STORMWATER MANAGEMENT PLAN
PROPOSED SENIORS LIVING DEVELOPMENT
No.37-43 HAY STREET, COLLAROY

GENERAL NOTES:

1. THESE PLANS REMAIN THE PROPERTY OF NY CIVIL ENGINEERING PTY LTD AND ARE SUBJECT TO COPYRIGHT
2. ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE STATED. ALL REDUCED LEVELS (SURFACE LEVELS, INVERT LEVELS) AND CHAINAGES ARE IN METERS UNLESS OTHERWISE STATED. DO NOT SCALE OFF THE DRAWINGS, SCALES ARE AS SHOWN, USE FIGURED DIMENSIONS.
3. THIS PLAN IS TO BE READ IN JUNCTION WITH LATEST ARCHITECTURAL, STRUCTURAL, UTILITY AND LANDSCAPE PLANS IN ADDITION TO ANY RELEVANT GEOTECHNICAL, SOIL CLASSIFICATION OR REF/ENVIRONMENTAL REPORTS. ENGINEER IS TO BE NOTIFIED OF ANY DISCREPANCIES QUOTED ON THIS PLAN.
4. ALL WORKS SHALL BE CARRIED OUT TO LOCAL COUNCIL'S DEVELOPMENT CONTROL PLAN AND SPECIFICATIONS, AS/NZS 3500.3 AND B.C.A.
5. ALL LEVELS SHALL RELATE TO THE ESTABLISHED BM, PM AND/OR LM. ALL EXISTING SERVICES ARE TO BE VERIFIED FOR LOCATION AND DEPTH PRIOR TO COMMENCEMENT OF ANY WORK. CONTRACTOR TO NOTIFY DESIGNER OF ANY DISCREPANCIES OF SERVICE LEVELS QUOTED ON THIS PLAN. ALL SURVEY INFORMATION, BUILDING AND FINISHED SURFACE LEVELS SHOWN IN THESE DRAWINGS ARE BASED ON LEVELS OBTAINED FROM DRAWINGS BY OTHERS.
6. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN ANY PRIOR APPROVAL REQUIRED FROM COUNCIL WITH RESPECT TO POTENTIAL IMPACT ON TREES FOR ANY WORKS SHOWN ON THIS DRAWING PRIOR TO THE COMMENCEMENT OF WORKS. NO TREES SHALL BE REMOVED WITHOUT THE WRITTEN PERMISSION OF COUNCIL.
7. THE CONTRACTOR SHALL TAKE ALL DUE CARE TO USE THE ABSOLUTE MINIMUM AREA FOR CONSTRUCTION AND THAT NO UNDUE DAMAGE IS DONE TO THE EXISTING VEGETATION.
8. THE CONTRACTOR SHALL COMPLY WITH CONDITIONS, AND SPECIFICATION OF COUNCIL AND ALL ACTS OF THE NSW EPA.
9. THE CONTRACTOR SHALL TAKE ALL REASONABLE CARE TO PROTECT EXISTING SERVICES. DAMAGED SERVICES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
10. ALL NEW WORK IS TO MAKE A SMOOTH JUNCTION WITH EXISTING WORK.
11. SUITABLE WARNING SIGNS AND BARRICADES ARE TO BE PROVIDED IN ACCORDANCE WITH THE AUSTRALIAN STANDARDS AND AS DIRECTED BY THE RELEVANT AUTHORITY.
12. SERVICES SHOWN ARE INDICATIVE ONLY FROM AVAILABLE INFORMATION AND THE TIME OF SITE INVESTIGATION (IF ANY). THE BUILDER IS TO NOTIFY ENGINEER OF ANY DISCREPANCIES QUOTED ON THIS PLAN.
13. RESTORE ALL TRAFFIC AREAS TO PRE EXISTING CONDITION. FOR ALL SURFACES OTHER THAN IN TRAFFIC AREAS RESTORE DISTURBED SURFACES TO PRE-EXISTING CONDITION AND COMPACT AS SPECIFIED.
14. RESTORE ALL AUTHORITY OWNED AREAS TO COUNCIL AND/OR AUTHORITY STANDARD AND SPECIFICATION.
15. THE WORK AS CONSTRUCTED WORKS SHALL BE INSPECTED BY THE ENGINEER, MINIMUM 48 HOURS NOTICE SHALL BE PROVIDED FOR ALL INSPECTION REQUESTS.
16. THE DESIGN PLANS HEREIN ARE SUBJECT TO COUNCIL APPROVAL PRIOR TO CONSTRUCTION.
17. WORK AS CONSTRUCTED DRAWINGS TO BE REQUESTED AND RECEIVED IN CAD/.DWG FILE TYPE AND HARD COPY 'RED LINE' MARKUP FROM CONSTRUCTOR FOR VERIFICATION AND CERTIFICATION.

ROOF STORMWATER DRAINAGE NOTES:

1. ALL DOWN PIPES TO BE MINIMUM DN90 OR 100x50MM FOR GUTTERS SLOPE 1:500 AND STEEPER AS PER AS 3500.3 - 3.7.8
2. ALL ROOF GUTTERS TO HAVE OVERFLOW PROVISION IN ACCORDANCE WITH AS 3500.3 AND SECTIONS 3.5.3, 3.7.5 AND APPENDIX G OF AS 3500.3.
3. ALL DOWNPIPES TO BE FITTED VERTICALLY TO THE SOLE OF EAVES GUTTERS, RAINHEAD AND/OR SUMP.
4. ALL DOWNPIPES TO DRAIN INTO RAINWATER TANK AND OR PIT PRIOR TO DISCHARGE OFFSITE UNLESS PRIOR APPROVAL IS OBTAINED FROM COUNCIL IN WRITING OR NOTED OTHERWISE ON THIS PLAN.
5. ALL EAVES GUTTERS TO BE SIZED FOR ARI 20 - AS PER AS 3500.3 - 3.5 AND APPENDIX H.
6. ROOF DRAINAGE INSTALLATION TO BE IN ACCORDANCE TO AS 3500.3 SECTION 4.

STORMWATER DRAINAGE NOTES:

PIPE SIZE:

1. THE MINIMUM PIPE SIZE SHALL BE:
   - 1.1. DN90 FOR ALL DOWNPIPES;
   - 1.2. DN100 WHERE THE LINE ONLY RECEIVES ROOF STORMWATER RUNOFF, OR;
   - 1.3. DN100 WHERE THE LINE RECEIVES RUNOFF FROM PAVED OR UNPAVED AREAS.

PIPE GRADE:

1. THE MINIMUM PIPE GRADE SHALL BE:
   - 1.1. FOR DN100 - DN150 - 1.00%
   - 1.2. FOR DN225 - 0.50%
   - 1.3. FOR DN300 - 0.45%
   - 1.4. FOR DN375 - 0.35%

STANDARD COVER:

1. MINIMUM PIPE COVER FOR PVC PIPES SHALL BE AS PER AS 3500.3 TABLE 6.2.5:
   - 1.1. NOT SUBJECT TO VEHICULAR LOADING:
     - 1.1.1. WITHOUT PAVEMENT SINGLE DWELLINGS - 100mm
     - 1.1.2. WITHOUT PAVEMENT OTHER THAN SINGLE DWELLINGS - 300mm
     - 1.1.3. WITH PAVEMENT (BRICK/PAVERS) AND/OR UNREINFORCED CONCRETE - 100mm
   - 1.2. SUBJECT TO VEHICULAR LOADING:
     - 1.2.1. ROADS (SEALED) - 600mm
     - 1.2.2. ROADS (UNSEALED) - 750mm
     - 1.2.3. OTHER THAN ROADS (WITH PAVEMENT) - 100mm
     - 1.2.4. OTHER THAN ROADS (WITHOUT PAVEMENT) - 450mm

PIPE INSTALLATION

1. PIPES AND FITTINGS FOR STORMWATER DRAINAGE SHALL BE AS FOLLOWS:
   - 1.1. FOR PIPE SIZES UP TO DN225 - PVC WITH SOLVENT WELDED JOINTS (IN GROUND).
   - 1.2. FOR PIPE SIZES GREATER THAN DN225 - RCP WITH RUBBER RING JOINTS.
   - 1.3. FOR LARGER PIPE DEPTHS AS SPECIFIED IN AS 3500.3 - RCP WITH RUBBER RING JOINTS.
   - 1.4. FOR PIPES AND FITTINGS FOR SUBSOIL DRAINAGE SHALL BE SLOTTED PVS WITH SOLVENT WELDED JOINTS MINIMUM DN150.
2. FOR GRATED DRAINS SHALL BE MINIMUM DN150 IN NON-TRAFFICABLE ZONES AND DN225 IN TRAFFICABLE ZONES.
3. LAY AND JOINT ALL PIPES IN ACCORDANCE WITH THE MANUFACTURING RECOMMENDATIONS AND:
   - 3.1. AS 3725-1989 - LOADS ON BURIED CONCRETE PIPES
   - 3.2. AS 2566 - 1988 - BURIED FLEXIBLE PIPELINES
   - 3.3. AS 1597.2 - 1996 - PRECAST REINFORCED CONCRETE BOX CULVERTS
   - 3.4. AS 3500 - 1990 NATIONAL PLUMBING AND DRAINAGE CODE - PART 2 SANITARY PLUMBING AND SANITARY DRAINAGE - SYDNEY WATER REQUIREMENTS.
4. ALLOW TO TEST ALL PIPES AND PITS TO MANUFACTURERS REQUIREMENTS.

CONNECTIONS TO STORMWATER SYSTEMS UNDER BUILDINGS:

IN ACCORDANCE WITH AS 3500.3 SECTION 9.2

CONNECTIONS TO COUNCIL STORMWATER SYSTEMS:

CONNECTION TO COUNCIL STORMWATER SYSTEM TO BE IN ACCORDANCE TO LOCAL COUNCIL DCP AND STANDARDS. NO CONNECTIONS TO BE MADE UNTIL PROPER PERMIT/APPROVALS ARE OBTAINED FROM LOCAL COUNCIL IN WRITING.

WARNING:

EXISTING SERVICES SHOWN ON THESE PLANS ARE NOT GUARANTEED COMPLETE OR CORRECT AND FURTHER INFORMATION IS REQUIRED FROM THE RELEVANT AUTHORITY AND FIELD INVESTIGATION AND ARE TO BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

LEGEND

SURFACE INLET PIT		GRATED TRENCH DRAIN	
SURFACE INLET PIT (WITH ENVIROPOD 200 MICRON)		ABSORPTION TRENCH	
ACCESS GRATE (WITH GROSS POLLUTANT TRAP)		PROPOSED ROOF GUTTER FALL	
450 SQUARE INTERVAL	450 X 450	PROPOSED DOWNPIPE SPREADER	SP
GRATE LEVEL = 75.50	SL 75.50	STORMWATER PIPE 100mm DIA. MIN. UNO	
INVERT LEVEL = RL 75.20	IL 75.20	SUBSOIL PIPE	a a
PROPOSED DOWNPIPE 90mm DIA. OR 100mm x 50mm MIN.	DP 90	EXISTING STORMWATER PIPE	SW
NATURAL GROUND FINISHED DESIGN LEVEL	× 10.00	INSPECTION RISER	IR
PIPE FROM ABOVE		RAINWATER HEAD	RWH
SLAB PENETRATION		PIPE STRAPPED TO CEILING	
		65mm CAST IN PIPE	
		65mm CLASS 12 PRESSURE PIPE	

STORMWATER PIT/STRUCTURES NOTES:

PIT SIZES AND DEPTHS:

1. PIT SIZES WILL BE AS FOLLOWS:

DEPTH (mm)	MIN. PIT SIZE (mm)
UP TO 450	350x350
450 – 600	450x450
600 – 900	600x600
900 – 1200	600x900
1200+	900x900 (WITH STEP IRONS)

PIT DESIGNS:

1. TRENCH DRAINS: CONTINUOUS TRENCH DRAINS ARE TO BE MIN. DN150 AND MIN. 100mm DEPTH. THE BARS OF THE GRATE ARE TO BE PARALLEL TO THE DIRECTION OF SURFACE FLOW.
2. STEP IRONS: PITS BETWEEN 1.2m AND 6m ARE TO HAVE STEP IRONS IN ACCORDANCE WITH AS 1657. FOR PITS GREATER THAN 6m OTHER MEANS OF ACCESS MUST BE PROVIDED.
3. PLASTIC/PVC PITS: PVC PITS WILL ONLY BE PERMITTED IF THEY ARE MAX. 450x450 AND MAX. 450mm DEPTH AS WELL AS BEING HEAVY DUTY.
4. IN-SITU PITS: IN-SITU PITS ARE TO BE CONSTRUCTED ON A CONCRETE BED OF AT LEAST 150mm THICK. THE WALLS ARE TO BE DESIGNED TO MEET THE MINIMUM REQUIREMENTS OF CLAUSE 4.6.3 OF AS 3500.4. PITS DEEPER THAN 1.8m SHALL BE CONSTRUCTED WITH REINFORCED CONCRETE.
5. GRATES: GRATES ARE TO BE GALVANIZED STEEL GRID TYPE. GRATES ARE TO BE OF HEAVY-DUTY TYPE IN AREAS WHERE THEY MAY BE SUBJECT TO VEHICLE LOADING.

INSTALLATION NOTES:

1. ALL PIPES INTO PITS TO BE CUT FLUSH WITH PIT WALL.
2. ALL PITS THAT ARE INSTALLED AT GREATER THAN 600mm DEEP TO BE MIN. 600x600 PIT.
3. GRATED COVERS ON PITS GREATER THAN 600mm TO BE HINGED.
4. BASE OF PIT TO BE SAME LEVEL OF INVERT OF OUTLET.
5. OUTLET PIPE FROM ANY PIT TO BE 20mm LOWER THAN INLET PIPE/S

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MIEAust CPEng NER

0413 942 613
admin@nycivilengineering.com.au
www.nycivilengineering.com.au

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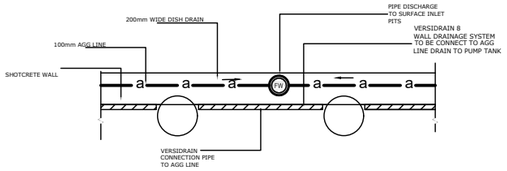
F	MR	UPDATED DRIVEWAY PLANS	22.03.2024
A	NZ	ISSUED FOR DA	27.06.2023
B	MR	OSD DESIGN UPDATED	05.09.2023
C	NZ	UPDATED ARCHITECTURAL PLANS	23.10.2023
D	MR	UPDATED ARCHITECTURAL PLANS	05.12.2023

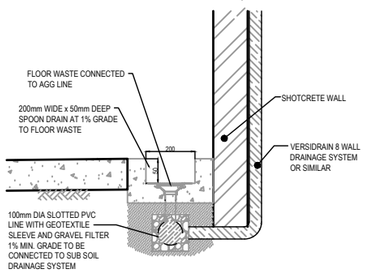
DRAWING TITLE: GENERAL NOTES

PROJECT TITLE: PROPOSED SENIORS LIVING DEVELOPMENT No.37-43 HAY STREET COLLAROY

SHEET SIZE	A3
DESIGNED	NZ
CHECKED	NZ
ISSUE	F
SCALE	1:200
JOB REFERENCE	E230197
DRAWING No.	D1
No. IN SET	13



PLAN - TYPICAL SHOTCRETE WALL DRAINAGE
NTS



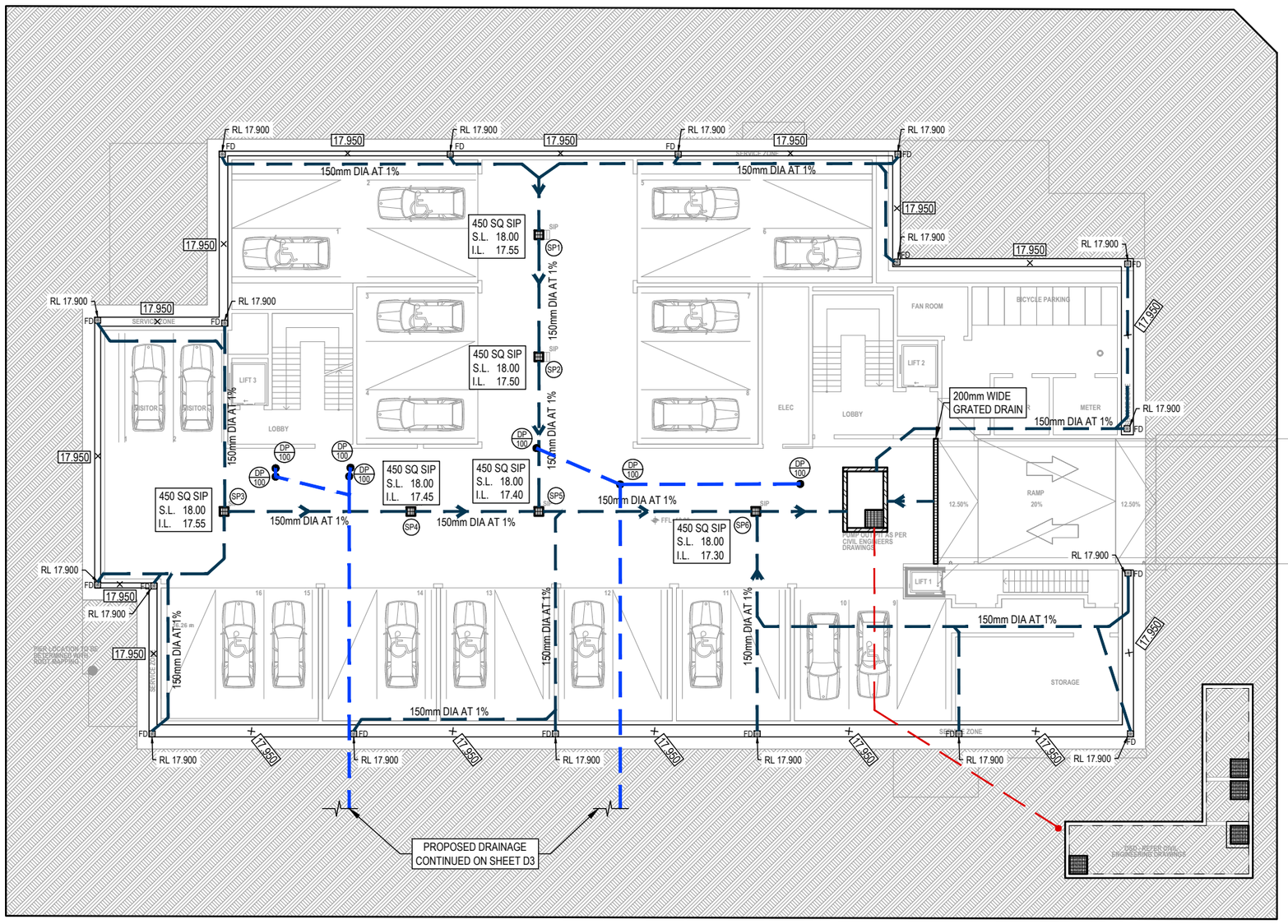
BASEMENT PILE WALL DETAIL

DRAINAGE PIPE LEGEND

- uPVC AREIAL PIPE IN CEILING AT 1%
- uPVC AREIAL PIPE CHARGED TO RWT
- IN GROUND GRAVITY DRAINAGE
- PIPE TO RAINWATER TANK
- DOWNPIPE FROM ABOVE FLOOR
- SLAB PENETRATION

NOTE: ALL ARIEAL PIPES TO BE 100mm DIA uPVC UNO

PLANS ARE FOR CONCEPT ONLY AND NOT FOR CONSTRUCTION



PUMP-OUT CALCULATIONS AS PER AS3500.3

PROPOSED RISING MAIN PIPE DIAMETER:
65mm DIA uPVC 'PRESSURE PIPE' CLASS "1Z"

HEAD LOSS

- STATIC = 3.00 m
- PIPE FRICTION = 0.5 m
- FITTINGS = 0.5 m
- TOTAL = 4.0 m

PUMP DUTY :
6 l/s AT 4.0 m HEAD

PUMP TYPE :
SUBMERSIBLE EQUAL TO DAVEY D150 2.2 kW, 240 V, OR EQUIVALENT.
USE TWO (2) x PUMPS TO OPERATE

ALTERNATIVELY
AS PER AS3500.3.

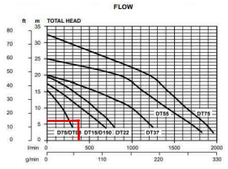
PUMP CONTROL:
AUTOMATIC WITH FLOAT SWITCHES

PUMP-OUT CALCULATIONS AS PER AS3500.3

- DESIGN STORM 10 ARI 2Hr (I = 31.8mm/hr)
- AREA TO PUMP APPROX 66m²
- MAX FLOW $\frac{0.0066Ha \times 273\ mm/hr}{360}$ = 5.0L/s
- DESIGN FLOW $\frac{0.0066Ha \times 31.8\ mm/hr}{360}$ = 0.6L/s
- ASSUMED SEEPAGE = 0.1L/s
- DESIGN VOLUME (0.6L/s + 0.1L/s) x 60s x 120min = 5,040L

THEREFORE PROVIDE MINIMUM 5.04m³ HOLDING TANK PUMP OUT PSD 10.0L/s (AS PER AS 3500.3)

PROVIDE DUAL PUMPS WITH MINIMUM DISCHARGE RATE OF 6 l/s EACH. REFER TO DETAIL



PUMP DESIGN

NY CIVIL ENGINEERING
NADER ZAKI
MIEAust CPEng NER
0413 942 613
admin@nycivilengineering.com.au
www.nycivilengineering.com.au

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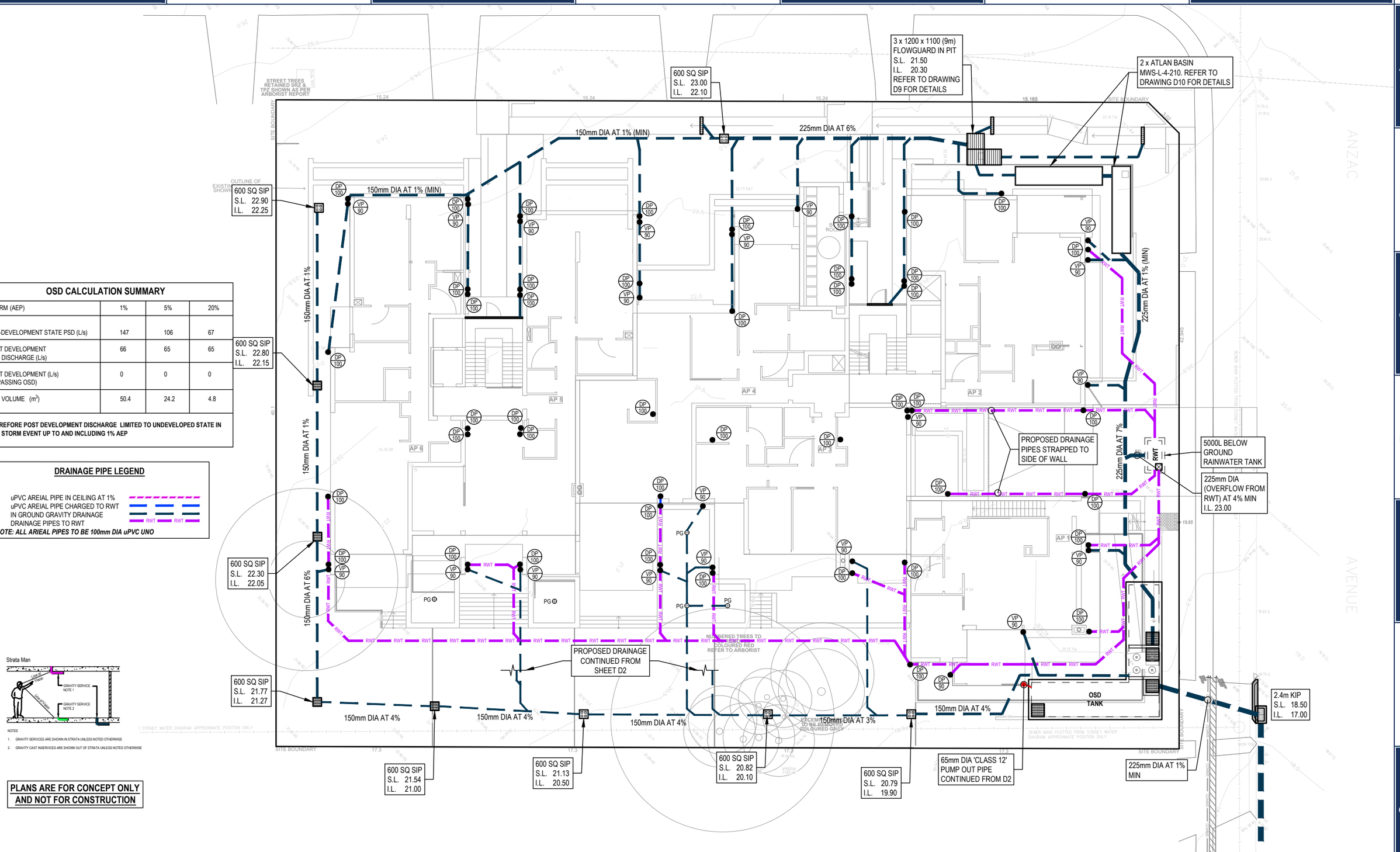
	C	NZ	UPDATED ARCHITECTURAL PLANS	23.10.2023
	D	MR	UPDATED ARCHITECTURAL PLANS	05.12.2023

DRAWING TITLE
BASEMENT PLAN

PROJECT TITLE
PROPOSED SENIORS LIVING DEVELOPMENT
No.37-43 HAY STREET
COLLAROY

SHEET SIZE	A3
DESIGNED	NZ
CHECKED	NZ
ISSUE	F
SCALE	1:200

JOB REFERENCE E230197
DRAWING No. D2
No. IN SET 13



OSD CALCULATION SUMMARY

STORM (AEP)	1%	5%	20%
PRE-DEVELOPMENT STATE PSD (L/s)	147	106	67
POST DEVELOPMENT OSD DISCHARGE (L/s)	66	65	65
POST DEVELOPMENT (L/s) (BYPASSING OSD)	0	0	0
OSD VOLUME (m^3)	50.4	24.2	4.8

THEREFORE POST DEVELOPMENT DISCHARGE LIMITED TO UNDEVELOPED STATE IN ANY STORM EVENT UP TO AND INCLUDING 1% AEP

DRAINAGE PIPE LEGEND

- uPVC AREIAL PIPE IN CEILING AT 1%
- uPVC AREIAL PIPE CHARGED TO RWT
- IN GROUND GRAVITY DRAINAGE
- DRAINAGE PIPES TO RWT

NOTE: ALL ARIEAL PIPES TO BE 100mm DIA uPVC UNO

Strata Man

NOTES

1. GRAVITY SERVICES ARE SHOWN IN STRATA UNLESS NOTED OTHERWISE
2. GRAVITY CAST INSERVICES ARE SHOWN OUT OF STRATA UNLESS NOTED OTHERWISE

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admin@nycivilengineering.com.au
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DRAWING TITLE

GROUND FLOOR PLAN

PROJECT TITLE

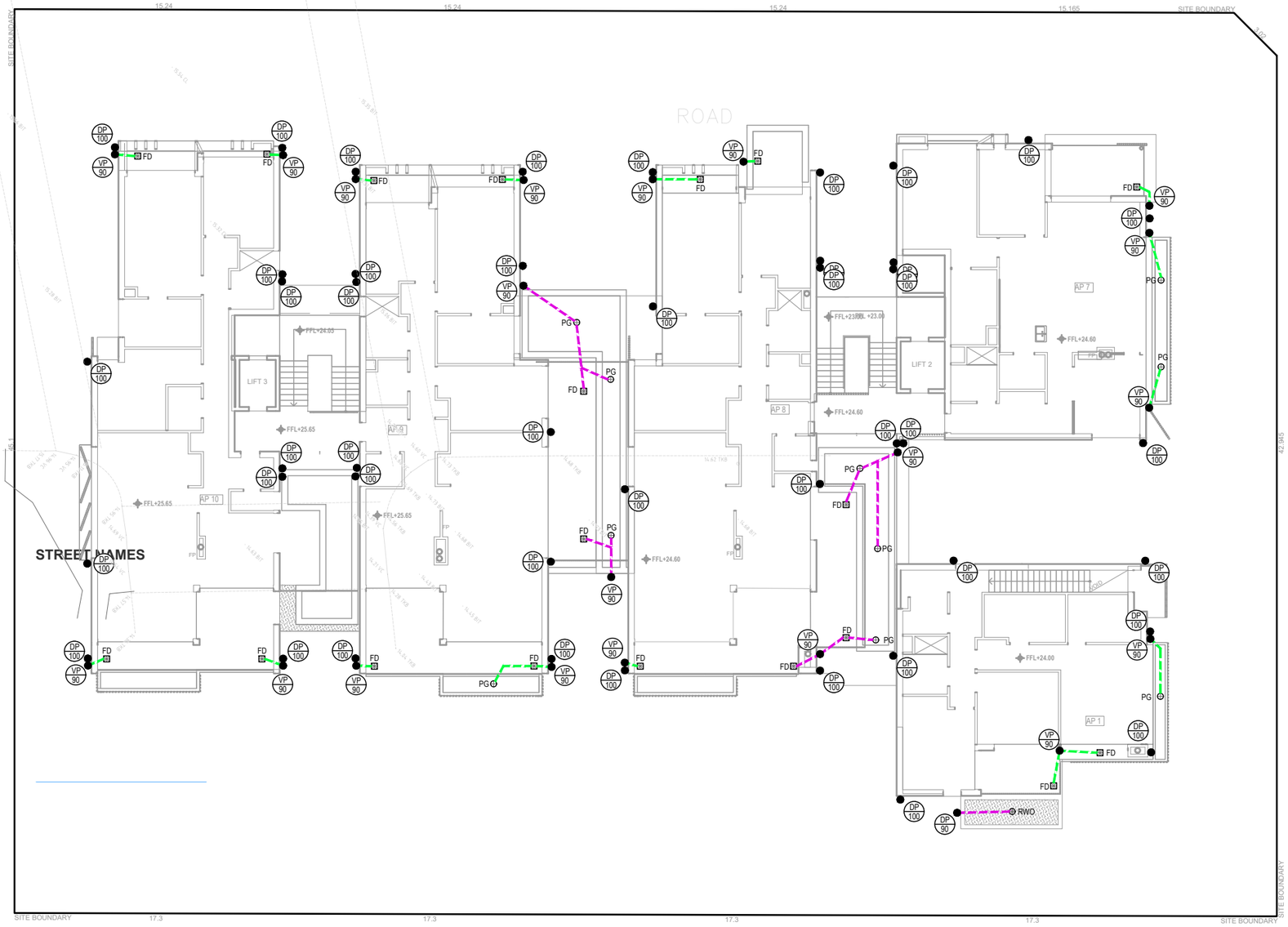
PROPOSED SENIORS LIVING DEVELOPMENT
No.37-43 HAY STREET
COLLAROY

SHEET SIZE	A3
DESIGNED	NZ
CHECKED	NZ
ISSUE	F
SCALE	1:250

JOB REFERENCE
E230197

DRAWING No.
D3

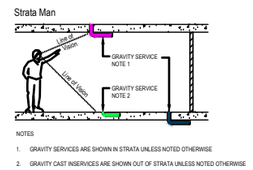
No. IN SET
13



DRAINAGE PIPE LEGEND

- uPVC AREIAL PIPE IN CEILING AT 1%
- 65mm CAST IN PIPE

NOTE: ALL AERIAL PIPES TO BE 100mm DIA uPVC UNO



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DRAWING TITLE

LEVEL 02 PLAN

PROJECT TITLE

PROPOSED SENIORS LIVING DEVELOPMENT
No.37-43 HAY STREET
COLLAROY

SHEET SIZE	A3
DESIGNED	NZ
CHECKED	NZ
ISSUE	F
SCALE	1:250

JOB REFERENCE E230197

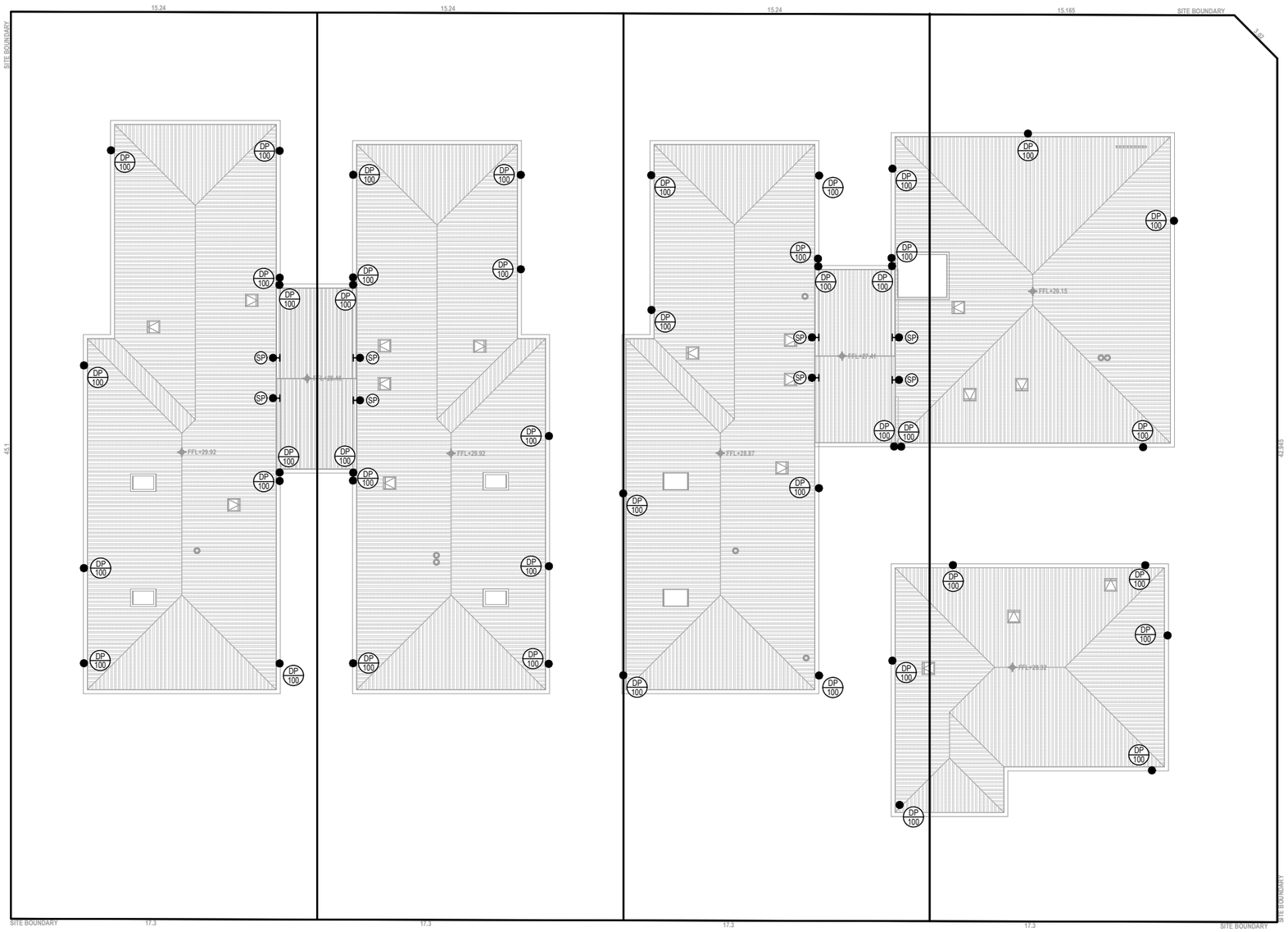
DRAWING No. D4

No. IN SET 13

ROOF DRAINAGE

- GUTTERING - CROSS SECTIONAL AREA OF GUTTER TO BE GREATER THAN 10,500mm²
- DOWN PIPES - 100mm DIA PVC OR COLORBOND

NOTE: ROOF DESIGNED TO 1% AEP INTENSITY 258 mm/hr



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0413 942 613
admin@nycivilengineering.com.au
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DRAWING TITLE

ROOF PLAN

PROJECT TITLE

PROPOSED SENIORS LIVING DEVELOPMENT
No.37-43 HAY STREET
COLLAROY

SHEET SIZE	A3
DESIGNED	NZ
CHECKED	NZ
ISSUE	F
SCALE	1:250

JOB REFERENCE E230197

DRAWING No. D5

No. IN SET 13

ROOF AREA = 728.5m^2 TO FLOWGUARD + ATLAN BASIN

ROOF AREA = 490m^2 TO RWT, WSUD AND OSD TANK

PAVED AREA = 141.9m^2 TO FLOWGUARD + ATLAN BASIN

PAVED AREA = 255.0m^2 TO WSUD AND OSD TANK

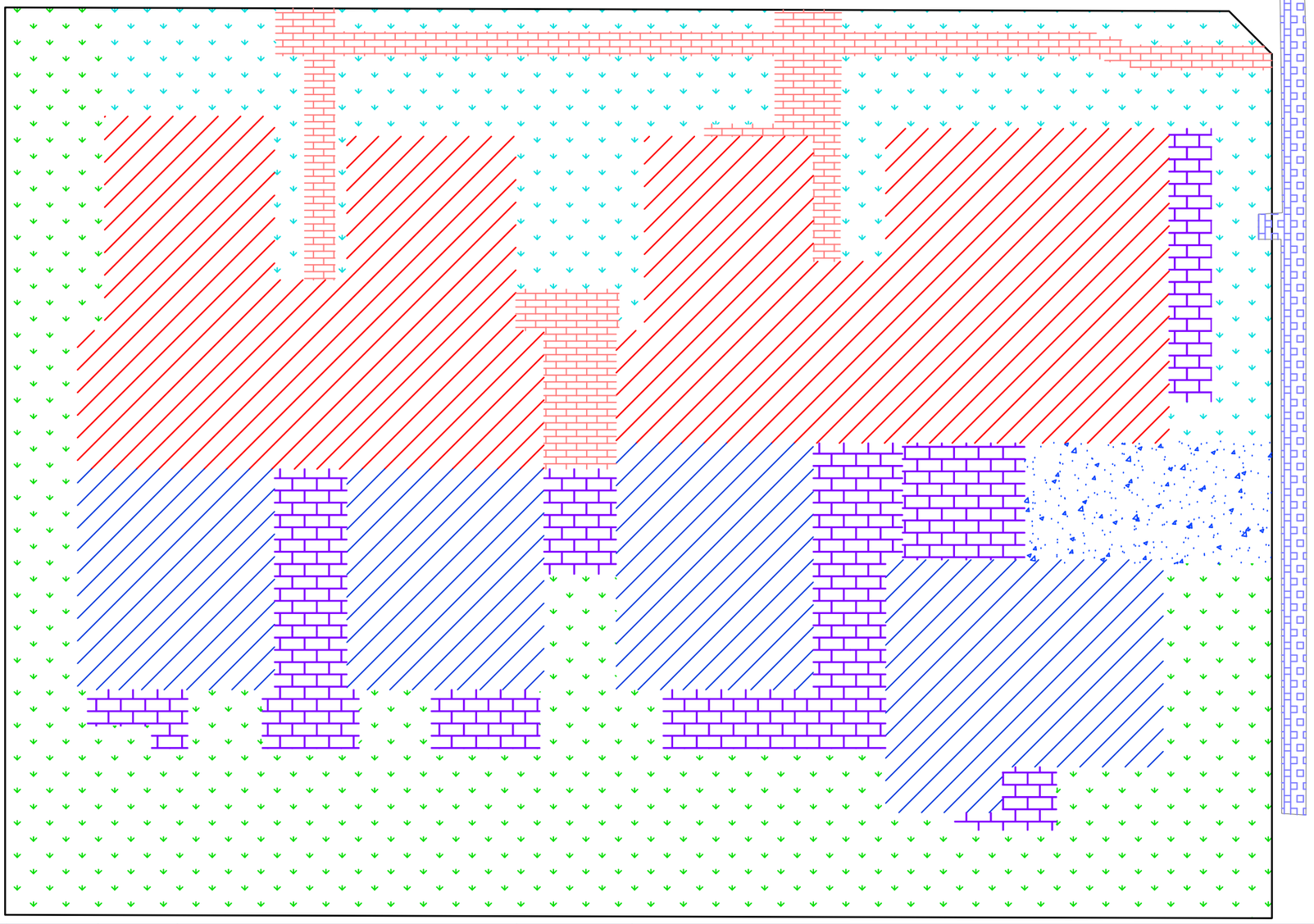
DRIVEWAY AREA = 75.0m^2 BYPASS WSUD

LANDSCAPED AREA = 389.8m^2 TO FLOWGUARD + ATLAN BASIN

LANDSCAPED AREA = 758.9m^2 TO WSUD AND OSD TANK

FOOTPATH AREA FALLING INTO SITE = 98.0m^2

FOOTPATH AREA BYPASSING SITE = 98.0m^2



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DRAWING TITLE

WSUD/OSD CATCHEMNT PLAN

PROJECT TITLE

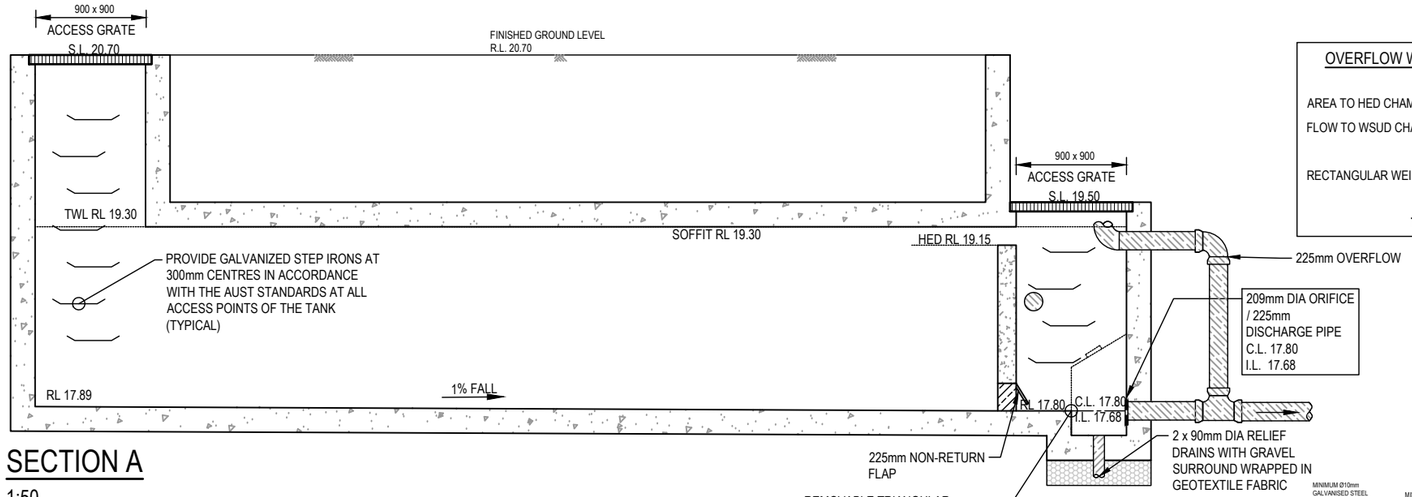
PROPOSED SENIORS LIVING DEVELOPMENT
No.37-43 HAY STREET
COLLAROY

SHEET SIZE	A3
DESIGNED	NZ
CHECKED	NZ
ISSUE	F
SCALE	1:50

JOB REFERENCE
E230197

DRAWING No.
D6

No. IN SET
13

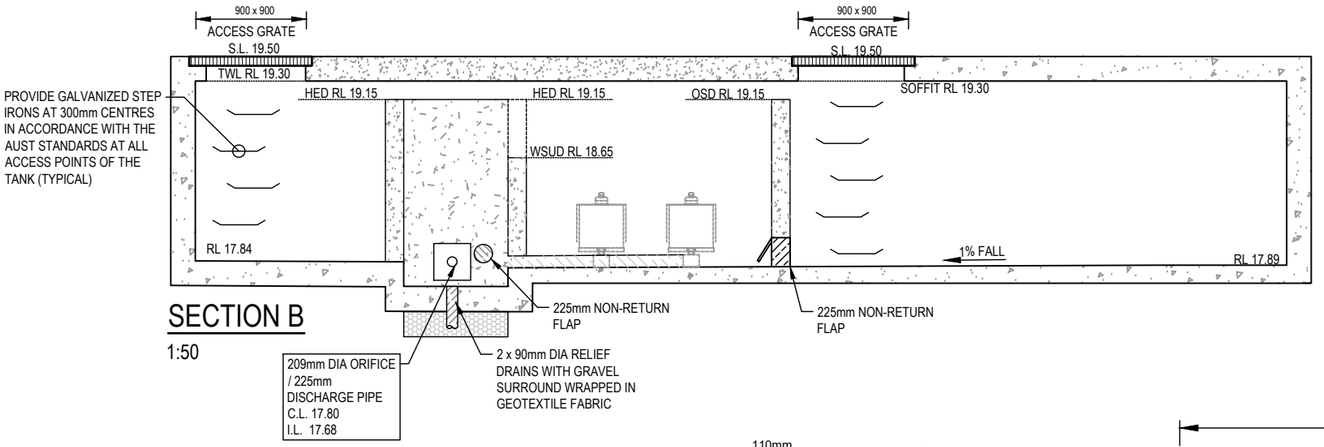


SECTION A
1:50

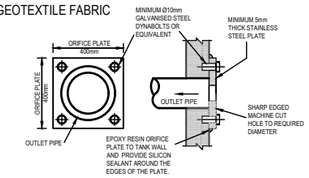
OVERFLOW WEIR CALCULATIONS - 'WSUD OVER FLOW WEIR'

AREA TO HED CHAMBER	= 2,756m^2
FLOW TO WSUD CHAMBER	= (0.8 x 258mm/hr x 0.2756Ha /360)
	= 158 L/s
RECTANGULAR WEIR CAPACITY	= (1.67 x 2.7 x 0.15m$^{1.5}$)
	= 262 L/s

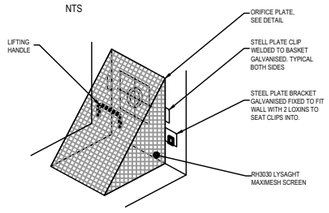
THEREFORE 150mm HIGH WEIR SUFFICIENT



SECTION B
1:50



ORIFACE PLATE DETAIL
NTS



TRASH SCREEN
NTS

CORNERS: SQUARE
COLOUR: ETCHED AND FILLED BLACK LEGEND ON NATURAL SILVER BACKGROUND
MATERIAL: ALUMINIUM 0.9mm MILL

OSD PLAQUE
NTS

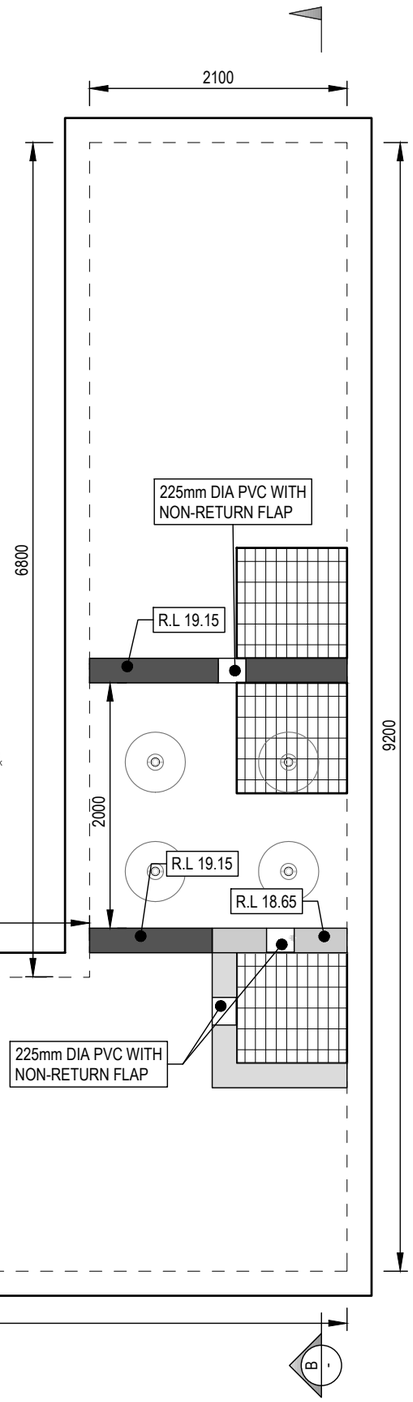
ON-SITE DETENTION WARNING SIGN
NTS

NOTE:-

1 - SIGN SHALL BE PLACED IN A CLEAR AND VISIBLE LOCATION OF EACH DETENTION BASIN.

COLOURS:-
TRIANGLE AND "WARNING" - RED
WATER - BLUE
FIGURE AND OTHER LETTERING - BLACK

ON-SITE DETENTION WARNING SIGN
NTS



PLAN VIEW
1:50

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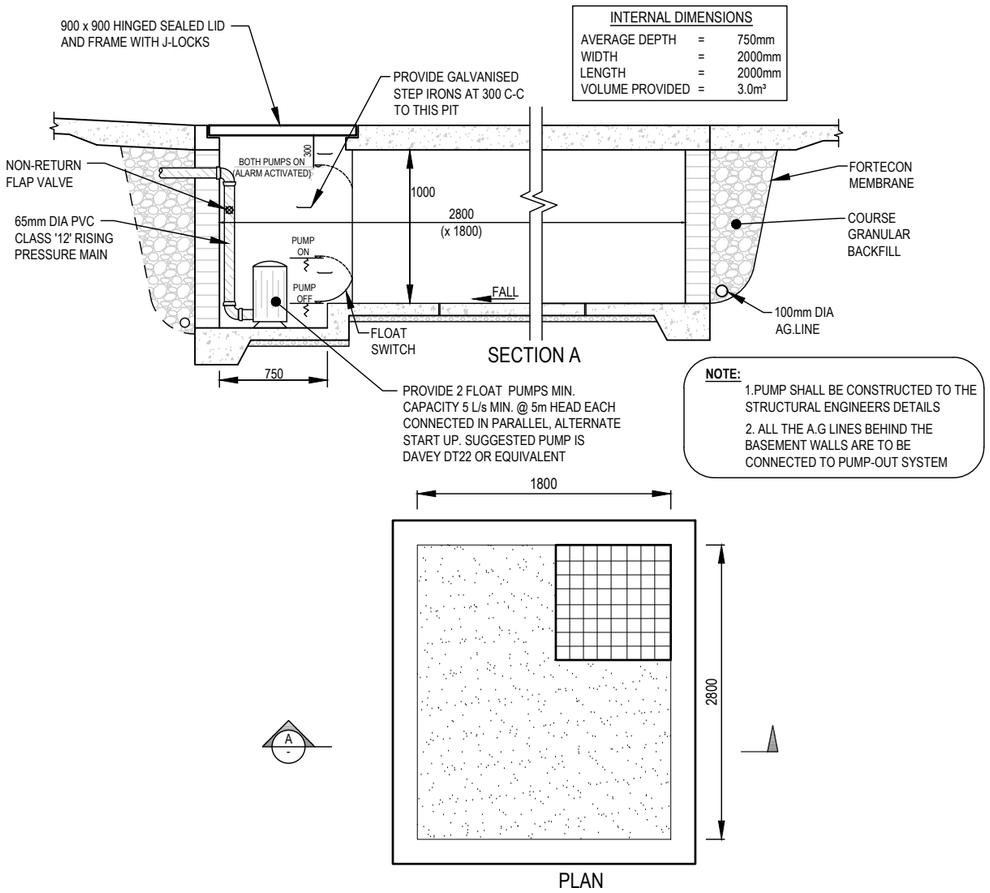
	F	MR	UPDATED DRIVEWAY PLANS	22.03.2024
	A	NZ	ISSUED FOR DA	27.06.2023
	B	MR	OSD DESIGN UPDATED	05.09.2023
	C	NZ	UPDATED ARCHITECTURAL PLANS	23.10.2023
	D	MR	UPDATED ARCHITECTURAL PLANS	05.12.2023

DRAWING TITLE
OSD DETAILS

PROJECT TITLE
PROPOSED SENIORS LIVING DEVELOPMENT
No.37-43 HAY STREET
COLLAROY

SHEET SIZE	A3
DESIGNED	NZ
CHECKED	NZ
ISSUE	F
SCALE	1:50

JOB REFERENCE E230197
DRAWING No. D7
No. IN SET 13



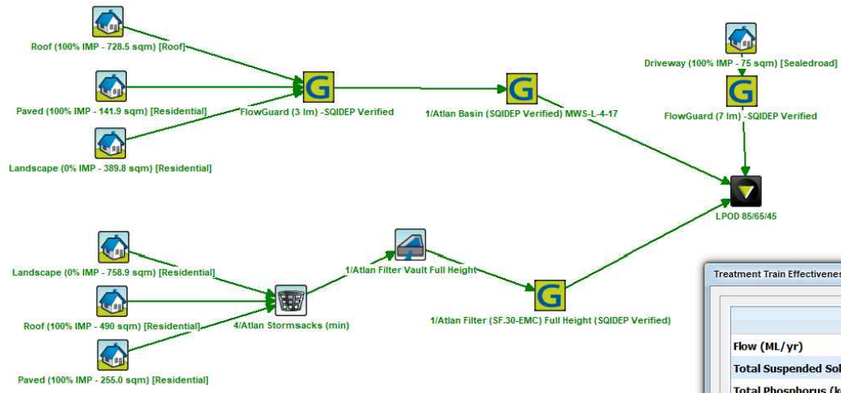
PUMP HOLDING TANK (TYPICAL)

NTS

STANDARD PUMP OUT DESIGN NOTES:

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

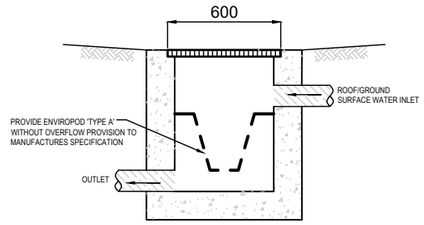
- THE PUMPS SHALL BE PROGRAMMED TO WORK ALTERNATELY SO AS TO ALLOW BOTH PUMPS TO HAVE AN EQUAL OPERATION LOAD AND PUMP LIFE.
- A LOW LEVEL FLOAT SHALL BE PROVIDED TO ENSURE THAT THE MINIMUM REQUIRED WATER LEVEL IS MAINTAINED WITHIN THE SUMP AREA OF THE BELOW GROUND TANK. IN THIS REGARD THE FLOAT WILL FUNCTION AS AN OFF SWITCH FOR THE PUMPS.
- A SECOND FLOAT HALL BE PROVIDED AT A HIGHER LEVEL, APPROXIMATELY 300mm ABOVE THE MINIMUM WATER LEVEL, WHEREBY ONE OF THE PUMPS WILL OPERATE AND DRAIN THE TANK TO THE LEVEL OF THE LOW-LEVEL FLOAT.
- A THIRD FLOAT SHALL BE PROVIDED AT A HIGH LEVEL, WHICH IS APPROXIMATELY THE ROOF LEVEL OF THE BELOW GROUND TANK. THIS FLOAT SHOULD START THE OTHER PUMP THAT IS NOT OPERATING AND ACTIVATE THE ALARM.
- AN ALARM SYSTEM SHALL BE PROVIDED WITH A FLASHING STROBE LIGHT 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.



Treatment Train Effectiveness - LPOD 85/65/45

	Sources	Residual Load	% Reduction
Flow (ML/yr)	2.4	2.4	0
Total Suspended Solids (kg/yr)	293	43.2	85.2
Total Phosphorus (kg/yr)	0.59	0.173	70.7
Total Nitrogen (kg/yr)	5.21	1.65	68.4
Gross Pollutants (kg/yr)	48.3	0.541	98.9

MUSIC MODELLING



SIP DETAIL WITH ENVIROPOD TYPICAL

NTS

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	D	MR	UPDATED ARCHITECTURAL PLANS	05.12.2023

DRAWING TITLE: STORMWATER DETAILS

PROJECT TITLE: PROPOSED SENIORS LIVING DEVELOPMENT
No.37-43 HAY STREET
COLLAROY

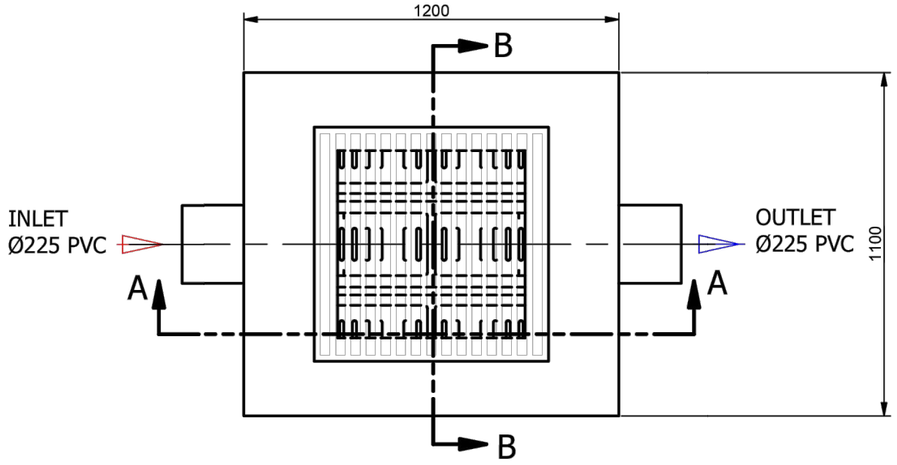
SHEET SIZE	A3
DESIGNED	NZ
CHECKED	NZ
ISSUE	F
SCALE	1:50

JOB REFERENCE: E230197

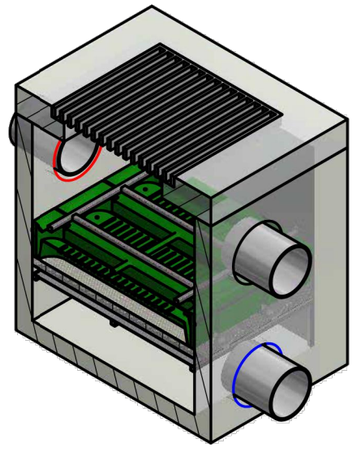
DRAWING No.: D8

No. IN SET: 13

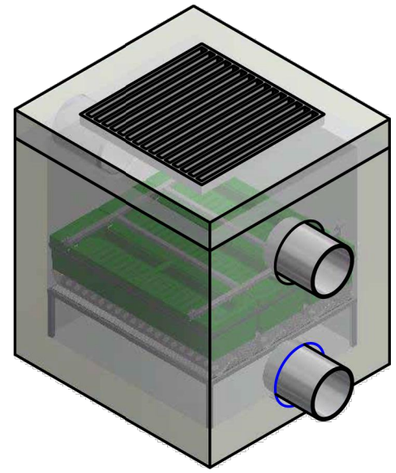
ISSUE FOR APPROVAL
NOT FOR CONSTRUCTION



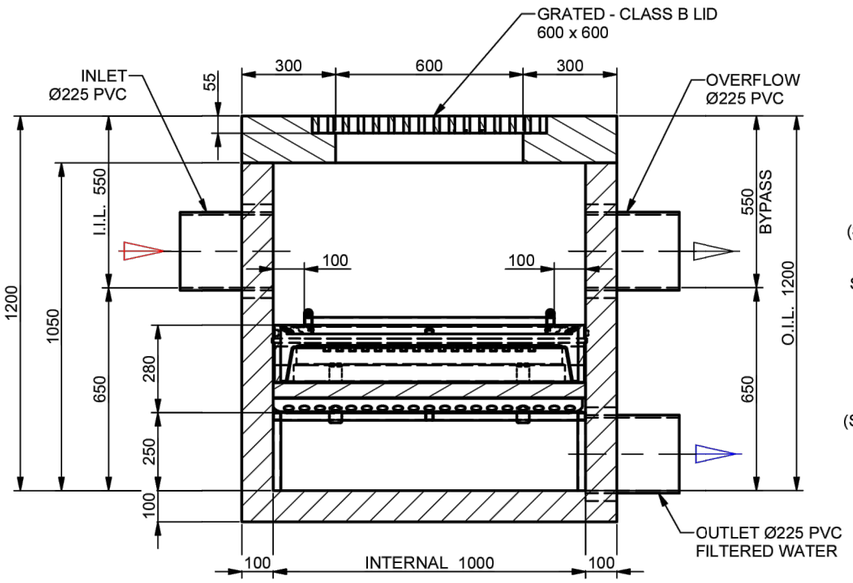
PLAN VIEW



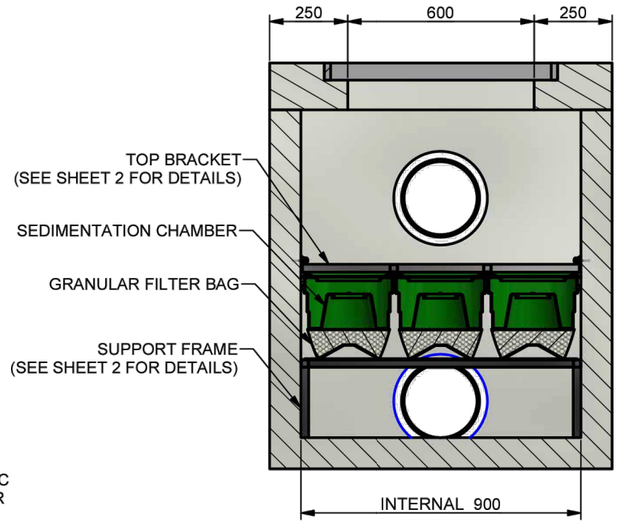
ISOMETRIC VIEW
OF SECTION A-A



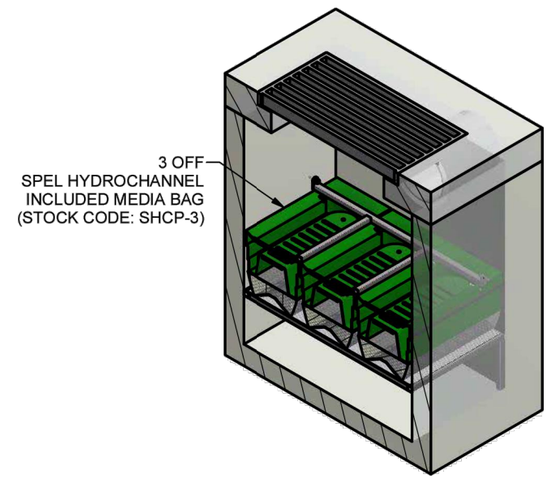
ISOMETRIC VIEW



SECTION A-A



SECTION B-B



ISOMETRIC VIEW
OF SECTION B-B

TOLERANCE: All Dimensions to Closest 10 mm & +/- 30 mm

ALL INTERCONNECTING PIPEWORK, PITS AND ASSOCIATED DRAINAGE BY OTHERS

REV	DATE	BY	DESCRIPTION	CHK
4	07/09/2021	P.Z.	DETAILS ADDED	
3	07/09/2021	P.Z.	DESIGN CHANGED	
2	07/09/2021	P.Z.	DESIGN CHANGED	
1	23/04/2020	P.Z.	INITIAL RELEASE	

CLIENT:

Drawn P.Z.	Date 23/04/2020
Check	Date
Verified	Date
Approved	Date
Request No.	

Atlan STORMWATER

PROJECT

TITLE
SPEL HYDROCHANNEL IN CONCRETE PIT
3 HYDROCHANEL - 450 L/S
CONCRETE PIT - 1050 DEEP - CLASS B
GENERAL ARRANGEMENT

SCALE	SIZE	SHEET	REV
N.T.S	A3	1	4

CUSTOMER CODE : | DWG No. SP20-HC14460-P

C:\Users\robin\Documents\Vault\Designs\SPEL\PRODUCTS\HYDROCHANNEL\PROJECT\3 HYDROCHANNEL SYSTEM\3 HYDROCHANNEL SYSTEM - 900Wx660H - CLASS B PITS\P20-HC14460-P.idw

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DRAWING TITLE
ATLAN HYDROCHANNEL DETAILS

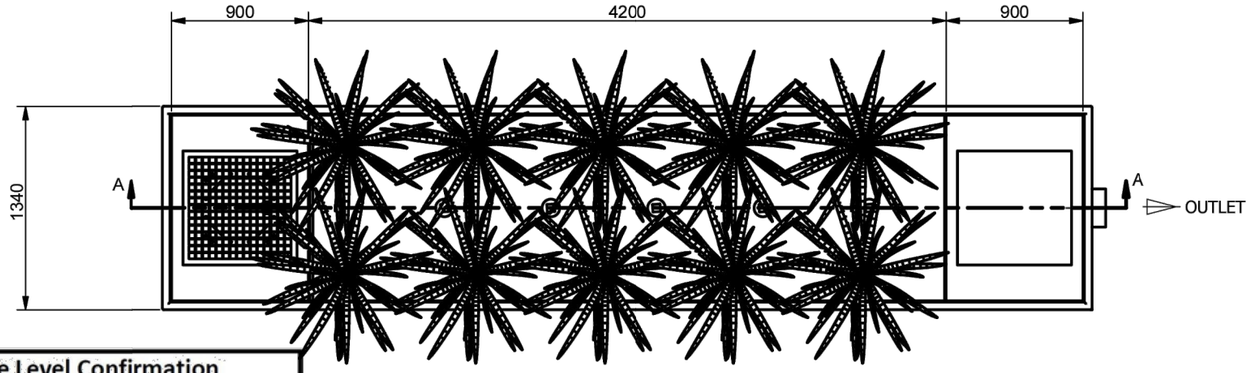
PROJECT TITLE
PROPOSED SENIORS LIVING DEVELOPMENT
No.37-43 HAY STREET
COLLAROY

SHEET SIZE	A3
DESIGNED	NZ
CHECKED	NZ
ISSUE	F
SCALE	1:50

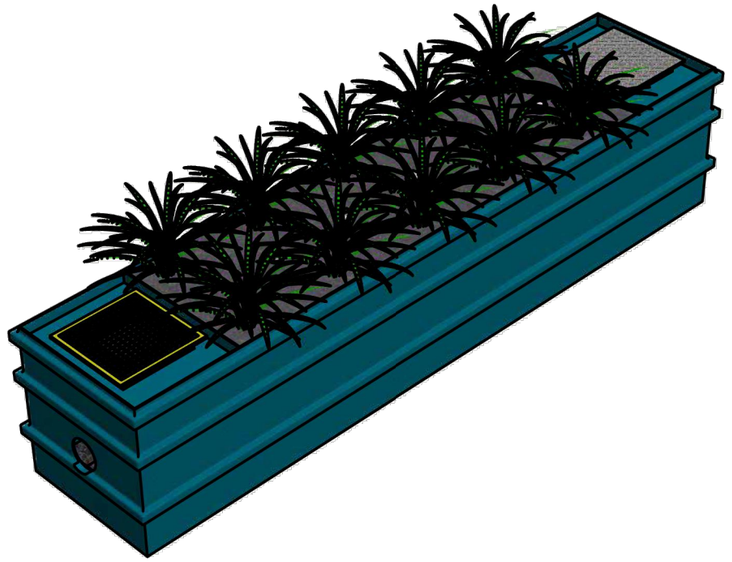
JOB REFERENCE
E230197

DRAWING No.
D9

No. IN SET
13

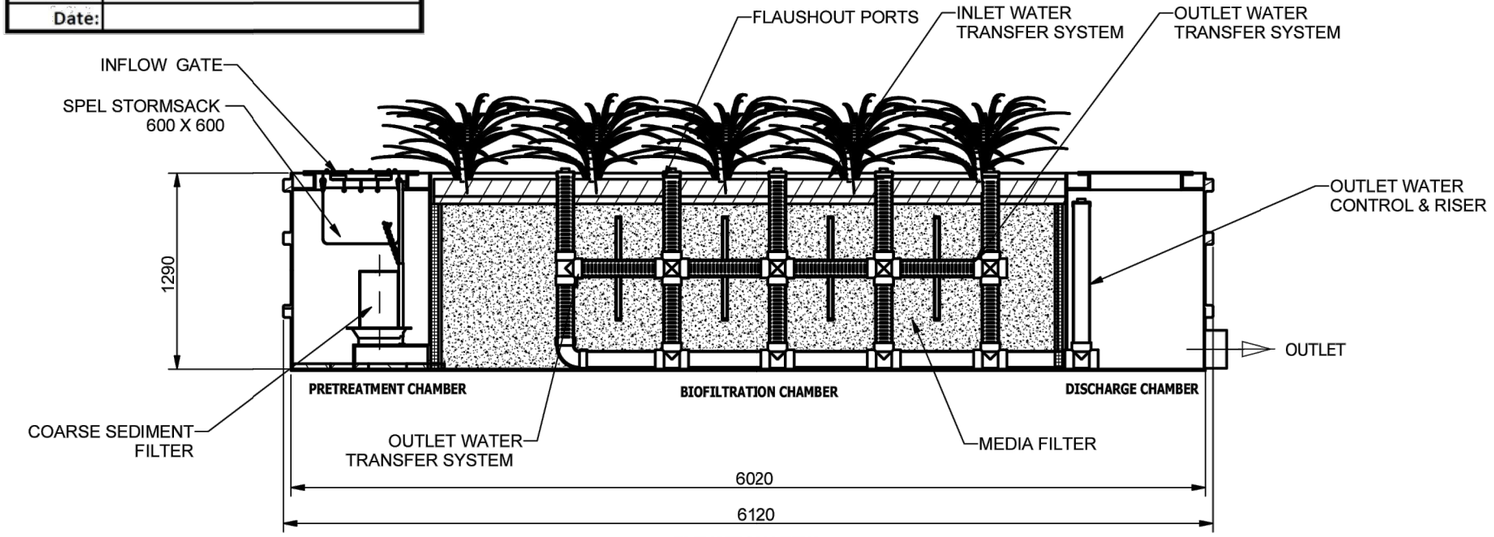


PLAN VIEW

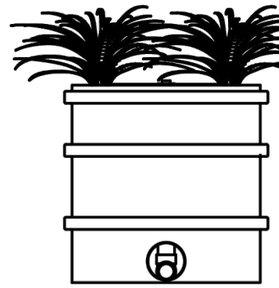


ISOMETRIC VIEW

Site Level Confirmation		
Finished Surface Level (FSL)	RL:	
Access Cover Thickness		mm
Inlet Invert Level	RL:	
Outlet Invert Level	RL:	
Company:		
Name:		
Date:		



ELEVATION VIEW
SECTION A-A



RIGHT END VIEW
OUTLET

TOLERANCE: All Dimensions to Closest 10 mm & +/- 30 mm

ALL INTERCONNECTING PIPEWORK, PITS AND ASSOCIATED DRAINAGE BY OTHERS

REV	DESCRIPTION	DESIGNER	DATE	CHECKED BY
1	INITIAL RELEASE	M.MAKIN	13/04/2021	

CLIENT:

Drawn	M.MAKIN	Date 13/04/2021
Check		Date
Verified		Date
Approved		Date

Request No. RN3345

Atlan STORMWATER

PROJECT :

TITLE
SPEL BASIN
MODULAR WETLAND SYSTEM 2.0
MWS-L-4-21 - 10 LPS - SPEL STORMSACK
GENERAL ARRAGEMENT

SCALE	SIZE	SHEET	REV
N.T.S	A3	1	1

CUSTOMER CODE : 16385-TD
DWG No. SP21-MB19950-S

E:\Vault Working Folder\Designs\SPEL\PRODUCTS\BASIN\MODULAR WETLAND-2021\MWS-L-4-21 (12Lps)\STANDARD\SP21-MB19950-S.idw

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	D	MR	UPDATED ARCHITECTURAL PLANS	05.12.2023

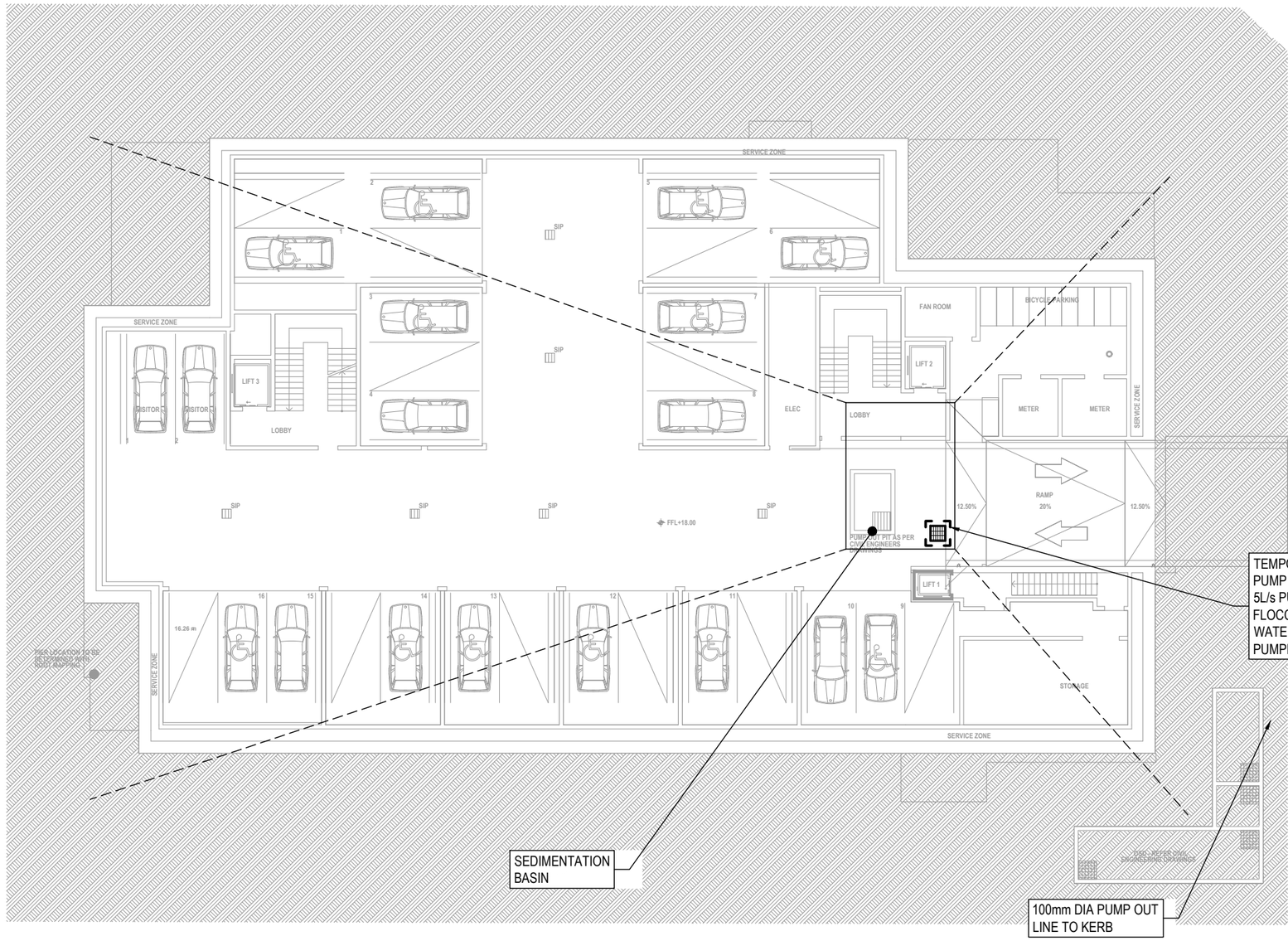
DRAWING TITLE
ATLAN BASIN DETAIL

PROJECT TITLE
PROPOSED SENIORS LIVING DEVELOPMENT
No.37-43 HAY STREET
COLLAROY

SHEET SIZE	A3
DESIGNED	NZ
CHECKED	NZ
ISSUE	F
SCALE	1:50

JOB REFERENCE E230197
DRAWING No. D10
No. IN SET 13

HAY STREET



DUST CONTROL:

• NOTE: DURING EXCAVATION, DEMOLITION AND CONSTRUCTION, ADEQUATE MEASURES SHALL BE TAKEN TO PREVENT DUST FROM AFFECTING THE AMENITY OF THE NEIGHBORHOOD.

THE FOLLOWING MEASURES MUST BE ADOPTED:

1. PHYSICAL BARRIERS SHALL BE ERECTED AT RIGHT ANGLES TO PREVENT WIND DIRECTION OR SHALL BE PLACED AROUND OR OVER DUST SOURCES TO PREVENT WIND OR ACTIVITY FROM GENERATING DUST.
2. EARTHWORKS AND SCHEDULING ACTIVITIES SHALL BE MANAGED TO COINCIDE WITH THE NEXT STAGE OF DEVELOPMENT TO MINIMISE THE AMOUNT OF TIME THE SITE IS LEFT TO CUT OR EXPOSED.
3. ALL MATERIALS SHALL BE STORED OR STOCKPILED AT THE BEST LOCATIONS.
4. THE GROUND SURFACE SHOULD BE DAMPENED SLIGHTLY To PREVENT DUST FROM BECOMING AIRBORNE BUT SHOULD NOT BE WET TO THE EXTENT THAT RUN-OFF OCCURS.
5. ALL VEHICLES CARRYING SOIL OR RUBBLE TO OR FROM THE SITE SHALL AT ALL TIMES BE COVERED TO PREVENT THE ESCAPE OF DUST.
6. ALL EQUIPMENT WHEELS SHALL BE WASHED BEFORE EXISTING THE SITE USING MANUAL OR AUTOMATED SPRAYERS AND DRIVE - THROUGH WASHING BAYS.
7. GATES SHALL BE CLOSED BETWEEN VEHICLE MOVEMENTS SHALL BE FITTED WITH SHADE CLOTH.
8. CLEANING OF FOOTPATHS AND ROADWAYS SHALL CARRIED OUT DAILY.
9. ALL BUILDERS REFUSE, SPOIL AND/OR MATERIAL UNSUITABLE FOR USE IN LANDSCAPE AREAS SHALL BE REMOVED FROM SITE ON COMPLETION OF THE BUILDING WORKS.

NOTES:

1. ALL EROSION AND SEDIMENT CONTROL MEASURES TO BE INSPECTED AND MAINTAINED DAILY BY SITE MANAGER IN ACCORDANCE WITH COUNCIL REQUIREMENTS.
2. ALL STOCKPILES TO BE CLEAR FROM DRAINS, GUTTERS AND FOOTPATHS.
3. DRAINAGE IS TO BE CONNECTED TO STORMWATER SYSTEM AS SOON AS POSSIBLE.
4. ROADS AND FOOTPATH TO BE SWEPT DAILY AS REQUIRED BY COUNCIL.
5. IF YOU DO NOT COMPLY WITH COUNCIL REQUIREMENTS & DOCUMENTATION, YOU MAY BE LIABLE TO PROSECUTION FROM GOVERNMENT AUTHORITIES.

LEGEND:

UNDISTURBED VEGETATION
SEDIMENT FENCE
STOCK PILES
STABILIZED SITE ACCESS
MESH & GRAVEL INLET FILTER
WATER DIVERSION
STORMWATER PIT WITH SEDIMENT BARRIER

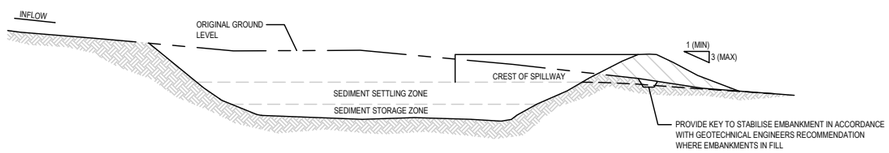
SEDIMENTATION BASIN CALCULATIONS - BLUE BOOK

ASSUMED
- GREATER THAN 6 MONTH CONSTRUCTION
- SOIL TYPE C
- SETTLING ZONE REQUIRED = $10 \times C_v \times A \times R_y$
  = $10 \times 0.58 \times 0.28Ha \times 44$
  = $71m^3$

SITE CONSIDERED 'LOW' EROSION RISK - THEREFORE BASIN TO BE 50% VOLUME OF SETTLING ZONE

PROVIDE $106m^3$ SEDIMENTATION BASIN TO SITE

SLOPE = 3%
R FACTOR = 3500 (APPENDIX B, MAP 13)
C_v (APPENDIX F - TABLE F.3) = 0.58
R_Y (TABLE 6.3b)= 85THth PERCENTILE 5-DAY RAINFALL MOANVALE = 44mm



CROSS SECTION OF TEMPORARY SEDIMENT BASIN

IN ACCORDANCE WITH LANDCOM 'BLUE BOOK' EARTH BASIN - WET SD 6-4

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DRAWING TITLE

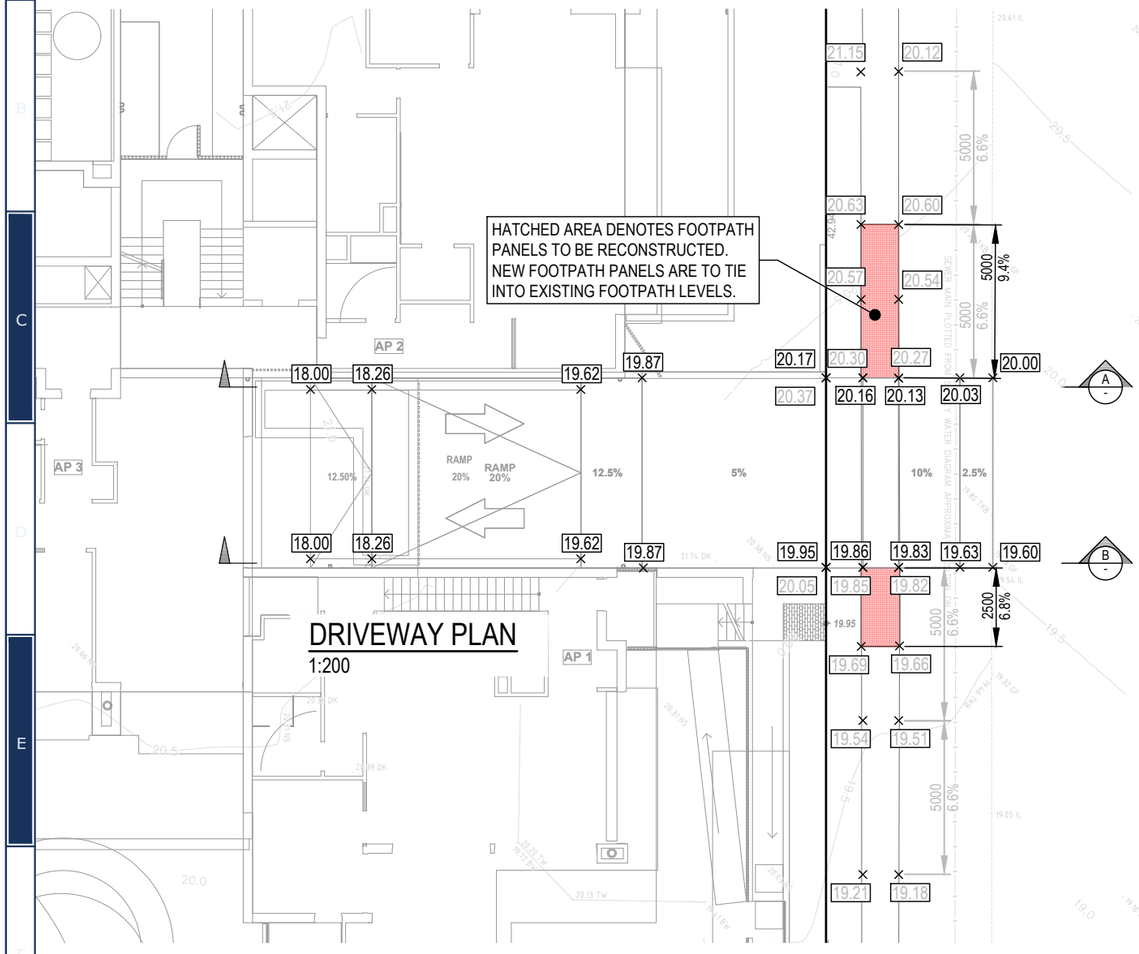
DRIVEWAY SECTION

PROJECT TITLE

PROPOSED SENIORS LIVING DEVELOPMENT
No.37-43 HAY STREET
COLLAROY

SHEET SIZE A3
DESIGNED NZ
CHECKED NZ
ISSUE F
SCALE 1:250

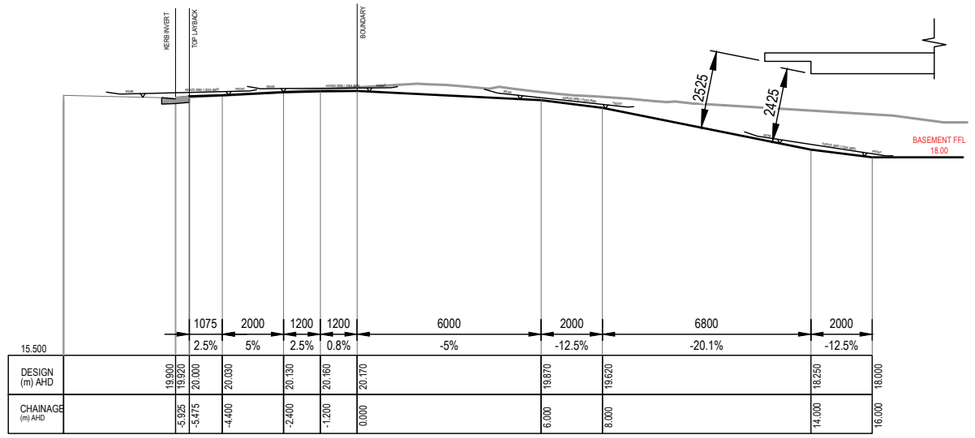
JOB REFERENCE E230197
DRAWING No. D11
No. IN SET 13



DRIVEWAY PLAN
1:200

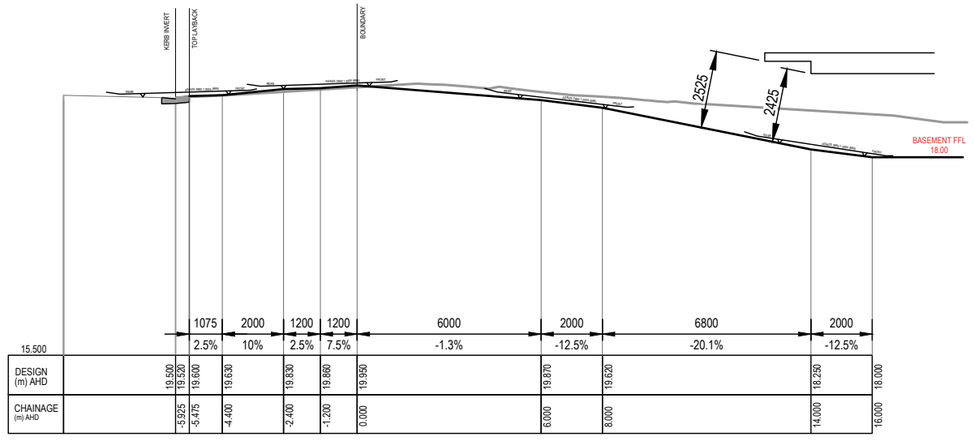
LEGEND

× 19.82	EXISTING LEVEL
1000 X.X%	EXISTING GRADE
× 19.82	PROPOSED LEVEL
1000 X.X%	PROPOSED GRADE



DRIVEWAY LONGSECTION A

HORIZONTAL 1:200
VERTICAL 1:200



DRIVEWAY LONGSECTION B

HORIZONTAL 1:200
VERTICAL 1:200

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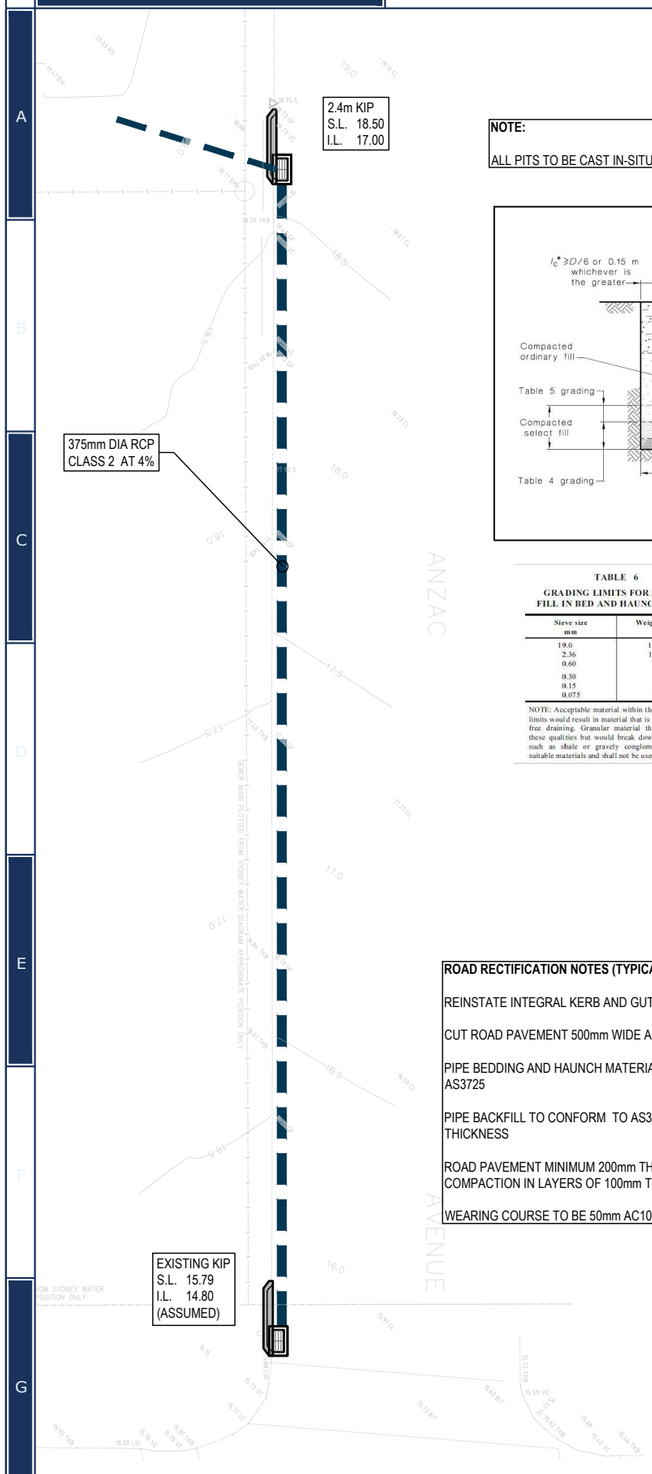
DRAWING TITLE
DRIVEWAY SECTION

PROJECT TITLE
PROPOSED SENIORS LIVING DEVELOPMENT
No.37-43 HAY STREET
COLLAROY

SHEET SIZE	A3
DESIGNED	NZ
CHECKED	NZ
ISSUE	F
SCALE	1:200

JOB REFERENCE E230197
DRAWING No. D12
No. IN SET 13



NOTE:

ALL PITS TO BE CAST IN-SITU TO COUNCIL'S DETAILS AND SPECIFICATIONS

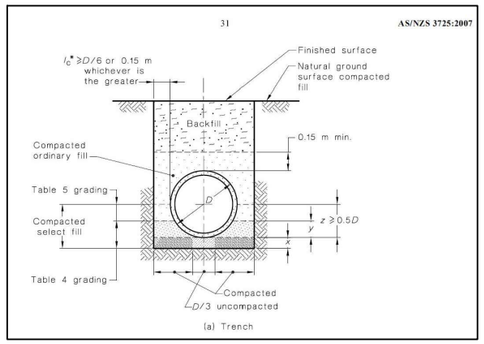


TABLE 6

GRADING LIMITS FOR SELECT FILL IN BED AND HAUNCH ZONES

Sieve size mm	Weight passing %
19.0	100
2.36	100–50
0.60	90–20
0.30	60–10
0.15	25–0
0.075	10–0

NOTE: Acceptable material within the above grading limits would result in material that is well graded and free draining. Granular material that may exhibit these qualities but would break down when wetted, such as shale or gravely conglomerates, are not suitable materials and shall not be used.

TABLE 7

GRADING LIMITS FOR SELECT FILL IN SIDE ZONES

Sieve size mm	Weight passing %
75.0	100
9.5	100–50
2.36	100–30
0.60	50–15
0.075	25–0

NOTE: Acceptable material within the above grading limits would result in material that is well graded and free draining. Granular materials that may exhibit these qualities but would break down when wetted, such as shale or gravely conglomerates, are not suitable materials and shall not be used.

ROAD RECTIFICATION NOTES (TYPICAL)

REINSTATE INTEGRAL KERB AND GUTTER ON 50mm SAND TO COUNCIL'S SPECIFICATIONS AND DETAILS

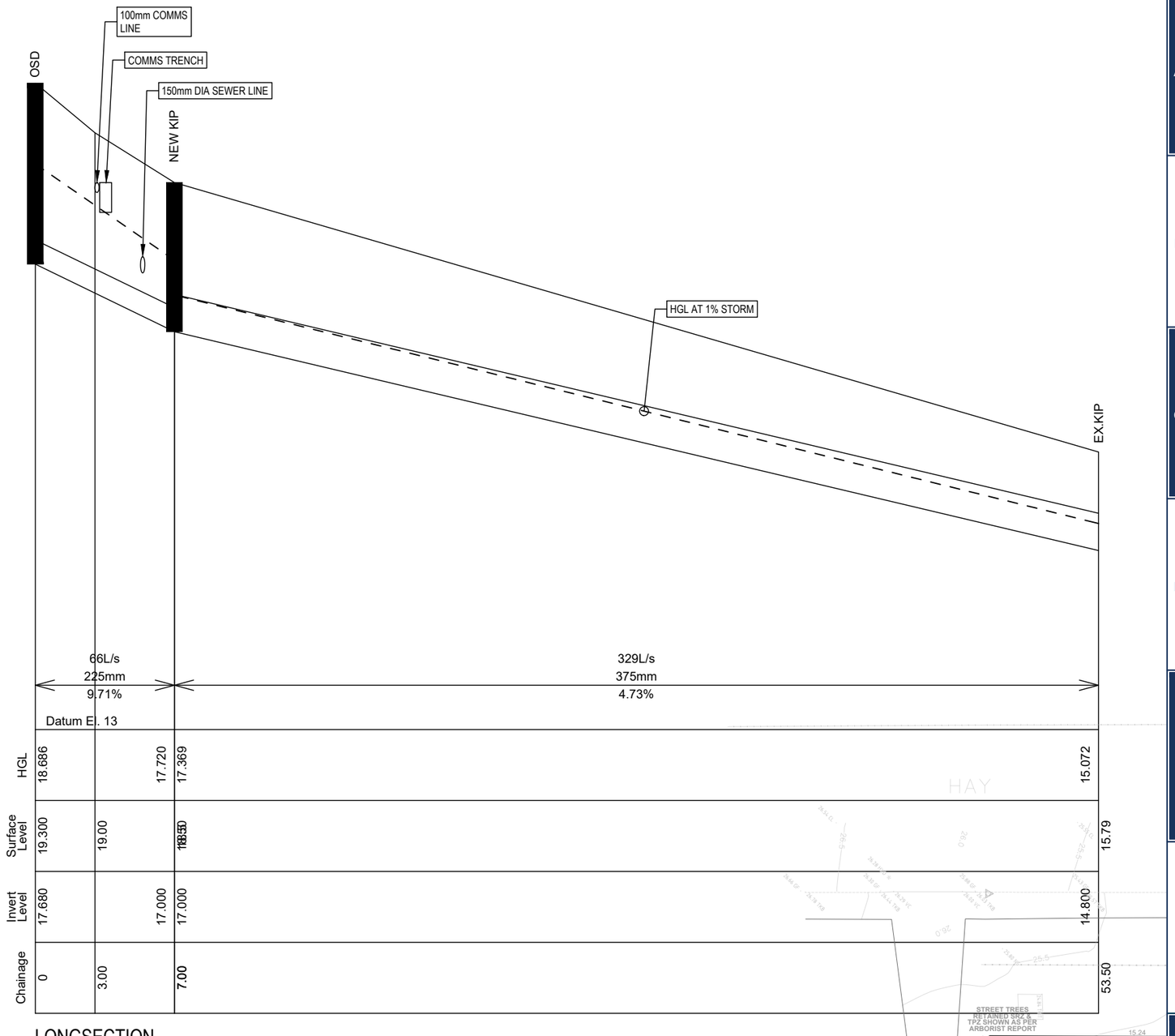
CUT ROAD PAVEMENT 500mm WIDE AND REINSTATE TO GEORGES RIVER COUNCIL'S SPECIFICATIONS;

PIPE BEDDING AND HAUNCH MATERIAL TO BE CEMENT MODIFIED CRUSHED ROCK CONFORMING TO AS3725

PIPE BACKFILL TO CONFORM TO AS3725, COMPACTED TO 95% DRY COMPACTION IN LAYERS OF 150mm THICKNESS

ROAD PAVEMENT MINIMUM 200mm THICKNESS 20mm CRUSHED ROCK COMPACTED TO 98% DRY COMPACTION IN LAYERS OF 100mm THICKNESS

WEARING COURSE TO BE 50mm AC10 HOTMIX



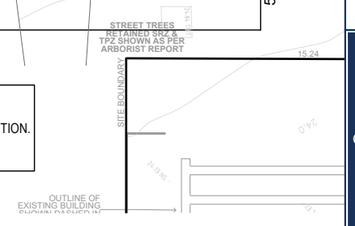
LONGSECTION

H - 1:250
V - 1:25

NOTE: BED LAYER (x) TO BE 100mm THICK 1-2% CEMENT BOUND WELL GRADED BACKFILL COMPACTED TO 80% COMPACTION.

PIPE HAUNCH ZONE (y) TO BE 150mm THICK 1-2% CEMENT MODIFIED WELL GRADED BACKFILL COMPACTED TO 80% COMPACTION.

MATERIAL OVER PIPE TO BE COMPACTED TO 80% COMPACTION



NY CIVIL ENGINEERING
NADER ZAKI
MIEAust CPEng NER
0413 942 613
admin@nycivilengineering.com.au
www.nycivilengineering.com.au

APPROVED BY	REVISION	DRAWN	DESCRIPTION	DATE
	E	MR	ISSUED FOR DA	6.03.2024
	F	MR	UPDATED DRIVEWAY PLANS	22.03.2024
	A	NZ	ISSUED FOR DA	27.06.2023
	B	MR	OSD DESIGN UPDATED	05.09.2023
	C	NZ	UPDATED ARCHITECTURAL PLANS	23.10.2023
	D	MR	UPDATED ARCHITECTURAL PLANS	05.12.2023

DRAWING TITLE

EXTERNAL PIPE SECTION

PROJECT TITLE

PROPOSED SENIORS LIVING DEVELOPMENT
No.37-43 HAY STREET
COLLAROY

SHEET SIZE	A3
DESIGNED	NZ
CHECKED	NZ
ISSUE	F
SCALE	1:250

JOB REFERENCE E230197

DRAWING No. D13

No. IN SET 13