP AREA OF THE BELOW GROUND TANK. IN THIS REGARD THIS FLOAT WILL FUNCTION AS AN OFF SWITCH FOR THE PUMPS AT THE MINIMUM WATER LEVEL. THE SAME FLOAT SHALL BE SET TO TURN ONE OF THE PUMPS ON UPON THE WATER LEVEL IN THE TANK RISING TO APPROXIMATELY 300MM ABOVE THE MINIMUM WATER LEVEL. THE PUMP SHALL OPERATE UNTIL THE TANK IS DRAINED TO THE MINIMUM WATER LEVEL.

III). A SECOND FLOAT SHALL BE PROVIDED AT A HIGH LEVEL, WHICH IS APPROXIMATELY THE ROOF LEVEL OF THE BELOW GROUND TANK. THIS FLOAT SHALL START THE OTHER PUMP THAT IS NOT OPERATING AND ACTIVATE THE ALARM.

IV). AN ALARM SYSTEM SHALL BE PROVIDED WITH A FLASHING STROBELIGHT AND A PUMP FAILURE WARNING SIGN WHICH ARE TO BE LOCATED AT THE DRIVEWAY ENTRANCE TO THE BASEMENT LEVEL. THE ALARM SYSTEM SHALL BE PROVIDED WITH A BATTERY BACK-UP IN CASE OF POWER FAILURE.

V). A CONFINED SPACE DANGER SIGN SHALL BE PROVIDED AT ALL ACCESS POINTS TO THE PUMP OUT STORAGE TANK IN ACCORDANCE WITH THE UPPER PARRAMATTA RIVER CATCHMENT TRUST OSD HANDBOOK.

KEY NOTES:

INSTALL STEP IRONS FOR EASE OF ACCESS DURING MAINTENANCE OF PUMP OUT CONTROL PIT TO COUNCIL SATISFACTION.

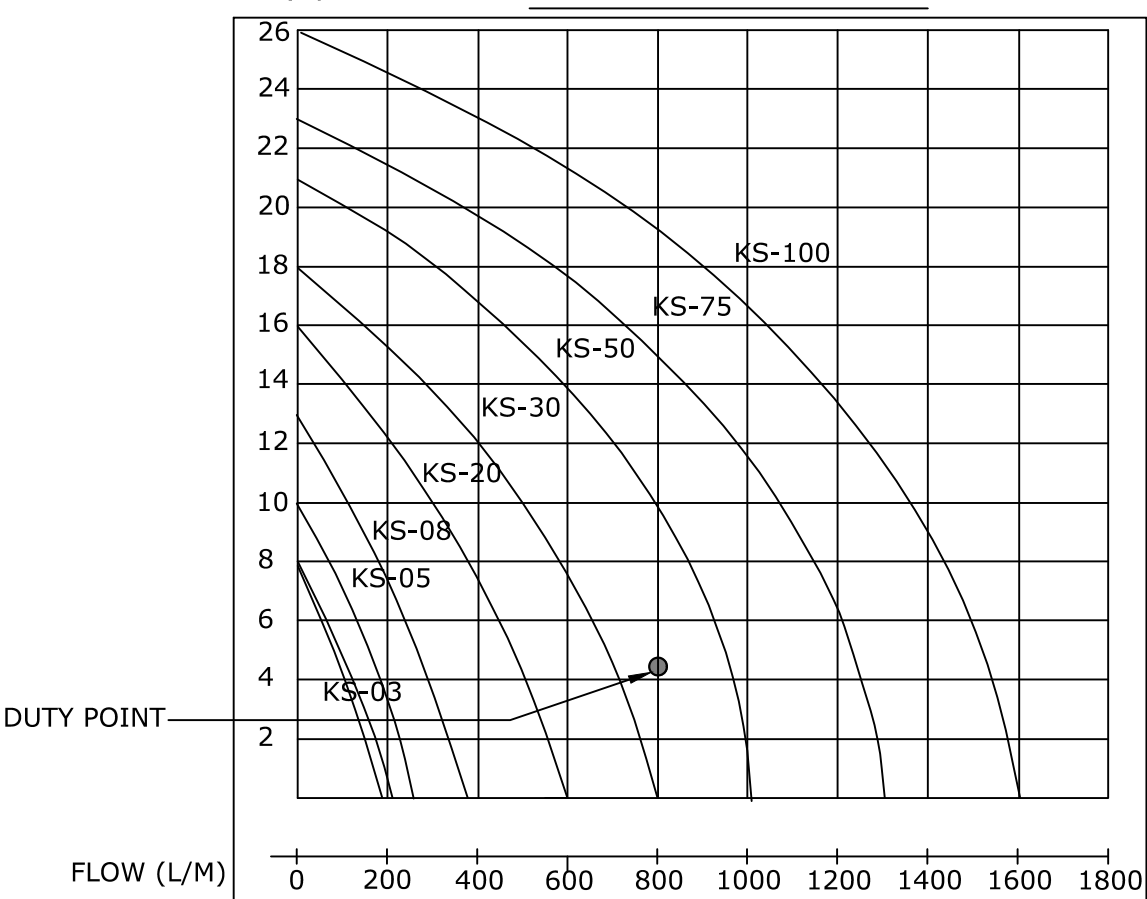
INSTALL CONFINED SPACE SIGN ABOVE PUMP OUT PIT FOR PUBLIC AWARENESS AND WARNING.

ALL STORMWATER PIPES ARE Ø100mm uPVC AND SLOPING @ 1.0% U.N.O (TYP.).

ALL BUILDING AND HYDRAULIC SERVICES TO BE PROPERLY CO-ORDINATED WITH STORMWATER PIPES AND ENSURE NO CLASHES ARE PRESENT DURING CONSTRUCTION (TYP.).

STORMWATER PIPE ARRANGEMENT TO BE CO-ORDINATED WITH STRUCTURAL SLAB AND BEAMS WHERE REQUIRED (TYP.).

PUMP PERFORMANCE CURVES



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DEVELOPMENT APPLICATION (DA)

FOR APPROVAL

Date
03/02/2020

Design
J.M.

Approved

P.E.

PAUL EL-BAYEH
B.E., M.E. (struct/foundation), M.I.E. Aust

Scale
1:100 @ A1
(original size)

Drawn
J.M.

Checked
J.D.

Project Number

SW19162

Drawing Number

SWDP03

Revision

A

1:200 @ A3

Type	Output		Outlet		Rated Head Capacity		Maximum Head Capacity		Weight	Dimension		
	HP	kW	mm	Inch	M	LPM	M	LPM		L(mm)	W(mm)	H(mm)
KS-03	1/3	0.25	40	1 1/2"	3	130	8	180	9	188	141	305
KS-04	1/2	0.4	50	2"	5	150	8	220	11	208	140	359
KS-05	1/2	0.4	50	2"	5	160	10	260	14	230	156	375
KS-08	1	0.75	50	2"	6	240	13	380	21	290	180	425
KS-20	2	1.5	80	3"	10	300	16	600	31	278	182	475
KS-30	3	2.2	80	3"	10	500	18	800	42	390	250	450
KS-50	5	3.7	100	4"	10	800	21	1100	48	450	240	530
KS-75	7 1/2	5.6	100	4"	15	800	23	1300	60	550	310	590
KS-100	10	7.5	150	6"	18	900	25	1600	70	550	310	610

PUMP TO BE USED
(IN ACCORDANCE WITH
AS/NZS 2500.3 A 10L/S
PUMP IS REQUIRED AT
MINIMUM)



Shop 4 / 459-463 Church Street,
Parramatta
Ph: (02) 9630 0121
Fax: (02) 9630 0132
info@capitalengineering.com.au
www.capitalengineering.com.au

Client

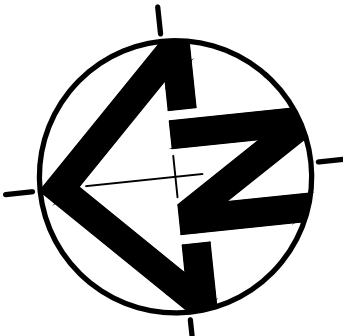
TONY NASSIF

Project

26 RALSTON ROAD, PALM BEACH

Title

BASEMENT PLAN
& DETAILS



Rev.	Description	By.	Chk.	App.	Date
A	FOR APPROVAL	J.M.	J.D.	P.E.	03/02/2020

DETAIL 4
SPOON DRAIN
SCALE 1:10

BASEMENT WALL

1% MIN BASE
FALL TO OUTLETS

BASEMENT
SLAB

BASEMENT PLAN
SCALE 1:100

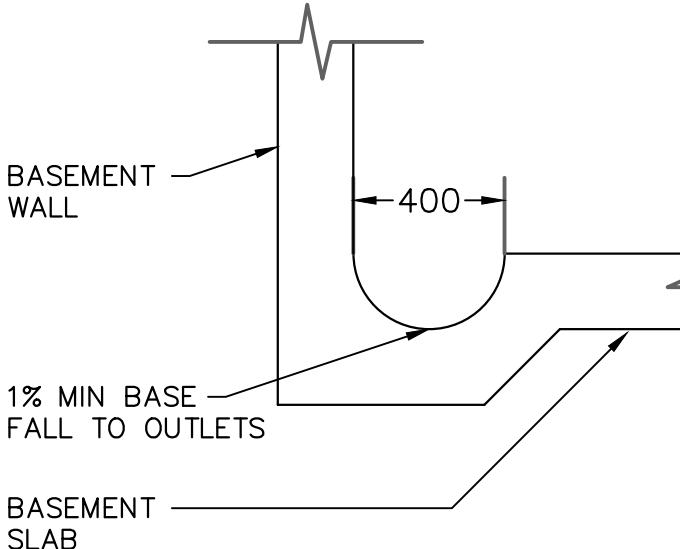
CONNECT 200X100X6MM HOT
DIPPED GALVANISED
RECTANGULAR HOLLOW SECTION
TO KERB AT INVERT LEVEL
SHOWN. PLUMBER TO MAKE
SMOOTH CONNECTION TO
COUNCIL SATISFACTION (TYP.).

BENCHMARK
▲ NAIL IN PLACED
RL: 100.95 AHD

BELOW GROUND OSD TANK - LOT 5	
RL:	100.00
IL:	99.22
HEIGHT:	0.50m
TWL:	99.80
AREA:	46.2m ²
VOLUME:	23.1m ³
PSD:	29.26L/s
ORIFICE Ø:	141mm
ORIFICE CL:	99.30
EMERG O/F:	99.90

PROPOSED 1.0m WIDE
INTER-ALLOTMENT DRAINAGE
EASEMENT FOR STORMWATER
PURPOSES (TYP.).

BELOW GROUND OSD TANK - LOT 4	
RL:	99.00
IL:	98.22
HEIGHT:	0.50m
TWL:	98.80
AREA:	46.2m ²
VOLUME:	23.1m ³
PSD:	30.65L/s
ORIFICE Ø:	144mm
ORIFICE CL:	98.30
EMERG O/F:	98.90



DESIGN NOTES:

THE SITE IS LOCATED IN NORTHERN BEACHES COUNCIL.

LOT 4 SITE AREA =766.30m²
LOT 5 SITE AREA =731.60m²

TOTAL IMPERVIOUS AREAS EXCEED 40% OF THE TOTAL SITE AREA. THERE FOR OSD STORAGE SYSTEM REQUIRED AS PER SECTION 2.1 OF THE WARRINGAH COUNCIL ON-SITE STORMWATER DETENTION TECHNICAL SPECIFICATION. (AUGUST 2012)

SSR: 200m³/ha.
PSD: 400L/s/ha.

THE OSD STORAGE SYSTEM TO BE BELOW GROUND AND LOCATED UNDER GARAGE AREA, AS SHOWN.

MINIMUM FREEBOARD OF 300mm HAS BEEN PROVIDED FOR HABITABLE FLOORS AND 150mm FOR NON HABITABLE FLOORS INCLUDING PATIOS.

MINIMUM 1% GRADE FOR OSD TANKS.

INSTALL STEP IRONS FOR PITS GREATER THAN 600mm DEEP.

INSTALL CLEAR OUT FOR INSPECTION AND MAINTENANCE PURPOSES.

ALL NEW DOWNPIPES AND STORMWATER PIPES SHOWN ON PLAN ARE Ø100mm uPVC U.N.O.

DOWNPIPE LOCATIONS ARE INDICATIVE AND TO BE CONFIRMED DURING CONSTRUCTION.

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

LOCATION RAINWATER TANK SHOWN ON PLAN IS INDICATIVE. TO BE CONFIRMED DURING CONSTRUCTION.

ALLOW FOR MINOR REGRADING OF FINISHED SURFACE TO ARCHIVE FALL TOWARDS GSIP (TYP).

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

ALL PROPOSED STORMWATER SERVICES TO BE CONSTRUCTED AT MINIMUM 0.6m CLEAR DISTANCE FORM EXISTING SEWER PIPE.

PROVIDE SUBSOIL DRAINAGE WITHIN LANDSCAPED AREAS, PLANTER BEDS & BEHIND RETAINING WALLS TO PREVENT LONG TERM SATURATION DURING PROLONGED WET WEATHER (TYP).

EXISTING SERVICES SHOWN ON PLAN ARE INDICATIVE ONLY. CONTRACTOR TO DETERMINE EXACT SIZE, LOCATION AND DEPTH BEFORE COMMENCING ANY WORKS (TYP).

CONSTRUCTION OVER EASEMENTS LOCATED ON SITE IS PROHIBITED. CONTRACTOR TO ENSURE THERE ARE NO OBSTRUCTIONS (TYP).

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DEVELOPMENT APPLICATION (DA)

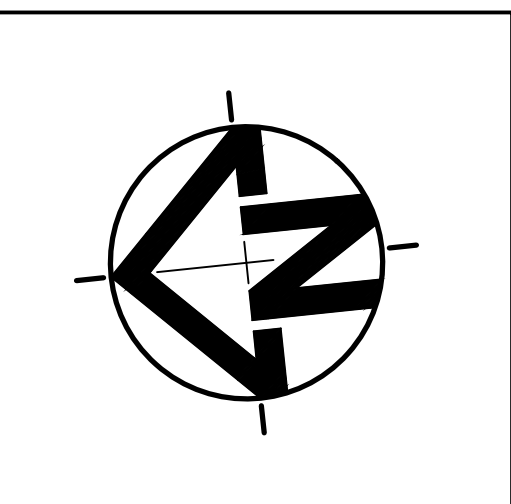
FOR APPROVAL

Rev.	Description	By.	Chk.	App.	Date
A	FOR APPROVAL	J.M.	J.D.	P.E.	03/02/2020



Client	TONY NASSIF
Project	26 RALSTON ROAD, PALM BEACH

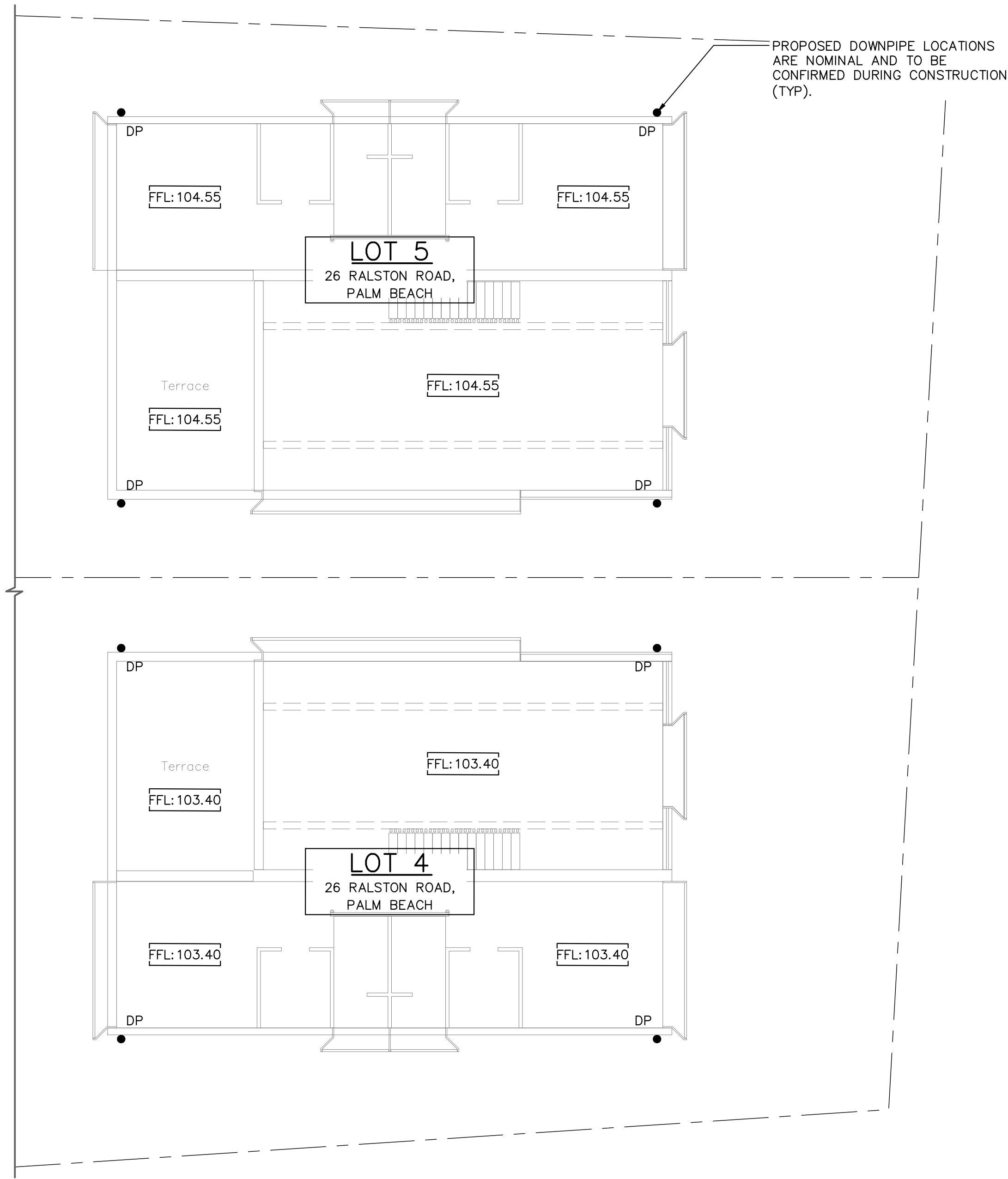
Title	SITE STORMWATER PLAN & DETAILS
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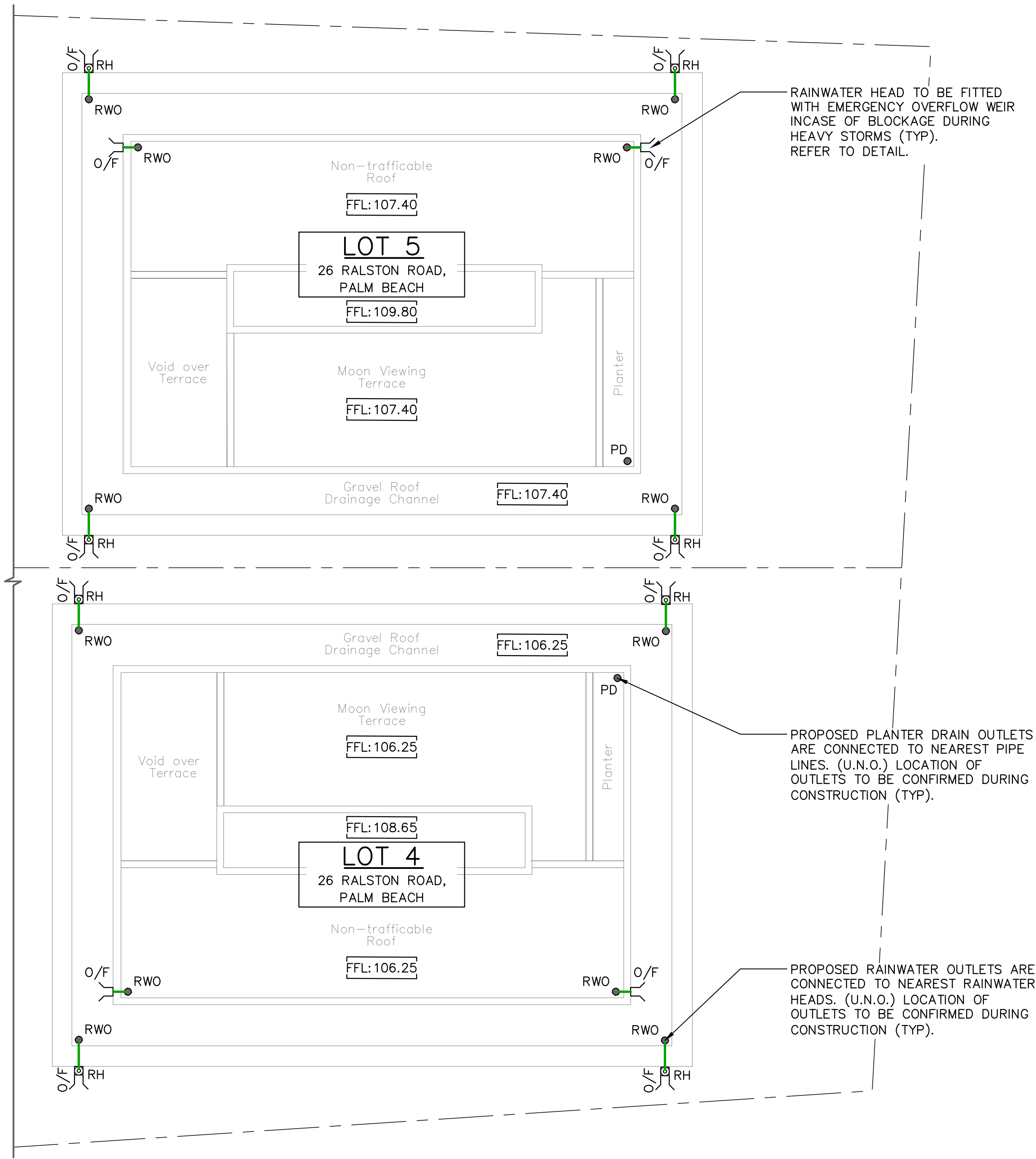
Date	03/02/2020
Scale	1:100 @ A1 (original size) 1:200 @ A3

Design	J.M.
Drawn	J.M.
Checked	J.D.
Project Number	SW19162

Approved	P.E.
PAUL EL-BAYEH B.E., M.E.(struct/foundation), M.I.E. Aust	
Drawing Number	SWDP04
Revision	A



FIRST FLOOR PLAN
SCALE 1:100



ROOF PLAN
SCALE 1:100

ROOF NOTES:

INSTALL 50mm uPVC SPITTER PIPES 20mm ABOVE SURFACE LEVEL FOR BALCONY AND CONCRETE ROOF AREAS TO ALLOW FOR EMERGENCY OVERFLOW INCASE OF BLOCKAGES DURING HEAVY STORMS. PLUMBER TO CONFIRM LOCATION DURING CONSTRUCTION.

ALL BUILDING AND HYDRAULIC SERVICES TO BE PROPERLY CO-ORDINATED WITH STORMWATER PIPES AND ENSURE NO CLASHES ARE PRESENT DURING CONSTRUCTION (TYP).

STORMWATER PIPE ARRANGEMENT TO BE CO-ORDINATED WITH STRUCTURAL SLAB AND BEAMS WHERE REQUIRED (TYP).

BALCONY, TERRACE & CONCRETE ROOF AREAS TO SLOPE TOWARDS RAINWATER OUTLETS WHERE REQUIRED (TYP).

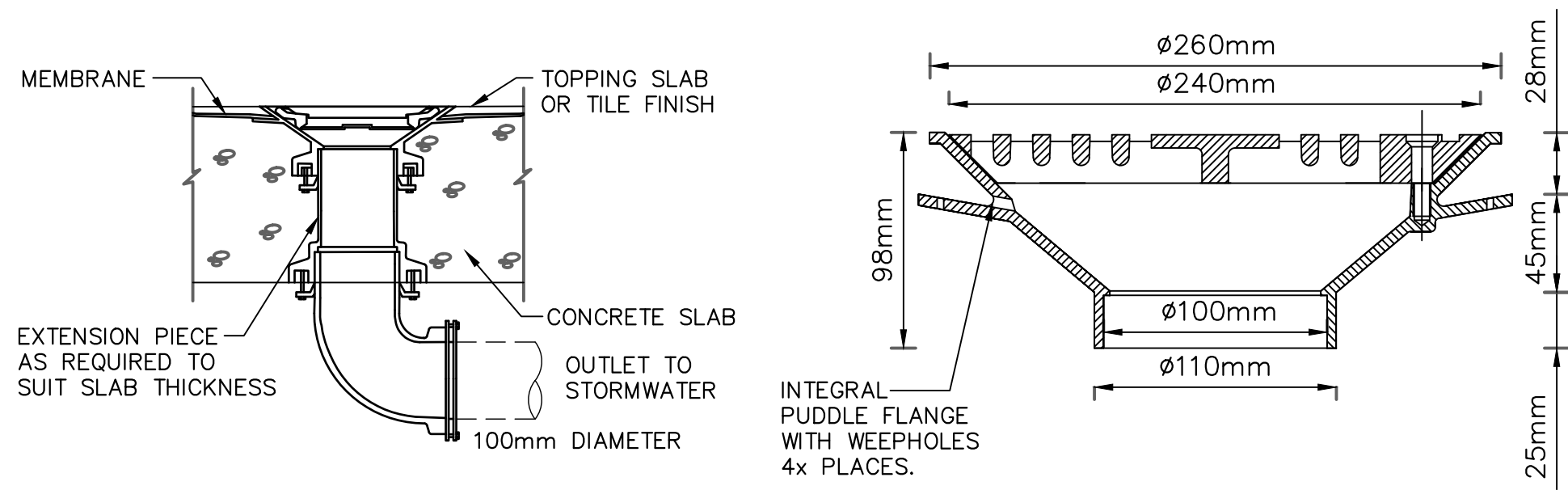
ARROW DENOTES THE SLOPE OF FINISHED SURFACE LEVEL (TYP).

DOWNPipes SHOWN ON PLAN ARE TO BE Ø100mm uPVC U.N.O. (TYP).

PROPOSED DOWNPIPE LOCATIONS ARE NOMINAL AND TO BE CONFIRMED DURING CONSTRUCTION (TYP).

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

PROVIDE SURFACE DRAINAGE FOR ALL CONCRETE AND BALCONY ROOF AREAS WHERE REQUIRED.



DETAIL
TYPE SPS
RAINWATER OUTLET
NOT TO SCALE

Rev.	Description	By.	Chk.	App.	Date
A	FOR APPROVAL	J.M.	J.D.	P.E.	03/02/2020

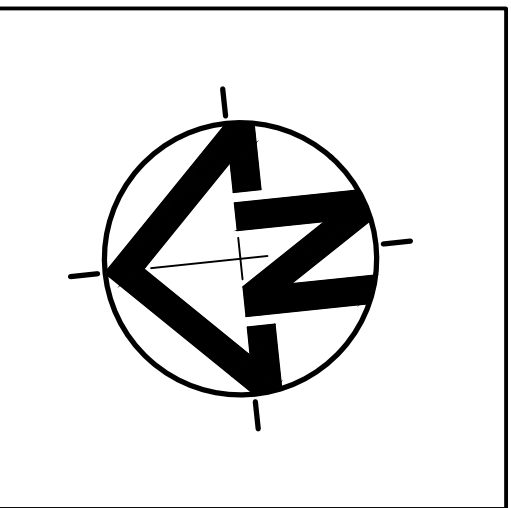
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info@capitalengineering.com.au
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Client
TONY NASSIF

Project
26 RALSTON ROAD, PALM BEACH

Title
**FIRST FLOOR, ROOF PLANS
& DETAILS**



Date
03/02/2020

Scale
**1:100 @ A1
(original size)**
1:200 @ A3

Design
J.M.

Drawn
J.M.

Checked
J.D.

Project Number
SW19162

Approved
P.E.
PAUL EL-BAYEH
B.E., M.E. (struct/foundation), M.I.E. Aust

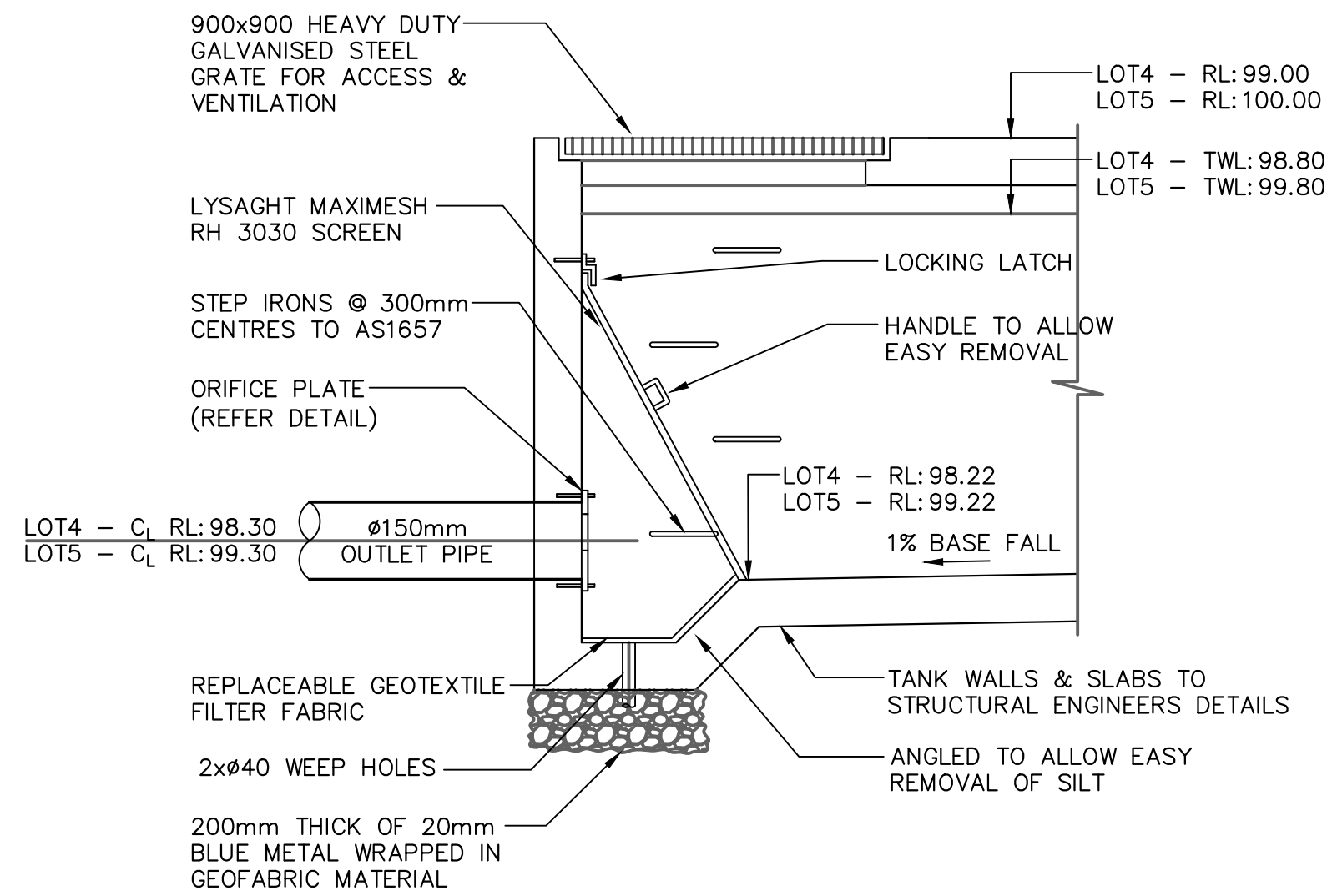
Drawing Number
SWDP05

Revision
A

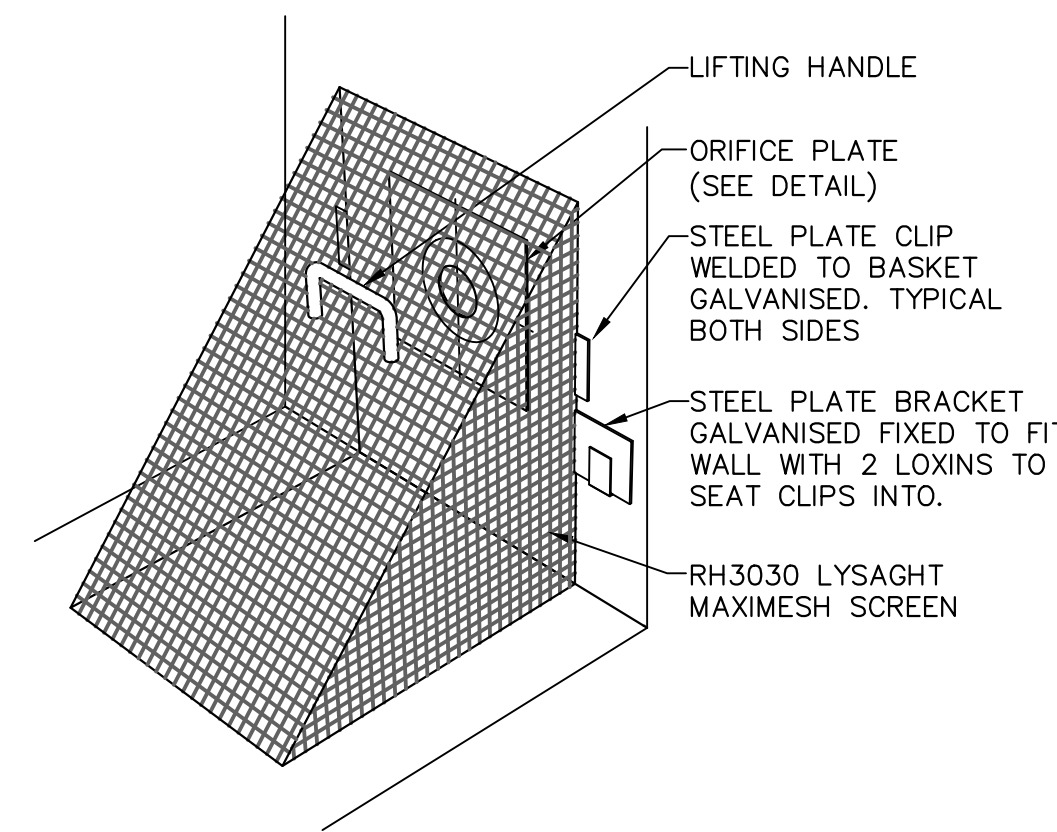
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DEVELOPMENT APPLICATION (DA)

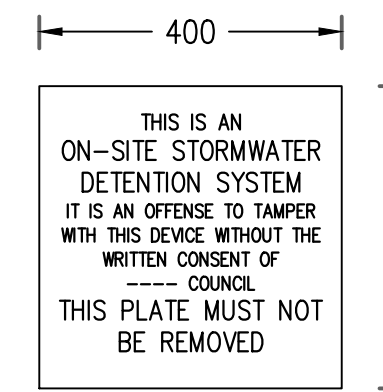
FOR APPROVAL



DETAIL A
DCP-OSD1
NOT TO SCALE



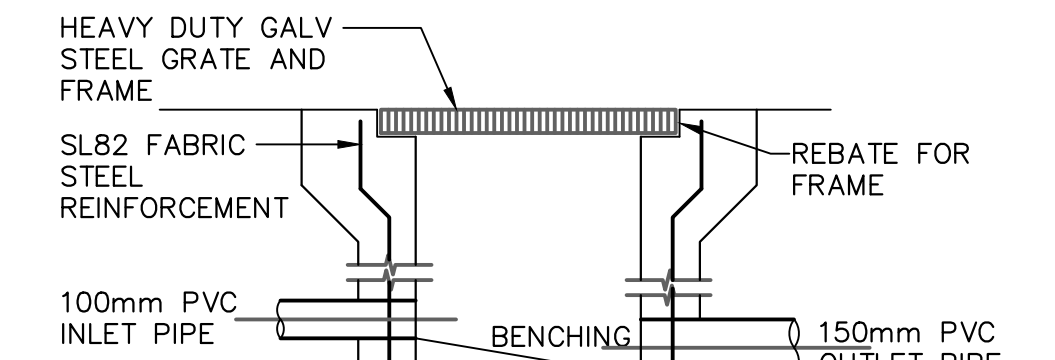
DETAIL 7
DEBRIS SCREEN
NOT TO SCALE



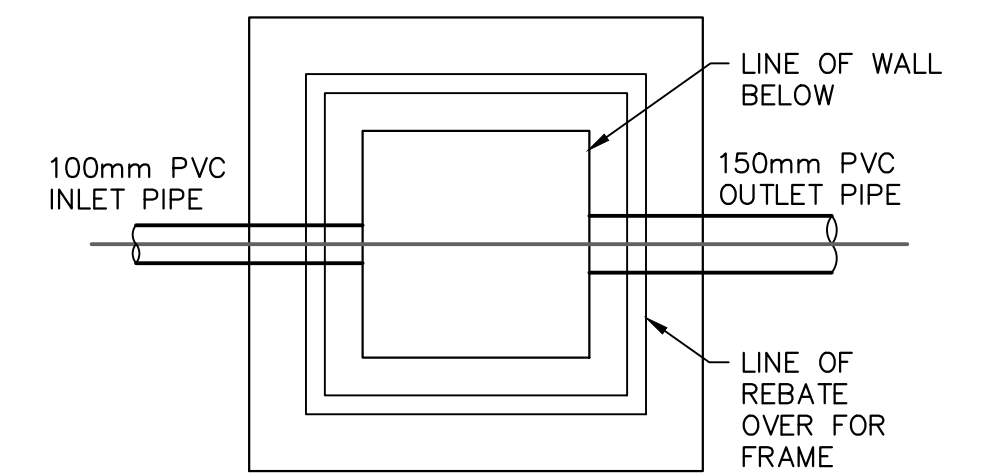
DETAIL 8
OSD SIGN
SCALE 1:10



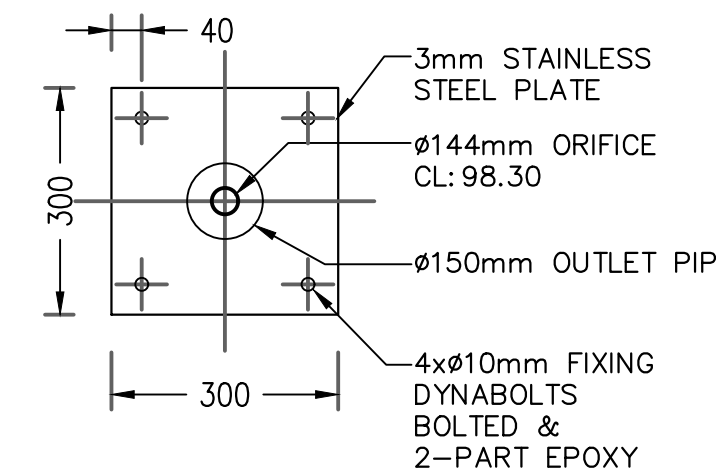
DETAIL 9
CONFINED SPACE SIGN
SCALE 1:10



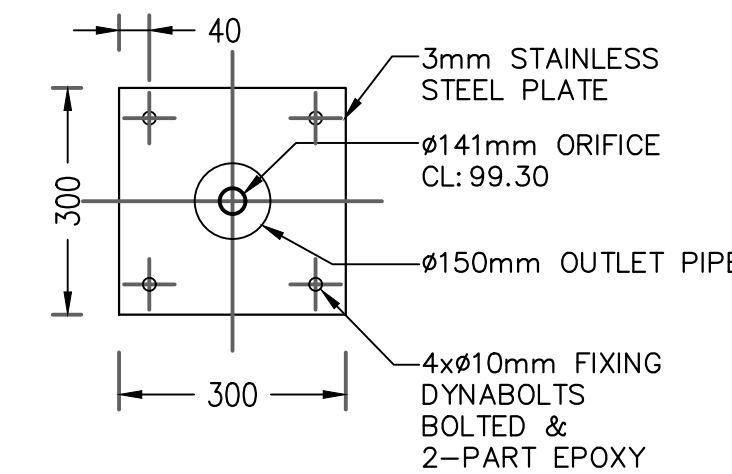
AS SHOWN ON PLAN
SECTION



PLAN WITHOUT GRATE

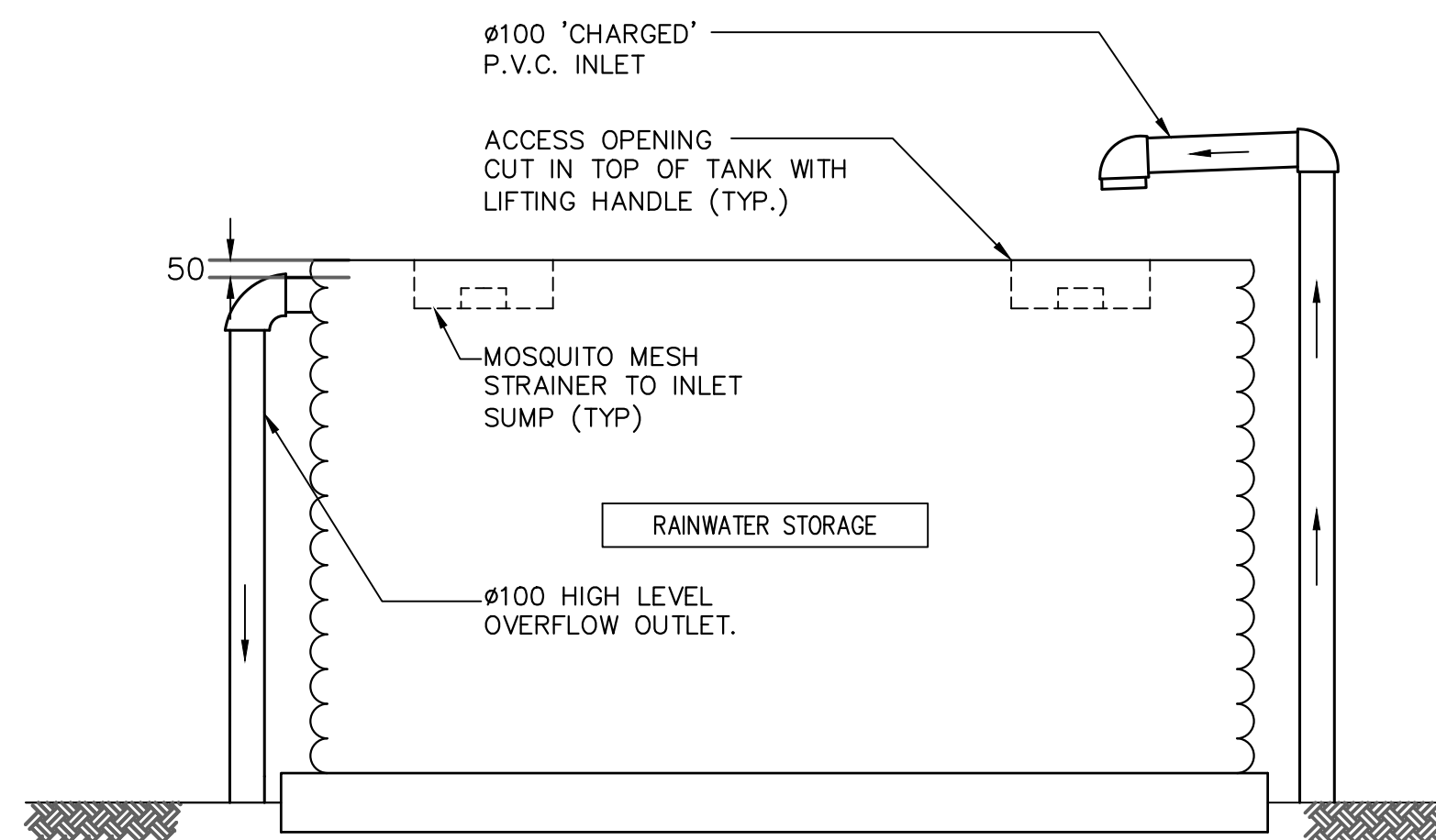


DETAIL 10
ORIFICE PLATE LOT 4
SCALE 1:20

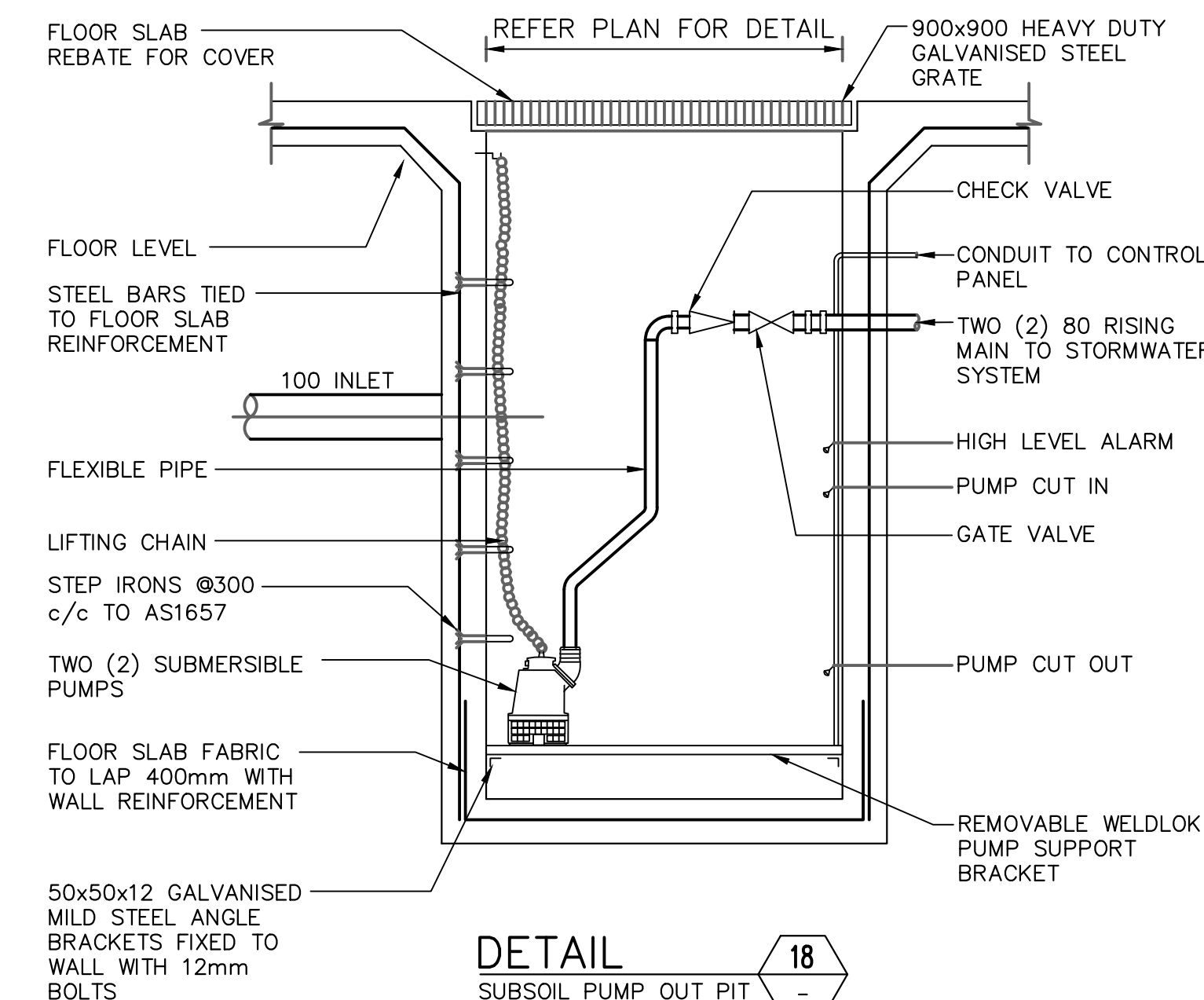
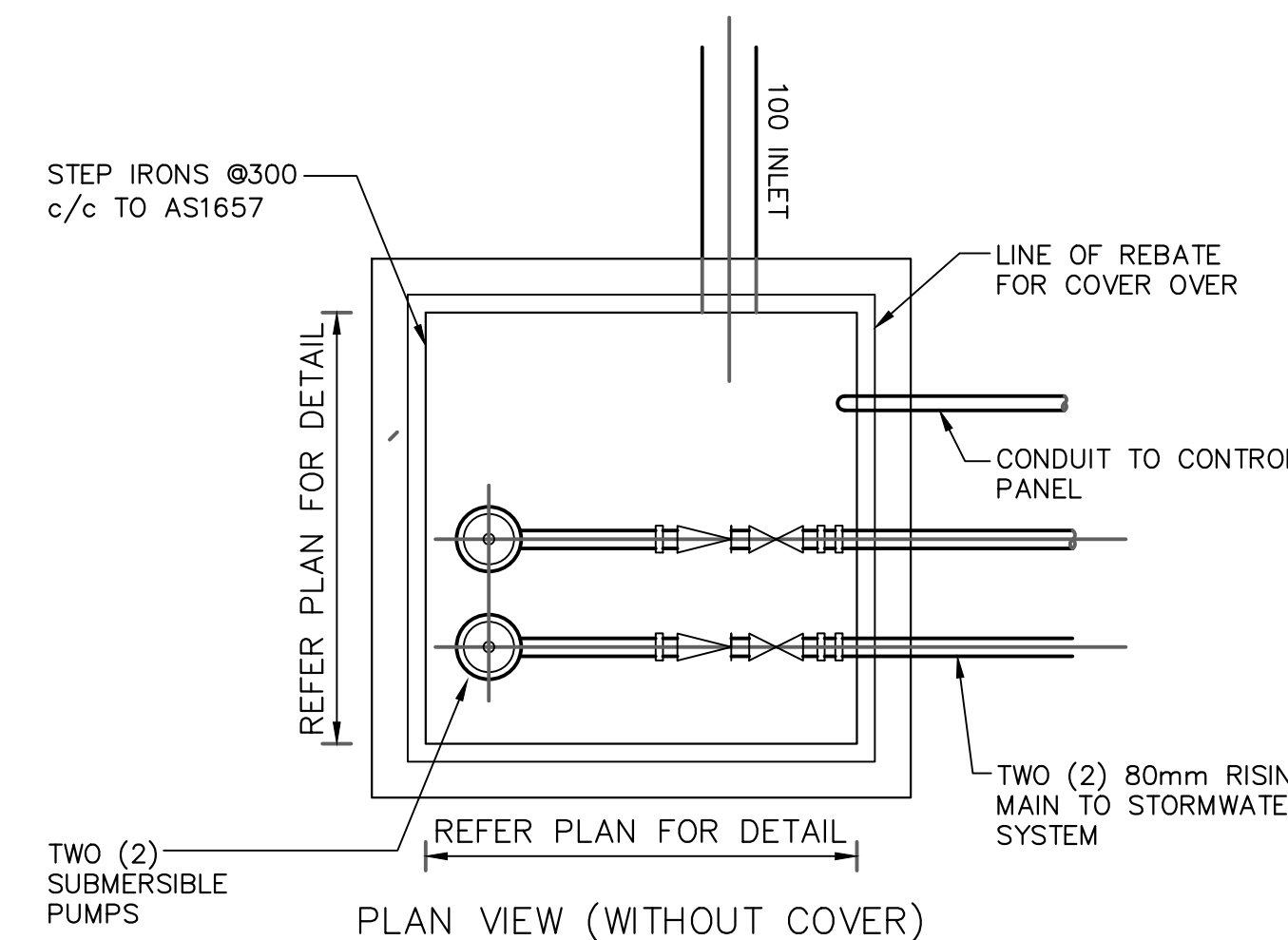


DETAIL 11
ORIFICE PLATE LOT 5
SCALE 1:20

DETAIL 12
STORMWATER PIT
SCALE 1:20



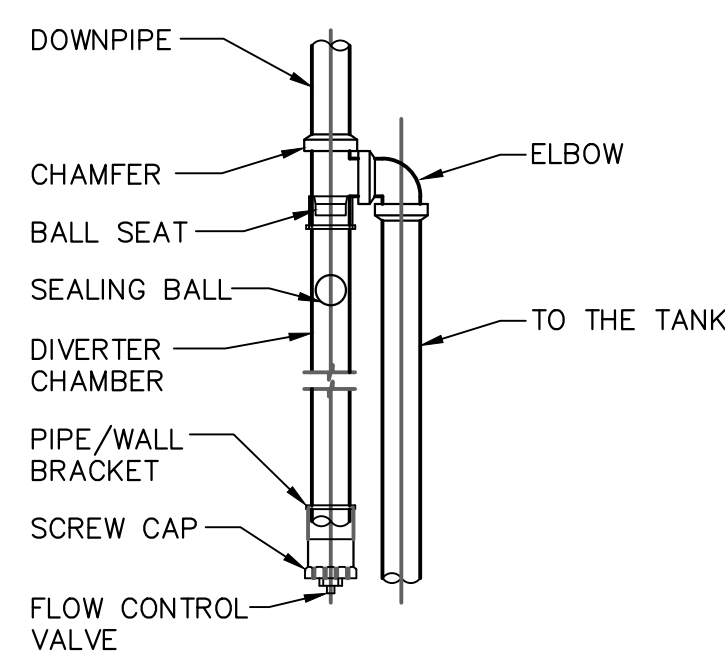
DETAIL 13
TYPICAL ABOVE GROUND RAINWATER TANK
NOT TO SCALE



DETAIL 18
SUBSOIL PUMP OUT PIT
SCALE 1:20

Orifice Plate Lot4 = 21.9xSqrt.[PSD/Sqrt.(h)]			
PSD	=	30.65	L/s
Height	=	500.00	mm
Orifice	=	144	mmØ

Orifice Plate Lot5 = 21.9xSqrt.[PSD/Sqrt.(h)]			
PSD	=	29.26	L/s
Height	=	500.00	mm
Orifice	=	141	mmØ

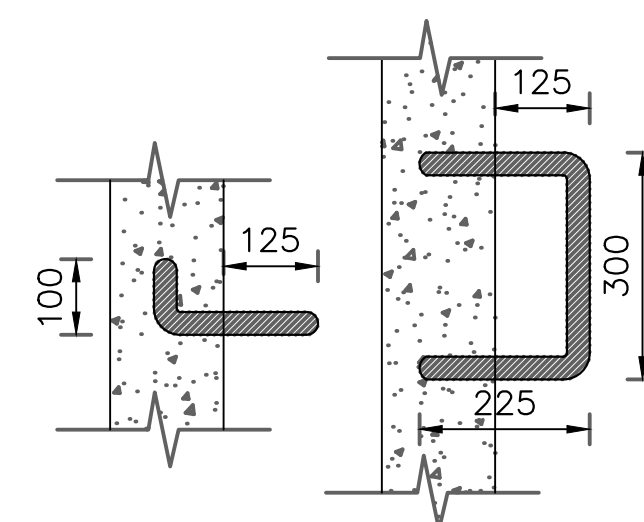


DETAIL 14
FIRST FLUSH DIVERTER
SCALE 1:20

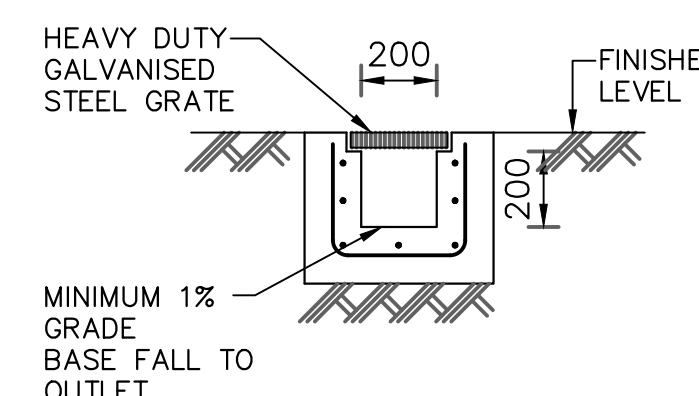


DETAIL 15
RAINWATER SIGN
SCALE 1:10

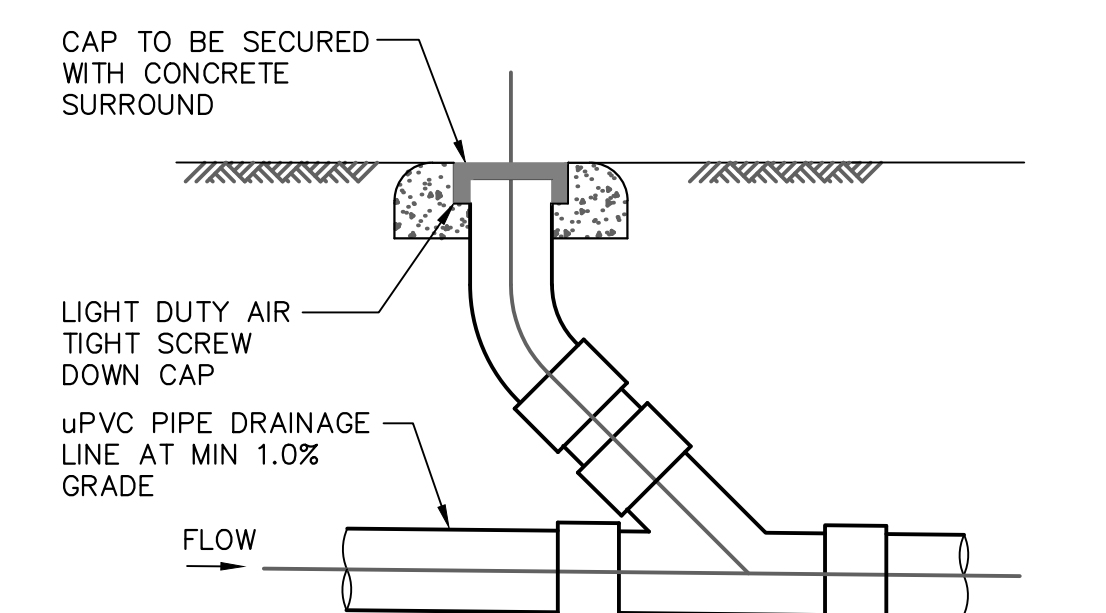
LEGEND:
BACKGROUND IS YELLOW
TEXT IS WHITE ON BLACK
BACKGROUND



DETAIL 16
STEP IRON
SCALE 1:10



DETAIL 17
GRATED TRENCH DRAIN
SCALE 1:20



DETAIL 19
CLEANING EYE
SCALE 1:20

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DEVELOPMENT APPLICATION (DA)

FOR APPROVAL

Rev.	Description	By.	Chk.	App.	Date
A	FOR APPROVAL	J.M.	J.D.	P.E.	03/02/2020

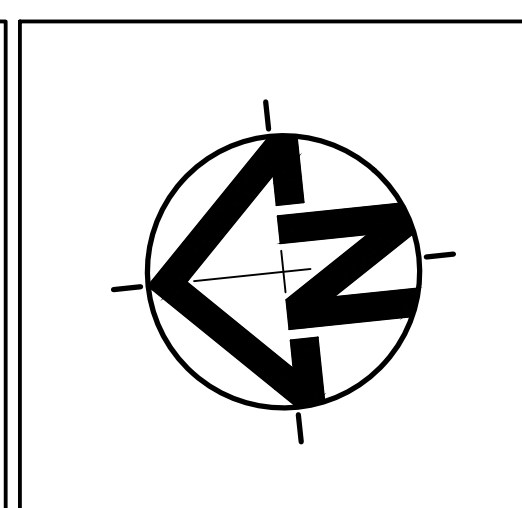
cec
capital engineering consultants

Shop 4 / 459-463 Church Street,
Parramatta
Ph: (02) 9630 0121
Fax: (02) 9630 0132
info@capitalengineering.com.au
www.capitalengineering.com.au

Client
TONY NASSIF

Project
26 RALSTON ROAD, PALM BEACH

Title
DETAILS SHEET



Date 03/02/2020	Design J.M.	Approved P.E.	
Scale 1:100 @ A1 (original size) 1:200 @ A3	Drawn J.M.	Checked J.D.	PAUL EL-BAYEH B.E., M.E. (struct/foundation), M.I.E. Aust
Project Number SW19162	Drawing Number SWDP06	Revision A	